

# **Directional Cartridges**

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DTAF	FLeX Series 2-way, direct-acting, solenoid-operated directional blocking poppet
DTBF	valve FLeX Series 2-way, direct-acting, solenoid-operated directional blocking poppet
FNUC	4-way, 3-position, electro-proportional, solenoid-operated directional valve, 3600 psi
DMBD	FLeX Series 3-way, solenoid-operated directional spool valve - 3000 psi (210
DMBF	FLeX Series 3-way, solenoid-operated directional spool
DNBD	FLeX Series 4-way, 2-position, solenoid-operated directional spool valve - 3000 psi
DNBF	FLeX Series 4-way, 2-position, solenoid-operated directional spool
DWBF	FLeX Series 3-way, direct-acting, solenoid-operated directional blocking poppet
DFBD	FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse
DFBE	FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse
DFBF	FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse
DFBG	FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse
DTDF	2-way, direct-acting, solenoid-operated directional blocking poppet valve (74013 Series)
DWDF	3-way, direct-acting, solenoid-operated directional poppet valve (740
DLDF	2-way, solenoid-operated directional spool valve (740
DLUT	2-way, direct-acting, balanced spool, solenoid-operated directional valve, 3000 psi
DBAFS	3-way, soft shift, solenoid-operated directional spool valve - pilot capacity (74017 Series)
DLDFS	2-way, soft shift, solenoid-operated directional spool valve (740
DTAFS	FLeX Series 2-way, soft shift, solenoid-operated directional poppet valve - pilot
DTDFS	2-way, direct-acting, soft shift, solenoid-operated directional blocking poppet valve
DFCI	2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740



DFDI	2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740
DFEI	2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (74023 Series)
DFFI	2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740
DFCJ	2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (740
DFDJ	2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (740
DFEJ	2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (74027 Series)
DFFJ	2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (740
DTCF	2-way, direct-acting, solenoid-operated directional blocking poppet valve with overlap
DTCA	2-way, direct-acting, solenoid-operated directional blocking poppet valve with
DFCA	2-way, 2-stage, solenoid-operated directional poppet valve - flow 1
DFDA	2-way, 2-stage, solenoid-operated directional poppet valve - flow 1
DFEA	2-way, 2-stage, solenoid-operated directional poppet valve - flow 1
DFFA	2-way, 2-stage, solenoid-operated directional poppet valve - flow 1
DFCB	2-way, 2-stage, solenoid-operated directional poppet valve - flow 2
DFDB	2-way, 2-stage, solenoid-operated directional poppet valve - flow 2
DFEB	2-way, 2-stage, solenoid-operated directional poppet valve - flow 2
DFFB	2-way, 2-stage, solenoid-operated directional poppet valve - flow 2
DACC	2-way, 2-stage, solenoid-operated directional poppet
HDDA	2-way, solenoid-operated directional poppet valve - after
DMUQ	3-way, direct-acting, balanced spool, solenoid-operated directional valve, 1600 psi
DMUT	3-way, direct-acting, balanced spool, solenoid-operated directional valve, 3000 psi



DWDM	3-way, manually operated, directional poppet43 valve		
DMDA	3-way, solenoid-operated directional spool		
DBAF	3-way solenoid-operated directional spool valve - pilot capacity (740		
DMDM	3-way, manually operated, directional spool		
DMDAS	3-way, soft shift, solenoid-operated directional spool47 valve		
DNDA	4-way, 2-position, solenoid-operated directional spool48 valve		
DNCA	4-way, 2-position, solenoid-operated directional spool valve with closed		
DNDC	4-way, 3-position, solenoid-operated directional spool		
DNDAS	4-way, 2-position, soft shift, solenoid-operated directional spool		
DNDY	2-position, 6-way, solenoid-operated directional spool		
DNDYS	2-position, 6-way, soft shift, solenoid-operated directional spool		
DNTC	4-way, 3-position, solenoid-operated directional spool valve, 3000 psi (210 bar)		
DNUC	4-way, 3-position, solenoid-operated directional spool valve, 3600 psi (250 bar)		
DNUT	4-way, direct-acting, balanced piston solenoid-operated directional valve, 3000 psi		
DTDM	2-way, manually operated, directional poppet57 valve		
DTCM	2-way, manually operated, directional poppet valve with		
DAAH	2-way, hydraulically operated, spool directional valve - pilot		
DBAH	3-way, hydraulically operated, spool directional valve - pilot		
DLDM	2-way, manually operated, directional spool61 valve		
DAAP	2-way, air-operated, spool directional valve - pilot		
DBAP	3-way, air-operated, spool directional valve - pilot		



DFCA8	2-way, poppet directional valve with integral T-8A control cavity - control 164
DFDA8	2-way, poppet directional valve with integral T-8A control cavity - control 165
DFEA8	2-way, poppet directional valve with integral T-8A control cavity - control 1
DFFA8	2-way, poppet directional valve with integral T-8A control cavity - control 1
DAAM	2-way, manually operated, spool directional valve - pilot68 capacity
DFCB8	2-way, poppet directional valve with integral T-8A control cavity - control 2
DFDB8	2-way, poppet directional valve with integral T-8A control cavity - control 2
DFEB8	2-way, poppet directional valve with integral T-8A control cavity - control 2
DPBP	3-way, pilot-operated, directional valve with drain to port 4 (1 to 2 open, 3
DPCP	3-way, pilot-operated, directional valve with drain to port 4 (1 to 2 open, 3
DRBP	3-way, direct-acting, directional valve with drain to port 4 (1 to 2 open, 374 blocked)
DVBP	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DVCP	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DRBPX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 to 2 open, 3
CSAN	Insert style, single ball shuttle valve with signal at port
CSZN	Insert style, single ball shuttle valve with signal at port
DBAM	3-way, manually operated, spool directional valve - pilot
DRBR	3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 2
DRBRX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (3 to 4 open,
DRCR	3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 2
CXAA	Free flow nose to side check valve - pilot



СХВА	Free flow nose to side check valve		
CXDA	Free flow nose to side check valve		
CXFA	Free flow nose to side check valve		
СХНА	Free flow nose to side check valve		
CXJA	Free flow nose to side check valve		
СХКА	Free flow nose to side check valve		
CXZA	Free flow nose to side check valve		
CXUT	Free flow nose to side check valve cavity	e - common	
CXAD	Free flow side to nose check valve		
CXCD	Free flow side to nose check valve		
CXED	Free flow side to nose check valve		
CXGD	Free flow side to nose check valve		
CXID	Free flow side to nose check valve		
CXBG	Flush mount, free flow nose to sid valve	e check	
CNBC	Free flow nose to side check valve orifice	e with bypass	
CNDC	Free flow nose to side check valve orifice	e with bypass	
CNFC	Free flow nose to side check valve orifice	e with bypass	
CNHC	Free flow nose to side check valve orifice	e with bypass	
CNJC	Free flow nose to side check valve orifice	e with bypass	
CNKC	Free flow nose to side check valve orifice	e with bypass	
CDAP	Mechanically operated, back-to-bavely valve	ack check	



CDAQ	Mechanically operated, back-to-back check valve	
CXDC	Free flow nose to side check valve with port 3 blocked	
CXFC	Free flow nose to side check valve with port 3 blocked	
CXHC	Free flow nose to side check valve with port 3 blocked	
CXJC	Free flow nose to side check valve with port 3 blocked	
CXCE	Free flow side to nose check valve with port 3 blocked	
CXEE	Free flow side to nose check valve with port 3 blocked	
CXGE	Free flow side to nose check valve with port 3 blocked	
CXIE	Free flow side to nose check valve with port 3 blocked	
CNCD	Free flow side to nose check valve with bypass orific blocked	ce and port 3115
CNED	Free flow side to nose check valve with bypass orific blocked	ce and port 3116
CNGD	Free flow side to nose check valve with bypass orific blocked	ce and port 3117
CNID	Free flow side to nose check valve with bypass orific blocked	ce and port 3118
DKDC	Normally closed, balanced poppet, logic element - p open	ilot-to119
DKDS	Normally closed, balanced poppet, logic element - p open	ilot-to
DKFC	Normally closed, balanced poppet, logic element - p open	ilot-to121
DKFS	Normally closed, balanced poppet, logic element - p open	ilot-to
DKHC	Normally closed, balanced poppet, logic element - p open	ilot-to
DKHS	Normally closed, balanced poppet, logic element - p open	ilot-to124
DKJC	Normally closed, balanced poppet, logic element - p open	ilot-to
DKJS	Normally closed, balanced poppet, logic element - p open	ilot-to



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DKDR	Normally closed, balanced poppet, logic element - vent-to- open	
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DKFR	Normally closed, balanced poppet, logic element - vent-to- open	130
DKHD	Normally closed, balanced poppet, logic element - vent-to- open	131
DKHR	Normally closed, balanced poppet, logic element - vent-to- open	132
DKJD	Normally closed, balanced poppet, logic element - vent-to- open	133
DKJR	Normally closed, balanced poppet, logic element - vent-to- open	134
DODC	Normally open, balanced poppet, logic element - pilot-to- close	135
DODS	Normally open, balanced poppet, logic element - pilot-to- close	136
DOFC	Normally open, balanced poppet, logic element - pilot-to- close	137
DOFS	Normally open, balanced poppet, logic element - pilot-to- close	138
DOHC	Normally open, balanced poppet, logic element - pilot-to- close	139
DOHS	Normally open, balanced poppet, logic element - pilot-to- close	140
DOJC	Normally open, balanced poppet, logic element - pilot-to- close	141
DOJS	Normally open, balanced poppet, logic element - pilot-to- close	142
DODD	Normally open, balanced poppet, logic element - vent-to- close	143
DODR	Normally open, balanced poppet, logic element - vent-to- close	144
DOFD	Normally open, balanced poppet, logic element - vent-to- close	145
DOFR	Normally open, balanced poppet, logic element - vent-to- close	146
DOHD	Normally open, balanced poppet, logic element - vent-to- close	147



DOHR	Normally open, balanced poppet, logic element - vent-to
DOJD	Normally open, balanced poppet, logic element - vent-to
DOJR	Normally open, balanced poppet, logic element - vent-to
LODC	Pilot-to-close, spring-biased closed, unbalanced poppet logic element
LOFC	Pilot-to-close, spring-biased closed, unbalanced poppet logic element
LOHC	Pilot-to-close, spring-biased closed, unbalanced poppet logic element
LOHCL	Pilot-to-close, spring-biased closed, unbalanced poppet logic element
LOJC	Pilot-to-close, spring-biased closed, unbalanced poppet logic element
LOKC	Pilot-to-close, spring-biased closed, unbalanced poppet logic element
LODA	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOFA	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source158 from port 1
LOHA	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source159 from port 1
LOJA	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source160 from port 1
LOKA	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source161 from port 1
LODB	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOFB	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source163 from port 2
LOHB	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source164 from port 2
LOJB	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source165 from port 2
LOKB	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source166 from port 2
LODD	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source167 from port 1 or 2
LOFD	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source



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LOHD	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source169 from port 1 or 2
LOJD	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOKD	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LODA8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOFA8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOHA8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOJA8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOKA8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LODB8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOFB8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOHB8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOJB8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOKB8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
СКВВ	Pilot-to-open check valve with standard
CKBG	Flush mount pilot-to-open check valve with sealed
СКСВ	Pilot-to-open check valve with standard
CKEB	Pilot-to-open check valve with standard
CKGB	Pilot-to-open check valve with standard
CKIB	Pilot-to-open check valve with standard
LODD8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source
LOFD8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source



LOHD8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source		
LOJD8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source		
LOKD8	Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source		
CKBD	Pilot-to-open check valve with sealed		
CKCD	Pilot-to-open check valve with sealed		
CKED	Pilot-to-open check valve with sealed		
CKGD	Pilot-to-open check valve with sealed		
CKID	Pilot-to-open check valve with sealed		
LODO	Pilot-to-close, spring-biased open, unbalanced poppet logic element		
LOFO	Pilot-to-close, spring-biased open, unbalanced poppet logic element		
LOHO	Pilot-to-close, spring-biased open, unbalanced poppet logic element		
LOJO	Pilot-to-close, spring-biased open, unbalanced poppet logic element		
LOKO	Pilot-to-close, spring-biased open, unbalanced poppet logic element		
CVCV	Vented pilot-to-open check		
CVEV	Vented pilot-to-open check		
CVGV	Vented pilot-to-open check		
CVIV	Vented pilot-to-open check		
LOFOZ	Pilot-to-close, spring-biased open, unbalanced poppet logic element with position		
LOHOZ	Pilot-to-close, spring-biased open, unbalanced poppet logic element with position		
LOJOZ	Pilot-to-close, spring-biased open, unbalanced poppet logic element with position		
LOKOZ	Pilot-to-close, spring-biased open, unbalanced poppet logic element with position		



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CKGV	Vented pilot-to-open check valve - atmospherically	213
CKIV	Vented pilot-to-open check valve - atmospherically	214
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CNEE	Pilot-to-open check valve with bypass	216
CNGE	Pilot-to-open check valve with bypass	217
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LKFC	Pilot-to-open, spring-biased closed, unbalanced poppet logic element	219
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LKHCZ	Pilot-to-open, spring-biased closed, unbalanced poppet logic element with position switch	
LKJCZ	Pilot-to-open, spring-biased closed, unbalanced poppet logic element with position switch	
LOFCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with position switch	
LOHCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with position switch	
LOJCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with position switch	
LOKCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with position switch	
LOECZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with metering notches and position switch	
LOGCZ	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with metering notches and position switch	
DKDR8	Normally closed, balanced poppet, logic element with integral T-8A control cavity - vent-to-open	



DKFR8	Normally closed, balanced poppet, logic element with integral T-8A control cavity - vent-to-open	232
DKHR8	Normally closed, balanced poppet, logic element with integral T-8A control cavity - vent-to-open	233
DKJR8	Normally closed, balanced poppet, logic element with integral T-8A control cavity - vent-to-open	234
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COBG	Pilot-to-close check valve	236
CODA	Pilot-to-close check valve	237
COFA	Pilot-to-close check valve	238
СОНА	Pilot-to-close check valve	239
COJA	Pilot-to-close check valve	240
COKA	Pilot-to-close check valve	241
DKDP	Normally closed, balanced poppet, logic element - pressure	242
DKFP	Normally closed, balanced poppet, logic element - pressure	243
DKHP	Normally closed, balanced poppet, logic element - pressure	244
DKJP	Normally closed, balanced poppet, logic element - pressure	245
CNDE	Pilot-to-close check valve with bypassorifice	246
CNFE	Pilot-to-close check valve with bypassorifice	247
CNHE	Pilot-to-close check valve with bypassorifice	248
CNJE	Pilot-to-close check valve with bypassorifice	249
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DOFR8	Normally open, balanced poppet, logic element with integral T-8A control cavity - vent
DOHR8	Normally open, balanced poppet, logic element with integral T-8A control cavity - vent
DOJR8	Normally open, balanced poppet, logic element with integral T-8A control cavity - vent
DODP	Normally open, balanced poppet, logic element - pressure
DOFP	Normally open, balanced poppet, logic element - pressure
DOHP	Normally open, balanced poppet, logic element - pressure
DOJP	Normally open, balanced poppet, logic element - pressure
CSAA	Single ball shuttle valve with signal
CSAW	Single ball shuttle valve with signal
CSAC	Single ball shuttle valve with signal at port
CSAD	Single ball shuttle valve with signal at port
CSAY	Single ball shuttle valve with signal at port
CSAZ	Single ball shuttle valve with signal at port
CDAA	Back-to-back check/shuttle valve with signal
CDAC	Back-to-back check/shuttle valve with signal at port
CDAD	Back-to-back check/shuttle valve with signal at port
CSAB	Single ball shuttle valve with signal at port
CSAX	Single ball shuttle valve with signal at port
CSTT	Single ball shuttle valve, 3000 psi (210 bar) - common
CDAB	Back-to-back check/shuttle valve with signal at port
DSCH	Low side, 3-position, hot oil shuttle



DSEH	Low side, 3-position, hot oil shuttle	
DSGH	Low side, 3-position, hot oil shuttle	
DSIH	Low side, 3-position, hot oil shuttlevalve	
DSDD	Low side, 3-position, hot oil shuttle valve with delayed shift	
DSFD	Low side, 3-position, hot oil shuttle valve with delayed shift	
DSCL	Direct-acting, low side, 3-position, shuttle	
DSCS	High side, 3-position, shuttle	
DSES	High side, 3-position, shuttle	
DSGS	High side, 3-position, shuttle	
DSIS	High side, 3-position, shuttle	
DSCO	Spring offset, 2-position, high side shuttle	
DSEO	Spring offset, 2-position, high side shuttle	
DSGO	Spring offset, 2-position, high side shuttle	
DSIO	Spring offset, 2-position, high side shuttle	
DSCY	3-way, 2-position, vent-to-shift diverter valve, normally open	
DSEY	3-way, 2-position, vent-to-shift diverter valve, normally open	
DSGY	3-way, 2-position, vent-to-shift diverter valve, normally open	
DSIY	3-way, 2-position, vent-to-shift diverter valve, normally open	
DSCX	3-way, 2-position, vent-to-shift diverter valve, normally closed	
DSEX	3-way, 2-position, vent-to-shift diverter valve, normally closed	
DSGX	3-way, 2-position, vent-to-shift diverter valve, normally closed	



DSIX	3-way, 2-position, vent-to-shift diverter valve, normally
DDDG	3-way, 2-position, pilot-to-shift, directional
DDFG	3-way, 2-position, pilot-to-shift, directional
DDHG	3-way, 2-position, pilot-to-shift, directional
DPBA	2-way, pilot-operated, directional valve with internal drain to port 3 - normally
DPCA	2-way, pilot-operated, directional valve with internal drain to port 3 - normally
DRBA	2-way, direct-acting, directional valve with internal drain to port 3 - normally
DVBA	2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DVCA	2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DPBB	2-way, pilot-operated, directional valve with internal drain to port 3 - normally
DPCB	2-way, pilot-operated, directional valve with internal drain to port 3 - normally
DRBB	2-way, direct-acting, directional valve with internal drain to port 3 - normally
DVBB	2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DVCB	2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DPBM	2-way, pilot-operated, directional valve with drain to port 4 - normally
DPCM	2-way, pilot-operated, directional valve with drain to port 4 - normally
DRBM	2-way, direct-acting, directional valve with drain to port 4 - normally
DVBM	2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DVCM	2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DRBMX	2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally
DRAY	2-way, pilot-to-shift directional valve with drain to port 4 - normally



DPBN	2-way, pilot-operated, directional valve with drain to port 4 - normally
DPCN	closed 2-way, pilot-operated, directional valve with drain to port 4 - normally
	closed
DRBN	3-way, direct-acting, directional valve with drain to port 4 - normally
DVBN	2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DVCN	2-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DRBNX	2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally
DRAX	2-way, pilot-to-shift directional valve with drain to port 4 - normally
DPBC	3-way, pilot-operated, directional valve with internal drain to port 3 (1 blocked, 2 to 3
DPCC	3-way, pilot-operated, directional valve with internal drain to port 3 (1 blocked, 2 to 3
DRBC	3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3
DRCC	3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3
DVBC	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DVCC	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DPBD	3-way, pilot-operated, directional valve with internal drain to port 3 (1 to 2 open, 3
DPCD	3-way, pilot-operated, directional valve with internal drain to port 3 (1 to 2 open, 3
DRBD	3-way, direct-acting, directional valve with internal drain to port 3 (1 to 2 open, 3
DVBD	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DVCD	3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A
DPBO	3-way, pilot-operated, directional valve with drain to port 4 (1 blocked, 2 to 3
DPCO	3-way, pilot-operated, directional valve with drain to port 4 (1 blocked, 2 to 3
DRBO	3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3



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DRCO	3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3
DVBO	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DVCO	3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control
DRBOX	3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 blocked, 2 to
DNDM	4-way, manually operated, directional spool
DCCF	4-way, 2-position, pilot-to-shift directional
DCDF	4-way, 2-position, pilot-to-shift directional
DCEF	4-way, 2-position, pilot-to-shift directional
DCFF	4-way, 2-position, pilot-to-shift directional
DCCD	4-way, 2-position, pilot-to-shift, detented, directional
DCDD	4-way, 2-position, pilot-to-shift, detented, directional
DCED	4-way, 2-position, pilot-to-shift, detented, directional
DCFD	4-way, 2-position, pilot-to-shift, detented, directional
DCCC	4-way, 3-position, pilot-to-shift directional
DCDC	4-way, 3-position, pilot-to-shift directional
DCEC	4-way, 3-position, pilot-to-shift directional
DCFC	4-way, 3-position, pilot-to-shift directional
DDDC	4-way, 3-position, pilot-to-shift directional
DDFC	4-way, 3-position, pilot-to-shift directional
FTCC	4-way, 3-position, meter in proportional directional
FTDC	4-way, 3-position, meter in proportional directional



FTEC	4-way, 3-position, meter in proportional directional
FTFC	4-way, 3-position, meter in proportional directional
FTHC	4-way, 3-position, meter in proportional directional
CKCR	5:1 pilot ratio, pilot-to-open check valve with standard
CKCS	5:1 pilot ratio, pilot-to-open check valve with sealed
CXBM	Insert style, free flow nose to side check
CXFHZ	Free flow nose to side check valve with position
CXHHZ	Free flow nose to side check valve with position
CXTA	Free flow nose to side check valve - common
DDHC	4-way, 3-position, pilot-to-shift directional
DGTA	2-way, solenoid-operated, directional poppet valve - common
DGUA	2-way, solenoid-operated directional poppet valve - common
DMTA	3-way, direct-acting, balanced spool, solenoid-operated directional valve, 3600 psi
DTTA	2-way, direct-acting, balanced poppet solenoid-operated directional valve - common
LOHDL	Pilot-to-close, spring-biased closed, unbalanced poppet logic element with pilot source



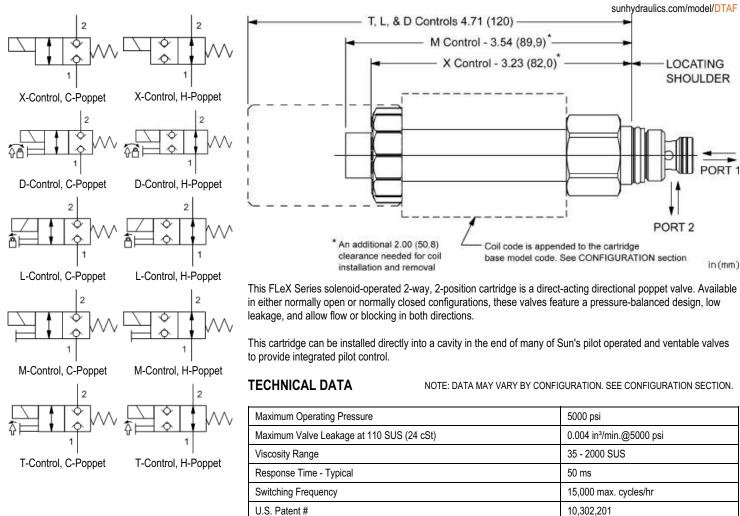
Series	Ports	Cavities
Series Z Cartridges /8-24 UNF Cartridge Thread mm Valve Hex Size	3-Port	T-382A
1 - 14 Nm Valve Installation Torque		
Series P Cartridges	2-Port	T-8A
M16 Cartridge Thread	2-Port (Deep)	T-8DP
22.2 mm Valve Hex Size	3-Port	T-9A
7 - 33 Nm Valve Installation Torque		
Series 0 Cartridges	2-Port	T-162A
•	2-Port (Deep)	T-162DP
/16 Cartridge Thread 9.1 mm Valve Hex Size	3-Port	T-150A
25.4 mm Valve Hex Size	3-Port	T-163A
27 - 33 Nm Valve Installation Torque	4-Port	T-30A
Series 0C Cartridges	4-Port (Common)	SC-08-04
8/4-16 UNF Cartridge Thread		
22,2 mm Valve Hex Size		
9-22 lbf ft Valve Installation Torque		
Series 1 Cartridges	2-Port	T-10A
M20 Cartridge Thread	2-Port	T-13A
22.2 mm Valve Hex Size	3-Port	T-11A
1 - 47 Nm Valve Installation Torque	4-Port	T-21A
	4-Port 6-Port	T-31A T-61A
Series 1C Cartridges	2-Port (Common)	SC-10-02
7/8-14 UNF Cartridge Thread	4-Port (Common)	SC-10-04
25.4 mm Valve Hex Size		
3-26 lbf ft Valve Installation Torque		
Series 2 Cartridges	2-Port	T-3A
I"-14 UNS Cartridge Thread	2-Port	T-5A
28,6 mm Valve Hex Size	3-Port	T-2A
51 - 68 Nm Valve Installation Torque	4-Port	T-22A
·	4-Port 4-Port (Dual path)	T-32A T-52AD
	6-Port	T-52AD T-52A
	6-Port	T-62A
	2-Port	T-16A
Series 3 Cartridges	3-Port	T-17A
	4-Port	T-23A
136 Cartridge Thread	4-Port	T-33A
1.8 mm Valve Hex Size	4-Port (Dual path)	T-53AD
	6-Port	T-53A
81,8 mm Valve Hex Size 203 - 217 Nm Valve Installation Torque		
	6-Port	T-63A

41,3 mm Valve Hex Size 474 - 508 Nm Valve Installation Torque

З-Роп	I-19A
3-Port (Undercut)	T-19AU
4-Port	T-24A
4-Port (Undercut)	T-24AU
4-Port	T-34A
4-Port (Dual path)	T-54AD
6-Port	T-54A
6-Port	T-64A

## FLeX Series 2-way, direct-acting, solenoid-operated directional blocking poppet valve SERIES P / CAPACITY: 7 gpm / CAVITY: T-8A





• For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

Seal kit - Cartridge Seal kit - Cartridge

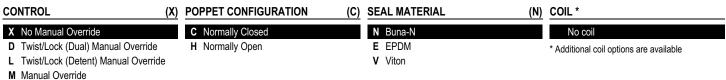
#### **CONFIGURATION OPTIONS**

MODEL

DTAF

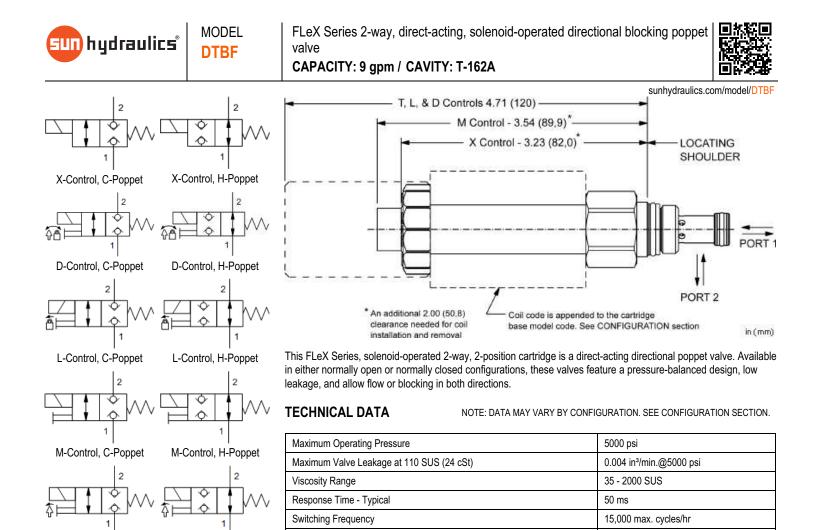
un) hydraulics

#### Model Code Example: DTAFXCN



T Twist (Momentary) Manual Override

Buna: 990608007



• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

U.S. Patent #

Seal kit - Cartridge Seal kit - Cartridge

T-Control, H-Poppet

#### **CONFIGURATION OPTIONS**

T-Control, C-Poppet

#### Model Code Example: DTBFXCN

CONTROL (X	) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override			V Viton		

M Manual Override

T Twist (Momentary) Manual Override

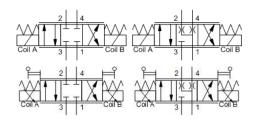
10,302,201

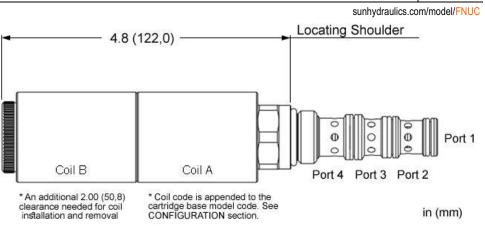
Buna: 990162007



MODEL FNUC 4-way, 3-position, electro-proportional, solenoid-operated directional valve, 3600 psi (250 bar) - common cavity SERIES 1C / CAPACITY: 10 gpm / CAVITY: SC-10-04







This valve is a solenoid-operated 3-position, 4-way proportional directional valve spring centered to the neutral position. It is available with a Blocked Center condition or an A and B Bleed to T Center condition. The flow from Port 3 (P) to Port 2 (B) and from Port 4 (A) to Port 1 (T) increases proportionally to the current applied to coil A. The flow from Port 3 (P) to Port 4 (A) and from Port 2 (A) to Port 1 (T) increases proportionally to the current applied to coil B.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

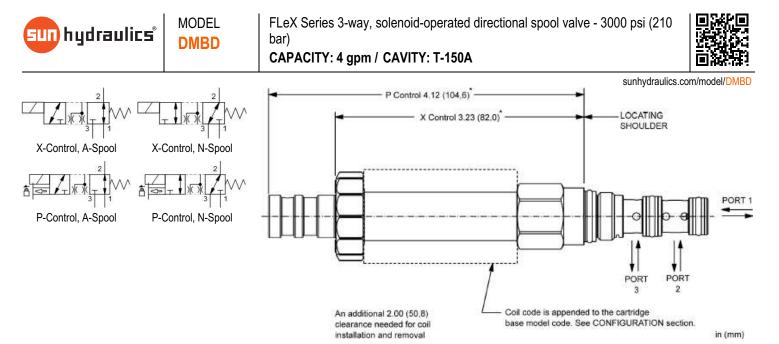
Maximum Operating Pressure	3600 psi
Response Time - Typical	50 ms
Coil Nut Torque	3.5 - 3.9 lbf ft
Mounting Bolt Installation Torque (T Control)	4.2 - 4.6 lbf ft

#### **CONFIGURATION OPTIONS**

#### Model Code Example: FNUCXEN

CONTROL (X)	FLOW RATE (E)	SEAL MATERIAL (N)	COIL *
X No Manual Override	E 8 gpm Blocked Center (30 L/min.)	N Buna-N	No coil
T Lever (Momentary) Manual Override	<ul> <li>A 1.3 gpm Blocked Center (4,8 L/min.)</li> <li>C 4 gpm Blocked Center (15 L/min.)</li> <li>V 1.3 gpm A and B Bleed to Center (4,8 L/min.)</li> </ul>		* Additional coil options are available
	X 4 gpm A and B Bleed to Center (15 L/min.)		

Z 8 gpm A and B Bleed to Center (30 L/min.)



This FLeX Series solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	3000 psi
Typical Valve Leakage at 110 SUS (24 cSt) from port 1 to port 3	3 in³/min.@3000 psi
Response Time - Typical 50 ms	
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge Buna: 990150007	
Seal kit - Cartridge	Viton: 990150006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

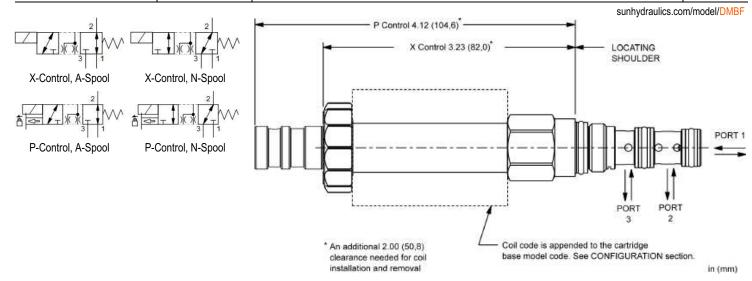
#### Model Code Example: DMBDXAN

CONTROL (	() SPOOL CONFIGURATION (A)	SEAL MATERIAL (N)	COIL *
<ul><li>X No Manual Override</li><li>P Manual Pull Override</li></ul>	<ul><li>A Normally Open 1 to 2, Closed 2 to 3</li><li>N Normally Open 2 to 3, Closed 1 to 2</li></ul>	N Buna-N E EPDM V Viton	No coil * Additional coil options are available

### hydraulics MODEL

FLeX Series 3-way, solenoid-operated directional spool valve CAPACITY: 4 gpm / CAVITY: T-150A





This FLeX Series solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Typical Valve Leakage at 110 SUS (24 cSt) Inlet on 1	10 in³/min.@5000 psi
Typical Valve Leakage at 110 SUS (24 cSt) Inlet on 2 or 3	5 in³/min.@5000 psi
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990150007
Seal kit - Cartridge	Viton: 990150006

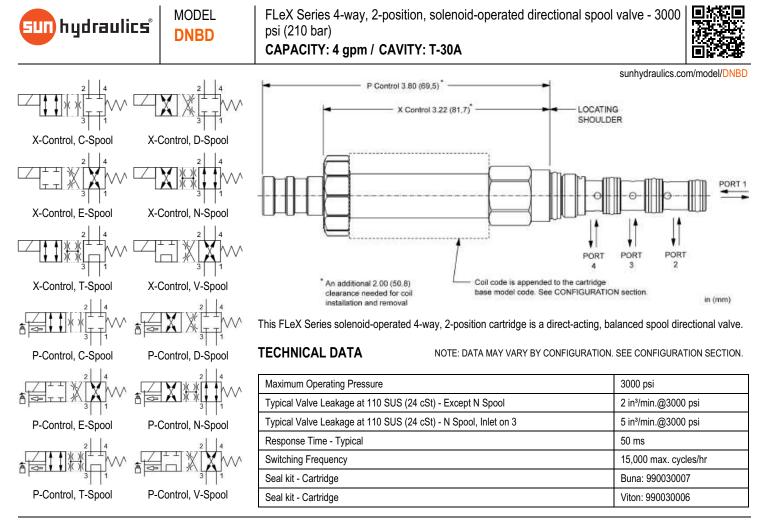
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DMBFXAN

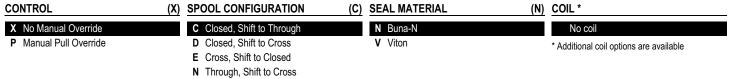
CONTROL	(X) SPOOL CONFIGURATION (A	A) SEAL MATERIAL	(N)	COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 1 to 3	N Buna-N		No coil
P Manual Pull Override	N Normally Open 2 to 3, Closed 1 to 2	E EPDM		* Additional coil options are available
		V Viton		



• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

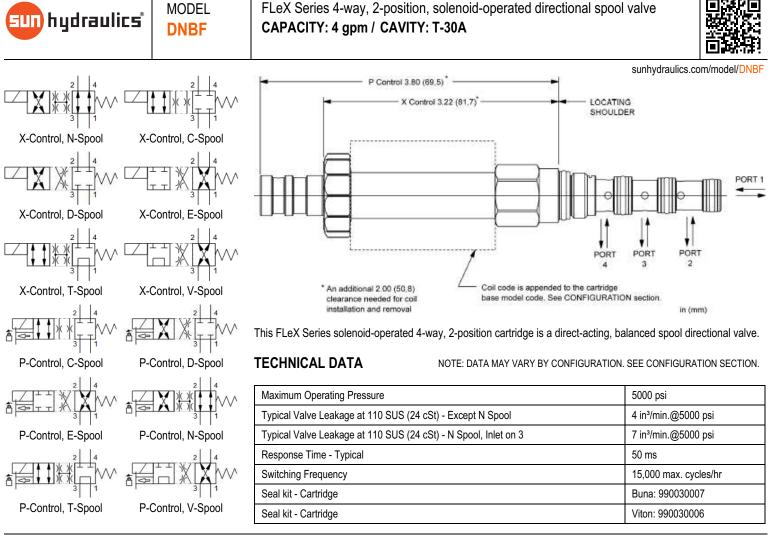
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNBDXCN



**T** Tandem, Shift to Through

V Cross, Shift to Tandem



• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

V Cross, Shift to Tandem

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNBFXNN

CONTROL	(X) SPOOL CONFIGURATION	(N) SEAL MATERIAL	(N) COIL *	
X No Manual Override	N Through, Shift to Cross	N Buna-N	No coil	
P Manual Pull Override	C Closed, Shift to Through	V Viton	* Additional coil options are available	9
	D Closed, Shift to Cross		···· · · · · · · · · · · · · · · · · ·	
	E Cross, Shift to Closed			
	T Tandem, Shift to Through			

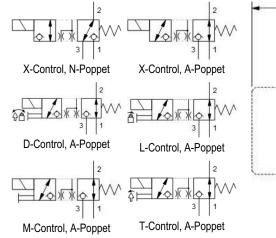
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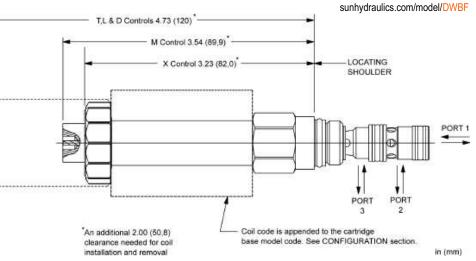


MODEL **DWBF** 

FLeX Series 3-way, direct-acting, solenoid-operated directional blocking poppet valve CAPACITY: 6 gpm / CAVITY: T-150A







This FLeX Series solenoid-operated 3-way, 2-position cartridge is a direct-acting, poppet-style directional valve.

Due to the poppet style construction, this valve has extremely low leakage.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@5000 psi
Response Time - Typical	50 ms
Switching Frequency	10,000 max. cycles/hr
U.S. Patent #	10,302,201
Seal kit - Cartridge	Buna: 990150007
Seal kit - Cartridge	Viton: 990150006

- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES
  - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.
  - Sun Hydraulics bases solenoid valve performance data on testing at maximum ambient temperature (50° C) and 15% undervoltage at stabilized current (580 mA). This ensures that our data represents valve performance under worst-case conditions.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DWBFXNN

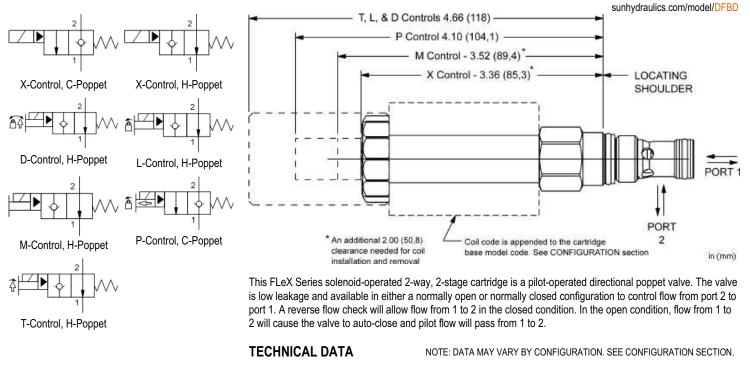
CONTROL	(X) POPPET CONFIGURATION (N	N) SEAL MATERIAL	(N)	COIL *
X No Manual Override	N Normally Open 2 to 3, Closed 1 to 2	N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	A Normally Open 1 to 2, Closed 2 to 3	E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Overrid	e	V Viton		

M Manual Override

#### MODEL FLeX Serie DFBD reverse flow

FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse flow check - flow 2-1, 3000 psi (210 bar) CAPACITY: 10 gpm / CAVITY: T-162A





Maximum Operating Pressure	3000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in <sup>3</sup> /min.@3000 psi
Check Cracking Pressure	50 psi
Viscosity Range	35 - 2000 SUS
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

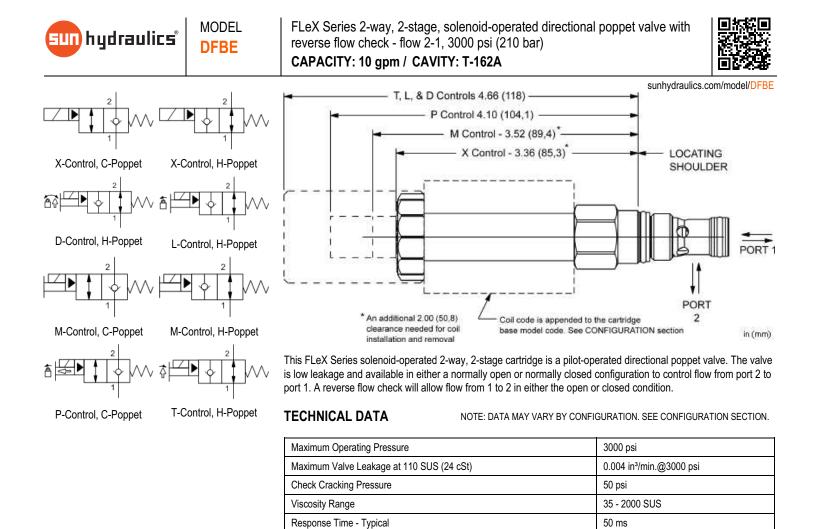
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFBDXCN

CONTROL	X) POPPET CONFIGURATION	(C) SEAL M	ATERIAL (N)	COIL *
X No Manual Override	C Normally Closed	N Buna	a-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPD	M	* Additional coil options are available
L Twist/Lock (Detent) Manual Override		V Vitor	1	

M Manual Override

P Manual Pull Override



• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

Switching Frequency

Seal kit - Cartridge

Seal kit - Cartridge

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFBEXCN

CONTROL	(X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override	9		V Viton		

M Manual Override

P Manual Pull Override

T Twist (Momentary) Manual Override

15,000 max. cycles/hr

Buna: 990162007



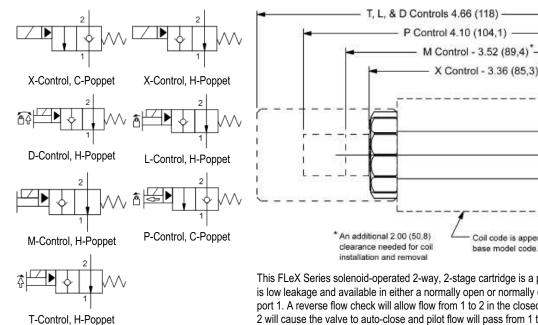
FLeX Series 2-way, 2-stage, solenoid-operated directional poppet valve with reverse flow check - flow 2-1 CAPACITY: 10 gpm / CAVITY: T-162A



sunhydraulics.com/model/DFBF

LOCATING

SHOULDER



PORT PORT 2 Coil code is appended to the cartridge base model code. See CONFIGURATION section in (mm)

This FLeX Series solenoid-operated 2-way, 2-stage cartridge is a pilot-operated directional poppet valve. The valve is low leakage and available in either a normally open or normally closed configuration to control flow from port 2 to port 1. A reverse flow check will allow flow from 1 to 2 in the closed condition. In the open condition, flow from 1 to 2 will cause the valve to auto-close and pilot flow will pass from 1 to 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@5000 psi
Check Cracking Pressure	50 psi
Viscosity Range	35 - 2000 SUS
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

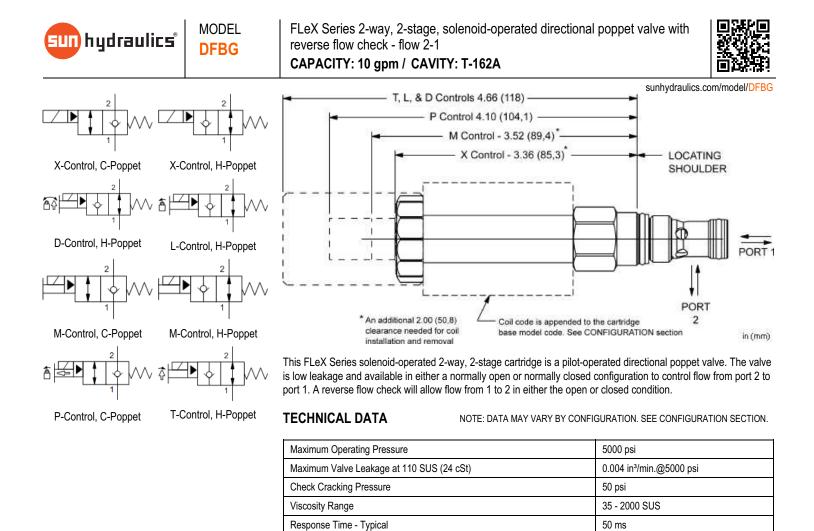
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFBFXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed	N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override	•	V Viton		

M Manual Override

P Manual Pull Override



• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

Switching Frequency

Seal kit - Cartridge

Seal kit - Cartridge

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFBGXCN

CONTROL	(X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override	e		V Viton		

M Manual Override

P Manual Pull Override T Twist (Memortany) Manual Overr

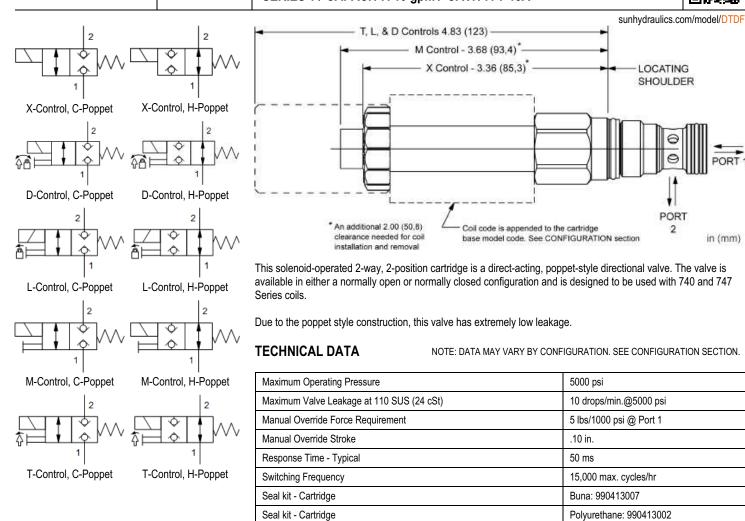
T Twist (Momentary) Manual Override

15,000 max. cycles/hr

Buna: 990162007

# 2-way, direct-acting, solenoid-operated directional blocking poppet valve (740 Series) SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-13A





MODEL

DTDF

un hydraulics

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

Seal kit - Cartridge

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DTDFXCN

CONTROL	X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override			V Viton		

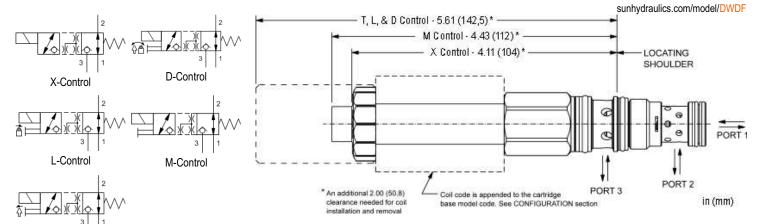
M Manual Override

T Twist (Momentary) Manual Override



MODEL DWDF 3-way, direct-acting, solenoid-operated directional poppet valve (740 Series) SERIES 1 / CAPACITY: 7.5 gpm / CAVITY: T-11A





T-Control

This solenoid-operated 3-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is normally open between port 1 and port 2 with port 3 blocked. Energizing the valve connects port 2 to 3 and blocks port 1. All flow paths are bidirectional and blocked paths are blocked in both directions. Due to the poppet style construction, this valve has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi		
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi		
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1		
Manual Override Stroke	.10 in.		
Response Time - Typical	50 ms		
Switching Frequency	15,000 max. cycles/hr		
Seal kit - Cartridge	Buna: 990411007		
Seal kit - Cartridge	Viton: 990411006		

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

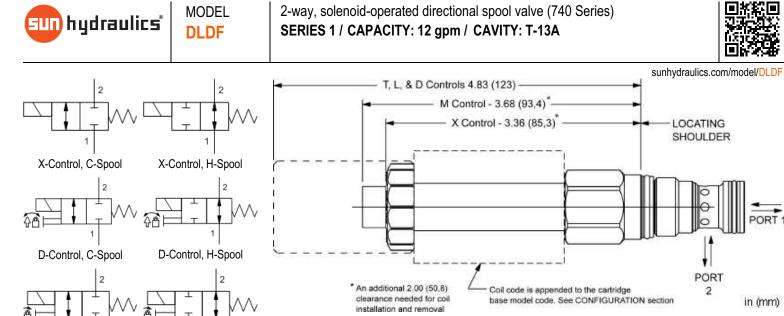
• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DWDFXAN

CONTROL ()	() POPPET CONFIGURATION (A)	SEAL MATERIAL (N)	COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	-	E EPDM	* Additional coil options are available
L Twist/Lock (Detent) Manual Override		V Viton	

M Manual Override



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The valve is available in either a normally open or normally closed configuration and is designed to be used with 740 and 747 Series coils.



Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@3000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Viton: 990413006

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

**TECHNICAL DATA** 

#### **CONFIGURATION OPTIONS**

L-Control, C-Spool

M-Control, C-Spool

T-Control, C-Spool

2

2

L-Control, H-Spool

M-Control, H-Spool

T-Control, H-Spool

2

2

#### Model Code Example: DLDFXCN

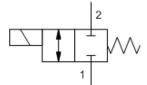
CONTROL (X	SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed	N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override		V Viton		
M Manual Override				



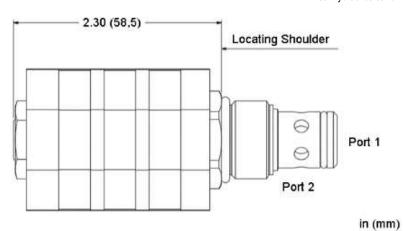
2-way, direct-acting, balanced spool, solenoid-operated directional valve, 3000 psi (210 bar) - common cavity SERIES 1C / CAVITY: SC-10-02



sunhydraulics.com/model/DLUT



X-Control, C-Spool



This solenoid-operated, 2-way, 2-position spool valve is a direct-acting, balanced spool directional valve. The valve is only available in the normally closed configuration.

