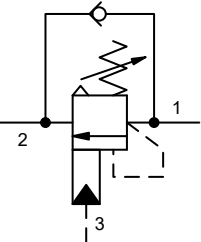
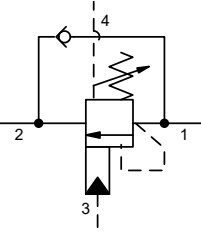
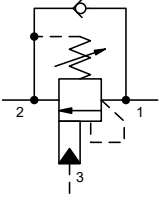
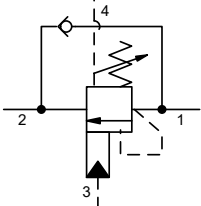


SYMBOL	CHARACTERISTIC	SERIES 1	SERIES 2	SERIES 3	SERIES 4	PILOT RATIO	
<p>3-port non-vented</p>		T-11A	T-2A	T-17A	T-19A		
		15 gpm (60 L/min)	30 gpm (120 L/min)	60 gpm (240 L/min)	120 gpm (480 L/min)		
	Standard	CBCL	CBEL	CBGL	CBIL		2.3:1
		CBCY	CBEY	CBGY	CBIY		2:1
		CBCB	CBEB	CBGB	CBIB		1.5:1
		CBCA	CBEA	CBGA	CBIA		3:1
		CBCG	CBEG	CBGG	CBIG		4.5:1
		CBCH	CBEH	CBGH	CBIH		10:1
			10 gpm (40 L/min)	20 gpm (80 L/min)	40 gpm (160 L/min)		
	Semi-restrictive	CBBB	CBDB	CBFB			1.5:1
		CBBL	CBDL	CBFL			2.3:1
		CBBC	CBDC	CBFC			3:1
		CBBD	CBDD	CBFD			4.5:1
			5 gpm (20 L/min)	7.5 gpm (30 L/min)	15 gpm (60 L/min)	20 gpm (80 L/min)	
	Restrictive	CBBY					2:1
		CBBA	CBDA	CBFA	CBHA		3:1
			2.5 gpm (10 L/min)				
	Ultra-restrictive	CBAB					1.5:1
		CBAA					3:1
		CBAG					4.5:1
CBAH						10:1	
<p>3-port non-vented, fixed setting</p>		15 gpm (60 L/min)	30 gpm (120 L/min)	20 gpm (80 L/min)			
	Standard	CBCLX					2.3:1
		CBCAX	CBEAX				3:1
		CBCGX					4.5:1
		CBCHX					10:1
			10 gpm (40 L/min)	20 gpm (80 L/min)			
	Semi-restrictive	CBBLX					2.3:1
		CBBCX	CBDCX				3:1
		CBBDX	CBDDX				4.5:1
		CBDBX					1.5:1

SYMBOL	CHARACTERISTIC	SERIES 1	SERIES 2	SERIES 3	SERIES 4	PILOT RATIO
3-port non-vented, fixed setting (continued)		T-11A	T-2A	T-17A	T-19A	
		5 gpm (20 L/min)	7.5 gpm (30 L/min)			
	Restrictive	CBBAX	CBDAX			3:1
		CBBGX	CBDGX			4.5:1
		CBDHX			10:1	
3-port vented 	Atmospherically vented	7.5 gpm (30 L/min)				
		CABK				1:1
		CABG				4.5:1
			CABN			7:1
	Standard	15 gpm (60 L/min)	30 gpm (120 L/min)	60 gpm (240 L/min)	120 gpm (480 L/min)	
		CACK	CAEK	CAGK	CAIK	1:1
		CACL	CAEL	CAGL	CAIL	2:1
		CACA	CAEA	CAGA	CAIA	3:1
		CACG	CAEG	CAGG	CAIG	5:1
		CACH				10:1
4-port vented 	Standard	T-21A	T-22A	T-23A	T-24A	
		15 gpm (60 L/min)	30 gpm (120 L/min)	60 gpm (240 L/min)	120 gpm (480 L/min)	
		CWCK	CWEK	CWGK	CWIK	1:1
		CWCL	CWEL	CWGL	CWIL	2:1
		CWCA	CWEA	CWGA	CWIA	3:1
	CWCG	CWEG	CWGG	CWIG	5:1	
Load-reactive 			T-2A	T-17A	T-19A	
			30 gpm (120 L/min)	60 gpm (240 L/min)	120 gpm (480 L/min)	
	Load reactive			MBGB	MBIB	1.5:1
				MBEA	MBGA	MBIA	3:1
			MBGG	MBIG	4.5:1	
Load-reactive, vented 	Load reactive, vented		T-22A	T-23A	T-24A	
				30 gpm (120 L/min)	60 gpm (240 L/min)	120 gpm (480 L/min)
			MWEB			1.5:1
			MWEA			3:1
			MWEG	MWGG	MWIG	4.5:1

Load Holding Cartridges

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This information is subject to change without notice. Visit www.sunhydraulics.com for complete and up to date information.

CBCB	1.5:1 pilot ratio, standard capacity counterbalance valve	.....1
CBEB	1.5:1 pilot ratio, standard capacity counterbalance valve	.....2
CBGB	1.5:1 pilot ratio, standard capacity counterbalance valve	.....3
CBIB	1.5:1 pilot ratio, standard capacity counterbalance valve	.....4
CBCY	2:1 pilot ratio, standard capacity counterbalance valve	.....5
CBEY	2:1 pilot ratio, standard capacity counterbalance valve	.....6
CBGY	2:1 pilot ratio, standard capacity counterbalance valve	.....7
CBIY	2:1 pilot ratio, standard capacity counterbalance valve	.....8
CBCL	2.3:1 pilot ratio, standard capacity counterbalance valve	.....9
CBEL	2.3:1 pilot ratio, standard capacity counterbalance valve	.....10
CBGL	2.3:1 pilot ratio, standard capacity counterbalance valve	.....12
CBIL	2.3:1 pilot ratio, standard capacity counterbalance valve	.....13
CBCA	3:1 pilot ratio, standard capacity counterbalance valve	.....14
CBEA	3:1 pilot ratio, standard capacity counterbalance valve	.....15
CBGA	3:1 pilot ratio, standard capacity counterbalance valve	.....17
CBIA	3:1 pilot ratio, standard capacity counterbalance valve	.....18
CBCG	4.5:1 pilot ratio, standard capacity counterbalance valve	.....19
CBEG	4.5:1 pilot ratio, standard capacity counterbalance valve	.....21
CBGG	4.5:1 pilot ratio, standard capacity counterbalance valve	.....23
CBIG	4.5:1 pilot ratio, standard capacity counterbalance valve	.....24
CBCH	10:1 pilot ratio, standard capacity counterbalance valve	.....26

CBEH	10:1 pilot ratio, standard capacity counterbalance valve	.....28
CBGH	10:1 pilot ratio, standard capacity counterbalance valve	.....29
CBIH	10:1 pilot ratio, standard capacity counterbalance valve	.....30
CBBB	1.5:1 pilot ratio, semi-restrictive counterbalance valve	.....31
CBDB	1.5:1 pilot ratio, semi-restrictive counterbalance valve	.....32
CBFB	1.5:1 pilot ratio, semi-restrictive counterbalance valve	.....33
CBBL	2.3:1 pilot ratio, semi-restrictive counterbalance valve	.....34
CBDL	2.3:1 pilot ratio, semi-restrictive counterbalance valve	.....35
CBFL	2.3:1 pilot ratio, semi-restrictive counterbalance valve	.....36
CBBC	3:1 pilot ratio, semi-restrictive counterbalance valve	.....37
CBDC	3:1 pilot ratio, semi-restrictive counterbalance valve	.....38
CBFC	3:1 pilot ratio, semi-restrictive counterbalance valve	.....39
CBBD	4.5:1 pilot ratio, semi-restrictive counterbalance valve	.....40
CBDD	4.5:1 pilot ratio, semi-restrictive counterbalance valve	.....41
CBFD	4.5:1 pilot ratio, semi-restrictive counterbalance valve	.....42
CBBY	2:1 pilot ratio, restrictive counterbalance valve	.....43
CBBA	3:1 pilot ratio, restrictive counterbalance valve	.....44
CBDA	3:1 pilot ratio, restrictive counterbalance valve	.....45
CBFA	3:1 pilot ratio, restrictive counterbalance valve	.....46
CBHA	3:1 pilot ratio, restrictive counterbalance valve	.....47
CBBG	4.5:1 pilot ratio, restrictive counterbalance valve	.....48

CBDG	4.5:1 pilot ratio, restrictive counterbalance valve	.....50
CBFG	4.5:1 pilot ratio, restrictive counterbalance valve	.....51
CBHG	4.5:1 pilot ratio, restrictive counterbalance valve	.....52
CBAB	1.5:1 pilot ratio, ultra-restrictive counterbalance valve	.....53
CBAA	3:1 pilot ratio, ultra-restrictive counterbalance valve	.....54
CBAG	4.5:1 pilot ratio, ultra-restrictive counterbalance valve	.....55
CBAH	10:1 pilot ratio, ultra-restrictive counterbalance valve	.....56
CBCLX	Fixed setting, 2.3:1 pilot ratio, standard capacity counterbalance valve	.....57
CBCAX	Fixed setting, 3:1 pilot ratio, standard capacity counterbalance valve	.....58
CBEAX	Fixed setting, 3:1 pilot ratio, standard capacity counterbalance valve	.....59
CBCGX	Fixed setting, 4.5:1 pilot ratio, standard capacity counterbalance valve	.....60
CBCHX	Fixed setting, 10:1 pilot ratio, standard capacity counterbalance valve	.....61
CBBLX	Fixed setting, 2.3:1 pilot ratio, semi-restrictive counterbalance valve	.....62
CBBCX	Fixed setting, 3:1 pilot ratio, semi-restrictive counterbalance valve	.....63
CBDCX	Fixed setting, 3:1 pilot ratio, semi-restrictive counterbalance valve	.....64
CBBDX	Fixed setting, 4.5:1 pilot ratio, semi-restrictive counterbalance valve	.....65
CBDDX	Fixed setting, 4.5:1 pilot ratio, semi-restrictive counterbalance valve	.....66
CBBAX	Fixed setting, 3:1 pilot ratio, restrictive counterbalance valve	.....67
CBDAX	Fixed setting, 3:1 pilot ratio, restrictive counterbalance valve	.....68
CBBGX	Fixed setting, 4.5:1 pilot ratio, restrictive counterbalance valve	.....69
CBDGX	Fixed setting, 4.5:1 pilot ratio, restrictive counterbalance valve	.....70

CBABX	Fixed setting, 1.5:1 pilot ratio, ultra-restrictive counterbalance valve	.....71
CBAAX	Fixed setting, 3:1 pilot ratio, ultra-restrictive counterbalance valve	.....72
CBAGX	Fixed setting, 4.5:1 pilot ratio, ultra-restrictive counterbalance valve	.....73
CABK	1:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....74
CACK	1:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....75
CAEK	1:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....76
CAGK	1:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....77
CAIK	1:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....78
CACL	2:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....79
CAEL	2:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....80
CAGL	2:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....81
CAIL	2:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....82
CACA	3:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....83
CAEA	3:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....84
CAGA	3:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....85
CAIA	3:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....86
CABG	4.5:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....87
CACG	5:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....88
CAEG	5:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....89
CAGG	5:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....90
CAIG	5:1 pilot ratio, vented counterbalance valve - atmospherically referenced	.....91

CWCK	1:1 pilot ratio, vented counterbalance valve	.....92
CWEK	1:1 pilot ratio, vented counterbalance valve	.....93
CWGK	1:1 pilot ratio, vented counterbalance valve	.....94
CWIK	1:1 pilot ratio, vented counterbalance valve	.....95
CWCL	2:1 pilot ratio, vented counterbalance valve	.....96
CWEL	2:1 pilot ratio, vented counterbalance valve	.....97
CWGL	2:1 pilot ratio, vented counterbalance valve	.....98
CWIL	2:1 pilot ratio, vented counterbalance valve	.....99
CWCA	3:1 pilot ratio, vented counterbalance valve	.....100
CWEA	3:1 pilot ratio, vented counterbalance valve	.....101
CWGA	3:1 pilot ratio, vented counterbalance valve	.....102
CWIA	3:1 pilot ratio, vented counterbalance valve	.....103
CWCG	5:1 pilot ratio, vented counterbalance valve	.....104
CWEG	5:1 pilot ratio, vented counterbalance valve	.....105
CWGG	5:1 pilot ratio, vented counterbalance valve	.....106
CWIG	5:1 pilot ratio, vented counterbalance valve	.....107
MBIM	Balanced, load control valve	.....108
MWEM	Vented, balanced, load control valve	.....109
MWGM	Vented, balanced, load control valve	.....110
MWIM	Vented, balanced, load control valve	.....111
MBGB	1.5:1 pilot ratio, load reactive, load control valve	.....112

MBIB	1.5:1 pilot ratio, load reactive, load control valve	.....113
MBEA	3:1 pilot ratio, load reactive, load control valve	.....114
MBGA	3:1 pilot ratio, load reactive, load control valve	.....115
MBIA	3:1 pilot ratio, load reactive, load control valve	.....116
MBEG	4.5:1 pilot ratio, load reactive, load control valve	.....117
MBGG	4.5:1 pilot ratio, load reactive, load control valve	.....118
MBIG	4.5:1 pilot ratio, load reactive, load control valve	.....119
MBIAX	Fixed setting, 3:1 pilot ratio, load reactive, load control valve	.....120
MBEGX	Fixed setting, 4.5:1 pilot ratio, load reactive, load control valve	.....121
MBGGX	Fixed setting, 4.5:1 pilot ratio, load reactive, load control valve	.....122
MBIGX	Fixed setting, 4.5:1 pilot ratio, load reactive, load control valve	.....123
MWEB	Vented, 1.5:1 pilot ratio, load reactive, load control valve	.....124
MWEA	Vented, 3:1 pilot ratio, load reactive, load control valve	.....125
MWEG	Vented, 4.5:1 pilot ratio, load reactive, load control valve	.....126
MWGG	Vented, 4.5:1 pilot ratio, load reactive, load control valve	.....127
MWIG	Vented, 4.5:1 pilot ratio, load reactive, load control valve	.....128
MWGAX	Fixed setting, vented, 3:1 pilot ratio, load reactive, load control valve	.....129
MWEGX	Fixed setting, vented, 4.5:1 pilot ratio, load reactive, load control valve	.....130
MWGGX	Fixed setting, vented, 4.5:1 pilot ratio, load reactive, load control valve	.....131
MBEP	LoadMatch™ counterbalance valve	.....132
MAEP	Atmospherically referenced LoadMatch™ counterbalance valve	.....133

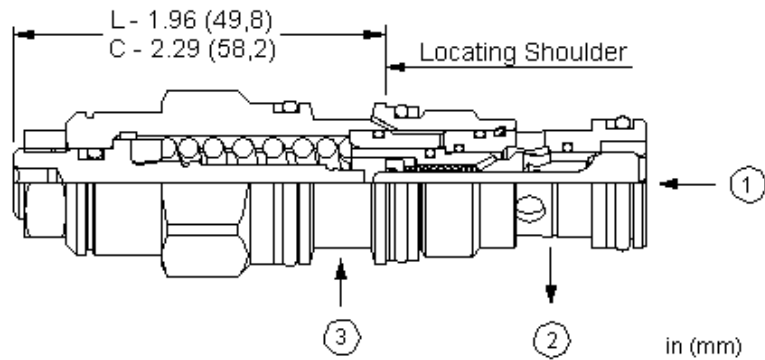
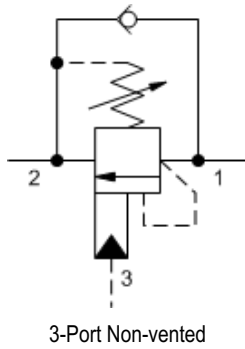
MWEP	Vented LoadMatch™ counterbalance valve	.....134
CKBB	Pilot-to-open check valve with standard pilot	.....135
CKBG	Flush mount pilot-to-open check valve with sealed pilot	.....136
CKCB	Pilot-to-open check valve with standard pilot	.....137
CKEB	Pilot-to-open check valve with standard pilot	.....138
CKGB	Pilot-to-open check valve with standard pilot	.....139
CKIB	Pilot-to-open check valve with standard pilot	.....140
CKBD	Pilot-to-open check valve with sealed pilot	.....141
CKCD	Pilot-to-open check valve with sealed pilot	.....142
CKED	Pilot-to-open check valve with sealed pilot	.....143
CKGD	Pilot-to-open check valve with sealed pilot	.....144
CKID	Pilot-to-open check valve with sealed pilot	.....145
CVCV	Vented pilot-to-open check valve	.....146
CVEV	Vented pilot-to-open check valve	.....147
CVGV	Vented pilot-to-open check valve	.....148
CVIV	Vented pilot-to-open check valve	.....149
CKCV	Vented pilot-to-open check valve - atmospherically referenced	.....150
CKEV	Vented pilot-to-open check valve - atmospherically referenced	.....151
CKGV	Vented pilot-to-open check valve - atmospherically referenced	.....152
CKIV	Vented pilot-to-open check valve - atmospherically referenced	.....153
CNCE	Pilot-to-open check valve with bypass orifice	.....154

CNEE	Pilot-to-open check valve with bypass orifice	.....155
CNGE	Pilot-to-open check valve with bypass orifice	.....156
CABN	7:1 pilot ratio, vented counterbalance - valve atmospherically referenced	.....157
CACH	10:1 pilot ratio, vented counterbalance - valve atmospherically referenced	.....158
CBDBX	Fixed setting, 1.5:1 pilot ratio, semi-restrictive counterbalance valve	.....159
CBDHX	Fixed setting, 10:1 pilot ratio, restrictive counterbalance valve	.....160
CEBA	3:1 pilot ratio, restrictive, LoadAdaptive™ counterbalance valve	.....161
CEBC	3:1 pilot ratio, semi-restrictive, LoadAdaptive™ counterbalance valve	.....162
CECA	3:1 pilot ratio, standard capacity, LoadAdaptive™ counterbalance valve	.....163
CKCR	5:1 pilot ratio, pilot-to-open check valve with standard pilot	.....164
CKCS	5:1 pilot ratio, pilot-to-open check valve with sealed pilot	.....165
MADP	Atmospherically referenced LoadMatch™ counterbalance valve	.....166
MBDA	3:1 pilot ratio, load reactive, load control valve	.....167
MBDP	LoadMatch™ counterbalance valve	.....168
MWDP	Vented LoadMatch™ counterbalance valve	.....169

Series	Ports	Cavities
Series Z Cartridges 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size 11 - 14 Nm Valve Installation Torque	3-Port	T-382A
Series P Cartridges M16 Cartridge Thread 22,2 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port	T-8A T-8DP T-9A
Series O Cartridges M16 Cartridge Thread 19,1 mm Valve Hex Size 25,4 mm Valve Hex Size 27 - 33 Nm Valve Installation Torque	2-Port 2-Port (Deep) 3-Port 3-Port 4-Port	T-162A T-162DP T-150A T-163A T-30A
Series OC Cartridges 3/4-16 UNF Cartridge Thread 22,2 mm Valve Hex Size 19-22 lbf ft Valve Installation Torque	4-Port (Common)	SC-08-04
Series 1 Cartridges M20 Cartridge Thread 22,2 mm Valve Hex Size 41 - 47 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 6-Port	T-10A T-13A T-11A T-21A T-31A T-61A
Series 1C Cartridges 7/8-14 UNF Cartridge Thread 25,4 mm Valve Hex Size 23-26 lbf ft Valve Installation Torque	2-Port (Common) 4-Port (Common)	SC-10-02 SC-10-04
Series 2 Cartridges 1"-14 UNS Cartridge Thread 28,6 mm Valve Hex Size 61 - 68 Nm Valve Installation Torque	2-Port 2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-3A T-5A T-2A T-22A T-32A T-52AD T-52A T-62A
Series 3 Cartridges M36 Cartridge Thread 31,8 mm Valve Hex Size 203 - 217 Nm Valve Installation Torque	2-Port 3-Port 4-Port 4-Port 4-Port (Dual path) 6-Port 6-Port	T-16A T-17A T-23A T-33A T-53AD T-53A T-63A
Series 4 Cartridges M48 Cartridge Thread	2-Port 2-Port (Undercut)	T-18A T-18AU

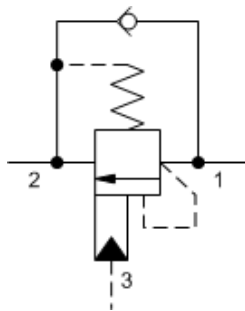
41,3 mm Valve Hex Size
474 - 508 Nm Valve Installation Torque

3-Port	T-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



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.



TECHNICAL DATA

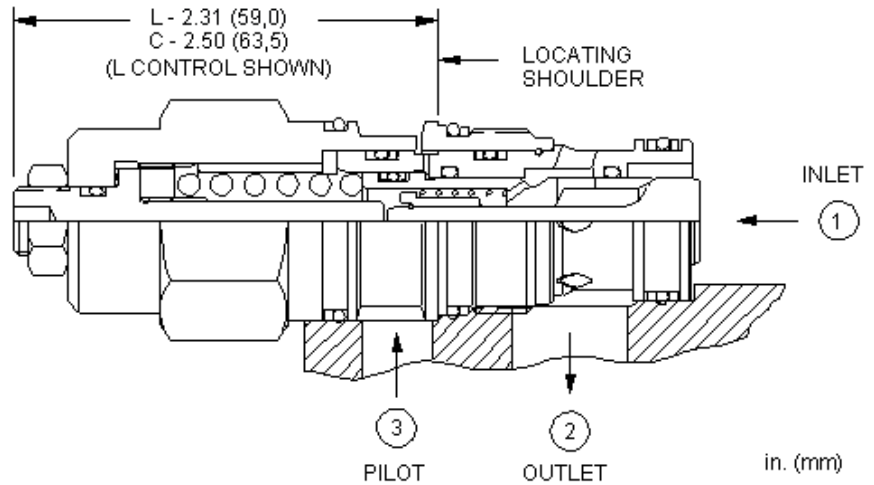
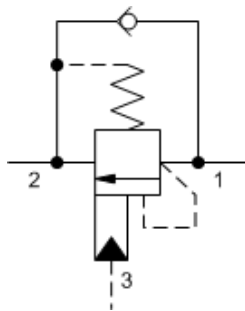
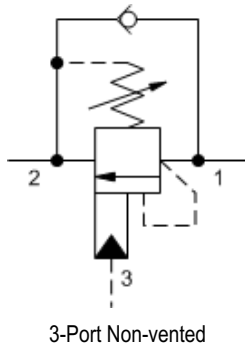
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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: **CBCBLHN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting		
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

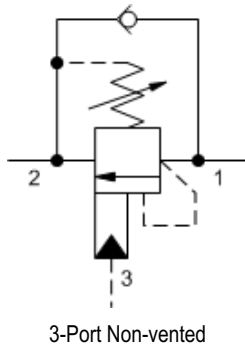
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

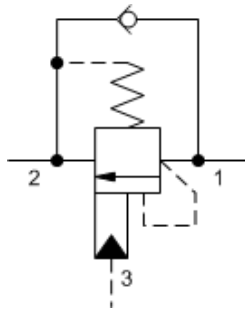
CONFIGURATION OPTIONS

Model Code Example: CBEBLHN

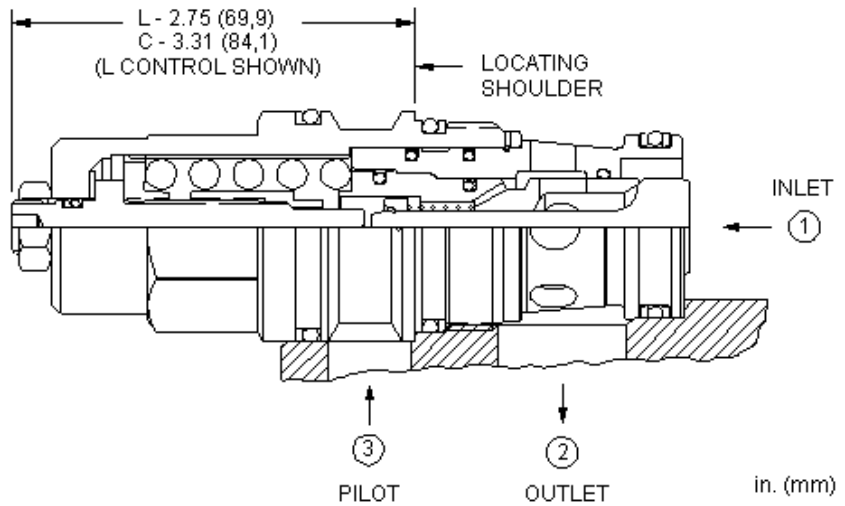
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

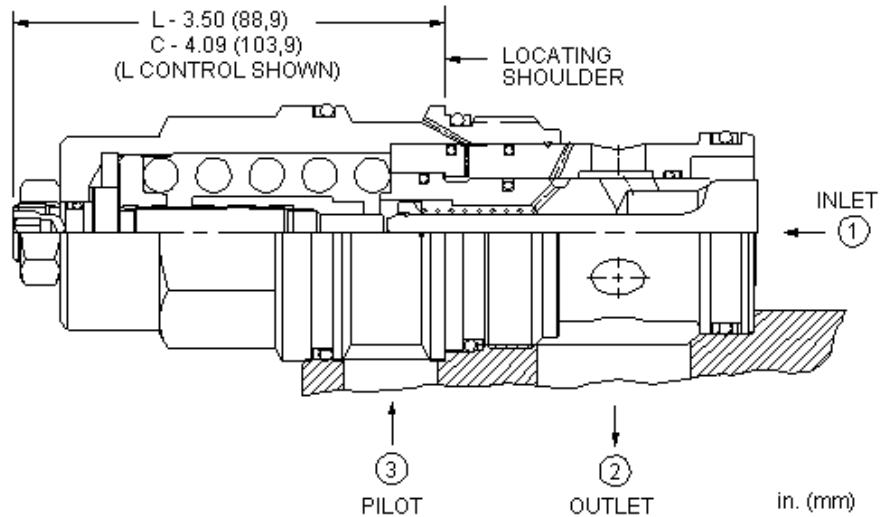
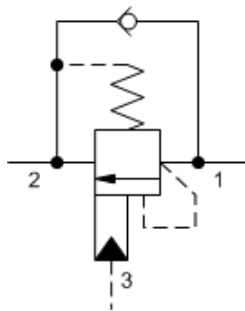
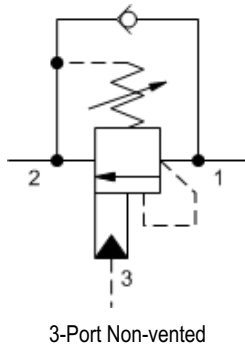
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CBGBLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting		
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

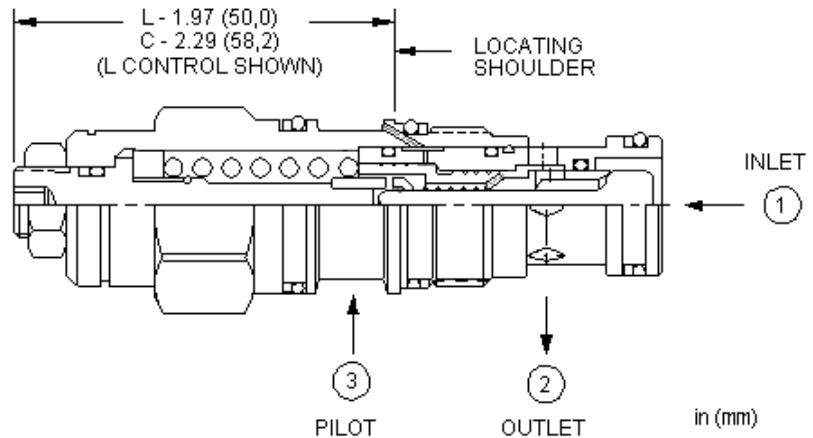
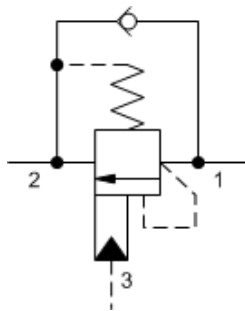
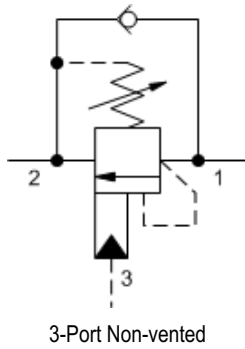
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: **CBIBLHN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting		
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

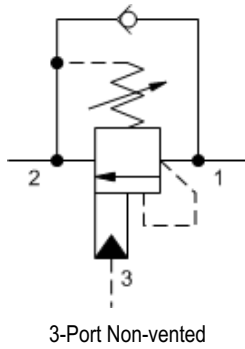
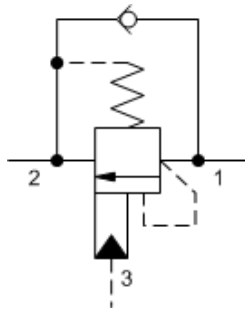
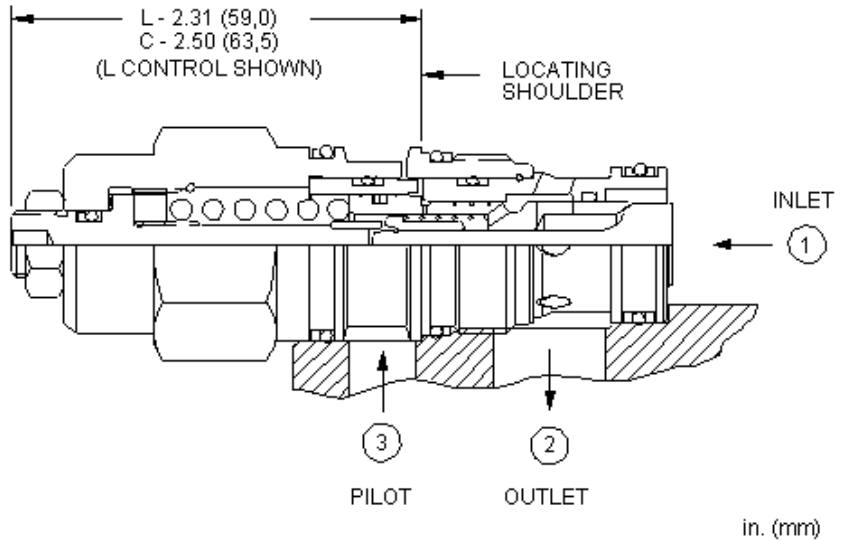
TECHNICAL DATA

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

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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: CBCYLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel


3-Port Non-vented

3-Port Non-vented, Fixed Setting


Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

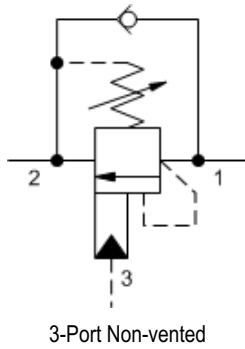
TECHNICAL DATA

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

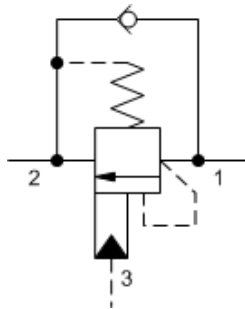
Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: CBEYLHN

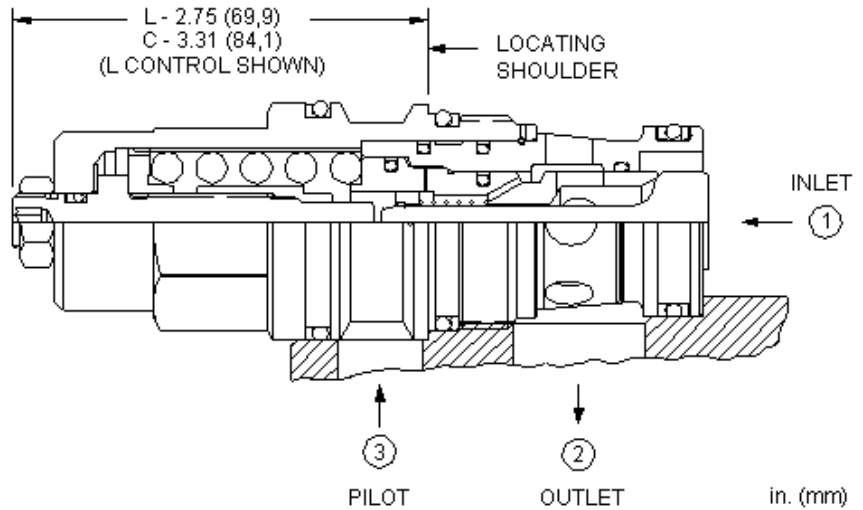
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1.7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

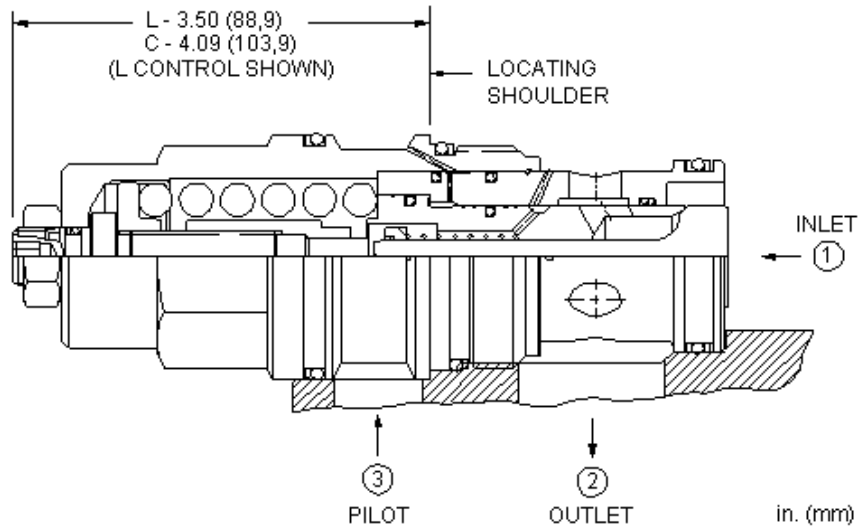
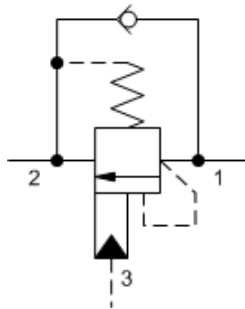
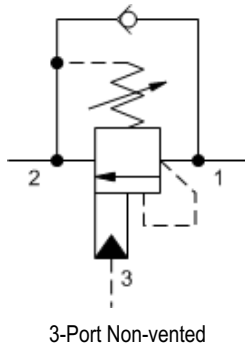
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CBGYLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

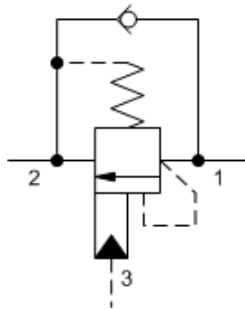
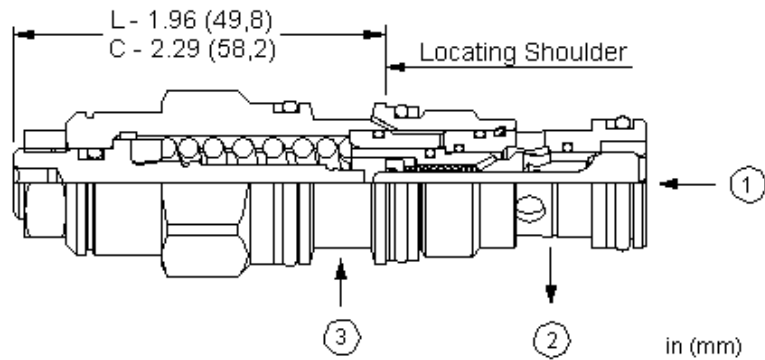
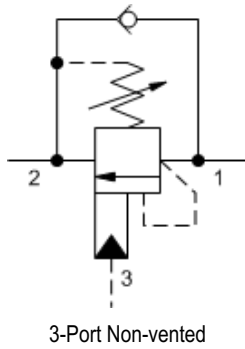
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CBIYLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

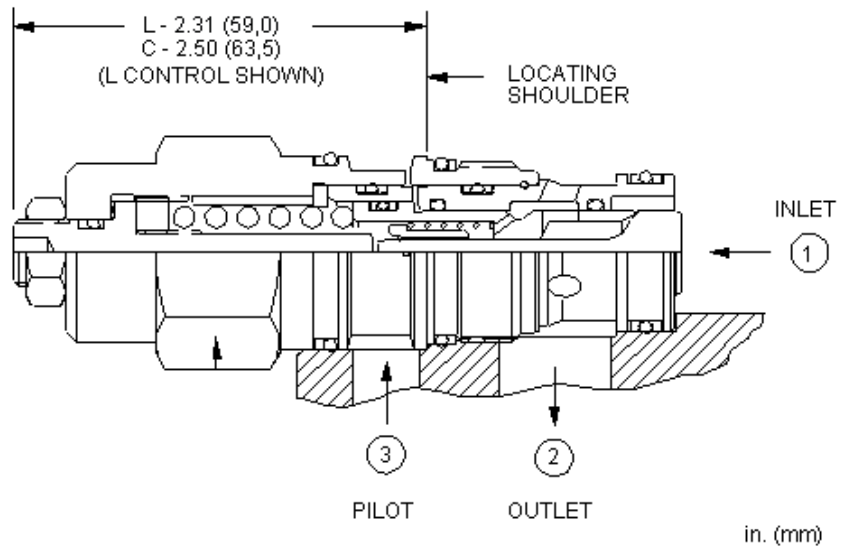
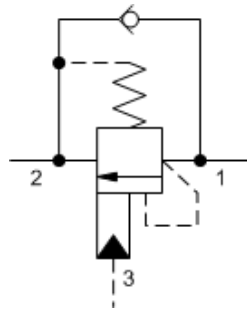
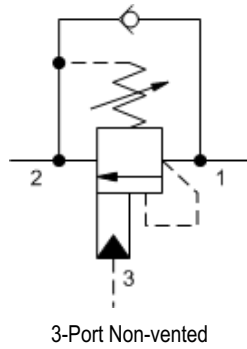
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2.3:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf 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: **CBCLLJN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

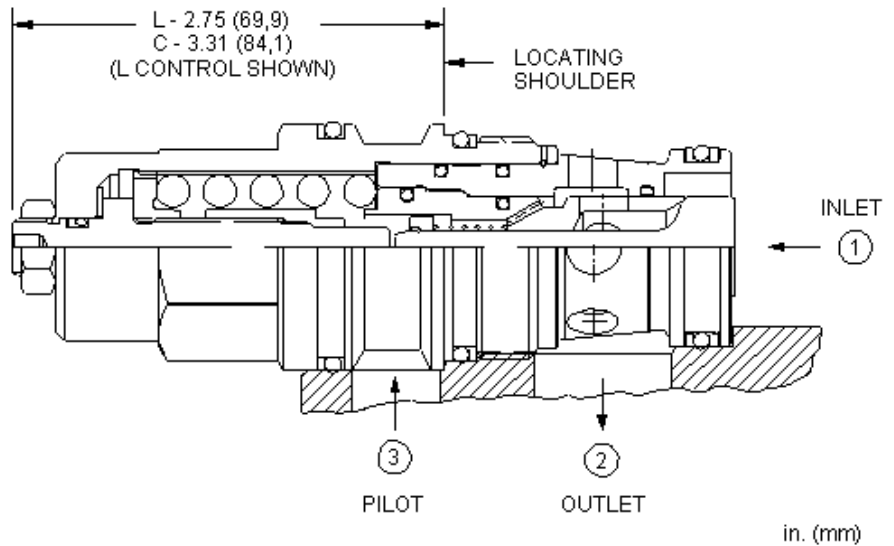
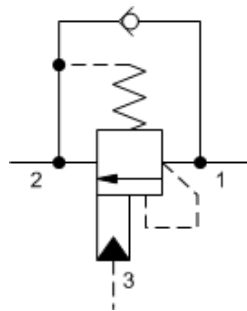
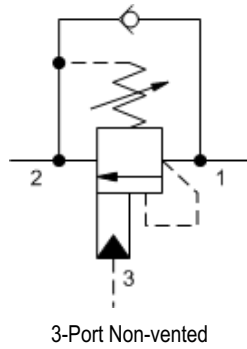
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2.3:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

CONFIGURATION OPTIONS

Model Code Example: **CBELLJN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1.7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

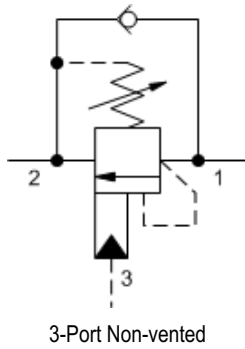
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2.3:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