This valve is designed to be used with the 780 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	3000 psi
Typical Valve Leakage at 110 SUS (24 cSt) Inlet on 1	9.5 in³/min.@3000 psi
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Coil Nut Torque	3.5 - 3.9 lbf ft

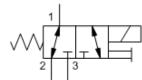
CONFIGURATION OPTIONS Model Code Example: DLUTXCN						
CONTROL	(X)	SPOOL CONFIGURATION (	C)	SEAL MATERIAL	(N)	COIL *
Χ -		C Normally Closed		N Buna-N		No coil
						* Additional coil options are available



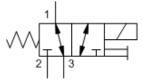
MODEL DBAFS



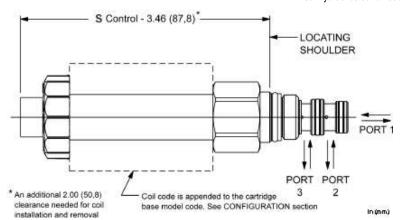
sunhydraulics.com/model/DBAFS







M-Control, C-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Manual Override Force Requirement	10 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

NOTES

TES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

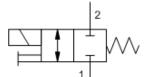
#### CONFIGURATION OPTIONS

Model Code Example: DBAFSHN

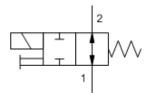
POPPET CONFIGURATION	(H)	SEAL MATERIAL	(N)	COIL *
<ul><li>H Normally Open</li><li>C Normally Closed</li></ul>		N Buna-N V Viton		No coil * Additional coil options are available



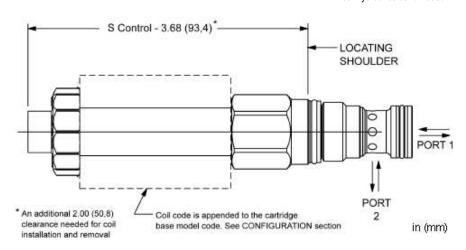
sunhydraulics.com/model/DLDFS



M-Control, C-Spool



M-Control, H-Spool



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, balanced spool valve with a soft shift feature. The soft shift feature reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@3000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Viton: 990413006

**NOTES** Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

#### **CONFIGURATION OPTIONS**

Model Code Example: DLDFSCN

POPPET CONFIGURATION	(C) SEAL MATERIAL	
C Normally Closed	N Buna-N	

(N) COIL\*

H Normally Open

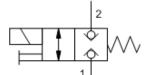
V Viton



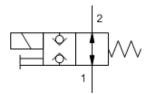
FLeX Series 2-way, soft shift, solenoid-operated directional poppet valve - pilot capacity
SERIES P / CAPACITY: 7 gpm / CAVITY: T-8A



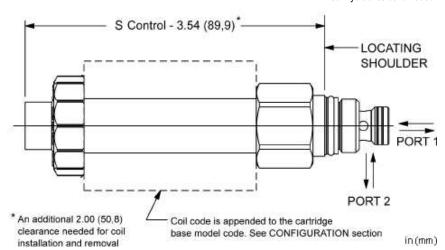
sunhydraulics.com/model/DTAFS



M-Control, C-Poppet



M-Control, H-Poppet



This FLeX Series, solenoid-operated 2-way, 2-position cartridge is a direct-acting directional poppet valve with a soft shift feature. Available in either normally open or normally closed configurations, these valves feature a pressure-balanced design, low leakage, and allow flow or blocking in both directions.

This cartridge can be installed directly into a cavity in the end of many of Sun's pilot operated and ventable valves to provide integrated pilot control.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in³/min.@5000 psi
Manual Override Force Requirement	10 lbs/1000 psi @ Port 1
Viscosity Range	35 - 2000 SUS
Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	Viton: 990608006

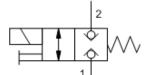
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DTAFSCN

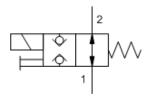
POPPET CONFIGURATION (C)	SEAL MATERIAL (N)	COIL *
C Normally Closed H Normally Open	N Buna-N V Viton	No coil * Additional coil options are available



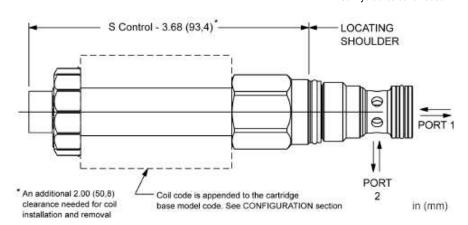
sunhydraulics.com/model/DTDFS



M-Control, C-Poppet



M-Control, H-Poppet



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve with a soft shift feature. The soft shift feature reduces system shock due to valve actuation. The valve is available in either a normally open or normally closed configuration.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

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NOTES
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ES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

#### CONFIGURATION OPTIONS

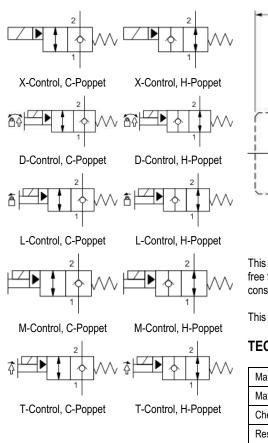
Model Code Example: DTDFSCN

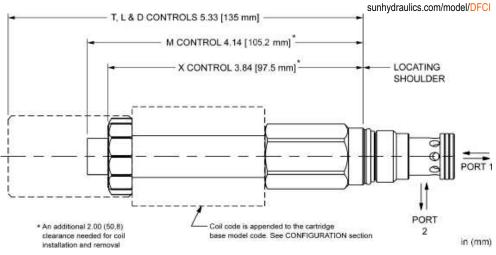
POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
<ul><li>C Normally Closed</li><li>H Normally Open</li></ul>		N Buna-N V Viton		No coil * Additional coil options are available

#### MODEL <mark>sun</mark> hydraulics" Series) **DFCI**

2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740 SERIES 1 / CAPACITY: 15 gpm / CAVITY: T-13A







This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

H Normally Open

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

\* Additional coil options are available

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

#### **CONFIGURATION OPTIONS**

#### (N) COIL \* (X) SPOOL CONFIGURATION (C) SEAL MATERIAL N Buna-N C Normally Closed No coil E EPDM

V Viton

X No Manual Override D Twist/Lock (Dual) Manual Override

L Twist/Lock (Detent) Manual Override

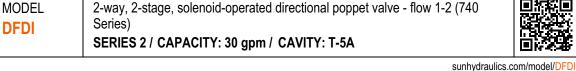
M Manual Override

CONTROL

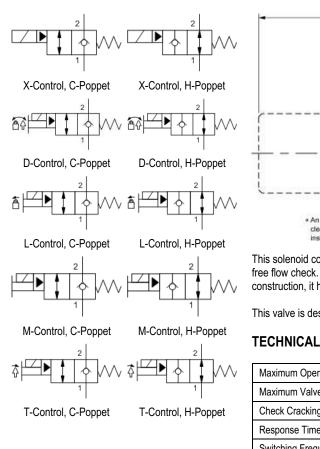
T Twist (Momentary) Manual Override

#### Model Code Example: DFCIXCN

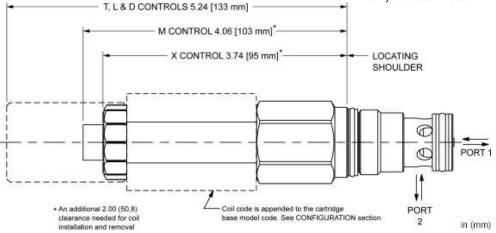
© 2023 Sun Hydraulics	
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<mark>sun</mark> hydraulics"



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFDIXCN

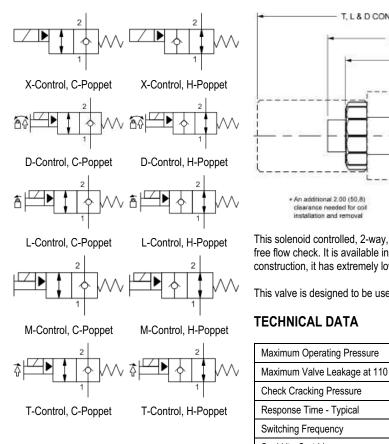
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *	
X No Manual Override	C Normally Closed	N Buna-N	No coil	
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	* Additional coil	options are available
L Twist/Lock (Detent) Manual Override		V Viton		

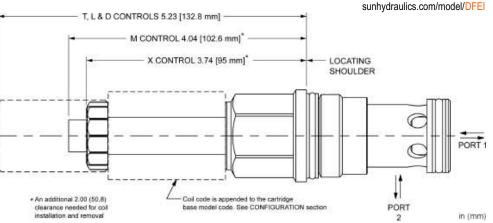
M Manual Override



2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740 Series) SERIES 3 / CAPACITY: 60 gpm / CAVITY: T-16A







This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Viton: 990016006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFEIXCN

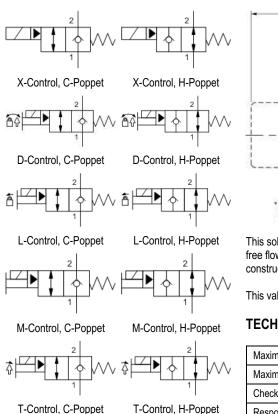
CONTROL	X) SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override			V Viton		

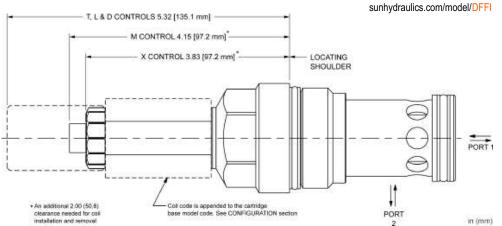
M Manual Override



2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 (740 Series) SERIES 4 / CAPACITY: 120 gpm / CAVITY: T-18A







This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

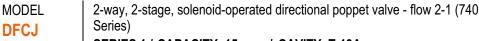
Maximum Operating Pressure	5000 psi		
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi		
Check Cracking Pressure	50 psi		
Response Time - Typical	30 ms		
Switching Frequency	15,000 max. cycles/hr		
Seal kit - Cartridge	Buna: 990018007		
Seal kit - Cartridge	EPDM: 990018014		
Seal kit - Cartridge	Viton: 990018006		

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFFIXCN

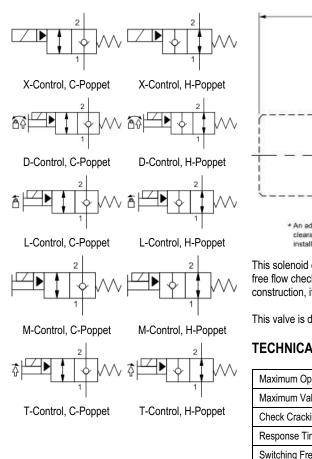
CONTROL	(X)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override		H Normally Open		E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override	Э			V Viton		· · · · · · · · · · · · · · · · · · ·

M Manual Override

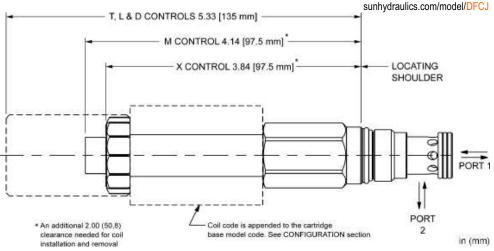


#### SERIES 1 / CAPACITY: 15 gpm / CAVITY: T-13A





<mark>un</mark> hydraulics



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

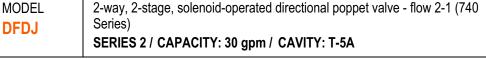
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFCJXCN

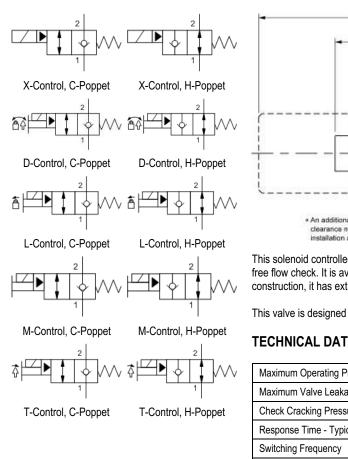
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) C	COIL *
X No Manual Override	C Normally Closed	N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	*	Additional coil options are available
L Twist/Lock (Detent) Manual Override		V Viton		·····

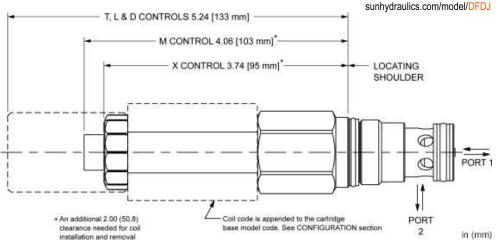
M Manual Override











This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi		
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi		
Check Cracking Pressure	50 psi		
Response Time - Typical	30 ms		
Switching Frequency	15,000 max. cycles/hr		
Seal kit - Cartridge	Buna: 990203007		
Seal kit - Cartridge	EPDM: 990203014		
Seal kit - Cartridge	Viton: 990203006		

 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

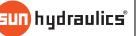
#### Model Code Example: DFDJXCN

CONTROL ()	() SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed	N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override		V Viton		

M Manual Override

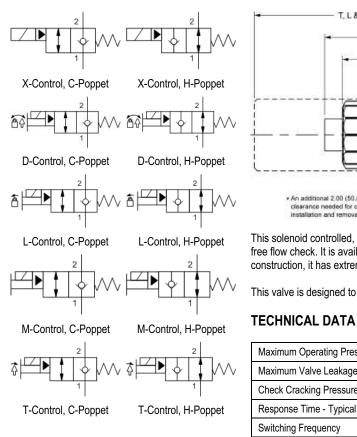
T Twist (Momentary) Manual Override

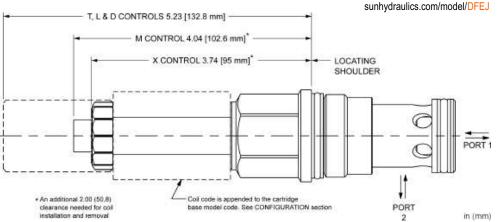
<mark>sun</mark> hydraulics"



MODEL DFEJ 2-way, 2-stage, solenoid-operated directional poppet valve - flow 2-1 (740 Series) SERIES 3 / CAPACITY: 60 gpm / CAVITY: T-16A







This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Viton: 990016006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

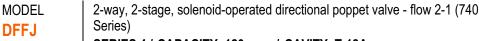
• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFEJXCN

CONTROL	X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		* Additional coil options are available
L Twist/Lock (Detent) Manual Override			V Viton		

M Manual Override (Standard)



#### SERIES 4 / CAPACITY: 120 gpm / CAVITY: T-18A

T, L & D CONTROLS 5.32 [135.1 mm]

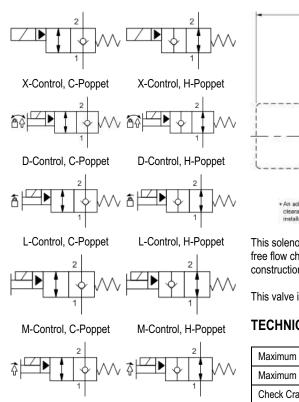


PORT

in (mm)

sunhydraulics.com/model/DFFJ

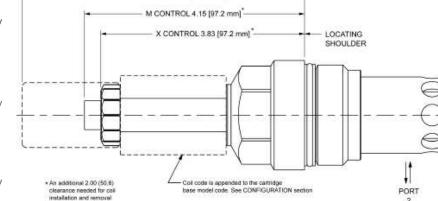
2



T-Control, H-Poppet

T-Control, C-Poppet

<mark>sun</mark> hydraulics"



This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFFJXCN

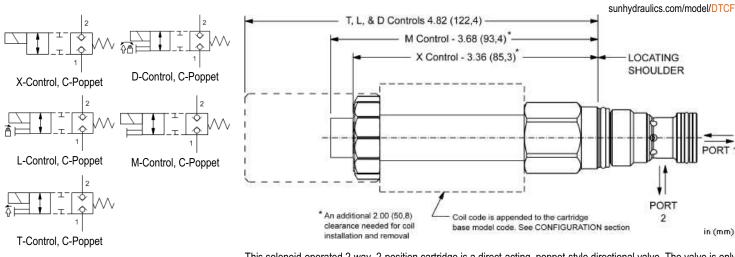
CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) <u>COIL *</u>
X No Manual Override	C Normally Closed	N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM	* Additional coil options are available
L Twist/Lock (Detent) Manual Overrid	e	V Viton	

M Manual Override



2-way, direct-acting, solenoid-operated directional blocking poppet valve with overlap (740 Series) SERIES 1 / CAPACITY: 6 gpm / CAVITY: T-13A





This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is only available in a normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DTCFXCN

CONTROL	(X) POPPET CONFIGURATION	(C) SEAL MATERIAL	(N) <u>COIL *</u>	
X No Manual Override	C Normally Closed	N Buna-N	No coil	
D Twist/Lock (Dual) Manual Override		E EPDM	* Additional coil options are available	
L Twist/Lock (Detent) Manual Override	e	V Viton		

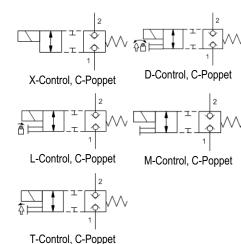
M Manual Override

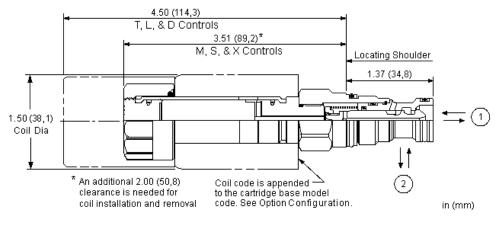


MODEL DTCA 2-way, direct-acting, solenoid-operated directional blocking poppet valve with overlap SERIES 1 / CAPACITY: 6 gpm / CAVITY: T-13A



sunhydraulics.com/model/DTCA





This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is only available in a normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

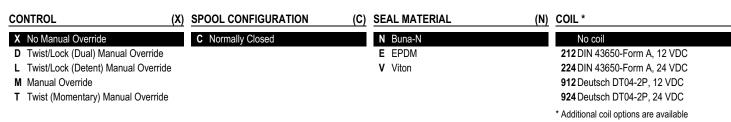
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

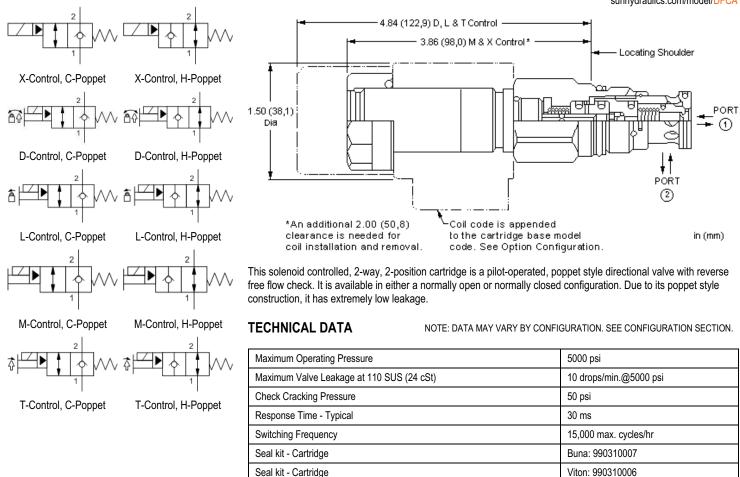
#### Model Code Example: DTCAXCN











• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFCAXCN

CONTROL ()	() POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			V Viton		224 DIN 43650-Form A, 24 VDC
Manual Override					912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override					924 Deutsch DT04-2P, 24 VDC





PORT

∓0

sunhydraulics.com/model/DFDA

Locating Shoulder

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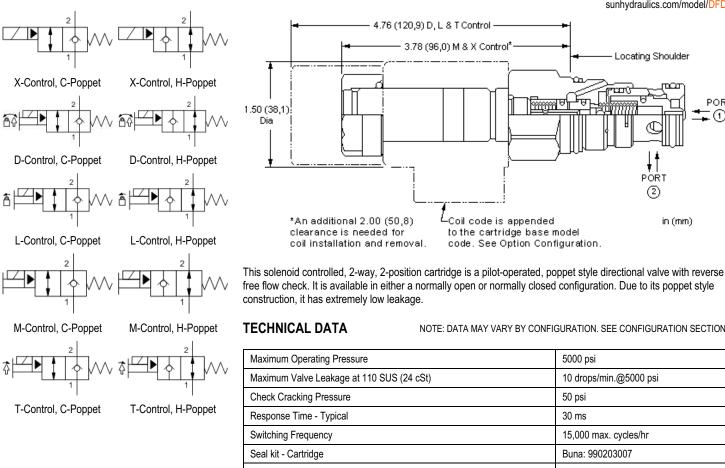
PORT 2

in (mm)

in Ω Ω

ட்டு

<u>mining</u>



NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

5000 psi

10 drops/min.@5000 psi

	Check Cracking Pressure	50 psi				
oppet	Response Time - Typical	30 ms				
	Switching Frequency	15,000 max. cycles/hr				
	Seal kit - Cartridge	Buna: 990203007				
	Seal kit - Cartridge	EPDM: 990203014				
	Seal kit - Cartridge	Viton: 990203006				
	Seal kit - Cartridge	Viton: 990203006				

 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFDAXCN

CONTROL (X	() POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override					924 Deutsch DT04-2P, 24 VDC

## <mark>sun</mark> hydraulics MODEL DFFA

2-way, 2-stage, solenoid-operated directional poppet valve - flow 1-2 SERIES 3 / CAPACITY: 60 gpm / CAVITY: T-16A



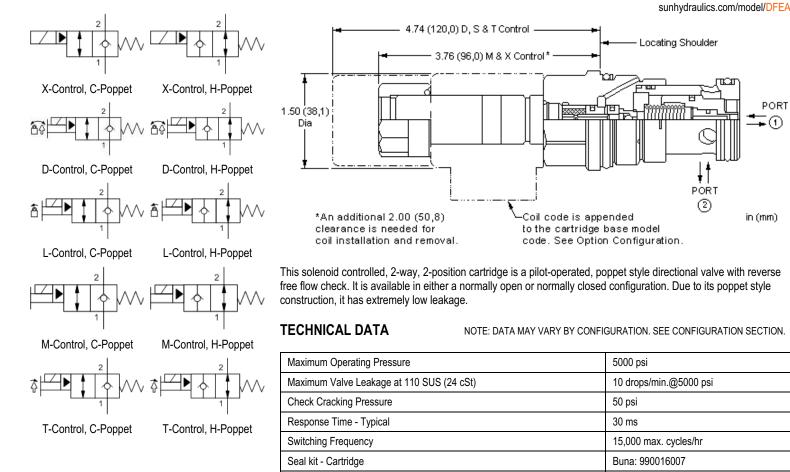
PORT

∓∩

in (mm)

EPDM: 990016014

Viton: 990016006



• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

Seal kit - Cartridge Seal kit - Cartridge

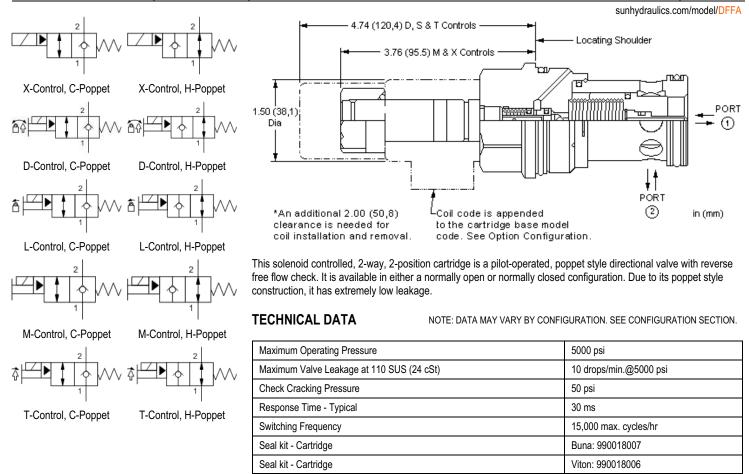
## CONFIGURATION OPTIONS

## Model Code Example: DFEAXCN

CONTROL	(X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	9		V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override					924 Deutsch DT04-2P, 24 VDC
					* Additional coil options are available







• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

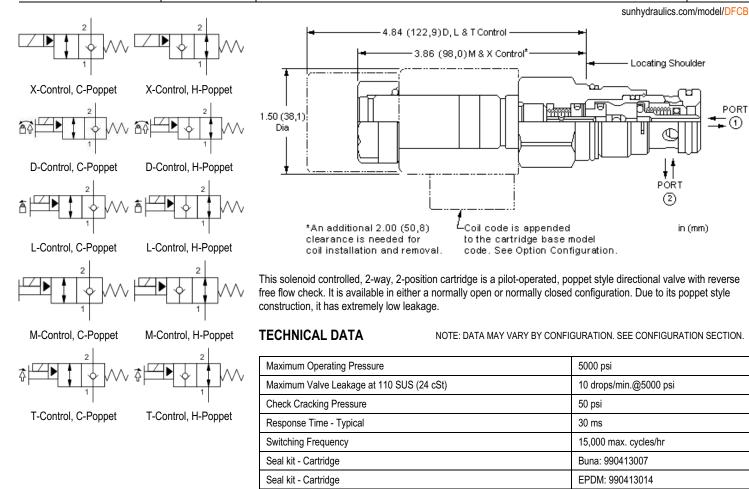
#### Model Code Example: DFFAXCN

CONTROL	(X) POPPET CONFIGURATION	(C) S	EAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	•	١	V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override					924 Deutsch DT04-2P, 24 VDC





PORT



 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

Seal kit - Cartridge

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFCBXCN

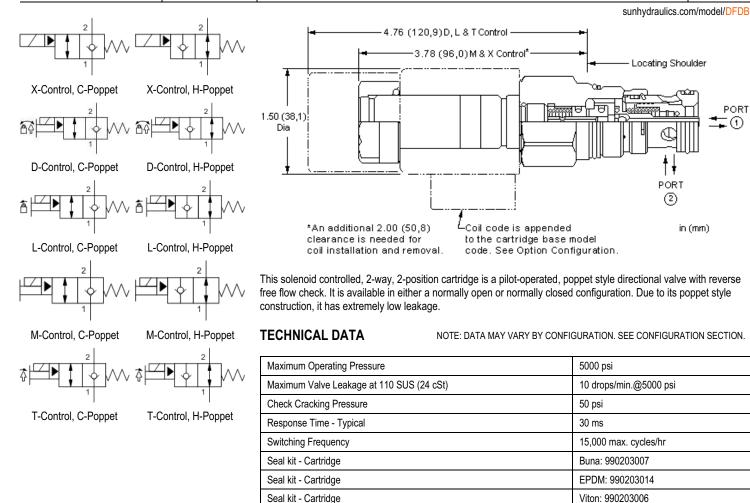
CONTROL	X) POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override					924 Deutsch DT04-2P, 24 VDC

\* Additional coil options are available

Viton: 990413006







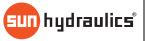
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

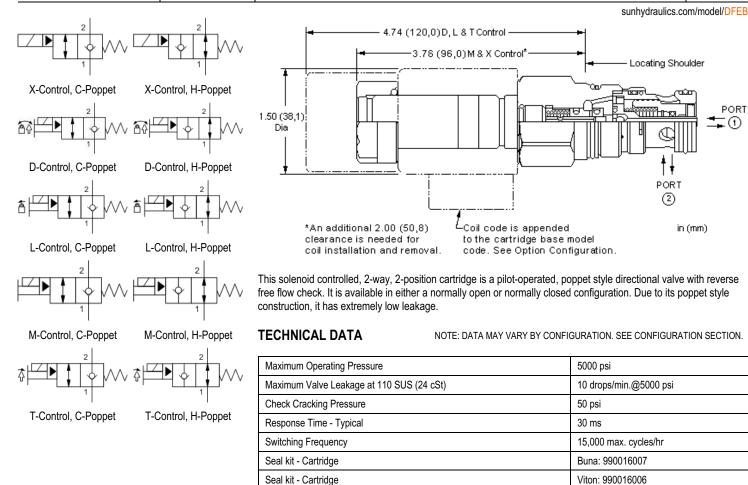
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFDBXCN

CONTROL (2	X) POPPET CONFIGURATION	(C) S	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override					924 Deutsch DT04-2P, 24 VDC







 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### CONFIGURATION OPTIONS

#### Model Code Example: DFEBXCN

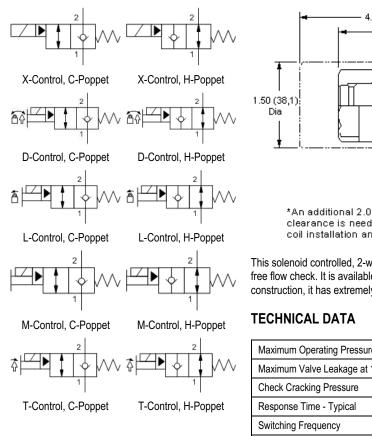
CONTROL	(X) POPPET CONFIGURATION	(C)	SEAL MATERIAL (N	) <u>COIL *</u>
X No Manual Override	C Normally Closed		N Buna-N	No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM	212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	e		V Viton	224 DIN 43650-Form A, 24 VDC
M Manual Override				912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override				924 Deutsch DT04-2P, 24 VDC

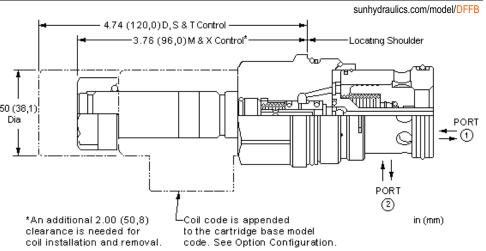
\* Additional coil options are available

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This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

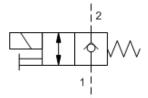
#### **CONFIGURATION OPTIONS**

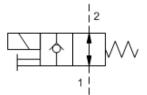
#### Model Code Example: DFFBXCN

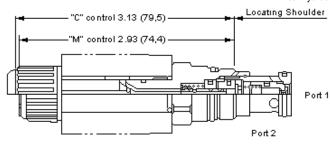
CONTROL (X	() POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override					924 Deutsch DT04-2P, 24 VDC



sunhydraulics.com/model/DACC







in (mm)

This solenoid controlled, 2-way, 2-position cartridge is a pilot-operated, poppet style directional valve with reverse free flow check. It is available in either a normally open or normally closed configuration. Due to its poppet style construction, it has extremely low leakage.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Response Time - Typical	30 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990313014
Seal kit - Cartridge	Viton: 990310006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

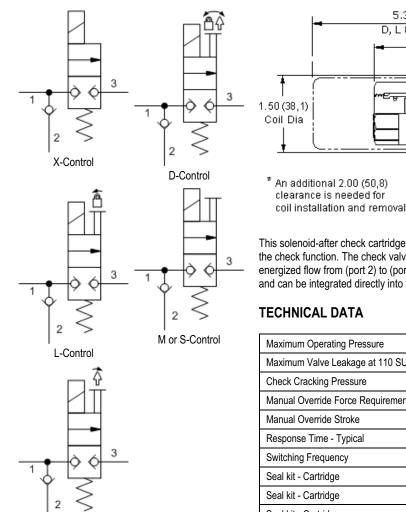
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DACCMCN

CONTROL	(M) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) COIL *
M Manual Override	C Normally Closed	N Buna-N	No coil
C Concealed Manual Override	H Normally Open	E EPDM	212 DIN 43650-Form A, 12 VDC
		V Viton	224 DIN 43650-Form A, 24 VDC

Model HDDA





, 5.36	(136,1)	sunhydraulics.com/model/HDDA
■ D, L & '	T Controls 4.38 (111,3) *	-
	X, M & S Controls	Locating Shoulder
1.50 (38,1) Coil Dia		
* An additional 2.00 (50,8) clearance is needed for coil installation and removal	Coll code is appended — 🔨 🔨	♥ I 3 2 utlet Inlet in (mm)

This solenoid-after check cartridge is a hybrid valve incorporating a direct acting solenoid poppet valve teed in after the check function. The check valve flow is from the inlet (port 2) to the system (port 1). With the solenoid deenergized flow from (port 2) to (port 3) is blocked. This combination valve is typically used in lift/lower applications and can be integrated directly into the actuator.

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	30 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

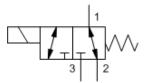
#### **CONFIGURATION OPTIONS** Model Code Example: HDDAXCN CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N) COIL \* X No Manual Override C Normally Closed N Buna-N No coil D Twist/Lock (Dual) Manual Override V Viton 212 DIN 43650-Form A, 12 VDC L Twist/Lock (Detent) Manual Override 224 DIN 43650-Form A, 24 VDC M Manual Override 912 Deutsch DT04-2P, 12 VDC T Twist (Momentary) Manual Override 924 Deutsch DT04-2P, 24 VDC \* Additional coil options are available

T-Control

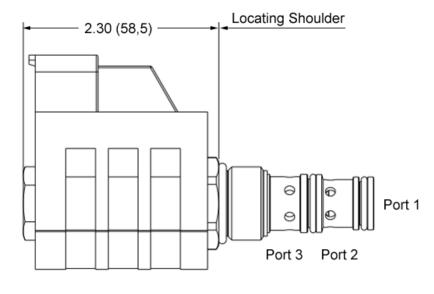




sunhydraulics.com/model/DMUQ



X-Control, H-Spool



in (mm)

This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

This valve is designed to be used with the 780 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

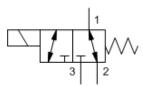
Maximum Operating Pressure	1600 psi
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Coil Nut Torque	3.5 - 3.9 lbf ft

CONFIGURATION OPTIONS	Model Code Example: DMUQXHN			
CONTROL	(X) SPOOL CONFIGURATION (H)	SEAL MATERIAL (N)	COIL *	
Χ -	H Normally Open 1 to 2, Closed 1 to 3	N Buna-N	No coil	

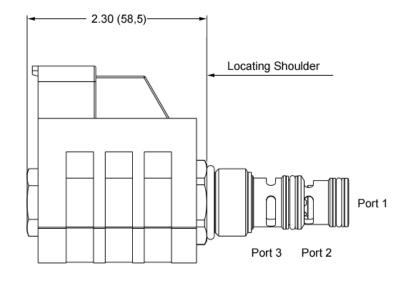




sunhydraulics.com/model/DMUT



X-Control, H-Spool



in (mm)

This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

This valve is designed to be used with the 780 Series coils.

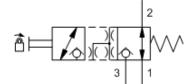
#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

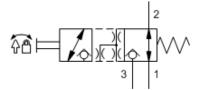
Maximum Operating Pressure	3000 psi
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Coil Nut Torque	3.5 - 3.9 lbf ft

# CONFIGURATION OPTIONS Model Code Example: DMUTXHN CONTROL (X) SPOOL CONFIGURATION (H) SEAL MATERIAL (N) COIL \* H Normally Open 1 to 2, Closed 1 to 3

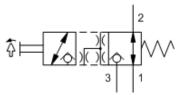




L-Control, A-Poppet



D-Control, A-Poppet



T-Control, A-Poppet

# sunhydraulics.com/model/DWDM 3.40 (86,4) Locating Shoulder \$\phi\_1.40 (35,6) Port 1 Port 3 Port 2 in (mm)

This manually operated, 2-position, 3-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is normally open between port 1 and port 2 with port 3 blocked. Operating the valve connects port 2 to 3 and blocks port 1. All flow paths are bidirectional and blocked paths are blocked in both directions. Due to the poppet style construction, this valve has extremely low leakage.

Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Operating Torque	10 lbf in.
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

#### **CONFIGURATION OPTIONS**

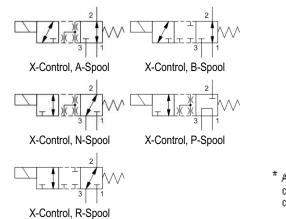
#### Model Code Example: DWDMLAN

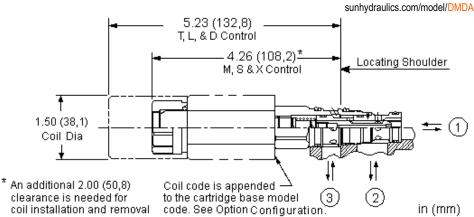
CONTROL (L)	POPPET CONFIGURATION (A)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	
D Twist/Lock (Dual) Manual Override		E EPDM	
T Twist (Momentary) Manual Override		V Viton	



MODEL DMDA







This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@3000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	EPDM: 990411014
Seal kit - Cartridge	Viton: 990411006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

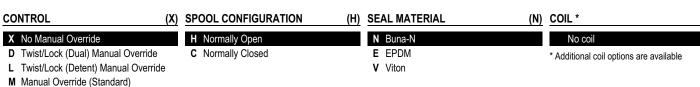
#### Model Code Example: DMDAXAN

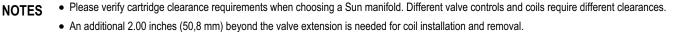
CONTROL	X) SPOOL CONFIGURATION (A) S	SEAL MATERIAL (N)	COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 2 to 3	N Buna-N	No coil
M Manual Override	N Normally Open 2 to 3, Closed 1 to 2	E EPDM	212 DIN 43650-Form A, 12 VDC
<ul> <li>D Twist/Lock (Dual) Manual Override</li> <li>L Twist/Lock (Detent) Manual Override</li> <li>T Twist (Momentary) Manual Override</li> </ul>	Closed Transition P Normally Open 1 to 3, Closed 1 to 2	V Viton	224 DIN 43650-Form A, 24 VDC 912 Deutsch DT04-2P, 12 VDC 924 Deutsch DT04-2P, 24 VDC
	R Normally Open 2 to 3, Closed 1 to 2, Closed Transition	MATERIAL/COATING	* Additional coil options are available
	I	Standard Material/Coating	

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Model Code Example: DBAFXHN





## **CONFIGURATION OPTIONS**

T Twist (Momentary) Manual Override

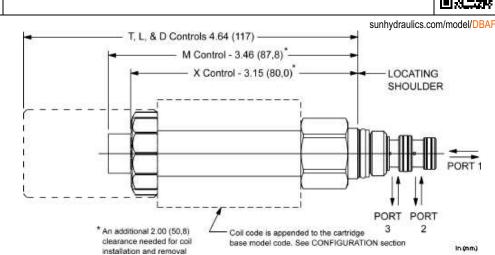
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Manual Override Force Requirement	10 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990009007
Seal kit - Cartridge	EPDM: 990009014
Seal kit - Cartridge	Polyurethane: 990009002
Seal kit - Cartridge	Viton: 990009006

full-flow valves. The valve is normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional.

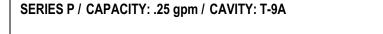
This valve is designed to be used with 740 and 747 Series coils.

#### **TECHNICAL DATA**

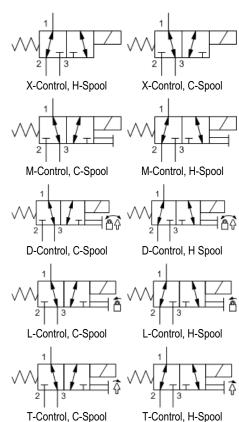
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other



3-way solenoid-operated directional spool valve - pilot capacity (740 Series)



un hydraulics

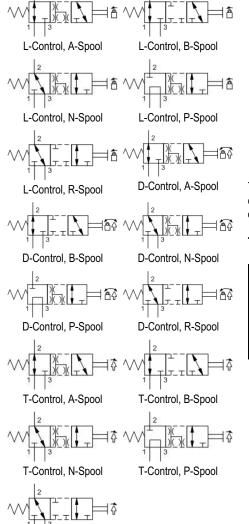
MODEL

DBAF



#### 3-way, manually operated, directional spool valve SERIES 1 / CAPACITY: 12 gpm / CAVITY: T-11A

sunhydraulics.com/model/DMDM



MODEL

**DMDM** 

<mark>sun</mark> hydraulics"

#### Locating Shoulder 3.40 (86,4) Ū -TO BOOM k Ø1.40 Port 1 (35,6)Port 3 Port 2 in (mm)

This manually operated, 2-position, 3-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@3000 psi	
Operating Torque	10 lbf in.	
Seal kit - Cartridge	Buna: 990411007	
Seal kit - Cartridge	Viton: 990411006	

(N)

## **CONFIGURATION OPTIONS**

T-Control, R-Spool

## Model Code Example: DMDMLAN

#### (L) SPOOL CONFIGURATION CONTROL L Twist/Lock (Detent) Manual Override

- D Twist/Lock (Dual) Manual Override
- T Twist (Momentary) Manual Override
- Normally Open 1 to 2, Closed 2 to 3 Α B Normally Open 1 to 2, Closed 2 to 3,
- **Closed Transition**
- N Normally Open 2 to 3, Closed 1 to 2

**Closed Transition** 

(A) SEAL MATERIAL Buna-N Ν

## V Viton

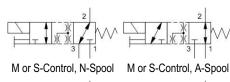
P Normally Open 1 to 3, Closed 1 to 2

- R Normally Open 2 to 3, Closed 1 to 2,



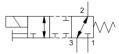




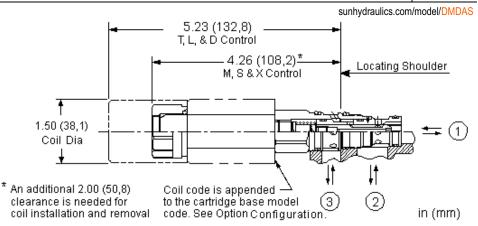








M or S-Control, R-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@3000 psi	
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1	
Manual Override Stroke	.10 in.	
Seal kit - Cartridge	Buna: 990411007	
Seal kit - Cartridge	EPDM: 990411014	
Seal kit - Cartridge	Viton: 990411006	

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

### Model Code Example: DMDASNN

SP	OOL CONFIGURATION (N)	SEAL MATERIAL	(N) COIL *	
Ν	Normally Open 2 to 3, Closed 1 to 2	N Buna-N	No coil	
Α	Normally Open 1 to 2, Closed 2 to 3	E EPDM	212 DIN 43650-Form A, 12 VDC	
В	Normally Open 1 to 2, Closed 2 to 3,	V Viton	224 DIN 43650-Form A, 24 VDC	
	Closed Transition		912 Deutsch DT04-2P, 12 VDC	
Ρ	Normally Open 1 to 3, Closed 1 to 2		924 Deutsch DT04-2P, 24 VDC	
R	Normally Open 2 to 3, Closed 1 to 2, Closed Transition		* Additional coil options are available	

# iun hydraulics"

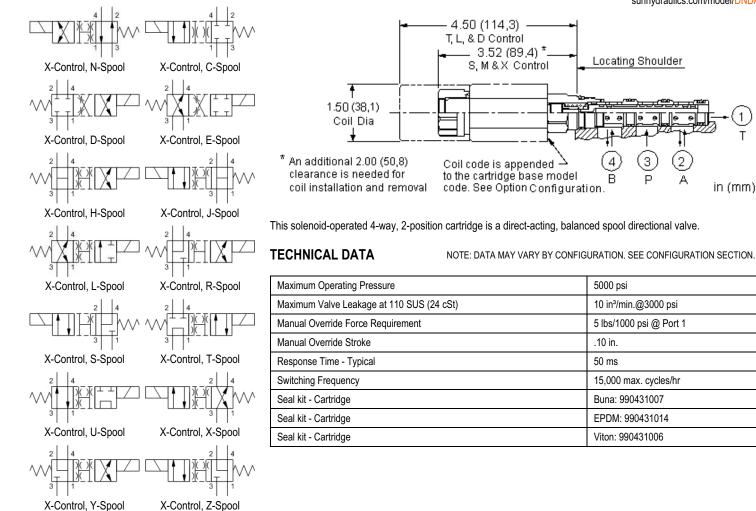
MODEL **DNDA** 

4-way, 2-position, solenoid-operated directional spool valve SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-31A



in (mm)





 Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

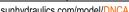
### Model Code Example: DNDAXNN

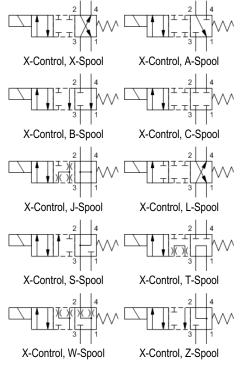
CONTROL (X)	SPOOL CONFIGURATION (N)	SEAL MATERIAL (N)	COIL *
X No Manual Override	N Through, Shift to Cross	N Buna-N	No coil
M Manual Override	C Closed, Shift to Through	E EPDM	212 DIN 43650-Form A, 12 VDC
D Twist/Lock (Dual) Manual Override	D Closed, Shift to Cross	V Viton	224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	E Cross, Shift to Closed		912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override	H Open, Shift to Cross		924 Deutsch DT04-2P, 24 VDC
	J Open, Shift to Through		* Additional coil options are available
	L Cross, Shift to P to A, B and T Blocked		
	R Regen, Shift to Cross		
	S Regen, Shift to Through		
	T Tandem, Shift to Through		
	U Through, Shift to Tandem		
	X Cross, Shift to Through		
	Y Motor, Shift to Cross		
	Z Motor, Shift to Through		



MODEL DNCA 4-way, 2-position, solenoid-operated directional spool valve with closed transition SERIES 1 / CAPACITY: 8 gpm / CAVITY: T-31A







	sunnydraulics.com/model/DNCA
3.51 (89,2)* M & X Control	Locating Shoulder
Image: Distance in the second secon	
	Port4 Port3 Port2 B P A
* An additional 2.00 (50,8) clearance is needed for coil installation and removal.	- Coil code is appended to the cartridge base model code. See Option Configuration. in (mm)

This solenoid-operated, 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve. The transition between positions is closed. The closed transition greatly reduces the loss of oil when shifting which can be of particular importance in pilot control circuits.

**TECHNICAL DATA** 

W A and B Bleed to T, Shift to Through

Z Motor, Shift to Through

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi		
Maximum Valve Leakage at 110 SUS (24 cSt)	10 in³/min.@3000 psi		
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1		
Manual Override Stroke	.10 in.		
Response Time - Typical	50 ms		
Switching Frequency	15,000 max. cycles/hr		
Seal kit - Cartridge	Buna: 990431007		
Seal kit - Cartridge	EPDM: 990431014		
Seal kit - Cartridge	Viton: 990431006		

NOTES Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

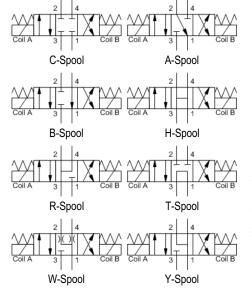
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNCAXXN

CONTROL	(X) SPOOL CONFIGURATION (X	) SEAL MATERIAL	(N)	COIL *
X No Manual Override	X Cross, Shift to Through	N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	C Closed, Shift to Through	E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override	A A to T, Shift to Through	V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override	<b>B</b> B to T, Shift to Through			912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override	J Open, Shift to Through			924 Deutsch DT04-2P, 24 VDC
	L Cross, Shift to P to A, B and T Blocked			* Additional coil options are available
	S Regen, Shift to Through			·····
	T Tandem, Shift to Through			

# 4-way, 3-position, solenoid-operated directional spool valve SERIES 1 / CAPACITY: 5 gpm / CAVITY: T-31A

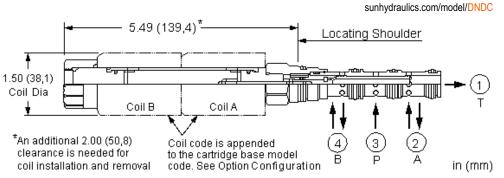




un hydraulics

MODEL

DNDC



This direct acting, solenoid-operated, 4-way, 3-position spool valve is spring centered to the neutral position. When coil A is energized, the flow is from port 3 (P) to port 2 (A) and from port 4 (B) to port 1 (T). When coil B is energized, the flow is from port 3 to port 4 and from port 2 to port 1.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

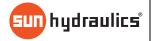
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 in³/min.@3000 psi
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

**NOTES** The two coils used in this assembly are interchangeable with one another, but once installed and wired, the coil closest to the hex body is considered Coil A, and the coil closest to the coil nut is Coil B.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNDCXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		C Blocked Center		N Buna-N		No coil
		A to T Center		E EPDM		212 DIN 43650-Form A, 12 VDC
		B B to T Center		V Viton		224 DIN 43650-Form A, 24 VDC
		H Open Center				912 Deutsch DT04-2P, 12 VDC
		R Regen Center				924 Deutsch DT04-2P, 24 VDC
		T Tandem Center				* Additional coil options are available
		W A and B Bleed to T Center				
		Y A and B to T Center				



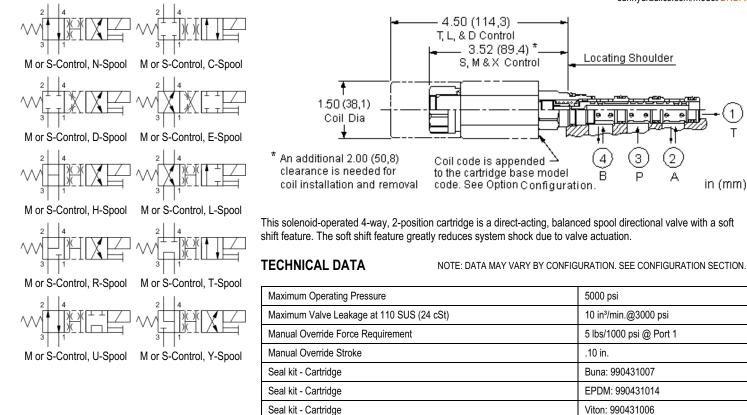
MODEL **DNDAS**  4-way, 2-position, soft shift, solenoid-operated directional spool valve SERIES 1 / CAPACITY: 4 gpm / CAVITY: T-31A



in (mm)

sunhydraulics.com/model/DNDAS

3



• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

U Through, Shift to Tandem Y Motor, Shift to Cross

#### Model Code Example: DNDASNN

SPOOL C	CONFIGURATION (N)	SEAL MATERIA	AL (N)	COIL *
N Throu	igh, Shift to Cross	N Buna-N		No coil
C Close	d, Shift to Through	E EPDM		212 DIN 43650-Form A, 12 VDC
D Close	d, Shift to Cross	V Viton		224 DIN 43650-Form A, 24 VDC
E Cross	, Shift to Closed			912 Deutsch DT04-2P, 12 VDC
H Open	, Shift to Cross			924 Deutsch DT04-2P, 24 VDC
L Cross	, Shift to P to A, B and T Blocked			* Additional coil options are available
R Reger	n, Shift to Cross			
T Tande	em, Shift to Through			

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MODEL

**DNDY** 

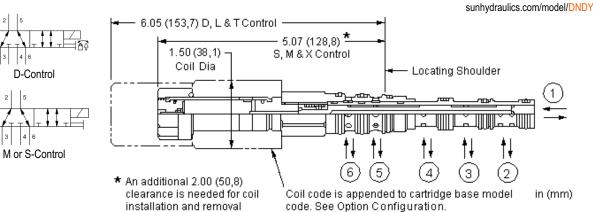
<mark>UN</mark> hydraulics

X-Control

4 L-Control

**T-Control** 





This solenoid-operated 6-way, 2-position cartridge is a direct-acting, balanced spool valve. The typical use for this valve is to select between two separate circuits. The de-energized condition connects P and T to the first circuit and when energized connects P and T to the second circuit.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@3000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Seal kit - Cartridge	Buna: 990461007
Seal kit - Cartridge	EPDM: 990461014
Seal kit - Cartridge	Viton: 990461006

• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances. NOTES

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNDYXXN

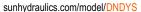
CONTROL	(X) SPOOL CONFIGURATION	(X) S	SEAL MATERIAL	(N)	COIL *
X No Manual Override	Χ -		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override			E EPDM		212 DIN 43650-Form A, 12 VDC
L Twist/Lock (Detent) Manual Override			V Viton		224 DIN 43650-Form A, 24 VDC
M Manual Override					912 Deutsch DT04-2P, 12 VDC
T Twist (Momentary) Manual Override					924 Deutsch DT04-2P, 24 VDC

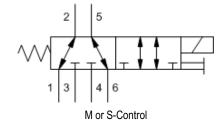
\* Additional coil options are available

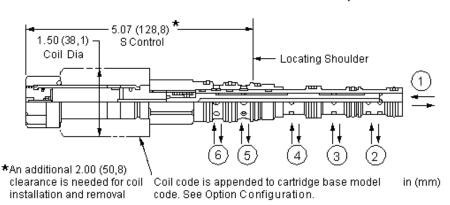


MODEL DNDYS









This solenoid-operated 6-way, 2-position cartridge is a direct-acting, balanced spool valve with a soft shift feature. The soft shift feature greatly reduces system shock due to valve actuation. The typical use for this valve is to select between two separate circuits. The de-energized condition connects P and T to the first circuit and when energized connects P and T to the second circuit.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@3000 psi
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Seal kit - Cartridge	Buna: 990461007
Seal kit - Cartridge	Viton: 990461006

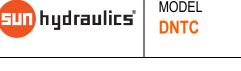
• Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

• An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNDYSXN

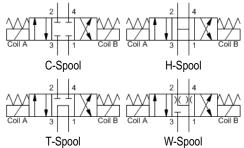
SPOOL CONFIGURATION	(X)	SEAL MATERIAL	(N)	COIL *
Χ -		N Buna-N		No coil
		E EPDM		212 DIN 43650-Form A, 12 VDC
		V Viton		224 DIN 43650-Form A, 24 VDC
				912 Deutsch DT04-2P, 12 VDC
				924 Deutsch DT04-2P, 24 VDC
				* Additional coil options are available

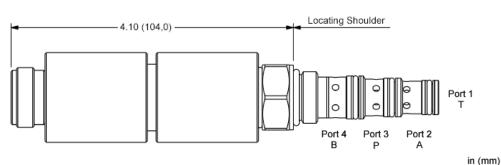


4-way, 3-position, solenoid-operated directional spool valve, 3000 psi (210 bar) common cavity SERIES 0C / CAPACITY: 3 gpm / CAVITY: SC-08-04



sunhydraulics.com/model/DNTC





This direct acting, solenoid-operated, 4-way, 3-position spool valve is spring centered to the neutral position. When coil A is energized, the flow is from port 3 (P) to port 2 (B) and from port 4 (A) to port 1 (T). When coil B is energized, the flow is from port 3 to port 4 and from port 2 to port 1.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	3000 psi
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr

#### **CONFIGURATION OPTIONS**

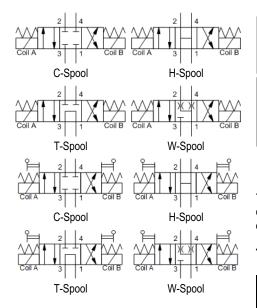
#### Model Code Example: DNTCXCN

CONTROL (X)	SPOOL CONFIGURATION (C)	SEAL MATERIAL (N)	COIL *
X No Manual Override	<ul><li>C Blocked Center</li><li>H Open Center</li><li>T Tandem Center</li></ul>	N Buna-N	No coil * Additional coil options are available

W A and B Bleed to T Center

#### 4-way, 3-position, solenoid-operated directional spool valve, 3600 psi (250 bar) common cavity SERIES 1C / CAPACITY: 7 gpm / CAVITY: SC-10-04

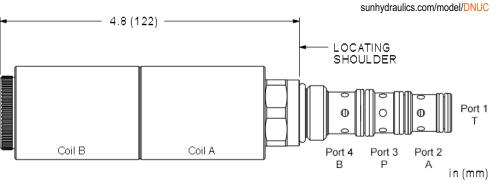




<mark>sun</mark> hydraulics"

MODEL

DNUC



This direct acting, solenoid-operated, 4-way, 3-position spool valve is spring centered to the neutral position. When coil A is energized, the flow is from port 3 (P) to port 2 (B) and from port 4 (A) to port 1 (T). When coil B is energized, the flow is from port 3 to port 4 and from port 2 to port 1.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	3600 psi
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Coil Nut Torque	3.5 - 3.9 lbf ft

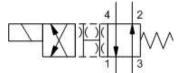
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNUCXCN

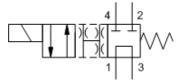
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Blocked Center	N Buna-N		No coil
T Manual Override	H Open Center			* Additional coil options are available
	T Tandem Center			·····
	W A and B Bleed to T Center			

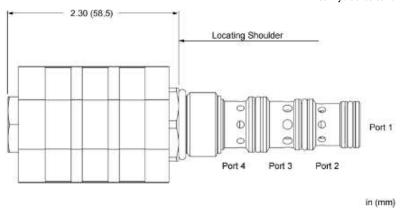


sunhydraulics.com/model/DNUT



X-Control, N-Spool





X-Control, T-Spool

This solenoid-operated 4-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

This valve is designed to be used with the 780 Series coils.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	3000 psi
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Coil Nut Torque	3.5 - 3.9 lbf ft

#### **CONFIGURATION OPTIONS**

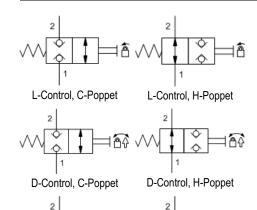
#### Model Code Example: DNUTXNN

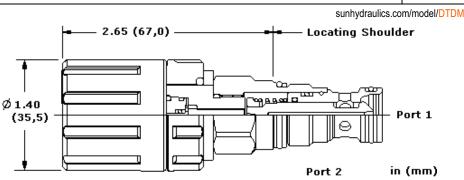
CONTROL	(X) SPOOL CONFIGURATION	(N) SEAL MATERIAL	N) COIL *
Χ -	N Through, Shift to Cross	N Buna-N	No coil
			* Additional coil options are available

# sun hydraulics

T-Control, H-Poppet







This manually operated, 2-position, 2-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is available in either a normally open or normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only. Due to the poppet-style construction, this valve has extremely low leakage.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Operating Torque	10 lbf in.
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

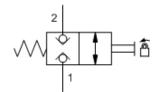
#### **CONFIGURATION OPTIONS**

T-Control, C-Poppet

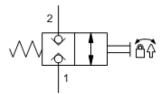
#### Model Code Example: DTDMLCN

CONTROL (L)	POPPET CONFIGURATION	(C)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	C Normally Closed		N Buna-N	
D Twist/Lock (Dual) Manual Override	H Normally Open		E EPDM	
T Twist (Momentary) Manual Override			V Viton	

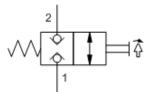




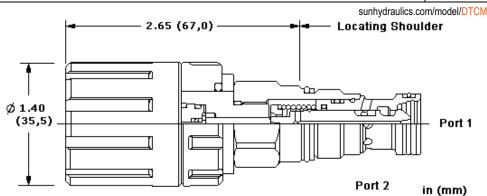
L-Control, C-Poppet



D-Control, C-Poppet



T-Control, C-Poppet



This manually operated, 2-position, 2-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is only available in a normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only. Due to the poppet-style construction, this valve has extremely low leakage.

Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Operating Torque	10 lbf in.
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

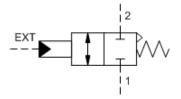
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DTCMLCN

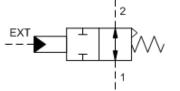
CONTROL (L)	SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	C Normally Closed	N Buna-N	
D Twist/Lock (Dual) Manual Override		V Viton	

T Twist (Momentary) Manual Override

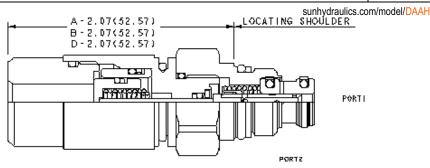




C-Spool



H-Spool



These pilot-stage, directional, 2-position, 2-way valves are hydraulically operated, spring-return cartridges and are available in either a normally open or normally closed configuration. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

#### TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990508007
Seal kit - Cartridge	Viton: 990508006

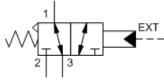
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DAAHBCN

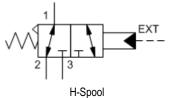
CONTROL	(B) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
B External 4-SAE Port	C Normally Closed	N Buna-N	Standard Material/Coating	
A External 1/8 NPTF Port	H Normally Open	V Viton	/AP Stainless Steel, Passivated	

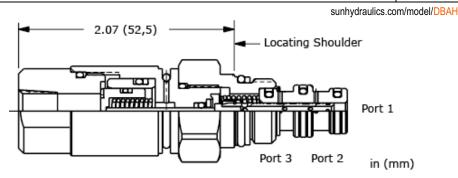
D External 1/8 BSPP Port





C-Spool





These pilot-stage, directional, 2-position, 3-way valves are hydraulically operated, spring-return cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3. These cartridges are designed for pilot flow applications.

#### TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990509007
Seal kit - Cartridge	Viton: 990509006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DBAHBCN

CONTROL	(B) SPOOL CONFIGURATIO	ON (C) SEAL MATERIAL	(N) MATERIAL/COATING
B External 4-SAE Port	<b>C</b> Normally Open 1 to 3,	Closed 1 to 2 N Buna-N	Standard Material/Coating
A External 1/8 NPTF Port	H Normally Open 1 to 2,	Closed 1 to 3 V Viton	/AP Stainless Steel, Passivated

D External 1/8 BSPP Port

H Normally Open 1 to 2, Closed 1 to 3

#### © 2023 Sun Hydraulics

2-way, manually operated, directional spool valve SERIES 1 / CAPACITY: 12 gpm / CAVITY: T-13A

## sunhydraulics.com/model/DLDM

Locating Shoulder

This manually operated, 2-position, 2-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. The valve is available in either a normally open or normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

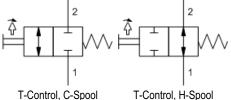
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@3000 psi
Operating Torque	10 lbf in.
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

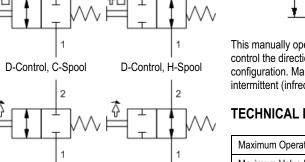
## **CONFIGURATION OPTIONS**

### Model Code Example: DLDMLCN

CONTROL (L)	SPOOL CONFIGURATION (C)	SEAL MATERIAL (N)
L Twist/Lock (Detent) Manual Override	C Normally Closed	N Buna-N
D Twist/Lock (Dual) Manual Override	H Normally Open	E EPDM
T Twist (Momentary) Manual Override		V Viton

# D-Control, C-Spool



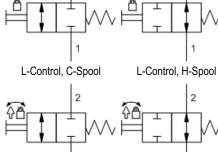


Port 1 Ø 1.40 (35, 6)Port 2 in (mm) intermittent (infrequent) use only.

2.65 (67,3)

71



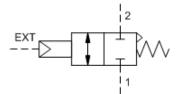


<mark>sun</mark> hydraulics"

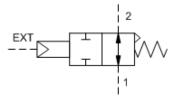
2



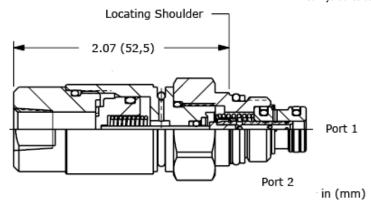




C-Spool



H-Spool



These pilot-stage, directional, 2-position, 2-way valves are pneumatically operated, spring-return cartridges and are available in either normally open or normally closed configurations. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

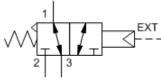
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Minimum Pilot Pressure to Operate	See Technical Features
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990508007
Seal kit - Cartridge	Viton: 990508006

#### **CONFIGURATION OPTIONS**

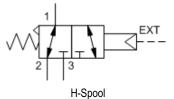
#### Model Code Example: DAAPFCN

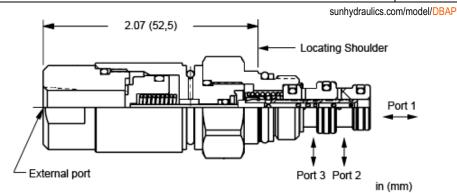
CONTROL	(F) SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
F External 1/8 NPTF Port	C Normally Closed		N Buna-N		Standard Material/Coating
E External 4-SAE Port	H Normally Open		E EPDM		/AP Stainless Steel, Passivated
P External 1/8 BSPP Port			V Viton		





C-Spool





These pilot-stage, directional, 2-position, 3-way valves are pneumatically operated, spring-return cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Minimum Pilot Pressure to Operate	20 [+ port 1 press./100] psi
Pilot Control Port	See Control Options
Seal kit - Cartridge	Buna: 990509007
Seal kit - Cartridge	Viton: 990509006

### **CONFIGURATION OPTIONS**

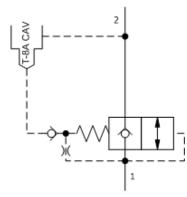
### Model Code Example: DBAPFCN

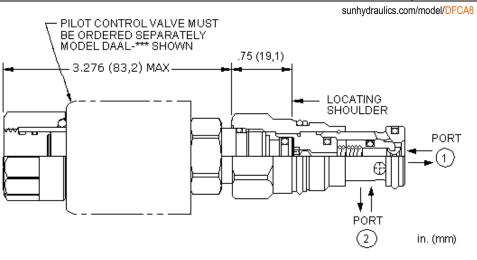
CONTROL	(F) SPOOL CONFIGURATION (C	) SEAL MATERIAL	(N)	MATERIAL/COATING	
F External 1/8 NPTF Port	C Normally Open 1 to 3, Closed 1 to 2	N Buna-N		Standard Material/Coating	
E External 4-SAE Port	H Normally Open 1 to 2, Closed 1 to 3	E EPDM		/AP Stainless Steel, Passivated	
P External 1/8 BSPP Port		V Viton			



MODEL DFCA8







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	Viton: 990310006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: DFCA8DN

CRACKING	PRESSURE

**D** 50 psi (3,5 bar)

#### (D) SEAL MATERIAL N Buna-N

(N) MATERIAL/COATING

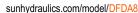
V Viton

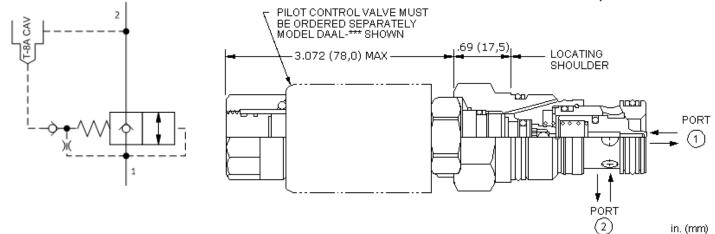
Standard Material/Coating /AP Stainless Steel, Passivated



MODEL DFDA8 2-way, poppet directional valve with integral T-8A control cavity - control 1-2 SERIES 2 / CAPACITY: 30 gpm / CAVITY: T-5A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Check Cracking Pressure	50 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

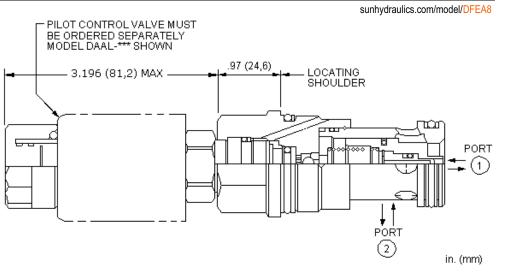
Model Code Example: DFDA8DN

CRACKING PRESSURE	(D) S	EAL MATERIAL (N)	MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)		N Buna-N	Standard Material/Coating
	`	Viton	/AP Stainless Steel, Passivated



MODEL DFEA8 2-way, poppet directional valve with integral T-8A control cavity - control 1-2 SERIES 3 / CAPACITY: 60 gpm / CAVITY: T-16A





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

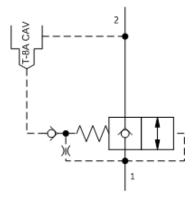
Model Code Example: DFEA8DN

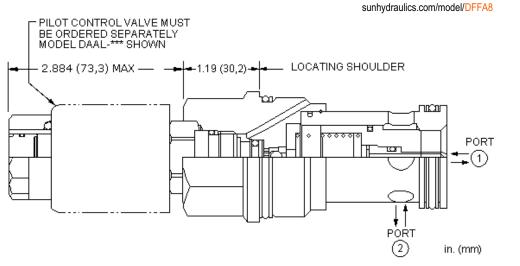
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	



MODEL DFFA8 2-way, poppet directional valve with integral T-8A control cavity - control 1-2 SERIES 4 / CAPACITY: 120 gpm / CAVITY: T-18A







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 1 to port 2, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high-flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DFFA8DN

CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
	E EPDM	/AP Stainless Steel, Passivated
	V Viton	

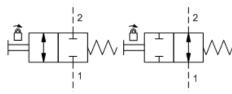
# sun hydraulics

L-Control, H-Spool

D-Control, H-Spool

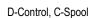


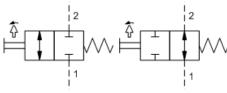




#### L-Control, C-Spool

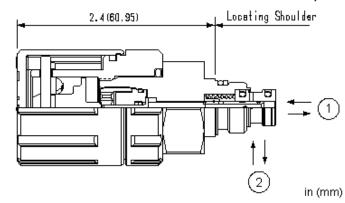






T-Control, C-Spool

T-Control, H-Spool



These pilot-stage, directional, 2-position, 2-way valves are manually operated cartridges and are available in either a normally open or normally closed configuration. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Operating Torque	10 lbf in.
Seal kit - Cartridge	Buna: 990108007
Seal kit - Cartridge	Viton: 990108006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DAAMLCN

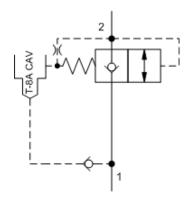
CONTROL (L)	SPOOL CONFIGURATION	(C) SE	EAL MATERIAL	N)
L Twist/Lock (Detent) Manual Override	C Normally Closed	Ν	I Buna-N	
D Twist/Lock (Dual) Manual Override	H Normally Open	v	/ Viton	_
T Twist (Momentary) Manual Override				

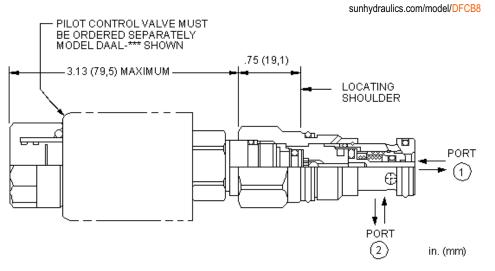
#### © 2023 Sun Hydraulics



MODEL DFCB8







This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

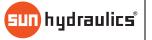
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990310007
Seal kit - Cartridge	EPDM: 990310014
Seal kit - Cartridge	Viton: 990310006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: DFCB8DN

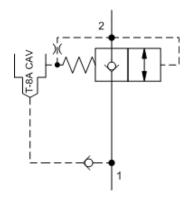
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	

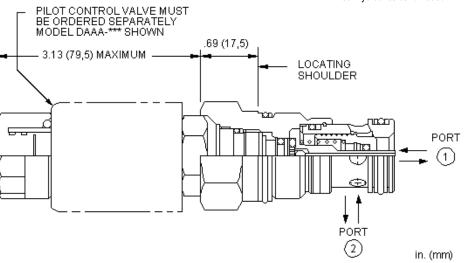


MODEL DFDB8



sunhydraulics.com/model/DFDB8





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: DFDB8DN

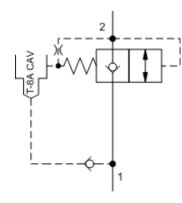
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

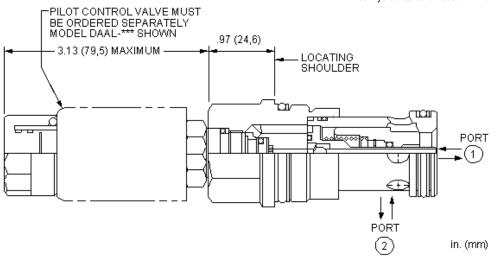


MODEL DFEB8



sunhydraulics.com/model/DFEB8





This valve is a 2-position, 2-way poppet cartridge that incorporates an integral pilot control cavity. It controls flow from port 2 to port 1, exhibits extremely low leakage rates and will accept 5000 psi (350 bar) at both ports. Installing a pilot solenoid cartridge in the T-8A cavity results in a high flow directional valve. Other pilot options include manual, hydraulic and pneumatic pilot cartridges.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Response Time - Typical	see pilot control ms
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

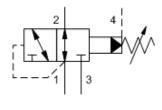
#### **CONFIGURATION OPTIONS**

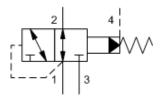
Model Code Example: DFEB8DN

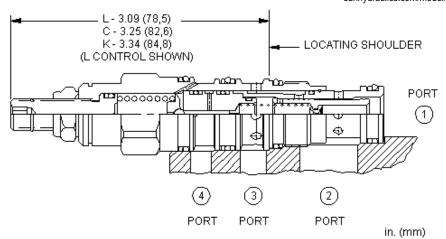
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	



sunhydraulics.com/model/DPBP







Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

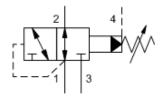
#### **CONFIGURATION OPTIONS**

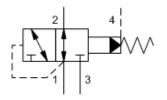
#### Model Code Example: DPBPLAN

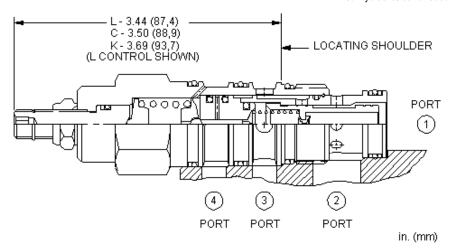
#### CONTROL (L) ADJUSTMENT RANGE (A) SEAL MATERIAL (N) MATERIAL/COATING L Standard Screw Adjustment A 100 - 3000 psi (7 - 210 bar), 1000 psi N Buna-N Standard Material/Coating C Tamper Resistant - Factory Set (70 bar) Standard Setting E EPDM /LH Mild Steel, Zinc-Nickel K Handknob **B** 50 - 1500 psi (3,5 - 105 bar), 1000 psi V Viton (70 bar) Standard Setting D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting J 25 - 1500 psi (1,7 - 105 bar), 1000 psi (70 bar) Standard Setting W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting



sunhydraulics.com/model/DPCP







Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPCPLAN

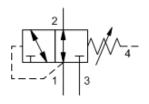
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> </ul>	N Buna-N E EPDM V Viton	

**W** 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting

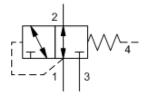


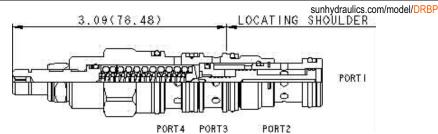
SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A





<mark>UN</mark> hydraulics





Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES

For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBPLAN

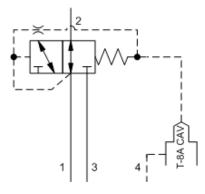
CONTROL	(L) /	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 p (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (1 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (1 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 p (70 bar) Standard Setting</li> </ul>	i 4 4	N Buna-N V Viton	

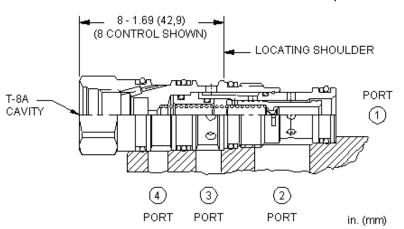


MODEL



sunhydraulics.com/model/DVBP





This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

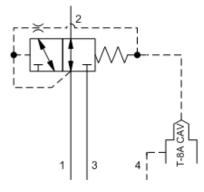
CONFIGURATION OPTIONS	Model Code E	Example: DVBP8FN
CONTROL (8	) MINIMUM CONTROL PRESSURE (F	F) SEAL MATERIAL (N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N
		V Viton

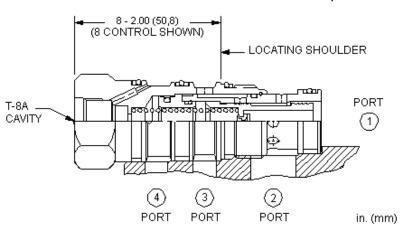


MODEL



sunhydraulics.com/model/DVCP





This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in <sup>3</sup> /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

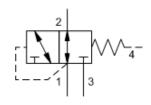
# CONFIGURATION OPTIONS Model Code Example: DVCP8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N) 8 T-8A Cavity F 100 psi (7 bar) N N N

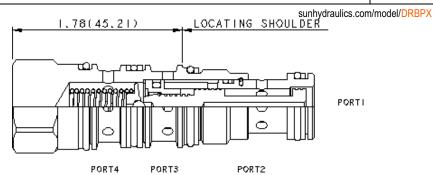
V Viton



MODEL DRBPX 3-way, direct-acting, fixed setting, directional valve with drain to port 4 (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A







Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

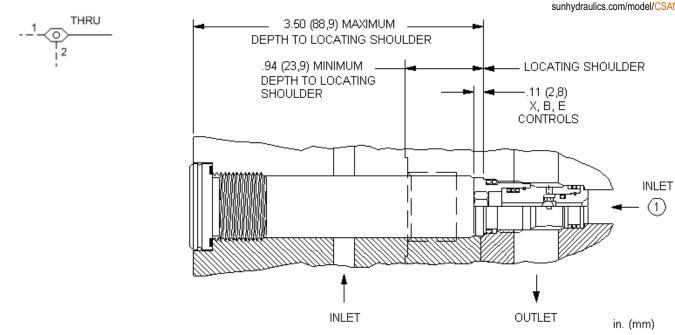
#### Model Code Example: DRBPXFN

SHIFTING PRESSURE	(F)	SEAL MATERIAL	(N)
F 100 psi (7 bar)		N Buna-N	
		V Viton	





sunhydraulics.com/model/CSAN



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

#### **TECHNICAL DATA**

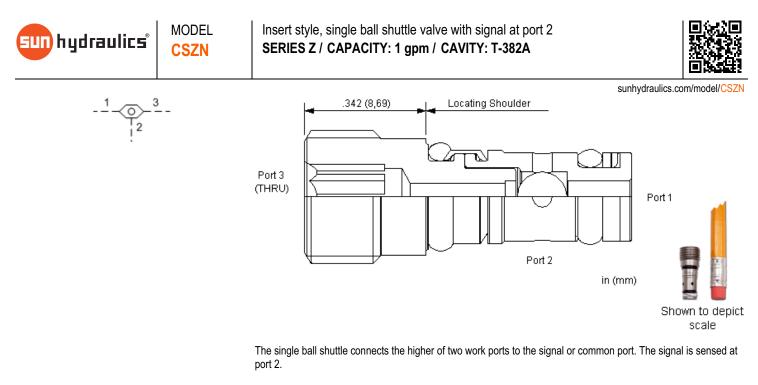
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Valve Internal Hex Size	5/16 in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CSANXXN

CONTROL	(X)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)
X Not Adjustable		Χ-		N Buna-N	
				V Viton	



Model Code Example: CSZNXXN

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Valve Internal Hex Size	5/32 in.
Seal kit - Cartridge	Buna: 990382007
Seal kit - Cartridge	Viton: 990382006

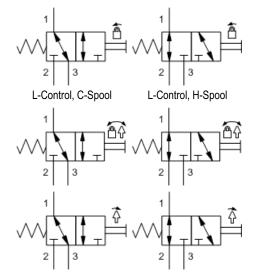
CONTROL	(X) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N)
X Not Adjustable	Χ -	N Buna-N	
		V Viton	

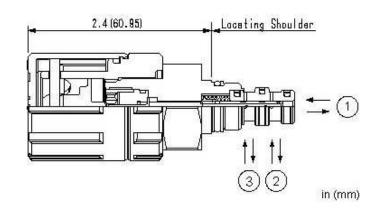
**CONFIGURATION OPTIONS** 

# <mark>sun</mark> hydraulics"



sunhydraulics.com/model/DBAM





These pilot-stage, directional, 2-position, 3-way valves are manually operated cartridges and are available in two spool configurations; normally open 1 to 2 and normally open 1 to 3. These cartridges are designed for pilot flow applications. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990109007
Seal kit - Cartridge	EPDM: 990009014
Seal kit - Cartridge	Viton: 990109006

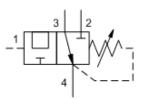
#### **CONFIGURATION OPTIONS**

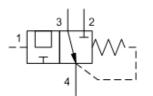
#### Model Code Example: DBAMLCN

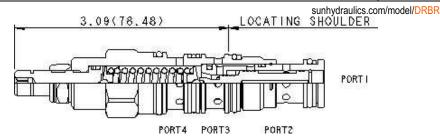
CONTROL (L)	SPOOL CONFIGURATION (C)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	C Normally Open 1 to 3, Closed 1 to 2	N Buna-N	
D Twist/Lock (Dual) Manual Override	H Normally Open 1 to 2, Closed 1 to 3	E EPDM	
T Twist (Momentary) Manual Override		V Viton	

3-way, direct-acting, directional valve with drain to port 4 (3 to 4 open, port 2 blocked) SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A









Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

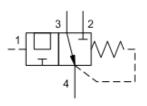
#### Model Code Example: DRBRLNN

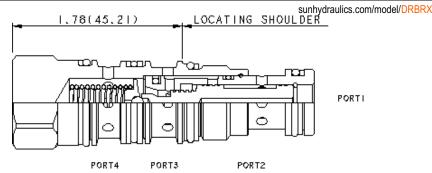
CONTROL (L)	ADJUSTMENT RANGE (N)	SEAL MATERIAL (N	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>	<ul> <li>N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 200 psi (14 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



MODEL DRBRX 3-way, direct-acting, fixed setting, directional valve with drain to port 4 (3 to 4 open, port 2 blocked) SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A







Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

Model Code Example: DRBRXFN

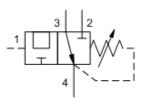
SHIFTING PRESSURE	(F)	SEAL MATERIAL	(N)
<b>F</b> 100 psi (7 bar)		N Buna-N	
		V Viton	

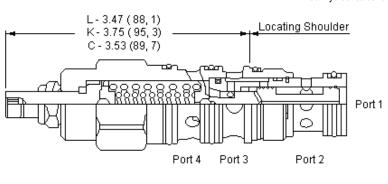


MODEL DRCR



sunhydraulics.com/model/DRCR





in (mm)

Direct-acting, 3-way directional cartridges (3 to 4 open, 2 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in³/min.@3000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRCRLNN

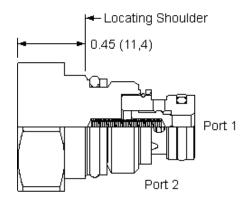
CONTROL	(L)	ADJUSTMENT RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Concealed Manual Override</li> <li>K Handknob</li> </ul>		<ul> <li>N 60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 200 - 400 psi (14 - 28 bar), 200 psi (bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 200 psi (bar) Standard Setting</li> </ul>	(14	N Buna-N V Viton		Standard Material/Coating /LH Mild Steel, Zinc-Nickel



2



sunhydraulics.com/model/CXAA



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Seal kit - Cartridge	Buna: 990608007
Seal kit - Cartridge	EPDM: 990608014
Seal kit - Cartridge	Viton: 990608006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXAAXBN

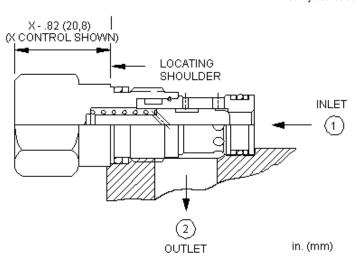
CONTROL	(X) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<ul><li>B 15 psi (1 bar)</li><li>F 100 psi (7 bar)</li></ul>	N Buna-N E EPDM	Standard Material/Coating /AP Stainless Steel, Passivated
	<b>Z</b> 1 psi (0,07 bar)	V Viton	/LH Mild Steel, Zinc-Nickel



2



sunhydraulics.com/model/CXBA



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

### CONFIGURATION OPTIONS

#### Model Code Example: CXBAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

F 100 psi (7 bar)

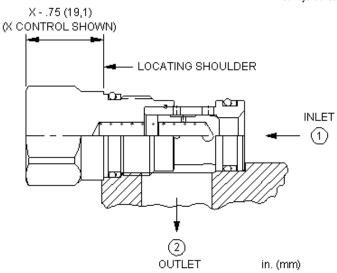




sunhydraulics.com/model/CXDA







Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXDAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 poi (5 hor)		

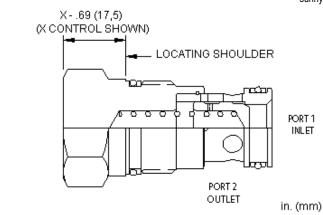
E 75 psi (5 bar) F 100 psi (7 bar)



2



sunhydraulics.com/model/CXFA



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

F 100 psi (7 bar)

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

### **CONFIGURATION OPTIONS**

#### Model Code Example: CXFAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

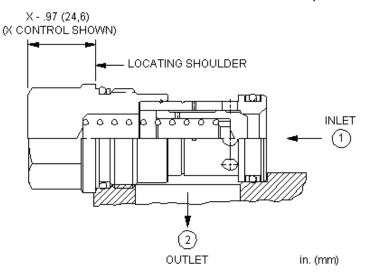




sunhydraulics.com/model/CXHA







Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

5000 psi
1 drops/min.
Buna: 990016007
EPDM: 990016014
Polyurethane: 990016002
Viton: 990016006

#### **CONFIGURATION OPTIONS**

## Model Code Example: CXHAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING	_
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating	
L Manual Override	A 4 psi (0,3 bar)	E EPDM		/AP Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)	V Viton		/LH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)				
	<b>E</b> 75 psi (5 bar)				

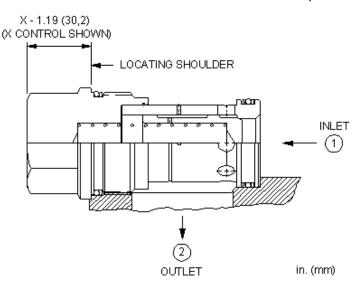




sunhydraulics.com/model/CXJA







Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

G 150 psi (10,5 bar)

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

## **CONFIGURATION OPTIONS**

#### Model Code Example: CXJAXCN

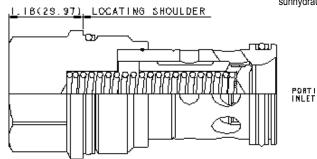
CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		E EPDM		/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	E 75 psi (5 bar)				
	<b>F</b> 100 psi (7 bar)				



2



sunhydraulics.com/model/CXKA



PORT2 OUTLET

Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Viton: 990018006

# **CONFIGURATION OPTIONS**

### Model Code Example: CXKAXCN

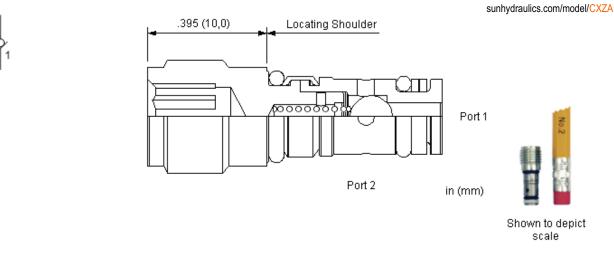
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

- F 100 psi (7 bar)
- **G** 150 psi (10,5 bar)



2





Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

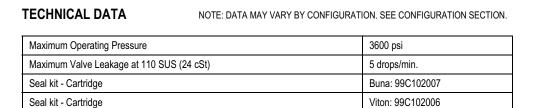
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Valve Internal Hex Size	3/16 in.
Seal kit - Cartridge	Buna: 990382007
Seal kit - Cartridge	EPDM: 990382014
Seal kit - Cartridge	Viton: 990382006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXZAXCN

CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		E EPDM		/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		V Viton		/LH Mild Steel, Zinc-Nickel

sun hydraulics	MODEL CXUT	Free flow nose to side check valve - common cavity SERIES 1C / CAPACITY: 16 gpm / CAVITY: SC-10-02	
2		Locating Shoulder	sunhydraulics.com/model/CXUT



PORT 2

Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the

PORT 1

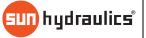
in (mm)

# CONFIGURATION OPTIONS

# Model Code Example: CXUTXCN

outlet (port 2) and block flow in the opposite direction.

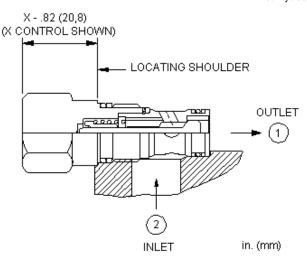
CONTROL (X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
Χ -	<b>C</b> 29 psi (2.0 bar)		N Buna-N	
	A 7 psi (.5 bar)		V Viton	





sunhydraulics.com/model/CXAD





Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

# CONFIGURATION OPTIONS

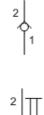
## Model Code Example: CXADXCN

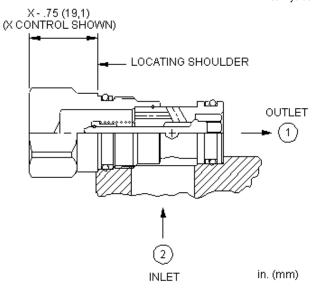
CONTROL	(X)	NOMINAL CONTROL PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating	
		A 4 psi (0,3 bar)		E EPDM		/AP Stainless Steel, Passivated	
		<b>D</b> 50 psi (3,5 bar)		V Viton		/LH Mild Steel, Zinc-Nickel	
		E 75 psi (5 bar)					
		<b>Z</b> 1 psi (0,07 bar)					





sunhydraulics.com/model/CXCD





Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

## **CONFIGURATION OPTIONS**

## Model Code Example: CXCDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Override	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	<b>E</b> 75 psi (5 bar)		

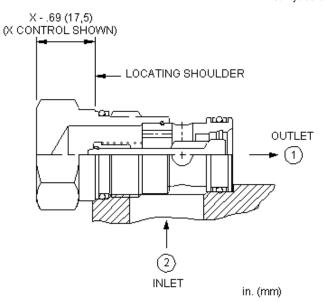




sunhydraulics.com/model/CXED



2



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

# **CONFIGURATION OPTIONS**

## Model Code Example: CXEDXCN

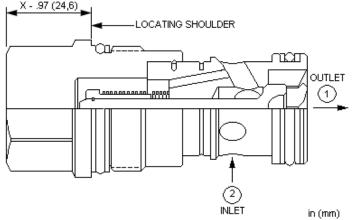
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

sun hydraulics	MODEL CXGD	Free flow side to nose check valve SERIES 3 / CAPACITY: 60 gpm / CAVITY: T-16A
2		



sunhydraulics.com/model/CXGD





Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXGDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			
	F 100 psi (7 bar)			

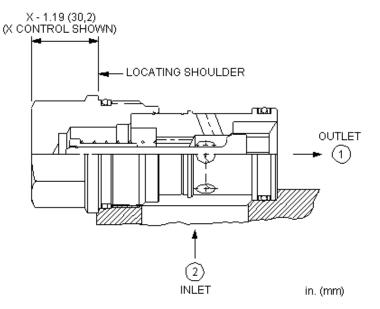




sunhydraulics.com/model/CXID



2



Free-flow, side-to-nose check valves are on/off circuit components that allow free flow from the inlet (port 2) to the outlet (port 1) and block flow in the opposite direction.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

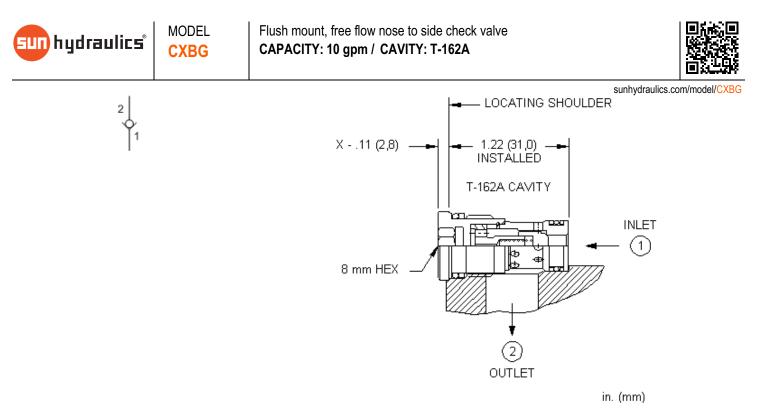
# **CONFIGURATION OPTIONS**

# Model Code Example: CXIDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

**F** 100 psi (7 bar)

1 100 par (7 be



Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

#### **TECHNICAL DATA**

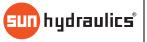
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Valve Internal Hex Size	5/16 in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXBGXAN

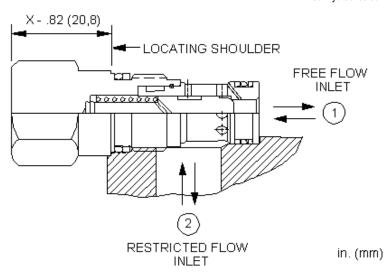
CONTROL	(X) CRACKING PRESSURE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A 4 psi (0,3 bar)	N Buna-N	Standard Material/Coating
	<b>B</b> 15 psi (1 bar)	V Viton	/AP Stainless Steel, Passivated
	<b>C</b> 30 psi (2 bar)		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		







sunhydraulics.com/model/CNBC



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

5000 psi	
.016062 in.	
Buna: 990162007	
EPDM: 990162014	
Polyurethane: 990162002	
Viton: 990162006	

## **CONFIGURATION OPTIONS**

#### Model Code Example: CNBCXCN

(N) MATERIAL/COATING CONTROL (X) SETTING RANGE (C) SEAL MATERIAL C 30 psi (2 bar) Cracking Pressure, .016 -N Buna-N X Not Adjustable Standard Material/Coating .062 in. (0,4 - 1,6 mm) E EPDM /AP Stainless Steel, Passivated A 4 psi (0,3 bar) Cracking Pressure, .016 V Viton /LH Mild Steel, Zinc-Nickel - .062 in. (0,4 - 1,6 mm) B 15 psi (1 bar) Cracking Pressure, .016 -.062 in. (0,4 - 1,6 mm) D 50 psi (3,5 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm) E 75 psi (5 bar) Cracking Pressure, .016 -.062 in. (0,4 - 1,6 mm) F 100 psi (7 bar) Cracking Pressure, .016

- .062 in. (0,4 - 1,6 mm)

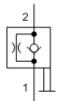
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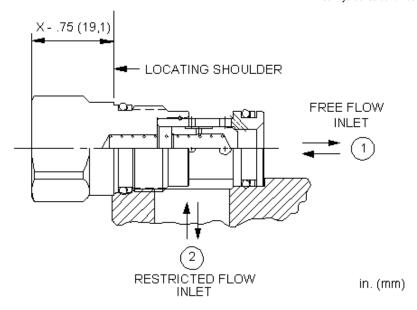




sunhydraulics.com/model/CNDC







Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Orifice Range	.016107 in.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

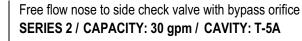
## **CONFIGURATION OPTIONS**

## Model Code Example: CNDCXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul><li>X Not Adjustable</li><li>L Manual Load Release</li></ul>		<ul> <li>C 30 psi (2 bar) Cracking R .107 in. (0,4 - 2,7 mm)</li> <li>A 4 psi (0,3 bar) Cracking 107 in. (0,4 - 2,7 mm)</li> <li>B 15 psi (1 bar) Cracking R .107 in. (0,4 - 2,7 mm)</li> <li>D 50 psi (3,5 bar) Cracking R .016107 in. (0,4 - 2,7</li> <li>E 75 psi (5 bar) Cracking R .107 in. (0,4 - 2,7 mm)</li> </ul>	Pressure, .016 Pressure, .016 - J Pressure, mm) Pressure, .016 -	V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

F 100 psi (7 bar) Cracking Pressure, .016 - .107 in. (0,4 - 2,7 mm)

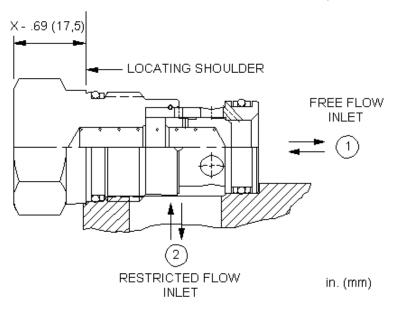






sunhydraulics.com/model/CNFC





Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Orifice Range	.016127 in.
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

# **CONFIGURATION OPTIONS**

# Model Code Example: CNFCXCN

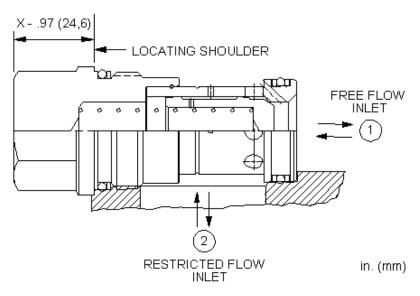
CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pressure, .0 .127 in. (0,4 - 3,2 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure, .0 . 127 in. (0,4 - 3,2 mm)</li> <li>B 15 psi (1 bar) Cracking Pressure, .0 .127 in. (0,4 - 3,2 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure, .016127 in. (0,4 - 3,2 mm)</li> <li>E 75 psi (5 bar) Cracking Pressure, .0</li> </ul>	016 16 -	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
		.127 in. (0,4 - 3,2 mm) <b>F</b> 100 psi (7 bar) Cracking Pressure, J				
		127 in. (0,4 - 3,2 mm)				







sunhydraulics.com/model/CNHC



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

5000 psi
.016252 in.
Buna: 990016007
EPDM: 990016014
Polyurethane: 990016002
Viton: 990016006

## **CONFIGURATION OPTIONS**

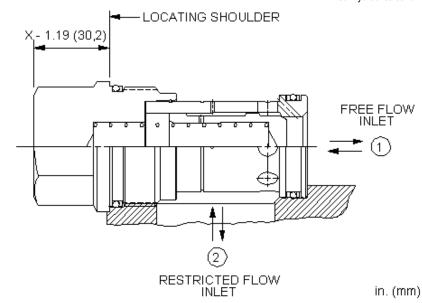
## Model Code Example: CNHCXCN

CONTROL	(X)	SETTING RANGE (C)	) <u>SE</u>	AL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>B 15 psi (1 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> </ul>	E V	Buna-N EPDM Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
		E 75 psi (5 bar) Cracking Pressure, .016 - .252 in. (0,4 - 6,4 mm)	-		
		<ul> <li>F 100 psi (7 bar) Cracking Pressure, .016</li> <li>.252 in. (0,4 - 6,4 mm)</li> </ul>	6		





sunhydraulics.com/model/CNJC



Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

## **TECHNICAL DATA**

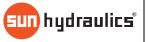
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Orifice Range	.016354 in.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CNJCXCN

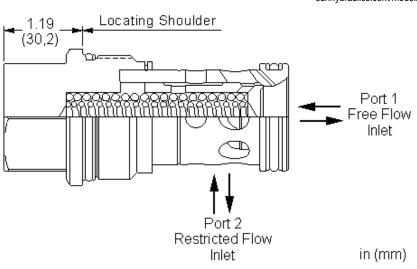
X Not Adjustable       C 30 psi (2 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)       N Buna-N       Standard Material/Coating         A 4 psi (0,3 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)       A 4 psi (1 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)       V Viton       /AP Stainless Steel, Passivated         B 15 psi (1 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)       D 50 psi (3,5 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)       D 50 psi (3,5 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)         E 75 psi (5 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)       E 75 psi (5 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)	CONTROL (X	) <u>SETTING RANGE</u> (C)	SEAL MATERIAL (N)	MATERIAL/COATING
.354 in. (0,4 - 9 mm) F 100 psi (7 bar) Cracking Pressure, .016 354 in. (0,4 - 9 mm) G 150 psi (10 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)		<ul> <li>C 30 psi (2 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)</li> <li>B 15 psi (1 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)</li> <li>E 75 psi (5 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)</li> <li>G 150 psi (10 bar) Cracking Pressure, .016</li> </ul>	N Buna-N V Viton	Standard Material/Coating





sunhydraulics.com/model/CNKC





Free-flow, nose-to-side check valves with a bypass orifice allow free flow from port 1 to port 2. A customer specified orifice is included to restrict flow from port 2 to port 1. See technical data below for orifice range.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Orifice Range	.016354 in.
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Viton: 990018006

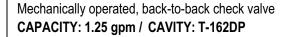
# **CONFIGURATION OPTIONS**

# Model Code Example: CNKCXAN

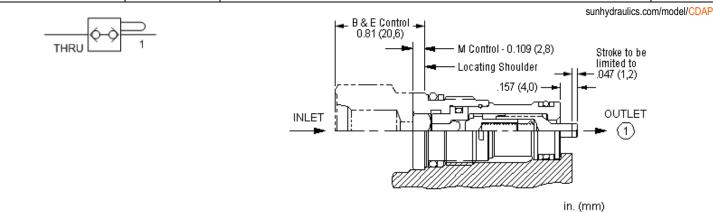
CONTROL	(X)	SETTING RANGE	(A)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>A 4 psi (0,3 bar) Cracking Pressure, .01 <ul> <li>.354 in. (0,4 - 9 mm)</li> </ul> </li> <li>B 15 psi (1 bar) Cracking Pressure, .01 <ul> <li>.354 in. (0,4 - 9 mm)</li> </ul> </li> <li>C 30 psi (2 bar) Cracking Pressure, .01 <ul> <li>.354 in. (0,4 - 9 mm)</li> </ul> </li> <li>D 50 psi (3,5 bar) Cracking Pressure, <ul> <li>.016354 in. (0,4 - 9 mm)</li> </ul> </li> </ul>	6 - 6 -	N Buna-N V Viton	
		E 75 psi (5 bar) Cracking Pressure, .01 .354 in. (0,4 - 9 mm)	6 -		
		<ul> <li>F 100 psi (7 bar) Cracking Pressure, .0</li> <li>.354 in. (0,4 - 9 mm)</li> </ul>	16		
		<b>G</b> 150 psi (10 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)			
		<b>Z</b> 1 psi (0,07 bar) Cracking Pressure, .016354 in. (0,4 - 9 mm)			



MODEL **CDAP** 







The phaser check is a pair of checks, back-to-back, with the poppet at port 1 mechanically actuated. The valve is meant to be installed into the piston of a cylinder. When the cylinder reaches the end of its stroke the poppet in the phaser check is shoved off its seat allowing flow through the piston. This allows two cylinders to get back into phase.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Valve Internal Hex Size	5/16 in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006

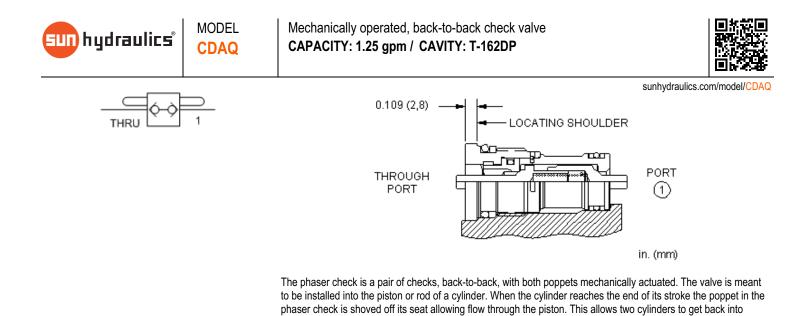
# **CONFIGURATION OPTIONS**

# Model Code Example: CDAPMCN

CONTROL	(M)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
M Mechanical Actuation		<b>C</b> 30 psi (2 bar)		N Buna-N	
B External 1/4 BSPP Port				V Viton	

B External 1/4 BSPP Port

E External 4-SAE Port



#### **TECHNICAL DATA**

phase.