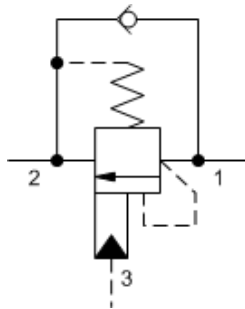
CONFIGURATION OPTIONS

Model Code Example: CBGLLJN

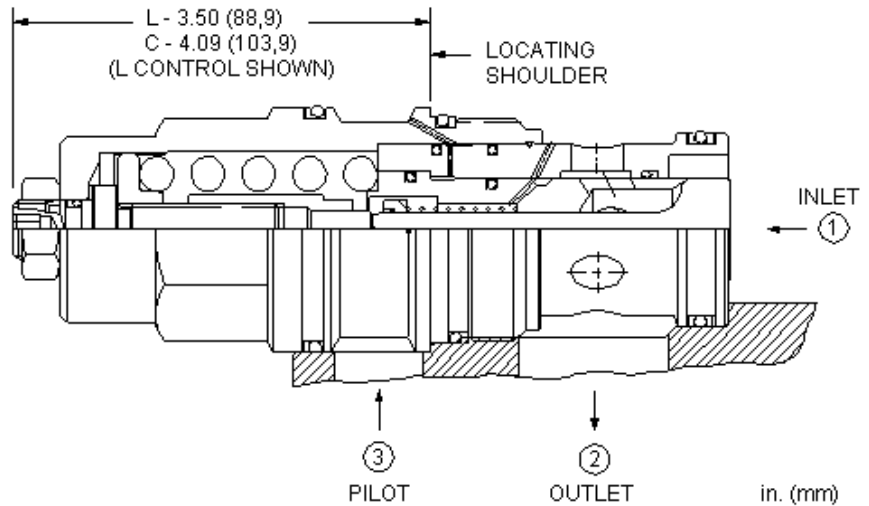
CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

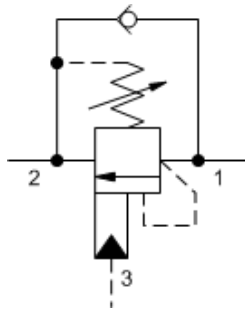
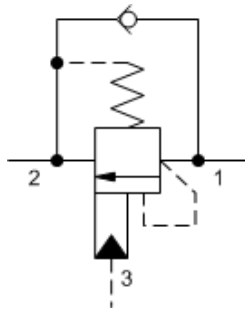
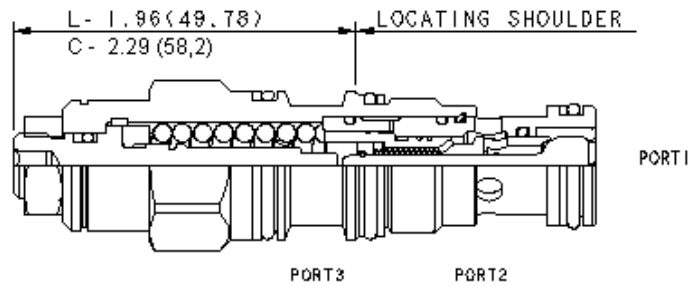
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2.3:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CBILLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
C Tamper Resistant - Factory Set			
	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting		
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		


3-Port Non-vented

3-Port Non-vented, Fixed Setting


Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

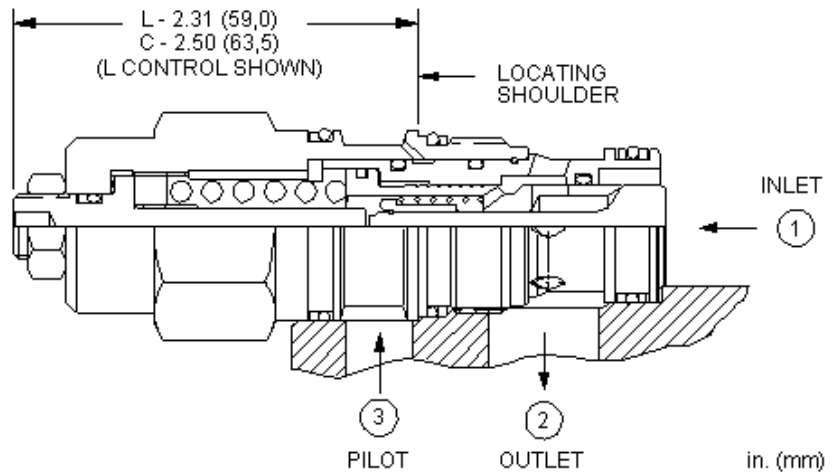
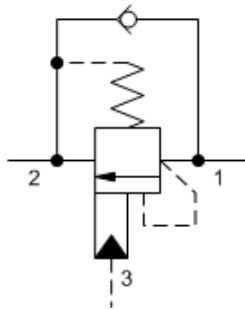
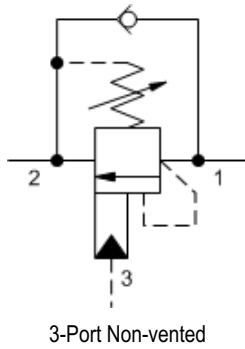
TECHNICAL DATA

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

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf 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: CBCALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

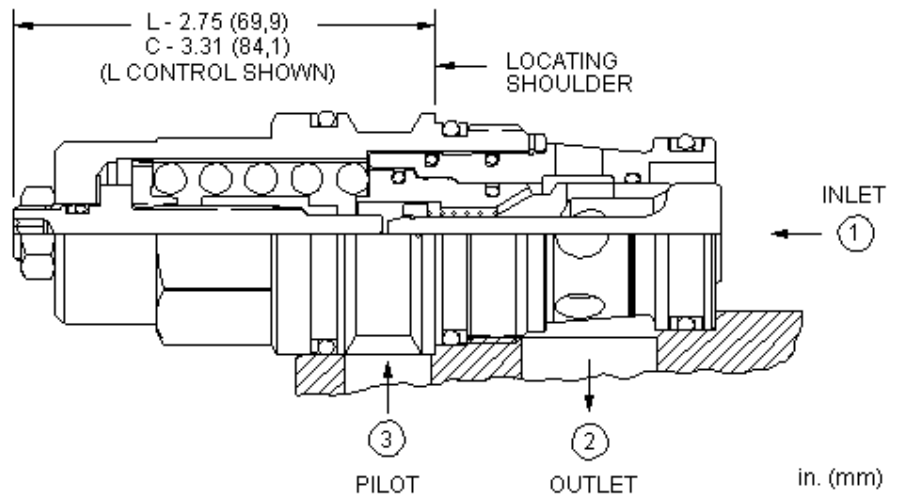
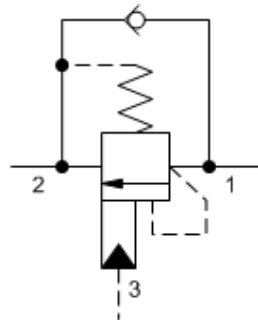
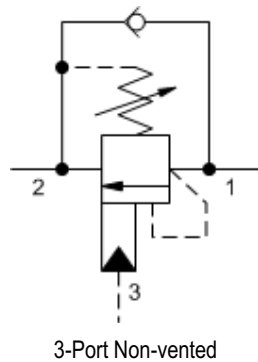
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf 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: CBEALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

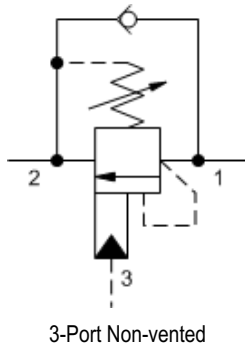
Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

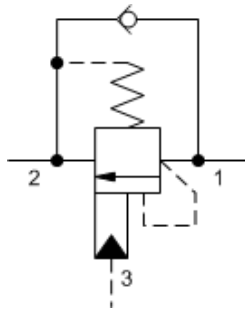
Model Code Example: CBGALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel

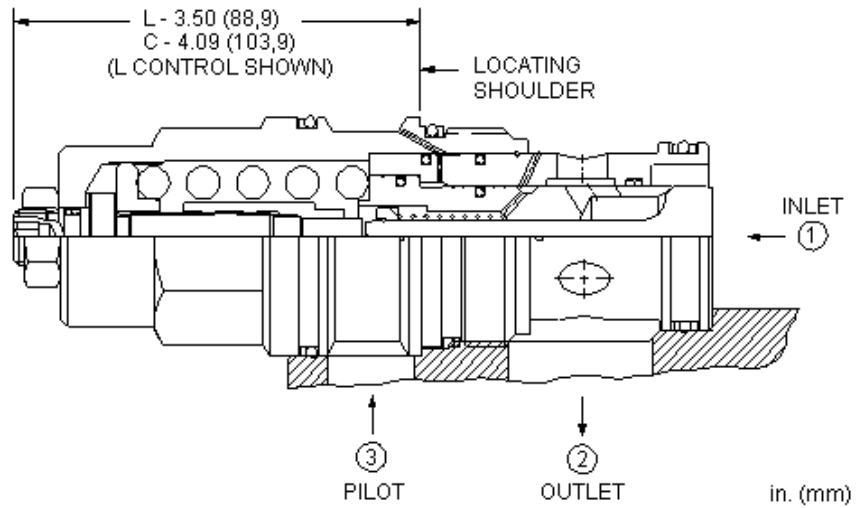
bar) Standard Setting



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

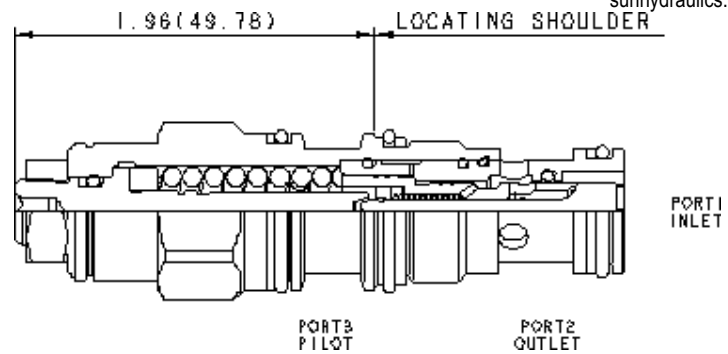
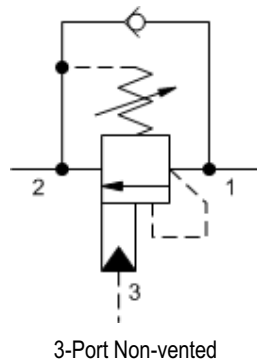
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

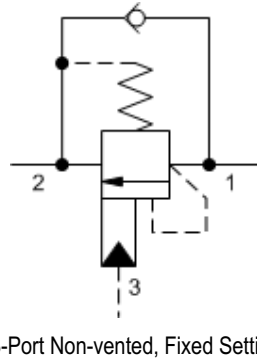
Model Code Example: CBIALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.



TECHNICAL DATA

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

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

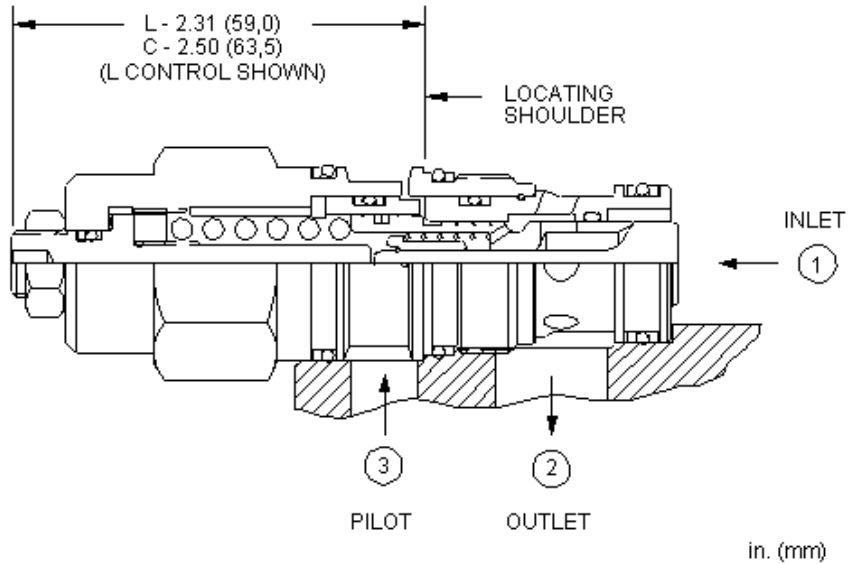
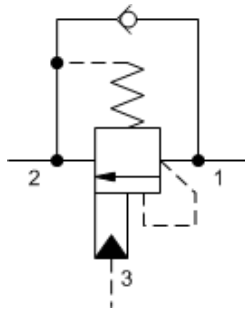
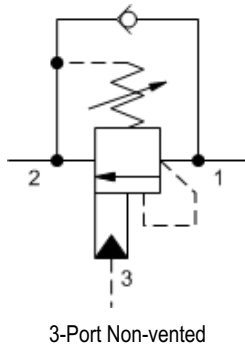
NOTES

A fixed setting version is available for this model. To view this product page, use Sun's search box and type in the 4 letter model code. The search result will include the fixed setting version.

CONFIGURATION OPTIONS

Model Code Example: **CBCGLJN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

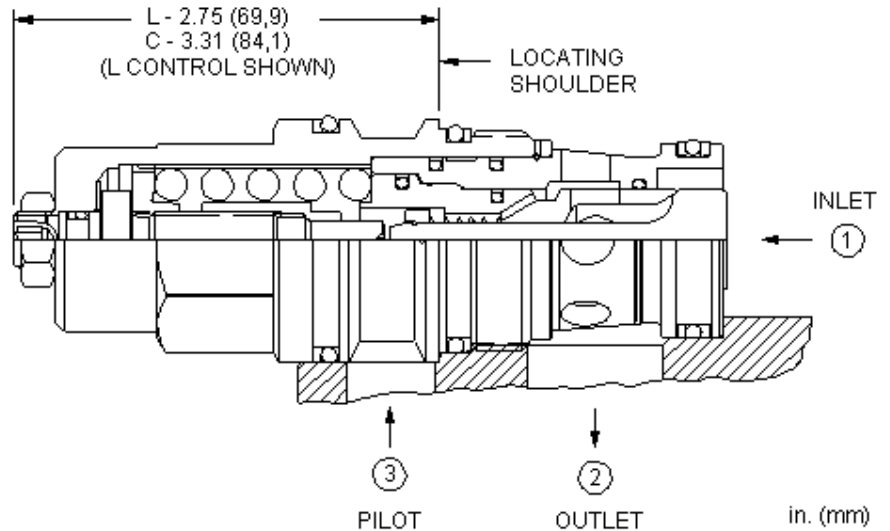
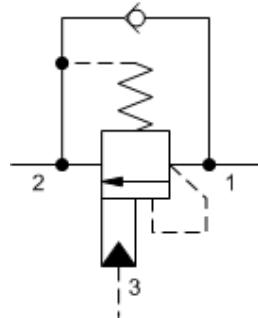
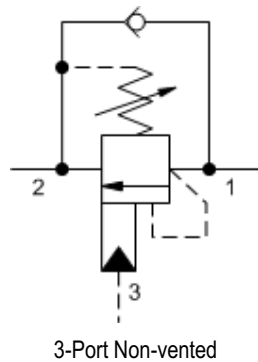
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf 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: CBGLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	F EPDM Viton	LR Stainless Steel, Passivated LR Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi		

.....
(140 bar) Standard Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

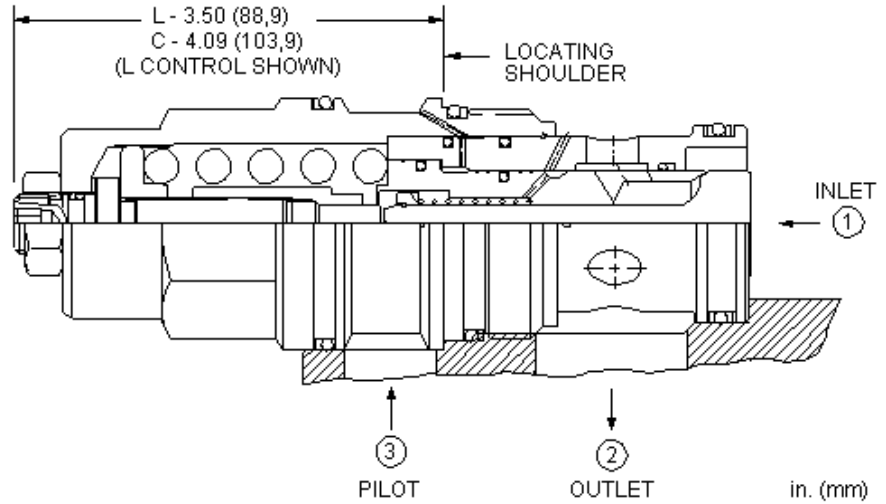
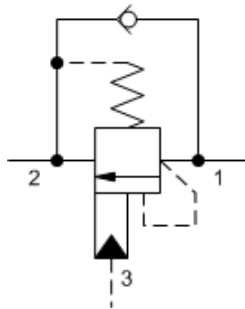
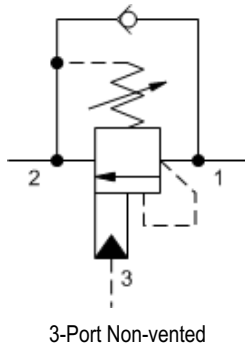
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf 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: **CBGGLJN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	K 1000 - 2500 psi w/25 psi Check (70 -		

175 bar w/ 1,7 bar Check), 2000 psi
(140 bar) Standard Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

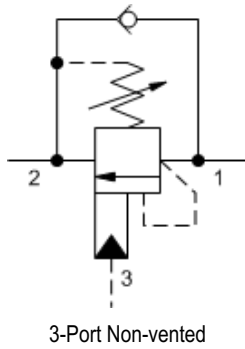
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NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

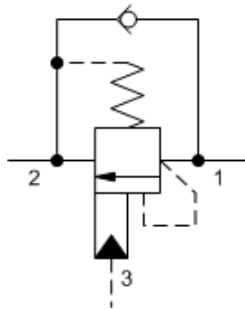
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS
Model Code Example: CBIGLJN

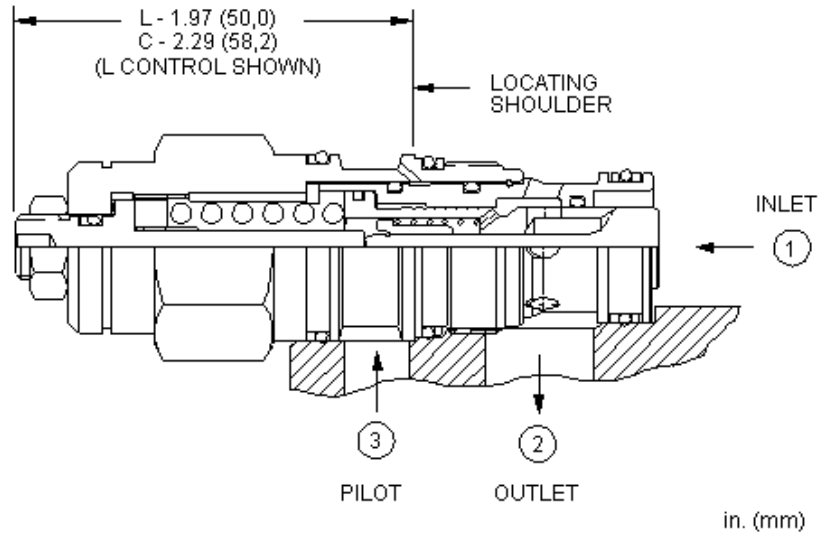
CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

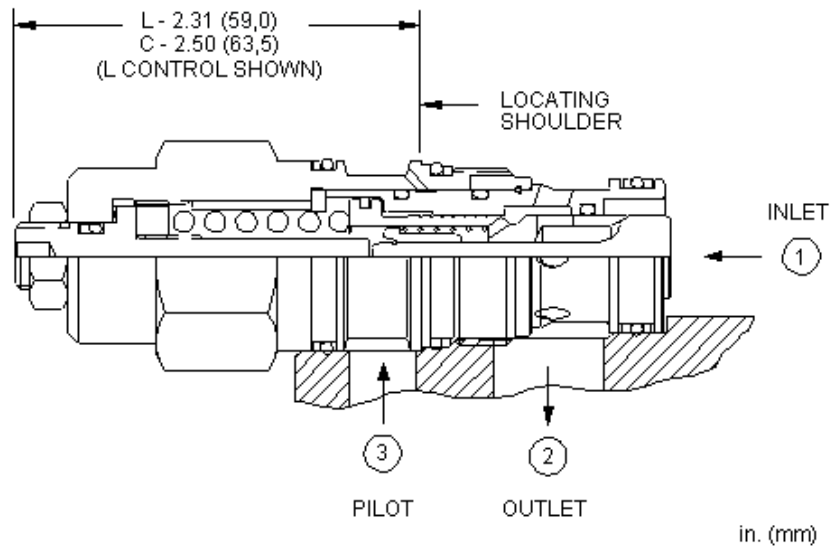
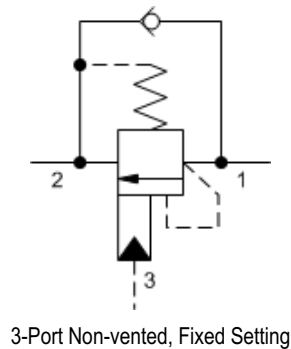
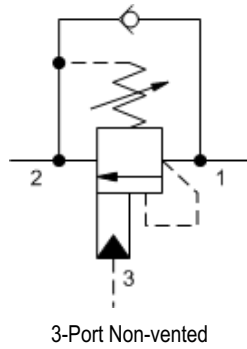
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	10:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf 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: CBCHLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

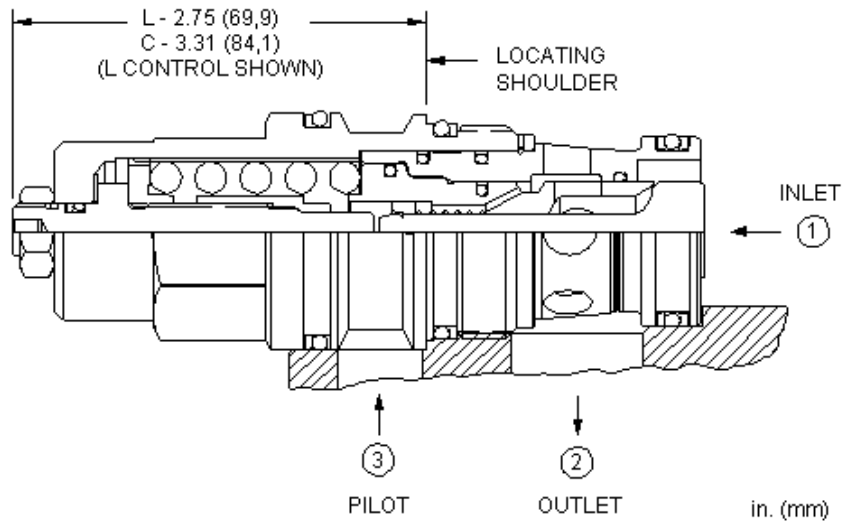
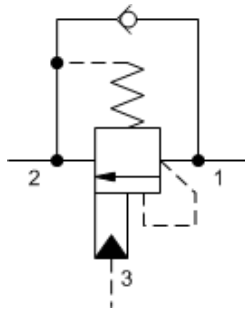
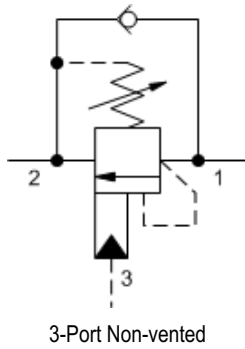
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	10:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

CONFIGURATION OPTIONS
Model Code Example: CBEHLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 -		

175 bar w/ 1,7 bar Check), 2000 psi
(140 bar) Standard Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

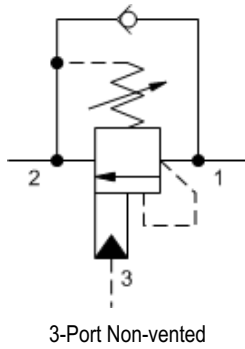
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	10:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

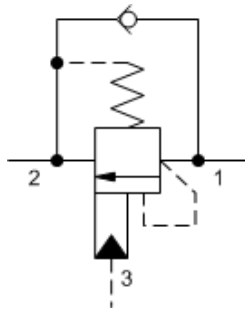
CONFIGURATION OPTIONS

Model Code Example: CBGHLJN

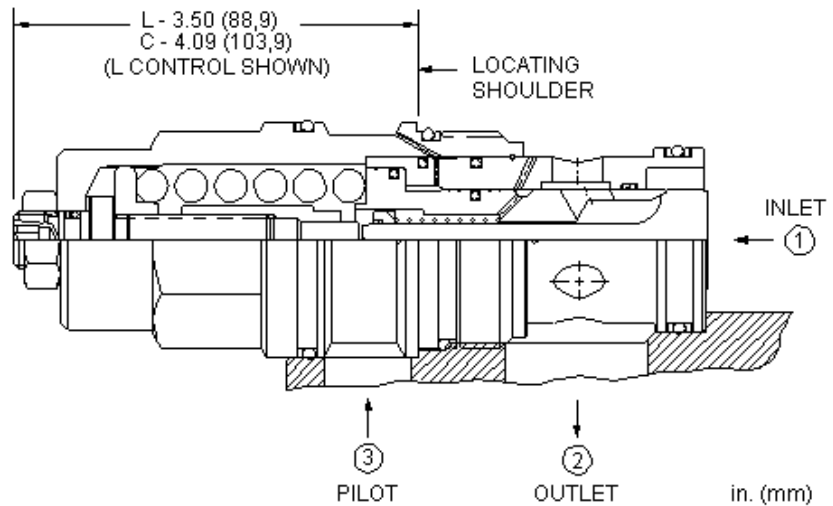
CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

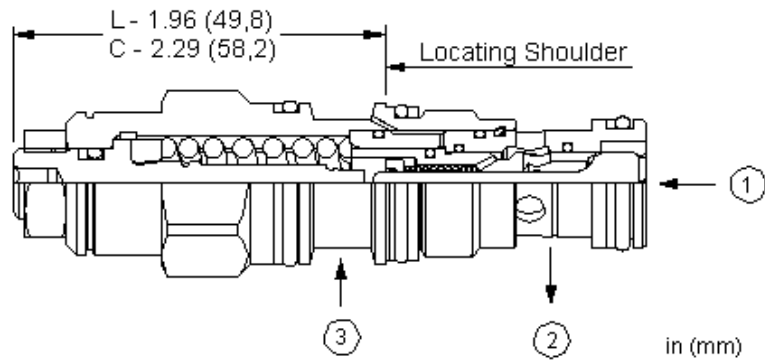
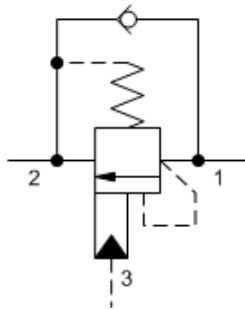
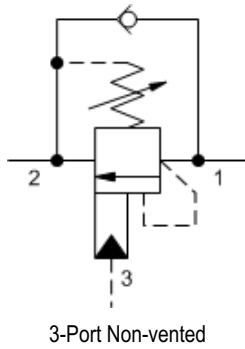
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	10:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
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: CBIHLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1.7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

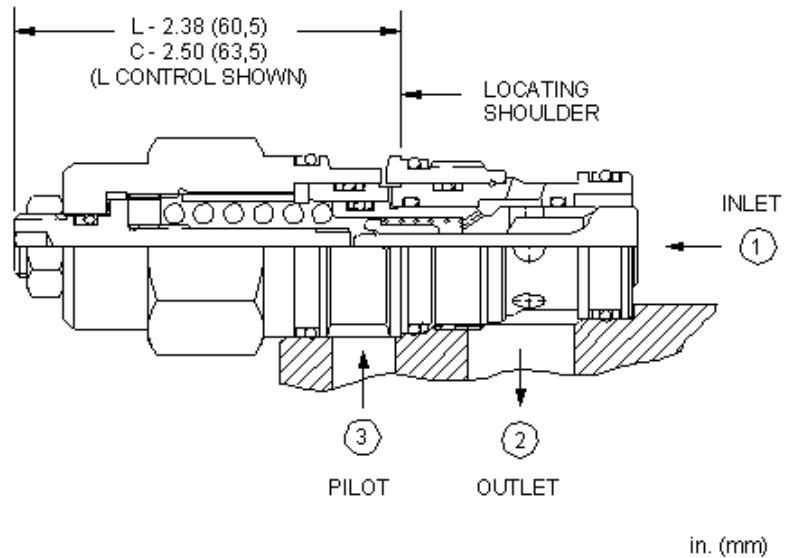
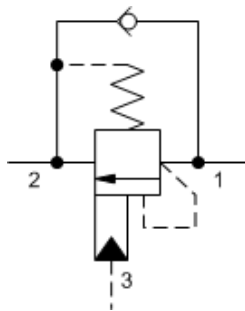
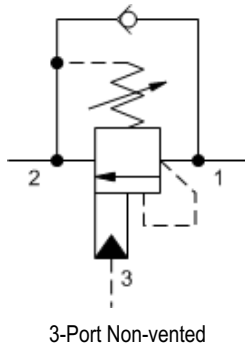
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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: CBBBLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

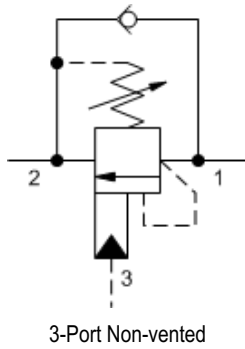
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

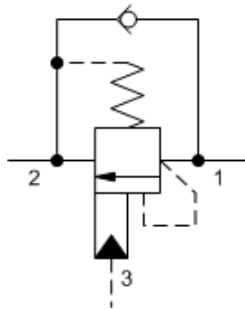
CONFIGURATION OPTIONS

Model Code Example: CBDBLHN

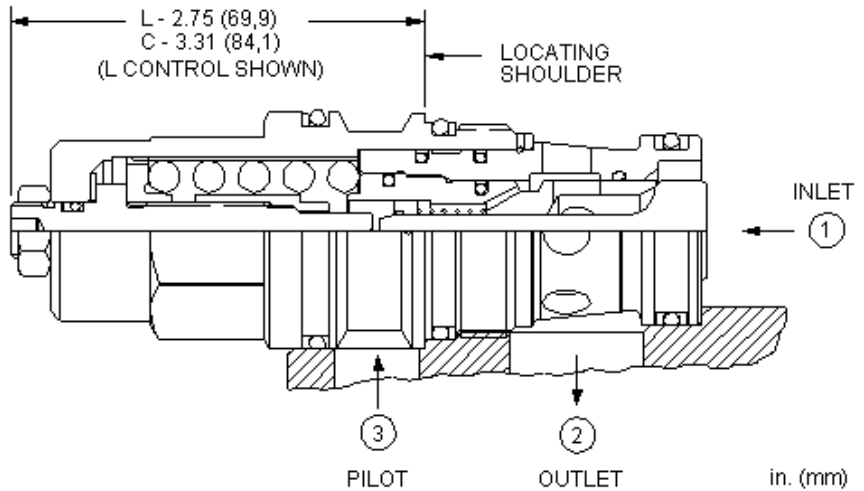
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

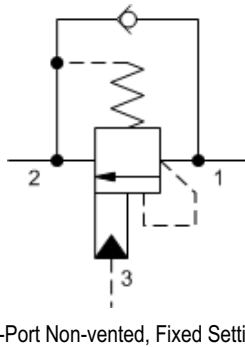
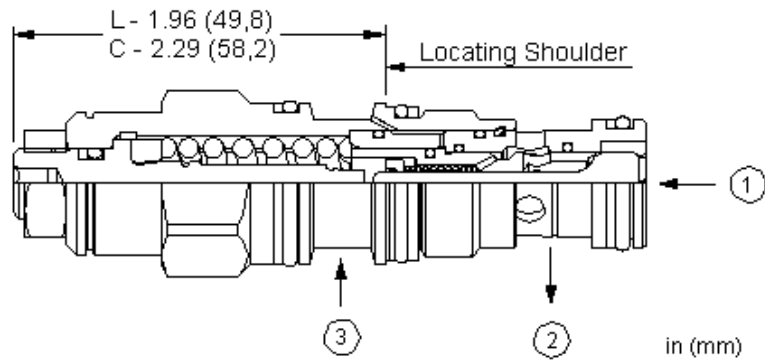
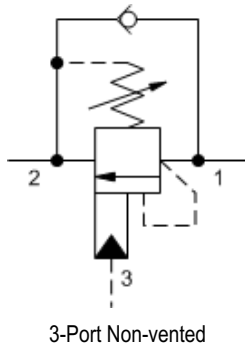
TECHNICAL DATA

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

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS
Model Code Example: CBFBLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

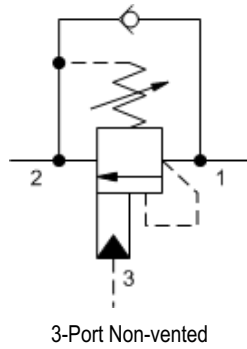
Pilot Ratio	2.3:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	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 A fixed setting version is available for this model. To view this product page, use Sun's search box and type in CBBLX and click on the resulting link.

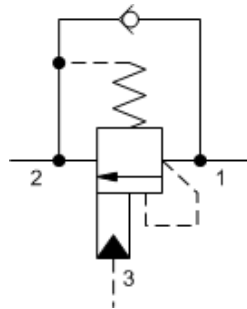
CONFIGURATION OPTIONS

Model Code Example: CBLLJN

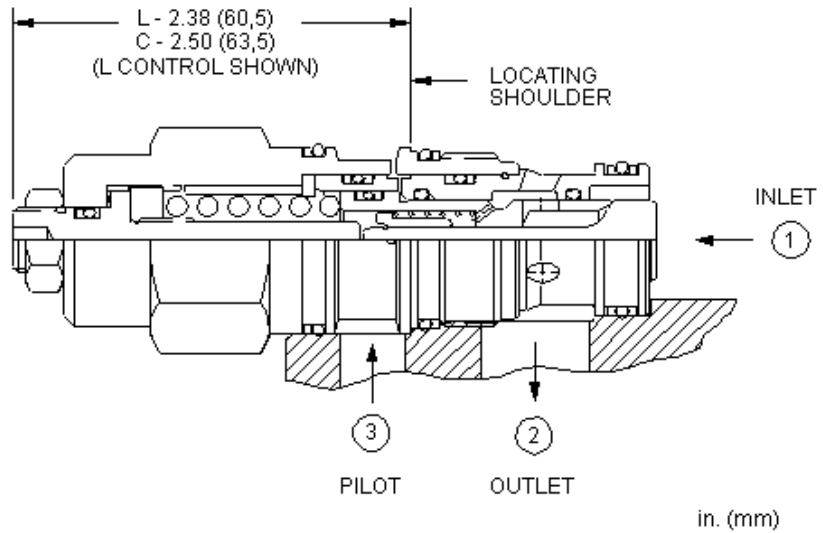
CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

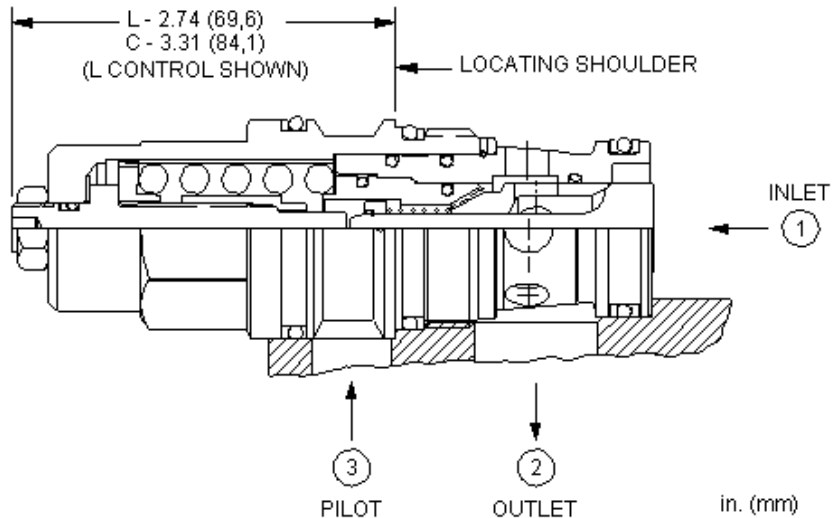
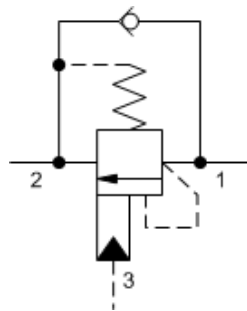
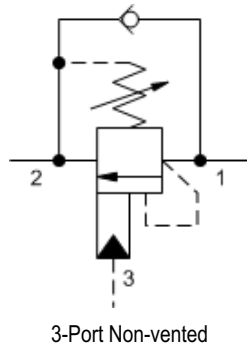
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2.3:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

CONFIGURATION OPTIONS

Model Code Example: **CBDLLJN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

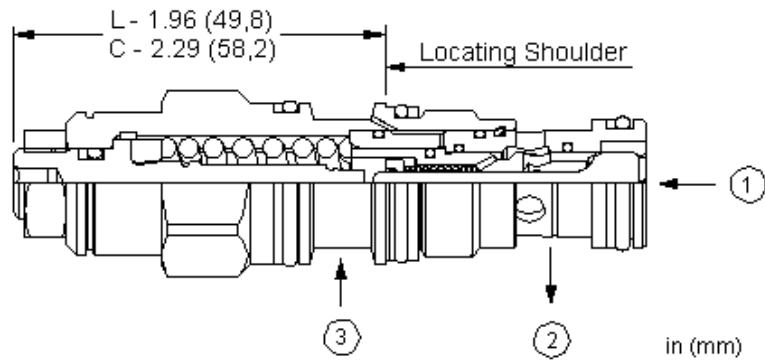
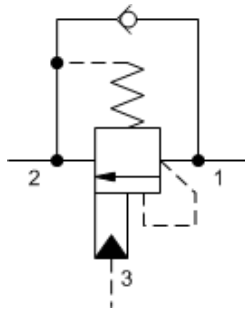
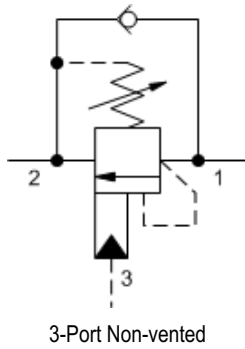
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2.3:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: **CBFLLJN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating /LH Mild Steel, Zinc-Nickel
C Tamper Resistant - Factory Set		V Viton	



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

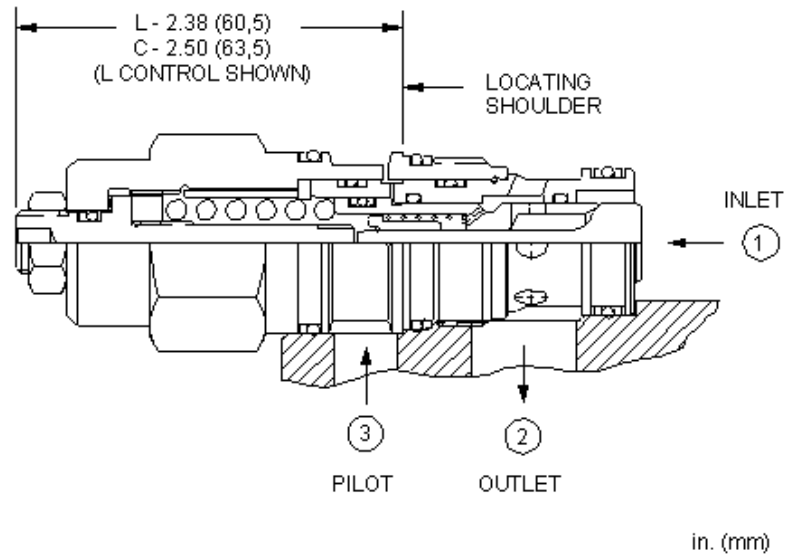
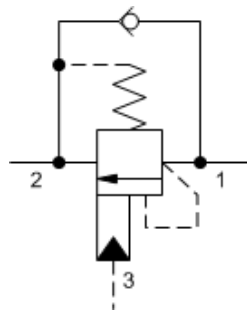
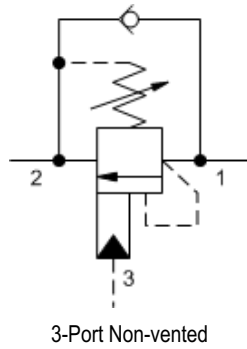
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf 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: CBBCLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

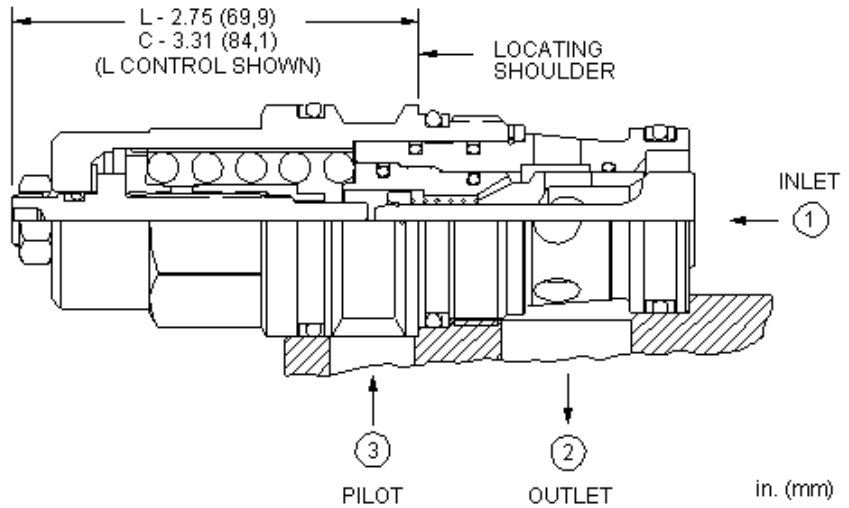
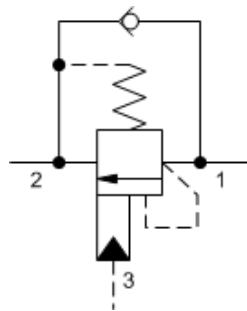
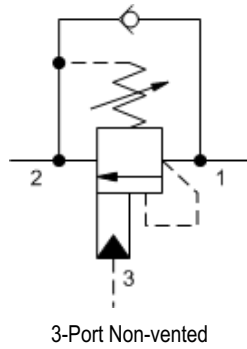
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

CONFIGURATION OPTIONS

Model Code Example: CBDCLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

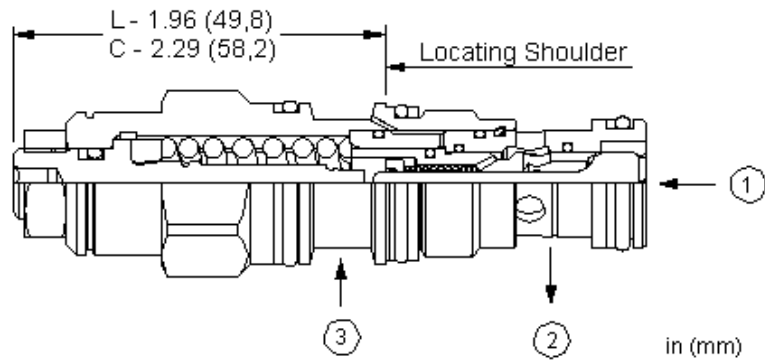
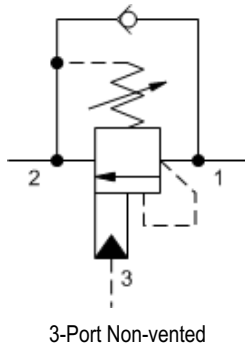
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

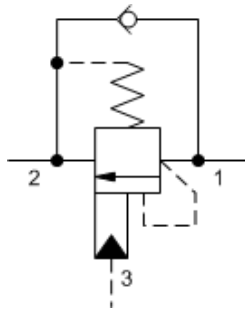
Model Code Example: CBFLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting		
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.