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Valve Internal Hex Size	5/16 in.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

**NOTES** A special tool is required to install this cartridge. Use part number 998-101 to order this tool.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CDAQMCN

CONTROL (N	) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
M Mechanical Actuation	<b>C</b> 30 psi (2 bar)		N Buna-N	
			V Viton	

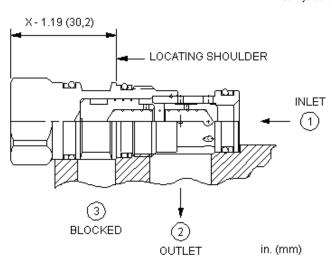


MODEL CXDC



sunhydraulics.com/model/CXDC





Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# **CONFIGURATION OPTIONS**

## Model Code Example: CXDCXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
		A 4 psi (0,3 bar)		V Viton		/AP Stainless Steel, Passivated
		<b>B</b> 15 psi (1 bar)				/LH Mild Steel, Zinc-Nickel
		<b>D</b> 50 psi (3,5 bar)				
		E 75 psi (5 bar)				
		E 100 pci (7 bor)				

**F** 100 psi (7 bar)

Z 1 psi (0,07 bar)

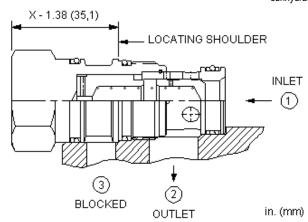


MODEL CXFC



sunhydraulics.com/model/CXFC





Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

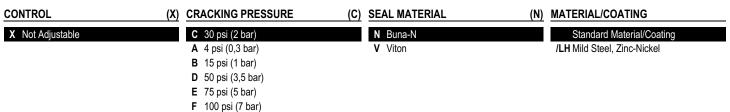
### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

## Model Code Example: CXFCXCN



**Z** 1 psi (0,07 bar)

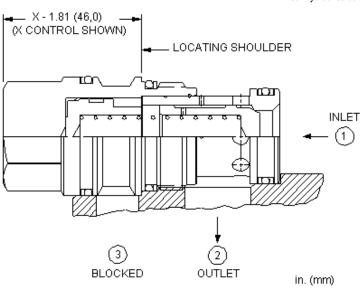


MODEL CXHC



sunhydraulics.com/model/CXHC





Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

# Model Code Example: CXHCXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>B</b> 15 psi (1 bar)		
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	<b>F</b> 100 psi (7 bar)		

**Z** 1 psi (0,07 bar)

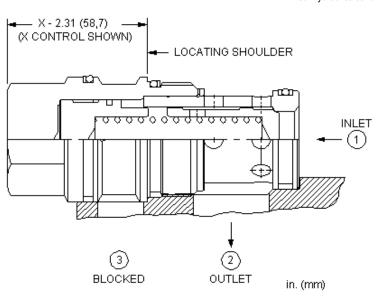


MODEL CXJC



sunhydraulics.com/model/CXJC





Free-flow, nose-to-side cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## CONFIGURATION OPTIONS

## Model Code Example: CXJCXCN

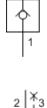
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	
	A 4 psi (0,3 bar)	V Viton	
	<b>B</b> 15 psi (1 bar)		
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	<b>F</b> 100 psi (7 bar)		
	<b>Z</b> 1 psi (0,07 bar)		



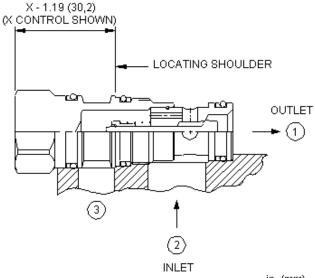
MODEL CXCE



sunhydraulics.com/model/CXCE







in. (mm)

Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

## **TECHNICAL DATA**

F 100 psi (7 bar)

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

## **CONFIGURATION OPTIONS**

### Model Code Example: CXCEXCN

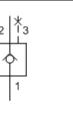
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>B</b> 15 psi (1 bar)		
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

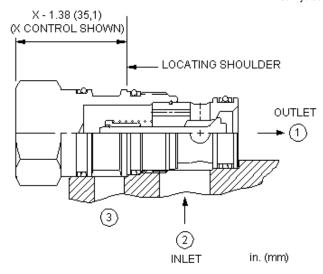


MODEL CXEE



sunhydraulics.com/model/CXEE





Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

## Model Code Example: CXEEXCN

 CONTROL
 (X)
 CRACKING PRESSURE
 (C)
 SEAL MATERIAL
 (N)
 MATERIAL/COATING

 X Not Adjustable
 C 30 psi (2 bar)
 N Buna-N
 Standard Material/Coating

 A
 4 psi (0,3 bar)
 V Viton
 /AP Stainless Steel, Passivated

 B
 15 psi (1 bar)
 J
 50 psi (3,5 bar)

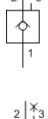
 E
 75 psi (5 bar)
 T
 T



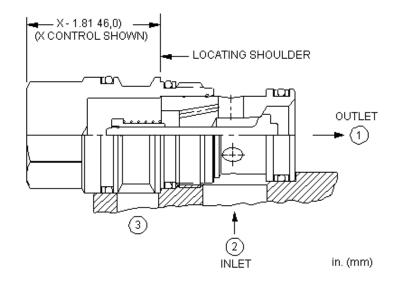
MODEL CXGE



sunhydraulics.com/model/CXGE







Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

## Model Code Example: CXGEXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)	V Viton		/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)			/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

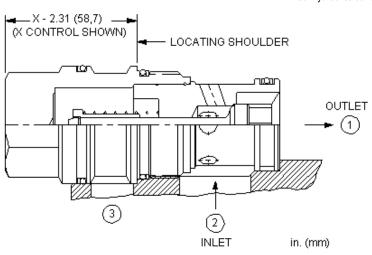


MODEL CXIE



sunhydraulics.com/model/CXIE





Free-flow, side-to-nose cheater check valves function as a standard 2-port check valve in a 3-port cavity with port 3 of the cartridge blocked off. These valves are useful in circuits where a check valve is required in an existing three port cavity.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

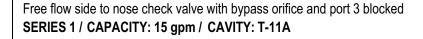
# **CONFIGURATION OPTIONS**

#### Model Code Example: CXIEXCN

CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	A 4 psi (0,3 bar)		V Viton		/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)				/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)				
	E 75 psi (5 bar)				



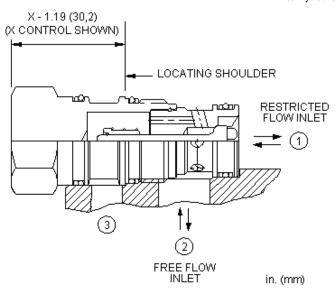
MODEL CNCD





sunhydraulics.com/model/CNCD





Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Orifice Range	.016153 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# **CONFIGURATION OPTIONS**

## Model Code Example: CNCDXCN

CONTROL	(X) SETTING RANGE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pres	ssure, .016 - N Buna-N	Standard Material/Coating
	.153 in. (0,4 - 3,9 mm)	V Viton	/AP Stainless Steel, Passivated
			/LH Mild Steel, Zinc-Nickel

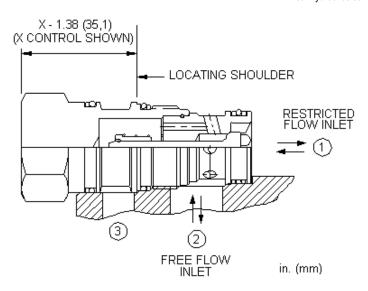


MODEL CNED



sunhydraulics.com/model/CNED





Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Orifice Range	.016135 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

### **CONFIGURATION OPTIONS**

### Model Code Example: CNEDXCN

CONTROL (X)	SETTING RANGE (C)	SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	C 30 psi (2 bar) Cracking Pressure, .016135 in. (0,4 - 3,4 mm)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

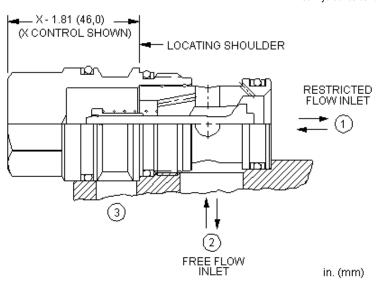


MODEL CNGD



sunhydraulics.com/model/CNGD





Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Orifice Range	.016218 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

### Model Code Example: CNGDXCN

CONTROL (X)	) SETTING RANGE	C) SEAL MATERIAL (N	MATERIAL/COATING
X Not Adjustable	<ul> <li>C 30 psi (2 bar) Cracking Pressure, .016 .218 in. (0,4 - 5,5 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure, .016 218 in. (0,4 - 5,5 mm)</li> <li>B 15 psi (1 bar) Cracking Pressure, .016 .218 in. (0,4 - 5,5 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure, .016218 in. (0,4 - 5,5 mm)</li> <li>E 75 psi (5 bar) Cracking Pressure, .016 .218 in. (0,4 - 5,5 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016 218 in. (0,4 - 5,5 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016 218 in. (0,4 - 5,5 mm)</li> </ul>	V Viton	Standard Material/Coating /AP Stainless Steel, Passivated

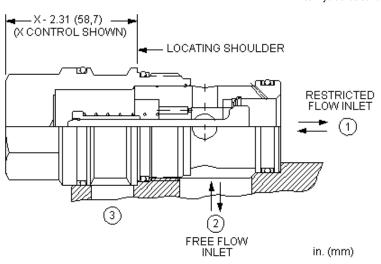


MODEL CNID



sunhydraulics.com/model/CNID





Free-flow, side-to-nose cheater check valves with a bypass orifice function as a 2-port check valve in a 3-port cavity. They allow free flow from port 2 to port 1 with a customer specified orifice that controls flow from port 1 to port 2. Port 3 of the cartridge is blocked off.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Orifice Range	.016218 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# **CONFIGURATION OPTIONS**

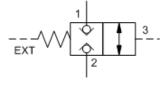
## Model Code Example: CNIDXCN

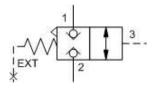
CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		C 30 psi (2 bar) Cracking Pressure, .01	6 -	N Buna-N		Standard Material/Coating
		.218 in. (0,4 - 5,5 mm)		V Viton		/AP Stainless Steel, Passivated

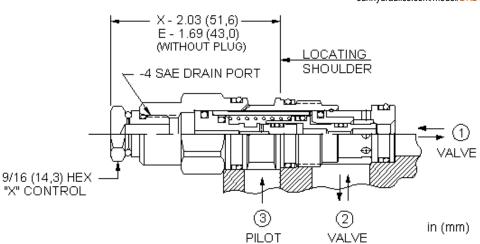




sunhydraulics.com/model/DKDC







This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.01 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990311007
Seal kit - Cartridge	Viton: 990311006

#### **CONFIGURATION OPTIONS**

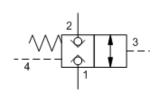
## Model Code Example: DKDCEHN

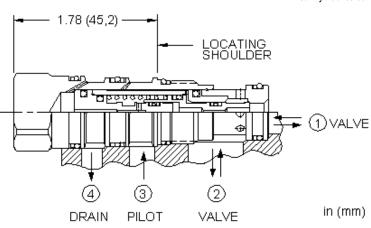
CONTROL	(E)	MINIMUM PILOT PRESSURE (H)	<u>)</u>	EAL MATERIAL (N	1)	MATERIAL/COATING
E External 4-SAE Drain Port		H 400 psi (28 bar)		N Buna-N		Standard Material/Coating
X Standard Pilot, Atmospheric Vent				E EPDM		/LH Mild Steel, Zinc-Nickel
				V Viton		





sunhydraulics.com/model/DKDS





This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.01 in <sup>3</sup>
Pilot Passage into Valve	.03 in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

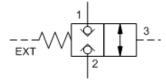
# **CONFIGURATION OPTIONS**

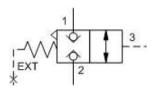
# Model Code Example: DKDSXHN

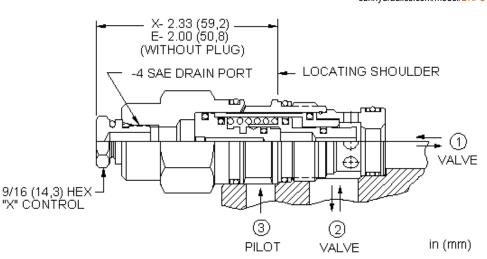
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		H 400 psi (28 bar)		N Buna-N		Standard Material/Coating
				V Viton		/AP Stainless Steel, Passivated
						/LH Mild Steel, Zinc-Nickel



sunhydraulics.com/model/DKFC







This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.@1000 psi
Pilot Volume Displacement	.02 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

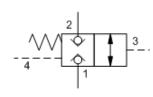
# Model Code Example: DKFCEHN

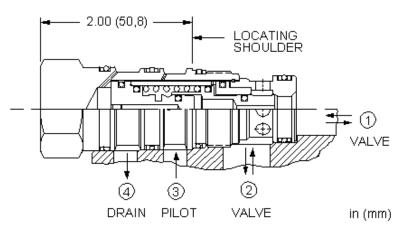
CONTROL (E	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)		N Buna-N	
X Standard Pilot, Atmospheric Vent			V Viton	





sunhydraulics.com/model/DKFS





This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.02 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

## **CONFIGURATION OPTIONS**

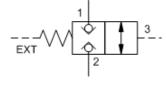
## Model Code Example: DKFSXHN

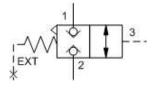
CONTROL (2	() MINIMUM PILOT PRESSURE (H)	SEAL MATERIAL (N)	MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N	Standard Material/Coating
		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel

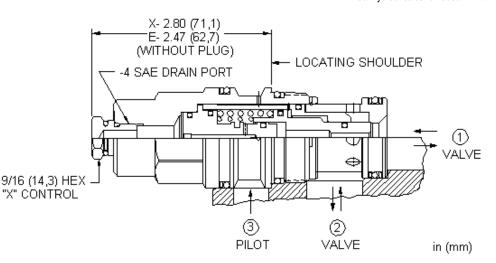




sunhydraulics.com/model/DKHC







This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

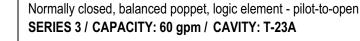
Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.05 in³
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

### **CONFIGURATION OPTIONS**

# Model Code Example: DKHCEHN

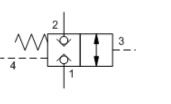
CONTROL (I	<u>MINIMUM PILOT PRESSURE</u>	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)		N Buna-N	
X Standard Pilot, Atmospheric Vent			V Viton	

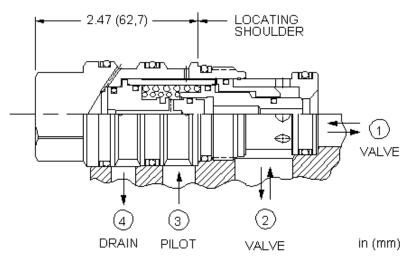






sunhydraulics.com/model/DKHS





This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

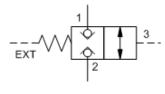
# **CONFIGURATION OPTIONS**

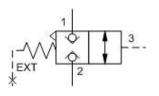
# Model Code Example: DKHSXHN

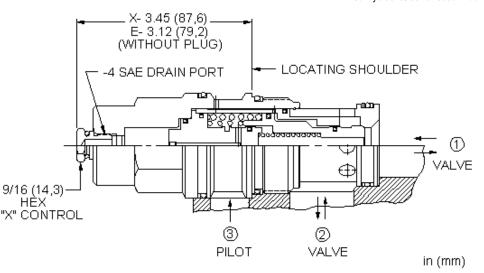
CONTROL (X)	MINIMUM PILOT PRESSURE (H)	SEAL MATERIAL (N	) MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N	Standard Material/Coating
		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel



sunhydraulics.com/model/DKJC







This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

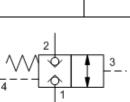
Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.17 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DKJCEHN

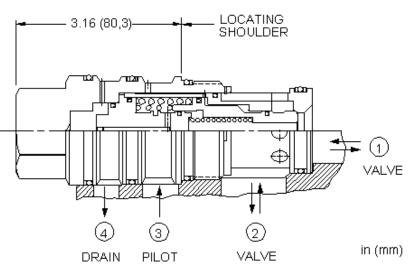
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N		Standard Material/Coating
X Standard Pilot, Atmospheric Vent				E EPDM		/AP Stainless Steel, Passivated
				V Viton		







sunhydraulics.com/model/DKJS



This is a normally closed, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.17 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

# **CONFIGURATION OPTIONS**

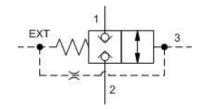
## Model Code Example: DKJSXHN

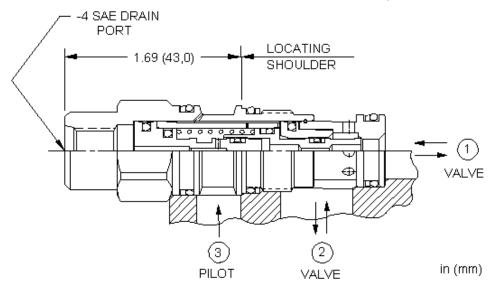
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		H 300 psi (20 bar)		N Buna-N		Standard Material/Coating
				E EPDM		/AP Stainless Steel, Passivated
				V Viton		/LH Mild Steel, Zinc-Nickel
				V VIION		/LH Mild Steel, Zinc-Nickel





sunhydraulics.com/model/DKDD





This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.01 in <sup>3</sup>
Pilot Passage into Valve	.031 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DKDDEHN

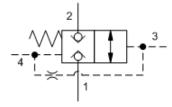
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 400 psi (28 bar)		N Buna-N	
				V Viton	

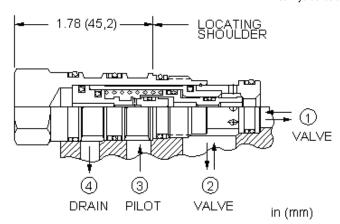


MODEL DKDR



sunhydraulics.com/model/DKDR





This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

## CONFIGURATION OPTIONS

#### Model Code Example: DKDRXHN

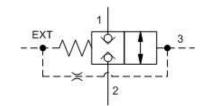
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Vent to Operate		H 400 psi (28 bar)		N Buna-N		Standard Material/Coating	
				V Viton		/AP Stainless Steel, Passivated	
						/LH Mild Steel, Zinc-Nickel	

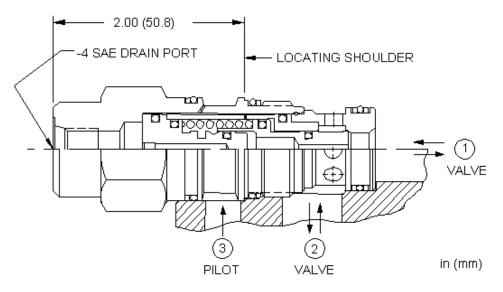


MODEL DKFD



sunhydraulics.com/model/DKFD





This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi		
Maximum Operating Pressure	5000 psi		
Control Pilot Flow	See Performance Data		
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi		
Pilot Volume Displacement	.02 in <sup>3</sup>		
Seal kit - Cartridge	Buna: 990202007		
Seal kit - Cartridge	Polyurethane: 990002002		
Seal kit - Cartridge	Viton: 990202006		

(N)

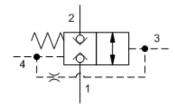
# CONFIGURATION OPTIONS Model Code Example: DKFDEHN CONTROL (E) MINIMUM PILOT PRESSURE (H) SEAL MATERIAL E External 4-SAE Drain Port H 300 psi (20 bar) N Buna-N

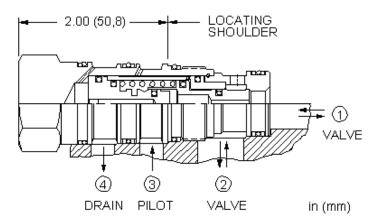
V Viton





sunhydraulics.com/model/DKFR





This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

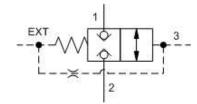
#### Model Code Example: DKFRXHN

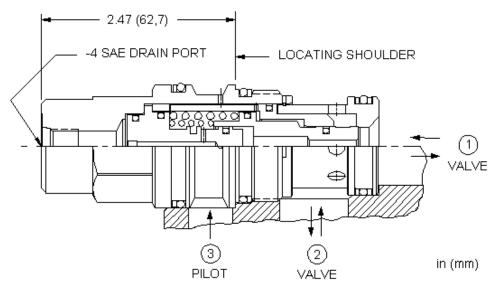
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
X Vent to Operate		H 300 psi (20 bar)		N Buna-N	
				V Viton	





sunhydraulics.com/model/DKHD





This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## **CONFIGURATION OPTIONS**

#### Model Code Example: DKHDEHN

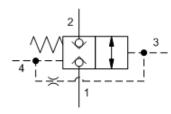
CONTROL	(E)	MINIMUM PILOT PRESSURE (H	<b>I</b> )	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
				V Viton	

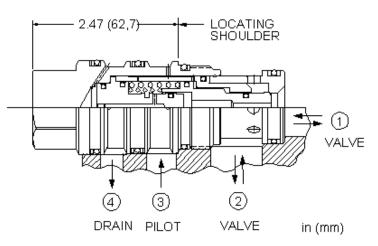


MODEL DKHR



sunhydraulics.com/model/DKHR





This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

# **CONFIGURATION OPTIONS**

#### Model Code Example: DKHRXHN

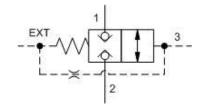
CONTROL	X) MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)		N Buna-N	
			V Viton	

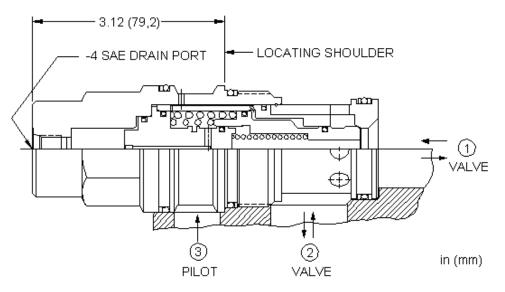


MODEL DKJD



sunhydraulics.com/model/DKJD





This is a normally closed, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the closed position. Venting the external port shifts it to the open position, provided there is sufficient pressure at port 3.

#### TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi		
Maximum Operating Pressure	5000 psi		
Control Pilot Flow	See Performance Data		
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi		
Pilot Volume Displacement	.17 in <sup>3</sup>		
Seal kit - Cartridge	Buna: 990019007		
Seal kit - Cartridge	Polyurethane: 990019002		
Seal kit - Cartridge	Viton: 990019006		

# **CONFIGURATION OPTIONS**

#### Model Code Example: DKJDEHN

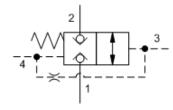
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
				V Viton	

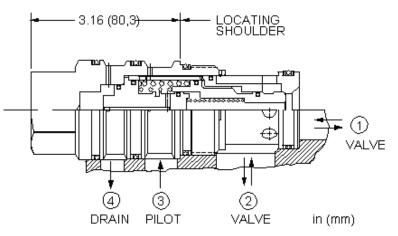


MODEL DKJR



sunhydraulics.com/model/DKJR





This is a normally closed, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the closed position. Venting port 4 shifts it to the open position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

## **CONFIGURATION OPTIONS**

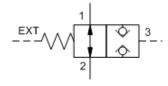
#### Model Code Example: DKJRXHN

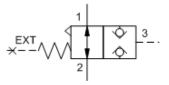
CONTROL	X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N	
		V Viton	

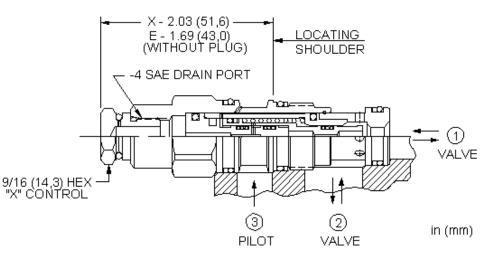




sunhydraulics.com/model/DODC







This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

400 psi
5000 psi
10 drops/min.@5000 psi
.01 in <sup>3</sup>
Buna: 990311007
Viton: 990311006

#### **CONFIGURATION OPTIONS**

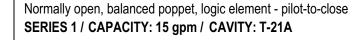
## Model Code Example: DODCEHN

 CONTROL
 (E)
 MINIMUM PILOT PRESSURE
 (H)
 SEAL MATERIAL
 (N)
 MATERIAL/COATING

 E
 External 4-SAE Drain Port
 H 400 psi (28 bar)
 N Buna-N
 Standard Material/Coating

 X
 Standard Pilot, Atmospheric Vent
 V Viton
 /AP Stainless Steel, Passivated





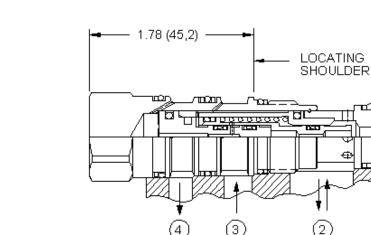


sunhydraulics.com/model/DODS

1

in (mm)

ALVE



DRAIN

This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

PILOT

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

VALVE

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.01 in <sup>3</sup>
Pilot Passage into Valve	.03 in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

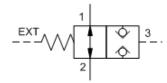
#### **CONFIGURATION OPTIONS**

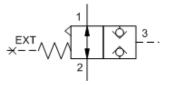
## Model Code Example: DODSXHN

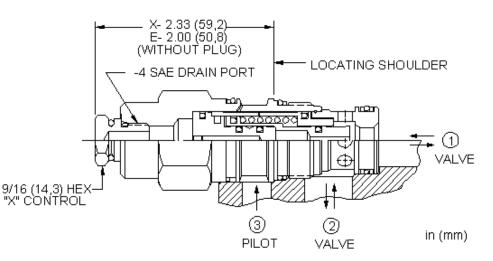
CONTROL	(X) N	MINIMUM PILOT PRESSURE (H)	) <u>s</u> e	AL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		H 400 psi (28 bar)	Ν	I Buna-N		Standard Material/Coating
			E	EPDM		/AP Stainless Steel, Passivated
			V	Viton		/LH Mild Steel, Zinc-Nickel



sunhydraulics.com/model/DOFC







This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.02 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

# Model Code Example: DOFCEHN

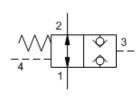
CONTROL (E	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)		N Buna-N	
X Standard Pilot, Atmospheric Vent			V Viton	

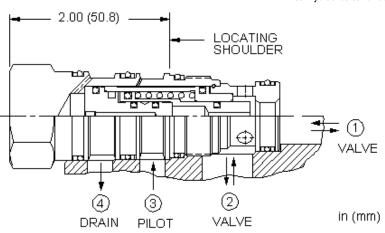


MODEL DOFS



sunhydraulics.com/model/DOFS





This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

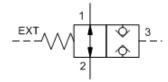
Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.02 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

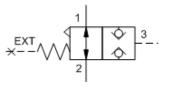
## **CONFIGURATION OPTIONS**

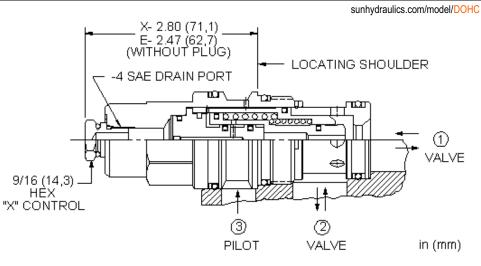
## Model Code Example: DOFSXHN

CONTROL	(X) MINIMUM PILOT PRESSURE (H)	SEAL MATERIAL (N)	MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N	Standard Material/Coating
		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel









This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

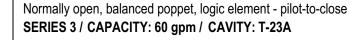
Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

## Model Code Example: DOHCEHN

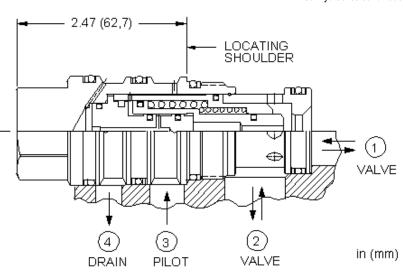
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N		Standard Material/Coating
X Standard Pilot, Atmospheric Vent				E EPDM		/LH Mild Steel, Zinc-Nickel
				V Viton		







sunhydraulics.com/model/DOHS



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

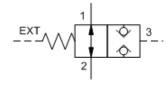
# **CONFIGURATION OPTIONS**

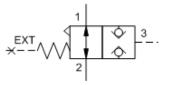
## Model Code Example: DOHSXHN

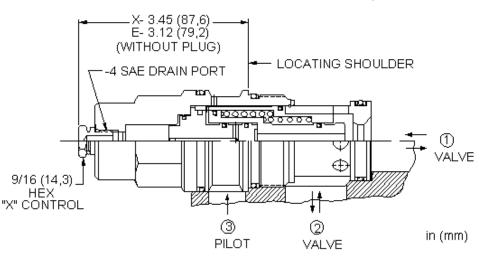
CONTROL (X)	MINIMUM PILOT PRESSURE (H)	SEAL MATERIAL (N)	MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N	Standard Material/Coating
		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel



sunhydraulics.com/model/DOJC







This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

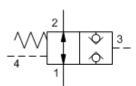
Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.17 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

## Model Code Example: DOJCEHN

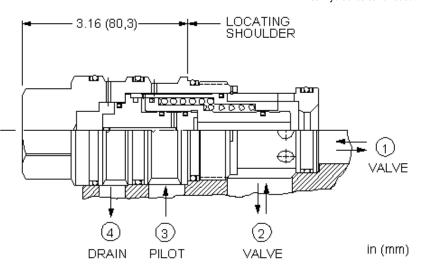
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
X Standard Pilot, Atmospheric Vent				V Viton	







sunhydraulics.com/model/DOJS



This is a normally open, balanced poppet, switching element. Pilot pressure at port 3 shifts the valve to the closed position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.17 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

#### **CONFIGURATION OPTIONS**

## Model Code Example: DOJSXHN

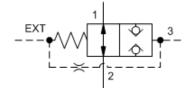
CONTROL	(X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	H 300 psi (20 bar)	N Buna-N	Standard Material/Coating
		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel

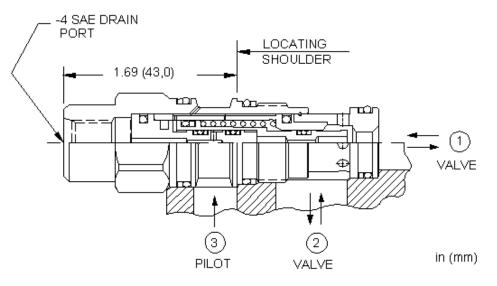


MODEL DODD



sunhydraulics.com/model/DODD





This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.01 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

## Model Code Example: DODDEHN

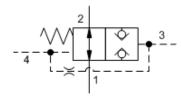
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 400 psi (28 bar)		N Buna-N	
				V Viton	

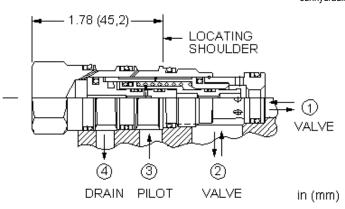


MODEL DODR



sunhydraulics.com/model/DODR





This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

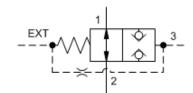
Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

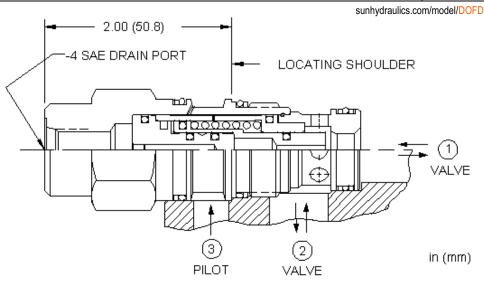
CONFIGURATION OPTIONS	Model Cod	le Example: DODRXHN	
CONTROL (X	) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL (N)	MATERIAL/COATING
X Vent to Operate	H 400 psi (28 bar)	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



MODEL DOFD







This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.02 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

#### Model Code Example: DOFDEHN

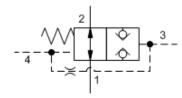
CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
				V Viton	

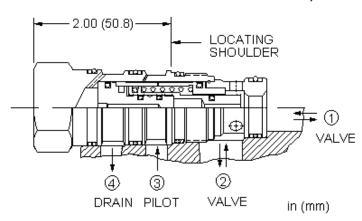


MODEL DOFR



sunhydraulics.com/model/DOFR





This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

## **CONFIGURATION OPTIONS**

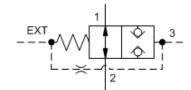
#### Model Code Example: DOFRXHN

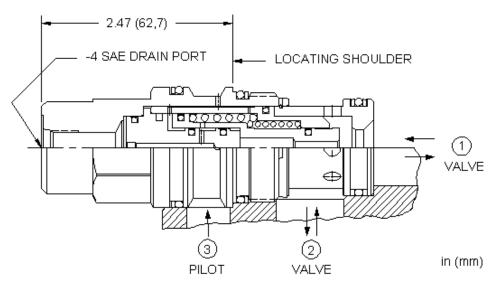
CONTROL	X) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)	N Buna-N	
		V Viton	





sunhydraulics.com/model/DOHD





This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

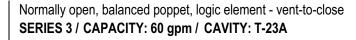
#### **CONFIGURATION OPTIONS**

## Model Code Example: DOHDEHN

CONTROL	(E)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
E External 4-SAE Drain Port		H 300 psi (20 bar)		N Buna-N	
				V Viton	

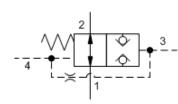


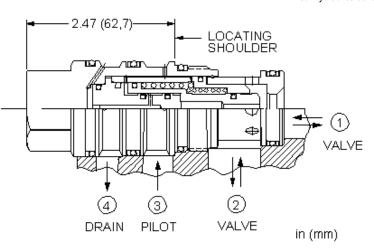
MODEL DOHR





sunhydraulics.com/model/DOHR





This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

#### **CONFIGURATION OPTIONS**

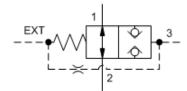
## Model Code Example: DOHRXHN

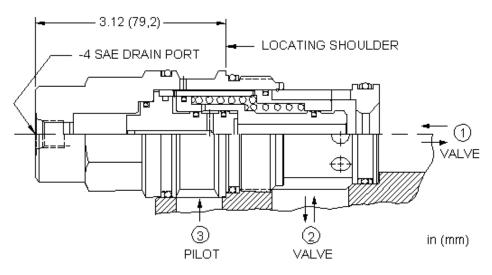
CONTROL	(X)	MINIMUM PILOT PRESSURE	(H)	SEAL MATERIAL	(N)
X Vent to Operate		H 300 psi (20 bar)		N Buna-N	
				V Viton	





sunhydraulics.com/model/DOJD





This is a normally open, balanced poppet, switching element. When the external vent port is blocked, the poppet remains in the open position. Venting the external port shifts it to the closed position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve 300 psi	
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Volume Displacement	.17 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

Model Code Example: DOJDEHN

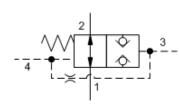
CONTROL	(E) MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
E External 4-SAE Drain Port	H 300 psi (20 bar)	N Buna-N	
		V Viton	

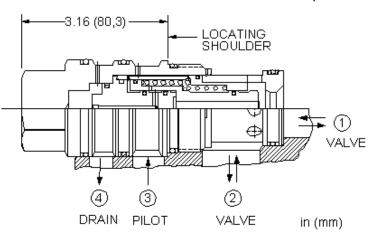


MODEL DOJR



sunhydraulics.com/model/DOJR





This is a normally open, balanced poppet, switching element. When the vent port (port 4) is blocked, the poppet remains in the open position. Venting port 4 shifts it to the closed position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Vinimum Pilot Pressure Required to Shift Valve 300 psi	
Maximum Operating Pressure 5000 psi	
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

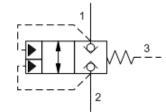
#### CONFIGURATION OPTIONS

## Model Code Example: DOJRXHN

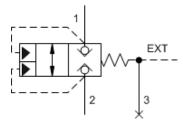
CONTROL	() MINIMUM PILOT PRE	SSURE (H)	SEAL MATERIAL	(N)
X Vent to Operate	H 300 psi (20 bar)		N Buna-N	
			V Viton	

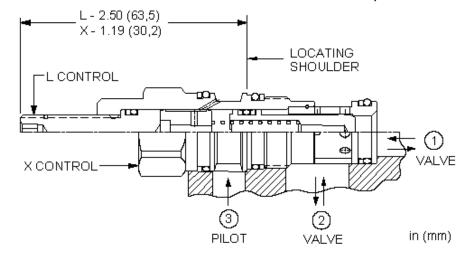


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These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.04 in <sup>3</sup>
Pilot Passage into Valve	.031 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

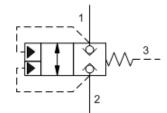
#### Model Code Example: LODCXDN

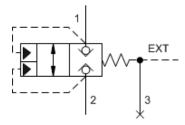
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		V Viton	IAP Stainlass Steel Bassivated

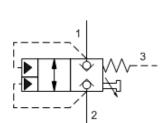
V Viton

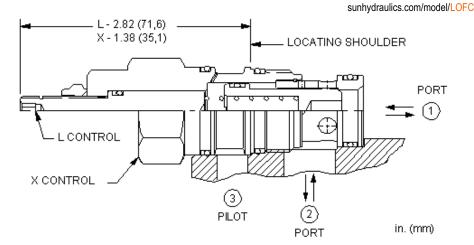
/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel











These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Pilot Passage into Valve	.035 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

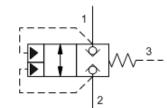
# Model Code Example: LOFCXDN

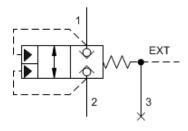
CONTROL (X	) CRACKING PRESSURE (D)	SEAL MATERIAL (N)	MATERIAL/COATING
X Standard Pilot	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel

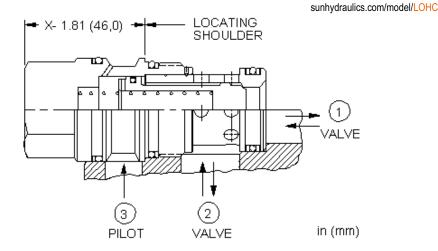


MODEL









These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.25 in <sup>3</sup>
Pilot Passage into Valve	.06 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## **CONFIGURATION OPTIONS**

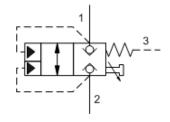
#### Model Code Example: LOHCXDN

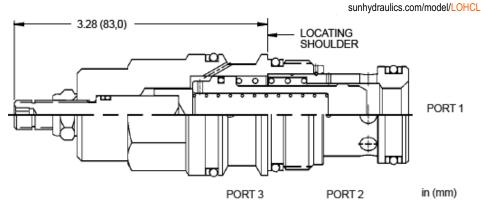
CONTROL	(X)	CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating
				E EPDM		/AP Stainless Steel, Passivated
				V Viton		/LH Mild Steel, Zinc-Nickel



MODEL







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.25 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

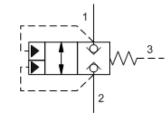
#### Model Code Example: LOHCLDN

CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
	E EPDM	/AP Stainless Steel, Passivated
	V Viton	/LH Mild Steel, Zinc-Nickel

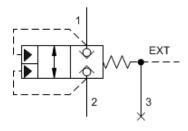
MODEL

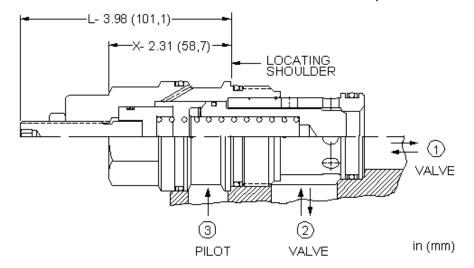


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These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.42 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

# Model Code Example: LOJCXDN

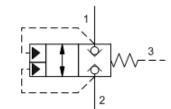
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating	
		V Viton	/AP Stainless Steel, Passivated	
			/LH Mild Steel, Zinc-Nickel	

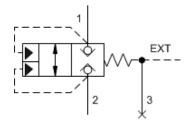


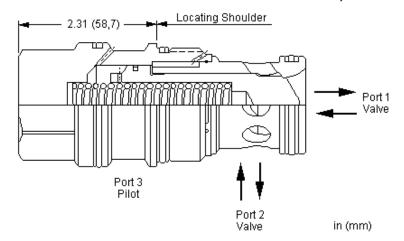
MODEL LOKC



sunhydraulics.com/model/LOKC







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.47 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

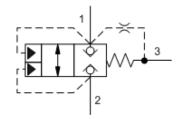
# Model Code Example: LOKCXDN

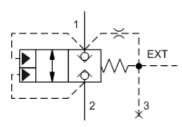
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating	
		E EPDM		/AP Stainless Steel, Passivated	
		V Viton		/LH Mild Steel. Zinc-Nickel	

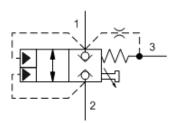


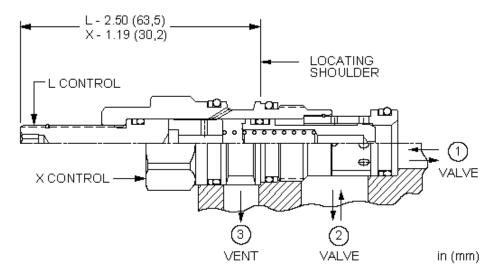


sunhydraulics.com/model/LODA









These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.04 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

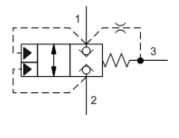
#### **CONFIGURATION OPTIONS**

## Model Code Example: LODAXDN

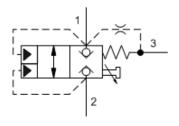
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		V Viton	/AP Stainless Steel, Passivated

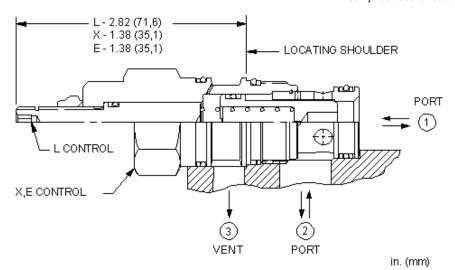


sunhydraulics.com/model/LOFA



iun hydraulics"





These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

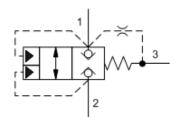
#### **CONFIGURATION OPTIONS**

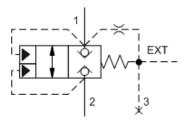
## Model Code Example: LOFAXDN

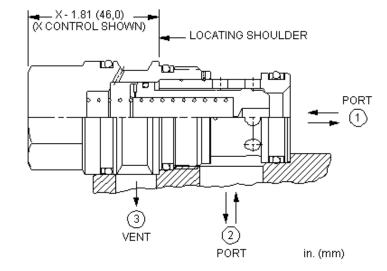
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		V Viton	/AP Stainless Steel, Passivated



sunhydraulics.com/model/LOHA







These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

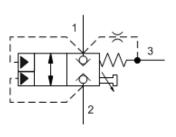
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.25 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.031 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

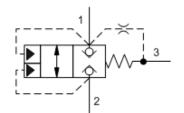
# Model Code Example: LOHAXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
		V Viton		/AP Stainless Steel, Passivated

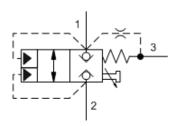


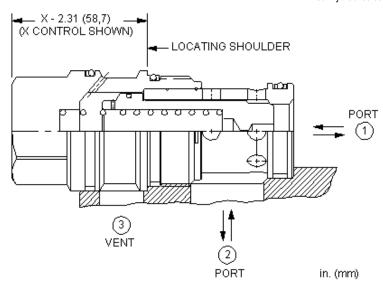


sunhydraulics.com/model/LOJA



iun hydraulics"





These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

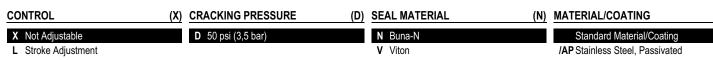
## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.42 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## CONFIGURATION OPTIONS

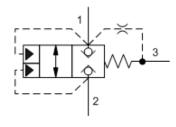
## Model Code Example: LOJAXDN

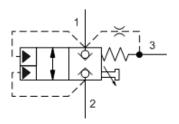


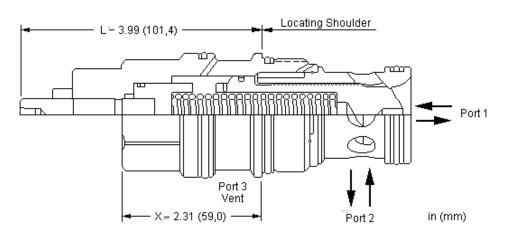




sunhydraulics.com/model/LOKA







These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 1 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 1 to 2 direction and will function as a check valve from 2 to 1. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.47 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

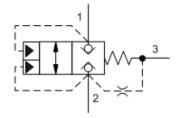
## **CONFIGURATION OPTIONS**

## Model Code Example: LOKAXDN

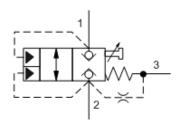
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
L Stroke Adjustment		V Viton		/AP Stainless Steel, Passivated

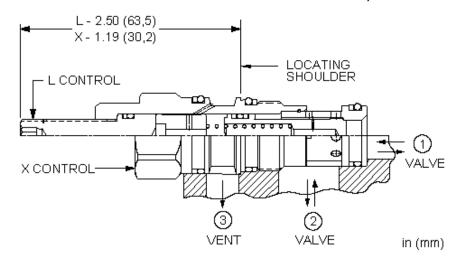


sunhydraulics.com/model/LODB



<mark>un</mark> hydraulics"





These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.04 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

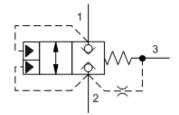
## **CONFIGURATION OPTIONS**

## Model Code Example: LODBXDN

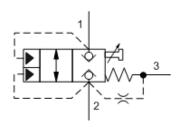
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		V Viton	/AP Stainless Steel, Passivated

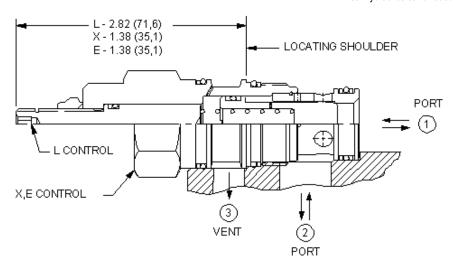


sunhydraulics.com/model/LOFB



un hydraulics





These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

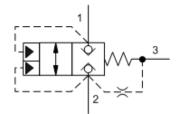
## Model Code Example: LOFBXDN

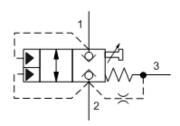
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
		V Viton		/AP Stainless Steel, Passivated

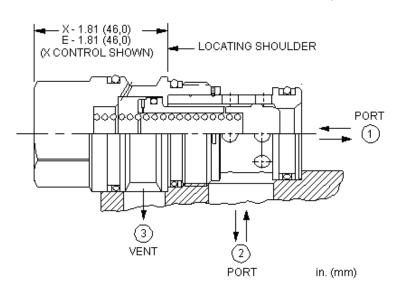




sunhydraulics.com/model/LOHB







These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

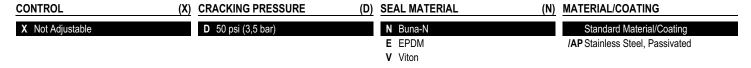
## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.25 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.031 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## CONFIGURATION OPTIONS

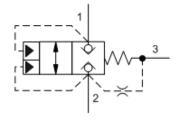
## Model Code Example: LOHBXDN

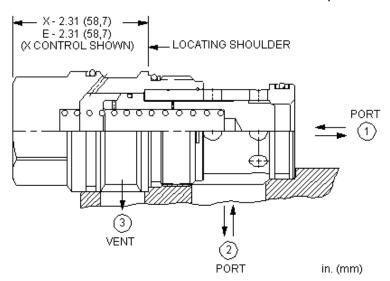






sunhydraulics.com/model/LOJB





These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

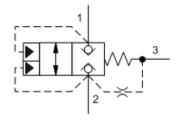
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

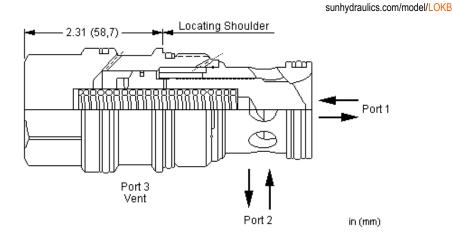
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.42 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS	ION OPTIONS Model Code Example: LOJBXDN					
CONTROL	(X) CI	RACKING PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	D	<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating
				V Viton		/AP Stainless Steel, Passivated









These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and have port 2 as a pilot source. With port 3 blocked, the valve will remain in the closed position in the 2 to 1 direction and will function as a check valve from 1 to 2. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

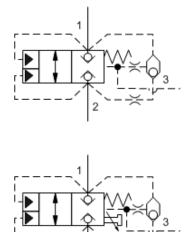
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.47 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

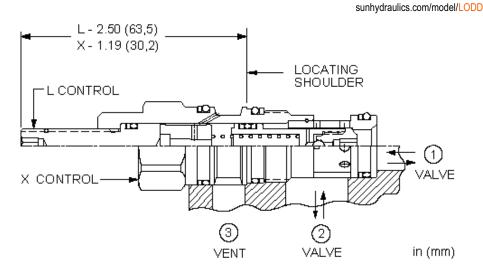
## **CONFIGURATION OPTIONS**

## Model Code Example: LOKBXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATIN	IG
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Materia	al/Coating
		V Viton	/AP Stainless Steel,	Passivated



2



These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

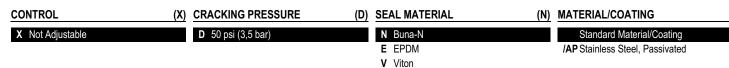
### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.04 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

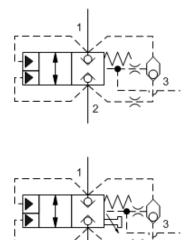
## **CONFIGURATION OPTIONS**

## Model Code Example: LODDXDN

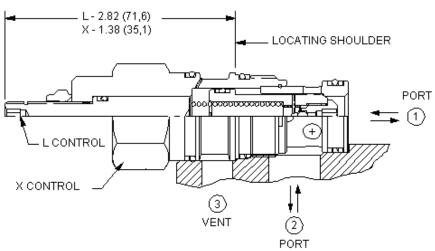




sunhydraulics.com/model/LOFD



2



in. (mm)

These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

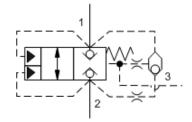
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

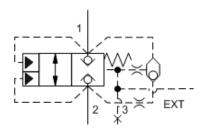
## **CONFIGURATION OPTIONS**

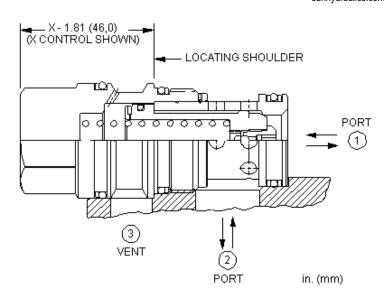
## Model Code Example: LOFDXDN

CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
		E EPDM		/AP Stainless Steel, Passivated
		V Viton		

sunhydraulics.com/model/LOHD







These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

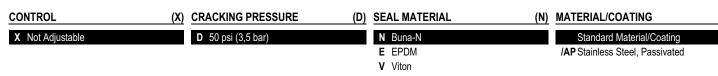
### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.25 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.031 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

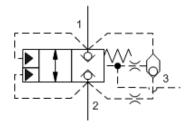
## **CONFIGURATION OPTIONS**

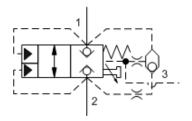
## Model Code Example: LOHDXDN

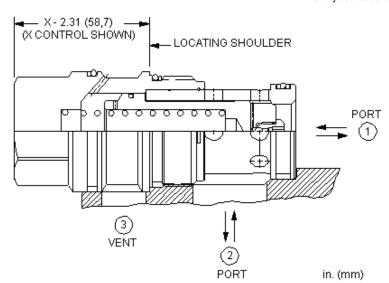




sunhydraulics.com/model/LOJD







These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

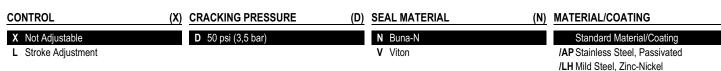
## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.42 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## CONFIGURATION OPTIONS

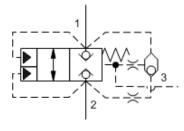
## Model Code Example: LOJDXDN

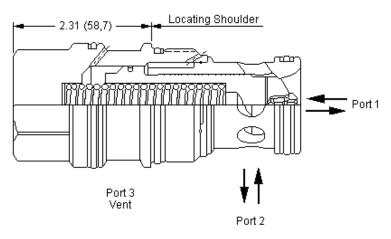






sunhydraulics.com/model/LOKD





in (mm)

These unbalanced, vent-to-open logic valves are 2-way switching elements that are spring-biased closed and incorporate an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With port 3 blocked, the valve is held in the closed position by the spring force. With port 3 vented, the valve will open provided there is sufficient pressure to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.47 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## **CONFIGURATION OPTIONS**

## Model Code Example: LOKDXDN

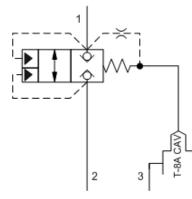
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	
		V Viton	

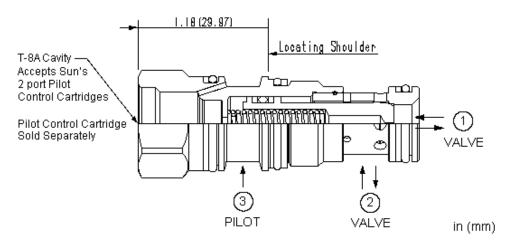


Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 1 / CAPACITY: 25 gpm / CAVITY: T-11A



sunhydraulics.com/model/LODA8





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.04 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

Model Code Example: LODA8DN



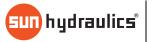
**D** 50 psi (3,5 bar)

(D) SEAL MATERIAL (N) MATERIAL/COATING

Buna-N

V Viton

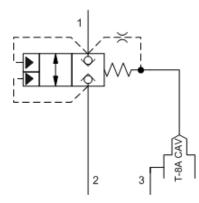
Standard Material/Coating /AP Stainless Steel, Passivated

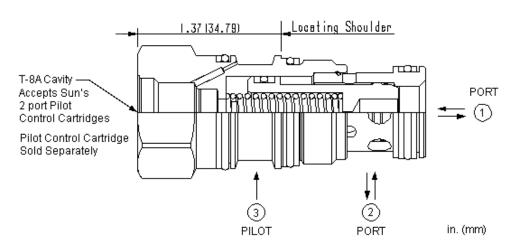


Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 2 / CAPACITY: 50 gpm / CAVITY: T-2A



sunhydraulics.com/model/LOFA8





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Pilot Volume Displacement	.07 in <sup>3</sup>	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Pilot Control Cavity	T-8A	
Control Orifice Diameter	.021 in.	
Seal kit - Cartridge	Buna: 990202007	
Seal kit - Cartridge	Polyurethane: 990002002	
Seal kit - Cartridge	Viton: 990202006	

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

Model Code Example: LOFA8DN

(N)

CRACKING PRESSURE

**D** 50 psi (3,5 bar)

(D) SEAL MATERIAL N Buna-N

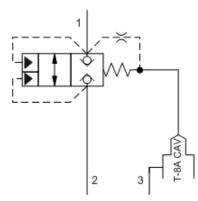
V Viton

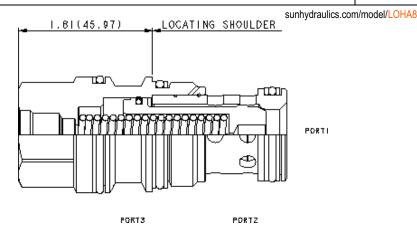


MODEL LOHA8

Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 3 / CAPACITY: 100 gpm / CAVITY: T-17A







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.25 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	.031 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at NOTES point of use.

#### **CONFIGURATION OPTIONS** Model Code Example: LOHA8DN **CRACKING PRESSURE** (D) SEAL MATERIAL (N) N Buna-N

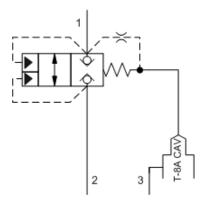
**D** 50 psi (3,5 bar)

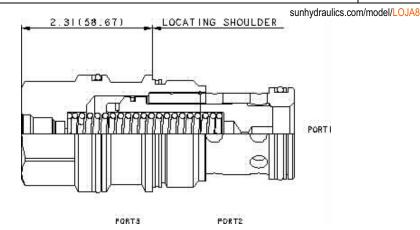
V Viton



MODEL LOJA8 Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 4 / CAPACITY: 200 gpm / CAVITY: T-19A







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

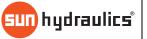
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.42 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

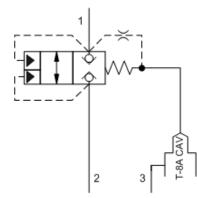
CONFIGURATION OPTIONS	;		Model Code Example: LOJA8D	١
CRACKING PRESSURE	(D)	SEAL MATERIAL	<u>(N)</u>	

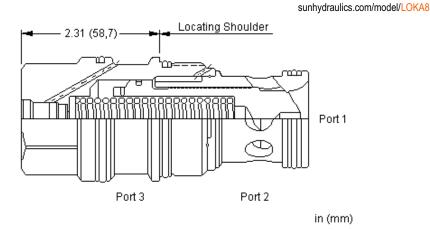
N Buna-N V Viton



Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 and integral T-8A control cavity SERIES 4 / CAPACITY: 300 gpm / CAVITY: T-19AU







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 1 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.47 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	Т-8А
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

Model Code Example: LOKA8DN

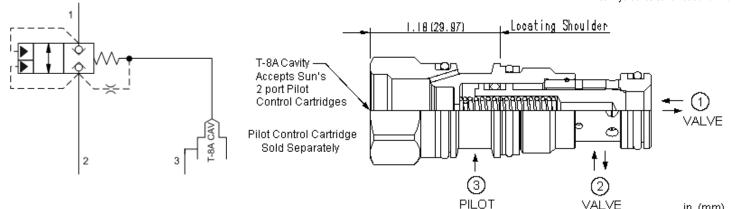
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	



MODEL LODB8 Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 1 / CAPACITY: 25 gpm / CAVITY: T-11A



sunhydraulics.com/model/LODB8



in. (mm)

This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.04 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at NOTES point of use.

## **CONFIGURATION OPTIONS**

Model Code Example: LODB8DN

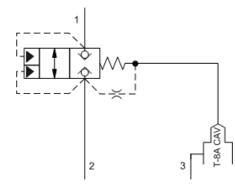
BIAS PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

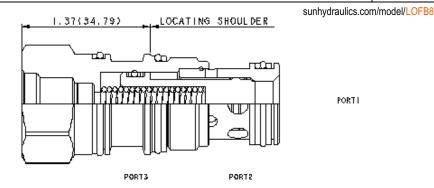


MODEL LOFB8 Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 2 / CAPACITY: 50 gpm / CAVITY: T-2A



PORTI





This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Pilot Volume Displacement	.07 in <sup>3</sup>	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Pilot Control Cavity	T-8A	
Control Orifice Diameter	.021 in.	
Seal kit - Cartridge	Buna: 990202007	
Seal kit - Cartridge	Polyurethane: 990002002	
Seal kit - Cartridge	Viton: 990202006	

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at NOTES point of use.

### **CONFIGURATION OPTIONS**

Model Code Example: LOFB8DN

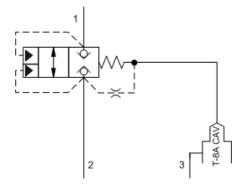
(N)

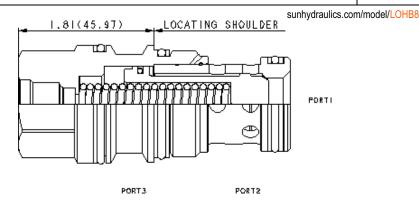
**CRACKING PRESSURE** (D) SEAL MATERIAL **D** 50 psi (3,5 bar) N Buna-N V Viton



Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 3 / CAPACITY: 100 gpm / CAVITY: T-17A







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Pilot Volume Displacement	.25 in <sup>3</sup>	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Pilot Control Cavity	T-8A	
Control Orifice Diameter	.031 in.	
Seal kit - Cartridge	Buna: 990017007	
Seal kit - Cartridge	Polyurethane: 990017002	
Seal kit - Cartridge	Viton: 990017006	

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

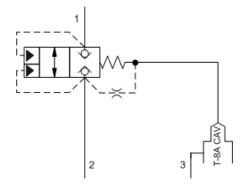
Model Code Example: LOHB8DN

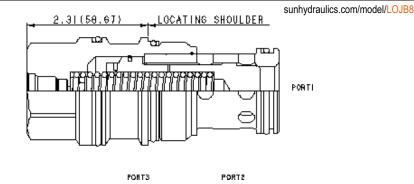
CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)		N Buna-N	
		E EPDM	
		V Viton	



Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 4 / CAPACITY: 200 gpm / CAVITY: T-19A







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.42 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

### **CONFIGURATION OPTIONS**

Model Code Example: LOJB8DN

(N)

 CRACKING PRESSURE
 (D)
 SEAL MATERIAL

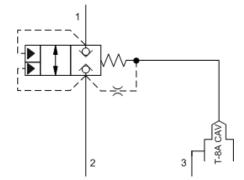
 D 50 psi (3,5 bar)
 N Buna-N

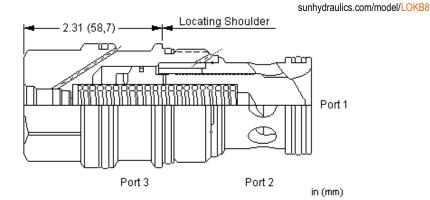
V Viton



MODEL LOKB8 Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 2 and integral T-8A control cavity SERIES 4 / CAPACITY: 300 gpm / CAVITY: T-19AU







This valve is an unbalanced, vent-to-open, 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and uses port 2 as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Pilot Volume Displacement	.47 in <sup>3</sup>	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Pilot Control Cavity	T-8A	
Control Orifice Diameter	.035 in.	
Seal kit - Cartridge	Buna: 990019007	
Seal kit - Cartridge	Polyurethane: 990019002	
Seal kit - Cartridge	Viton: 990019006	

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

Model Code Example: LOKB8DN

CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

# sun hydraulics"

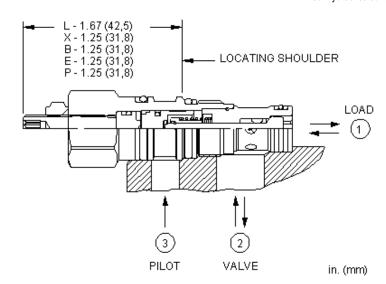
MODEL CKBB



sunhydraulics.com/model/CKBB







This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

## **CONFIGURATION OPTIONS**

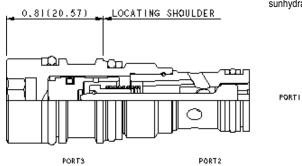
## Model Code Example: CKBBXCN

CONTROL	(X) CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
L Manual Load Release	E 75 psi (5 bar)		E EPDM		/AP Stainless Steel, Passivated
			V Viton		/LH Mild Steel, Zinc-Nickel









This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

### TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Valve Internal Hex Size	5/16 in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKBGXCN

CONTROL (X)	BIAS PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adustable, Standard Hydraulic Pilot	<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	E 75 psi (5 bar)		V Viton		/AP Stainless Steel, Passivated

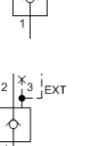
# sun hydraulics

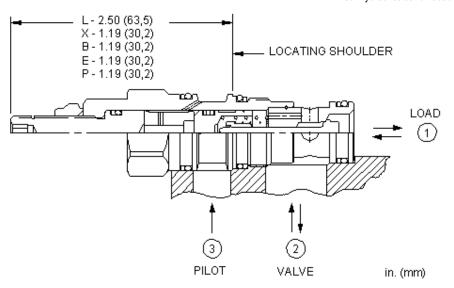
MODEL CKCB

## Pilot-to-open check valve with standard pilot SERIES 1 / CAPACITY: 15 gpm / CAVITY: T-11A



sunhydraulics.com/model/CKCB





This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

## **TECHNICAL DATA**

F 100 psi (7 bar)

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKCBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N		Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM		/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

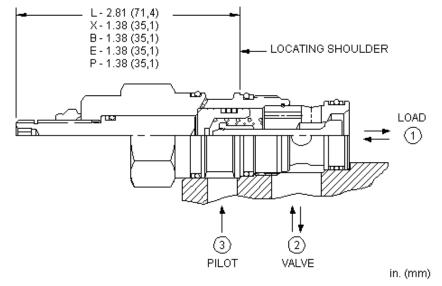


sunhydraulics.com/model/CKEB



<mark>un</mark> hydraulics





This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKEBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

E 75 psi (5 bar)

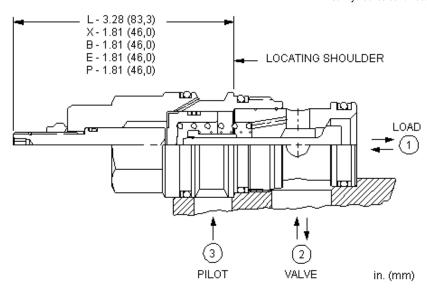
F 100 psi (7 bar)

3

13 ¦EXT



sunhydraulics.com/model/CKGB



This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKGBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

E 75 psi (5 bar)

F 100 psi (7 bar)



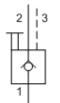
## Pilot-to-open check valve with standard pilot SERIES 4 / CAPACITY: 120 gpm / CAVITY: T-19A

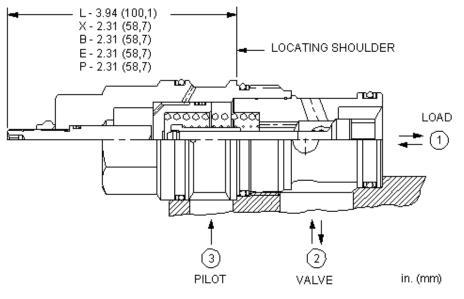


sunhydraulics.com/model/CKIB









This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKIBXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

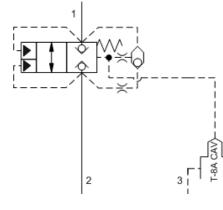
- E 75 psi (5 bar)F 100 psi (7 bar)

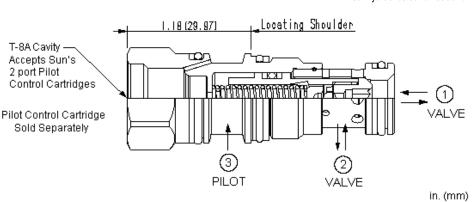


Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 1 / CAPACITY: 25 gpm / CAVITY: T-11A



sunhydraulics.com/model/LODD8





This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

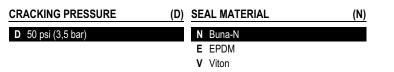
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.04 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	.021 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

## Model Code Example: LODD8DN

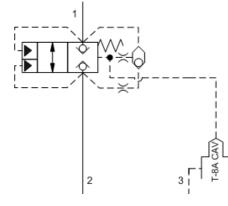


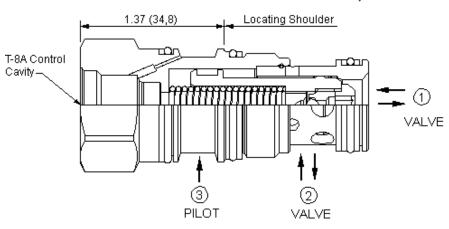


Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 2 / CAPACITY: 50 gpm / CAVITY: T-2A



sunhydraulics.com/model/LOFD8





This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi	
Pilot Volume Displacement	.07 in <sup>3</sup>	
Area Ratio, A3 to A1	1.8:1	
Area Ratio, A3 to A2	2.25:1	
Pilot Control Cavity	T-8A	
Control Orifice Diameter	.021 in.	
Seal kit - Cartridge	Buna: 990202007	
Seal kit - Cartridge	EPDM: 990202014	
Seal kit - Cartridge	Polyurethane: 990002002	
Seal kit - Cartridge	Viton: 990202006	

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

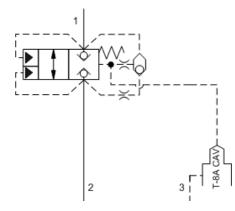
## Model Code Example: LOFD8DN

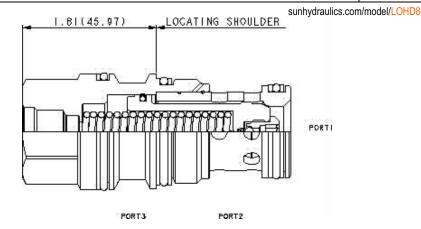
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	



MODEL LOHD8 Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity **SERIES 3 / CAPACITY: 100 gpm / CAVITY: T-17A** 







This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.25 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	.031 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

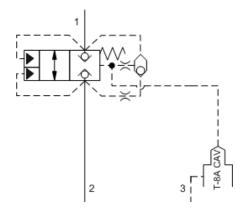
Model Code Example: LOHD8DN

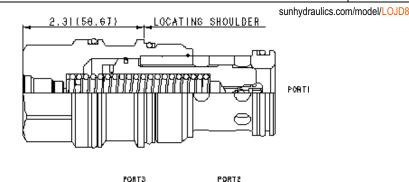
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	



MODEL LOJD8 Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 4 / CAPACITY: 200 gpm / CAVITY: T-19A







This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.42 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

### **CONFIGURATION OPTIONS**

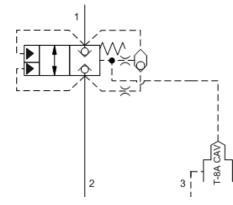
Model Code Example: LOJD8DN

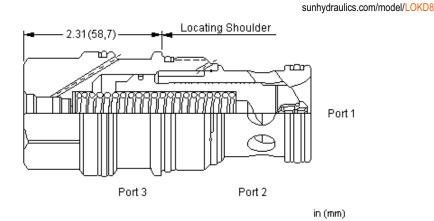
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	



MODEL LOKD8 Vent-to-open, spring-biased closed, unbalanced poppet logic element with pilot source from port 1 or 2 and integral T-8A control cavity SERIES 4 / CAPACITY: 300 gpm / CAVITY: T-19AU







This valve is an unbalanced, vent-to-open 2-way logic switching element with an integral pilot control cavity. It is spring biased closed and incorporates an integral shuttle so that the higher of pressures at either port 1 or port 2 can be used as a pilot source. With a pilot 2-way valve in the closed position installed in the T-8A cavity, the logic element will remain in the closed position. With the pilot valve open, the logic element will open providing there is a sufficient combination of pressures to overcome the spring force. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Volume Displacement	.47 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Pilot Control Cavity	T-8A
Control Orifice Diameter	.035 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

## **CONFIGURATION OPTIONS**

Model Code Example: LOKD8DN

CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

# sun hydraulics

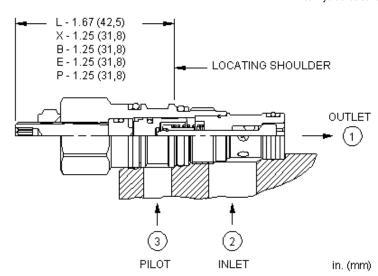
MODEL CKBD



sunhydraulics.com/model/CKBD







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

## **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKBDXCN

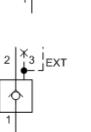
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	ł
L Manual Load Release	E 75 psi (5 bar)	E EPDM	/AP Stainless Steel, Passivated	
		V Viton	/LH Mild Steel, Zinc-Nickel	

## sun hydraulics

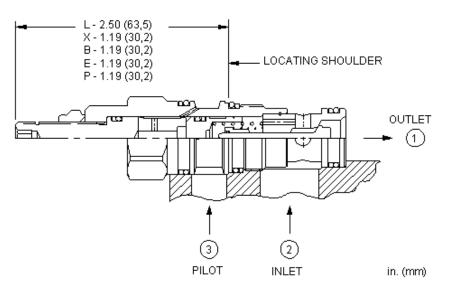
MODEL CKCD



sunhydraulics.com/model/CKCD



3



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKCDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

E 75 psi (5 bar)

G 150 psi (10,5 bar)

**F** 100 psi (7 bar)

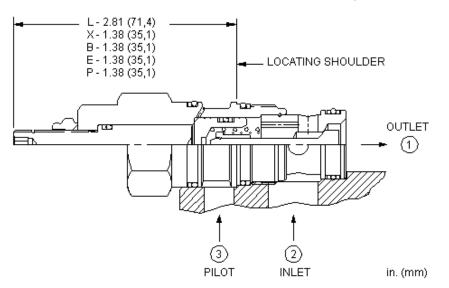


sunhydraulics.com/model/CKED



3





This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

## **CONFIGURATION OPTIONS**

## Model Code Example: CKEDXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

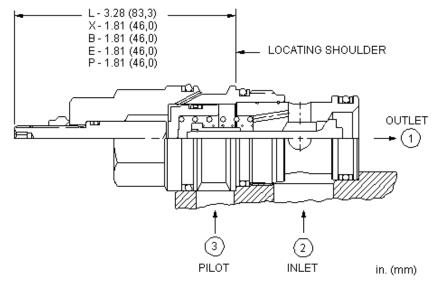
F 100 psi (7 bar)

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sunhydraulics.com/model/CKGD





This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CKGDXCN

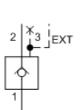
CONTROL	(X)	CRACKING PRESSURE	(C) \$	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
L Manual Load Release		A 4 psi (0,3 bar)		E EPDM		AP Stainless Steel, Passivated
		<b>B</b> 15 psi (1 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
		<b>D</b> 50 psi (3,5 bar)				
		`				

E 75 psi (5 bar)

F 100 psi (7 bar)

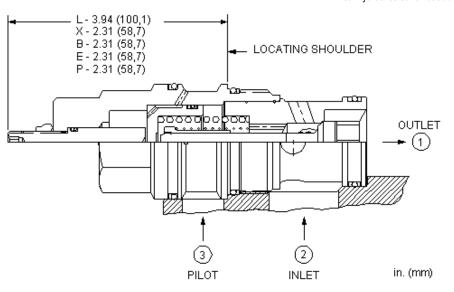


sunhydraulics.com/model/CKID



3

<mark>sun</mark> hydraulics"



This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

#### **TECHNICAL DATA**

F 100 psi (7 bar)

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1		
Maximum Operating Pressure	5000 psi		
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.		
Seal kit - Cartridge	Buna: 990019007		
Seal kit - Cartridge	Polyurethane: 990019002		
Seal kit - Cartridge	Viton: 990019006		

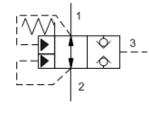
# **CONFIGURATION OPTIONS**

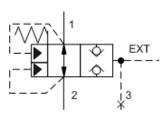
# Model Code Example: CKIDXCN

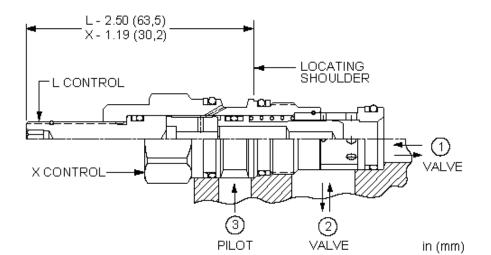
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

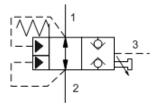


sunhydraulics.com/model/LODO









These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi			
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.			
Pilot Volume Displacement	.04 in <sup>3</sup>			
Pilot Passage into Valve	.031 in.			
Seal kit - Cartridge	Buna: 990011007			
Seal kit - Cartridge	EPDM: 990011014			
Seal kit - Cartridge	Polyurethane: 990011002			
Seal kit - Cartridge	Viton: 990011006			

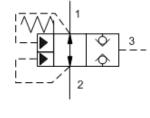
# **CONFIGURATION OPTIONS**

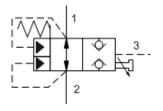
# Model Code Example: LODOXDN

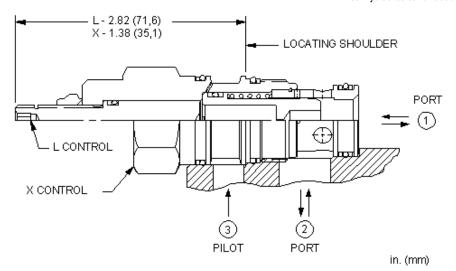
CONTROL	(X) <u>MIN</u>	NIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	D	50 psi (3,5 bar)		N Buna-N		Standard Material/Coating	
				E EPDM		/AP Stainless Steel, Passivated	
				V Viton		/LH Mild Steel, Zinc-Nickel	



sunhydraulics.com/model/LOFO







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Pilot Passage into Valve	.035 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOFOXDN

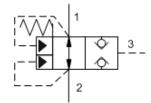
CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		14 . 1. 44	

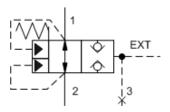
V Viton

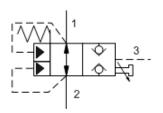
/AP Stainless Steel, Passivated

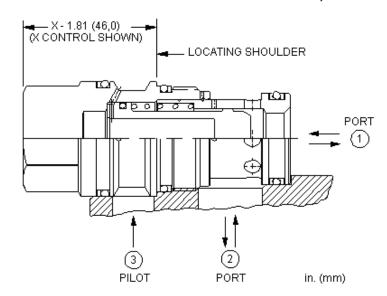


sunhydraulics.com/model/LOHO









These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi			
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.			
Pilot Volume Displacement	.25 in <sup>3</sup>			
Pilot Passage into Valve	.06 in.			
Area Ratio, A3 to A1	1.8:1			
Area Ratio, A3 to A2	2.25:1			
Seal kit - Cartridge	Buna: 990017007			
Seal kit - Cartridge	EPDM: 990017014			
Seal kit - Cartridge	Polyurethane: 990017002			
Seal kit - Cartridge	Viton: 990017006			

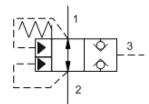
# **CONFIGURATION OPTIONS**

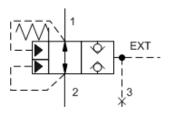
# Model Code Example: LOHOXDN

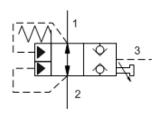
CONTROL	(X)	MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating
				E EPDM		/AP Stainless Steel, Passivated
				V Viton		

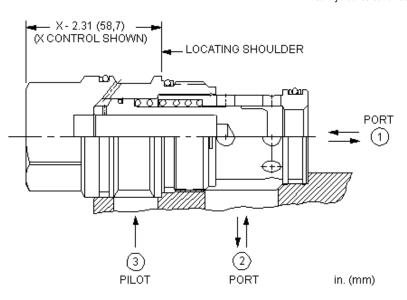


sunhydraulics.com/model/LOJO









These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

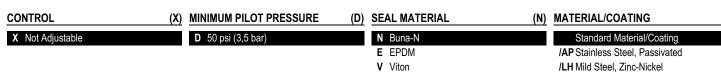
### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi			
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.			
Pilot Volume Displacement	.42 in <sup>3</sup>			
Pilot Passage into Valve	.09 in.			
Area Ratio, A3 to A1	1.8:1			
Area Ratio, A3 to A2	2.25:1			
Seal kit - Cartridge	Buna: 990019007			
Seal kit - Cartridge	EPDM: 990019014			
Seal kit - Cartridge	Polyurethane: 990019002			
Seal kit - Cartridge	Viton: 990019006			

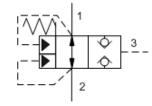
# **CONFIGURATION OPTIONS**

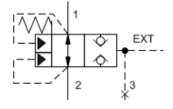
# Model Code Example: LOJOXDN

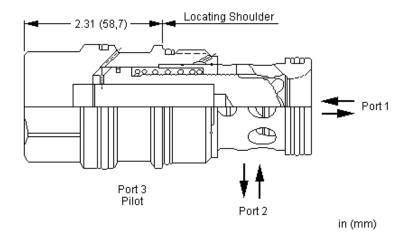




sunhydraulics.com/model/LOKO







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.47 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

Model Code Example: LOKOXDN

CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
		V Viton	/AP Stainless Steel, Passivated

# sun hydraulics'

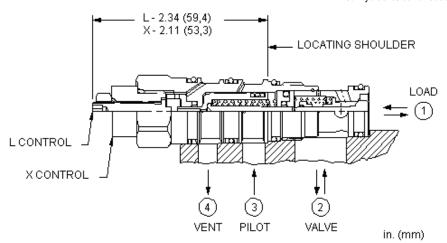
MODEL CVCV



sunhydraulics.com/model/CVCV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Locknut Hex Size	7/16 in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

# **CONFIGURATION OPTIONS**

# Model Code Example: CVCVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

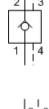
- **E** 75 psi (5,5 bar)
- **F** 100 psi (7 bar)



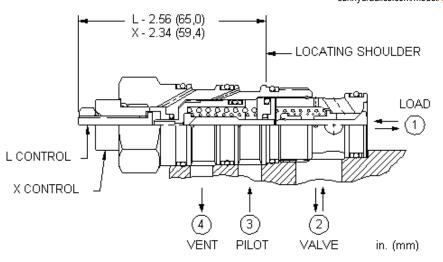
MODEL



sunhydraulics.com/model/CVEV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Locknut Hex Size	7/16 in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

# **CONFIGURATION OPTIONS**

#### Model Code Example: CVEVXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Standard Pilot		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating	
L Manual Load Release		A 4 psi (0,3 bar)		E EPDM V Viton		AP Stainless Steel, Passivated	
		<ul><li>B 15 psi (1 bar)</li><li>D 50 psi (3,5 bar)</li></ul>		Viton			

E 75 psi (5 bar)

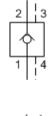
**F** 100 psi (7 bar)



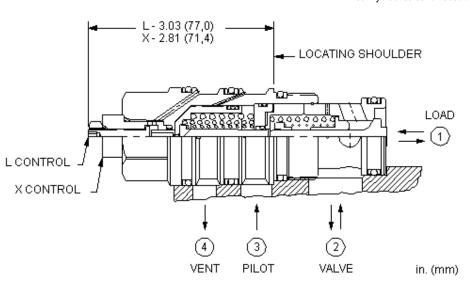
MODEL **CVGV** 



sunhydraulics.com/model/CVGV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Locknut Hex Size	7/16 in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

# **CONFIGURATION OPTIONS**

# Model Code Example: CVGVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3.5 bar)		

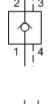
- - E 75 psi (5 bar)
  - F 100 psi (7 bar)



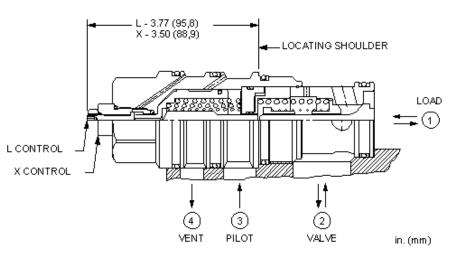
MODEL



sunhydraulics.com/model/CVIV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced to the vent (port 4).

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.30 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Locknut Hex Size	7/16 in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

# **CONFIGURATION OPTIONS**

#### Model Code Example: CVIVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		

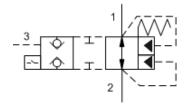
E 75 psi (5 bar)

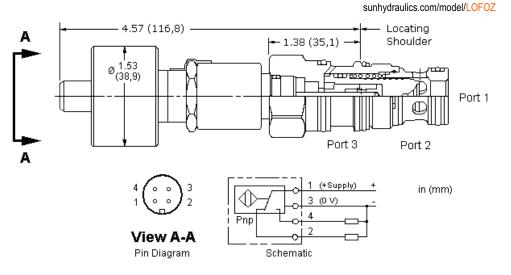
F 100 psi (7 bar)



MODEL LOFOZ







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Pilot Passage into Valve	.035 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

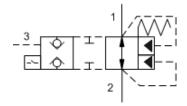
#### Model Code Example: LOFOZDN

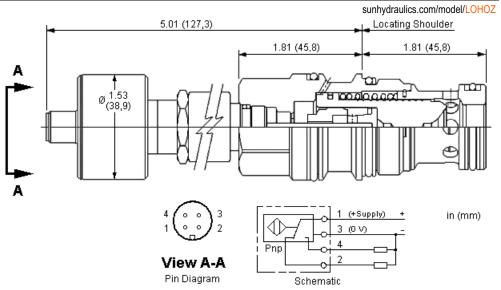
CRACKING PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	



MODEL LOHOZ Pilot-to-close, spring-biased open, unbalanced poppet logic element with position switch SERIES 3 / CAPACITY: 100 gpm / CAVITY: T-17A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.25 in³
Pilot Passage into Valve	.06 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990117006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOHOZDN

(N)

**CRACKING PRESSURE** 

**D** 50 psi (3,5 bar)

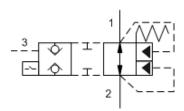
(D) SEAL MATERIAL

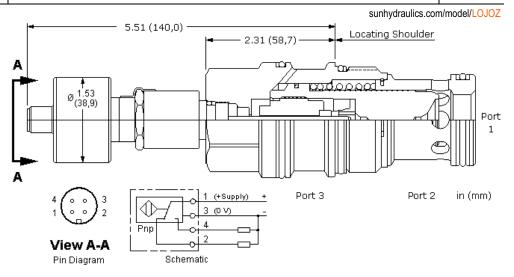
N Buna-N V Viton

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MODEL LOJOZ





These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.42 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

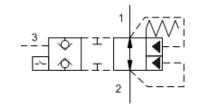
# Model Code Example: LOJOZDN

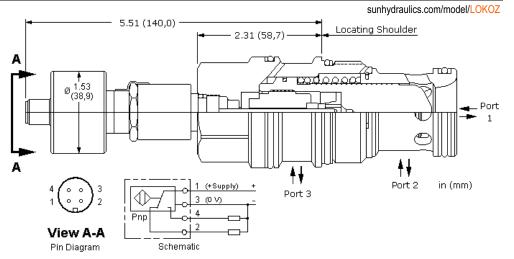
CRACKING PRESSURE (	D SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	



MODEL LOKOZ Pilot-to-close, spring-biased open, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 300 gpm / CAVITY: T-19AU







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased open. Pressure at either work port 1 or 2 will tend to keep the valve open while pressure at port 3 will tend to close it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to close. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is spring biased to the fully open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi			
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.			
Pilot Volume Displacement	.47 in <sup>3</sup>			
Pilot Passage into Valve	.09 in.			
Area Ratio, A3 to A1	1.8:1			
Area Ratio, A3 to A2	2.25:1			
Seal kit - Cartridge	Buna: 990019007			
Seal kit - Cartridge	Polyurethane: 990019002			
Seal kit - Cartridge	Viton: 990019006			

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOKOZDN

CRACKING PRESSURE (I	D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	V Viton	

# sun hydraulics

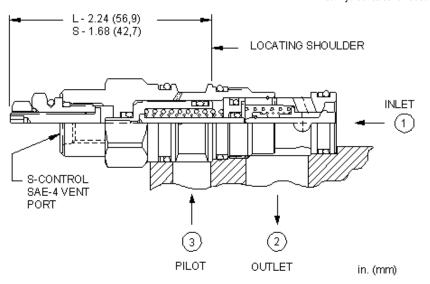
MODEL CKCV



sunhydraulics.com/model/CKCV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Locknut Hex Size	7/16 in.
Seal kit - Cartridge	Buna: 990311007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990311006

# **CONFIGURATION OPTIONS**

# Model Code Example: CKCVXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
X Standard Pilot, Atmospheric Vent	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating	
S External 4-SAE Vent Port	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated	
	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel	
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			

**F** 100 psi (7 bar)

# sun hydraulics

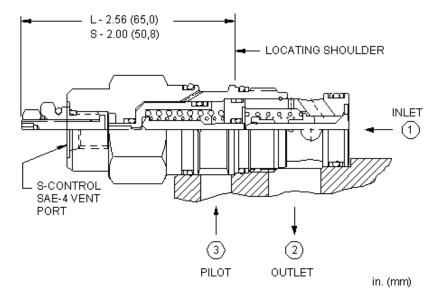
MODEL CKEV



sunhydraulics.com/model/CKEV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Locknut Hex Size	7/16 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

# Model Code Example: CKEVXCN

CONTROL	(X) CRACKING	PRESSURE (C)	SEAL MATERIAL	. (N)
X Standard Pilot, Atmospheric Vent	<b>C</b> 30 psi (2	bar)	N Buna-N	
S External 4-SAE Vent Port	A 4 psi (0,3	B bar)	V Viton	
	<b>B</b> 15 psi (1	bar)		
	<b>D</b> 50 psi (3	,5 bar)		

E 75 psi (5 bar)

F 100 psi (7 bar)

# sun hydraulics

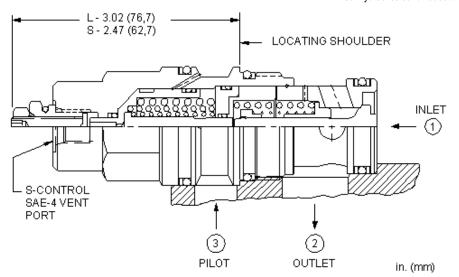
MODEL CKGV



sunhydraulics.com/model/CKGV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Locknut Hex Size	7/16 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

# Model Code Example: CKGVXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL (N)	MATERIAL/COATING
X Standard Pilot, Atmospheric Vent		<b>C</b> 30 psi (2 bar)		N Buna-N	Standard Material/Coating
S External 4-SAE Vent Port		A 4 psi (0,3 bar)		V Viton	/AP Stainless Steel, Passivated
		<b>B</b> 15 psi (1 bar)			
		<b>D</b> 50 psi (3,5 bar)			

E 75 psi (5 bar)F 100 psi (7 bar)

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1
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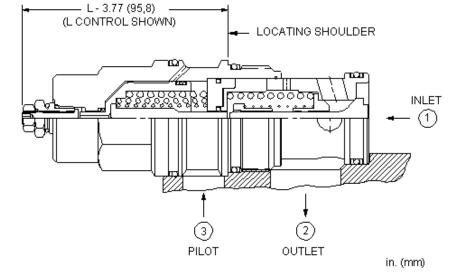
MODEL **CKIV** 



sunhydraulics.com/model/CKIV







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) pilot port will open the valve from port 1 to port 2. Pilot pressure needed to open the valve is directly proportional to the load pressure at port 1. The valve is insensitive to pressure at port 2 because the spring chamber is referenced out the back of the hex body.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Locknut Hex Size	7/16 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CKIVXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Standard Pilot, Atmospheric Vent		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating	
S External 4-SAE Vent Port		A 4 psi (0,3 bar)		V Viton		/AP Stainless Steel, Passivated	
		<b>B</b> 15 psi (1 bar)				/LH Mild Steel, Zinc-Nickel	
		<b>D</b> 50 psi (3,5 bar)					

E 75 psi (5 bar)

F 100 psi (7 bar)

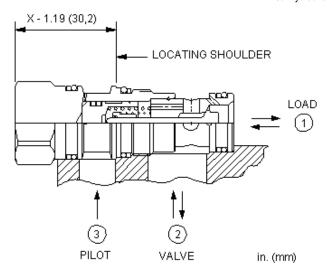


MODEL CNCE



sunhydraulics.com/model/CNCE





This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

#### **TECHNICAL DATA**

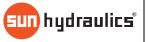
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1	
Maximum Operating Pressure	5000 psi	
Orifice Range	.016153 in.	
Seal kit - Cartridge	Buna: 990011007	
Seal kit - Cartridge	Polyurethane: 990011002	
Seal kit - Cartridge	Viton: 990011006	

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CNCEXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		C 30 psi (2 bar) Cracking Pres	sure, .016 -	N Buna-N		Standard Material/Coating
		.153 in. (0,4 - 3,9 mm)		V Viton		/AP Stainless Steel, Passivated
		A 4 psi (0,3 bar) Cracking Pres 153 in. (0,4 - 3,9 mm)	ssure, .016			/LH Mild Steel, Zinc-Nickel
		<b>B</b> 15 psi (1 bar) Cracking Pres .153 in. (0,4 - 3,9 mm)	sure, .016 -			
		<b>D</b> 50 psi (3,5 bar) Cracking Pre .016153 in. (0,4 - 3,9 mm	,			
		<b>E</b> 75 psi (5 bar) Cracking Pres .153 in. (0,4 - 3,9 mm)	sure, .016 -			
		<b>F</b> 100 psi (7 bar) Cracking Pre 153 in. (0,4 - 3,9 mm)	ssure, .016			

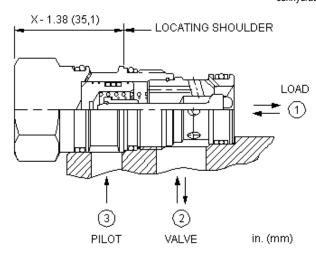


MODEL CNEE



sunhydraulics.com/model/CNEE





This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1	
Maximum Operating Pressure	5000 psi	
Orifice Range	.016135 in.	
Seal kit - Cartridge	Buna: 990202007	
Seal kit - Cartridge	Polyurethane: 990002002	
Seal kit - Cartridge	Viton: 990202006	

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CNEEXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pr. 135 in. (0,4 - 3,4 mm)</li> <li>A 4 psi (0,3 bar) Cracking P135 in. (0,4 - 3,4 mm)</li> <li>B 15 psi (1 bar) Cracking Pr. 135 in. (0,4 - 3,4 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pr. 135 in. (0,4 - 3,4 mm)</li> <li>F 75 psi (5 bar) Cracking Pr. 135 in. (0,4 - 3,4 mm)</li> <li>F 100 psi (7 bar) Cracking F135 in. (0,4 - 3,4 mm)</li> </ul>	ressure, .016 essure, .016 - Pressure, m) essure, .016 -	N Buna-N V Viton	

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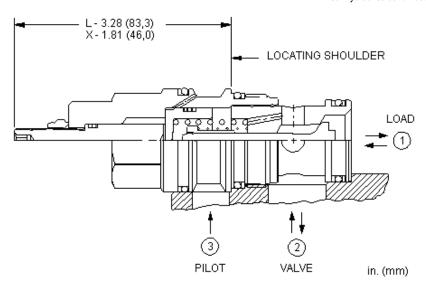
MODEL CNGE



sunhydraulics.com/model/CNGE







This valve is a pilot to open check valve with a bypass orifice. It incorporates a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and restricts flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. The pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range. An 'L' control option is available to manually release the load. See Option Selection below.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1	
Maximum Operating Pressure	5000 psi	
Orifice Range	.016218 in.	
Seal kit - Cartridge	Buna: 990017007	
Seal kit - Cartridge	Polyurethane: 990017002	
Seal kit - Cartridge	Viton: 990017006	

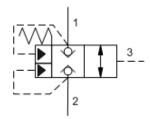
#### **CONFIGURATION OPTIONS**

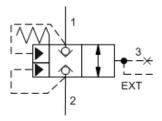
# Model Code Example: CNGEXCN

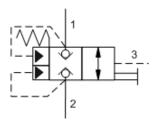
	w) Quality Decayer 040 N. Duna N
A 4 psi (0,3 218 in. B 15 psi (1 .218 in. ( D 50 psi (3 .0162 E 75 psi (5 .218 in. (	N       Buna-N         4 - 5,5 mm)       V         bar) Cracking Pressure, .016       V         0,4 - 5,5 mm)       V         bar) Cracking Pressure, .016       -         .4 - 5,5 mm)       -         bar) Cracking Pressure, .016       -         .6 and (0,4 - 5,5 mm)       -         bar) Cracking Pressure, .016       -         .6 and (0,4 - 5,5 mm)       -         bar) Cracking Pressure, .016       -         .4 - 5,5 mm)       -         bar) Cracking Pressure, .016       -         .4 - 5,5 mm)       -         bar) Cracking Pressure, .016       -         .4 - 5,5 mm)       -         bar) Cracking Pressure, .016       -

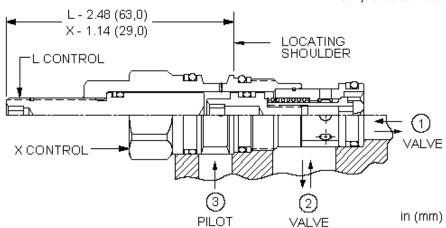


sunhydraulics.com/model/LKDC









These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi				
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@1000 psi				
Pilot Volume Displacement	.02 in <sup>3</sup>				
Pilot Passage into Valve	.031 in.				
Area Ratio, A3 to A1	1.8:1				
Area Ratio, A3 to A2	2.25:1				
Seal kit - Cartridge	Buna: 990011007				
Seal kit - Cartridge	Polyurethane: 990011002				
Seal kit - Cartridge	Viton: 990011006				

# **CONFIGURATION OPTIONS**

# Model Code Example: LKDCXDN

CONTROL

# (X) MINIMUM PILOT PRESSURE

# (D) SEAL MATERIAL N Buna-N

(N) MATERIAL/COATING

X Not Adjustable

**D** 50 psi (3,5 bar)

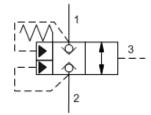
V Viton

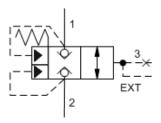
Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

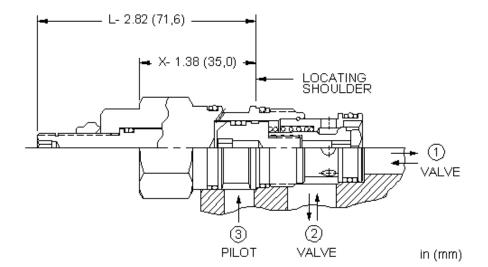




sunhydraulics.com/model/LKFC







These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

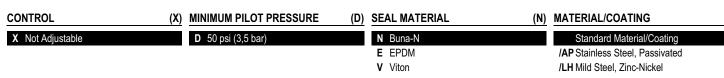
# TECHNICAL DATA

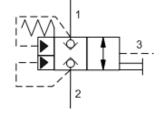
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi				
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@1000 psi				
Pilot Volume Displacement	.06 in <sup>3</sup>				
Pilot Passage into Valve	.035 in.				
Area Ratio, A3 to A1	1.8:1				
Area Ratio, A3 to A2	2.25:1				
Seal kit - Cartridge	Buna: 990202007				
Seal kit - Cartridge	EPDM: 990202014				
Seal kit - Cartridge	Polyurethane: 990002002				
Seal kit - Cartridge	Viton: 990202006				

#### **CONFIGURATION OPTIONS**

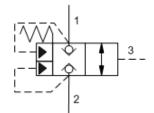
# Model Code Example: LKFCXDN

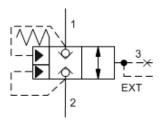


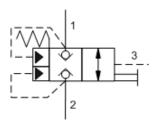


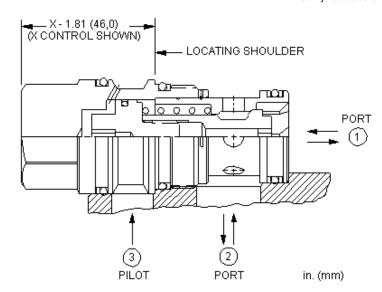


sunhydraulics.com/model/LKHC









These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

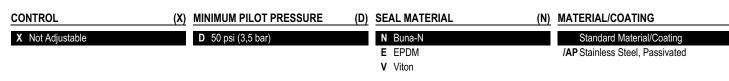
#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi				
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@1000 psi				
Pilot Volume Displacement	.15 in <sup>3</sup>				
Pilot Passage into Valve	.06 in.				
Area Ratio, A3 to A1	1.8:1				
Area Ratio, A3 to A2	2.25:1				
Seal kit - Cartridge	Buna: 990017007				
Seal kit - Cartridge	EPDM: 990017014				
Seal kit - Cartridge	Polyurethane: 990017002				
Seal kit - Cartridge	Viton: 990017006				

#### **CONFIGURATION OPTIONS**

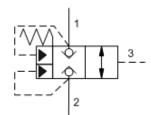
#### Model Code Example: LKHCXDN



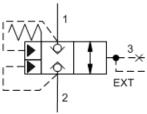
MODEL LKJC

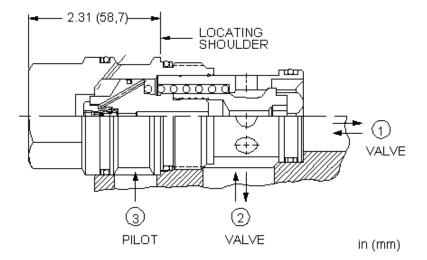


sunhydraulics.com/model/LKJC



<mark>sun</mark> hydraulics"





These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

# **TECHNICAL DATA**

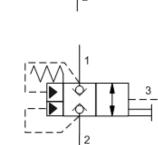
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi				
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@1000 psi				
Pilot Volume Displacement	.30 in <sup>3</sup>				
Pilot Passage into Valve	.09 in.				
Area Ratio, A3 to A1	1.8:1				
Area Ratio, A3 to A2	2.25:1				
Seal kit - Cartridge	Buna: 990019007				
Seal kit - Cartridge	EPDM: 990019014				
Seal kit - Cartridge	Polyurethane: 990019002				
Seal kit - Cartridge	Viton: 990019006				

# **CONFIGURATION OPTIONS**

# Model Code Example: LKJCXDN

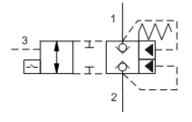
CONTROL	(X)	MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable		<b>D</b> 50 psi (3,5 bar)		N Buna-N		Standard Material/Coating	
				E EPDM		/AP Stainless Steel, Passivated	
				V Viton			

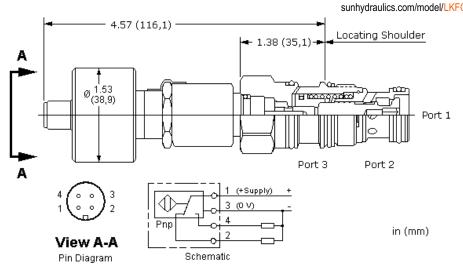




MODEL LKFCZ Pilot-to-open, spring-biased closed, unbalanced poppet logic element with position switch SERIES 2 / CAPACITY: 20 gpm / CAVITY: T-2A







These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi				
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.				
Pilot Volume Displacement	.06 in <sup>3</sup>				
Pilot Passage into Valve	.035 in.				
Area Ratio, A3 to A1	1.8:1				
Area Ratio, A3 to A2	2.25:1				
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi				
Seal kit - Cartridge	Buna: 990202007				
Seal kit - Cartridge	EPDM: 990202014				
Seal kit - Cartridge	Polyurethane: 990002002				
Seal kit - Cartridge	Viton: 990202006				

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LKFCZDN

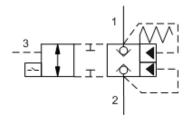
MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)		N Buna-N	
		E EPDM	
		V Viton	

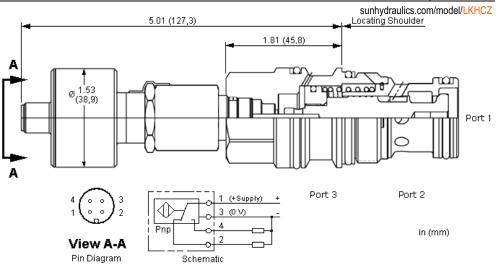


MODEL

Pilot-to-open, spring-biased closed, unbalanced poppet logic element with position switch SERIES 3 / CAPACITY: 40 gpm / CAVITY: T-17A







These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.15 in <sup>3</sup>
Pilot Passage into Valve	.06 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

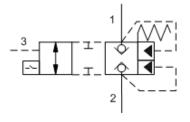
#### **CONFIGURATION OPTIONS**

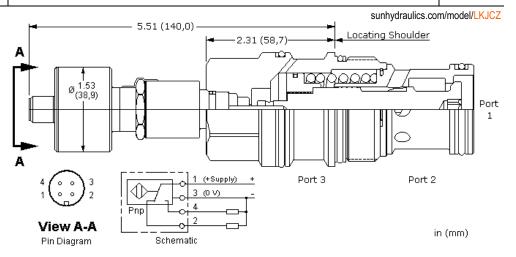
#### Model Code Example: LKHCZDN

MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	E EPDM	
	V Viton	



MODEL LKJCZ Pilot-to-open, spring-biased closed, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 80 gpm / CAVITY: T-19A





These unbalanced poppet, logic valves are 2-way switching elements that are spring-biased closed. Pressure at either work port 1 or 2 will further bias the valve to the closed position while pressure at port 3 will tend to open it. The force generated at port 3 must be greater than the sum of the forces acting at port 1 and port 2 plus the spring force for the valve to open. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

This valve incorporates a position switch to provide confirmation that the valve is closed.