TECHNICAL DATA

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

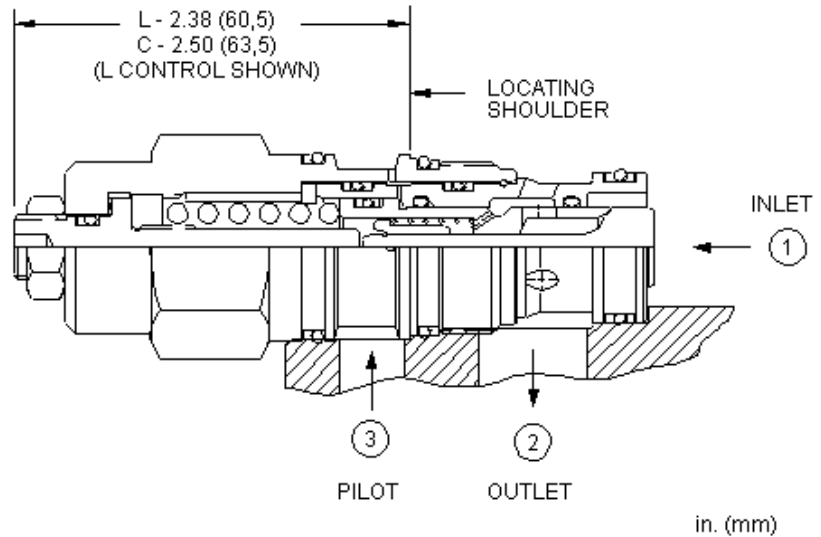
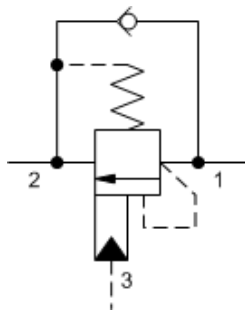
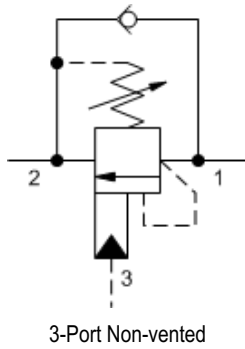
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

NOTES A fixed setting version is available for this model. To view this product page, use Sun's search box and type in CBBDX and click on the resulting link.

CONFIGURATION OPTIONS

Model Code Example: CBBDLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

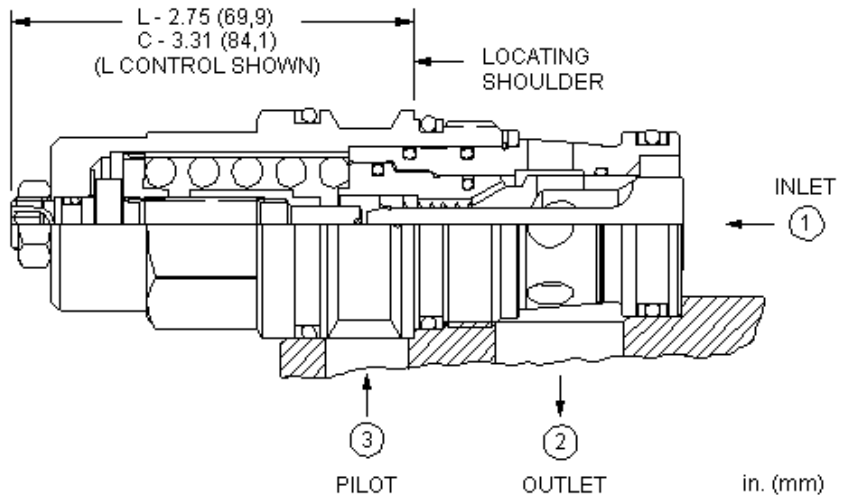
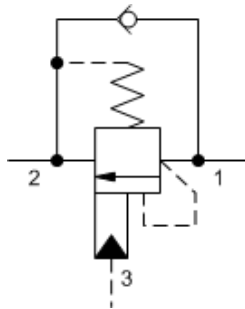
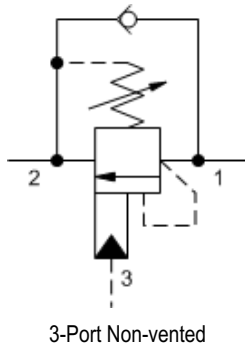
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

CONFIGURATION OPTIONS

Model Code Example: CBDDLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

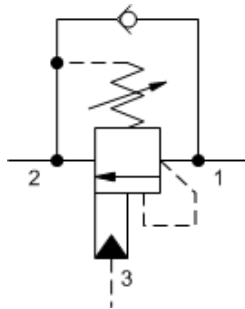
TECHNICAL DATA

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

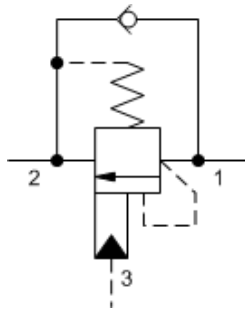
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS
Model Code Example: CBFDLJN

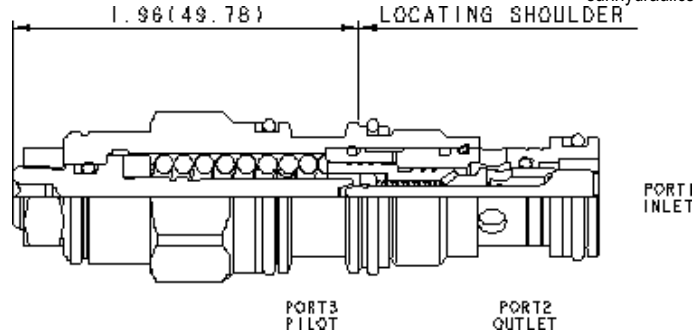
CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

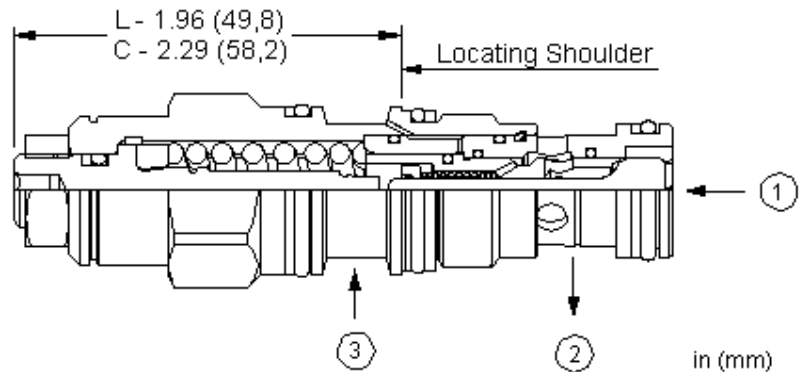
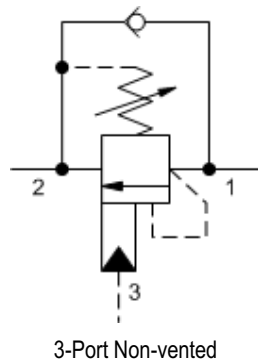
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ² /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

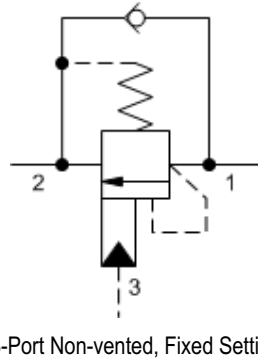
Model Code Example: CBBYLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.



TECHNICAL DATA

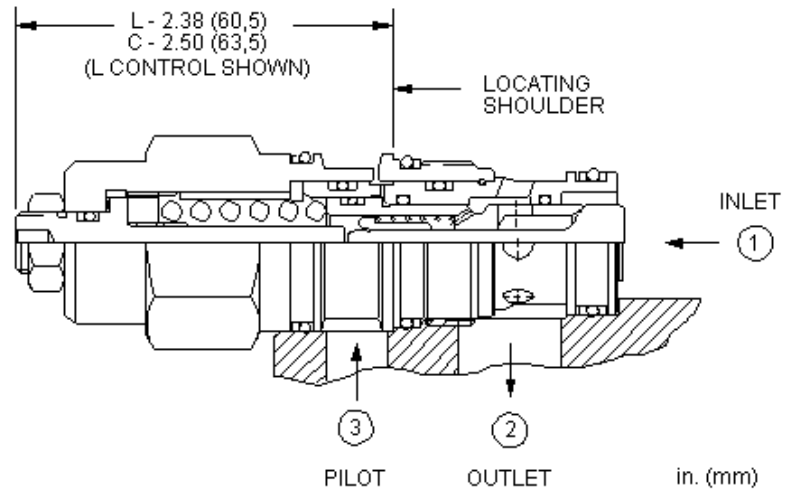
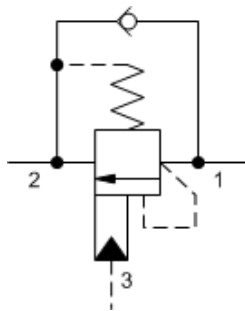
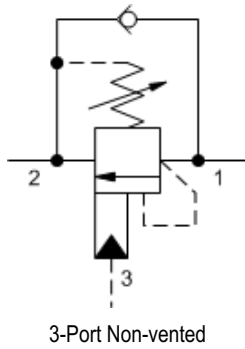
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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: CBBALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting		/LH Mild Steel, Zinc-Nickel
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

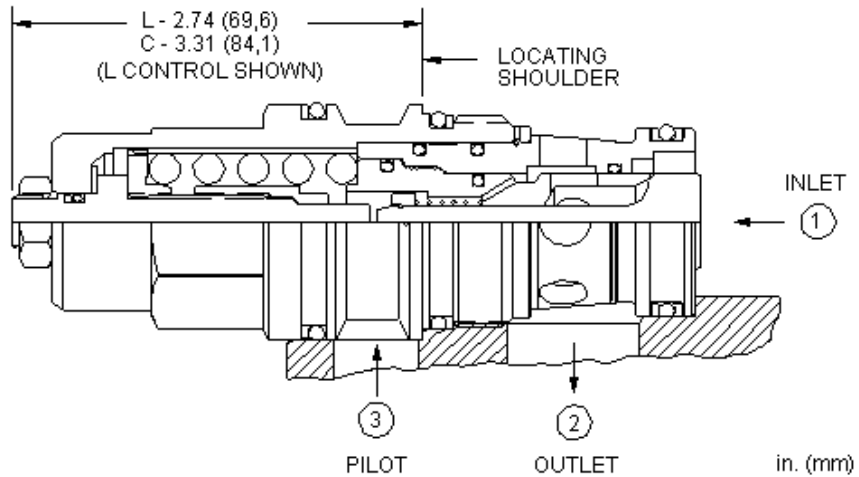
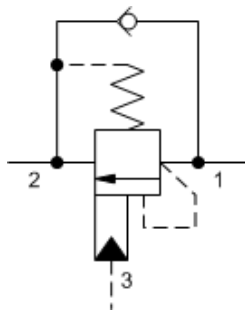
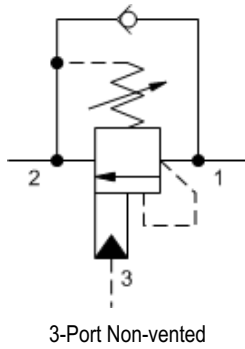
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

CONFIGURATION OPTIONS

Model Code Example: CBDALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
C Tamper Resistant - Factory Set		V Viton	
	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting		
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting		
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

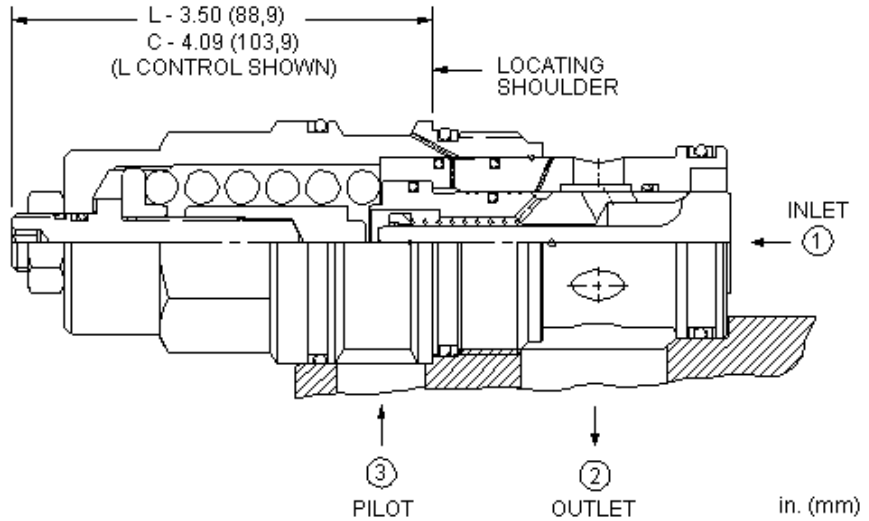
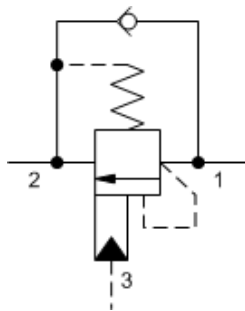
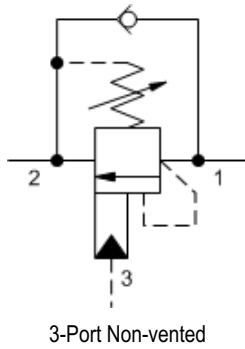
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: CBFALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE (H)	SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

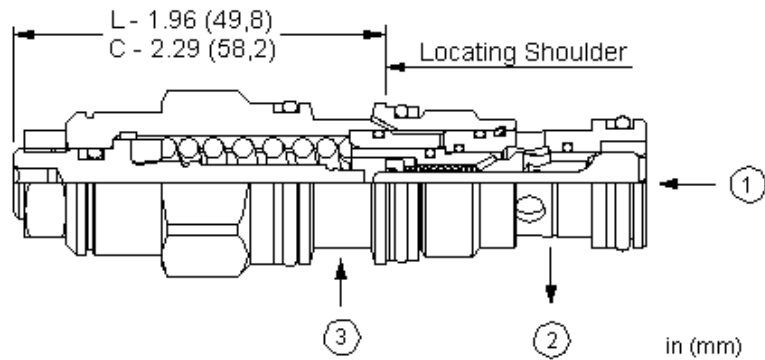
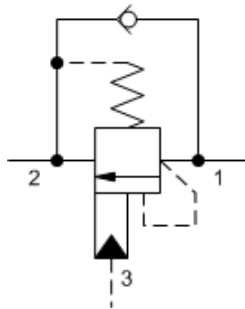
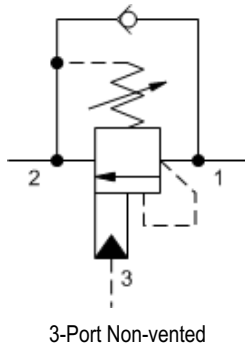
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: CBHALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE (H)	(N) SEAL MATERIAL
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N
C Tamper Resistant - Factory Set	A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton
	B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting	
	I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

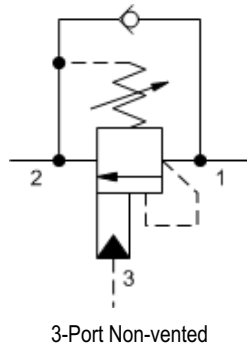
TECHNICAL DATA

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

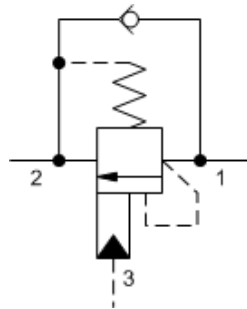
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	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: CBBGLJN

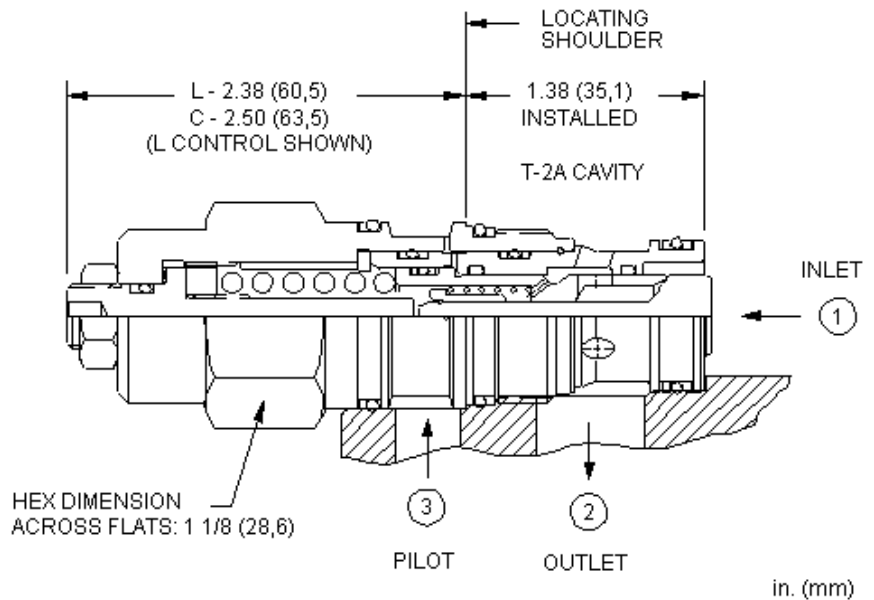
CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

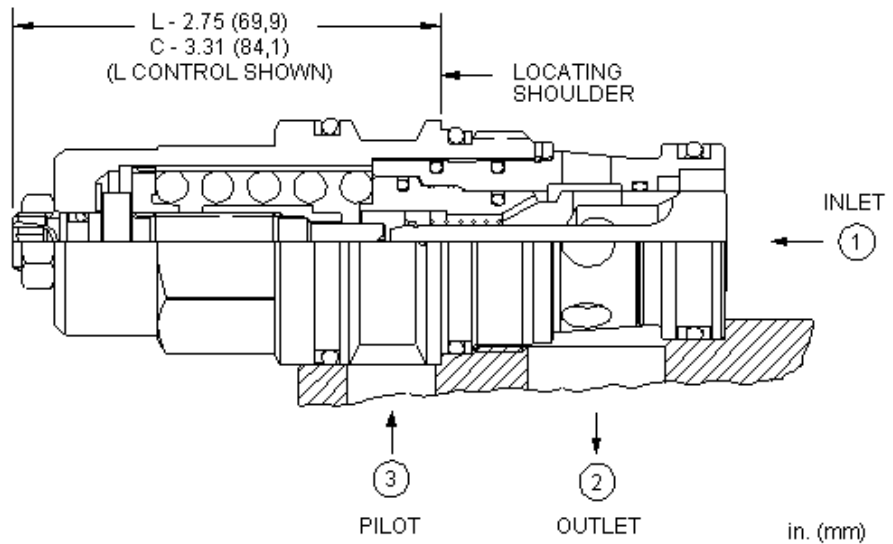
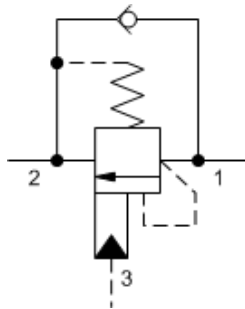
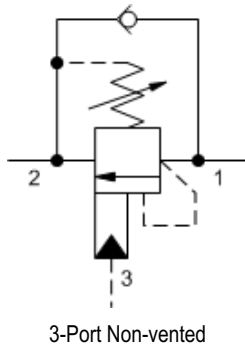
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS

Model Code Example: **CBDGLJN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 -		

175 bar w/ 1,7 bar Check), 2000 psi
(140 bar) Standard Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

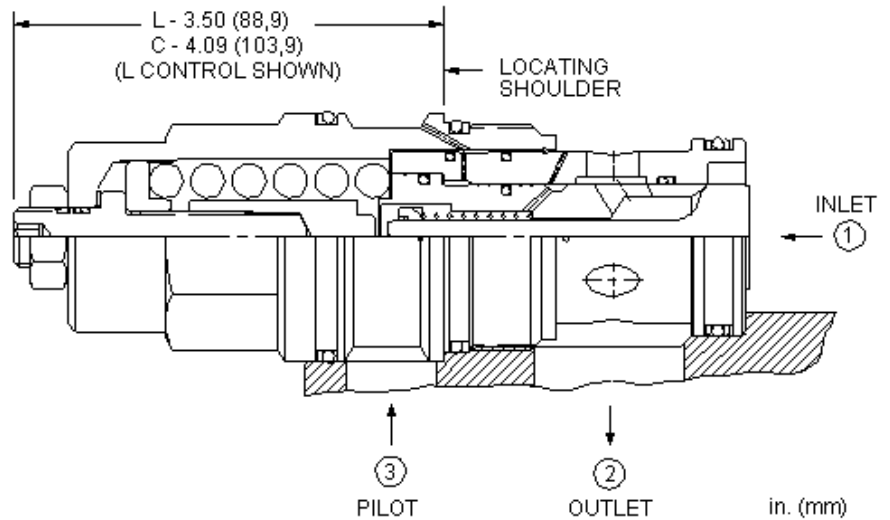
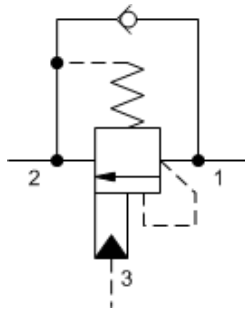
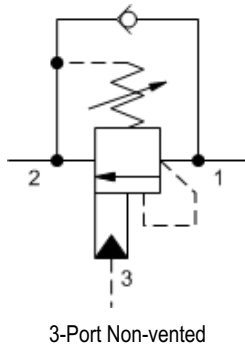
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: **CBFGLJN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

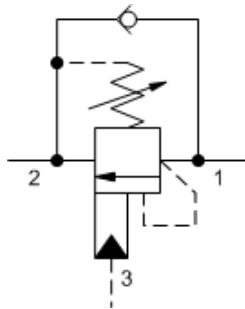
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

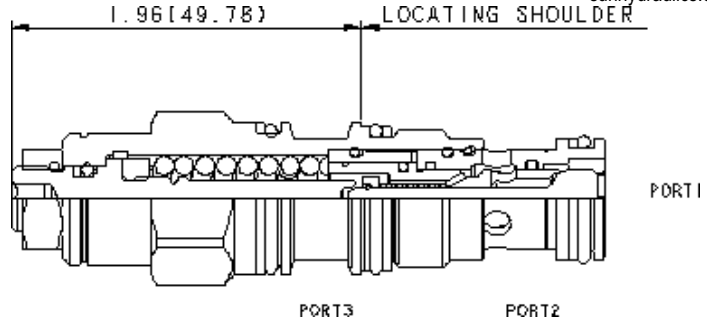
CONFIGURATION OPTIONS

Model Code Example: CBHGLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE (J)	SEAL MATERIAL (N)
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N
C Tamper Resistant - Factory Set	C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting	
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting	



3-Port Non-vented



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

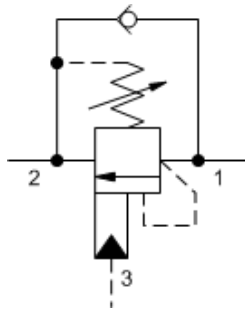
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

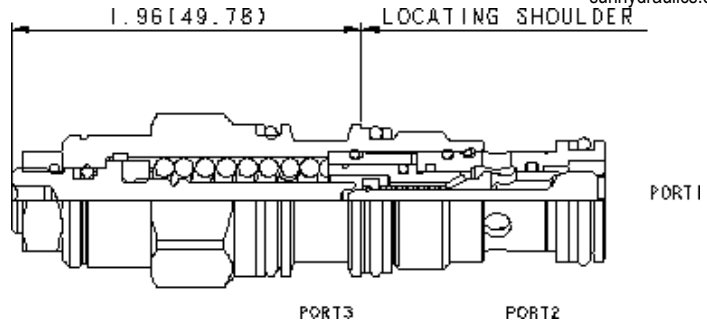
CONFIGURATION OPTIONS

Model Code Example: CBABLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set R Lockwired Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Non-vented



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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: CBAALHN

CONTROL

(L) FUNCTIONAL SETTING RANGE

(H) SEAL MATERIAL

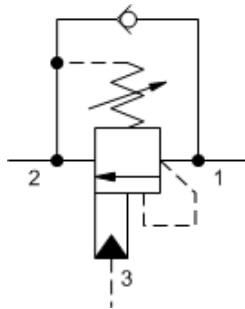
(N) MATERIAL/COATING

- L Standard Screw Adjustment
- C Tamper Resistant - Factory Set
- R Lockwired Screw Adjustment

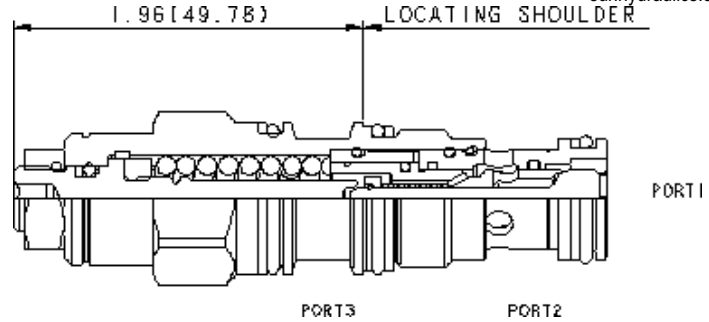
- H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting
- A 1000 - 4000 psi w/4 psi Check (70 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting
- B 400 - 1500 psi w/4 psi Check (28 - 105 bar w/ 0,3 bar Check), 1000 psi (70 bar) Standard Setting
- I 400 - 1500 psi w/25 psi Check (28 - 105 bar w/ 1,7 bar Check), 1000 psi (70 bar) Standard Setting

- N Buna-N
- V Viton

- Standard Material/Coating
- /AP Stainless Steel, Passivated
- /LH Mild Steel, Zinc-Nickel



3-Port Non-vented



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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: CBAGLJN
CONTROL

- L** Standard Screw Adjustment
- C** Tamper Resistant - Factory Set
- R** Lockwired Screw Adjustment

(L) FUNCTIONAL SETTING RANGE

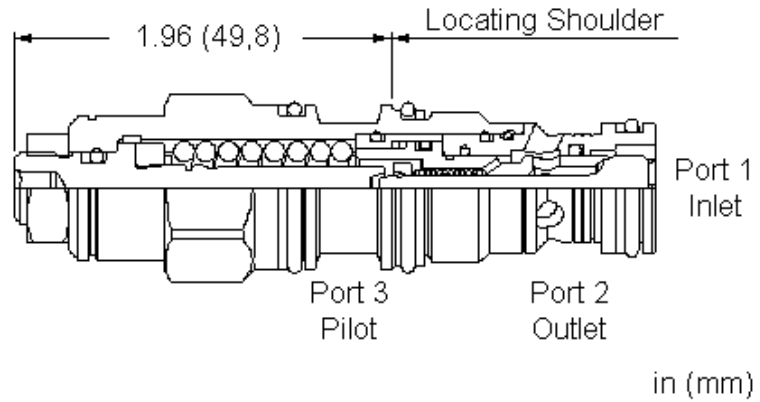
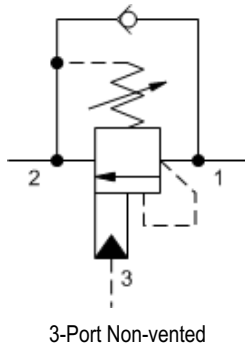
- J** 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting
- C** 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting
- D** 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting
- K** 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting

(J) SEAL MATERIAL

- N** Buna-N
- V** Viton

(N) MATERIAL/COATING

- Standard Material/Coating
- /LH Mild Steel, Zinc-Nickel



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

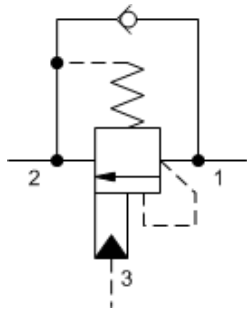
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	10:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

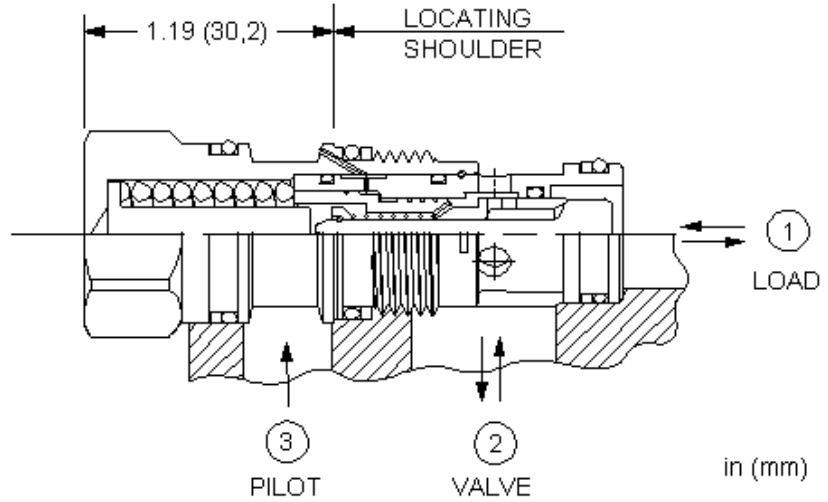
CONFIGURATION OPTIONS

Model Code Example: CBAHLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi w/25 psi Check (140 - 350 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel
		C 2000 - 5000 psi w/4 psi Check (140 - 350 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	
	D 1000 - 2500 psi w/4 psi Check (70 - 175 bar w/ 0,3 bar Check), 2000 psi (140 bar) Standard Setting		
	K 1000 - 2500 psi w/25 psi Check (70 - 175 bar w/ 1,7 bar Check), 2000 psi (140 bar) Standard Setting		



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

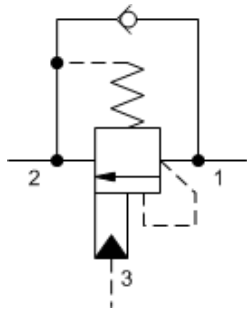
TECHNICAL DATA

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

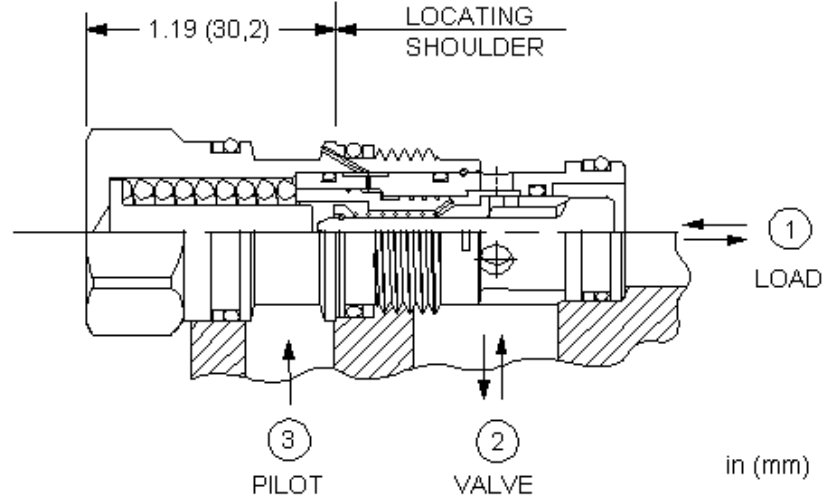
Pilot Ratio	2.3:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS
Model Code Example: CBCLXMN

FIXED PRESSURE RANGE	(M)	SEAL MATERIAL	(N)	MATERIAL/COATING
M 4700 - 5600 psi (325 - 390 bar)		N Buna-N		Standard Material/Coating
V 3200 - 3800 psi (220 - 260 bar)		E EPDM		/LH Mild Steel, Zinc-Nickel
X 3500 - 4200 psi (245 - 290 bar)		V Viton		
Z 4125 - 4900 psi (285 - 340 bar)				



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

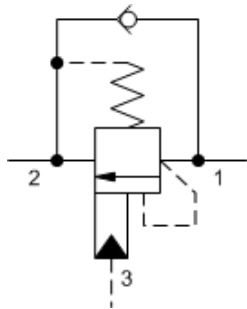
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

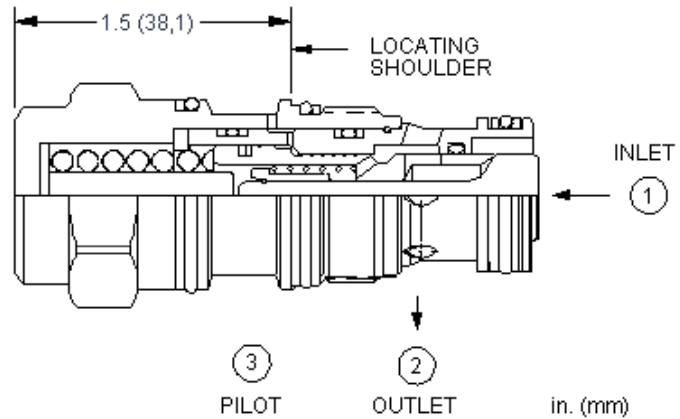
CONFIGURATION OPTIONS

Model Code Example: CBCAXNN

FIXED PRESSURE RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)	N	Buna-N		Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)	E	EPDM		/AP Stainless Steel, Passivated
	V	Viton		/LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

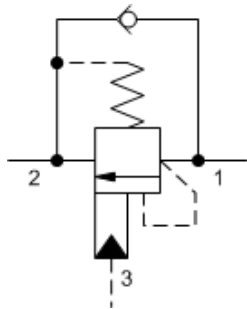
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

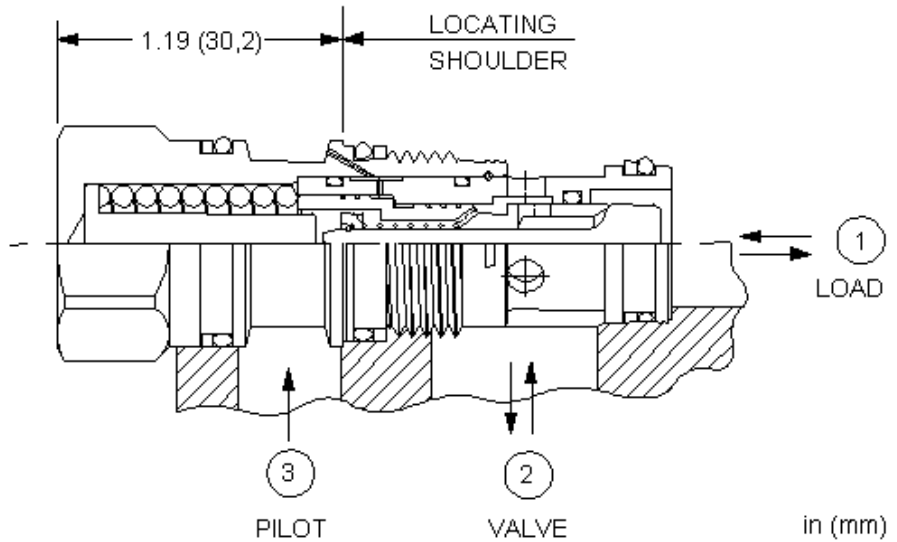
CONFIGURATION OPTIONS

Model Code Example: CBEAXNN

FIXED PRESSURE RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)		N Buna-N		Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)		V Viton		/LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

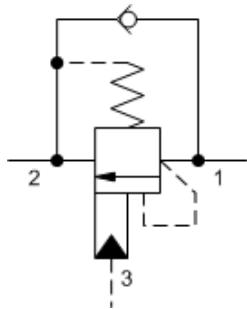
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

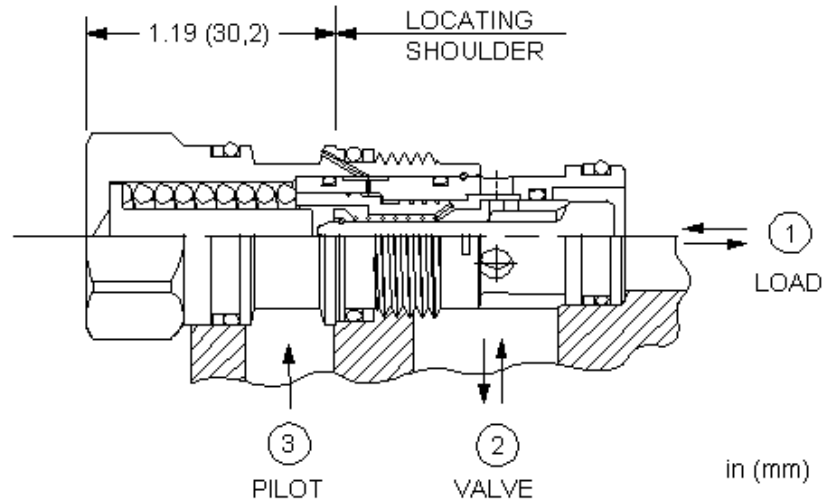
CONFIGURATION OPTIONS

Model Code Example: CBCGXMN

FIXED PRESSURE RANGE	(M)	SEAL MATERIAL	(N)	MATERIAL/COATING
M 4700 - 5600 psi (325 - 390 bar)		N Buna-N		Standard Material/Coating
V 3200 - 3800 psi (220 - 260 bar)		E EPDM		/LH Mild Steel, Zinc-Nickel
X 3500 - 4200 psi (245 - 290 bar)		V Viton		
Z 4125 - 4900 psi (285 - 340 bar)				



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

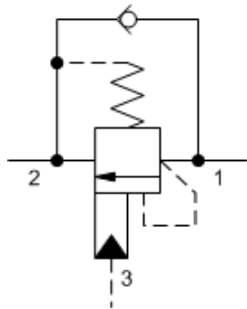
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	10:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