# **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.30 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# **CONFIGURATION OPTIONS**

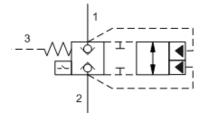
# Model Code Example: LKJCZDN

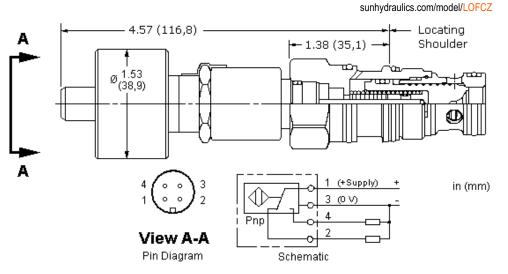
MINIMUM PILOT PRESSURE	(D)	SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)		N Buna-N	
		V Viton	



MODEL LOFCZ Pilot-to-close, spring-biased closed, unbalanced poppet logic element with position switch SERIES 2 / CAPACITY: 50 gpm / CAVITY: T-2A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Pilot Passage into Valve	.035 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

#### Model Code Example: LOFCZDN

# NOMINAL CONTROL PRESSURE (D) SEAL MATERIAL

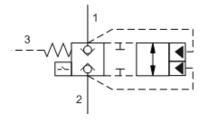
. (N)

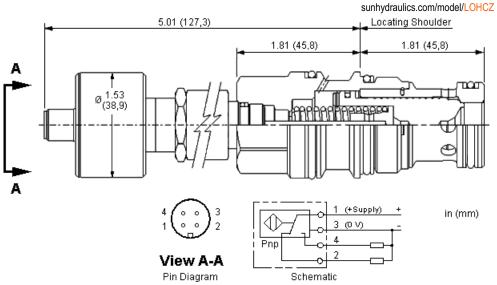
**D** 50 psi (3,5 bar)



MODEL LOHCZ Pilot-to-close, spring-biased closed, unbalanced poppet logic element with position switch SERIES 3 / CAPACITY: 100 gpm / CAVITY: T-17A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.25 in <sup>3</sup>
Pilot Passage into Valve	.06 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOHCZDN

(N)



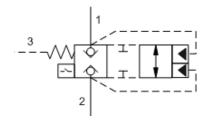
V Viton

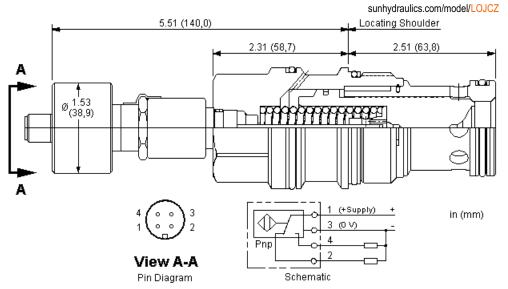


MODEL LOJCZ

Pilot-to-close, spring-biased closed, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 200 gpm / CAVITY: T-19A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.42 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

Model Code Example: LOJCZDN

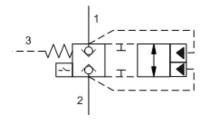
(N)

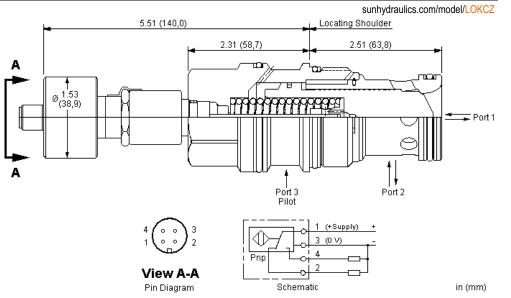




MODEL LOKCZ Pilot-to-close, spring-biased closed, unbalanced poppet logic element with position switch SERIES 4 / CAPACITY: 300 gpm / CAVITY: T-19AU







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.47 in <sup>3</sup>
Pilot Passage into Valve	.09 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOKCZDN

(N)

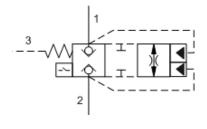
CRACKING PRESSURE	(D) SEAL MATERIAL
<b>D</b> 50 psi (3,5 bar)	N Buna-N
	V Viton

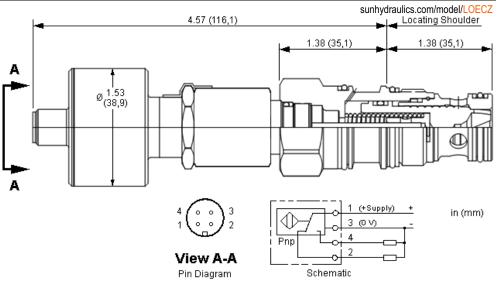


MODEL

Pilot-to-close, spring-biased closed, unbalanced poppet logic element with metering notches and position switch SERIES 2 / CAPACITY: 12 gpm / CAVITY: T-2A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.07 in <sup>3</sup>
Pilot Passage into Valve	.035 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

# Model Code Example: LOECZDN

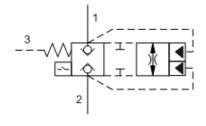
(N)

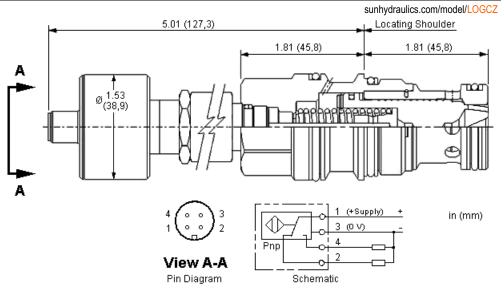
NOMINAL CONTROL PRESSURE	(D) SEAL MATERIAL
<b>D</b> 50 psi (3,5 bar)	N Buna-N



MODEL LOGCZ Pilot-to-close, spring-biased closed, unbalanced poppet logic element with metering notches and position switch SERIES 3 / CAPACITY: 40 gpm / CAVITY: T-17A







These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated by the pressure at port 3, plus the spring force, must be greater than the sum of the forces generated by the pressures at ports 1 and 2 for the valve to remain closed.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Pilot Volume Displacement	.25 in <sup>3</sup>
Pilot Passage into Valve	.06 in.
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOGCZDN

(N)

NOMINAL CONTROL PRESSURE	(D)	SEAL MATERIAL

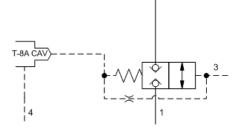
**D** 50 psi (3,5 bar)

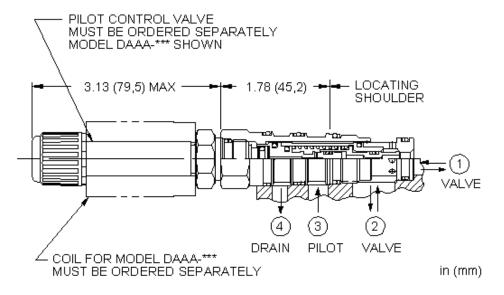


2



sunhydraulics.com/model/DKDR8





This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: DKDR8HN

(N)

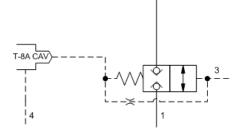
H 400 psi (28 bar)

(H) SEAL MATERIAL

2



sunhydraulics.com/model/DKFR8



PILOT CONTROL VALVE     MUST BE ORDERED SEPARATELY     MODEL DAAA-*** SHOWN	
3.13 (79,5) MAX - 2.00 (50,8) - COCATING SHOULDER	
4 3 2 DRAIN PILOT VALVE	
COIL FOR MODEL DAAA-*** MUST BE ORDERED SEPARATELY	in (mm)

This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

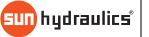
Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DKFR8HN

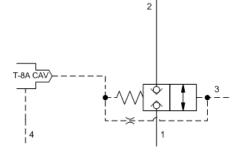
MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
H 300 psi (20 bar)	N Buna-N	
	E EPDM	
	V Viton	

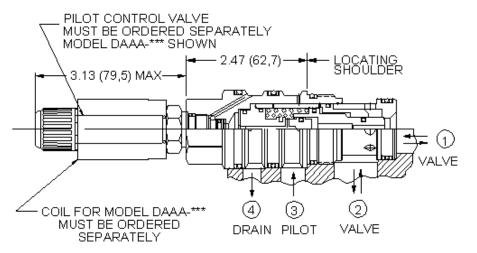


MODEL DKHR8



sunhydraulics.com/model/DKHR8





This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

Model Code Example: DKHR8HN

MINIMUM CONTROL PRESSURE	(H)	SEAL MATERIAL	(N)

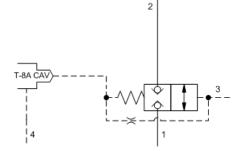
H 300 psi (20 bar)

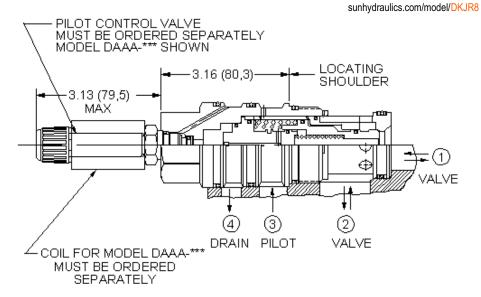
N Buna-N V Viton



MODEL DKJR8







This is a normally closed, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains closed. Opening the 2-way valve shifts the poppet to the open position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

### **CONFIGURATION OPTIONS**

#### Model Code Example: DKJR8HN

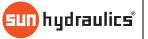
(N)

MINIMUM CONTROL PRESSURE (H) SEAL MATERIAL

.....

N Buna-N V Viton

H 300 psi (20 bar)



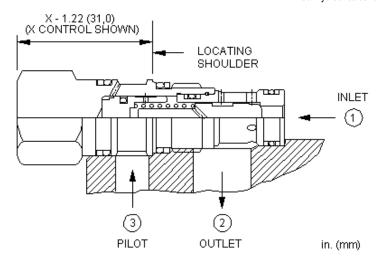
MODEL COBA



sunhydraulics.com/model/COBA







This valve is a spring biased closed, pilot-to-close check cartridge that has a 3:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 3:1. This valve is most often used in regeneration circuits.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: COBAXCN

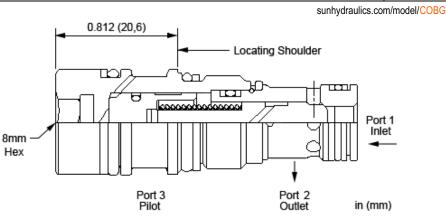
CONTROL (X	CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
B External 1/4 BSPP Pilot Port, Port 3	<b>D</b> 50 psi (3,5 bar)	E EPDM	/AP Stainless Steel, Passivated
blocked	E 75 psi (5 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	F 100 psi (7 bar)		



MODEL COBG







This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

#### **TECHNICAL DATA**

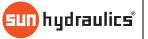
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3.4:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Valve Internal Hex Size	5/16 in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

# **CONFIGURATION OPTIONS**

# Model Code Example: COBGXCN

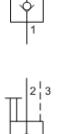
CONTROL (X	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adustable, Standard Hydraulic Pild	t <b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating
	<b>D</b> 50 psi (3,5 bar)		V Viton		/AP Stainless Steel, Passivated
	E 75 psi (5 bar)				
	F 100 psi (7 bar)				



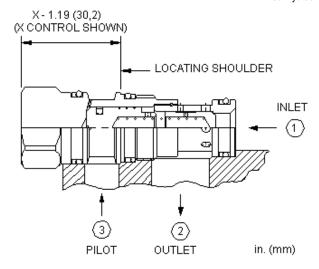
MODEL CODA



sunhydraulics.com/model/CODA



3



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.8:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

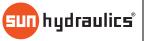
#### **CONFIGURATION OPTIONS**

#### Model Code Example: CODAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERI	AL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Star	ndard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stai	nless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild	l Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			
	<b>F</b> 100 psi (7 bar)			

• 100 psi (1 bai)

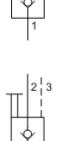
G 150 psi (10,5 bar)



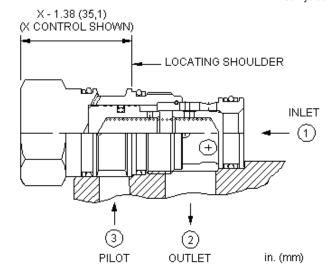
MODEL



sunhydraulics.com/model/COFA



3



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.8:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

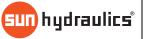
# **CONFIGURATION OPTIONS**

#### Model Code Example: COFAXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		

F 100 psi (7 bar)

J 135 psi (9,5 bar)



MODEL COHA

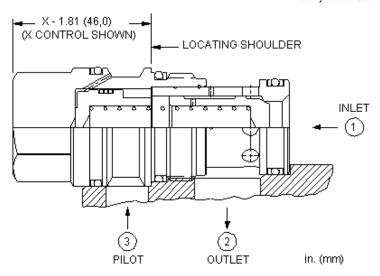


sunhydraulics.com/model/COHA





2 iEXT



This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.8:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

# Model Code Example: COHAXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Standard Pilot		<b>C</b> 30 psi (2 bar)		N Buna-N		Standard Material/Coating	
		A 4 psi (0,3 bar)		E EPDM		/AP Stainless Steel, Passivated	
		<b>B</b> 15 psi (1 bar)		V Viton		/LH Mild Steel, Zinc-Nickel	
		<b>D</b> 50 psi (3,5 bar)					
		E 75 psi (5 bar)					

**F** 100 psi (7 bar)

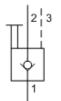
G 150 psi (10,5 bar)

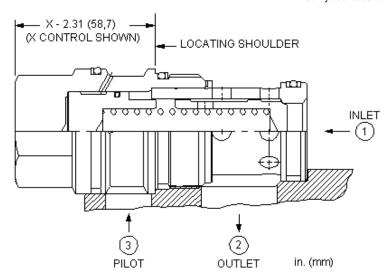




sunhydraulics.com/model/COJA







This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

#### **TECHNICAL DATA**

F 100 psi (7 bar)G 150 psi (10,5 bar)

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.8:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# **CONFIGURATION OPTIONS**

### Model Code Example: COJAXCN

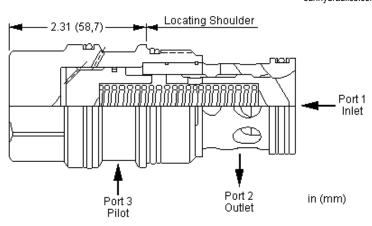
CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
	A 4 psi (0,3 bar)	E EPDM	/AP Stainless Steel, Passivated
	<b>B</b> 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	<b>D</b> 50 psi (3,5 bar)		
	E 75 psi (5 bar)		





sunhydraulics.com/model/COKA





This valve is a spring biased closed, pilot-to-close check cartridge that has a 1.8:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot port opposes pressure at port 1 at a ratio of 1.8:1. This valve is most often used in regeneration circuits.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.8:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

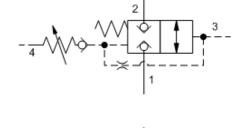
# **CONFIGURATION OPTIONS**

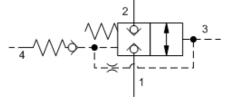
# Model Code Example: COKAXAN

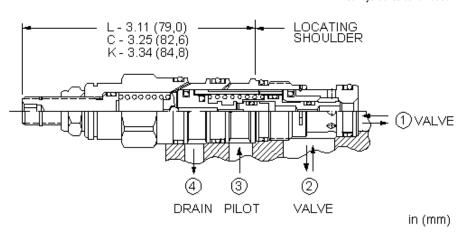
CONTROL	(X) CRACKING PRESSURE	(A) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>A</b> 4 psi (0,3 bar)	N Buna-N		Standard Material/Coating
	<b>B</b> 15 psi (1 bar)	V Viton		/LH Mild Steel, Zinc-Nickel
	<b>C</b> 30 psi (2 bar)			
	<b>D</b> 50 psi (3,5 bar)			
	E 75 psi (5 bar)			
	<b>F</b> 100 psi (7 bar)			



sunhydraulics.com/model/DKDP







This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

### **TECHNICAL DATA**

(70 bar) Standard Setting

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

# **CONFIGURATION OPTIONS**

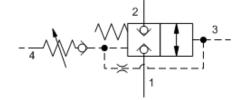
# Model Code Example: DKDPLAN

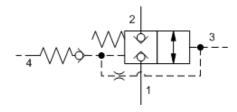
CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	A 400 - 3000 psi (28 - 210 bar), 1000	psi N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	(70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	B 400 - 1500 psi (28 - 105 bar), 1000 (70 bar) Standard Setting	psi	/LH Mild Steel, Zinc-Nickel
	<b>W</b> 400 - 4500 psi (28 - 315 bar), 1000	psi	

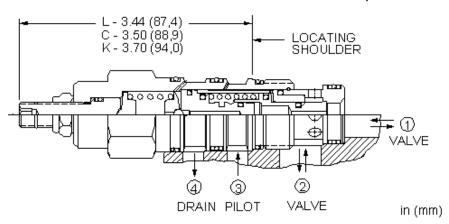
# © 2023 Sun Hydraulics











This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

(N)

#### **CONFIGURATION OPTIONS**

#### CONTROL

L Standard Screw Adjustment

C Tamper Resistant - Factory Set

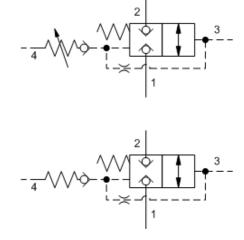
#### Model Code Example: DKFPLAN

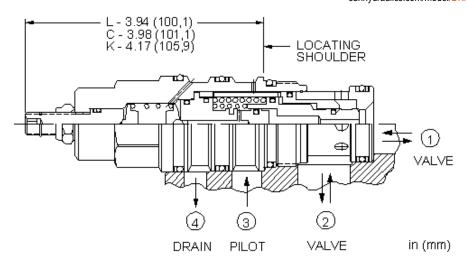
(L) ADJUSTMENT RANGE (A)	SEAL MATERIAL
A 250 - 3000 psi (18 - 210 bar), 1000 psi	N Buna-N
(70 bar) Standard Setting	V Viton
B 250 - 1500 psi (18 - 105 bar), 1000 psi (70 bar) Standard Setting	

W 250 - 4500 psi (18 - 315 bar), 1000 psi (70 bar) Standard Setting



sunhydraulics.com/model/DKHP





This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

(N)

#### **CONFIGURATION OPTIONS**

# Model Code Example: DKHPLAN

(A) SEAL MATERIAL

N Buna-N

V Viton

CC	NT	R	C

L Standard Screw Adjustment

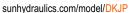
- C Tamper Resistant Factory Set
- K Handknob

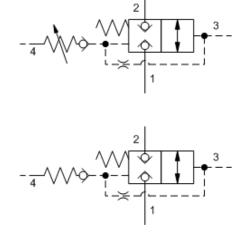
A 200 - 3000 psi (14 - 210 bar), 1000 psi (70 bar) Standard Setting
 B 200 - 1500 psi (14 - 105 bar), 1000 psi

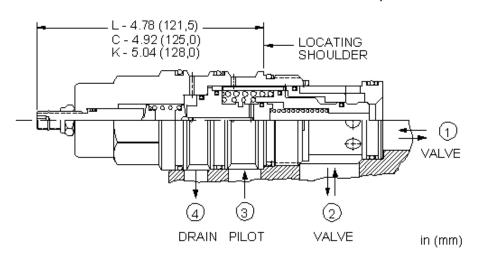
(L) ADJUSTMENT RANGE

- (70 bar) Standard Setting
   200 800 psi (14 55 bar), 400 psi (28 bar) Standard Setting
- W 200 4500 psi (14 315 bar), 1000 psi (70 bar) Standard Setting









This is a normally closed, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains closed until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the open position.

#### **TECHNICAL DATA**

W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

### **CONFIGURATION OPTIONS**

# Model Code Example: DKJPLAN

CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 200 - 3000 psi (14 - 210 bar) (70 bar) Standard Setting</li> <li>B 200 - 1500 psi (14 - 105 bar) (70 bar) Standard Setting</li> </ul>	V Viton	Standard Material/Coating /AP Stainless Steel, Passivated

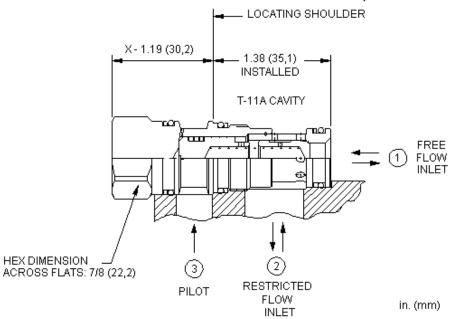


MODEL CNDE

# Pilot-to-close check valve with bypass orifice SERIES 1 / CAPACITY: 20 gpm / CAVITY: T-11A



sunhydraulics.com/model/CNDE



This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	1.8:1
Orifice Range	.016107 in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

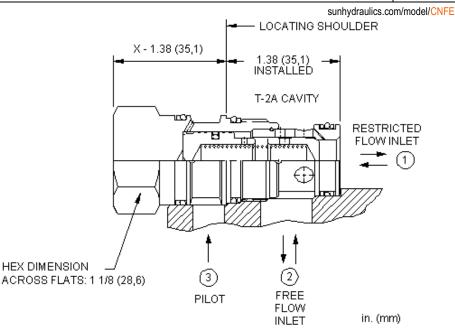
# Model Code Example: CNDEXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking P .107 in. (0,4 - 2,7 mm)</li> <li>A 4 psi (0,3 bar) Cracking F 107 in. (0,4 - 2,7 mm)</li> <li>B 15 psi (1 bar) Cracking P .107 in. (0,4 - 2,7 mm)</li> <li>D 50 psi (3,5 bar) Cracking P .107 in. (0,4 - 2,7 mm)</li> <li>E 75 psi (5 bar) Cracking P .107 in. (0,4 - 2,7 mm)</li> <li>F 100 psi (7 bar) Cracking I 107 in. (0,4 - 2,7 mm)</li> </ul>	Pressure, .016 ressure, .016 - Pressure, nm) ressure, .016 -	N Buna-N V Viton	



MODEL CNFE





This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.8:1
Orifice Range	.016127 in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

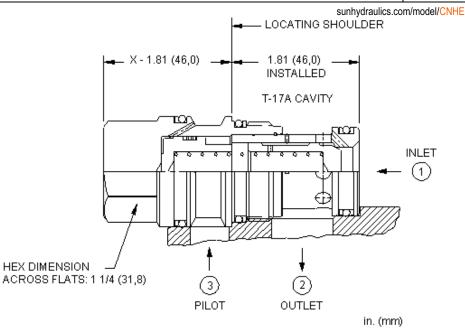
#### Model Code Example: CNFEXCN

CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking .127 in. (0,4 - 3,2 mm)</li> <li>A 4 psi (0,3 bar) Cracking 127 in. (0,4 - 3,2 mm)</li> <li>B 15 psi (1 bar) Cracking .127 in. (0,4 - 3,2 mm)</li> <li>D 50 psi (3,5 bar) Cracking .016127 in. (0,4 - 3,2</li> </ul>	Pressure, .016 Pressure, .016 - g Pressure,	N Buna-N V Viton	
		<ul> <li>F 75 psi (5 bar) Cracking .127 in. (0,4 - 3,2 mm)</li> <li>F 100 psi (7 bar) Cracking 127 in. (0,4 - 3,2 mm)</li> </ul>	,		



MODEL CNHE





This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Orifice Range	.016252 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

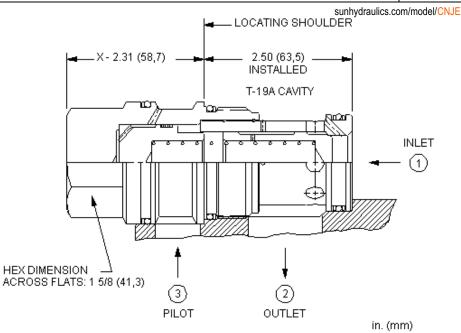
#### Model Code Example: CNHEXCN

CONTROL (X)	SETTING RANGE (C	SEAL MATERIAL	(N)
X Not Adjustable	<ul> <li>C 30 psi (2 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>A 4 psi (0,3 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>B 15 psi (1 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>D 50 psi (3,5 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>E 75 psi (5 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> <li>F 100 psi (7 bar) Cracking Pressure, .016252 in. (0,4 - 6,4 mm)</li> </ul>	<b>V</b> Viton	



MODEL CNJE





This valve is a spring biased closed, pilot-to-close check cartridge with a bypass orifice. It incorporates a steel seat and is non-vented. The valve allows flow from port 1 to port 2 and restricts flow from port 2 to port 1. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 1.8:1. Pressure at port 2 directly opposes the pilot pressure. Note: The bypass orifice diameter is specified by the customer. See Technical Data below for the allowable orifice range.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Orifice Range	.016354 in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

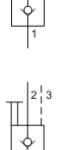
#### **CONFIGURATION OPTIONS**

#### Model Code Example: CNJEXCN

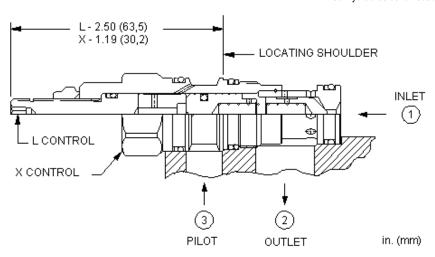
CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		<ul> <li>C 30 psi (2 bar) Cracking Pressure, .(354 in. (0,4 - 9 mm))</li> <li>A 4 psi (0,3 bar) Cracking Pressure,</li></ul>	.016 016 - , 016 -	N Buna-N V Viton	



sunhydraulics.com/model/CODD



3



This valve is a spring biased closed, pilot-to-close check cartridge that has a 20:1 pilot ratio. The valve allows flow from port 1 to port 2 and blocks reverse flow. Pressure at the pilot (port 3) opposes pressure at port 1 at a ratio of 20:1.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# CONFIGURATION OPTIONS

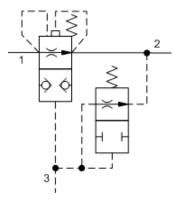
# Model Code Example: CODDXDN

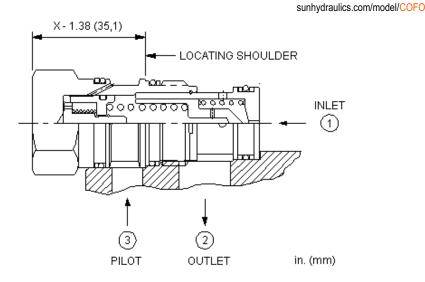
CONTROL	(X) CRACKING PRESSURE	(D) SEAL MATERIAL	(N) N	IATERIAL/COATING
X Standard Pilot	<b>D</b> 50 psi (3,5 bar)	N Buna-N		Standard Material/Coating
	H 200 psi (14 bar)	E EPDM		/AP Stainless Steel, Passivated
		V Viton		



MODEL COFO







This valve is a pilot-to-close check cartridge that has a 120:1 pilot ratio. The valve is designed specifically to discharge an accumulator when the pump is turned off. With no pressure at the pump port (port 3), the valve is open between the accumulator (port 1) and tank (port 2). 60 psi (4 bar) at port 3 will close the valve for accumulator pressures up to 5000 psi (350 bar). When pump pressure at port 3 is below 300 psi (20 bar) there is a leak path from port 3 to tank (port 2) to ensure accumulator discharge when the pump is turned off. When pump pressure is above 300 psi (20 bar) the leak path closes for efficiency.

#### **TECHNICAL DATA**

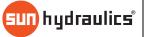
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

# **CONFIGURATION OPTIONS**

#### Model Code Example: COFOXDN

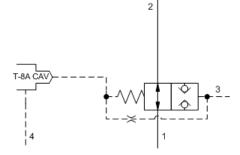
CONTROL	(X) MINIMUM PILOT PRESSURE	(D) SEAL MATERIAL	(N)
X Standard Pilot	<b>D</b> 60 psi (4 bar)	N Buna-N	
		V Viton	

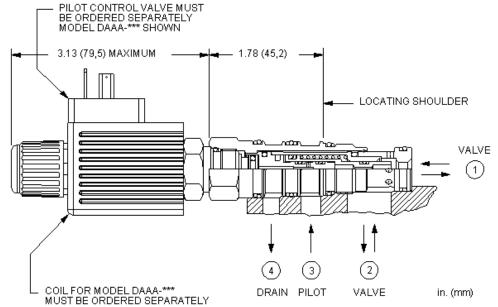


MODEL DODR8 Normally open, balanced poppet, logic element with integral T-8A control cavity - vent-to-close SERIES 1 / CAPACITY: 15 gpm / CAVITY: T-21A



sunhydraulics.com/model/DODR8





This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

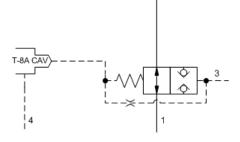
Model Code Example: DODR8HN

MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
H 400 psi (28 bar)	N Buna-N	
	V Viton	

2



sunhydraulics.com/model/DOFR8



PILOT CONTROL VALVE MUST BE ORDERED SEPARATE MODEL DAAA-*** SHOWN	ELY
	00 (50.8) LOCATING SHOULDER
	VALVE
	á 3 2
COIL FOR MODEL DAAA-*** MUST BE ORDERED SEPARATELY	DRAIN PILOT VALVE

This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

#### TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

### **CONFIGURATION OPTIONS**

Model Code Example: DOFR8HN

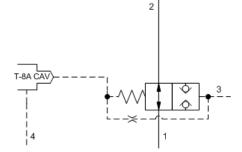
MINIMUM PILOT PRESSURE	(H) SEAL MATERIAL	(N)
H 300 psi (20 bar)	N Buna-N	
	MAR	

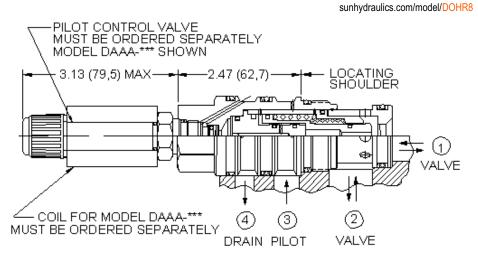
V Viton

sun hydraulics

MODEL DOHR8







This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

#### **CONFIGURATION OPTIONS**

Model Code Example: DOHR8HN

(N)

MINIMUM PILOT PRESSURE H 200 psi (14 bar) (H) SEAL MATERIAL

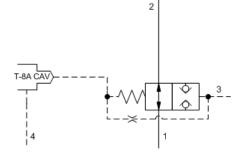
V Viton

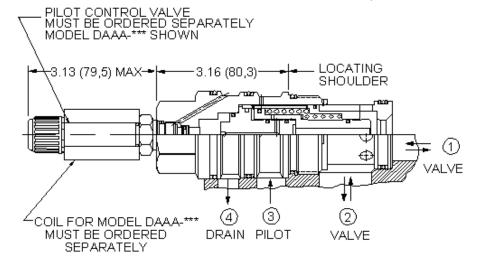
sun hydraulics

MODEL DOJR8



sunhydraulics.com/model/DOJR8





This is a normally open, balanced poppet, switching element with an integral T-8A control cavity. With a 2-way valve in the closed position installed in the T-8A control cavity, the poppet remains open. Opening the 2-way valve shifts the poppet to the closed position, provided there is sufficient pressure at port 3.

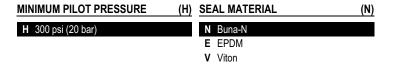
#### TECHNICAL DATA NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

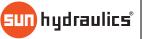
Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	20 - 25 lbf ft
Pilot Control Valve Hex Size	7/8 in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	EPDM: 990024014
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

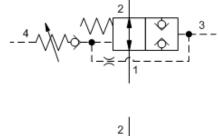
#### Model Code Example: DOJR8HN

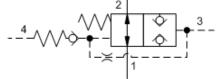






sunhydraulics.com/model/DODP





L - 3.11 (79,0) C - 3.25 (82,6) K - 3.34 (84,8)	LOCATING SHOULDER
DRAIN PILOT	VALVE in (mm)

This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	400 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

# **CONFIGURATION OPTIONS**

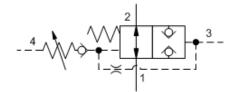
#### Model Code Example: DODPLAN

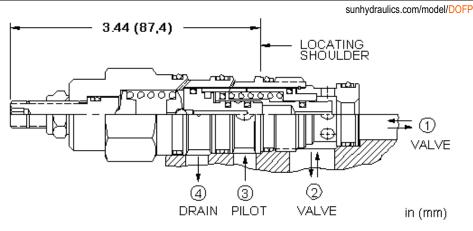


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This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

#### **TECHNICAL DATA**

(70 bar) Standard Setting

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

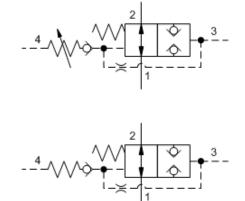
# **CONFIGURATION OPTIONS**

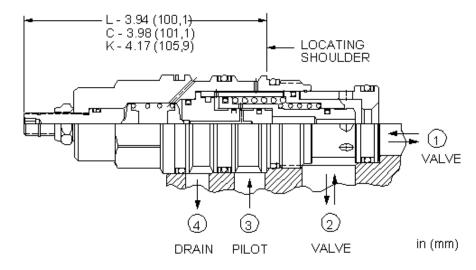
#### Model Code Example: DOFPLAN

ITRANGE (A) SE	EAL MATERIAL (N)	MATERIAL/COATING
tandard Setting V D psi (14 - 105 bar), 1000 psi tandard Setting		Standard Material/Coating /AP Stainless Steel, Passivated
	0 psi (14 - 210 bar), 1000 psi	D psi (14 - 210 bar), 1000 psi tandard Setting       N Buna-N         V Viton         D psi (14 - 105 bar), 1000 psi tandard Setting



sunhydraulics.com/model/DOHP





This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

#### **CONFIGURATION OPTIONS**

# Model Code Example: DOHPLAN

#### (L) ADJUSTMENT RANGE CONTROL (A) SEAL MATERIAL MATERIAL/COATING (N) A 200 - 3000 psi (14 - 210 bar), 1000 psi N Buna-N Standard Material/Coating L Standard Screw Adjustment C Tamper Resistant - Factory Set (70 bar) Standard Setting V Viton /AP Stainless Steel, Passivated K Handknob B 200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting

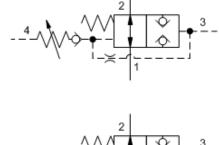
W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting

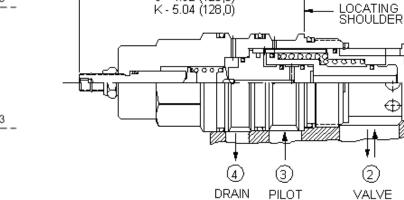




(1) /ALVE

in (mm)





L - 4.78 (121,4) C - 4.92 (125,0)

This is a normally open, balanced poppet, switching element. When pilot pressure is applied to port 3, the poppet remains open until the pilot pressure reaches the setting established by the integral pilot relief stage, at which point the poppet shifts to the closed position.

#### **TECHNICAL DATA**

W 200 - 4500 psi (14 - 315 bar), 1000 psi (70 bar) Standard Setting

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Maximum Operating Pressure	5000 psi
Control Pilot Flow	See Performance Data
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

# **CONFIGURATION OPTIONS**

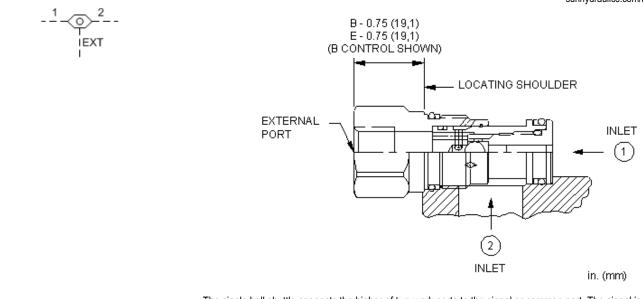
#### Model Code Example: DOJPLAN

CONTROL	(L) ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
L Standard Screw Adjustment	A 200 - 3000 psi (14 - 210 bar), 1000 psi	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	(70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
K Handknob	B 200 - 1500 psi (14 - 105 bar), 1000 psi (70 bar) Standard Setting		
	<b>D</b> 200 - 800 psi (14 - 55 bar)		





sunhydraulics.com/model/CSAA



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

# **CONFIGURATION OPTIONS**

### Model Code Example: CSAAEXN

 CONTROL
 (E)
 ADJUSTMENT RANGE
 (X)
 SEAL MATERIAL
 (N)
 MATERIAL/COATING

 E
 External 4-SAE Port
 X N Buna-N
 Standard Material/Coating

 B
 External 1/4 BSPP Port
 V Viton
 /AP Stainless Steel, Passivated

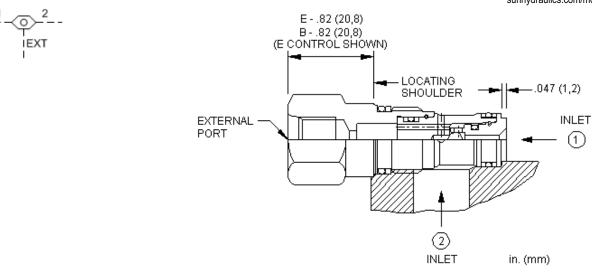
 /LH Mild Steel, Zinc-Nickel
 V
 Viton
 /LH Mild Steel, Zinc-Nickel



MODEL CSAW



sunhydraulics.com/model/CSAW



The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

#### **CONFIGURATION OPTIONS**

### Model Code Example: CSAWBXN

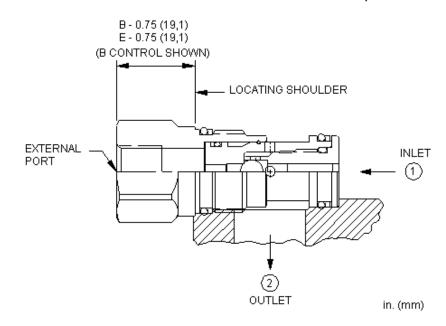
CONTROL	(B) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N)	MATERIAL/COATING
B External 1/4 BSPP Port	Χ-	N Buna-N		Standard Material/Coating
E External 4-SAE Port		V Viton		/AP Stainless Steel, Passivated



EXT



sunhydraulics.com/model/CSAC



The single ball shuttle connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

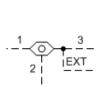
#### **CONFIGURATION OPTIONS**

#### Model Code Example: CSACBXN

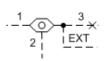
CONTROL	(B) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING	
B External 1/4 BSPP Port	Χ-	N Buna-N	Standard Material/Coating	
E External 4-SAE Port		V Viton	/AP Stainless Steel, Passivated	

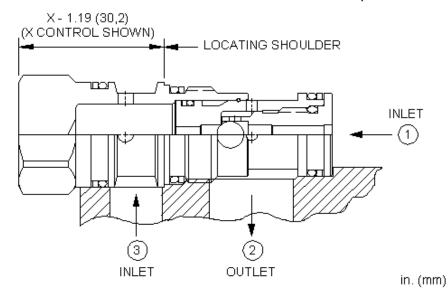


sunhydraulics.com/model/CSAD



2





The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

### **CONFIGURATION OPTIONS**

#### Model Code Example: CSADXXN

CONTROL	(X) ADJUSTMENT RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	Χ-	N Buna-N	Standard Material/Coating
A Auxiliary External -4 SAE Port		E EPDM	/AP Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port		V Viton	/LH Mild Steel, Zinc-Nickel

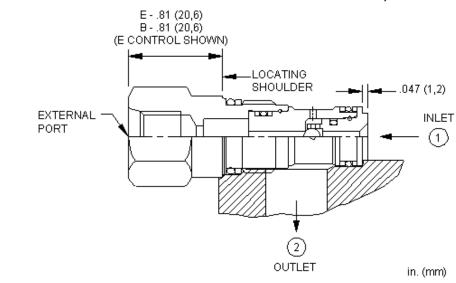


MODEL CSAY

EXT







The single ball shuttle connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

# **CONFIGURATION OPTIONS**

# Model Code Example: CSAYBXN

CONTROL	(B)	ADJUSTMENT RANGE (X)	()	SEAL MATERIAL	(N)	MATERIAL/COATING
B External 1/4 BSPP Port		Χ -		N Buna-N		Standard Material/Coating
E External 4-SAE Port				V Viton		/AP Stainless Steel, Passivated



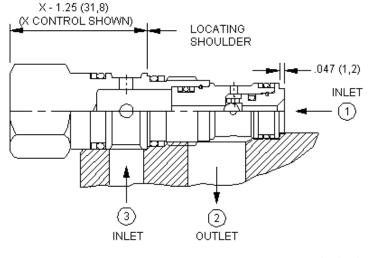


sunhydraulics.com/model/CSAZ



2

EXT



in. (mm)

The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 2.

#### **TECHNICAL DATA**

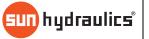
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

#### CONFIGURATION OPTIONS

### Model Code Example: CSAZXXN

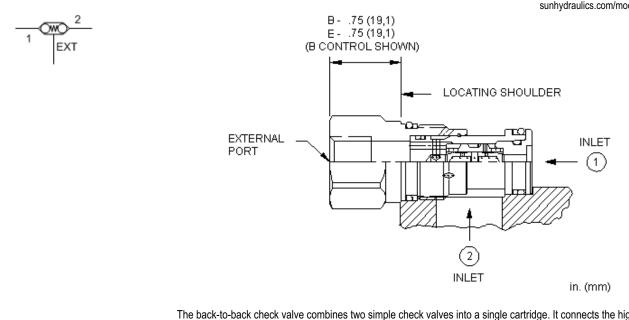
CONTROL	(X)	ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		Χ-		N Buna-N		Standard Material/Coating
				V Viton		/AP Stainless Steel, Passivated
						/LH Mild Steel, Zinc-Nickel



MODEL **CDAA** 



sunhydraulics.com/model/CDAA



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the higher of two work ports to the signal or common port. The signal is sensed at an external port located in the hex-end of the cartridge.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

# **CONFIGURATION OPTIONS**

#### Model Code Example: CDAABBN

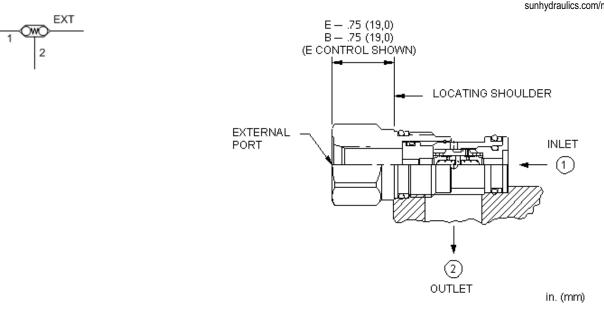
CONTROL	(B) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port	<b>B</b> 15 psi (1 bar)	N Buna-N	Standard Material/Coating
E External 4-SAE Port		V Viton	/AP Stainless Steel, Passivated



MODEL CDAC



sunhydraulics.com/model/CDAC



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the higher of two work ports to the signal or common port. It features an external load port located in the hex-end of the cartridge and the signal is sensed at port 2.

#### **TECHNICAL DATA**

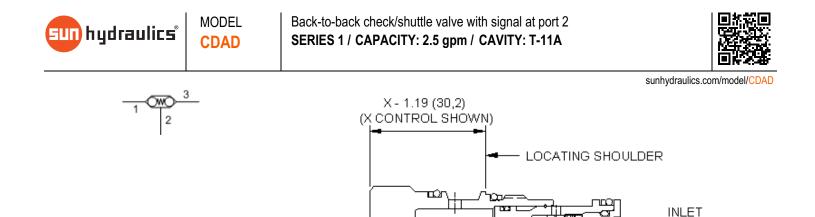
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CDACBBN

CONTROL	(B) CRACKING PRESSURE	(B) SEAL MATERIAL	(N) MATERIAL/COATING
B External 1/4 BSPP Port	<b>B</b> 15 psi (1 bar)	N Buna-N	Standard Material/Coating
E External 4-SAE Port		V Viton	/AP Stainless Steel, Passivated



The back-to-back check valve combines two simple check valves into a single cartridge. It connects the work port with the higher pressure to the signal or common port. The signal is sensed at port 2.

(3) INLET Î

OUTLET

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

1

in. (mm)

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

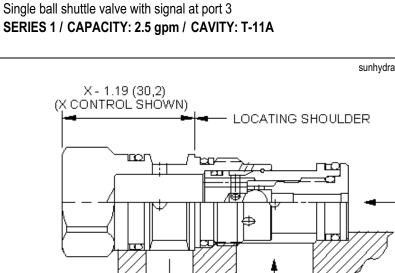
#### **CONFIGURATION OPTIONS**

#### Model Code Example: CDADXBN

CONTROL	(X) CRACKING PRESSURE	(B)	SEAL MATERIAL (N	MATERIAL/COATING
X Not Adjustable	<b>B</b> 15 psi (1 bar)		N Buna-N	Standard Material/Coating
			V Viton	AP Stainless Steel, Passivated







3

OUTLET

The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at

2

INLET

#### **TECHNICAL DATA**

port 3.

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CSABXXN

CONTROL	(X) ADJUSTMENT RANGE	(X)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	Χ -		N Buna-N		Standard Material/Coating
A Auxiliary External -4 SAE Port			E EPDM		/AP Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port			V Viton		/LH Mild Steel, Zinc-Nickel

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INLET

(1)

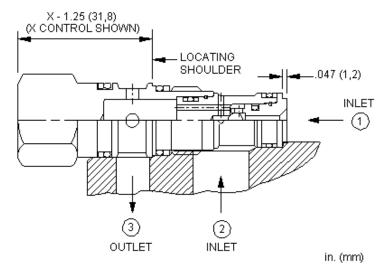
in. (mm)



sunhydraulics.com/model/CSAX







The single ball shuttle connects the higher of two work ports to the signal or common port. The signal is sensed at port 3.

#### **TECHNICAL DATA**

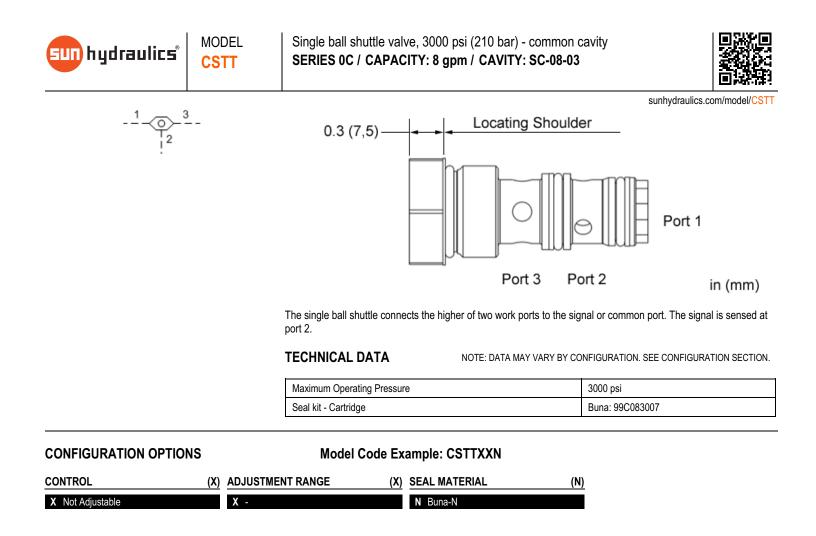
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CSAXXXN





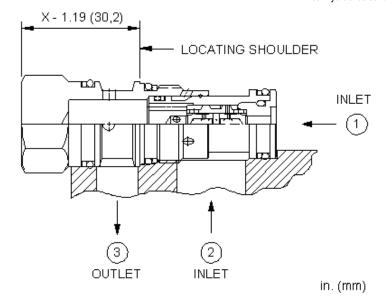


sunhydraulics.com/model/CDAB









The back-to-back check valve combines two simple check valves into a single cartridge. It connects the work port with the higher pressure to the signal or common port. The signal is sensed at port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

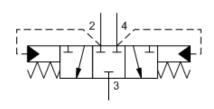
#### Model Code Example: CDABXBN

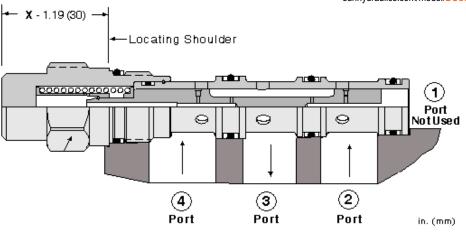
CONTROL	(X) (	CRACKING PRESSURE (B)	<u>s)</u> SE	AL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		<b>B</b> 15 psi (1 bar)	Ν	Buna-N		Standard Material/Coating
A Auxiliary External -4 SAE Port			v	Viton		/AP Stainless Steel, Passivated
B Auxiliary External 1/4 BSPP Port						/LH Mild Steel, Zinc-Nickel





sunhydraulics.com/model/DSCH





Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

5000 psi
23 in³/min.
Buna: 990031007
Polyurethane: 990031002
Viton: 990031006

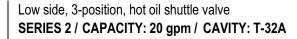
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSCHXHN

CONTROL	(X) SHIFTING PRESSURE	(H) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	H 200 psi (14 bar)	N Buna-N		Standard Material/Coating
	<b>G</b> 150 psi (10,5 bar)	V Viton		/LH Mild Steel, Zinc-Nickel

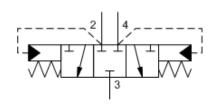


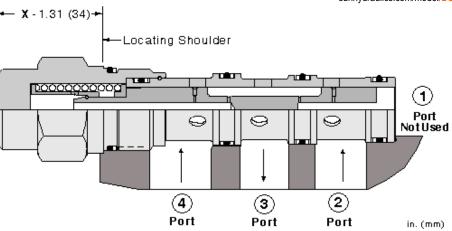
MODEL DSEH





sunhydraulics.com/model/DSEH





Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

5000 psi
23 in³/min.
Buna: 990032007
Polyurethane: 990032002
Viton: 990032006

#### **CONFIGURATION OPTIONS**

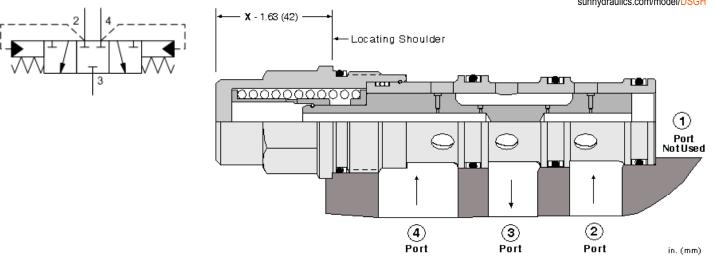
#### Model Code Example: DSEHXHN

CONTROL	(X)	SHIFTING PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable		H 200 psi (14 bar)		N Buna-N		Standard Material/Coating	
		<b>G</b> 150 psi (10,5 bar)		V Viton		/AP Stainless Steel, Passivated	
						/LH Mild Steel, Zinc-Nickel	





sunhydraulics.com/model/DSGH



Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Flow 46 in <sup>3</sup> /min.	
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### CONFIGURATION OPTIONS

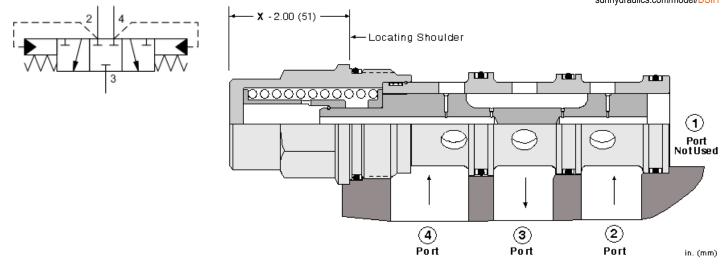
#### Model Code Example: DSGHXHN

CONTROL	(X) SHIFTING PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	H 200 psi (14 bar)	N Buna-N	Standard Material/Coating
	<b>G</b> 150 psi (10,5 bar)	V Viton	/LH Mild Steel, Zinc-Nickel









Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Flow	46 in³/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSIHXHN

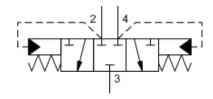
CONTROL	(X) SH	HIFTING PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	H	1 200 psi (14 bar)		N Buna-N		Standard Material/Coating
	G	<b>3</b> 150 psi (10,5 bar)		V Viton		/LH Mild Steel, Zinc-Nickel

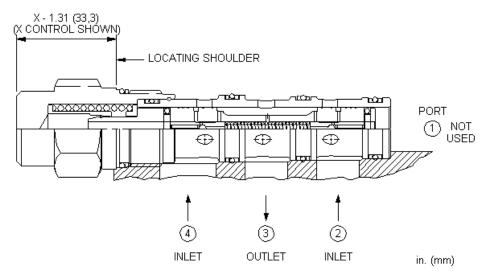


MODEL DSDD



sunhydraulics.com/model/DSDD





Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3). The delay shift shuttle prevents flow transients downstream of the hot oil circuit.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Flow	23 in³/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSDDXEN

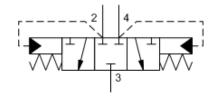
CONTROL (X	) MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)		N Buna-N		Standard Material/Coating
			V Viton		/AP Stainless Steel, Passivated

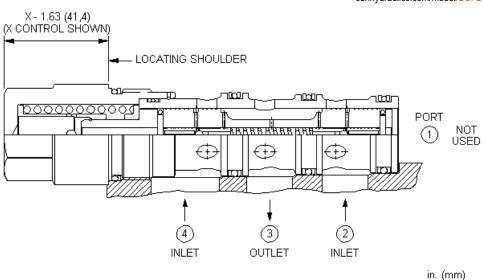


MODEL DSFD



sunhydraulics.com/model/DSFD





Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3). The delay shift shuttle prevents flow transients downstream of the hot oil circuit.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Flow	23 in³/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### **CONFIGURATION OPTIONS**

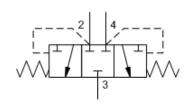
#### Model Code Example: DSFDXEN

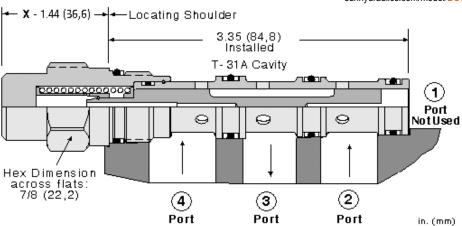
CONTROL	(X) SHIFTING PRESSURE	(E) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N		Standard Material/Coating
		V Viton		/LH Mild Steel, Zinc-Nickel











Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

#### **CONFIGURATION OPTIONS**

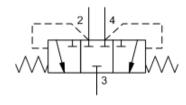
#### Model Code Example: DSCLXGN

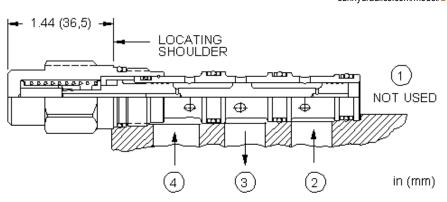
CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIA	AL (N) MATERIAL/COATING
X Not Adjustable	<b>G</b> 150 psi (10,5 bar)	N Buna-N	Standard Material/Coating
	<b>C</b> 30 psi (2 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	E 75 psi (5 bar)		
	<b>F</b> 100 psi (7 bar)		





sunhydraulics.com/model/DSCS





High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

#### **CONFIGURATION OPTIONS**

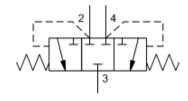
#### Model Code Example: DSCSXGN

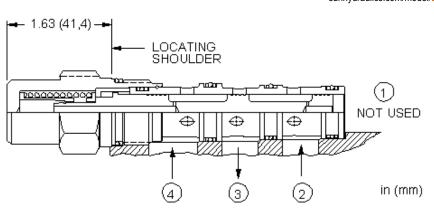
CONTROL	(X)	SHIFTING PRESSURE	(G)	SEAL MATERIAL	(N)
X Not Adjustable		<b>G</b> 150 psi (10,5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		E 75 psi (5 bar)			
		F 100 psi (7 bar)			





sunhydraulics.com/model/DSES





High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

**CONFIGURATION OPTIONS** 

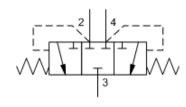
#### Model Code Example: DSESXGN

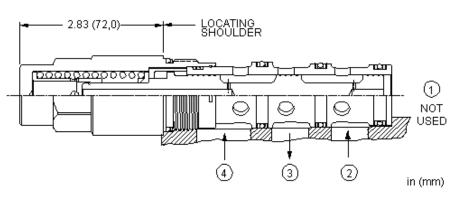
CONTROL	(X)	SHIFTING PRESSURE	(G)	SEAL MATERIAL	(N)
X Not Adjustable		<b>G</b> 150 psi (10,5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		E 75 psi (5 bar)			
		F 100 psi (7 bar)			





sunhydraulics.com/model/DSGS





High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	4 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	EPDM: 990033014
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### **CONFIGURATION OPTIONS**

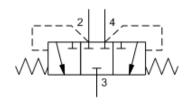
#### Model Code Example: DSGSXGN

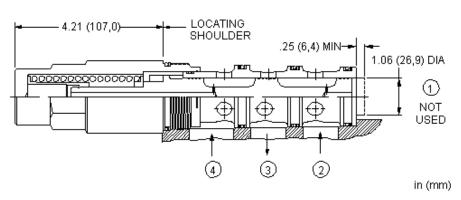
CONTROL	(X) SHIFTING PRESSURE	(G) SEAL MATERIAL	(N)
X Not Adjustable	<b>G</b> 150 psi (10,5 bar)	N Buna-N	
	<b>C</b> 30 psi (2 bar)	E EPDM	
	E 75 psi (5 bar)	V Viton	
	<b>F</b> 100 psi (7 bar)		





sunhydraulics.com/model/DSIS





High-side shuttle cartridges are most often used in full-time regeneration circuits. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure it is connected to the common port (port 3).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

#### **CONFIGURATION OPTIONS**

CONTROL

#### Model Code Example: DSISXGN

 (X)
 SHIFTING PRESSURE
 (G)
 SEAL MATERIAL

 G
 150 psi (10,5 bar)
 N
 Buna-N

V Viton

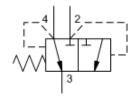
(N)

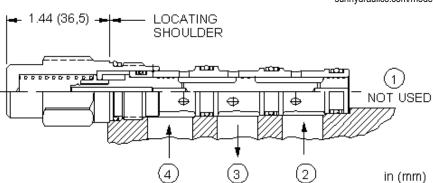
## X Not Adjustable

- G 150 psi (10,5 bar)
  C 30 psi (2 bar)
  E 75 psi (5 bar)
- F 100 psi (7 bar)



sunhydraulics.com/model/DSCO





Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSCOXEN

CONTROL	(X) MINIMUM CONTROL PRE	ESSURE (E) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N		Standard Material/Coa
	<b>C</b> 30 psi (2 bar)	V Viton		/AP Stainless Steel, Passi

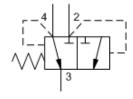
### V Viton

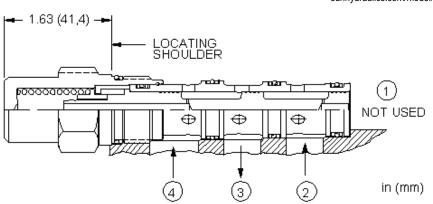
oating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel





sunhydraulics.com/model/DSEO





Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

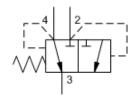
Maximum Operating Pressure	5000 psi
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

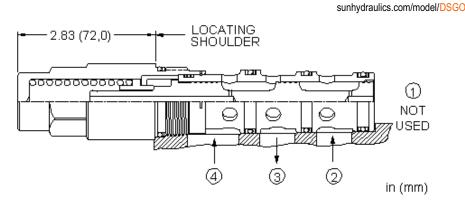
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSEOXEN

CONTROL	(X) MINIMUM CONTROL PRESSU	JRE (E) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N		Standard Material/Coating
	<b>C</b> 30 psi (2 bar)	V Viton		/AP Stainless Steel, Passivated







Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### **CONFIGURATION OPTIONS**

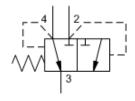
#### Model Code Example: DSGOXEN

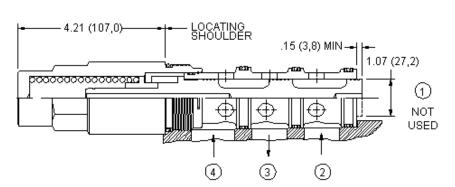
CONTROL	(X) MINIMUM CONTROL PRESSU	RE (E) SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	E 75 psi (5 bar)	N Buna-N		Standard Material/Coating	
	<b>C</b> 30 psi (2 bar)	V Viton		/LH Mild Steel. Zinc-Nickel	





sunhydraulics.com/model/DSIO





Spring-offset, high-side shuttle cartridges are 2-position valves that have a normal (offset) position that connects the common port (port 3) to work port 4, with work port 2 blocked. When the pressure at port 2 rises above the pressure at port 4, the cartridge shifts to connect the common port to port 2 with port 4 then blocked.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSIOXEN

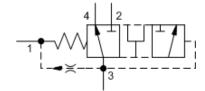
CONTROL (X	MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL (N)	
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	
	C 30 psi (2 bar)	V Viton	

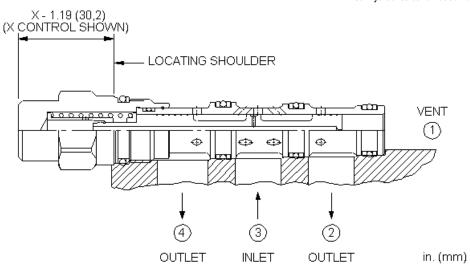


MODEL DSCY



sunhydraulics.com/model/DSCY





This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Nominal Vent Flow	23 in³/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

#### CONFIGURATION OPTIONS

#### Model Code Example: DSCYXEN

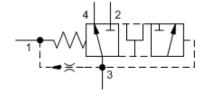
CONTROL	(X)	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable		E 75 psi (5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		<b>D</b> 50 psi (3,5 bar)			

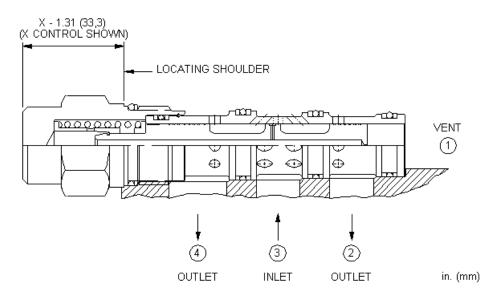


MODEL DSEY



sunhydraulics.com/model/DSEY





This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Nominal Vent Flow	23 in³/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSEYXEN

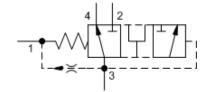
CONTROL	(X) MINIMUM CONTROL PRESSURE (E)	SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	Standard Material/Coating
	<b>C</b> 30 psi (2 bar)	V Viton	/AP Stainless Steel, Passivated
	<b>D</b> 50 psi (3,5 bar)		

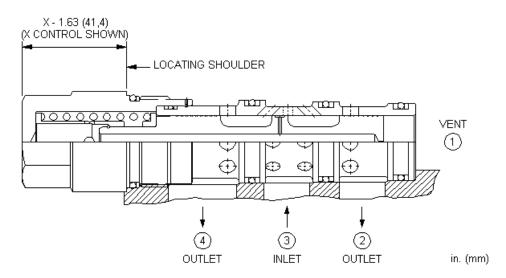


MODEL DSGY



sunhydraulics.com/model/DSGY





This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Nominal Vent Flow	35 in³/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSGYXEN

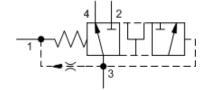
CONTROL	(X)	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable		E 75 psi (5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		<b>D</b> 50 psi (3,5 bar)			

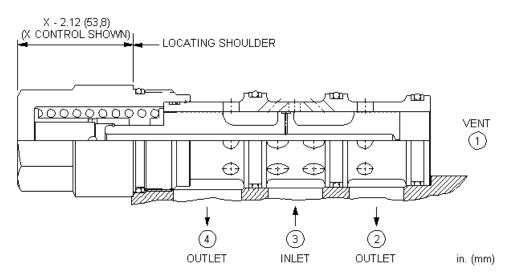


MODEL DSIY



sunhydraulics.com/model/DSIY





This vent-to-shift diverter valve is a 2-position, 3-way cartridge that is normally open from port 3 to port 4. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 to port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Nominal Vent Flow	35 in³/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSIYXEN

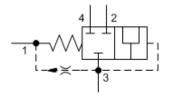
CONTROL	(X) MINIMUM CONTROL PRESSURI	E (E) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	Standard Material/Coating
	<b>C</b> 30 psi (2 bar)	V Viton	/AP Stainless Steel, Passivated
	<b>D</b> 50 psi (3,5 bar)		

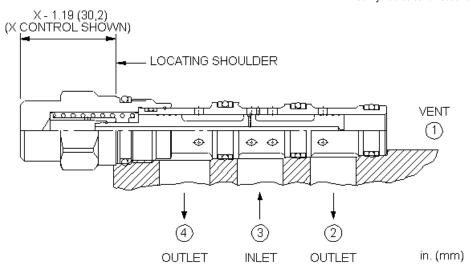


MODEL DSCX



sunhydraulics.com/model/DSCX





This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Nominal Vent Flow	23 in³/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSCXXEN

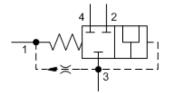
CONTROL	X) MINIMUM CONTROL PRESSURE (	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	
	<b>C</b> 30 psi (2 bar)	V Viton	
	<b>D</b> 50 psi (3,5 bar)		

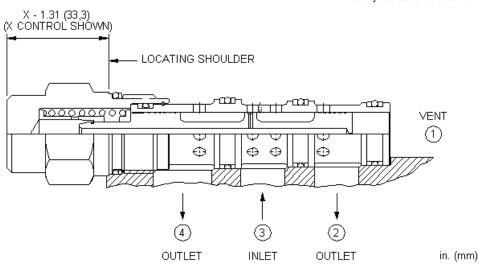


MODEL DSEX



sunhydraulics.com/model/DSEX





This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Nominal Vent Flow	23 in³/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

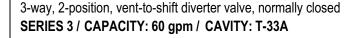
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSEXXEN

CONTROL	(X)	MINIMUM CONTROL PRESSURE	(E)	SEAL MATERIAL	(N)
X Not Adjustable		E 75 psi (5 bar)		N Buna-N	
		<b>C</b> 30 psi (2 bar)		V Viton	
		<b>D</b> 50 psi (3,5 bar)			

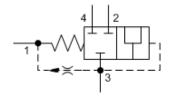


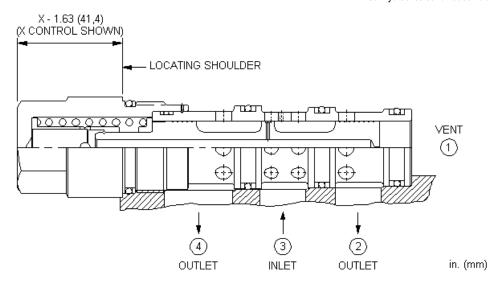
MODEL DSGX





sunhydraulics.com/model/DSGX





This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Nominal Vent Flow	35 in³/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

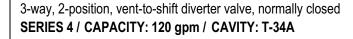
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSGXXEN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	E 75 psi (5 bar)	N Buna-N	
	<b>C</b> 30 psi (2 bar)	V Viton	
	<b>D</b> 50 psi (3,5 bar)		

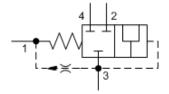


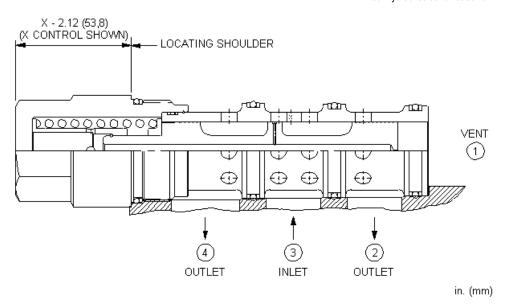
MODEL DSIX





sunhydraulics.com/model/DSIX





This is a vent-to-shift, 2-position, diverter valve that is normally closed. When port 1 is vented, the pressure differential between port 3 and port 1 exceeds the spring force causing the valve to shift, thereby connecting port 3 with ports 2 and 4.

#### **TECHNICAL DATA**

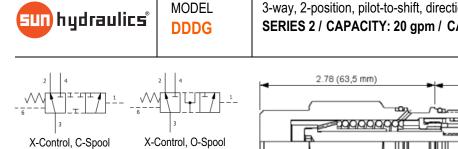
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Nominal Vent Flow	35 in³/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DSIXXEN

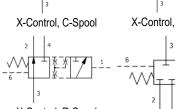
CONTROL (X	MINIMUM CONTROL PRESSURE	(E) SEAL MATERIAL	(N)
X Not Adjustable	<ul> <li>E 75 psi (5 bar)</li> <li>C 30 psi (2 bar)</li> <li>D 50 psi (3,5 bar)</li> </ul>	N Buna-N V Viton	



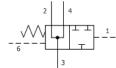
4

X-Control, Y-Spool





X-Control, R-Spool



X-Control, Z-Spool

sunhydraulics.com/model/DDDG Locating Shoulder ъQ Port 1 Pilot Θ 0 Port 6 Drain Port 5 Not Used Port 4 Work Port Port 3 Work Port Port 2 Work Port

Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	145 psi
Pilot Pressure Required for Full Shift at Rated Flow	290 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

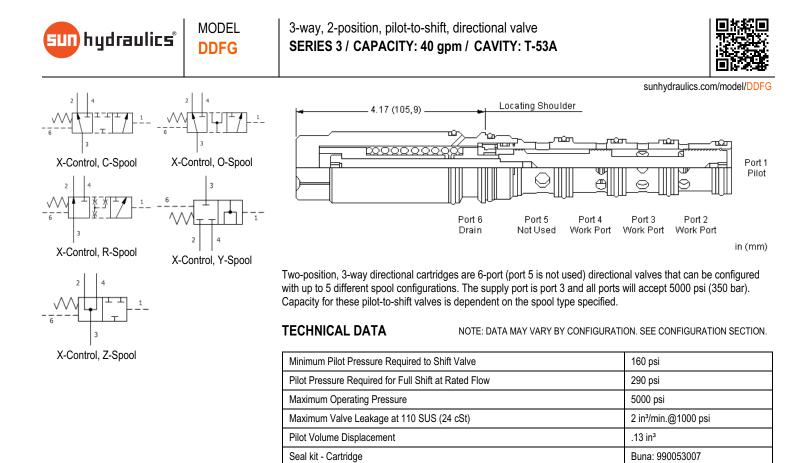
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DDDGXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Closed Crossover	N Buna-N	Standard Material/Coating
	O Open Crossover	V Viton	/AP Stainless Steel, Passivated
	R Restricted Crossover		/LH Mild Steel, Zinc-Nickel
	Y All Ports Blocked		

Z All Ports Open

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#### **CONFIGURATION OPTIONS**

CONTROL X Not Adjustable

#### Model Code Example: DDFGXCN

(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
	C Closed Crossover		N Buna-N		Standard Material/Coating
	O Open Crossover		V Viton		/AP Stainless Steel, Passivated
	R Restricted Crossover				/LH Mild Steel, Zinc-Nickel

R Restricted Crossover

Seal kit - Cartridge

- Y All Ports Blocked Z All Ports Open

Viton: 990053006



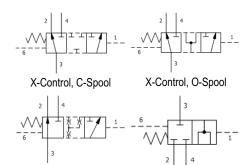
X-Control, R-Spool

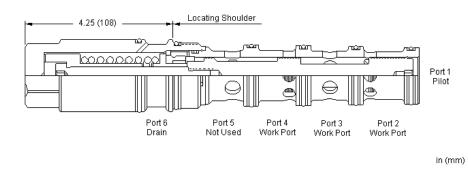
X-Control, Z-Spool

X-Control, Y-Spool



sunhydraulics.com/model/DDHG





Two-position, 3-way directional cartridges are 6-port (port 5 is not used) directional valves that can be configured with up to 5 different spool configurations. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	300 psi
Pilot Pressure Required for Full Shift at Rated Flow	350 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	3 in <sup>3</sup> /min.@1000 psi
Pilot Volume Displacement	.27 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

#### **CONFIGURATION OPTIONS**

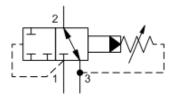
#### Model Code Example: DDHGXCN

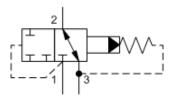
CONTROL (X	) SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable	C Closed Crossover		N Buna-N	
	O Open Crossover		V Viton	
	R Restricted Crossover			
	Y All Ports Blocked			
	Z All Ports Open			



MODEL DPBA 2-way, pilot-operated, directional valve with internal drain to port 3 - normally open SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-11A

sunhydraulics.com/model/DPBA





		Suit	nyuraulics.com/mo
L - 2.50 (63,5) C - 2.66 (67,6) K - 2.75 (69,9) (L CONTROL SHOWN)		LOCATING SHO	ULDER
	3	2	
	PORT	PORT	in. (mm)

Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in <sup>3</sup> /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES** For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPBALAN

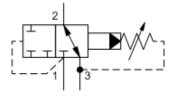
CONTROL (L	.) ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set K Handknob	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

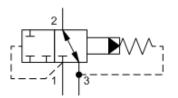


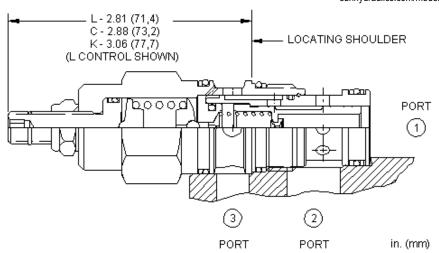
MODEL DPCA



sunhydraulics.com/model/DPCA







Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm		
Maximum Operating Pressure	5000 psi		
Control Pilot Flow	10 - 15 in³/min.		
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in <sup>3</sup> /min.@1000 psi		
Adjustment - No. of CW Turns from Min. to Max. setting	5		
Locknut Hex Size	9/16 in.		
Locknut Torque	80 - 90 lbf in.		
Seal kit - Cartridge	Buna: 990202007		
Seal kit - Cartridge	Polyurethane: 990002002		
Seal kit - Cartridge	Viton: 990202006		

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPCALAN

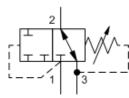
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 (70 bar) Standard Setting</li> <li>C 150 - 6000 psi (10,5 - 420 bar), 30 psi (210 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 ps bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 ps bar) Standard Setting</li> <li>W 100 - 4500 psi (7 - 315 bar), 1000 (70 bar) Standard Setting</li> </ul>	) psi )000 i (28 i (14	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated

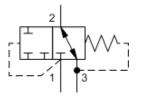


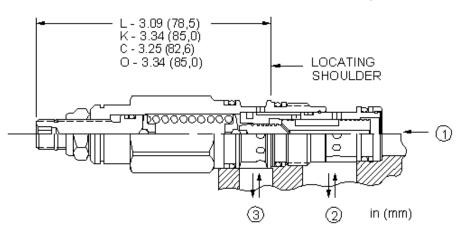
MODEL DRBA



sunhydraulics.com/model/DRBA







Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm		
Maximum Operating Pressure	5000 psi		
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.		
Adjustment - No. of CW Turns from Min. to Max. setting	5		
Locknut Hex Size	9/16 in.		
Locknut Torque	80 - 90 lbf in.		
Seal kit - Cartridge	Buna: 990011007		
Seal kit - Cartridge	Polyurethane: 990011002		
Seal kit - Cartridge	Viton: 990011006		

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBALAN

CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

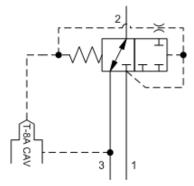


MODEL

2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally open SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-11A



sunhydraulics.com/model/DVBA



This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DVBA8FN

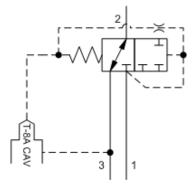
CONTROL	(8)	MINIMUM CONTROL PRESSURE	(F)	SEAL MATERIAL	(N)
8 T-8A Cavity		F 100 psi (7 bar)		N Buna-N	
				V Viton	

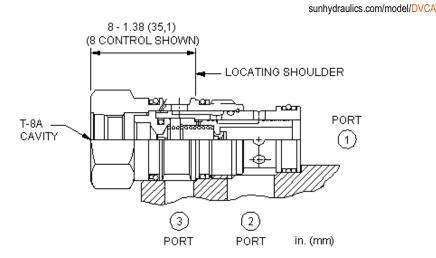


MODEL

2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally open SERIES 2 / CAPACITY: 15 gpm / CAVITY: T-2A







This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

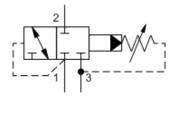
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

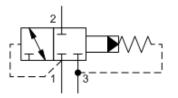
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

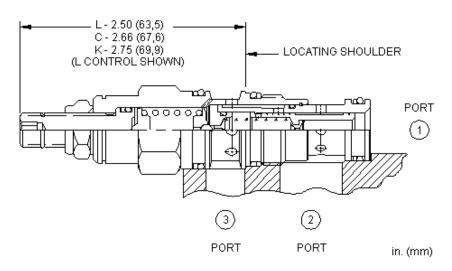
# CONFIGURATION OPTIONS Model Code Example: DVCA8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N) 8 T-8A Cavity F 100 psi (7 bar) N Nume-N V Viton



sunhydraulics.com/model/DPBB







Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in <sup>3</sup> /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge Polyurethane: 990011002	
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### CONFIGURATION OPTIONS

#### Model Code Example: DPBBLAN

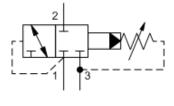
CONTROL	(L) ADJUSTMENT RANGE	(A) SEAL MATERIAL (N)	MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set K Handknob	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (2 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (1 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	V Viton si 4	Standard Material/Coating /AP Stainless Steel, Passivated

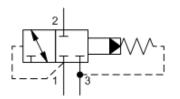


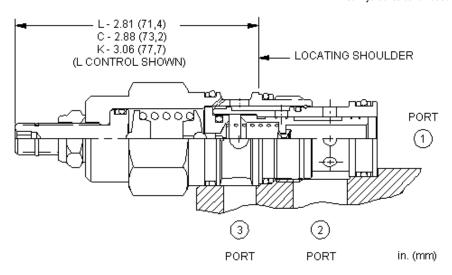
MODEL DPCB



sunhydraulics.com/model/DPCB







Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### CONFIGURATION OPTIONS

#### Model Code Example: DPCBLAN

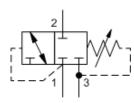
CONTROL	(L) ADJUSTMENT RANGE (A	A) SEAL MATERIAL (N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>		Standard Material/Coating /AP Stainless Steel, Passivated

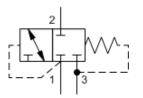
## un hydraulics

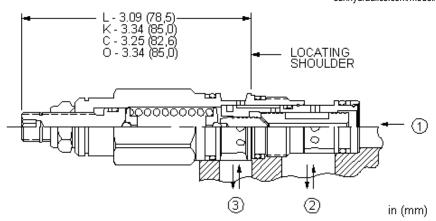
MODEL DRBB 2-way, direct-acting, directional valve with internal drain to port 3 - normally closed SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-11A



sunhydraulics.com/model/DRBB







Normally closed, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBBLAN

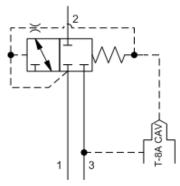
CONTROL	(L)	ADJUSTMENT RANGE	A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set K Handknob		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 100 psi (70 bar) Standard Setting</li> </ul>	1	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

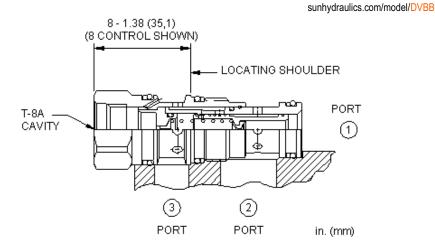


MODEL **DVBB** 

2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally closed SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-11A







This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

(N)

Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at NOTES point of use.

#### **CONFIGURATION OPTIONS** Model Code Example: DVBB8FN CONTROL MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (8) N Buna-N

8 T-8A Cavity

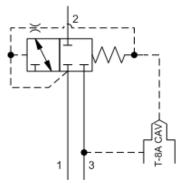
100 psi (7 bar)

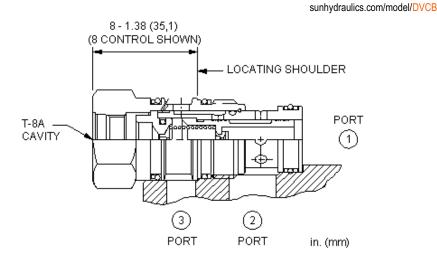
V Viton



2-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity - normally closed SERIES 2 / CAPACITY: 15 gpm / CAVITY: T-2A







This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

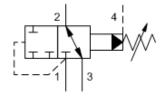
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in <sup>3</sup> /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

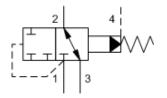
NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

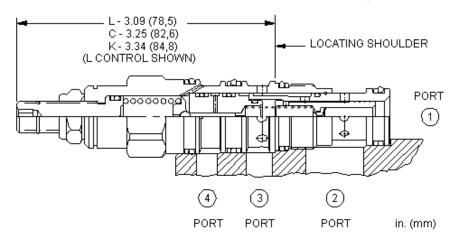
CONFIGURATION OPTIONS	Model Code Example: DVCB8FN	
CONTROL	8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL	(N)
8 T-8A Cavity	F 100 psi (7 bar) N Buna-N V Viton	



sunhydraulics.com/model/DPBM







Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

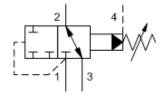
#### Model Code Example: DPBMLAN

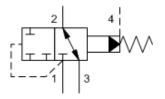
CONTROL	(L) ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

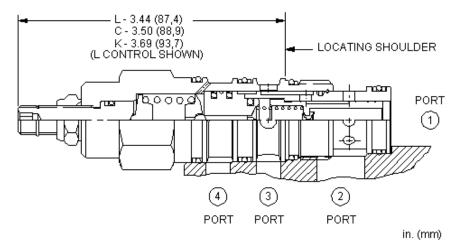
W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting



sunhydraulics.com/model/DPCM







Normally open, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPCMLAN

#### CONTROL

#### (L) ADJUSTMENT RANGE (A)

D 25 - 800 psi (1,7 - 55 bar), 400 psi (28

E 25 - 400 psi (1,7 - 28 bar), 200 psi (14

W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting

bar) Standard Setting

bar) Standard Setting

#### (A) SEAL MATERIAL

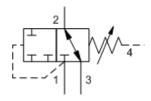
#### (N) MATERIAL/COATING

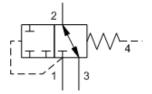
L Standard Screw Adjustment	A 100 - 3000 psi (7 - 210 bar), 1000 psi
C Tamper Resistant - Factory Set	(70 bar) Standard Setting
K Handknob	<b>B</b> 50 - 1500 psi (3,5 - 105 bar), 1000 psi
	(70 bar) Standard Setting

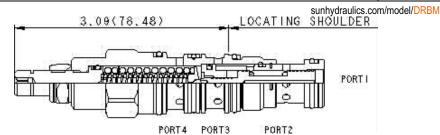
- N Buna-N V Viton
- Standard Material/Coating

2-way, direct-acting, directional valve with drain to port 4 - normally open SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A









Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt) 2 in <sup>3</sup> /min.	
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### CONFIGURATION OPTIONS

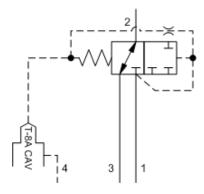
#### Model Code Example: DRBMLAN

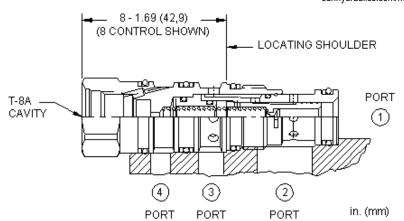
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	4	N Buna-N V Viton	





sunhydraulics.com/model/DVBM





This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure 5000 psi	
Control Pilot Flow 7 - 10 in <sup>3</sup> /min.	
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

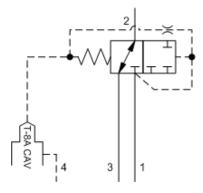
CONFIGURATION OPTIONS	Model Code Ex	ample: DVBM8FN
CONTROL (8	) MINIMUM CONTROL PRESSURE (F)	SEAL MATERIAL (N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N V Viton

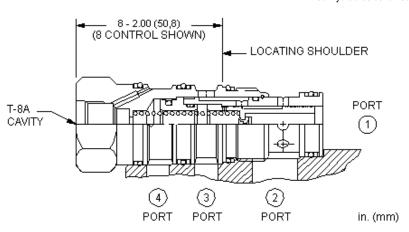


MODEL DVCM



sunhydraulics.com/model/DVCM





This valve is a normally open, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

#### **CONFIGURATION OPTIONS**

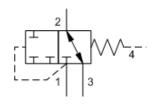
#### Model Code Example: DVCM8FN

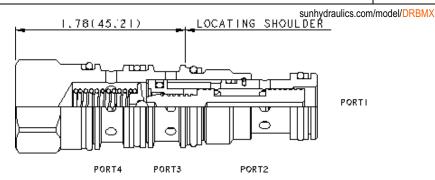
CONTROL	(8) MINIMUM CONTROL PRESSURE	(F) SEAL MATERIAL	(N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N	

V Viton



MODEL DRBMX 2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally open SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A





Normally open, direct-acting, 2-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

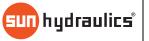
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

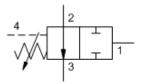
Factory Pressure Settings Established at	4 gpm	
Maximum Operating Pressure	5000 psi	
Maximum Valve Leakage at 110 SUS (24 cSt) 2 in <sup>3</sup> /min.		
Seal kit - Cartridge Buna: 990021007		
Seal kit - Cartridge	Polyurethane: 990021002	
Seal kit - Cartridge	Viton: 990021006	

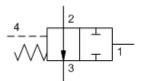
#### **CONFIGURATION OPTIONS**

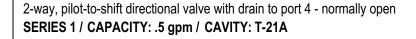
#### Model Code Example: DRBMXFN

SHIFTING PRESSURE (	(F)	SEAL MATERIAL	(N)
<b>F</b> 100 psi (7 bar)		N Buna-N	
		V Viton	



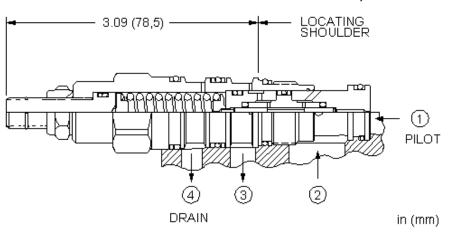








sunhydraulics.com/model/DRAY



The normally-open, direct-acting 2-way directional cartridge with external drain is a pilot unloading valve used to sense pressure in one circuit to switch or unload a valve in a different circuit. When pressure at port 1 exceeds the setting of the valve, the spool shifts to block port 2 from port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

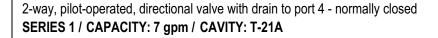
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	20 drops/min.
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRAYLAN

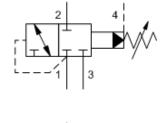
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N	MATERIAL/COATING
<ul><li>L Standard Screw Adjustment</li><li>C Tamper Resistant - Factory Set</li></ul>		<ul> <li>A 1000 - 3000 psi (70 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>C 2000 - 6000 psi (140 - 420 bar), 2000</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated
		psi (140 bar) Standard Setting		

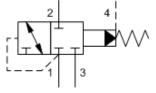
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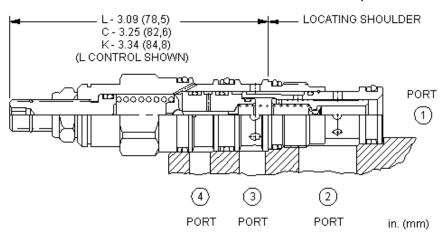












Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate-flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure 5000 psi	
Control Pilot Flow 7 - 10 in <sup>3</sup> /min.	
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

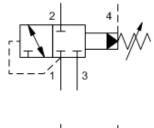
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPBNLAN

CONTROL (I	_) ADJUSTMENT RANGE	(A) SEAL MATERIAL	(N)
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1 (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 bar) Standard Setting</li> <li>J 25 - 1500 psi (1,7 - 105 bar), (70 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar psi (70 bar) Standard Setting</li> </ul>	V Viton 1000 psi 0 psi (28 0 psi (14 1000 psi r), 1000	



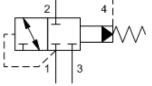
sunhydraulics.com/model/DPCN

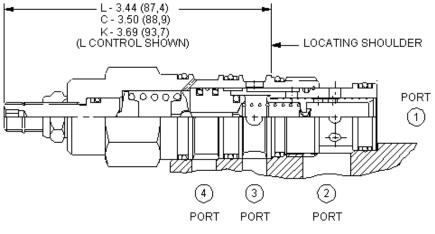


<mark>un</mark> hydraulics"

MODEL

**DPCN** 





in. (mm)

Normally closed, pilot-operated, 2-way directional cartridges are switching devices typically used in moderate-flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

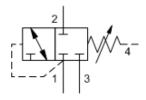
#### **CONFIGURATION OPTIONS**

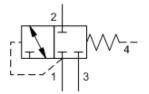
#### Model Code Example: DPCNLAN

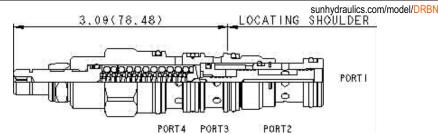
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
<ul><li>L Standard Screw Adjustment</li><li>C Tamper Resistant - Factory Set</li></ul>		A 100 - 3000 psi (7 - 210 bar), 1000 ps (70 bar) Standard Setting	si	N Buna-N V Viton	
K Handknob		B 50 - 1500 psi (3,5 - 105 bar), 1000 p (70 bar) Standard Setting	osi		
		D 25 - 800 psi (1,7 - 55 bar), 400 psi (2 bar) Standard Setting	28		
		E 25 - 400 psi (1,7 - 28 bar), 200 psi ( bar) Standard Setting	14		
		W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting	0		

3-way, direct-acting, directional valve with drain to port 4 - normally closed SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A









Normally closed, direct-acting, 3-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

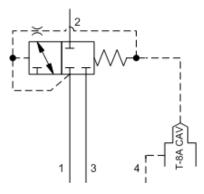
#### Model Code Example: DRBNLAN

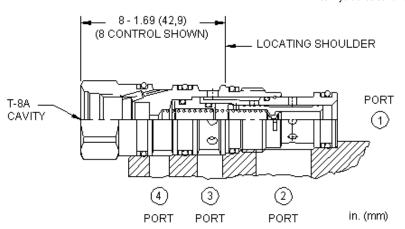
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated





sunhydraulics.com/model/DVBN





This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

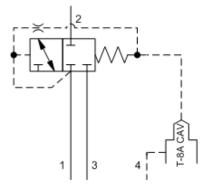
#### **CONFIGURATION OPTIONS**

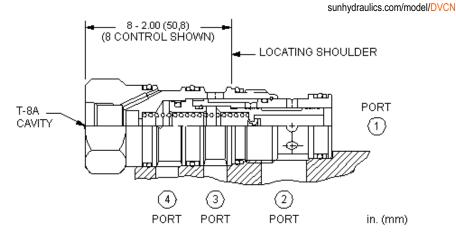
#### Model Code Example: DVBN8FN

CONTROL	8) MINIMUM CONTROL PRESSURE	(F) SEAL MATERIAL	(N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N	
		V Viton	









This valve is a normally closed, 2-way directional cartridge that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

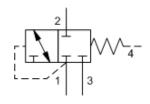
**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

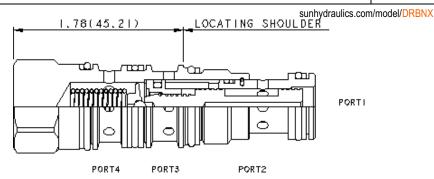
# CONFIGURATION OPTIONS Model Code Example: DVCN8FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) SEAL MATERIAL (N) 8 T-8A Cavity F 100 psi (7 bar) N Nume-N V Viton

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MODEL DRBNX 2-way, direct-acting, fixed setting, directional valve with drain to port 4 - normally closed SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A





Normally closed, direct-acting, 3-way directional cartridges are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

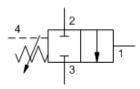
Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

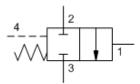
#### **CONFIGURATION OPTIONS**

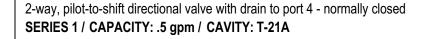
#### Model Code Example: DRBNXFN

SHIFTING PRESSURE	(F)	SEAL MATERIAL	(N)
F 100 psi (7 bar)		N Buna-N	
		V Viton	



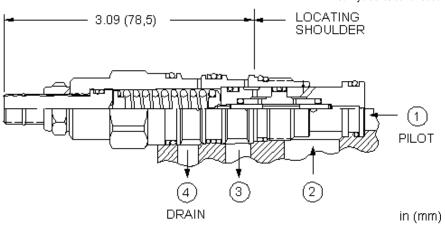








sunhydraulics.com/model/DRAX



The normally-closed, direct-acting 2-way directional cartridge with external drain is a pilot unloading valve used to sense pressure in one circuit to switch or unload a valve in a different circuit. When pressure at port 1 exceeds the setting of the valve, the spool shifts to connect port 2 to port 3.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	20 drops/min.
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

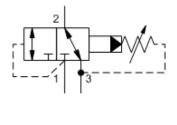
#### Model Code Example: DRAXLAN

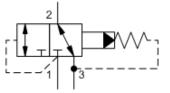
CONTROL (L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (N	) MATERIAL/COATING
<ul><li>L Standard Screw Adjustment</li><li>C Tamper Resistant - Factory Set</li></ul>	A 1000 - 3000 psi (70 - 210 bar), 1000 psi	N Buna-N	Standard Material/Coating
	(70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated

6000 psi (140 - 420 bar), 2000 psi (140 bar) Standard Setting



sunhydraulics.com/model/DPBC





L - 2.50 (63,5) C - 2.66 (67,6) K - 2.75 (69,9) (L CONTROL SHOWN)		LOCATING SHO	DULDER
	3	2	
	PORT	PORT	in. (mm)

Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm	
Maximum Operating Pressure	5000 psi	
Control Pilot Flow	7 - 10 in³/min.	
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi	
Adjustment - No. of CW Turns from Min. to Max. setting	5	
Locknut Hex Size	9/16 in.	
Locknut Torque	80 - 90 lbf in.	
Seal kit - Cartridge	Buna: 990011007	
Seal kit - Cartridge	Polyurethane: 990011002	
Seal kit - Cartridge	Viton: 990011006	

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

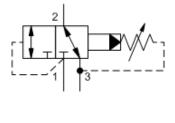
#### **CONFIGURATION OPTIONS**

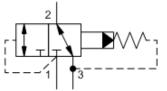
#### Model Code Example: DPBCLAN

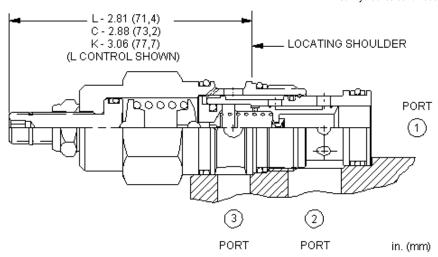
CONTROL (L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL (I	) MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



sunhydraulics.com/model/DPCC







Pilot-operated, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in <sup>3</sup> /min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPCCLAN

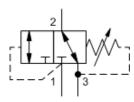
CONTROL	(L)	ADJUSTMENT RANGE (A	SEAL MATERIAL (N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>H 35 - 3000 psi (2,4 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>W 100 - 4500 psi (7 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

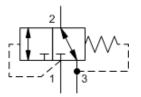
## sun hydraulics

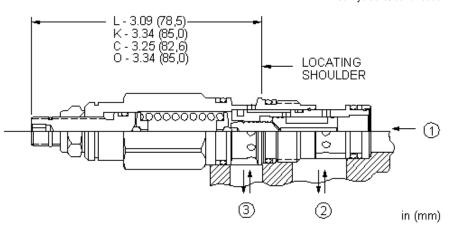
MODEL DRBC



sunhydraulics.com/model/DRBC







Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

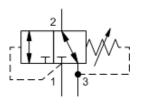
#### Model Code Example: DRBCLAN

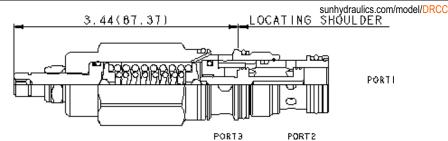
CONTROL	(L) ADJUSTMENT RANGE (A)	SEAL MATERIAL (N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>	<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-way, direct-acting, directional valve with internal drain to port 3 (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 15 gpm / CAVITY: T-2A







Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Polyurethane: 990002002

#### **CONFIGURATION OPTIONS**

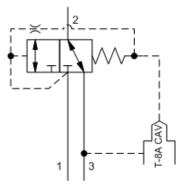
#### Model Code Example: DRCCLAN

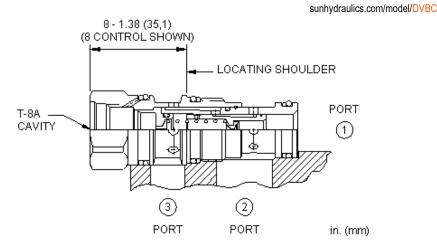
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment		<ul> <li>A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 300 - 1500 psi (20 - 105 bar), 500 psi (35 bar) Standard Setting</li> <li>D 200 - 800 psi (14 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 100 - 400 psi (7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 50 - 200 psi (3,5 - 14 bar), 100 psi (7 bar) Standard Setting</li> </ul>	N Buna-N V Viton		Standard Material/Coating /LH Mild Steel, Zinc-Nickel



3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-11A







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

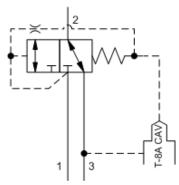
Model Code Example: DVBC8FN		
MINIMUM CONTROL PRESSURE	(F) SEAL MATERIAL (N)	
F 100 psi (7 bar)	N Buna-N V Viton	

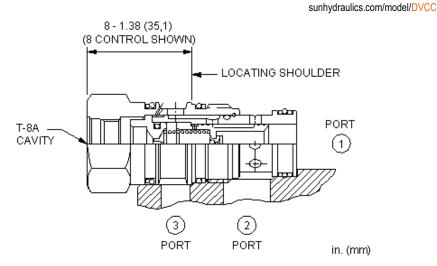
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3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 2 / CAPACITY: 15 gpm / CAVITY: T-2A







This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

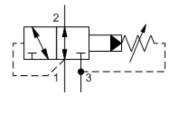
#### **CONFIGURATION OPTIONS**

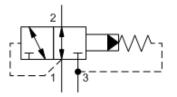
Model Code Example: DVCC8FN

CONTROL	(8) <u>MININ</u>	IUM CONTROL PRESSURE	(F) \$	SEAL MATERIAL	(N)
8 T-8A Cavity	<b>F</b> 10	00 psi (7 bar)		N Buna-N	
				V Viton	



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L - 2.50 (63,5) C - 2.66 (67,6) K - 2.75 (69,9) (L CONTROL SHOWN)		OCATING SHOULE	)ER
			PORT ①
	3	2	
	PORT	PORT	in. (mm)

Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm			
Maximum Operating Pressure	5000 psi			
Control Pilot Flow 7 - 10 in <sup>3</sup> /min.				
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi			
Adjustment - No. of CW Turns from Min. to Max. setting	5			
Locknut Hex Size	9/16 in.			
Locknut Torque	80 - 90 lbf in.			
Seal kit - Cartridge	Buna: 990011007			
Seal kit - Cartridge Polyurethane: 990011002				
Seal kit - Cartridge	Viton: 990011006			

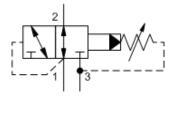
#### **CONFIGURATION OPTIONS**

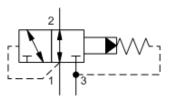
#### Model Code Example: DPBDLAN

CONTROL	(L)	ADJUSTMENT RANGE	A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>K 75 - 1500 psi (5 - 105 bar), 1000 psi (6 bar) Standard Setting</li> <li>W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	i 3	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated



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L - 2.81 (71,4) C - 2.88 (73,2) K - 3.06 (77,7) (L CONTROL SHOWN)			_DER PORT ①
	3	2	
	PORT	PORT	in. (mm)

Pilot-operated, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm		
Maximum Operating Pressure 5000 psi			
Control Pilot Flow 10 - 15 in <sup>3</sup> /min.			
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi		
Adjustment - No. of CW Turns from Min. to Max. setting	5		
Locknut Hex Size	9/16 in.		
Locknut Torque	80 - 90 lbf in.		
Seal kit - Cartridge	Buna: 990202007		
Seal kit - Cartridge Polyurethane: 990002002			
ieal kit - Cartridge Viton: 990202006			

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPCDLAN

V Viton

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL
L Standard Screw Adjustment		A 100 - 3000 psi (7 - 210 bar), 100	00 psi	N Buna-N

#### C Tamper Resistant - Factory Set

K Handknob

		Ī
А	100 - 3000 psi (7 - 210 bar), 1000 psi	
	(70 bar) Standard Setting	
		1

### B 50 - 1500 psi (3,5 - 105 bar), 1000 psi

- (70 bar) Standard Setting
- D 25 800 psi (1,7 55 bar), 400 psi (28 bar) Standard Setting
- E 25 400 psi (1,7 28 bar), 200 psi (14 bar) Standard Setting

W 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting

### (N) MATERIAL/COATING

Standard Material/Coating /AP Stainless Steel, Passivated

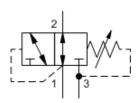
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#### MODEL DRBD

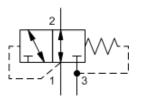
3-way, direct-acting, directional valve with internal drain to port 3 (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-11A