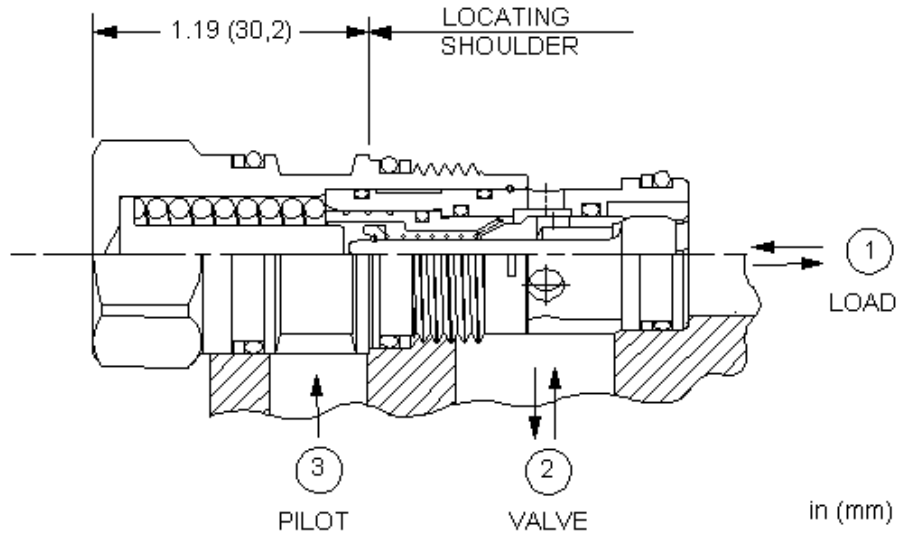
CONFIGURATION OPTIONS

Model Code Example: **CBCHXMN**

FIXED PRESSURE RANGE	(M)	SEAL MATERIAL	(N)	MATERIAL/COATING
M 4700 - 5600 psi (325 - 390 bar)		N Buna-N		Standard Material/Coating
V 3200 - 3800 psi (220 - 260 bar)		E EPDM		/AP Stainless Steel, Passivated
X 3500 - 4200 psi (245 - 290 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
Z 4125 - 4900 psi (285 - 340 bar)				



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

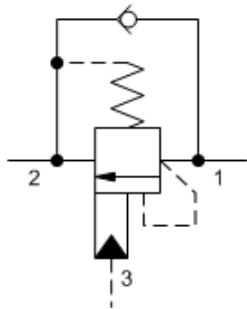
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2.3:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

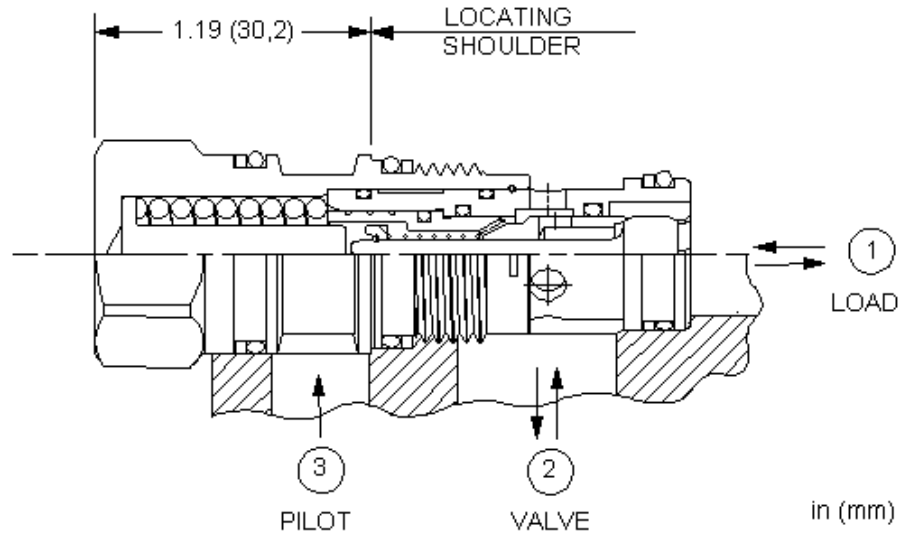
CONFIGURATION OPTIONS

Model Code Example: CBBLXMN

FIXED PRESSURE RANGE	(M)	SEAL MATERIAL	(N)	MATERIAL/COATING
M 4700 - 5600 psi (325 - 390 bar)		N Buna-N		Standard Material/Coating
V 3200 - 3800 psi (220 - 260 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
X 3500 - 4200 psi (245 - 290 bar)				
Z 4125 - 4900 psi (285 - 340 bar)				



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

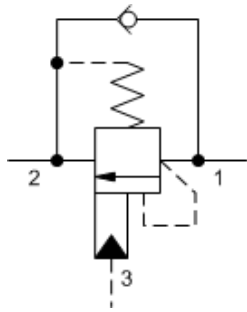
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

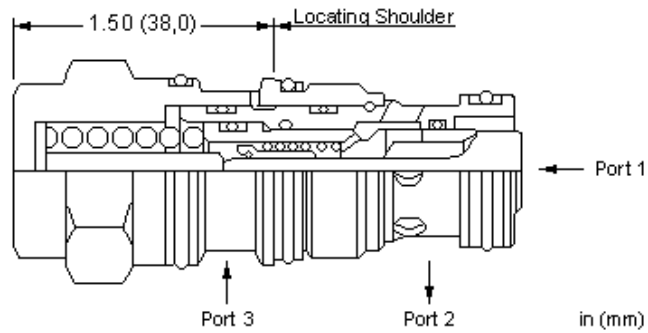
CONFIGURATION OPTIONS

Model Code Example: CBBCXNN

FIXED PRESSURE RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)	N	Buna-N		Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)	E	EPDM		/LH Mild Steel, Zinc-Nickel
	V	Viton		



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

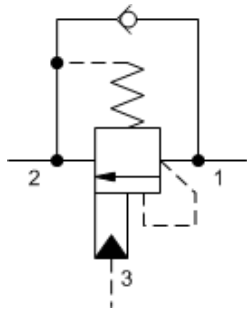
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NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

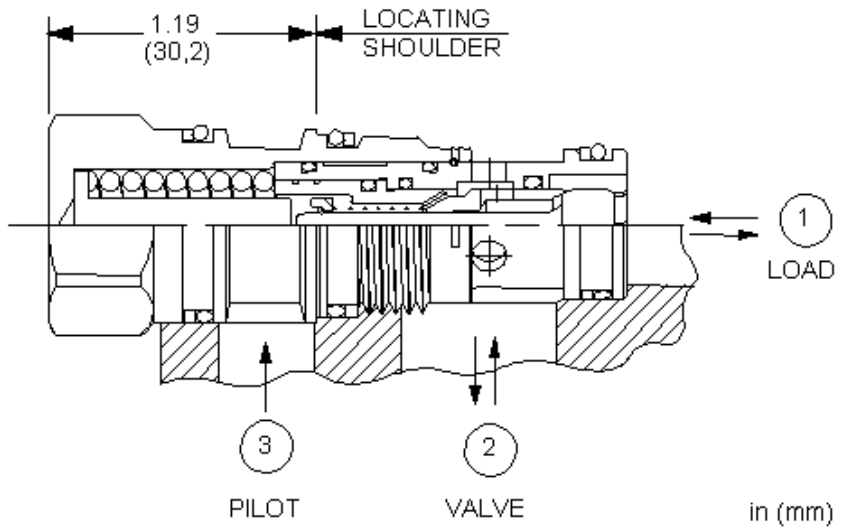
Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: CBDCXNN

FIXED PRESSURE RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)	N	Buna-N		Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)	E	EPDM		/LH Mild Steel, Zinc-Nickel
	V	Viton		



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

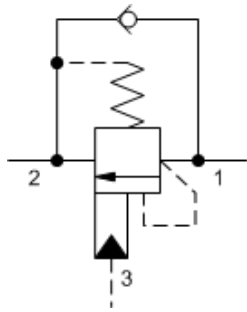
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

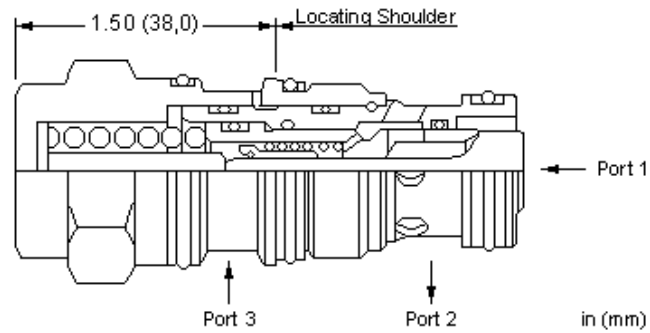
CONFIGURATION OPTIONS

Model Code Example: **CBBDXN**

FIXED PRESSURE RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X 3500 - 4200 psi (245 - 290 bar)	N Buna-N	Standard Material/Coating
M 4700 - 5600 psi (325 - 390 bar)	E EPDM	/AP Stainless Steel, Passivated
V 3200 - 3800 psi (220 - 260 bar)	V Viton	
Z 4125 - 4900 psi (285 - 340 bar)		



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

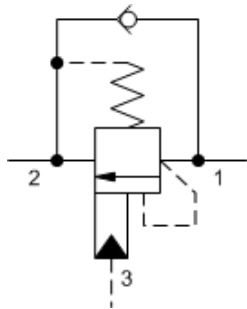
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

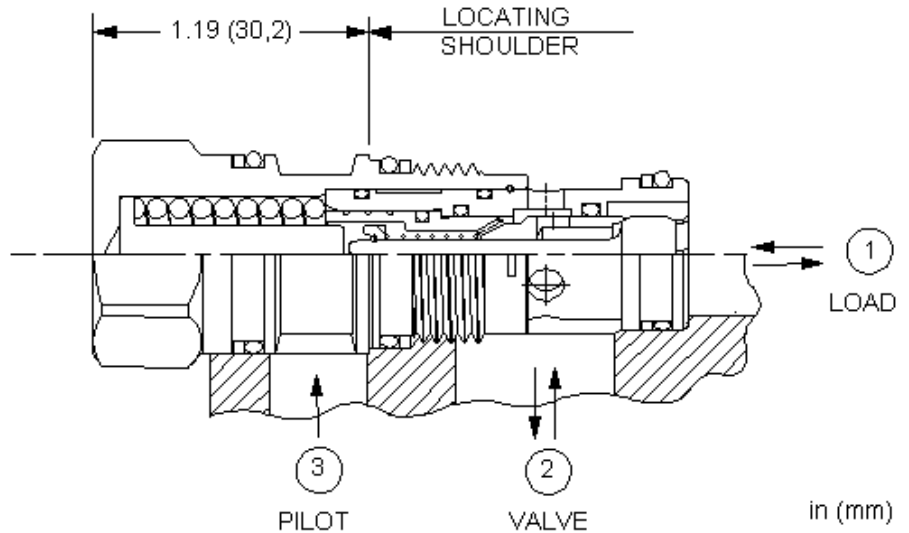
CONFIGURATION OPTIONS

Model Code Example: CBDDXXN

FIXED PRESSURE RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X 3500 - 4200 psi (245 - 290 bar)	N Buna-N	Standard Material/Coating
M 4700 - 5600 psi (325 - 390 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
V 3200 - 3800 psi (220 - 260 bar)		
Z 4125 - 4900 psi (285 - 340 bar)		



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

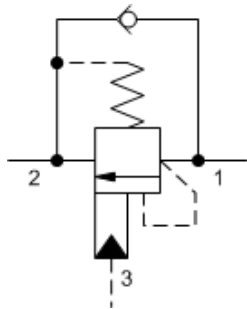
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

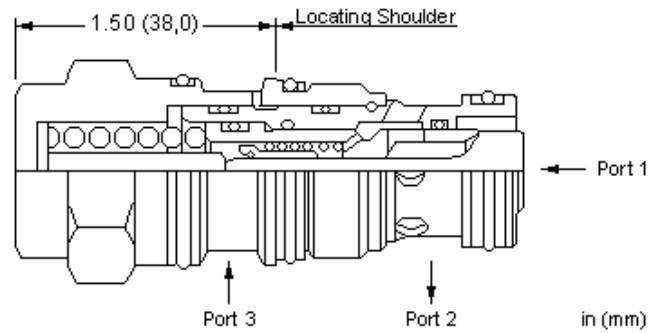
CONFIGURATION OPTIONS

Model Code Example: CBBAXNN

FIXED PRESSURE RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)	N	Buna-N		Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)	V	Viton		/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

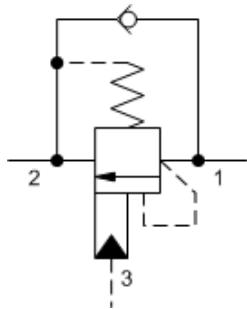
TECHNICAL DATA

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

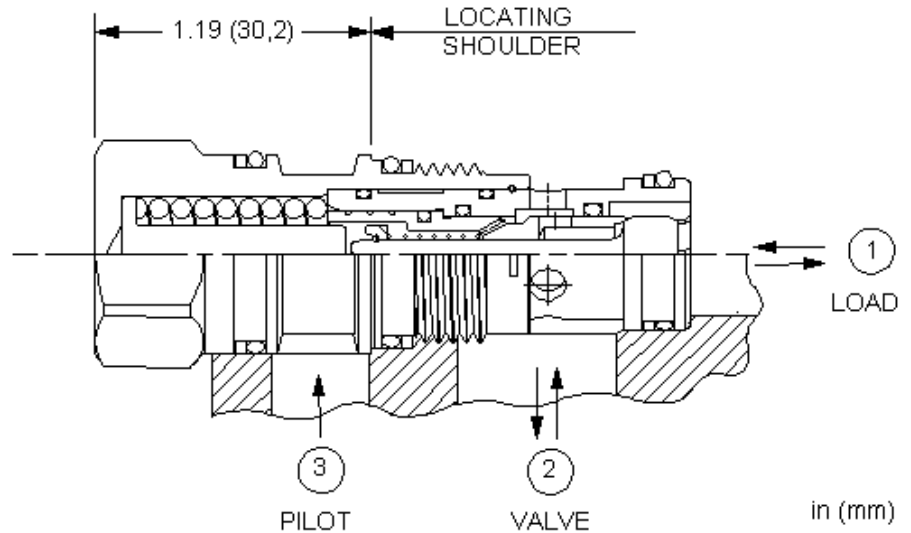
Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: CBDAXNN

FIXED PRESSURE RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)		N Buna-N		Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)		V Viton		/LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

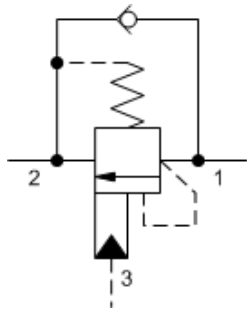
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

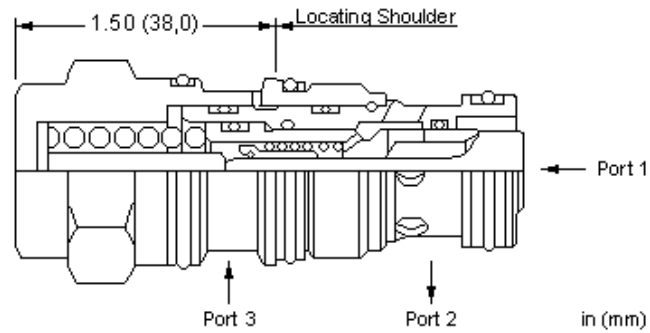
CONFIGURATION OPTIONS

Model Code Example: CBBGXMN

FIXED PRESSURE RANGE	(M)	SEAL MATERIAL	(N)	MATERIAL/COATING
M 4700 - 5600 psi (325 - 390 bar)		N Buna-N		Standard Material/Coating
V 3200 - 3800 psi (220 - 260 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
X 3500 - 4200 psi (245 - 290 bar)				
Z 4125 - 4900 psi (285 - 340 bar)				



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

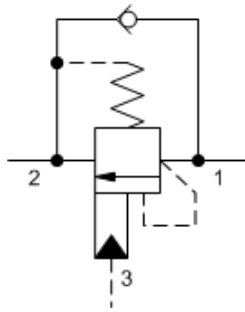
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NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

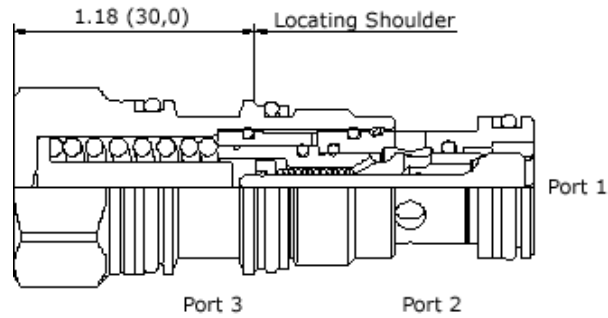
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: CBDGXN

FIXED PRESSURE RANGE	(X)	SEAL MATERIAL	(N)	MATERIAL/COATING
X 3500 - 4200 psi (245 - 290 bar)		N Buna-N		Standard Material/Coating
M 4700 - 5600 psi (325 - 390 bar)		V Viton		/LH Mild Steel, Zinc-Nickel
V 3200 - 3800 psi (220 - 260 bar)				
Z 4125 - 4900 psi (285 - 340 bar)				



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

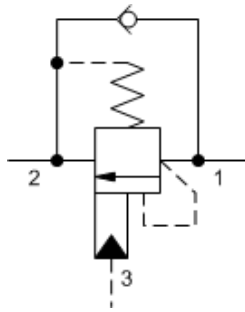
TECHNICAL DATA

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

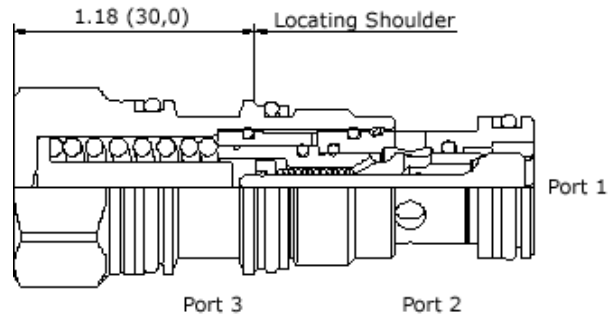
Pilot Ratio	1.5:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS
Model Code Example: CBABXNN

FIXED PRESSURE RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)		N Buna-N		Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)		V Viton		/LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

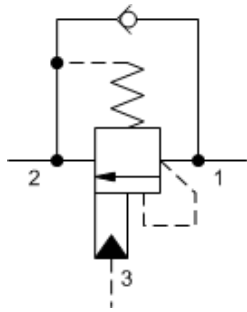
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

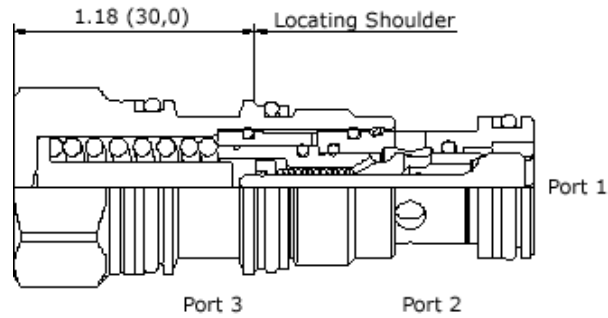
CONFIGURATION OPTIONS

Model Code Example: CBAAXNN

FIXED PRESSURE RANGE	(N) SEAL MATERIAL	(N) MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)	N Buna-N	Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)	V Viton	/LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

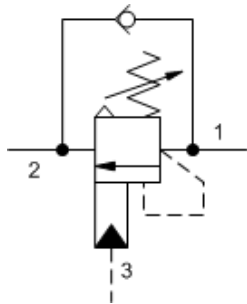
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

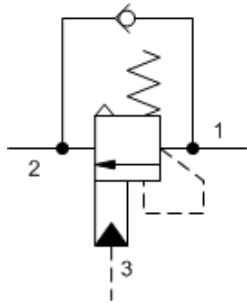
CONFIGURATION OPTIONS

Model Code Example: CBAGXMN

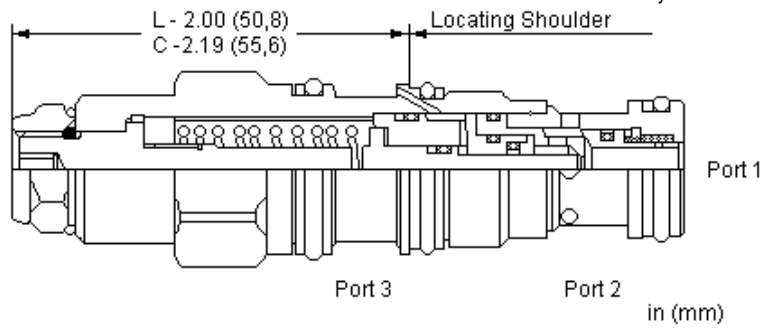
FIXED PRESSURE RANGE	(M) SEAL MATERIAL	(N) MATERIAL/COATING
M 4700 - 5600 psi (325 - 390 bar)	N Buna-N	Standard Material/Coating
V 3200 - 3800 psi (220 - 260 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
X 3500 - 4200 psi (245 - 290 bar)		
Z 4125 - 4900 psi (285 - 340 bar)		



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

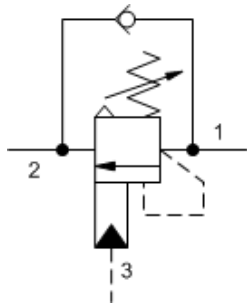
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	3
Reseat	>85% of setting
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

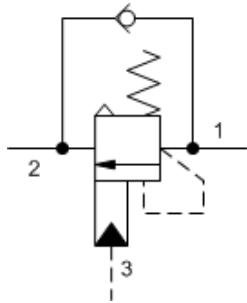
CONFIGURATION OPTIONS

Model Code Example: CABKLHN

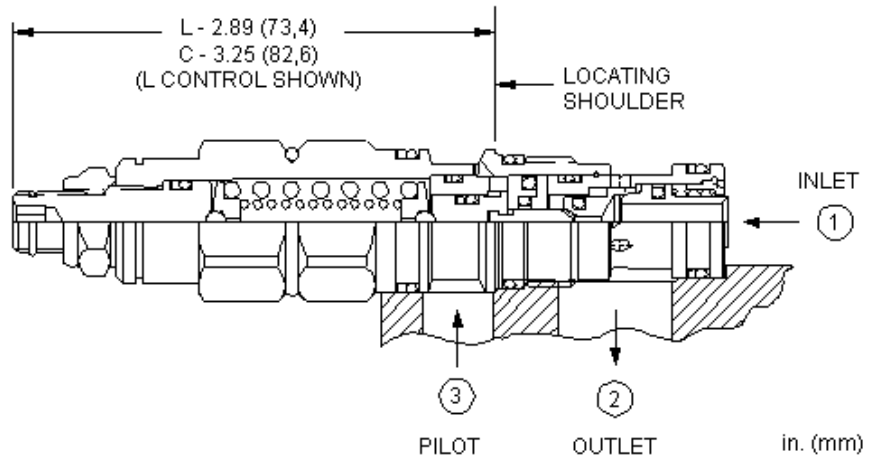
CONTROL	(L) FUNCTIONAL SETTING RANGE (H)	SEAL MATERIAL (N)
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N
C Tamper Resistant - Factory Set		V Viton



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

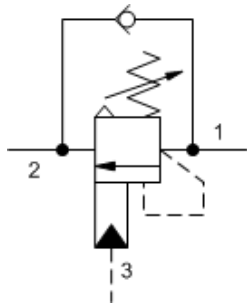
TECHNICAL DATA

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

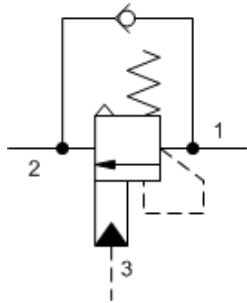
Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990211007
Seal kit - Cartridge	Viton: 990211006

CONFIGURATION OPTIONS
Model Code Example: CACKLHN

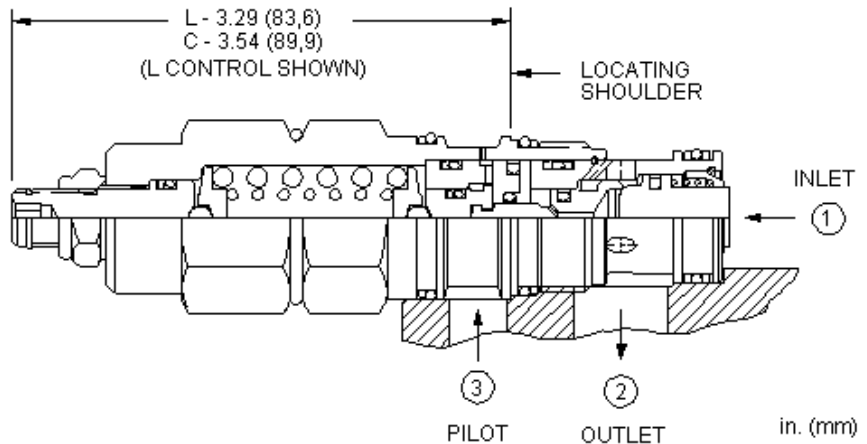
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

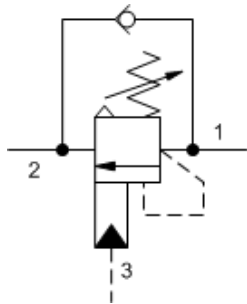
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990302007
Seal kit - Cartridge	Viton: 990302006

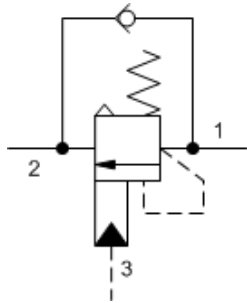
CONFIGURATION OPTIONS

Model Code Example: CAEKLHN

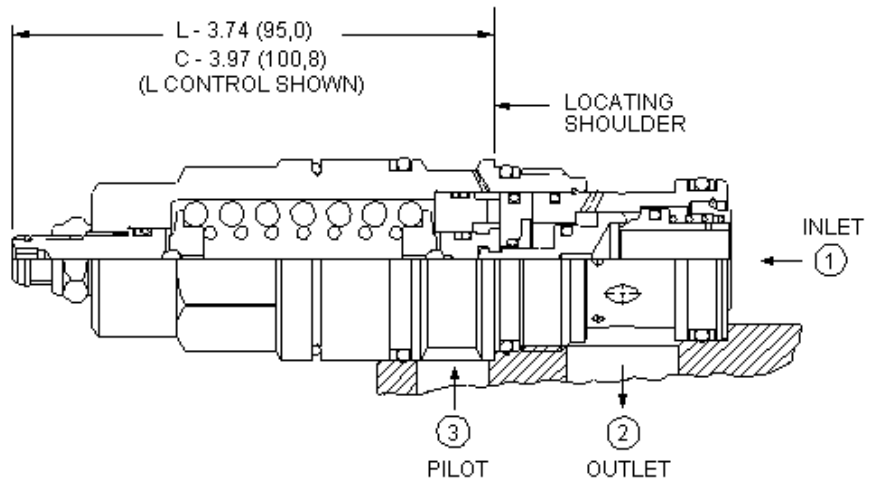
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N)
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



in. (mm)

Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

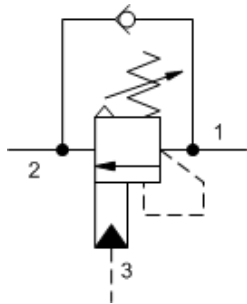
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990117007
Seal kit - Cartridge	Viton: 990117006

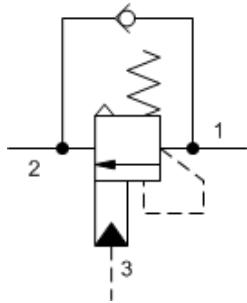
CONFIGURATION OPTIONS

Model Code Example: CAGKLHN

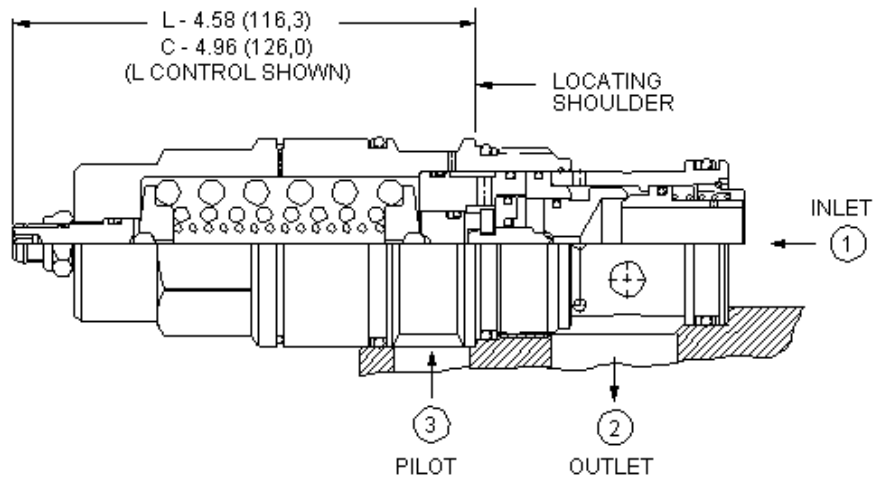
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N)
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

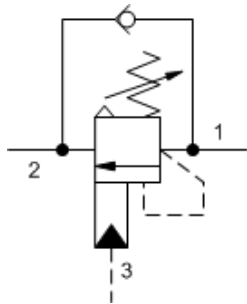
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	20 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990119007
Seal kit - Cartridge	Polyurethane: 990119002
Seal kit - Cartridge	Viton: 990119006

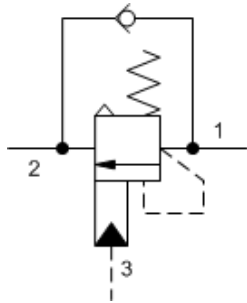
CONFIGURATION OPTIONS

Model Code Example: CAIKLHN

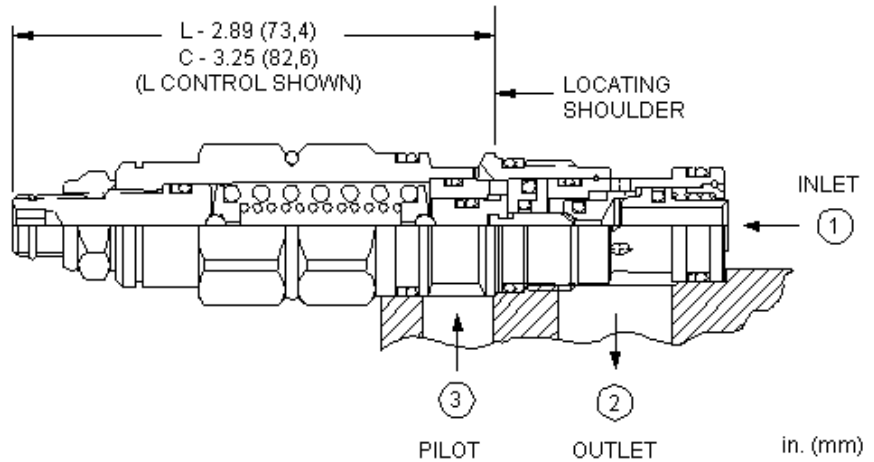
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N)
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

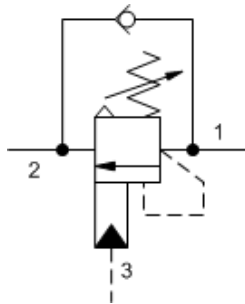
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990211007
Seal kit - Cartridge	Viton: 990211006

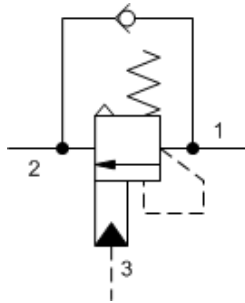
CONFIGURATION OPTIONS

Model Code Example: CACLLFN

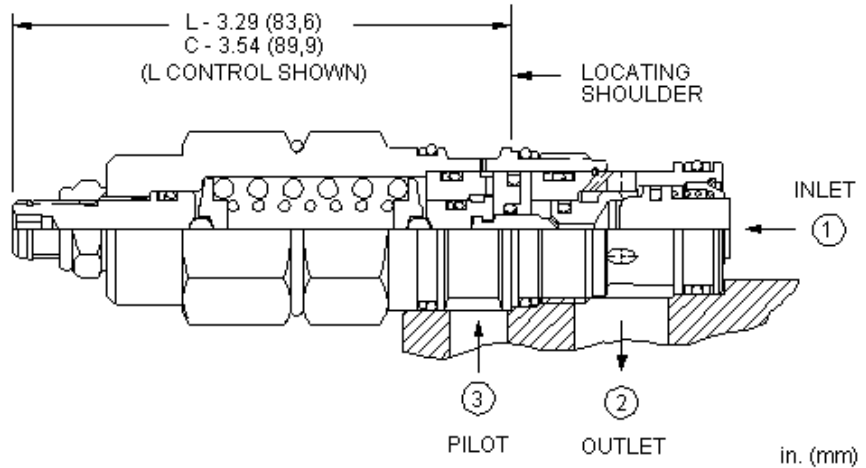
CONTROL	(L) FUNCTIONAL SETTING RANGE	(F) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

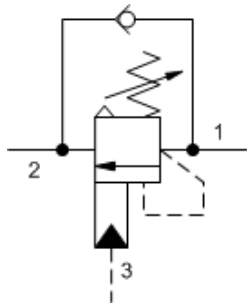
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990302007
Seal kit - Cartridge	Viton: 990302006

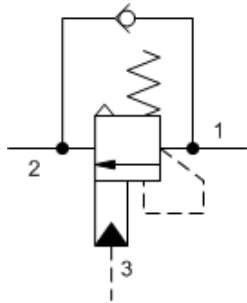
CONFIGURATION OPTIONS

Model Code Example: CAELLGN

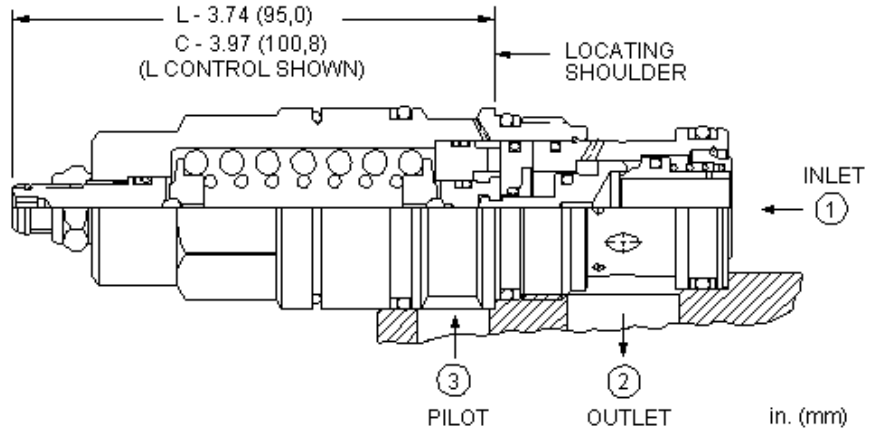
CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

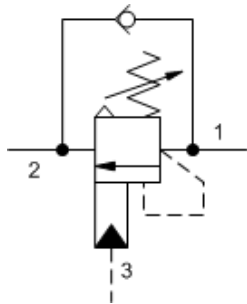
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990117007
Seal kit - Cartridge	Viton: 990117006

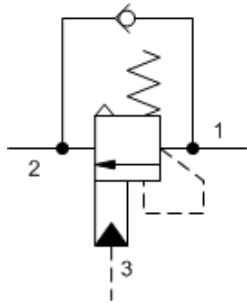
CONFIGURATION OPTIONS

Model Code Example: CAGLLGN

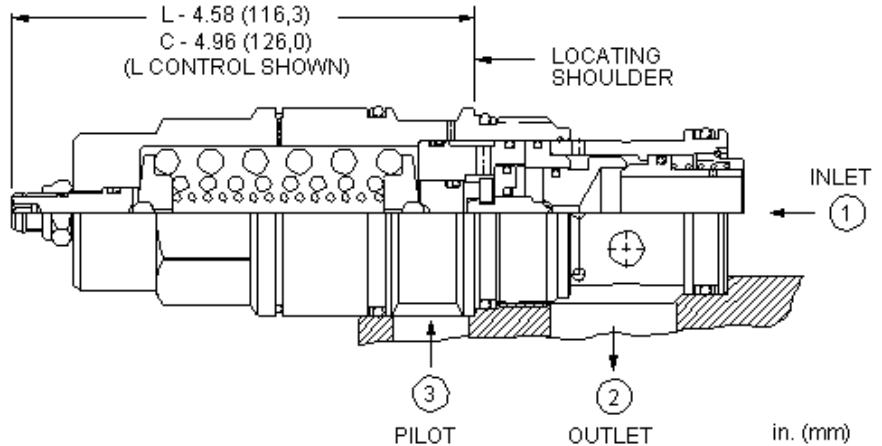
CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

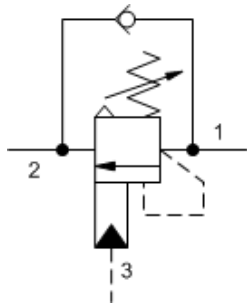
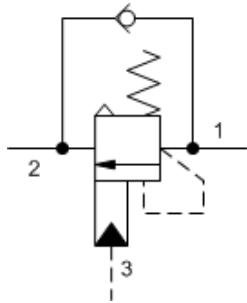
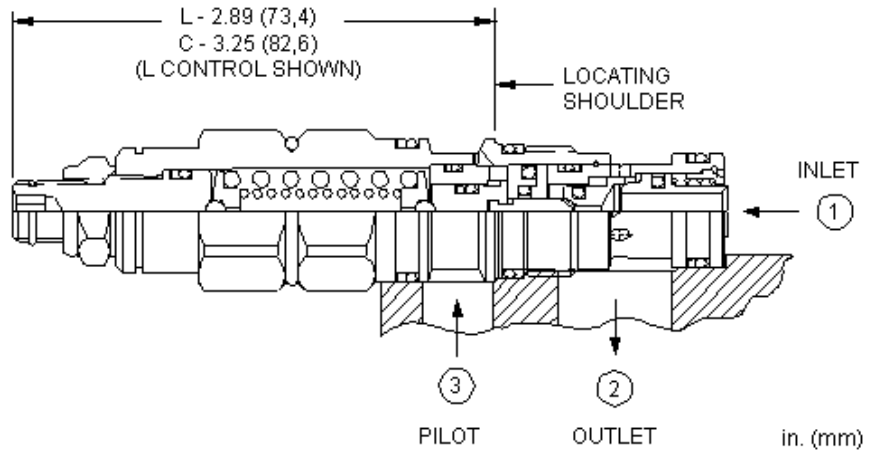
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	20 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990119007
Seal kit - Cartridge	Polyurethane: 990119002
Seal kit - Cartridge	Viton: 990119006

CONFIGURATION OPTIONS

Model Code Example: CAILLGN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel


3-Port Atmospherically Referenced

3-Port Atmospherically Referenced, Non-adjustable


Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

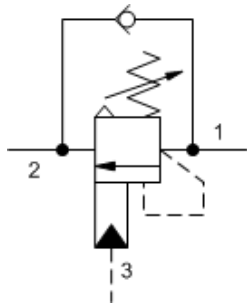
TECHNICAL DATA

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

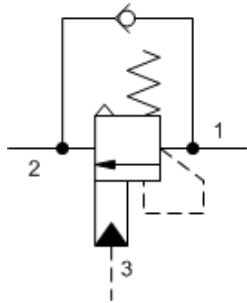
Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990211007
Seal kit - Cartridge	Viton: 990211006

CONFIGURATION OPTIONS
Model Code Example: CACALHN

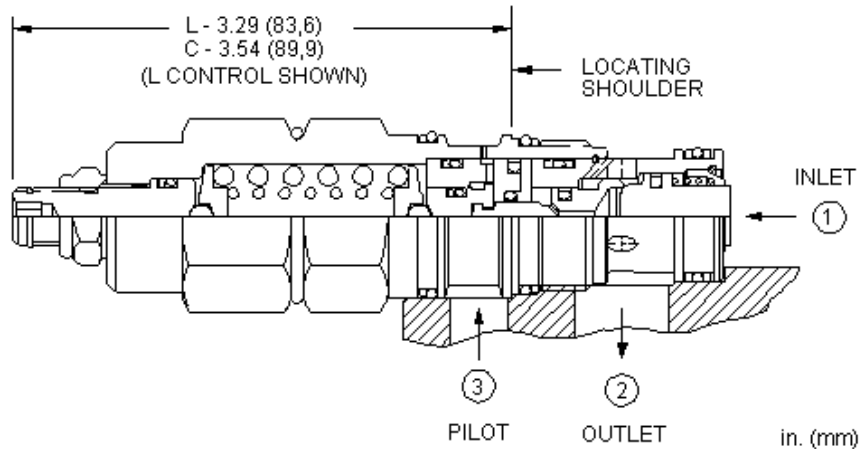
CONTROL	(L) FUNCTIONAL SETTING RANGE (H)	SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

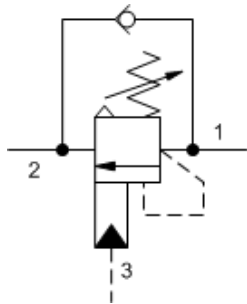
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990302007
Seal kit - Cartridge	Viton: 990302006

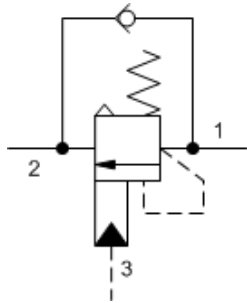
CONFIGURATION OPTIONS

Model Code Example: CAEALHN

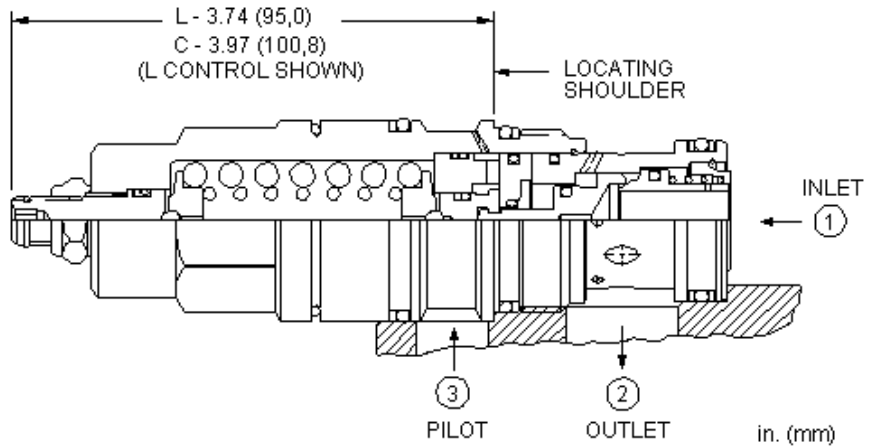
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

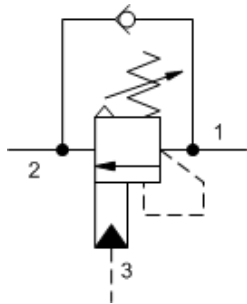
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990117007
Seal kit - Cartridge	Viton: 990117006

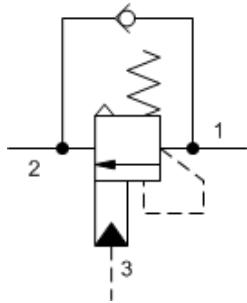
CONFIGURATION OPTIONS

Model Code Example: CAGALHN

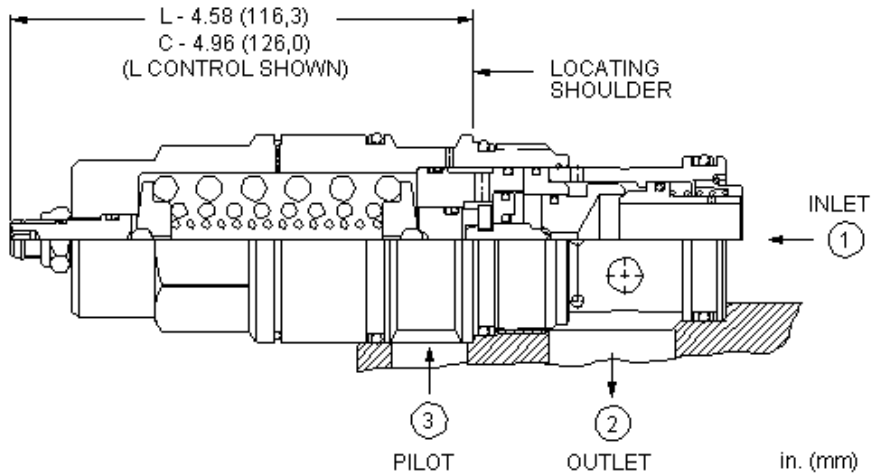
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

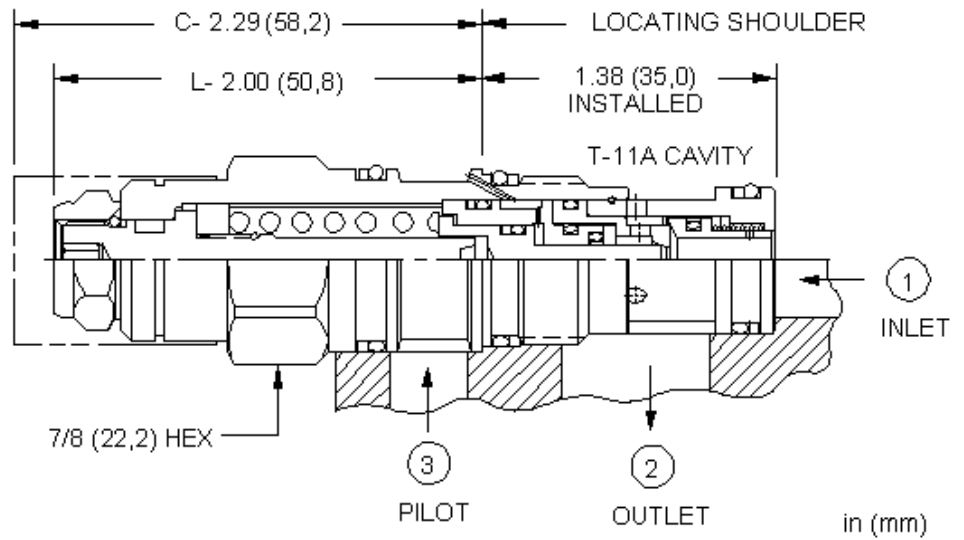
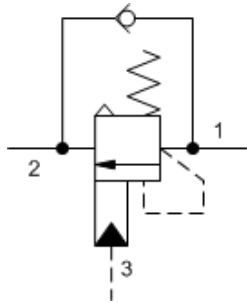
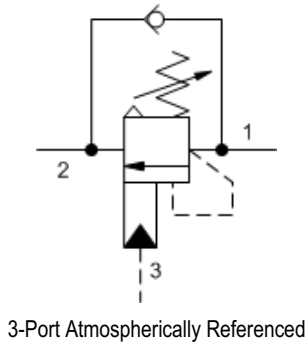
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	20 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990119007
Seal kit - Cartridge	Polyurethane: 990119002
Seal kit - Cartridge	Viton: 990119006

CONFIGURATION OPTIONS

Model Code Example: CAIALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

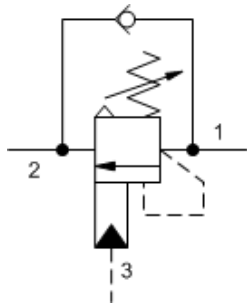
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	3
Reseat	>85% of setting
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

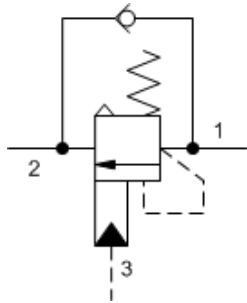
CONFIGURATION OPTIONS

Model Code Example: CABGLHN

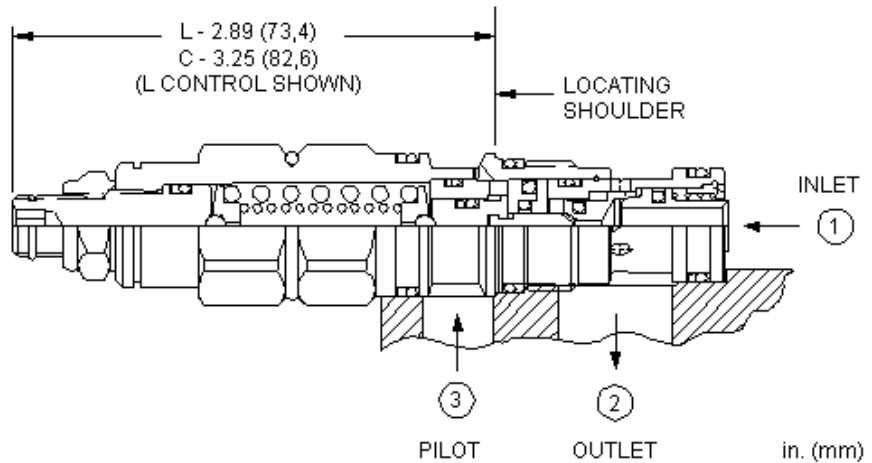
CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1.7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

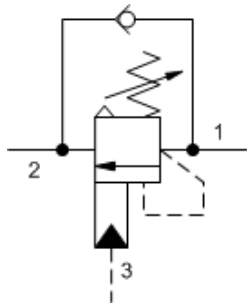
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990211007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Viton: 990211006

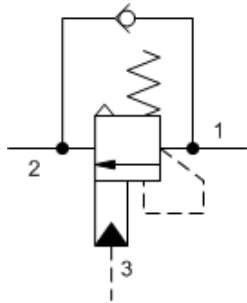
CONFIGURATION OPTIONS

Model Code Example: CACGLGN

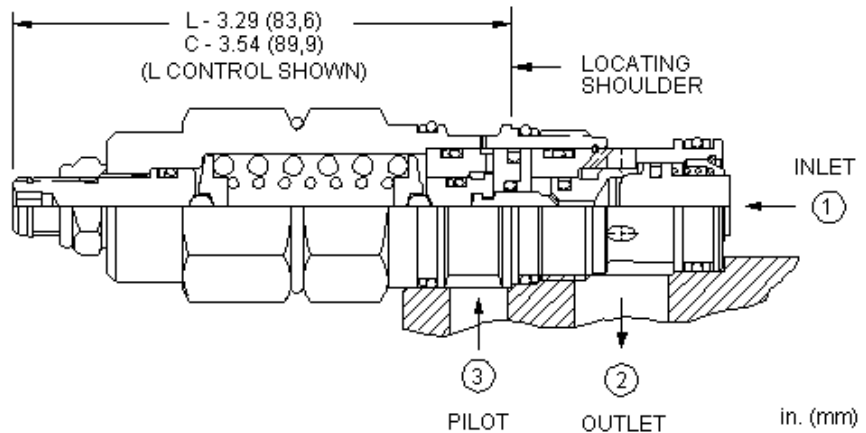
CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

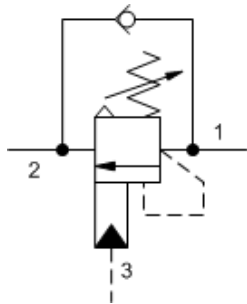
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990302007
Seal kit - Cartridge	Viton: 990302006

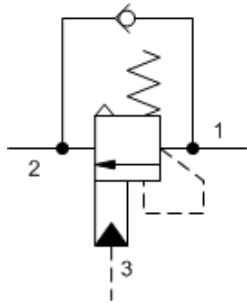
CONFIGURATION OPTIONS

Model Code Example: CAEGLGN

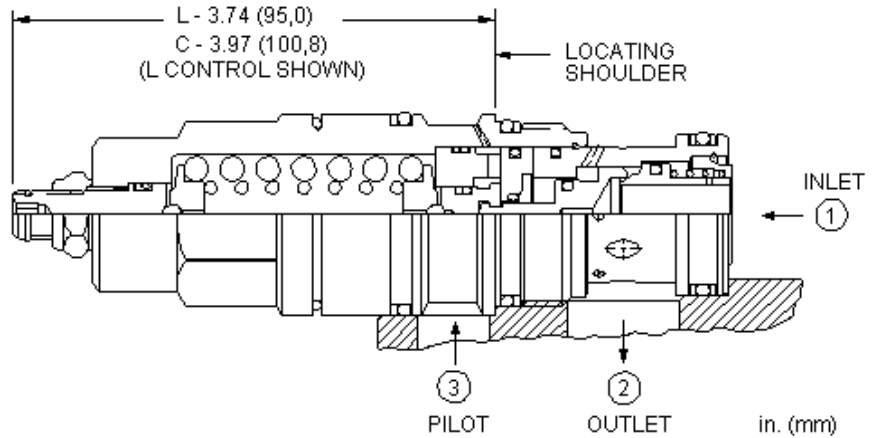
CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

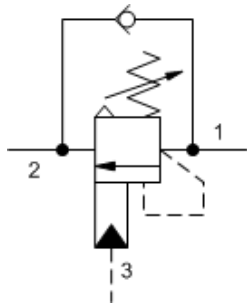
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990117007
Seal kit - Cartridge	Viton: 990117006

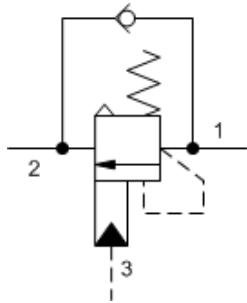
CONFIGURATION OPTIONS

Model Code Example: CAGGLGN

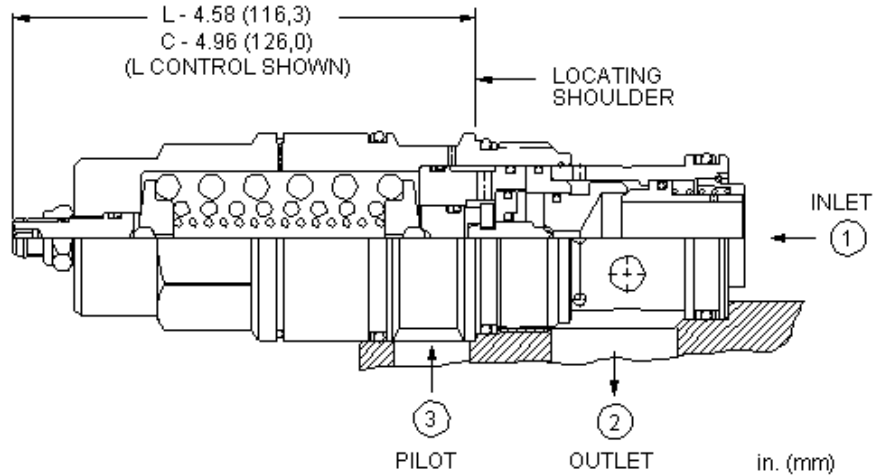
CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

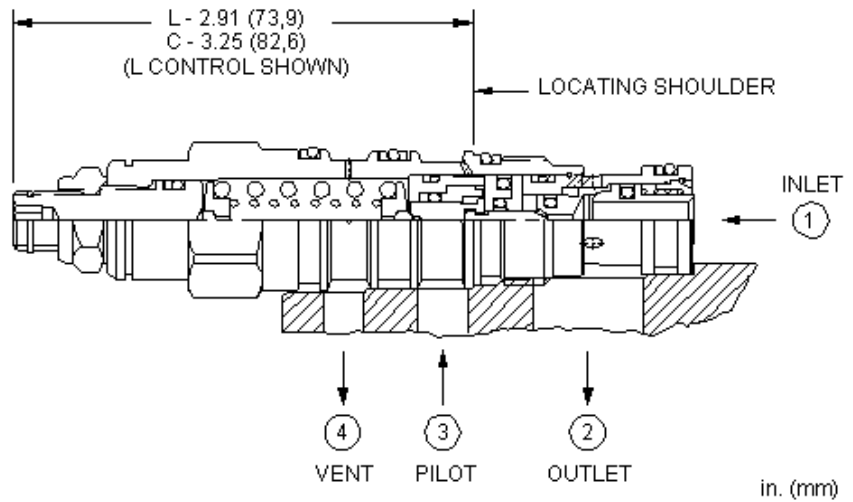
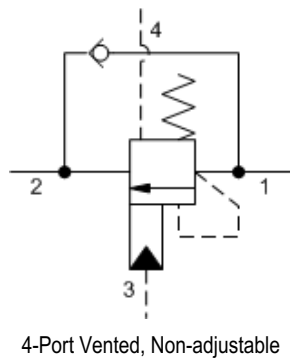
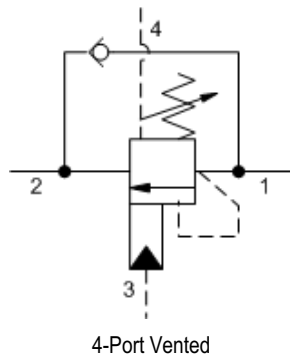
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	20 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Seal kit - Cartridge	Buna: 990119007
Seal kit - Cartridge	Polyurethane: 990119002
Seal kit - Cartridge	Viton: 990119006

CONFIGURATION OPTIONS

Model Code Example: CAIGLGN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N)
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

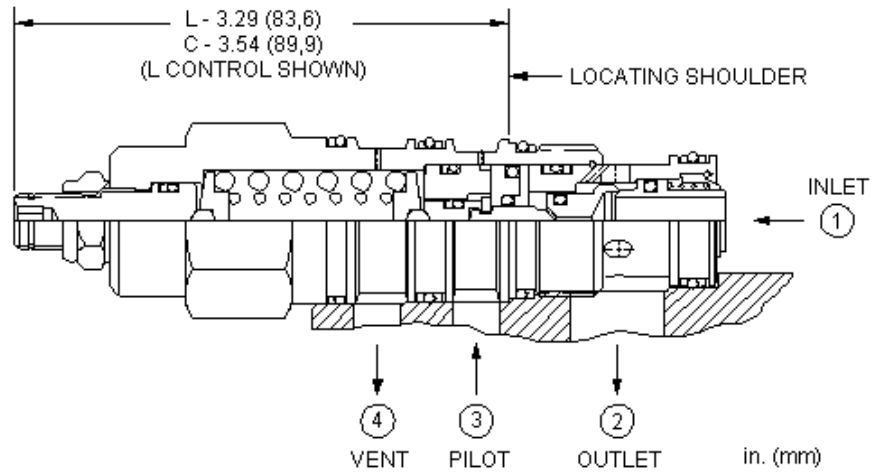
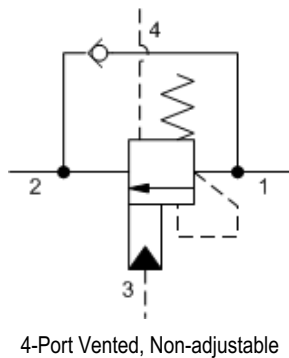
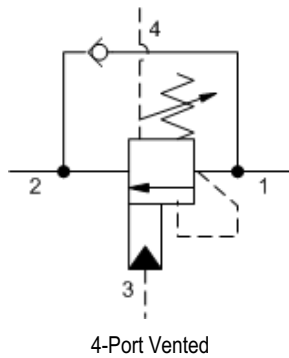
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
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: **CWCKLHN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

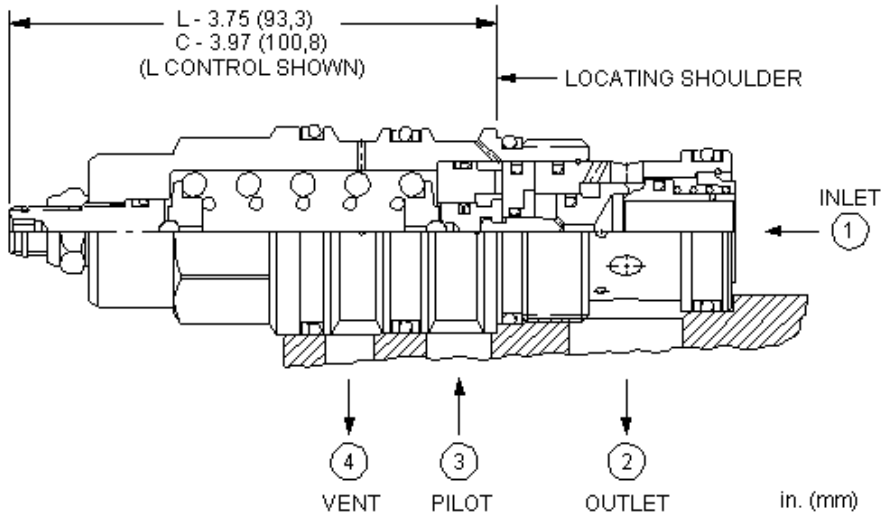
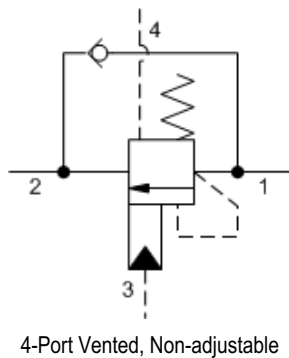
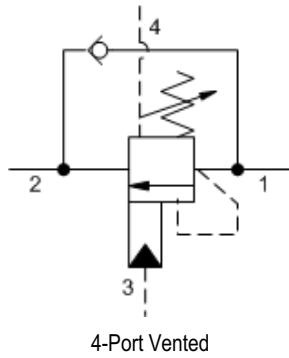
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CWEKLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

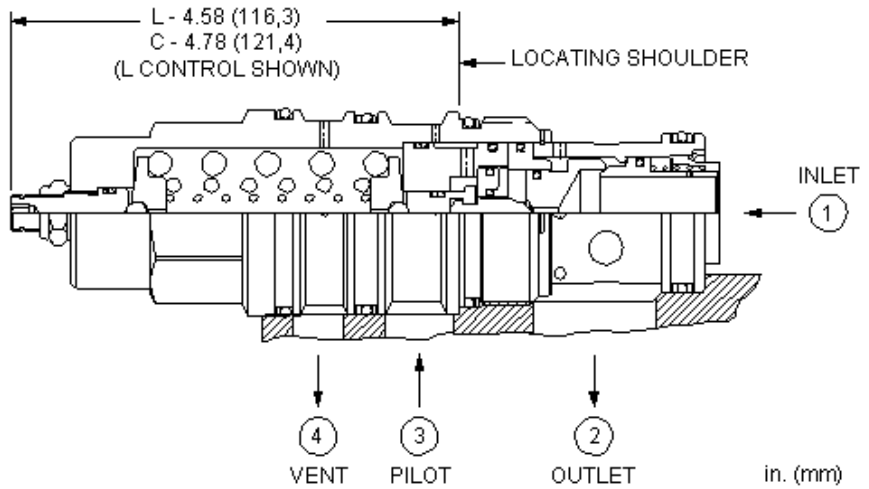
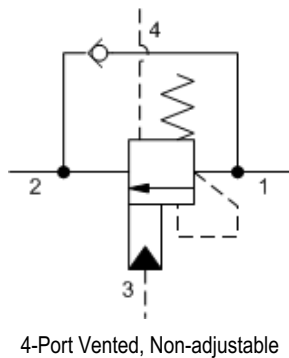
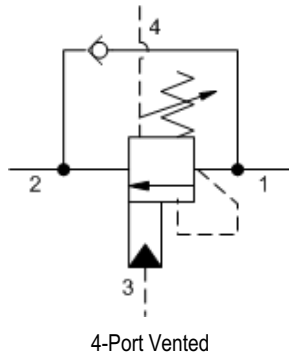
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CWGKLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

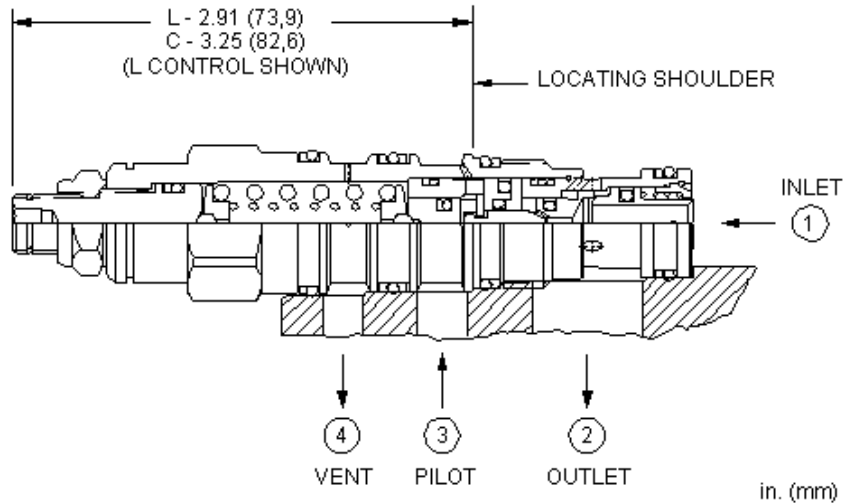
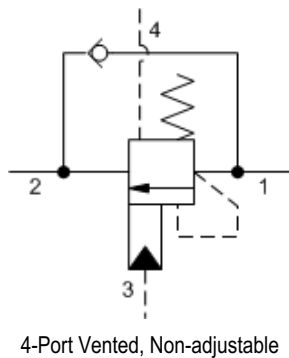
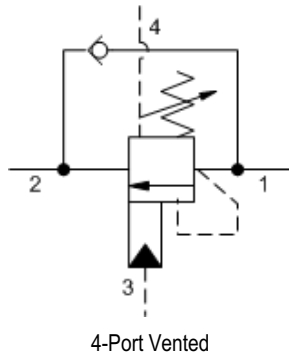
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	20 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CWIKLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

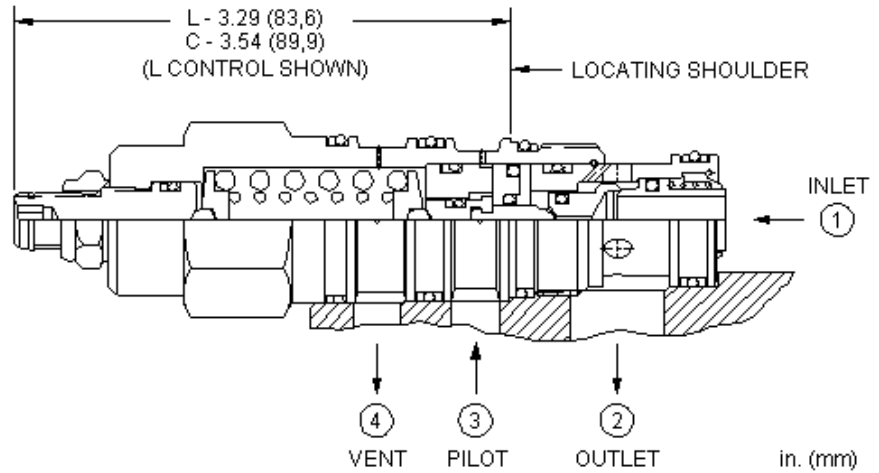
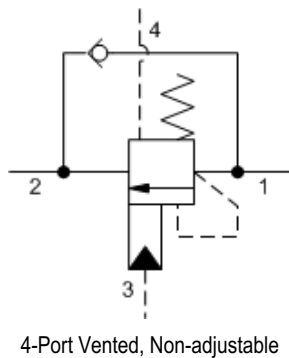
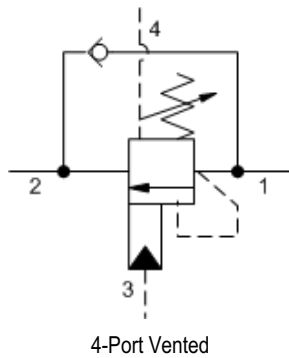
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
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: CWCLLGN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

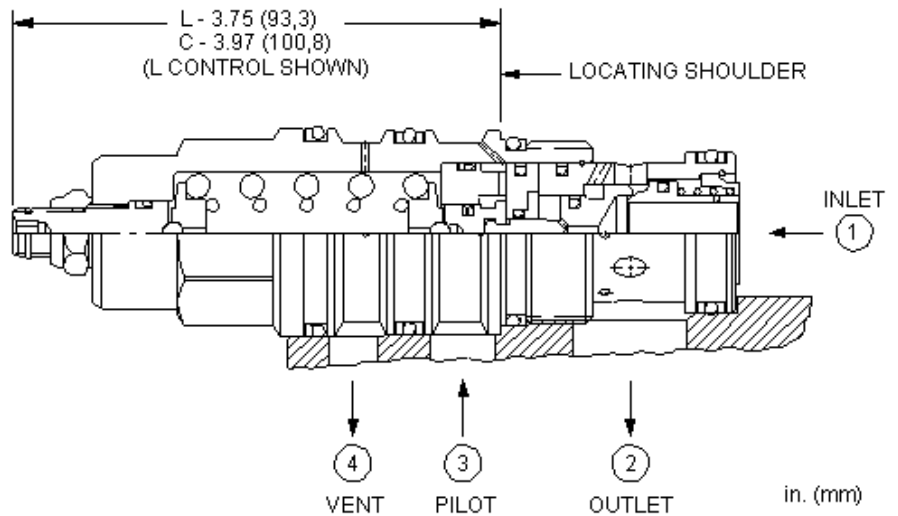
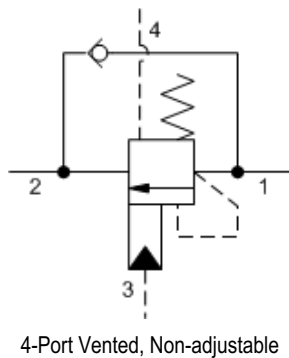
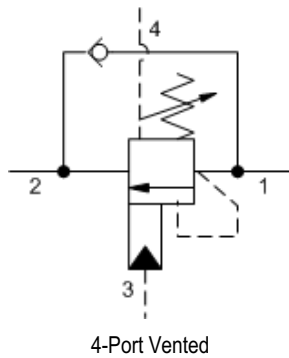
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: **CWELLGN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

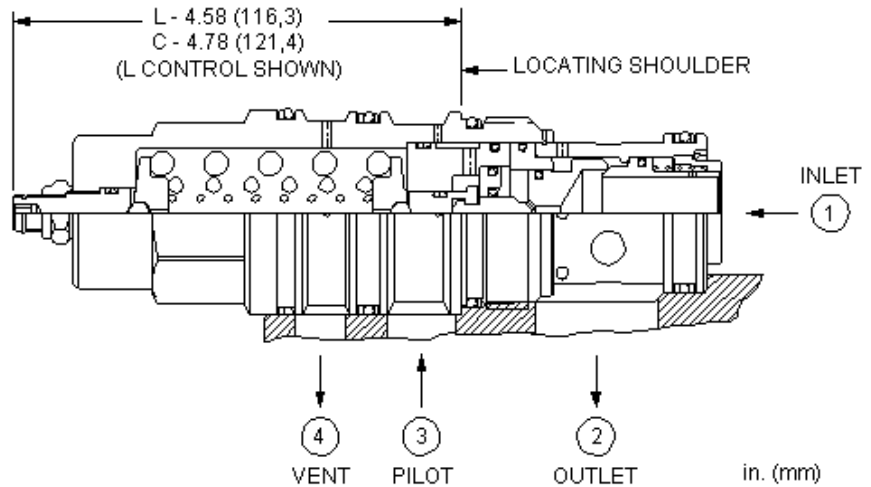
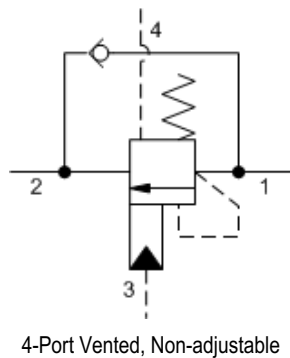
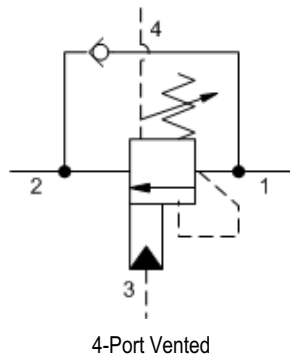
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CWGLLGN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

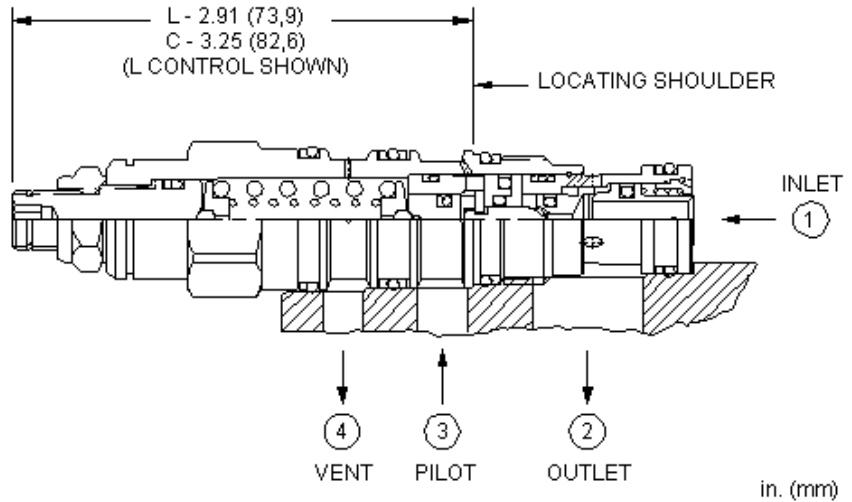
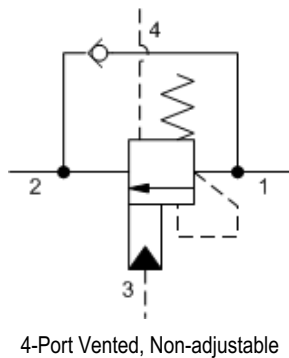
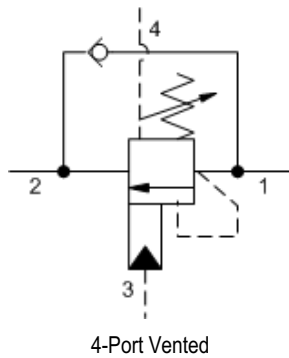
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	2:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	20 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CWILLGN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

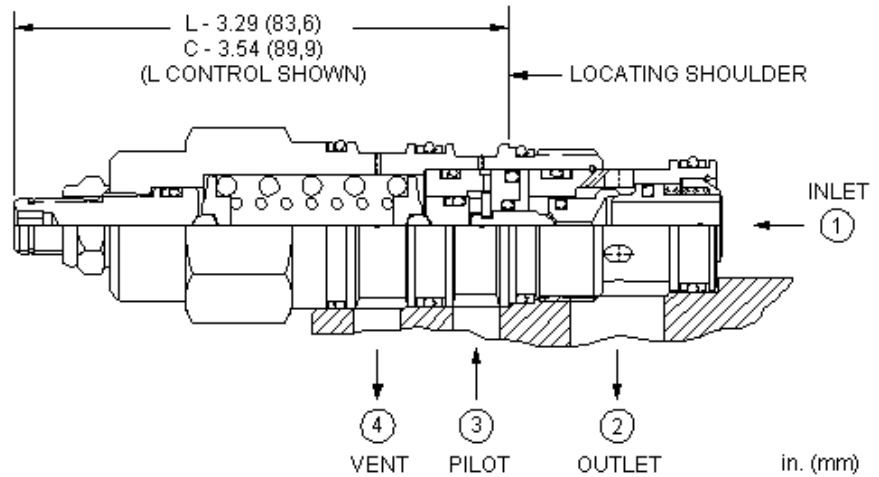
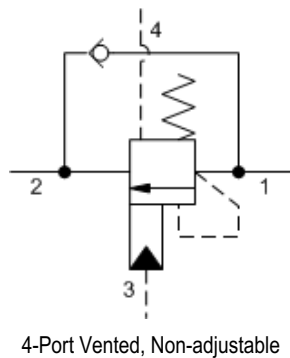
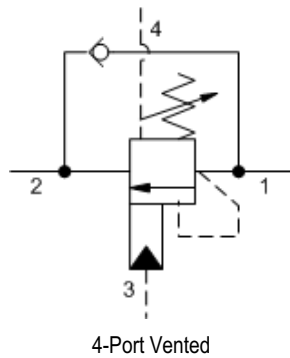
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
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: CWCALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated
			/LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

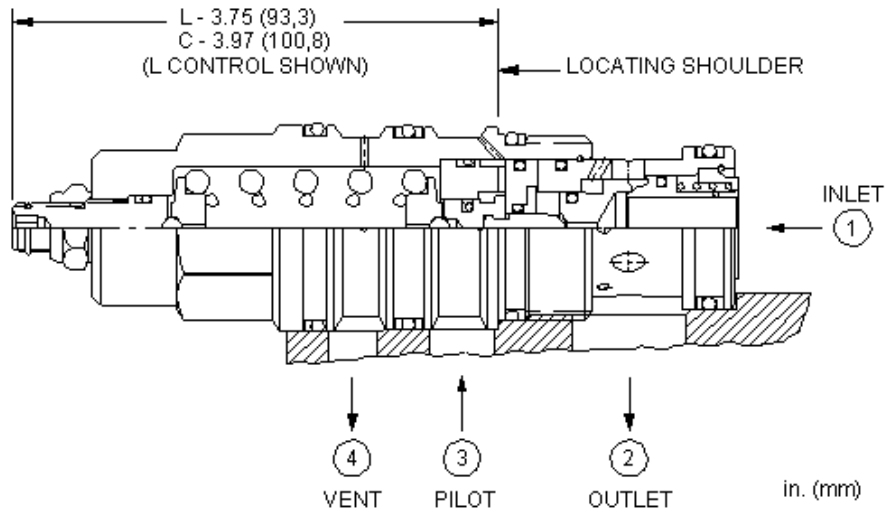
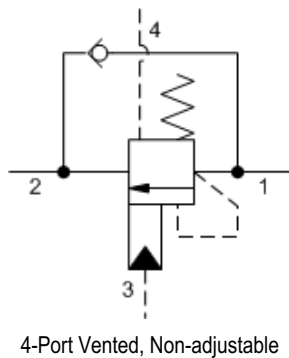
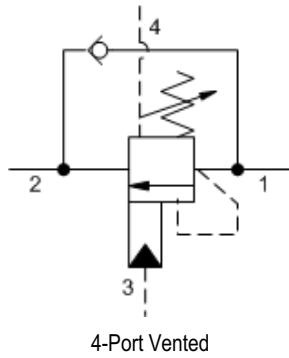
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: **CWEALHN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

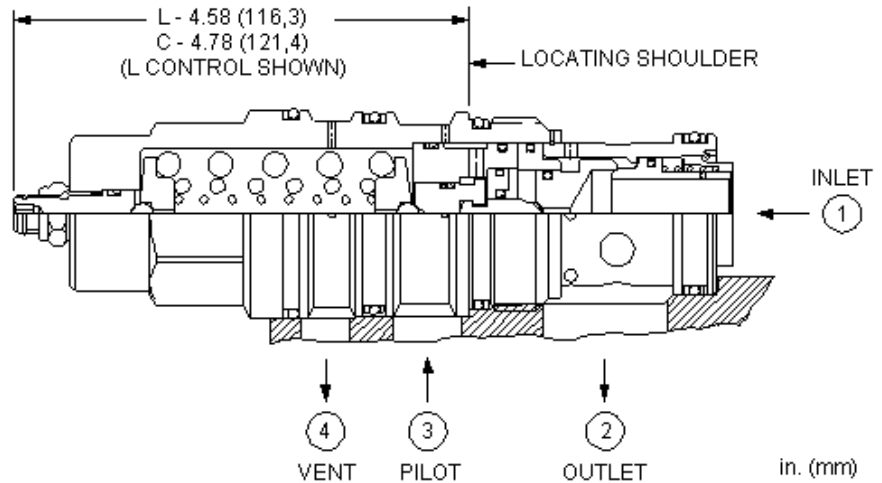
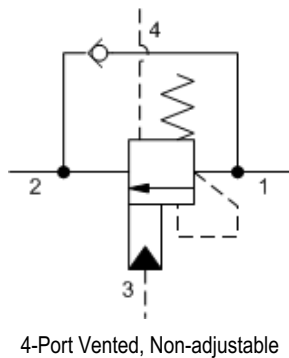
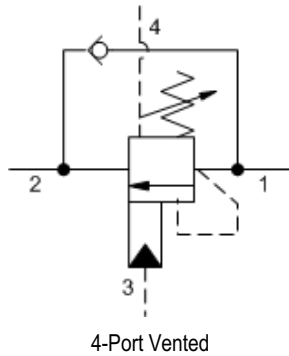
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CWGALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM	/AP Stainless Steel, Passivated
		V Viton	/LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

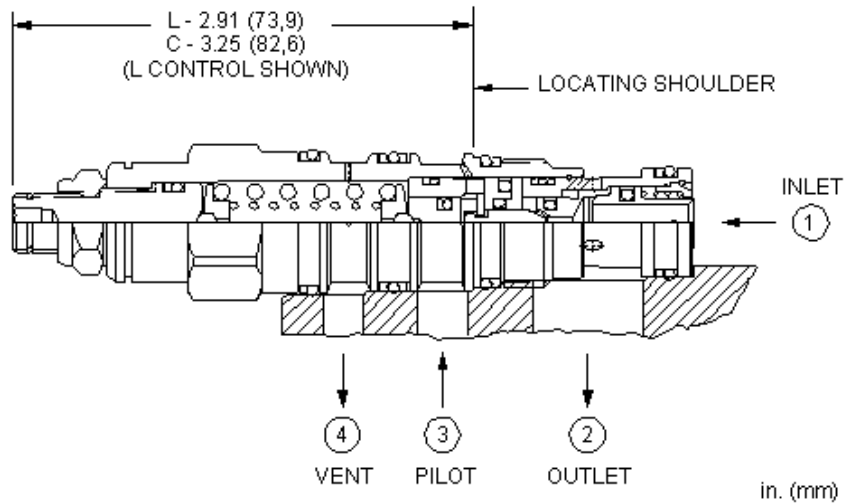
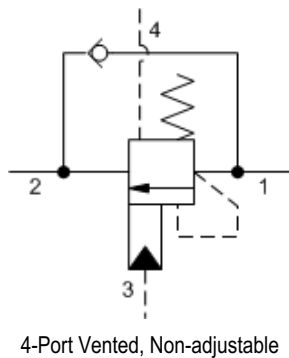
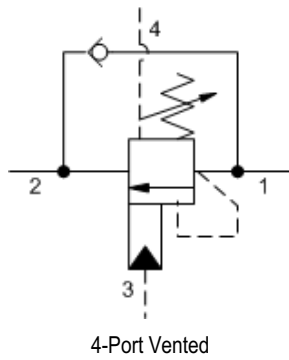
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	20 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CWIALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	I 400 - 1500 psi (28 - 105 bar), 1000 psi (70 bar) Standard Setting	E EPDM V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