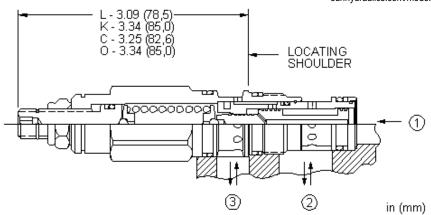


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Direct-acting, 3-way directional cartridges (1 to 2 open, 3 blocked) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 3 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm		
Maximum Operating Pressure 5000 psi			
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.		
Adjustment - No. of CW Turns from Min. to Max. setting	5		
Locknut Hex Size	9/16 in.		
Locknut Torque	80 - 90 lbf in.		
Seal kit - Cartridge	Buna: 990011007		
Seal kit - Cartridge	Polyurethane: 990011002		
Seal kit - Cartridge	Viton: 990011006		

NOTES For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBDLAN

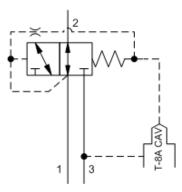
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set K Handknob		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated

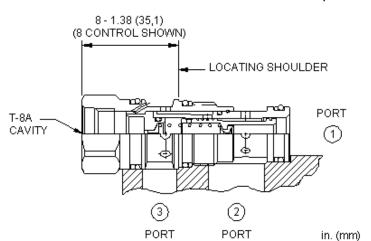


3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 to 2 open, 3 blocked) SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-11A



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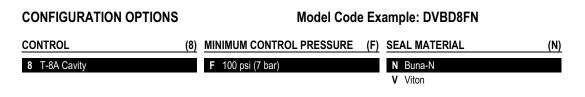
This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

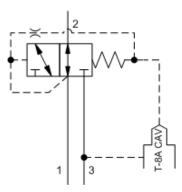


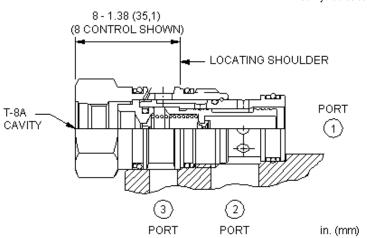


3-way, vent-to-operate, directional valve with internal drain to port 3 and integral T-8A control cavity (1 to 2 open, 3 blocked) SERIES 2 / CAPACITY: 15 gpm / CAVITY: T-2A



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This valve is a, 3-way directional cartridge (1 to 2 open, 3 blocked) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

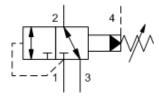
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

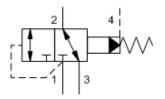
**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

CONFIGURATION OPTIONS	Model Code Example: DVCD8FN	
CONTROL     (8)       8     T-8A Cavity	MINIMUM CONTROL PRESSURE       (F)       SEAL MATERIAL         F       100 psi (7 bar)       N       Buna-N         V       Viton	(N)



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L - 3.09 (78,5) C - 3.25 (82,6) K - 3.34 (84,8) (L CONTROL SHOWN)			G SHOULDER
(	4) 3	2	
PC	DRT PORT	PORT	in. (mm)

Pilot-operated, 3-way directional cartridges (1 blocked, 2-to-3 open) are switching devices typically used in moderate-flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DPBOLAN

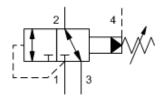
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> </ul>		<ul> <li>A 100 - 3000 psi (7 - 210 bar), 1000 ps (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 1000 p (70 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 400 psi (2 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (1 bar) Standard Setting</li> <li>J 25 - 1500 psi (1,7 - 105 bar), 1000 p (70 bar) Standard Setting</li> <li>W 150 - 4500 psi (10.5 - 315 bar), 1000</li> </ul>	si 28 14 si	N Buna-N V Viton		Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

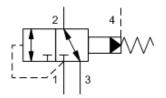
psi (70 bar) Standard Setting

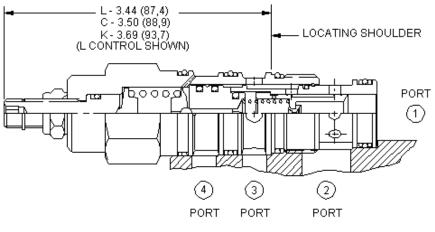
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in. (mm)

Pilot-operated, 3-way directional cartridges (1 blocked, 2-to-3 open) are switching devices typically used in moderate-flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Control Pilot Flow	10 - 15 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	1 in³/min.@1000 psi
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

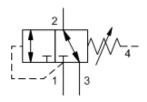
#### Model Code Example: DPCOLAN

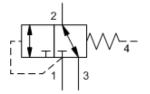
CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment		A 100 - 3000 psi (7 - 210 bar), 1000 psi	N Buna-N		Standard Material/Coating
C Tamper Resistant - Factory Set		(70 bar) Standard Setting	V Viton		/AP Stainless Steel, Passivated
K Handknob		B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting			
		D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting			
		E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting			

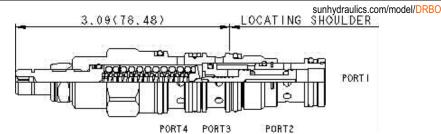
**W** 150 - 4500 psi (10,5 - 315 bar), 1000 psi (70 bar) Standard Setting

3-way, direct-acting, directional valve with drain to port 4 (1 blocked, 2 to 3 open) SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A









Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

NOTES

For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

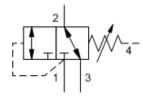
#### **CONFIGURATION OPTIONS**

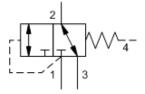
#### Model Code Example: DRBOLAN

CONTROL	(L)	ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
<ul> <li>L Standard Screw Adjustment</li> <li>C Tamper Resistant - Factory Set</li> <li>K Handknob</li> <li>O Handknob with Panel Mount</li> </ul>		<ul> <li>A 500 - 3000 psi (35 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting</li> <li>D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting</li> <li>E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting</li> <li>S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting</li> <li>W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting</li> </ul>	N Buna-N V Viton		Standard Material/Coating



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⊢ L - 3.47 (88,1) K - 3.75 (95,3) C - 3.53 (89,7)		- LOCATING SH	IOULDER
			PORT
4 PORT	3 PORT	↓ 2 PORT	in. (mm)

Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRCOLAN

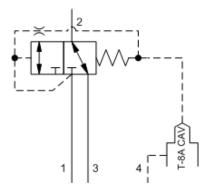
CONTROL	(L) ADJUSTMENT RANGE (A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment C Tamper Resistant - Factory Set K Handknob	<ul> <li>A 750 - 3000 psi (50 - 210 bar), 1000 psi (70 bar) Standard Setting</li> <li>B 300 - 1500 psi (20 - 105 bar), 500 psi</li> </ul>	N Buna-N V Viton	
	(35 bar) Standard Setting		
	D 25 - 800 psi (1,7 - 55 bar), 400 psi (28 bar) Standard Setting		
	E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting		
	S 25 - 200 psi (1,7 - 14 bar), 100 psi (7 bar) Standard Setting		

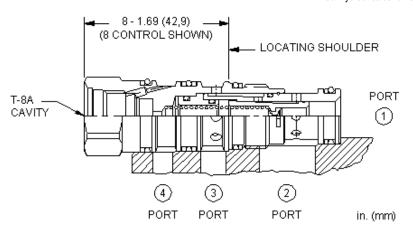


3-way, vent-to-operate, directional valve with drain to port 4 and integral T-8A control cavity (1 blocked, 2 to 3 open) SERIES 1 / CAPACITY: 7 gpm / CAVITY: T-21A



sunhydraulics.com/model/DVBO





This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

(N)

NOTES Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

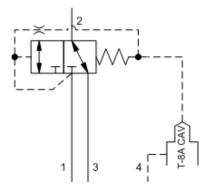
## CONFIGURATION OPTIONS Model Code Example: DVB08FN CONTROL (8) MINIMUM CONTROL PRESSURE (F) 8 T-8A Cavity F 100 psi (7 bar)

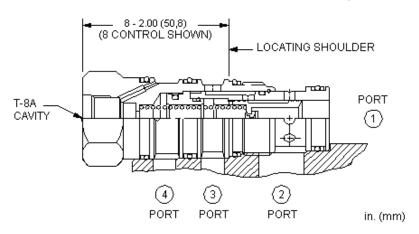
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sunhydraulics.com/model/DVCO





This valve is a, 3-way directional cartridge (1 blocked, 2 to 3 open) that incorporates an integral pilot control cavity. It may be used by itself or to actuate larger pilot-operated directional cartridges or logic elements. The valve shifts when there is flow through the pilot control cartridge installed in the T-8A cavity.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in <sup>3</sup> /min.@1000 psi
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

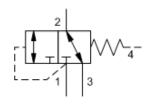
**NOTES** Compound cartridge (pilot and main stage) assembly information is provided for reference only. Cartridges must be ordered separately and assembled at point of use.

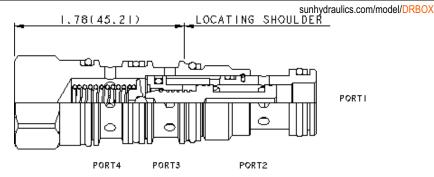
CONFIGURATION OPTIONS	Model Code Example: DVCO8FN	
CONTROL	3) MINIMUM CONTROL PRESSURE (	(F) SEAL MATERIAL (N)
8 T-8A Cavity	<b>F</b> 100 psi (7 bar)	N Buna-N
		E EPDM
		V Viton



MODEL DRBOX







Direct-acting, 3-way directional cartridges (1 blocked, 2 to 3 open) are switching devices typically used in moderate flow circuits. They can be used by themselves or to actuate larger pilot-operated directional cartridges or logic cartridges. The valve shifts when the pressure differential between port 1 and port 4 exceeds the setting.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Factory Pressure Settings Established at	4 gpm	
Maximum Operating Pressure	5000 psi	
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.	
Seal kit - Cartridge	Buna: 990021007	
Seal kit - Cartridge Polyurethane: 990021002		
Seal kit - Cartridge	Viton: 990021006	

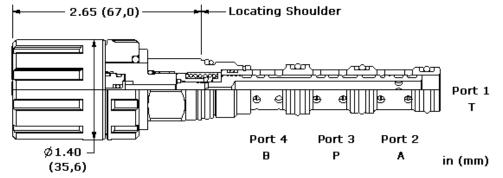
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DRBOXFN

SHIFTING PRESSURE	(F) SEAL MATERIAL	(N) MATERIAL/COATING
<b>F</b> 100 psi (7 bar)	N Buna-N	Standard Material/Coating
	V Viton	/AP Stainless Steel, Passivated
		/LH Mild Steel, Zinc-Nickel

#### 4-way, manually operated, directional spool valve SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-31A

sunhydraulics.com/model/DNDM



This manually operated, 2-position, 4-way directional cartridge is a direct-acting, balanced spool valve used to control the direction of flow in a hydraulic circuit. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 in³/min.@3000 psi
Operating Torque	10 lbf in.
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DNDMLNN

CONTROL (L)	SPOOL CONFIGURATION (N)	SEAL MATERIAL	(N)
L Twist/Lock (Detent) Manual Override	N Through, Shift to Cross	N Buna-N	
D Twist/Lock (Dual) Manual Override	C Closed, Shift to Through	E EPDM	
T Twist (Momentary) Manual Override	D Closed, Shift to Cross	V Viton	
	E Cross, Shift to Closed		
	H Open, Shift to Cross		
	L Cross, Shift to P to A, B and T Blocked		
	R Regen, Shift to Cross		
	T Tandem Shift to Through		

#### Tandem, Shift to Through

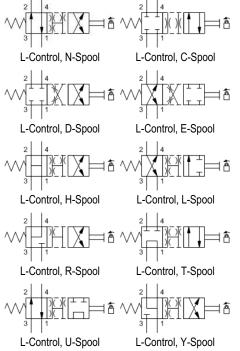
U Through, Shift to Tandem

#### Y Motor, Shift to Cross

#### 341 of 372



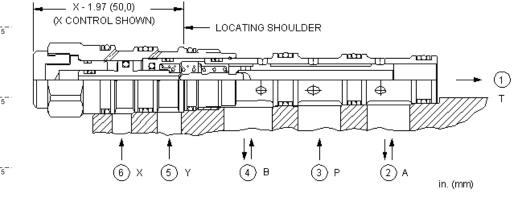
MODEL **DNDM** 



sun hydraulics"



#### sunhydraulics.com/model/DCCF



Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

175 psi

Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.02 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990061007
Seal kit - Cartridge	Polyurethane: 990061002
Seal kit - Cartridge	Viton: 990061006

Minimum Pilot Pressure Required to Shift Valve

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DCCFXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL	MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	X P to A and B to T Center	NB	una-N		Standard Material/Coating
	A to T Center	<b>v</b> v	iton		/AP Stainless Steel, Passivated
	B B to T Center				/LH Mild Steel, Zinc-Nickel
	C Blocked Center				
	H Open Center				
	R Regen Center				
	<b>- - - - - - - - - -</b>				

T Tandem Center

W A and B Bleed to T Center

Y A and B to T Center

X-Control, X-Spool

<mark>sun</mark> hydraulics"



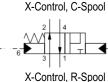
X-Control, B-Spool



X-Control, H-Spool

X-Control, T-Spool

X-Control, Y-Spool



2 4

X-Control, W-Spool

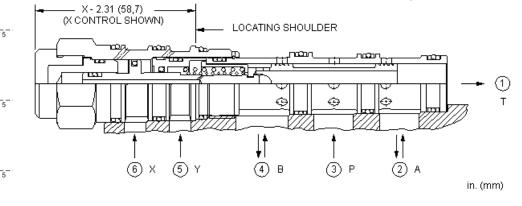
MODEL

DCCF

X-Control, A-Spool

#### 4-way, 2-position, pilot-to-shift directional valve SERIES 2 / CAPACITY: 11 - 30 gpm / CAVITY: T-62A

sunhydraulics.com/model/DCDF



Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

**TECHNICAL DATA** 

W A and B Bleed to T Center Y A and B to T Center

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

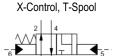
Seal kit - Cartridge	Viton: 990062006	
Seal kit - Cartridge	Polyurethane: 990062002	
Seal kit - Cartridge	Buna: 990062007	
Pilot Volume Displacement	.06 in <sup>3</sup>	
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi	
Minimum Pilot Pressure Required to Shift Valve	150 psi	

#### **CONFIGURATION OPTIONS**

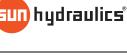
#### Model Code Example: DCDFXXN

CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	X P to A and B to T Center	N Buna-N		Standard Material/Coating
	A A to T Center	E EPDM		/AP Stainless Steel, Passivated
	B B to T Center	V Viton		/LH Mild Steel, Zinc-Nickel
	C Blocked Crossover			
	H Open Crossover			
	R Regen Center			
	T Tandem Center			





X-Control, Y-Spool



X-Control, X-Spool

X-Control, B-Spool

X-Control, H-Spool

MODEL DCDF

X-Control, A-Spool

X-Control, C-Spool

X-Control, R-Spool

X-Control, W-Spool

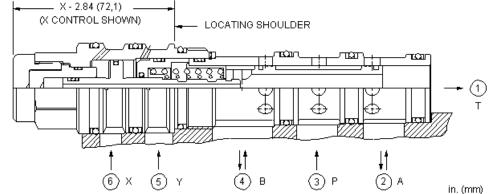
1 -

2 4

2 4

 $\sim$ 

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Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

Pilot Volume Displacement Seal kit - Cartridge

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

125 psi

.17 in<sup>3</sup>

2 in3/min.@1000 psi

Buna: 990063007 EPDM: 990063014 Polyurethane: 990063002 Viton: 990063006

•
Seal kit - Cartridge
Seal kit - Cartridge
Seal kit - Cartridge

Minimum Pilot Pressure Required to Shift Valve

Maximum Valve Leakage at 110 SUS (24 cSt)

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DCEFXXN

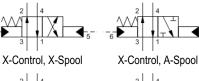
CONTROL	(X) SPOOL CONFIGURATION	(X) SEAL MATERIAL	(N)
X Standard Pilot	X P to A and B to T Center	N Buna-N	
	A to T Center	E EPDM	
	B B to T Center	V Viton	
	C Blocked Center		
	H Open Center		
	R Regen Center		
	T Tandem Center		

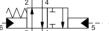
W A and B Bleed to T Center

Y A and B to T Center







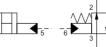


X-Control, H-Spool

X-Control, T-Spool

X-Control, Y-Spool

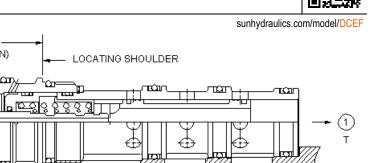




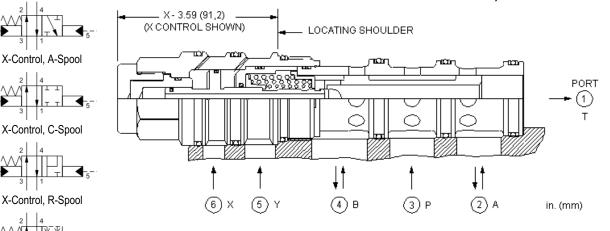


2 4

X-Control, W-Spool







Two-position, 4-way directional cartridges are spring-offset, 6-port directional valves that can be configured from a choice of 9 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

MODEL

DCFF

2 4

2 4

X-Control, W-Spool

sun hydraulics"

X-Control, X-Spool

X-Control, B-Spool

X-Control, H-Spool

X-Control, T-Spool

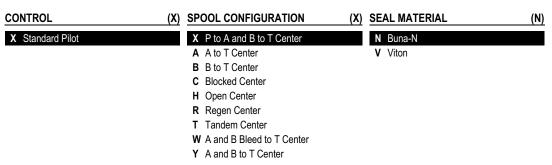
X-Control, Y-Spool

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	125 psi
Maximum Valve Leakage at 110 SUS (24 cSt) 2 in <sup>3</sup> /min.@1000 psi	
Pilot Volume Displacement	.42 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

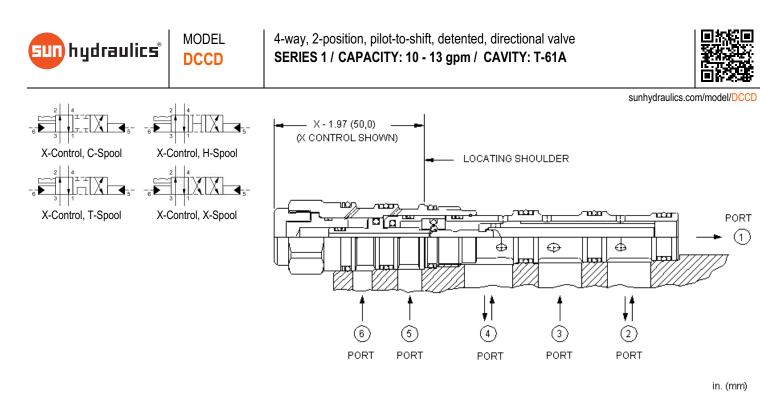
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DCFFXXN





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Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

/LH Mild Steel, Zinc-Nickel

Minimum Pilot Pressure Required to Shift Valve	175 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt) 2 in <sup>3</sup> /min.@1000 psi	
Pilot Volume Displacement	.05 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990061007
Seal kit - Cartridge	Polyurethane: 990061002
Seal kit - Cartridge	Viton: 990061006

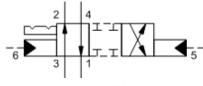
#### **CONFIGURATION OPTIONS**

#### Model Code Example: DCCDXCN

# CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N) MATERIAL/COATING X Standard Pilot C Blocked Crossover N Buna-N Standard Material/Coating H Open Crossover V Viton /AP Stainless Steel, Passivated

- T Tandem Crossover
- X P to B and A to T Crossover

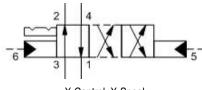




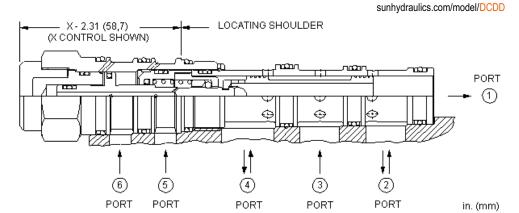
X-Control, C-Spool



X-Control, H-Spool



X-Control, X-Spool



Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	150 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.12 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990062007
Seal kit - Cartridge	Polyurethane: 990062002
Seal kit - Cartridge	Viton: 990062006

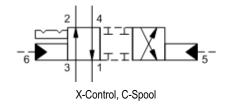
#### **CONFIGURATION OPTIONS**

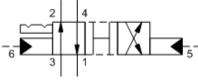
#### Model Code Example: DCDDXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL N	ATERIAL (N)	MATERIAL/COATING
X Standard Pilot	C Blocked Crossover	N Bun	a-N	Standard Material/Coating
	H Open Crossover	V Vito	1	/AP Stainless Steel, Passivated
	X P to B and A to T Crossover			/LH Mild Steel, Zinc-Nickel

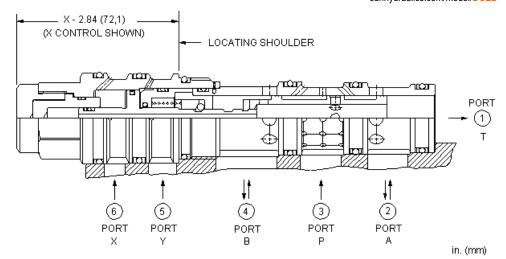


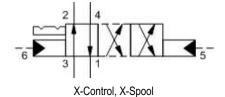
sunhydraulics.com/model/DCED





X-Control, H-Spool





Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	125 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.34 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990063007
Seal kit - Cartridge	Polyurethane: 990063002
Seal kit - Cartridge	Viton: 990063006

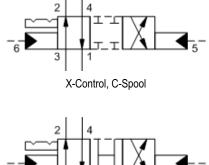
#### **CONFIGURATION OPTIONS**

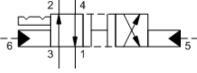
#### Model Code Example: DCEDXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Crossover	N Buna-N	Standard Material/Coating
	H Open Crossover	V Viton	/AP Stainless Steel, Passivated
	X P to B and A to T Crossover		/LH Mild Steel, Zinc-Nickel

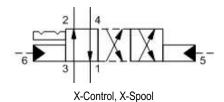


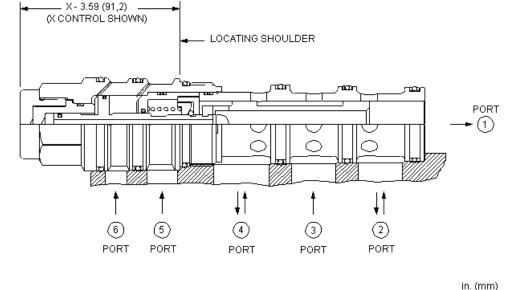
sunhydraulics.com/model/DCFD





X-Control, H-Spool





Two-position, detented, 4-way directional cartridges are 6-port directional valves that can be configured with up to 3 different spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	125 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.84 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DCFDXCN

to-shift valves is dependent on the spool type specified.

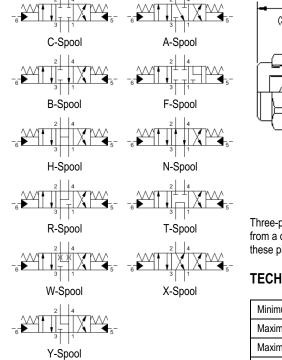
CONTROL	(X) SPO	OL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Standard Pilot	C	Blocked Crossover		N Buna-N	
	H	Open Crossover		V Viton	
	X	P to B and A to T Crossover			

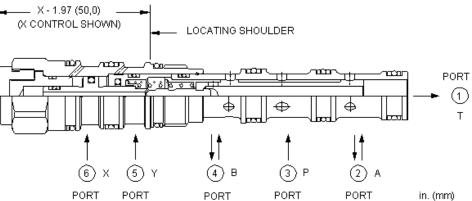
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## sun hydraulics



sunhydraulics.com/model/DCCC





Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	175 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.02 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990061007
Seal kit - Cartridge	Polyurethane: 990061002
Seal kit - Cartridge	Viton: 990061006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DCCCXCN

CONTROL (2	() SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot	C Blocked Center		N Buna-N		Standard Material/Coating
	A A to T Center		V Viton		/AP Stainless Steel, Passivated
	B to T Center				/LH Mild Steel, Zinc-Nickel
	F Closed Center, A and B to T				
	H Open Center				
	N P to A and B to T Center				
	<b>D</b> Dama Oratan				

R Regen Center

T Tandem Center

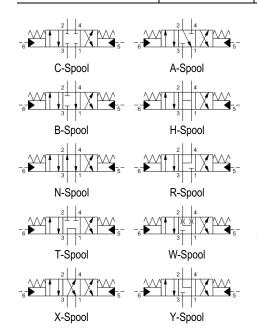
 ${\bf W}\,$  A and B Bleed to T Center

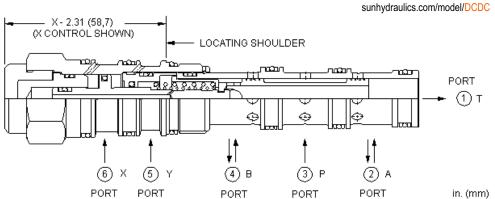
Y A and B to T Center

## sun hydraulics'

MODEL DCDC 4-way, 3-position, pilot-to-shift directional valve SERIES 2 / CAPACITY: 11 - 30 gpm / CAVITY: T-62A







Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

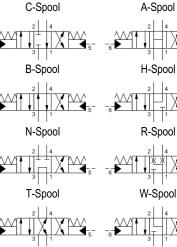
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	150 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.06 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990062007
Seal kit - Cartridge	Polyurethane: 990062002
Seal kit - Cartridge	Viton: 990062006

#### CONFIGURATION OPTIONS

#### Model Code Example: DCDCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C Blocked Center	N Buna-N	Standard Material/Coating
	A A to T Center	E EPDM	/AP Stainless Steel, Passivated
	B to T Center	V Viton	/LH Mild Steel, Zinc-Nickel
	H Open Center		
	N P to A and B to T Center		
	R Regen Center		
	T Tandem Center		
	W A and B Bleed to T Center		
	Y A and B to T Center		



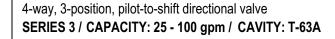
X-Spool

sun hydraulics"

Y-Spool

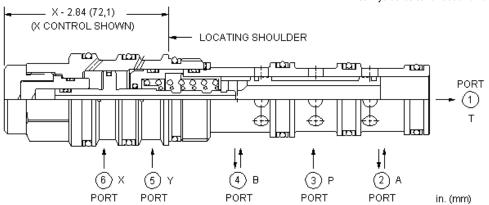
MODEL

DCEC









Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	125 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.17 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990063007
Seal kit - Cartridge	EPDM: 990063014
Seal kit - Cartridge	Polyurethane: 990063002
Seal kit - Cartridge	Viton: 990063006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DCECXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Standard Pilot		C Blocked Center		N Buna-N		Standard Material/Coating
		A to T Center		E EPDM		/AP Stainless Steel, Passivated
		B B to T Center		V Viton		
		H Open Center				
		N P to A and B to T Center				
		R Regen Center				
		<sup>*</sup>				

T Tandem Center

W A and B Bleed to T Center

Y A and B to T Center

## sun hydraulics

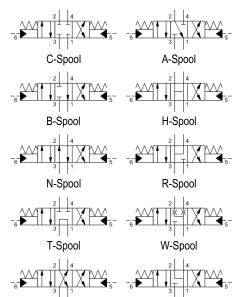
MODEL DCFC

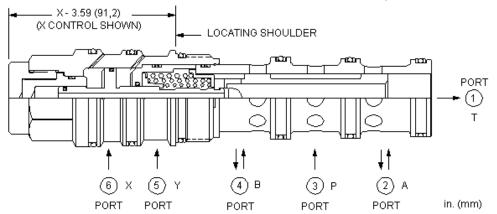
Y-Spool

4-way, 3-position, pilot-to-shift directional valve SERIES 4 / CAPACITY: 50 - 200 gpm / CAVITY: T-64A



sunhydraulics.com/model/DCFC





Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

W A and B Bleed to T CenterY A and B to T Center

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	125 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.42 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990064007
Seal kit - Cartridge	EPDM: 990064014
Seal kit - Cartridge	Polyurethane: 990064002
Seal kit - Cartridge	Viton: 990064006

#### **CONFIGURATION OPTIONS**

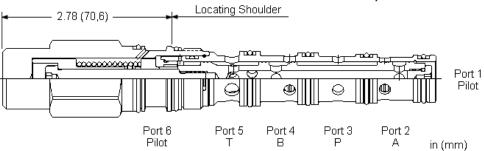
X-Spool

#### Model Code Example: DCFCXCN

CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N) MATERIAL/COATING X Standard Pilot N Buna-N C Blocked Center Standard Material/Coating E EPDM A to T Center /AP Stainless Steel, Passivated B B to T Center V Viton H Open Center N P to A and B to T Center R Regen Center Tandem Center Т

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sunhydraulics.com/model/DDDC



Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

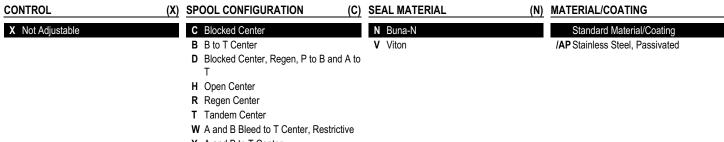
#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	150 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Pilot Volume Displacement	.05 in³
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DDDCXCN



Y A and B to T Center

**B-Spool** C-Spoo D-Spoo H-Spool R-Spool T-Spool W-Spool Y-Spool

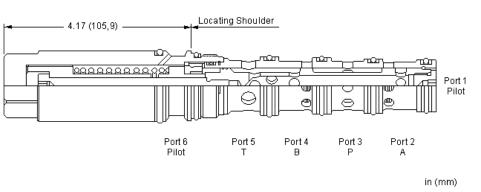




MODEL DDDC

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Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Minimum Pilot Pressure Required to Shift Valve	200 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 in³/min.@1000 psi
Pilot Volume Displacement	.11 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

#### **CONFIGURATION OPTIONS**

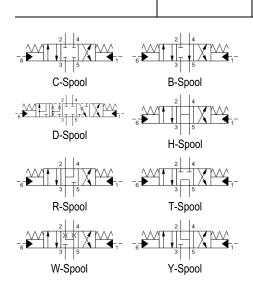
#### Model Code Example: DDFCXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Blocked Center	N Buna-N	Standard Material/Coating
	B B to T Center	V Viton	/AP Stainless Steel, Passivated
	D Blocked Center, Regen, P to B	and A to	
	т		
	H Open Center		
	R Regen Center		
	T Tandem Center		

**W** A and B Bleed to T Center, Restrictive

W A and B Bleed to T Center, Result

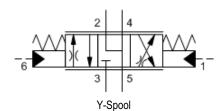
Y A and B Bleed to T Center

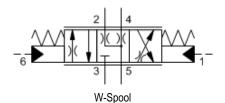


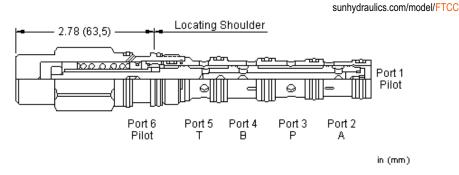


MODEL









Pressure at ports 1 and 6 directly oppose each other.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

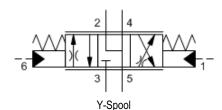
Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5.5 in³/min.@1000 psi
Pilot Volume Displacement	.04 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

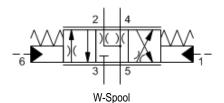
#### **CONFIGURATION OPTIONS**

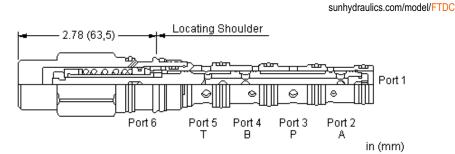
#### Model Code Example: FTCCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL (N	MATERIAL/COATING
X Not Adjustable	Y A and B to T Center	N Buna-N	Standard Material/Coating
	W A and B Bleed to T Center	V Viton	/AP Stainless Steel, Passivated









Pressure at ports 1 and 6 directly oppose each other.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

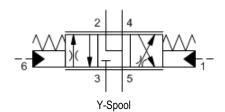
Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2.7 in <sup>3</sup> /min.@500 psi
Pilot Volume Displacement	.04 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990052007
Seal kit - Cartridge	Viton: 990052006

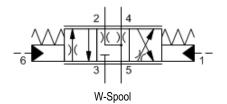
#### **CONFIGURATION OPTIONS**

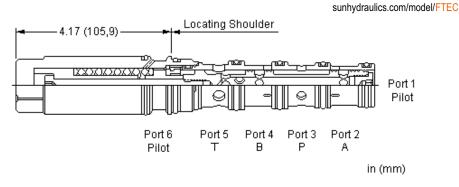
#### Model Code Example: FTDCXYN

CONTROL	(X) SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	Y A and B to T Center	N Buna-N		Standard Material/Coating
	W A and B Bleed to T Center	V Viton		/AP Stainless Steel, Passivated









Pressure at ports 1 and 6 directly oppose each other.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

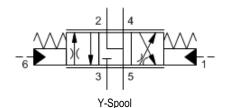
Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	8 in³/min.@1000 psi
Pilot Volume Displacement	.11 in³
Hysteresis	35 %
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

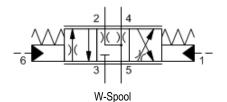
#### **CONFIGURATION OPTIONS**

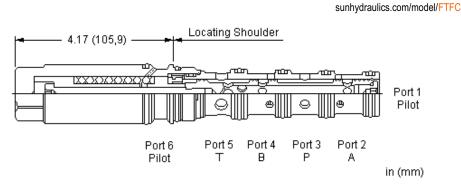
#### Model Code Example: FTECXYN

CONTROL (X)	SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	Y A and B to T Center	N Buna-N	Standard Material/Coating
	W A and B Bleed to T Center	V Viton	/AP Stainless Steel, Passivated









Pressure at ports 1 and 6 directly oppose each other.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

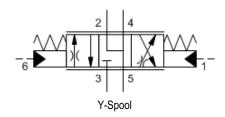
Pilot Pressure Required for Full Shift at Rated Flow	290 - 340 psi
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	8 in³/min.@1000 psi
Pilot Volume Displacement	.11 in³
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

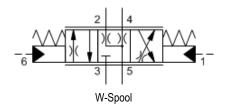
#### **CONFIGURATION OPTIONS**

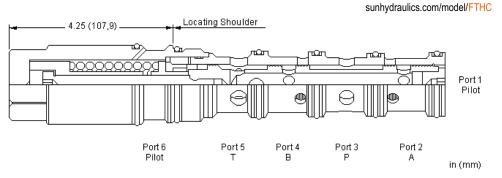
#### Model Code Example: FTFCXYN

CONTROL ()	() SPOOL CONFIGURATION	(Y) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	Y A and B to T Center W A and B Bleed to T Center	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated	









Pressure at ports 1 and 6 directly oppose each other.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	14 in³/min.@1000 psi
Pilot Volume Displacement	.26 in <sup>3</sup>
Maximum Pilot Pressure	500 psi
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Polyurethane: 990054002
Seal kit - Cartridge	Viton: 990054006

#### CONFIGURATION OPTIONS

#### Model Code Example: FTHCXYN

CONTROL (X)	SPOOL CONFIGURATION (Y	) SEAL MATERIAL (N	) MATERIAL/COATING
X Not Adjustable	Y A and B to T Center	N Buna-N	Standard Material/Coating
	W A and B Bleed to T Center	V Viton	/AP Stainless Steel, Passivated

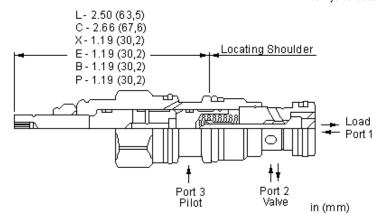




sunhydraulics.com/model/CKCR







This valve is a pilot to open check valve. It has a non-sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

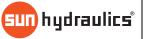
#### **CONFIGURATION OPTIONS**

#### Model Code Example: CKCRXCN

CONTROL	(X) CRACKING PRESSURE	(C) SEAL MATERIA	AL (N) MATERIAL/COATING
X Standard Pilot	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
B External 1/4 BSPP Pilot Port, Port 3	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
blocked	<b>B</b> 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
C Manual Load Release - Tamper	<b>D</b> 50 psi (3,5 bar)		
Resistant	E 75 psi (5 bar)		
E External 4-SAE Pilot Port, Port 3	<b>F</b> 100 psi (7 bar)		
Blocked	<b>Z</b> 1 psi (0,07 bar)		

L Manual Load Release

P External 1/4 NPTF Pilot Port, Port 3 Blocked



MODEL CKCS

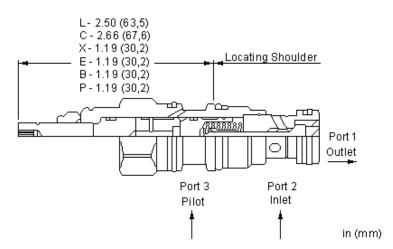
### 5:1 pilot ratio, pilot-to-open check valve with sealed pilot SERIES 1 / CAPACITY: 15 gpm / CAVITY: T-11A



sunhydraulics.com/model/CKCS







This valve is a pilot to open check valve. It has a sealed pilot, a steel seat, and is non-vented. It allows free flow from the valve (port 2) to the load (port 1) and blocks flow in the opposite direction. Pressure at the pilot (port 3) will open the valve from port 1 to port 2. Pilot pressure needed at port 3 to open the valve is directly proportional to the load pressure at port 1. Pressure at port 2 directly opposes pilot pressure.

#### **TECHNICAL DATA**

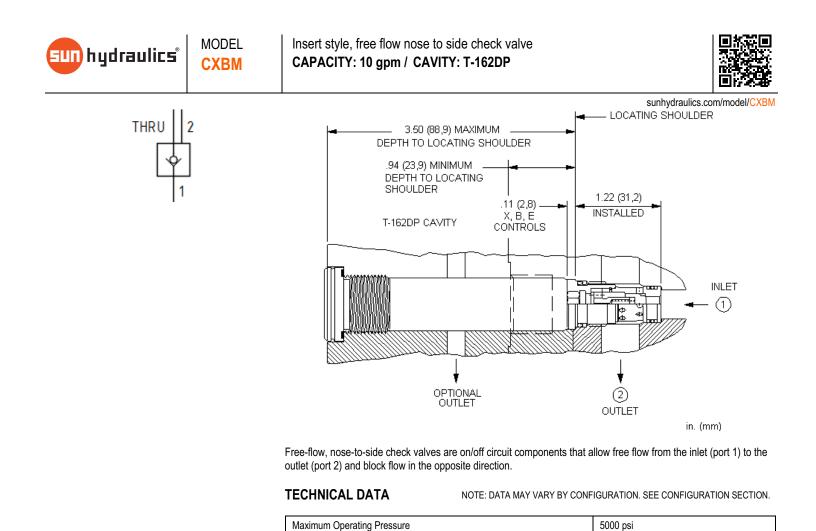
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CKCSXCN

<u>co</u>	NTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL (N)
	Standard Pilot External 1/4 BSPP Pilot Port, Port 3		C 30 psi (2 bar) A 4 psi (0,3 bar)		N Buna-N V Viton
С	blocked Manual Load Release - Tamper Resistant		<ul> <li>B 15 psi (1 bar)</li> <li>D 50 psi (3,5 bar)</li> <li>E 75 psi (5 bar)</li> </ul>		
	External 4-SAE Pilot Port, Port 3 Blocked		<b>F</b> 100 psi (7 bar) <b>Z</b> 1 psi (0,07 bar)		
_	Manual Load Release External 1/4 NPTF Port, Port 3 block	ed			



### CONFIGURATION OPTIONS

#### Model Code Example: CXBMXAN

Maximum Valve Leakage at 110 SUS (24 cSt)

Valve Internal Hex Size

Seal kit - Cartridge

Seal kit - Cartridge

Seal kit - Cartridge

Seal kit - Cartridge

CONTROL	(X) CRACKING PRESSURE	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 4 psi (0,3 bar)	N Buna-N	
	<b>B</b> 15 psi (1 bar)	E EPDM	
	<b>C</b> 30 psi (2 bar)	V Viton	

1 drops/min.

Buna: 990162007

EPDM: 990162014

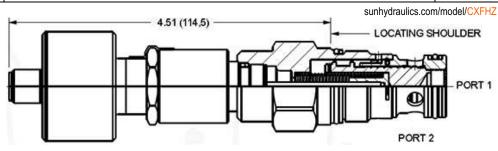
Polyurethane: 990162002 Viton: 990162006

5/16 in.



2





Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

This valve incorporates a position switch to provide confirmation that the valve is in the transition position or seated (closed).

#### TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXFHZCN

CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
<b>C</b> 30 psi (2 bar)		N Buna-N	
A 4 psi (0,3 bar)		V Viton	



2



sunhydraulics.com/model/CXHHZ

Free-flow, nose-to-side check valves are on/off circuit components that allow free flow from the inlet (port 1) to the outlet (port 2) and block flow in the opposite direction.

This valve incorporates a position switch to provide confirmation that the valve is in the transition position or seated (closed).

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Transition leakage at 110 SUS (24 cSt)	2 in³/min.@1000 psi
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

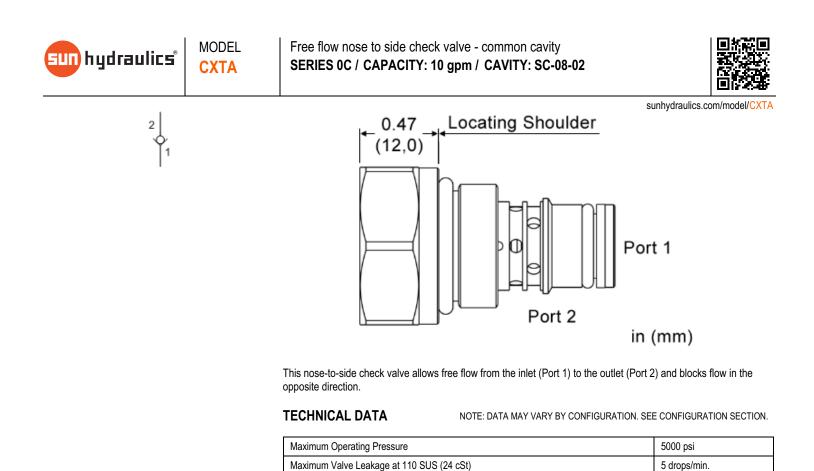
#### **CONFIGURATION OPTIONS**

#### Model Code Example: CXHHZCN

CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
<b>C</b> 30 nsi (2 har)		N Buna-N	

A 4 psi (0,3 bar)

V Viton



### CONFIGURATION OPTIONS

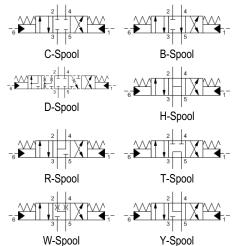
#### Model Code Example: CXTAXCN

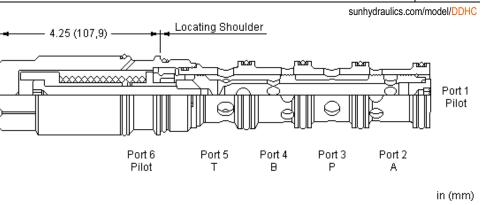
CONTROL	(X) CRACK	ING PRESSURE	(C)	SEAL MATERIAL	(N)
Χ -	<b>C</b> 36 p	si		N Buna-N	
	A 5 ps	i			
	<b>E</b> 72 p	si			

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Three-position, 4-way directional cartridges are spring-centered, 6-port directional valves that can be configured from a choice of spool options. The supply port is port 3 and all ports will accept 5000 psi (350 bar). Capacity for these pilot-to-shift valves is dependent on the spool type specified.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Minimum Pilot Pressure Required to Shift Valve	200 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	5 in³/min.@1000 psi
Pilot Volume Displacement	.26 in <sup>3</sup>
Seal kit - Cartridge	Buna: 990054007
Seal kit - Cartridge	Viton: 990054006

#### **CONFIGURATION OPTIONS**

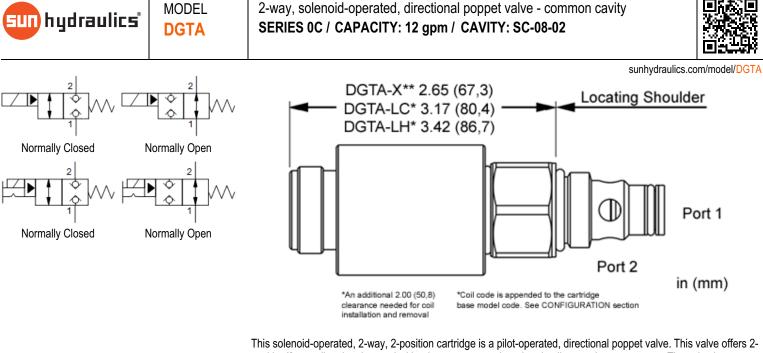
#### Model Code Example: DDHCXCN

CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Blocked Center		N Buna-N	
		B B to T Center		V Viton	
		D Blocked Center, Regen, P to B a	ind A to		
		H Open Center			
		R Regen Center			
		T Tandem Center			
		W A and B Bleed to T Center, Restr	rictive		

Y A and B Bleed to T Center

sun hydraulics" **DDHC** 

MODEL



position/2-way directional control with a lower pressure drop than its direct-acting counterpart. The valve is available in the normally open and normally closed condition.

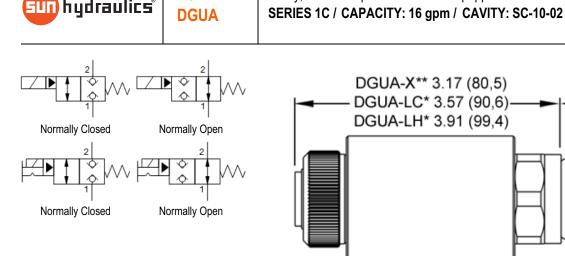
#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Response Time - Typical	150 ms
Coil Nut Torque	3.5 - 3.9 lbf ft

CONFIGURATION OPTIONS	Model C	ode Example: DGTAXCN	
CONTROL	() SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) <u>COIL *</u>
<ul><li>X No Manual Override</li><li>L Manual Override (Push with Detent)</li></ul>	<ul><li>C Normally Closed</li><li>H Normally Open</li></ul>	N Buna-N	No coil * Additional coil options are available

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Locating Shoulder Port 1 Port 2

\*An additional 2.00 (50,8) clearance needed for coil installation and removal

\*Coil code is appended to the cartridge base model code. See CONFIGURATION section

This solenoid-operated, 2-way, 2-position cartridge is a pilot-operated, directional poppet valve. This valve offers 2position/2-way directional control with a lower pressure drop than its direct-acting counterpart. The valve is available in the normally open and normally closed condition.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Response Time - Typical	300 ms
Coil Nut Torque	3.5 - 3.9 lbf ft

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DGUAXCN

CONTROL (	X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)	COIL *
X No Manual Override	C Normally Closed	N Buna-N		No coil
L Manual Override (Push with Detent)	H Normally Open			* Additional coil options are available



un hydraulics

MODEL

sunhydraulics.com/model/DGUA

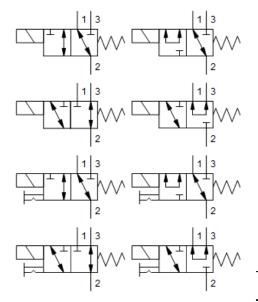
in (mm)

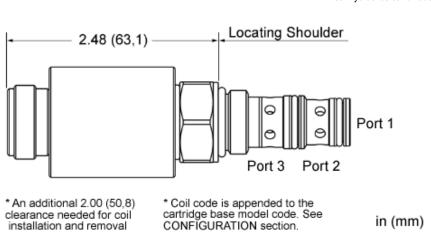
## sun hydraulics

MODEL DMTA 3-way, direct-acting, balanced spool, solenoid-operated directional valve, 3600 psi (250 bar) - common cavity SERIES 0C / CAPACITY: 4 gpm / CAVITY: SC-08-03



sunhydraulics.com/model/DMTA





This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

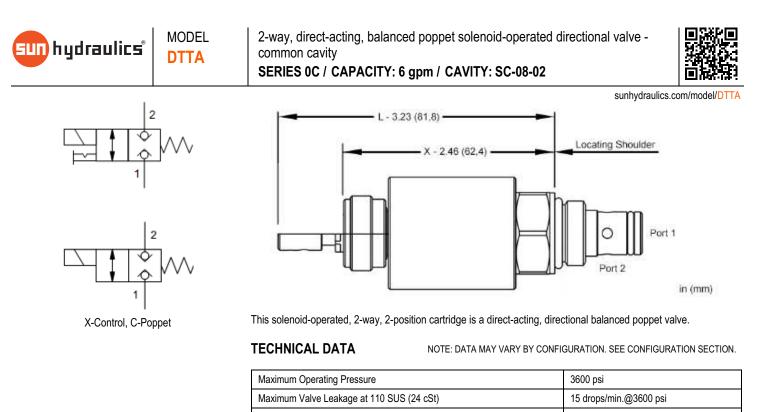
Maximum Operating Pressure	3600 psi
Response Time - Typical	50 ms
Coil Nut Torque	3.5 - 3.9 lbf ft

#### **CONFIGURATION OPTIONS**

#### Model Code Example: DMTAXAN

CONTROL	(X) SPOOL CONFIGURATION (A)	SEAL MATERIAL (N)	COIL *
X No Manual Override	A Normally Open 1 to 2, Closed 1 to 3	N Buna-N	No coil
L Manual Override (Push with Detent)	H Normally Open 1 to 2, Closed 1 to 3		* Additional coil options are available
	Normally Open 2 to 3, Closed 1 to 2		·····

P Normally Open 1 to 3, Closed 1 to 2

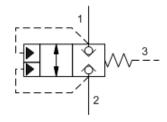


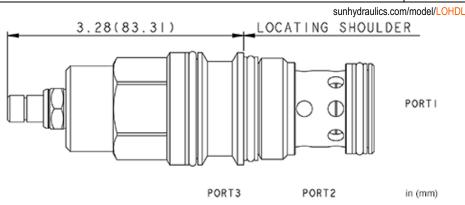
CONFIGURATION OPTIONS	Model Code Example: DTTALCN	
	Seal kit - Cartridge	Viton: 99C083006
	Seal kit - Cartridge	Buna: 99C083007
	Coil Nut Torque	3.5 - 3.9 lbf ft
	Switching Frequency	15,000 max. cycles/hr
	Response Time - Typical	50 ms

CONTROL	(L) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N) <u>COIL *</u>
L -	C Normally Closed	N Buna-N	No coil
Χ -			* Additional coil options are available









These unbalanced, pilot-to-close logic valves are 2-way switching elements that are spring biased closed. Pressure at either work port 1 or 2 will oppose the spring and tend to open the valve while pressure at port 3 will tend to close it. The force generated at port 3, plus the spring force, must be greater than the sum of the forces acting at port 1 and port 2 for the valve to remain closed. NOTE: The pilot area (port 3) is 1.8 times the area at port 1 and 2.25 times the area at port 2.

#### **TECHNICAL DATA**

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.
Pilot Volume Displacement	.25 in <sup>3</sup>
Area Ratio, A3 to A1	1.8:1
Area Ratio, A3 to A2	2.25:1
Control Orifice Diameter	.031 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: LOHDLDN

CRACKING PRESSURE	(D)	SEAL MATERIAL	(N)
<b>D</b> 50 psi (3,5 bar)		N Buna-N	
		E EPDM	
		V Viton	

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