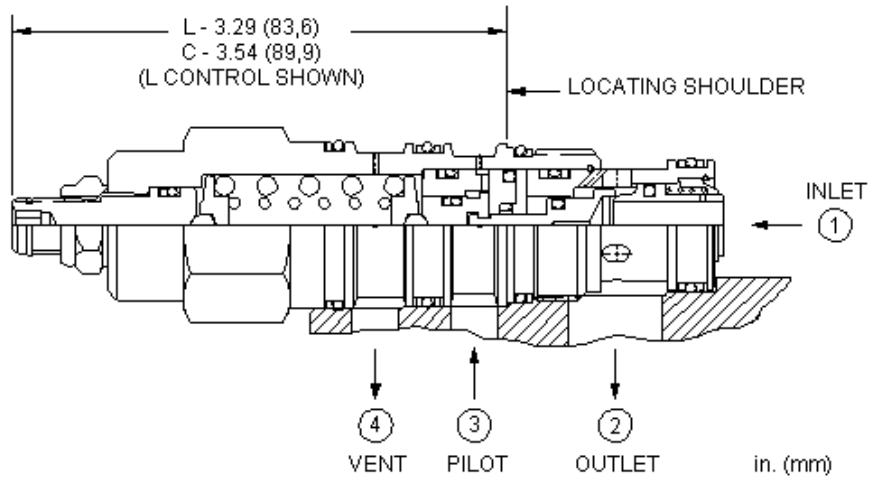
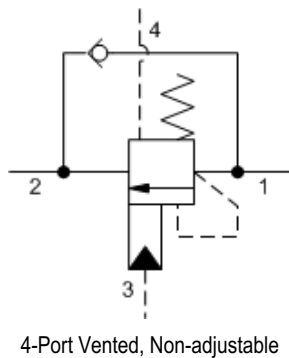
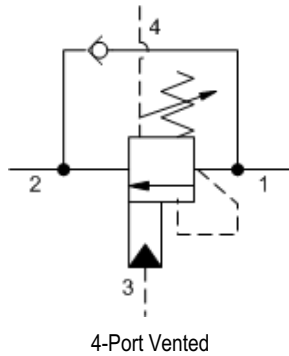
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
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: CWCG LGN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

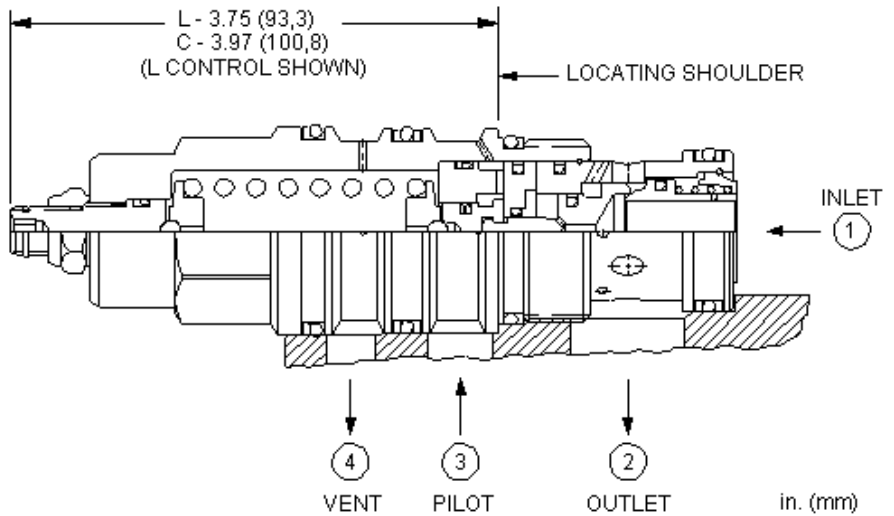
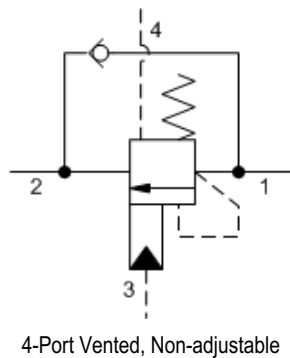
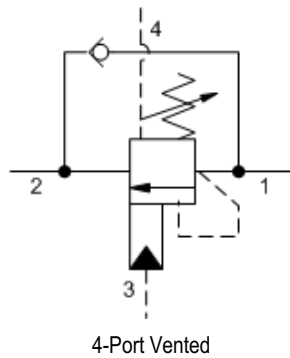
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CW EGLN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

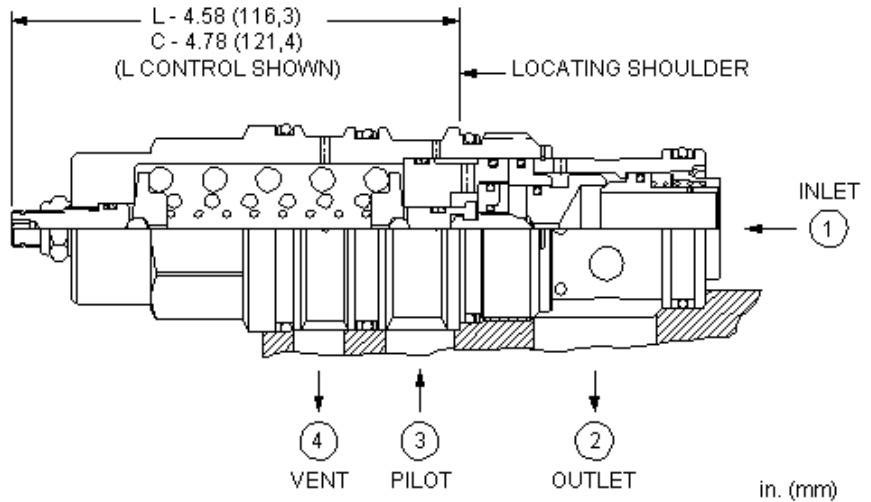
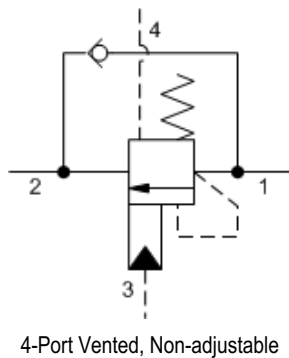
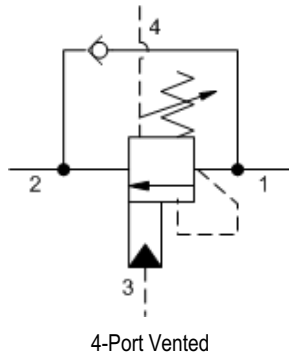
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: **CWGGLGN**

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

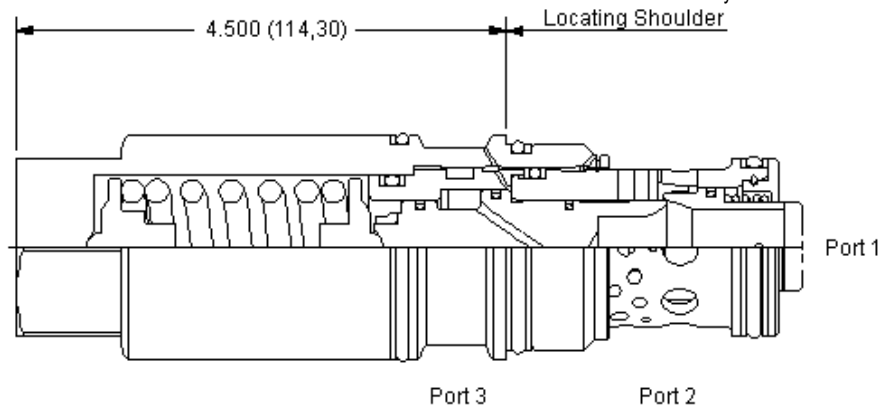
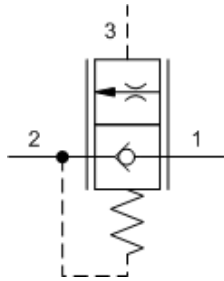
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	5:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	20 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
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: CWIGLGN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	F 1000 - 2500 psi (70 - 175 bar), 2000 psi (140 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Balanced load control valves combine a balanced modulating element with a reverse flow check. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while the pilot to open modulating element controls flow from port 1 to port 2. Pilot pressure at port 3 determines the flow setting.

TECHNICAL DATA

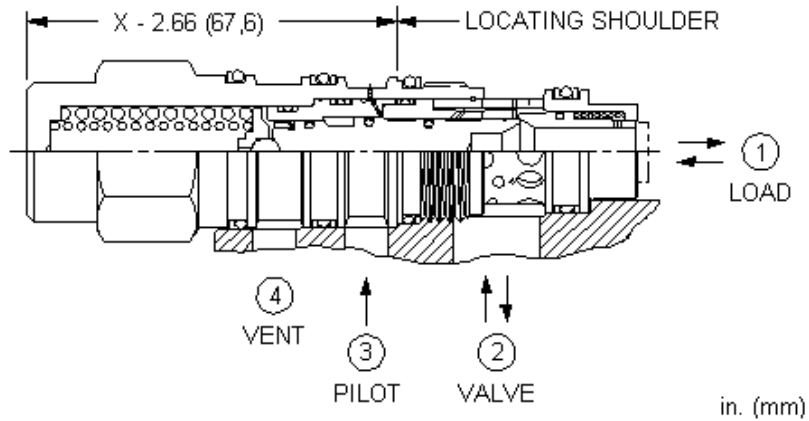
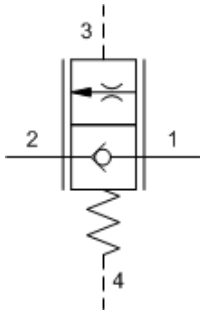
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	See Technical Features
Check Cracking Pressure	25 psi

CONFIGURATION OPTIONS

Model Code Example: MBIMXKN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(K) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	K 450 psi (33 bar)	N Buna-N	Standard Material/Coating
	E 75 psi (5 bar)	E EPDM	/AP Stainless Steel, Passivated
	G 100 psi (7 bar)	V Viton	
	H 200 psi (14 bar)		
	I 300 psi (20 bar)		
	M 525 psi (36,7 bar)		



Vented, balanced load control valves combine a balanced modulating element with a reverse flow check. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while the pilot to open modulating element controls flow from port 1 to port 2. Pilot pressure at port 3 determines the flow setting. Backpressure at port 2 does not affect the flow setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

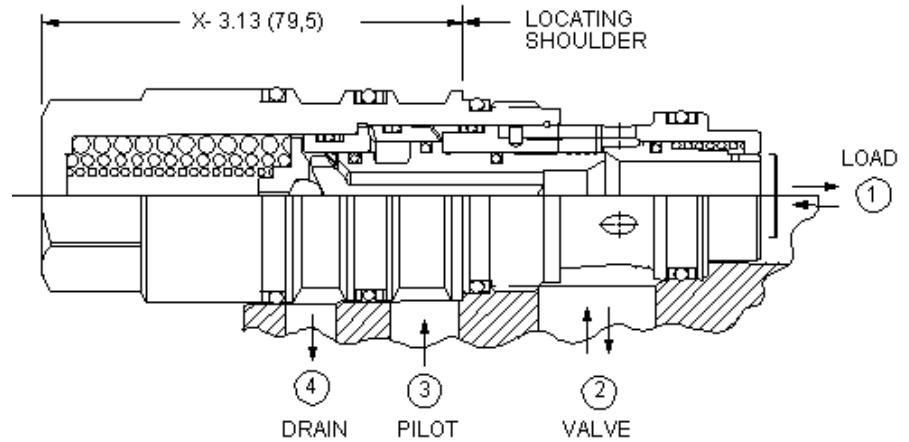
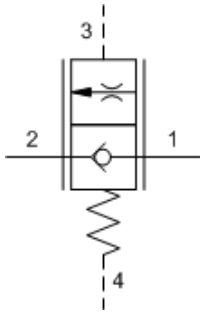
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	See Technical Features
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: MWEMXIN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(I) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	I 300 psi (20 bar) E 75 psi (5 bar) G 150 psi (10,5 bar) H 200 psi (14 bar) K 450 psi (33 bar) M 525 psi (36,7 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



in. (mm)

Vented, balanced load control valves combine a balanced modulating element with a reverse flow check. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while the pilot to open modulating element controls flow from port 1 to port 2. Pilot pressure at port 3 determines the flow setting. Backpressure at port 2 does not affect the flow setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

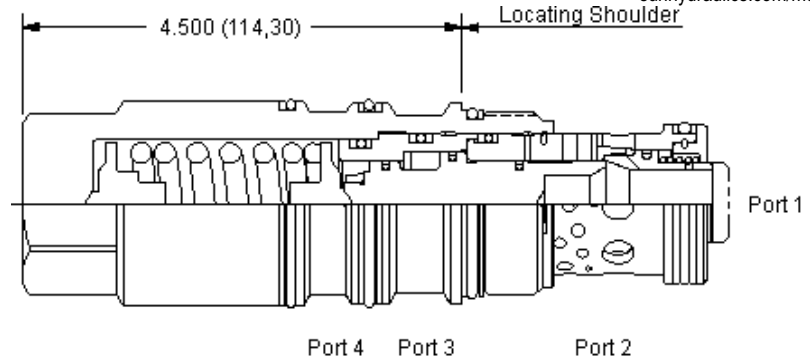
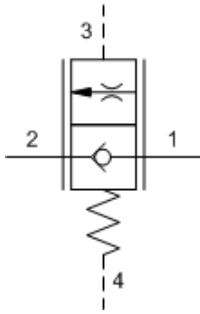
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	See Technical Features
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: MWGMXIN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(I) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	I 300 psi (20 bar) E 75 psi (5 bar) G 150 psi (10,5 bar) K 450 psi (33 bar) M 525 psi (36,7 bar)	N Buna-N V Viton	N Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented, balanced load control valves combine a balanced modulating element with a reverse flow check. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while the pilot to open modulating element controls flow from port 1 to port 2. Pilot pressure at port 3 determines the flow setting. Backpressure at port 2 does not affect the flow setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

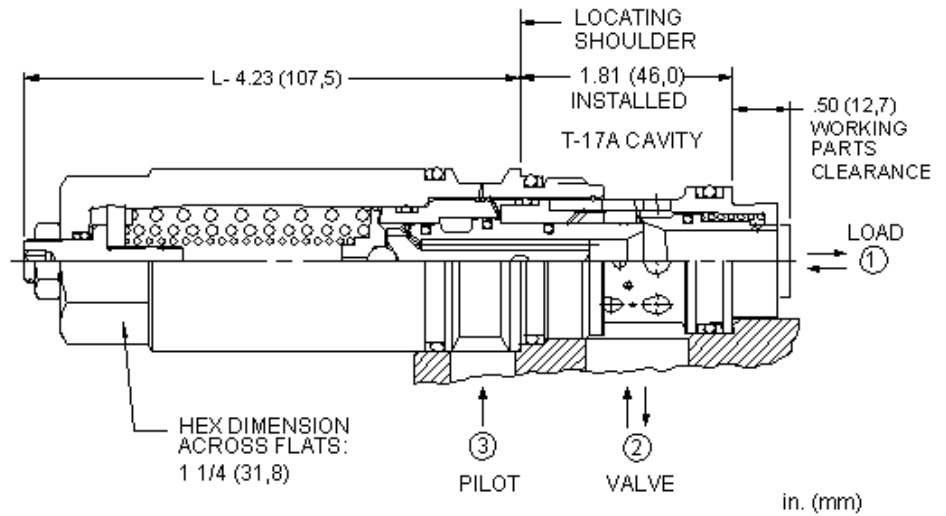
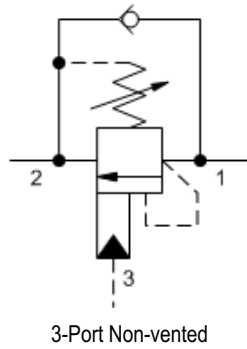
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	See Technical Features
Check Cracking Pressure	25 psi
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS

Model Code Example: MWIMXIN

CONTROL	(X) MINIMUM CONTROL PRESSURE	(I) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	I 300 psi (20 bar) E 75 psi (5 bar) G 150 psi (10,5 bar) H 200 psi (14 bar) K 450 psi (33 bar) M 525 psi (36,7 bar)	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

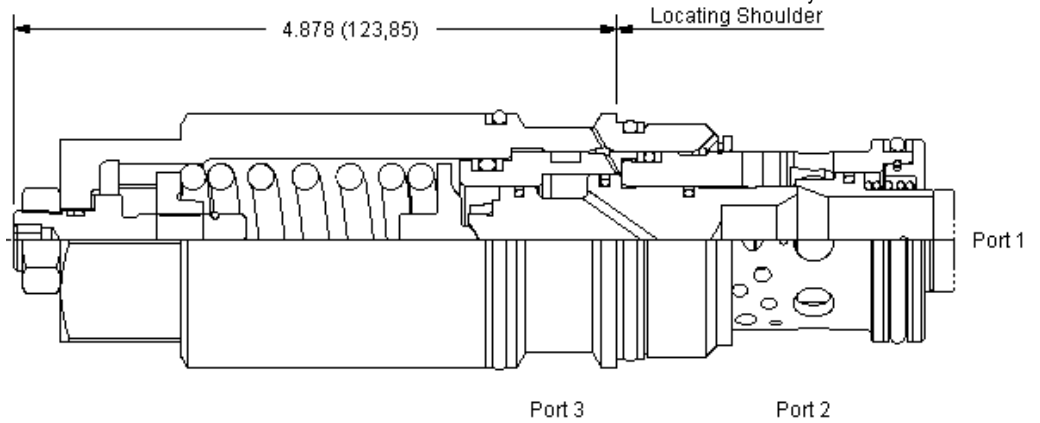
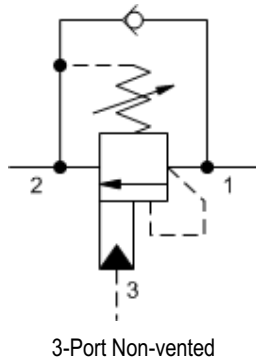
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: MBGBLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

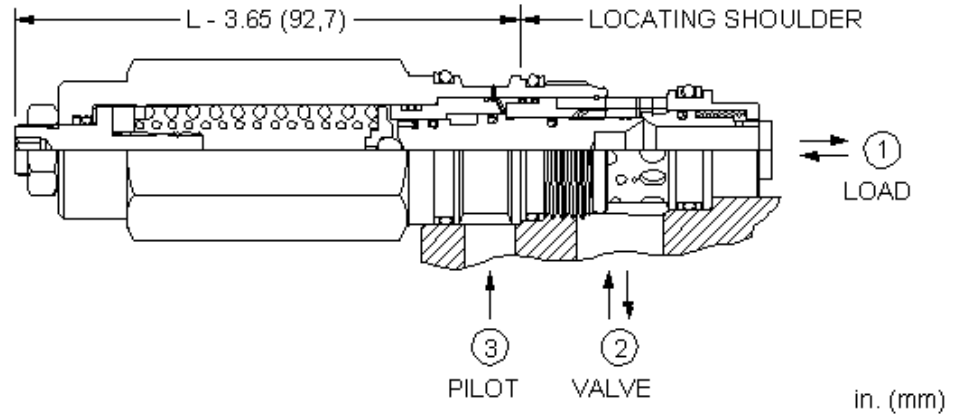
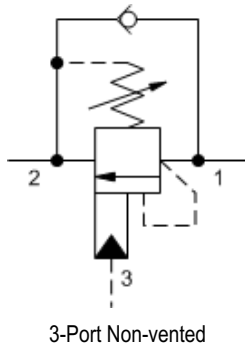
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	7
Reseat	≥77% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: MBIBLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

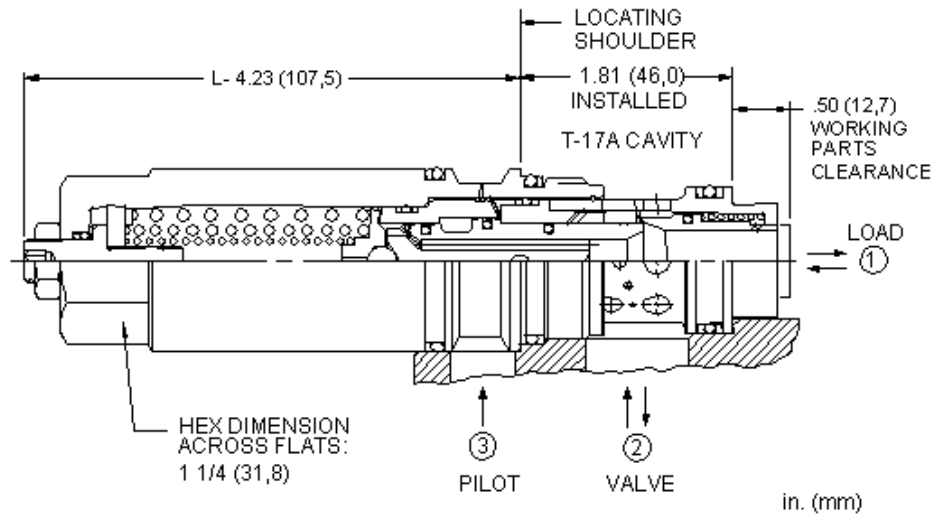
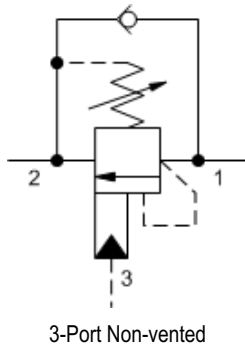
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
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

CONFIGURATION OPTIONS

Model Code Example: MBEALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

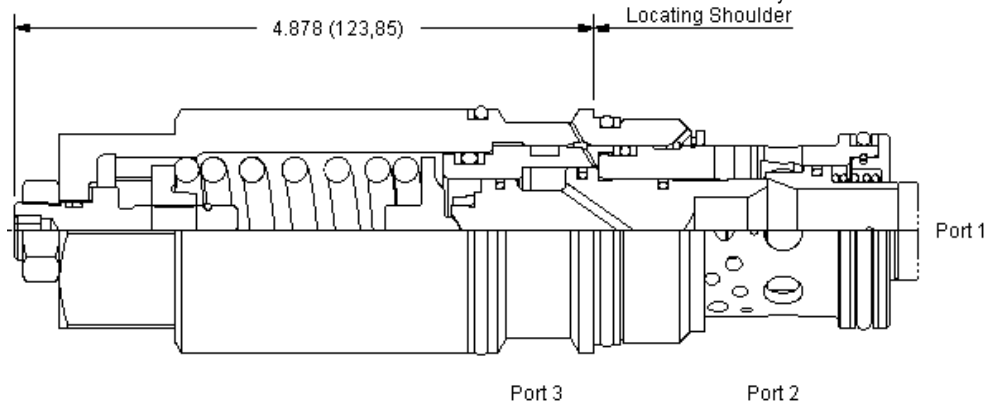
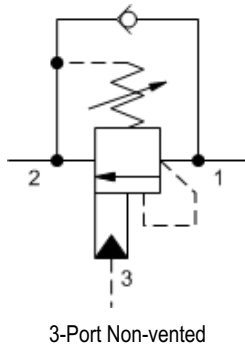
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf 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: MBGALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	N Buna-N E EPDM V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

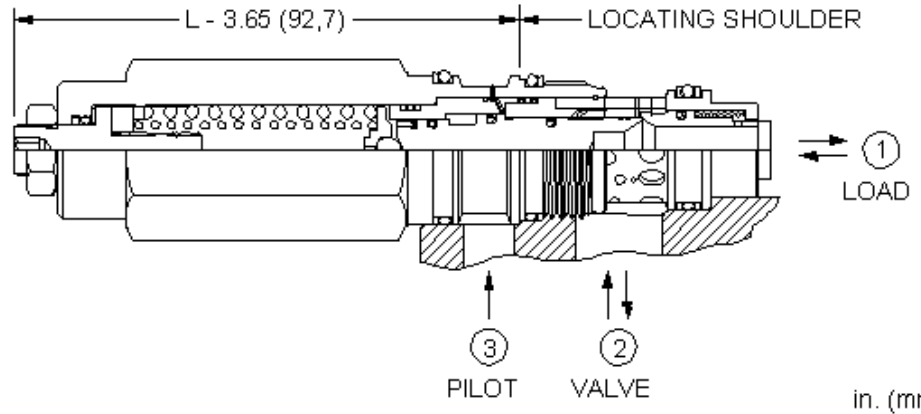
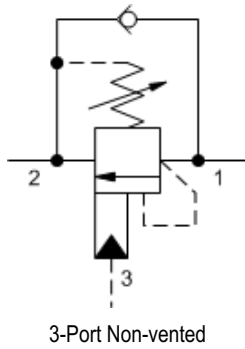
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	7
Reseat	≥77% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: MBIALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

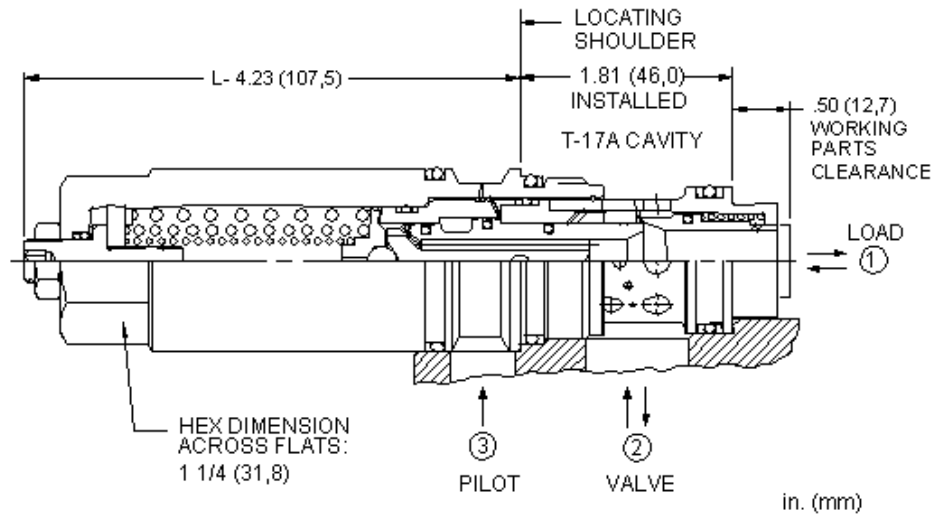
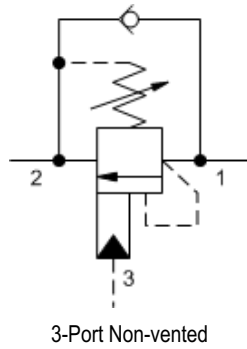
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
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

CONFIGURATION OPTIONS

Model Code Example: MBEGLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

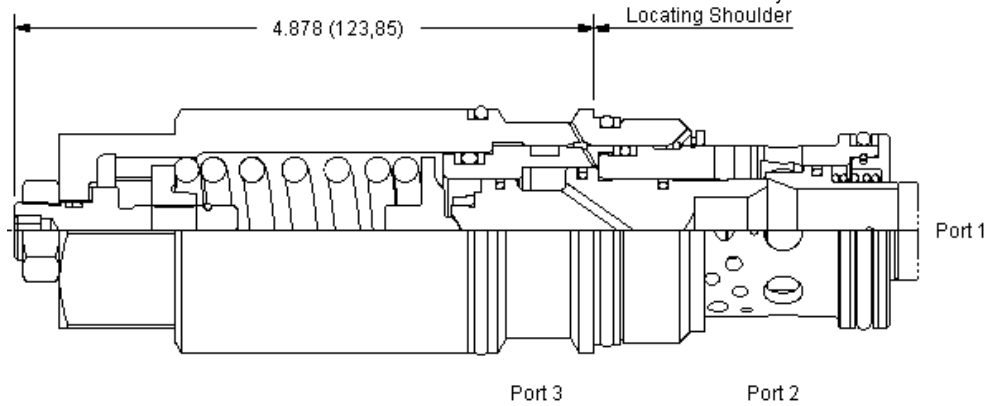
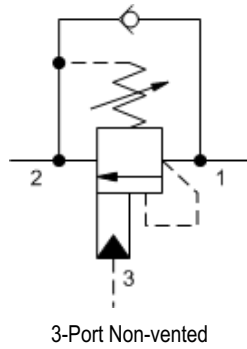
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

CONFIGURATION OPTIONS

Model Code Example: MBGGLJN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(J) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

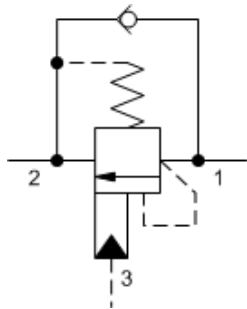
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	7
Reseat	≥77% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

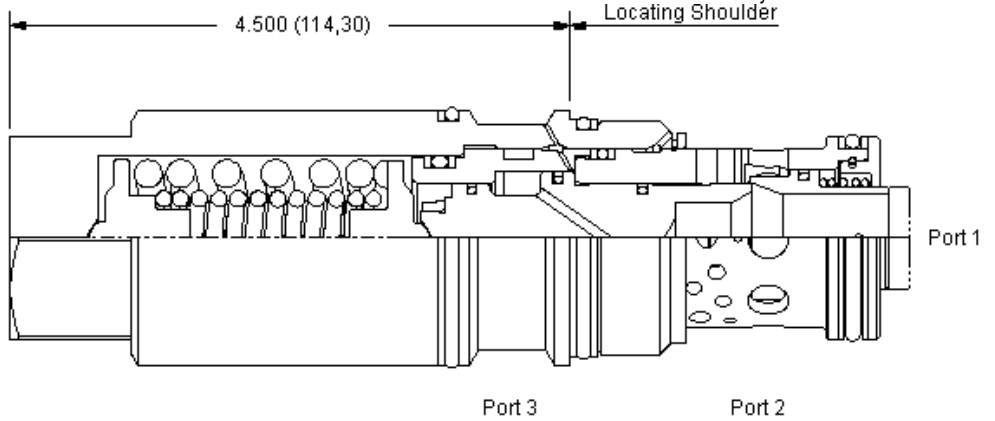
CONFIGURATION OPTIONS

Model Code Example: MBIGLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed setting, load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

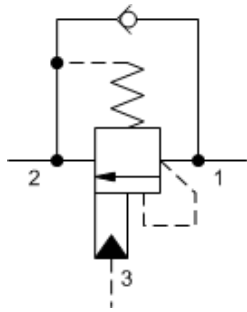
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

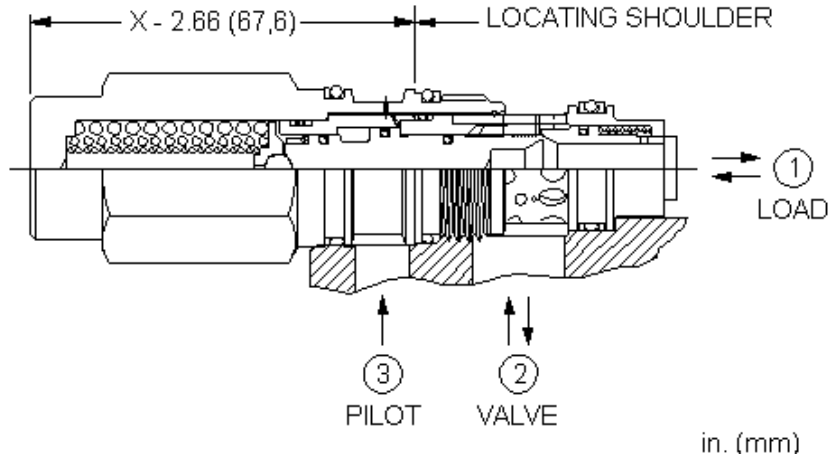
CONFIGURATION OPTIONS

Model Code Example: MBIAXLV

FACTORY SET	(L)	SEAL MATERIAL	(V)
L 4000 psi (280 bar)		V Viton	
K 3000 psi (210 bar)		N Buna-N	
M 5000 psi (350 bar)			



3-Port Non-vented, Fixed Setting



Fixed setting, load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

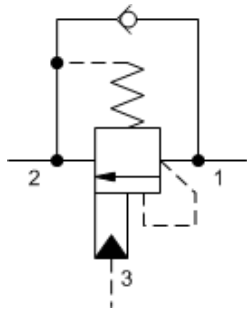
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

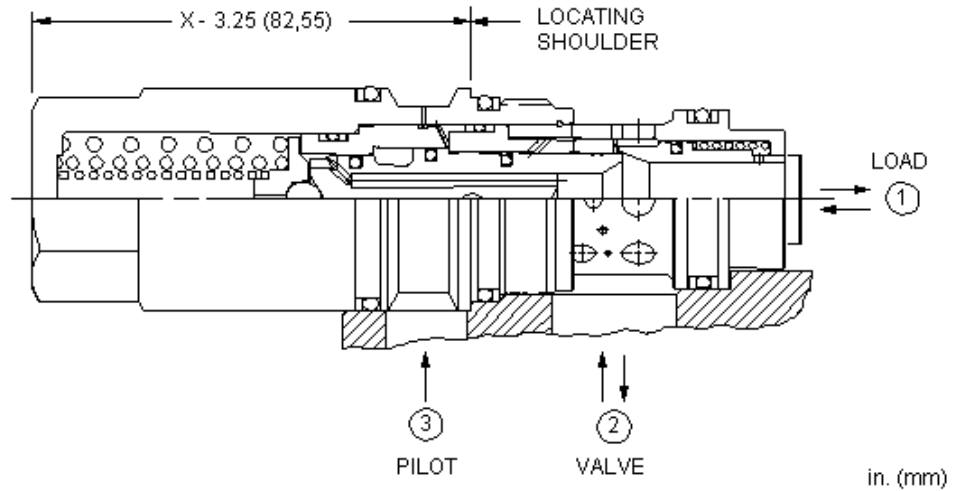
CONFIGURATION OPTIONS

Model Code Example: MBEGXLN

FACTORY SET	(L)	SEAL MATERIAL	(N)
L 4000 psi (280 bar)		N Buna-N	
K 3000 psi (210 bar)		V Viton	
M 5000 psi (350 bar)			



3-Port Non-vented, Fixed Setting



Fixed setting, load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

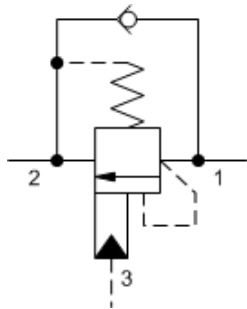
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

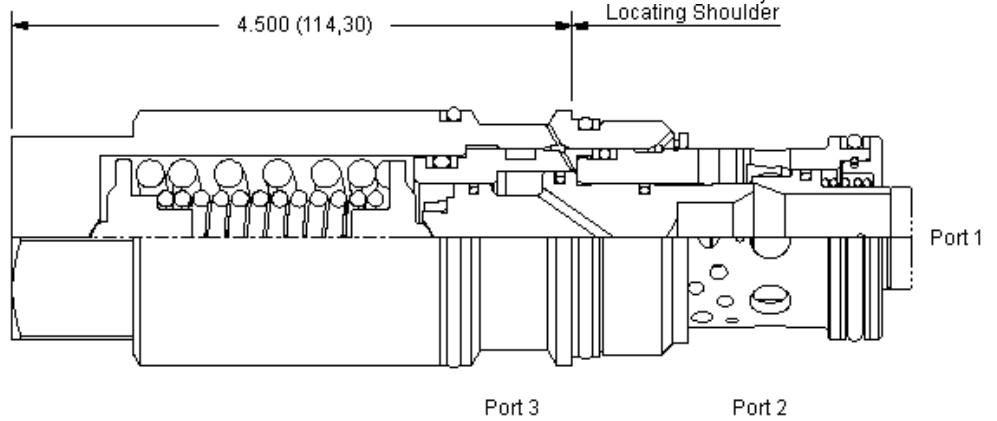
CONFIGURATION OPTIONS

Model Code Example: MBGGXLN

FACTORY SET	(L) SEAL MATERIAL	(N) MATERIAL/COATING
L 4000 psi (280 bar)	N Buna-N	Standard Material/Coating
K 3000 psi (210 bar)	V Viton	/AP Stainless Steel, Passivated
M 5000 psi (350 bar)		/LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed setting, load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

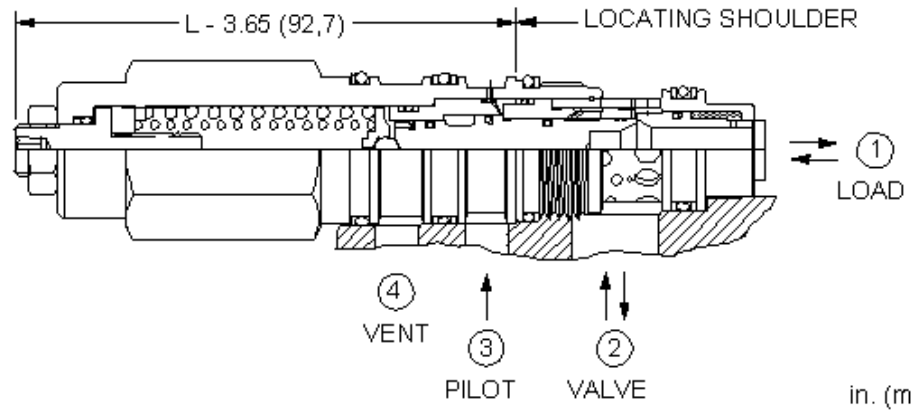
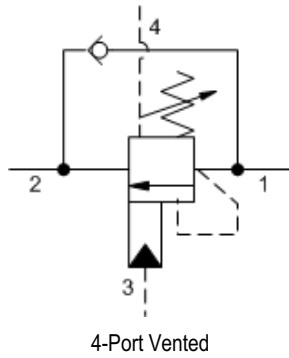
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

CONFIGURATION OPTIONS

Model Code Example: MBIGXMN

FACTORY SET	(M) SEAL MATERIAL	(N) MATERIAL/COATING
M 5000 psi (350 bar)	N Buna-N	Standard Material/Coating
K 3000 psi (210 bar)	V Viton	/AP Stainless Steel, Passivated
L 4000 psi (280 bar)		/LH Mild Steel, Zinc-Nickel



Vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

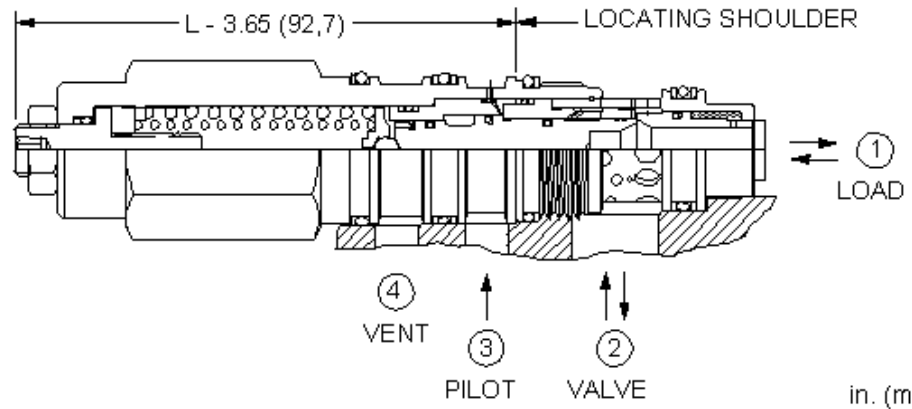
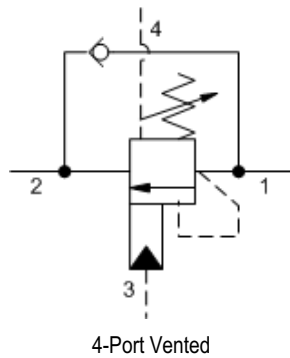
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
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: MWEBLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

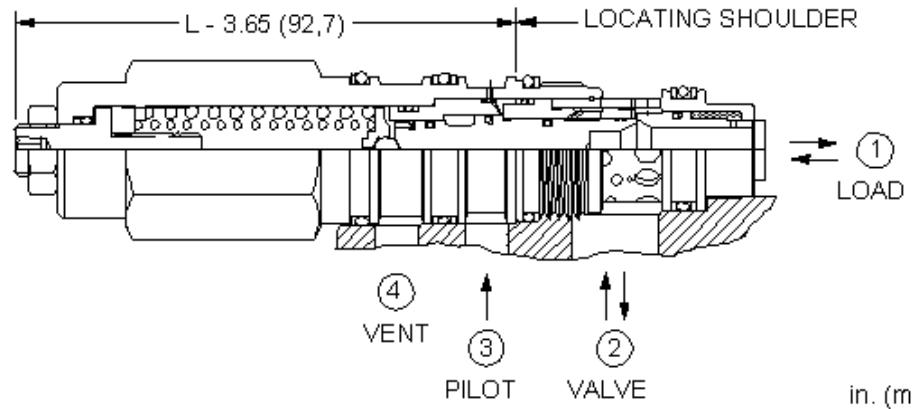
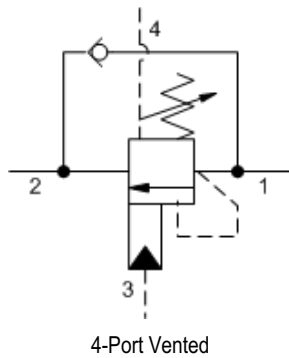
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
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: MWEALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



Vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

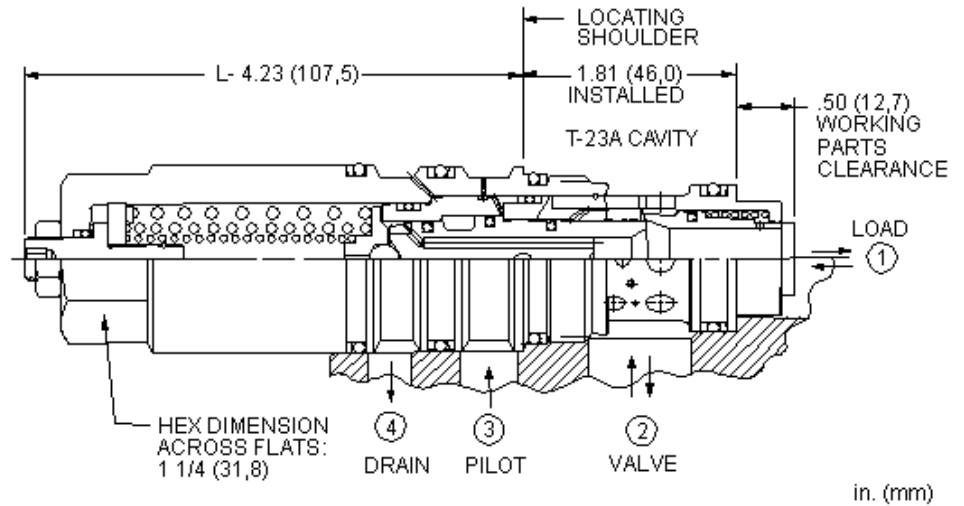
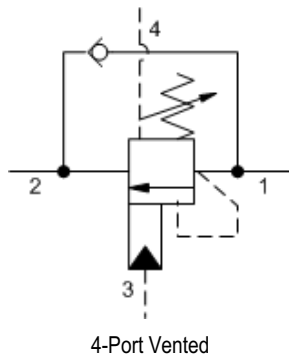
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	8.5
Reseat	≥77% of setting
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: MW EGLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



Vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

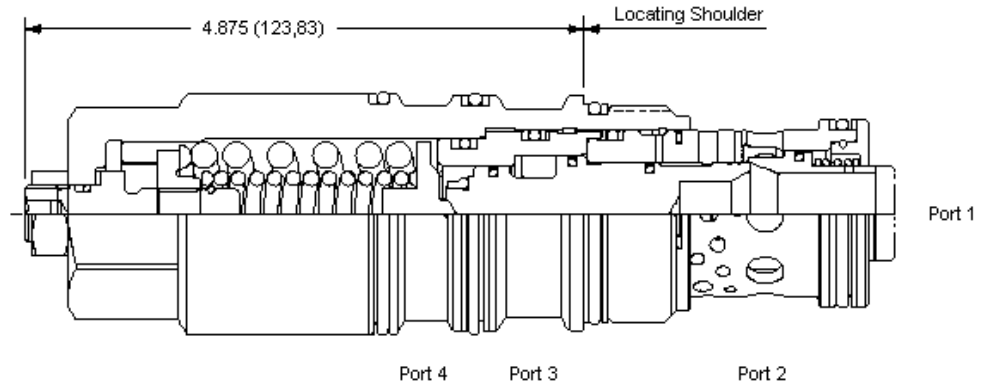
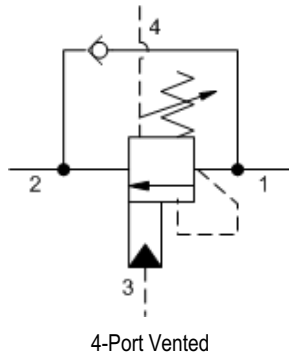
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	9
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

CONFIGURATION OPTIONS

Model Code Example: MWGGLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H)	SEAL MATERIAL	(N)
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting		N Buna-N	
	J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting		V Viton	



Vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

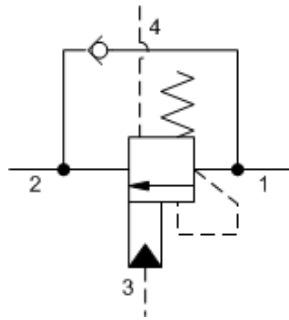
TECHNICAL DATA

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

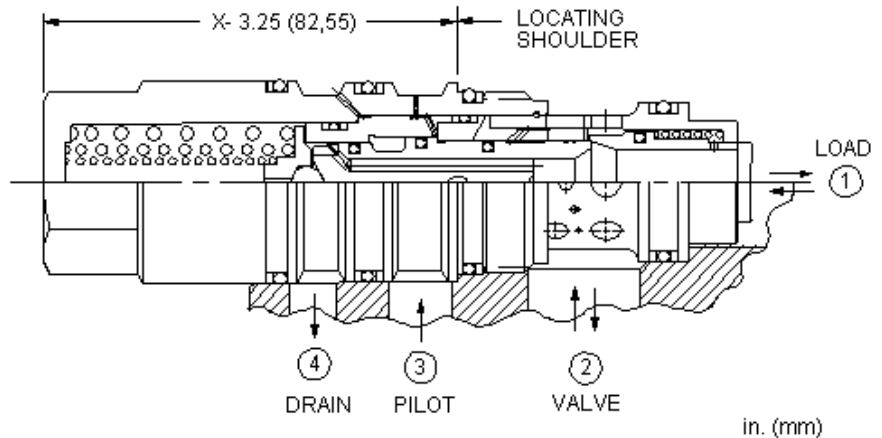
Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	8.5
Reseat	≥77% of setting
Locknut Hex Size	3/4 in.
Locknut Torque	25 - 30 lbf ft
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

CONFIGURATION OPTIONS
Model Code Example: MWIGLHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



4-Port Vented, Non-adjustable



Fixed setting, vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

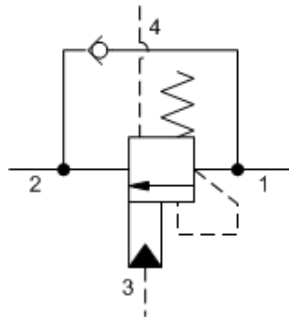
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

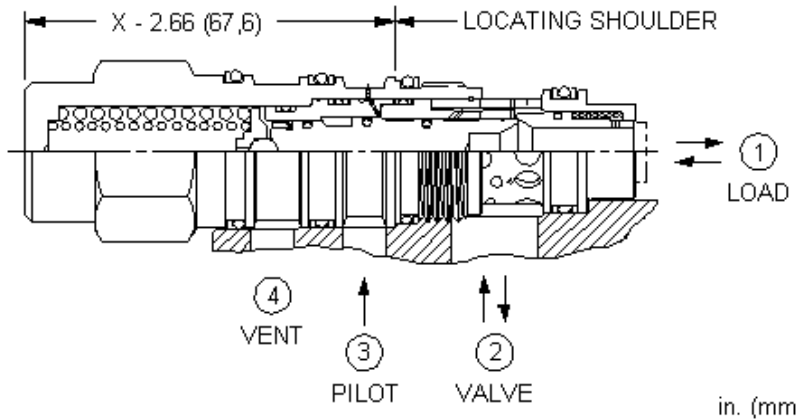
CONFIGURATION OPTIONS

Model Code Example: **MWGAXMV**

FACTORY SET	(M)	SEAL MATERIAL	(V)
M 5000 psi (350 bar)		V Viton	
K 3000 psi (210 bar)		N Buna-N	
L 4000 psi (280 bar)			



4-Port Vented, Non-adjustable



Fixed setting, vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

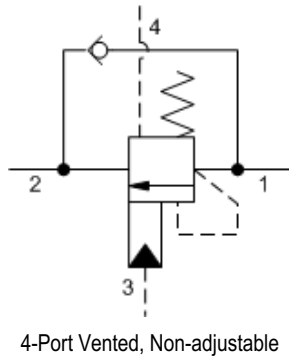
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

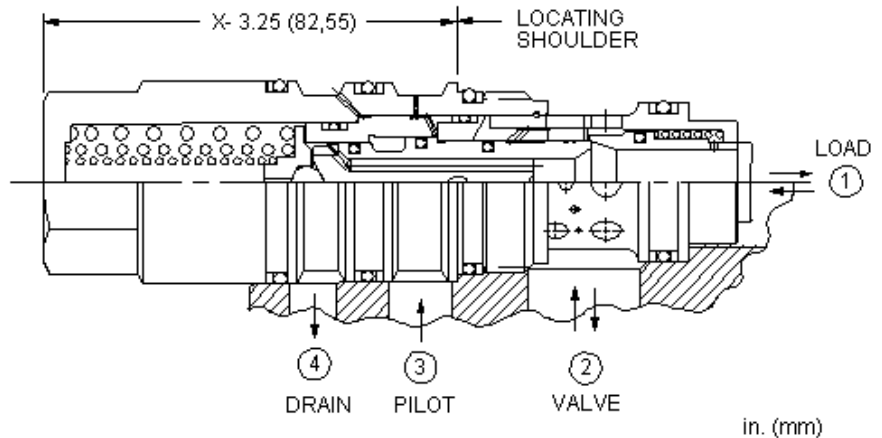
CONFIGURATION OPTIONS

Model Code Example: MWEXLN

FACTORY SET	(L)	SEAL MATERIAL	(N)
L 4000 psi (280 bar)		N Buna-N	
K 3000 psi (210 bar)		V Viton	
M 5000 psi (350 bar)			



4-Port Vented, Non-adjustable



Fixed setting, vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

TECHNICAL DATA

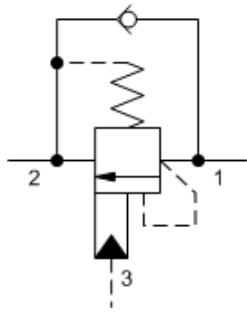
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	4.5:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

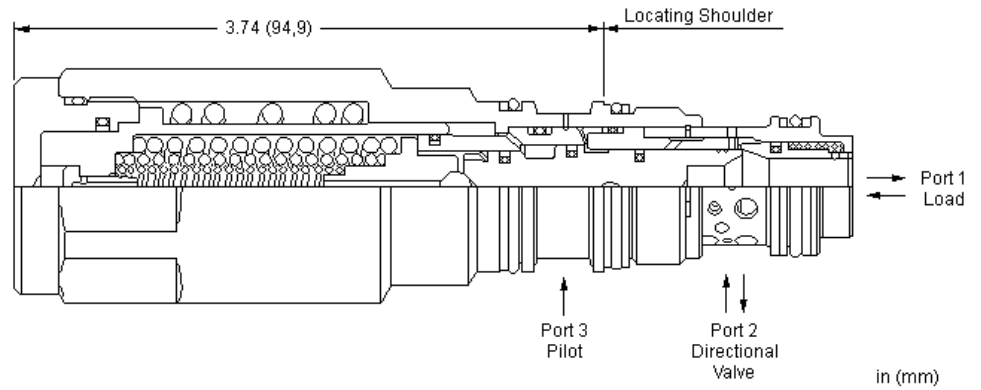
CONFIGURATION OPTIONS

Model Code Example: **MWGGXKN**

FACTORY SET	(K)	SEAL MATERIAL	(N)
K 3000 psi (210 bar)		N Buna-N	
L 4000 psi (280 bar)		V Viton	
M 5000 psi (350 bar)			



3-Port Non-vented, Fixed Setting



These valves are self-setting counterbalance valves which combine multiple functions in one package; reverse free flow, load, and thermal relief. The check allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting pilot function self adjusts to approximately 1.3 times the load induced pressure up to the thermal relief setting.

TECHNICAL DATA

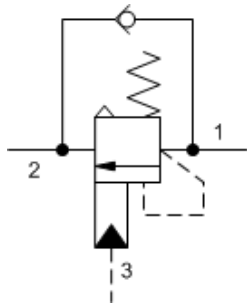
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

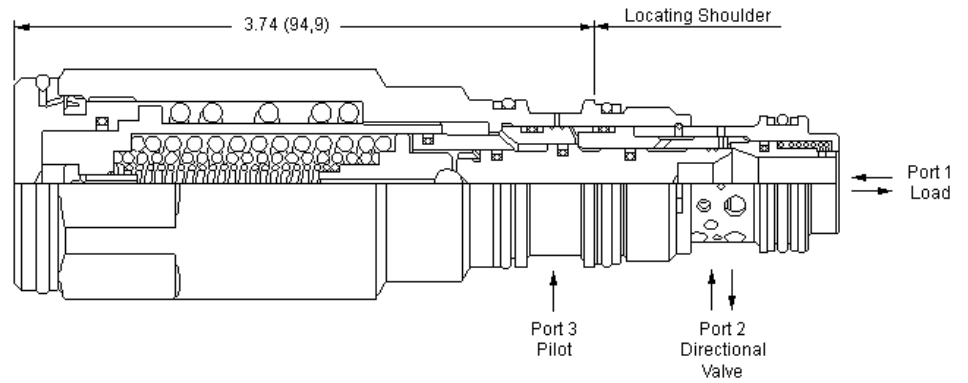
CONFIGURATION OPTIONS

Model Code Example: MBEPDHN

CONTROL	(D) FACTORY SET	(H) SEAL MATERIAL	(N)
D LoadMatch™	H 4000 psi (280 bar) G 6000 psi (420 bar) J 5000 psi (350 bar)	N Buna-N	



3-Port Atmospherically Referenced, Non-adjustable



in (mm)

These valves are self-setting counterbalance valves which combine multiple functions in one package; reverse free flow, load, and thermal relief. The check allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting pilot function self adjusts to approximately 1.3 times the load induced pressure up to the thermal relief setting. Backpressure at port 2 does not affect self setting performance because the spring chamber references the atmosphere.

TECHNICAL DATA

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

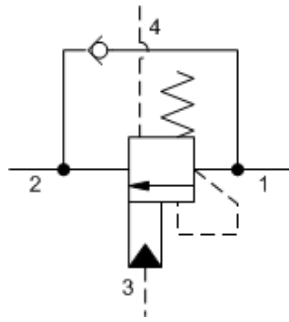
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

NOTES The pressures listed under FACTORY SET are approximate, mean values and should not be used for inspection purposes.

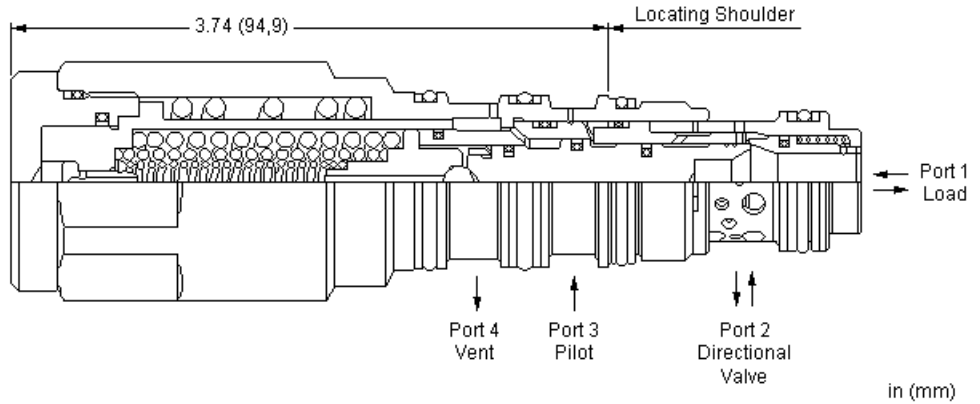
CONFIGURATION OPTIONS

Model Code Example: MAEPDHN

CONTROL	(D) FACTORY SET	(H) SEAL MATERIAL	(N) MATERIAL/COATING
D LoadMatch™	H 4000 psi (280 bar) G 6000 psi (420 bar) J 5000 psi (350 bar)	N Buna-N	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



4-Port Vented, Non-adjustable



These valves are self-setting counterbalance valves which combine multiple functions in one package; reverse free flow, load, and thermal relief. The check allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting pilot function self adjusts to approximately 1.3 times the load induced pressure up to the thermal relief setting. Backpressure at port 2 does not affect self setting performance because the spring chamber references the vent (port 4).

TECHNICAL DATA

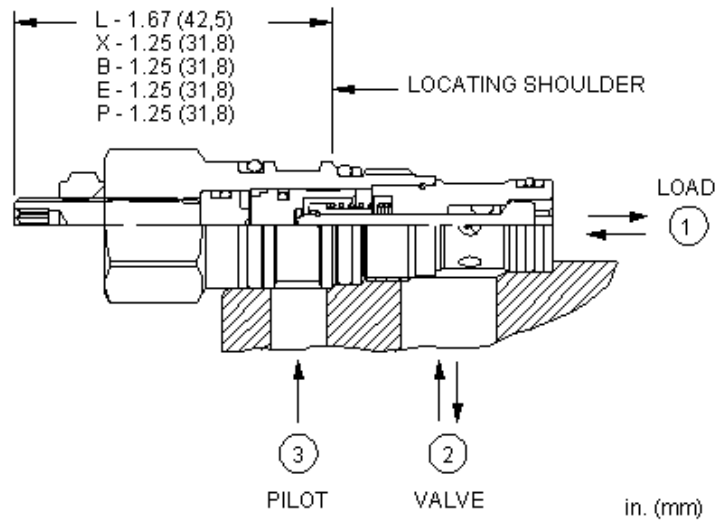
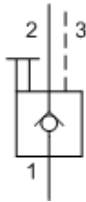
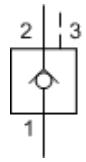
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

CONFIGURATION OPTIONS

Model Code Example: MWEPDHN

CONTROL	(D) FACTORY SET	(H) SEAL MATERIAL	(N) MATERIAL/COATING
D LoadMatch™	H 4000 psi (280 bar) G 6000 psi (420 bar) J 5000 psi (350 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



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

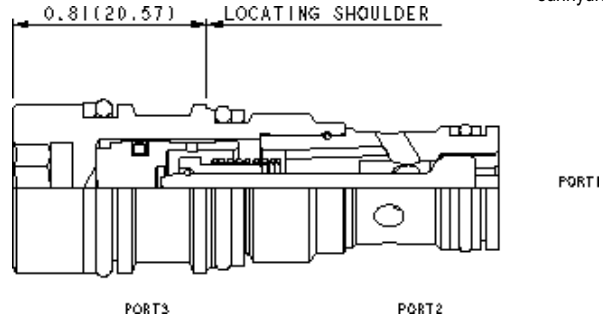
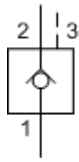
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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	C 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.

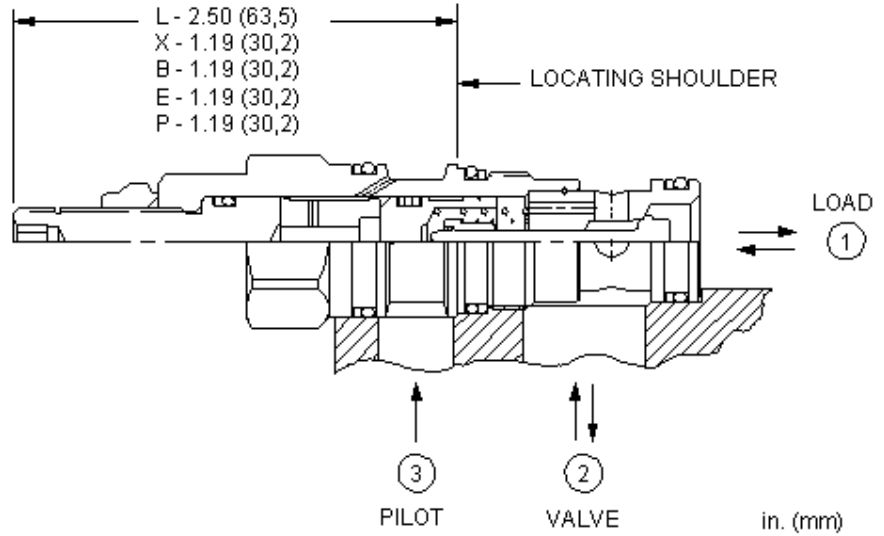
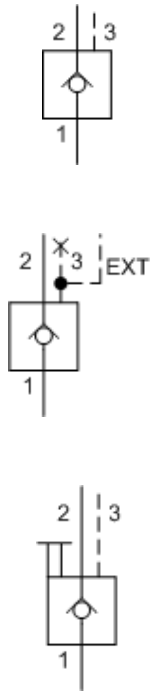
TECHNICAL DATA

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 Adjustable, Standard Hydraulic Pilot	C 30 psi (2 bar) E 75 psi (5 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



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

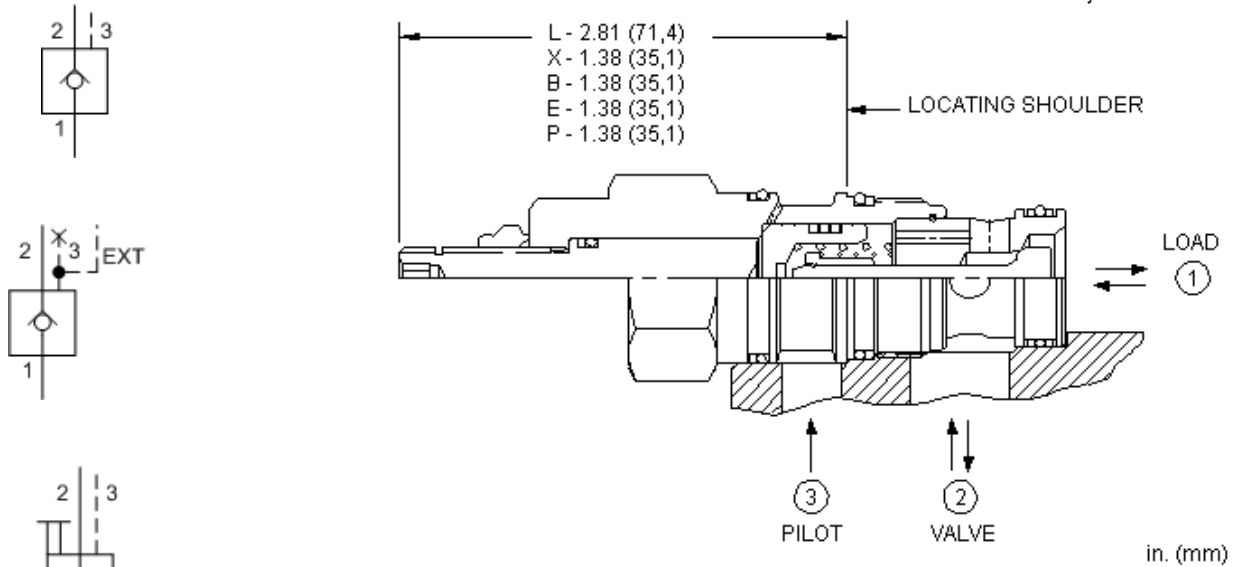
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	1 drops/min.
Seal kit - Cartridge	Buna: 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	C 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 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

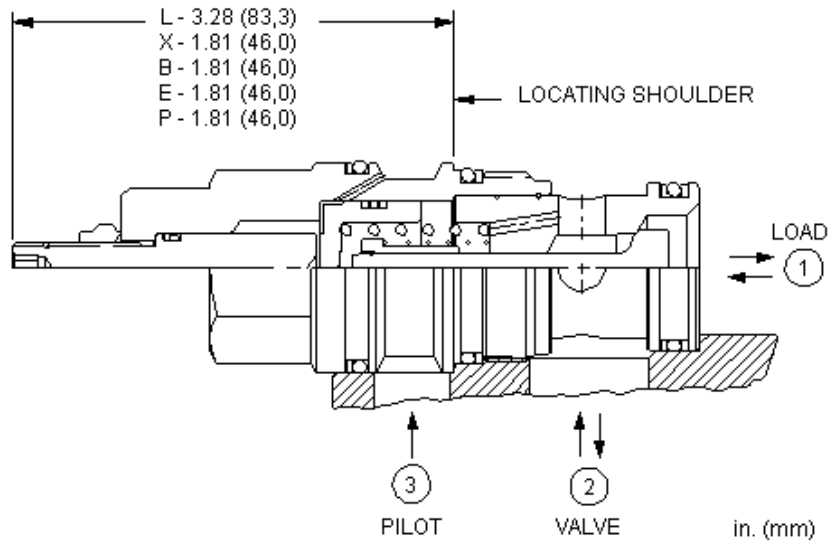
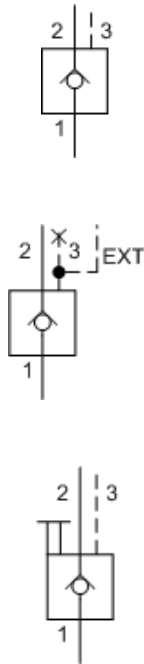
TECHNICAL DATA

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	C 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 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

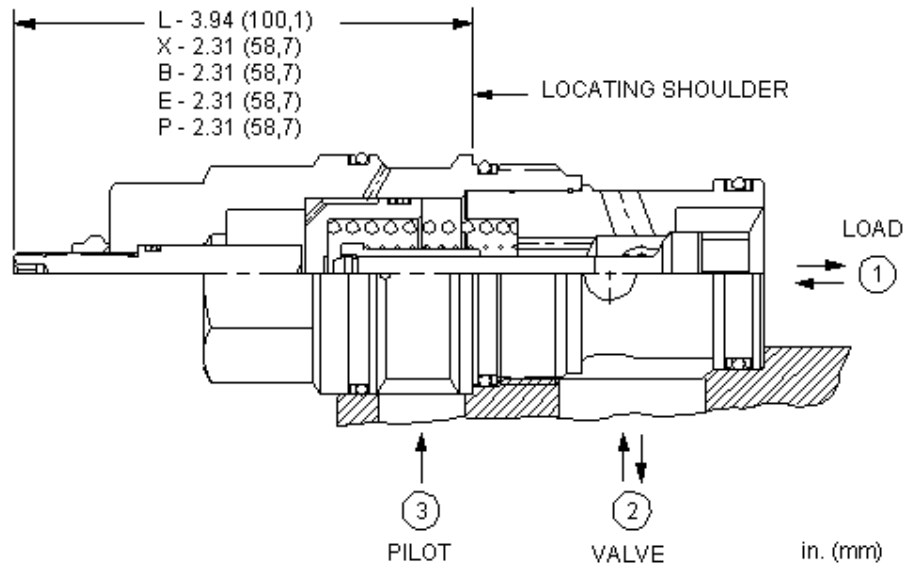
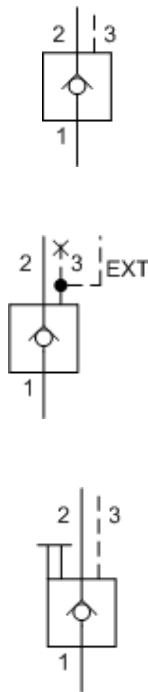
TECHNICAL DATA

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	C 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 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

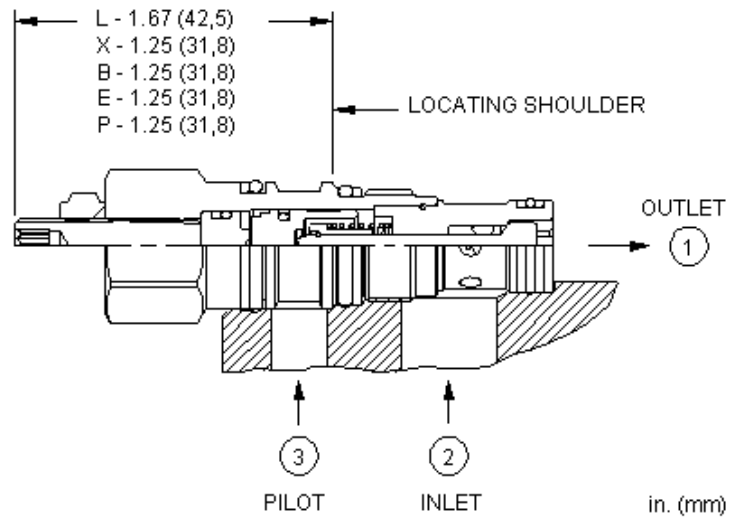
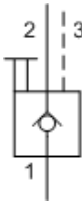
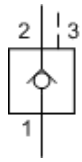
TECHNICAL DATA

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	C 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 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

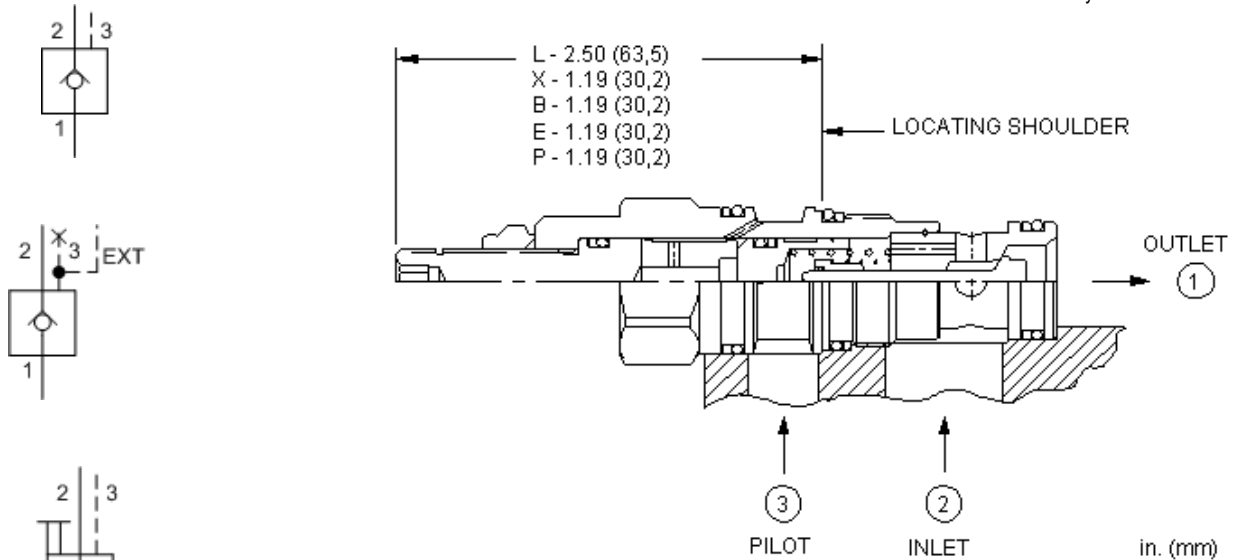
TECHNICAL DATA

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		C 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.

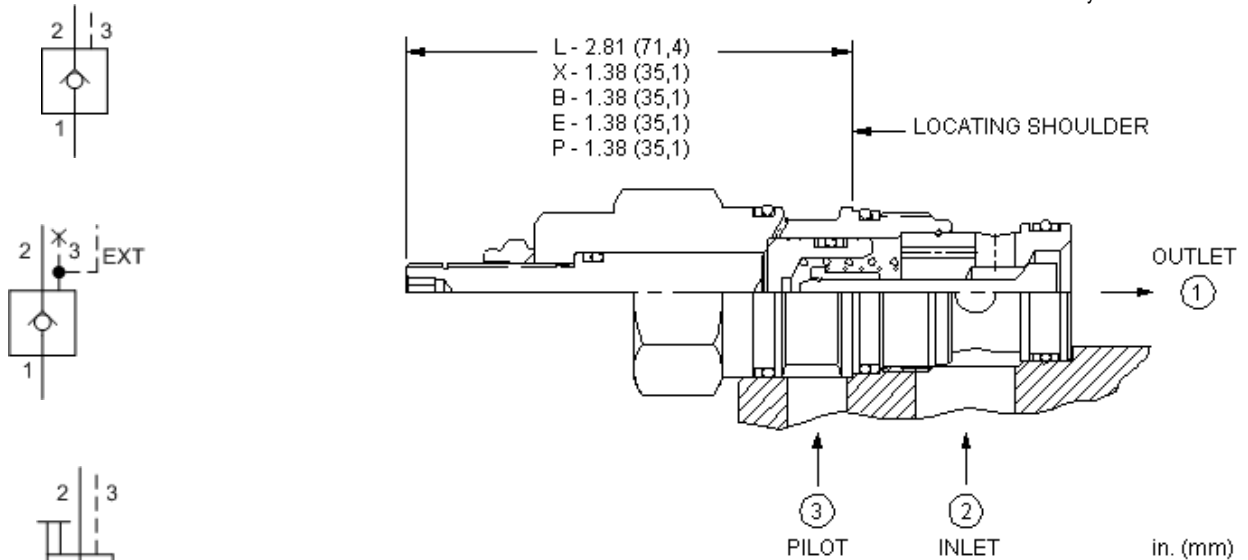
TECHNICAL DATA

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.
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	C 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 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		
	G 150 psi (10,5 bar)		



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.

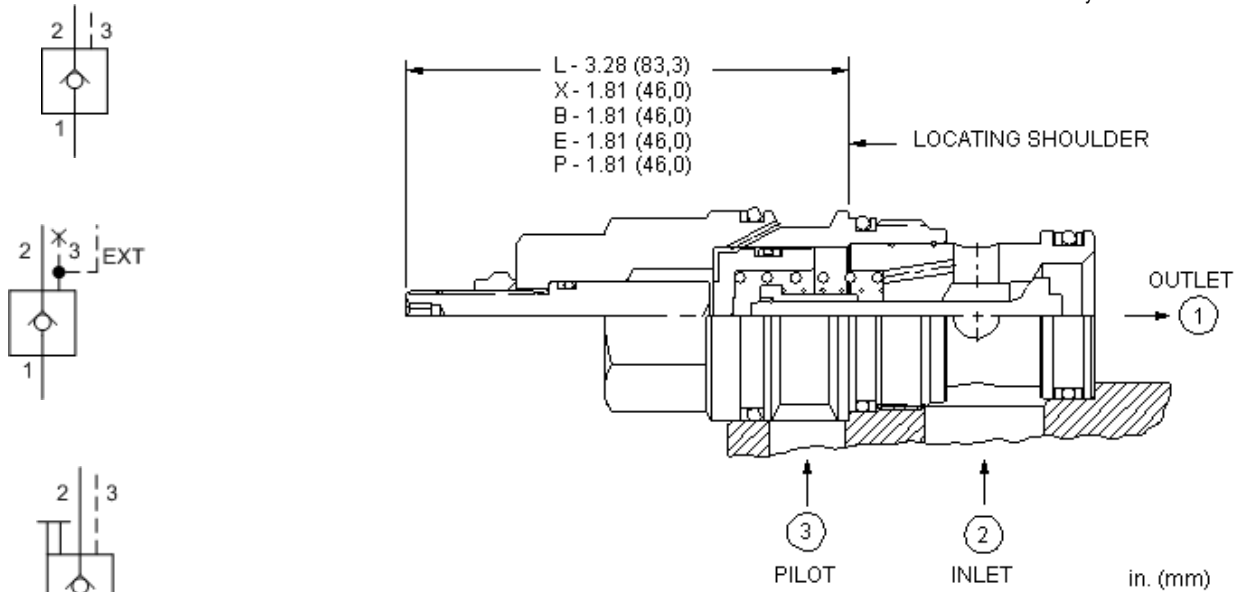
TECHNICAL DATA

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	C 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 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

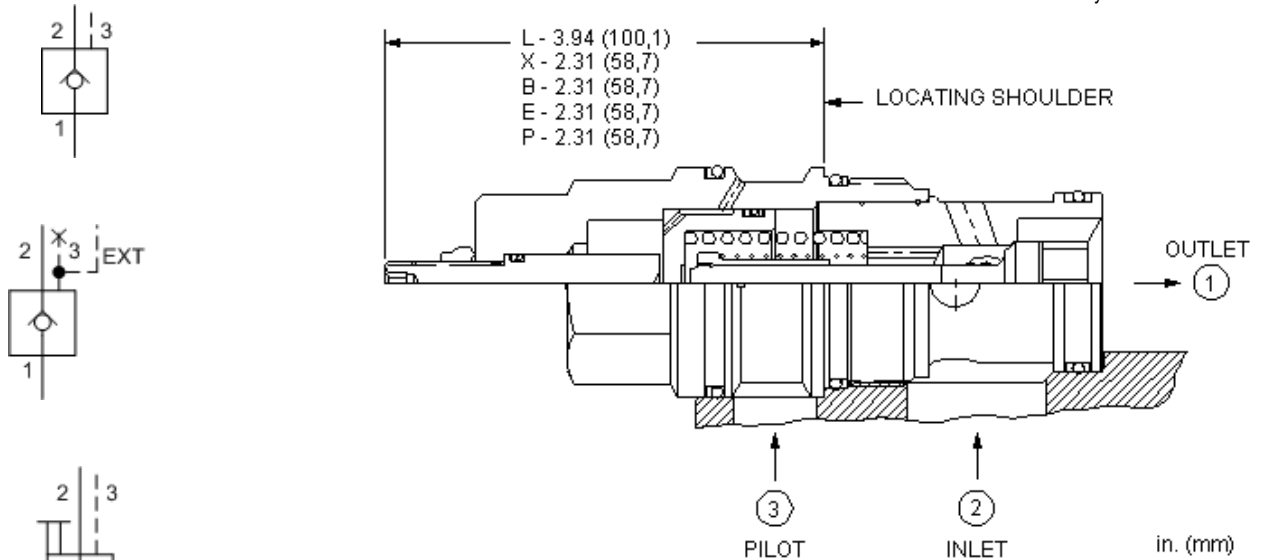
TECHNICAL DATA

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	C 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 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

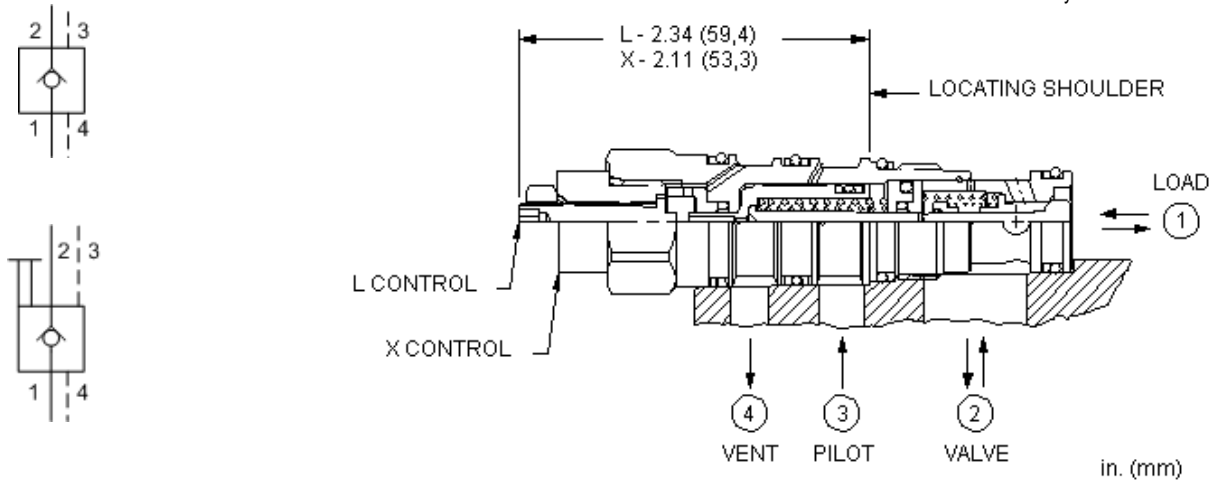
TECHNICAL DATA

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: 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	C 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 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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

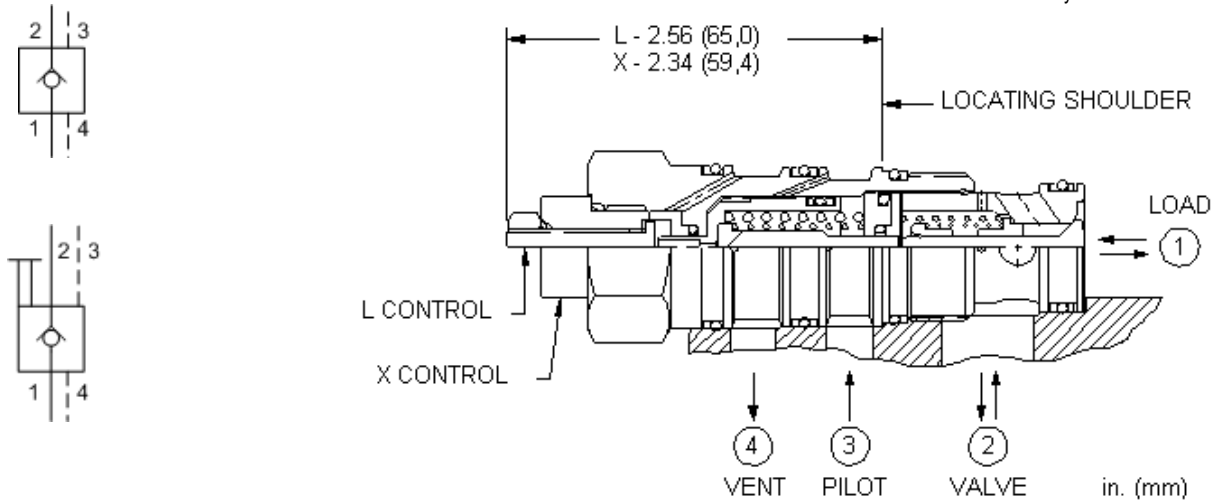
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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	C 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 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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).

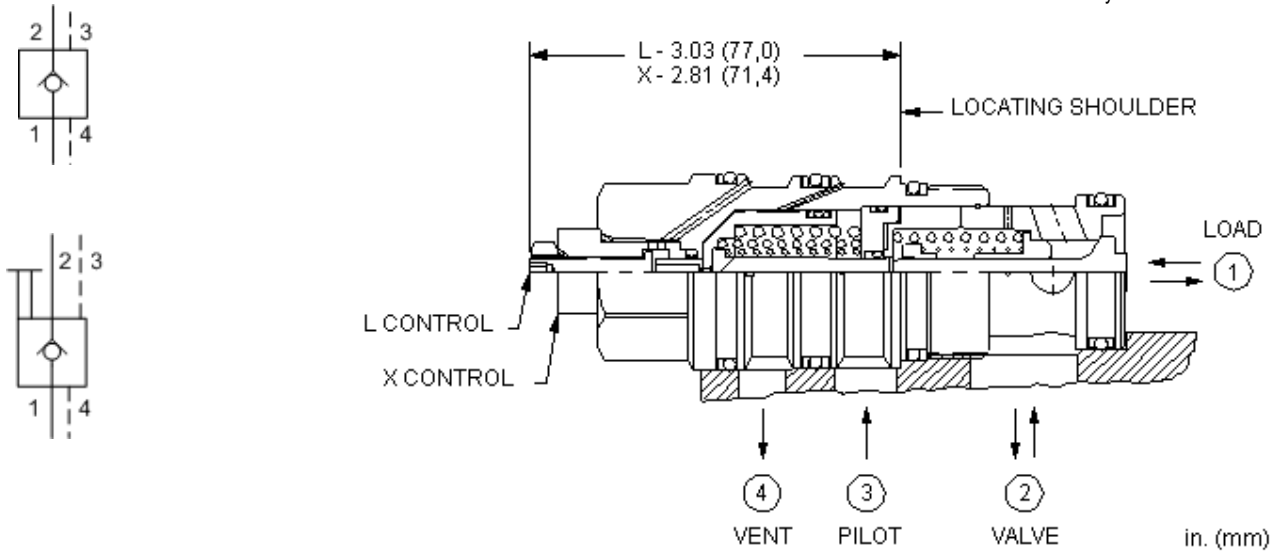
TECHNICAL DATA

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	C 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 15 psi (1 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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).

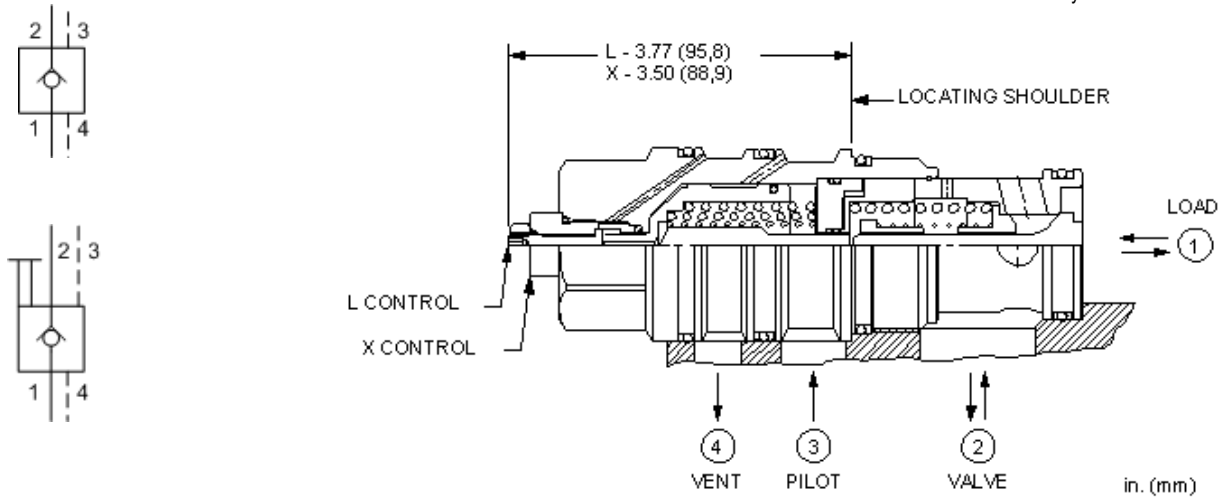
TECHNICAL DATA

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	C 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 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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).

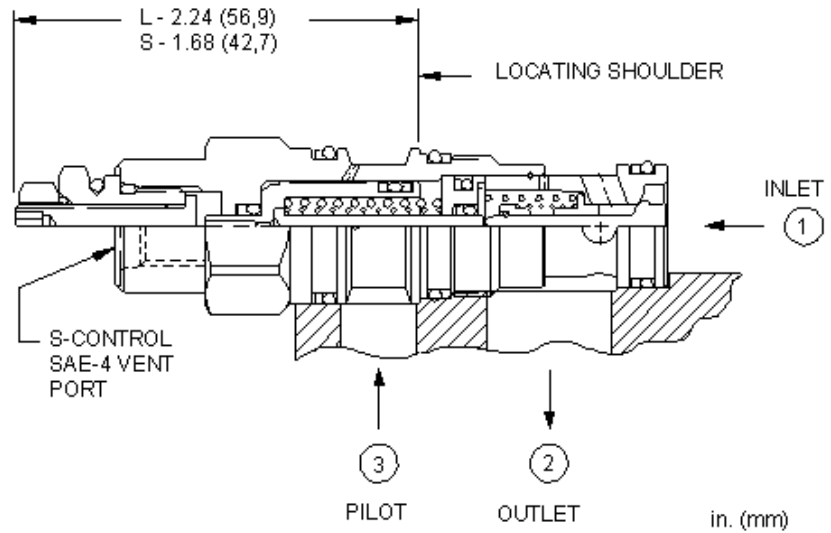
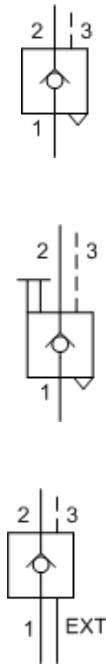
TECHNICAL DATA

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 ³
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	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
L Manual Load Release	A 4 psi (0,3 bar) B 15 psi (1 bar) D 50 psi (3,5 bar) E 75 psi (5 bar) F 100 psi (7 bar)	V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



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.

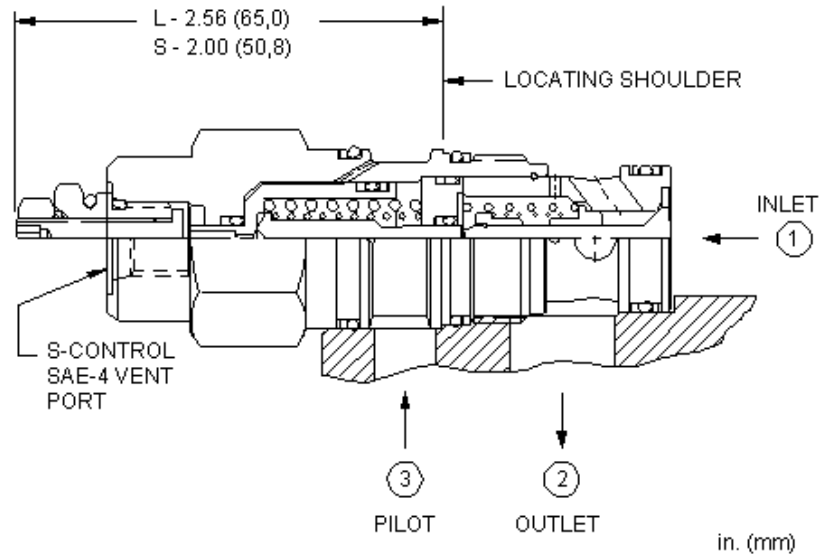
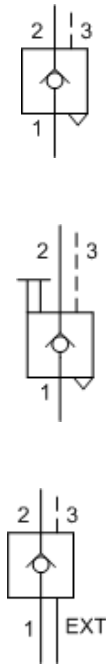
TECHNICAL DATA

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	C 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 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

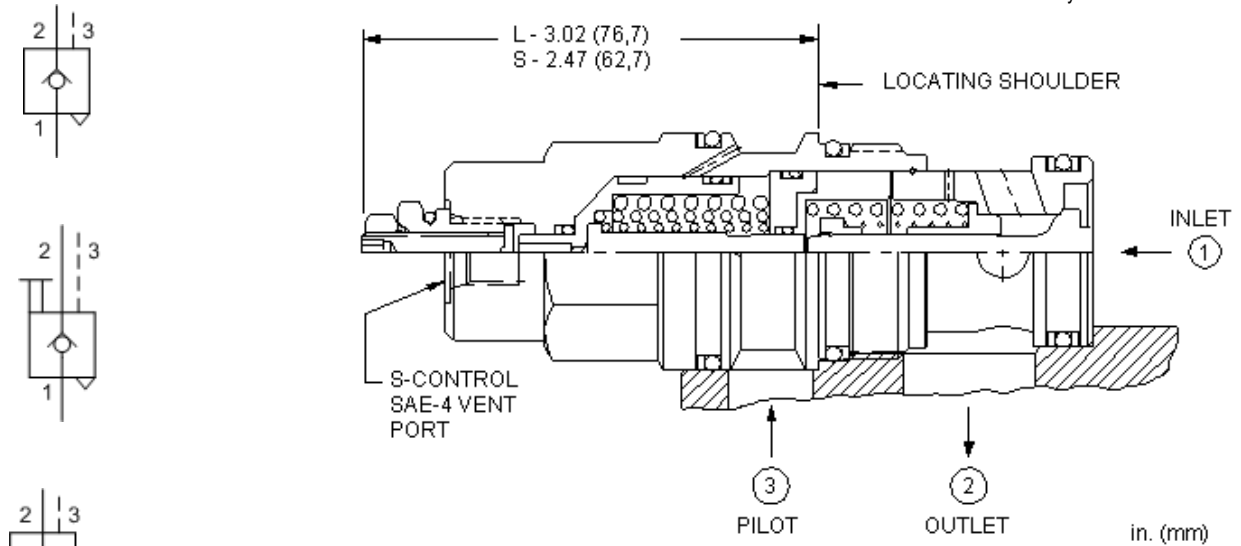
TECHNICAL DATA

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		C 30 psi (2 bar)		N Buna-N	
S External 4-SAE Vent Port		A 4 psi (0,3 bar)		V Viton	
		B 15 psi (1 bar)			
		D 50 psi (3,5 bar)			
		E 75 psi (5 bar)			
		F 100 psi (7 bar)			



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

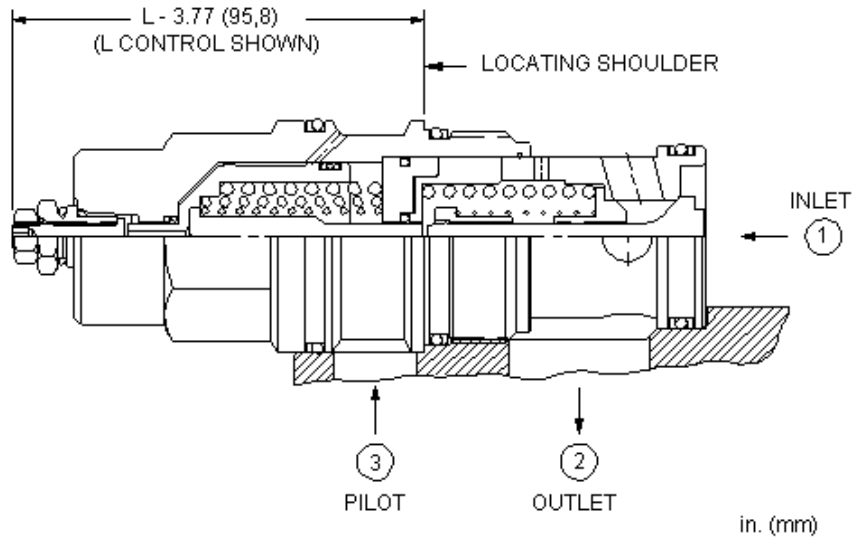
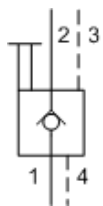
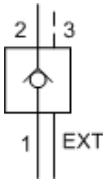
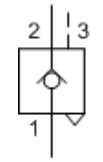
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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	C 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 15 psi (1 bar)		
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

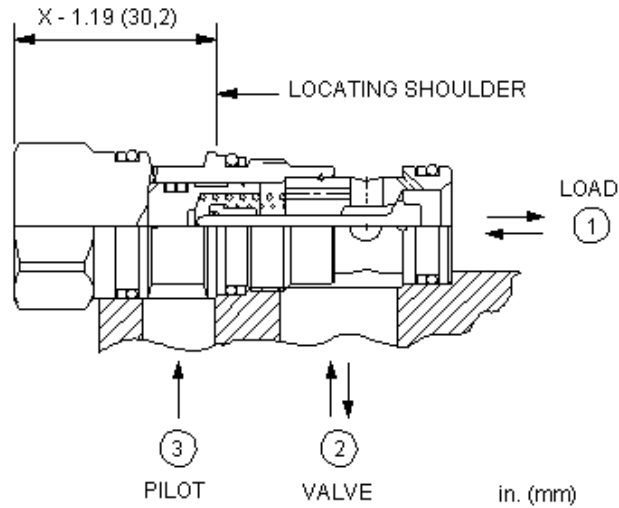
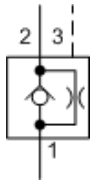
TECHNICAL DATA

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	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
S External 4- <small>SAE</small> Vent Port	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
	B 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
	D 50 psi (3,5 bar)		
	E 75 psi (5 bar)		
	F 100 psi (7 bar)		



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.

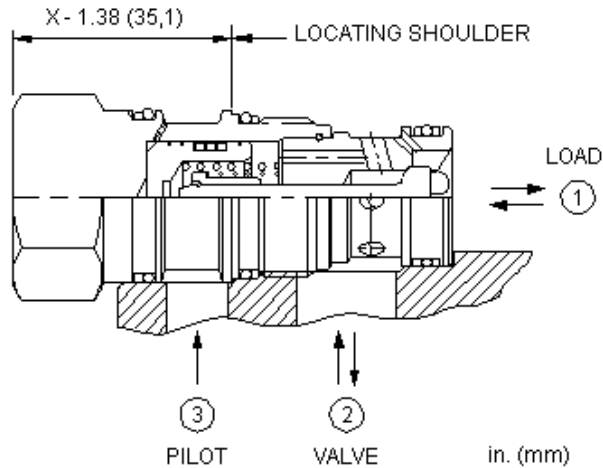
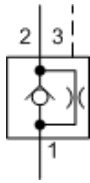
TECHNICAL DATA

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

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Orifice Range	.016 - .153 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 Pressure, .016 - .153 in. (0,4 - 3,9 mm) A 4 psi (0,3 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) B 15 psi (1 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) D 50 psi (3,5 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) E 75 psi (5 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm) F 100 psi (7 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



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

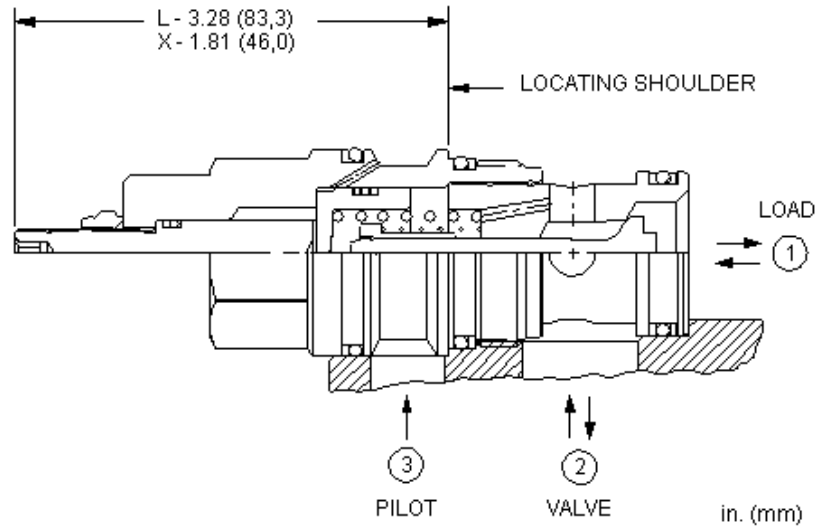
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Orifice Range	.016 - .135 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	<p>C 30 psi (2 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>A 4 psi (0,3 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>B 15 psi (1 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>D 50 psi (3,5 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>E 75 psi (5 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p> <p>F 100 psi (7 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)</p>	<p>N Buna-N</p> <p>V Viton</p>	



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

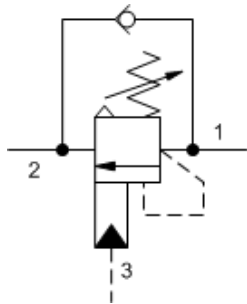
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Maximum Operating Pressure	5000 psi
Orifice Range	.016 - .218 in.
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

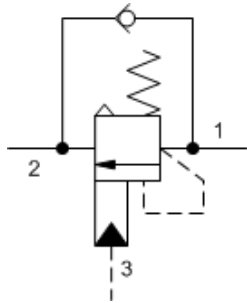
CONFIGURATION OPTIONS

Model Code Example: CNGEXCN

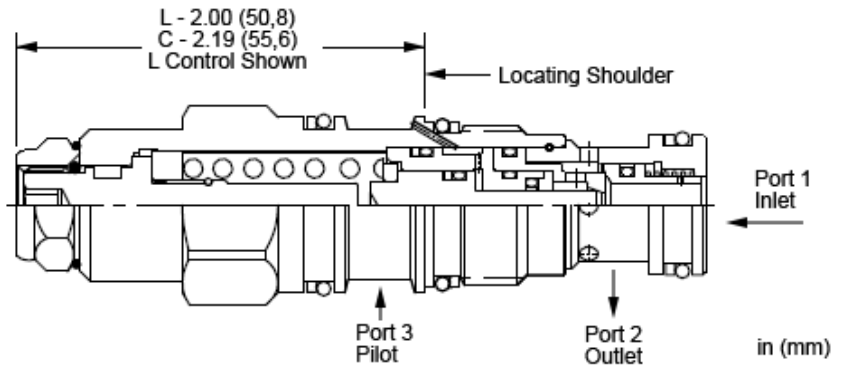
CONTROL	(X)	SETTING RANGE	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C 30 psi (2 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)		N Buna-N	
		A 4 psi (0,3 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)		V Viton	
		B 15 psi (1 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)			
		D 50 psi (3,5 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)			
		E 75 psi (5 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)			
		F 100 psi (7 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)			



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

Pilot Ratio	7:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	>85% of setting
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: CABNLHN

CONTROL

- L** Standard Screw Adjustment
- C** Tamper Resistant - Factory Set

(L) FUNCTIONAL SETTING RANGE (H)

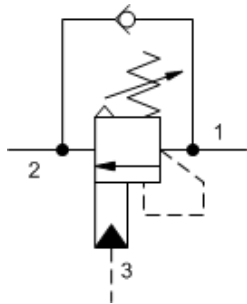
H 1000 - 4000 psi w/25 psi Check (70 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting

(H) SEAL MATERIAL

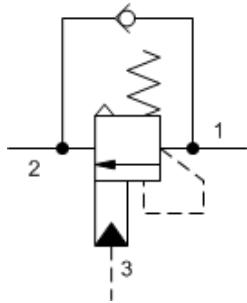
- N** Buna-N
- V** Viton

(N) MATERIAL/COATING

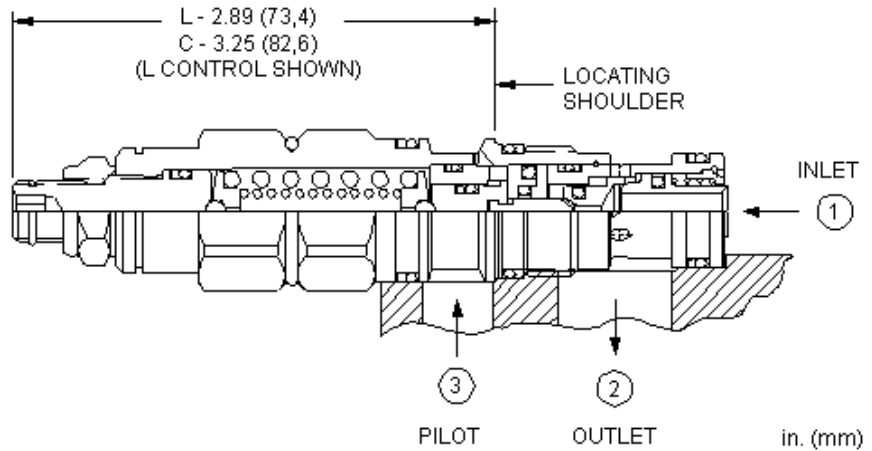
Standard Material/Coating
/LH Mild Steel, Zinc-Nickel



3-Port Atmospherically Referenced



3-Port Atmospherically Referenced, Non-adjustable



Atmospherically vented counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber is atmospherically referenced.

Other names for this valve include motion control valve and over-center valve.

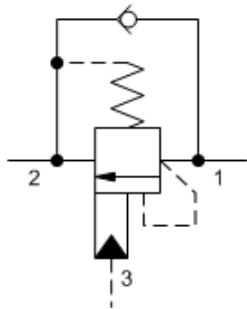
TECHNICAL DATA

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

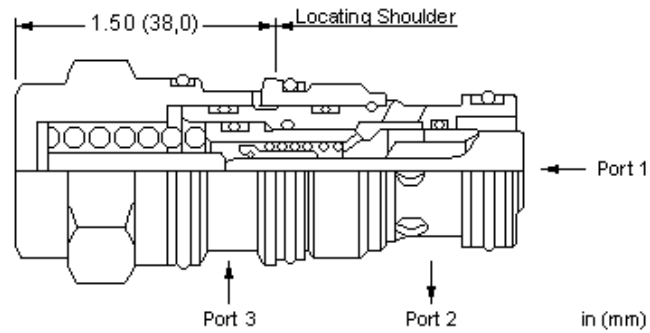
Pilot Ratio	10:1
Maximum Recommended Load Pressure at Maximum Setting	4615 psi
Maximum Setting	6000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	40 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	5
Reseat	>85% of setting
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990211007
Seal kit - Cartridge	Viton: 990211006

CONFIGURATION OPTIONS
Model Code Example: CACHLGN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(G) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	G 2000 - 6000 psi (140 - 420 bar), 4000 psi (280 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		V Viton	/AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel



3-Port Non-vented, Fixed Setting



Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

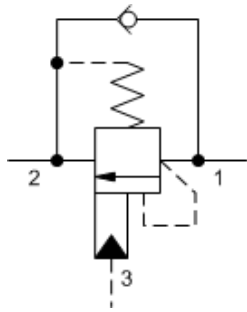
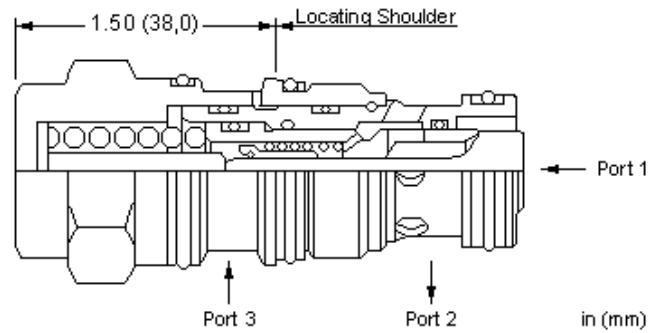
TECHNICAL DATA

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

Pilot Ratio	1.5:1
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Reseat	>85% of setting
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: CBDBXNN

FIXED PRESSURE RANGE	(N)	SEAL MATERIAL	(N)	MATERIAL/COATING
N 2900 - 3500 psi (200 - 245 bar)		N Buna-N		Standard Material/Coating
P 2250 - 2680 psi (155 - 185 bar)		V Viton		/LH Mild Steel, Zinc-Nickel


3-Port Non-vented, Fixed Setting


Fixed-setting, 3-port counterbalance valves with pilot-assist function similarly to the adjustable versions except the fixed setting is pre-set to a nominal value. These fixed-setting valves are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

Other names for this valve include motion control valve and over-center valve.

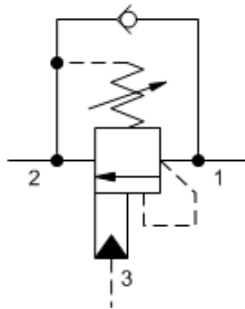
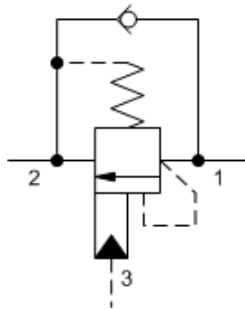
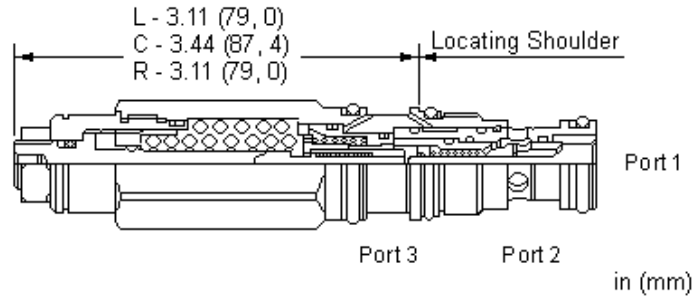
TECHNICAL DATA

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

Pilot Ratio	10:1
Maximum Recommended Load Pressure at Maximum Setting	3850 psi
Maximum Setting	5000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

CONFIGURATION OPTIONS
Model Code Example: CBDHXXN

FIXED PRESSURE RANGE	(X) SEAL MATERIAL	(N) MATERIAL/COATING
X 3500 - 4200 psi (245 - 290 bar)	N Buna-N	Standard Material/Coating
M 4700 - 5600 psi (325 - 390 bar)	V Viton	/LH Mild Steel, Zinc-Nickel
V 3200 - 3800 psi (220 - 260 bar)		
Z 4125 - 4900 psi (285 - 340 bar)		


3-Port Non-vented

3-Port Non-vented, Fixed Setting


Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. The LoadAdaptive™ counterbalance valve has a higher pilot ratio when the load-induced pressure is less than the setting of the valve (is not moving yet) and when the moving load is a positive load (not overrunning). See P1-P3 diagrams under "Performance Curves." The P1 (Y axis) vs P3 (X axis) curves show the effective setting P1 of the valve for different flows depending on pilot pressure P3. [Click Here for LoadAdaptive Technical Tip](#)

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

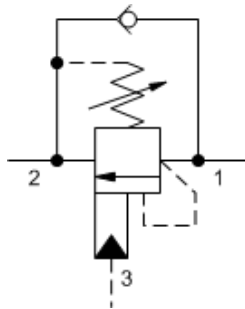
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Pilot Ratio	3:1
Adaptive Pilot Ratio	See Performance Curves
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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

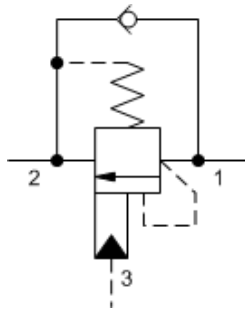
NOTES U.S. Patent #9,850,919

CONFIGURATION OPTIONS
Model Code Example: CEBALHN

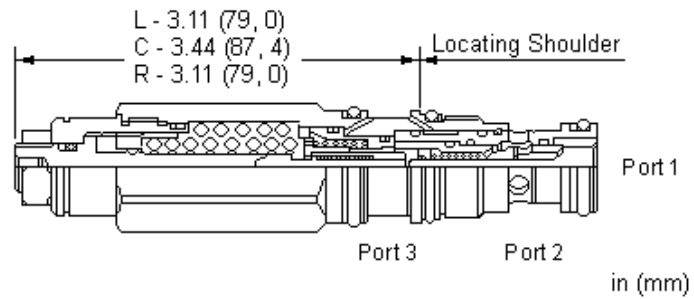
CONTROL	(L) ADJUSTMENT RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1500 - 4000 psi w/ 25 psi check (105 - 280 bar w/ 1.7 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set	A 1500 - 4000 psi w/ 4 psi check (105 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. The LoadAdaptive™ counterbalance valve has a higher pilot ratio when the load-induced pressure is less than the setting of the valve (is not moving yet) and when the moving load is a positive load (not overrunning). See P1-P3 diagrams under "Performance Curves." The P1 (Y axis) vs P3 (X axis) curves show the effective setting P1 of the valve for different flows depending on pilot pressure P3. [Click Here for LoadAdaptive Technical Tip](#)

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

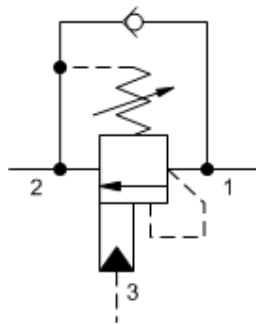
Pilot Ratio	3:1
Adaptive Pilot Ratio	See Performance Curves
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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 U.S. Patent #9,850,919

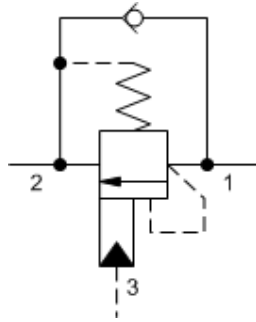
CONFIGURATION OPTIONS

Model Code Example: CEBCLHN

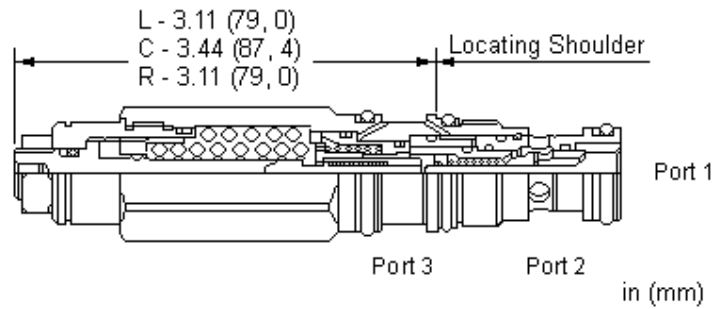
CONTROL	(L) ADJUSTMENT RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set	H 1500 - 4000 psi w/ 25 psi check (105 - 280 bar w/ 1.7 bar Check), 3000 psi (210 bar) Standard Setting A 1500 - 4000 psi w/ 4 psi check (105 - 280 bar w/ 0.3 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	Standard Material/Coating /LH Mild Steel, Zinc-Nickel



3-Port Non-vented



3-Port Non-vented, Fixed Setting



Counterbalance valves with pilot assist are meant to control an overrunning load. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. The LoadAdaptive™ counterbalance valve has a higher pilot ratio when the load-induced pressure is less than the setting of the valve (is not moving yet) and when the moving load is a positive load (not overrunning). See P1-P3 diagrams under "Performance Curves." The P1 (Y axis) vs P3 (X axis) curves show the effective setting P1 of the valve for different flows depending on pilot pressure P3. [Click Here for LoadAdaptive Technical Tip](#)

Other names for this valve include motion control valve and over-center valve.

TECHNICAL DATA

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

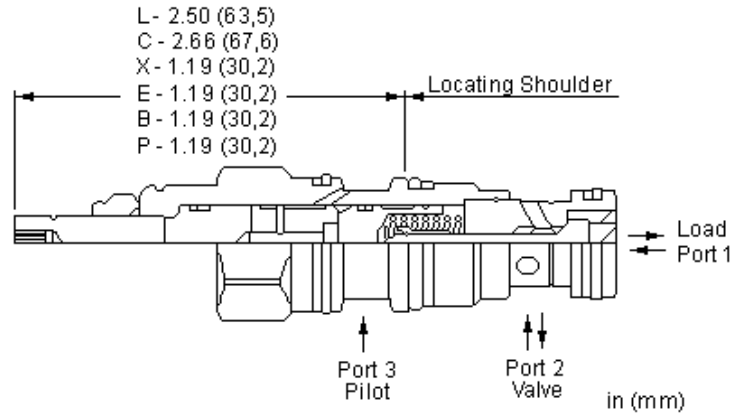
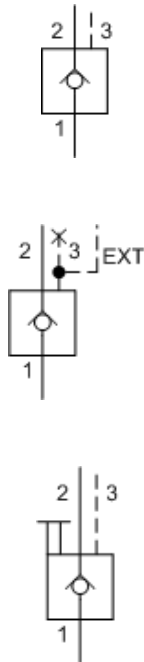
Pilot Ratio	3:1
Adaptive Pilot Ratio	See Performance Curves
Maximum Recommended Load Pressure at Maximum Setting	3075 psi
Maximum Setting	4000 psi
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Adjustment - No. of CCW Turns from Min. to Max. Setting	3.75
Reseat	>85% of setting
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 U.S. Patent #9,850,919

CONFIGURATION OPTIONS

Model Code Example: CECALHN

CONTROL	(L) ADJUSTMENT RANGE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment C Tamper Resistant - Factory Set	H 1500 - 4000 psi w/ 25 psi check (105 - 280 bar w/ 1,7 bar Check), 3000 psi (210 bar) Standard Setting A 1500 - 4000 psi w/ 4 psi check (105 - 280 bar w/ 0,3 bar Check), 3000 psi (210 bar) Standard Setting	N Buna-N V Viton	N Standard Material/Coating /AP Stainless Steel, Passivated



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.

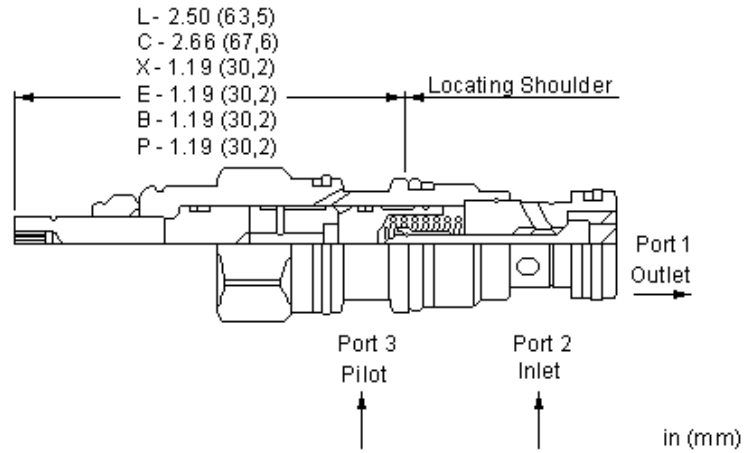
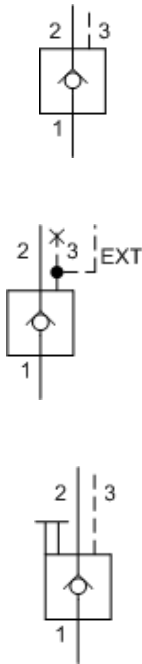
TECHNICAL DATA

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 MATERIAL	(N) MATERIAL/COATING
X Standard Pilot	C 30 psi (2 bar)	N Buna-N	Standard Material/Coating
B External 1/4 BSPP Pilot Port, Port 3 blocked	A 4 psi (0,3 bar)	V Viton	/AP Stainless Steel, Passivated
C Manual Load Release - Tamper Resistant	B 15 psi (1 bar)		/LH Mild Steel, Zinc-Nickel
E External 4- <small>SAE</small> Pilot Port, Port 3 Blocked	D 50 psi (3,5 bar)		
L Manual Load Release	E 75 psi (5 bar)		
P External 1/4 NPTF Pilot Port, Port 3 Blocked	F 100 psi (7 bar)		
	Z 1 psi (0,07 bar)		



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

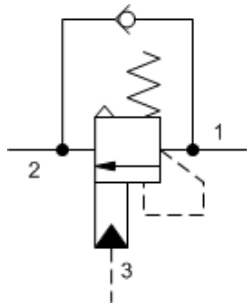
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

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

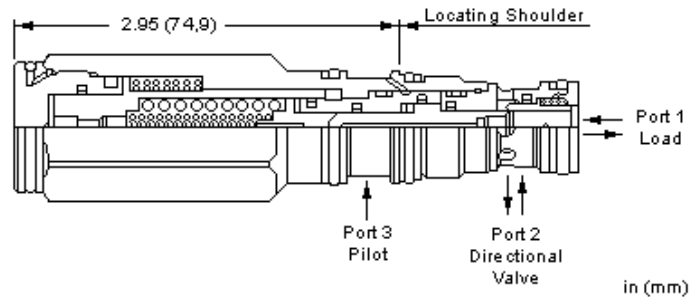
CONFIGURATION OPTIONS

Model Code Example: CKCSXCN

CONTROL	(X)	CRACKING PRESSURE	(C)	SEAL MATERIAL	(N)
X Standard Pilot		C 30 psi (2 bar)		N Buna-N	
B External 1/4 BSPP Pilot Port, Port 3 blocked		A 4 psi (0,3 bar)		V Viton	
C Manual Load Release - Tamper Resistant		B 15 psi (1 bar)			
E External 4-SAE Pilot Port, Port 3 Blocked		D 50 psi (3,5 bar)			
L Manual Load Release		E 75 psi (5 bar)			
P External 1/4 NPTF Port, Port 3 blocked		F 100 psi (7 bar)			
		Z 1 psi (0,07 bar)			



3-Port Atmospherically Referenced, Non-adjustable



These valves are self-setting counterbalance valves which combine multiple functions in one package; reverse free flow, load, and thermal relief. The check allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting pilot function self adjusts to approximately 1.3 times the load induced pressure up to the thermal relief setting.

TECHNICAL DATA

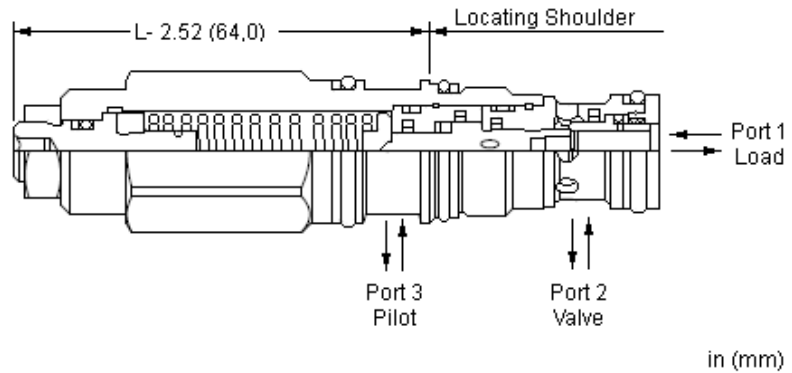
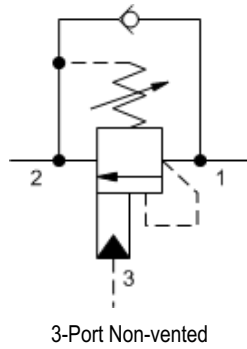
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: MADPDHN

CONTROL	(D) FACTORY SET	(H) SEAL MATERIAL	(N)
D LoadMatch™	H 4000 psi (280 bar) G 6000 psi (420 bar) J 5000 psi (350 bar)	N Buna-N	



Load reactive, load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio.

TECHNICAL DATA

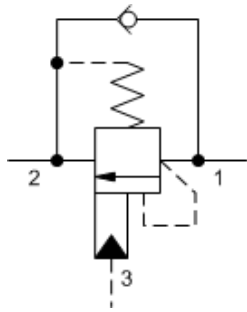
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Pilot Ratio	3:1
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Adjustment - No. of CCW Turns from Min. to Max. Setting	6.5
Reseat	≥77% of setting
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

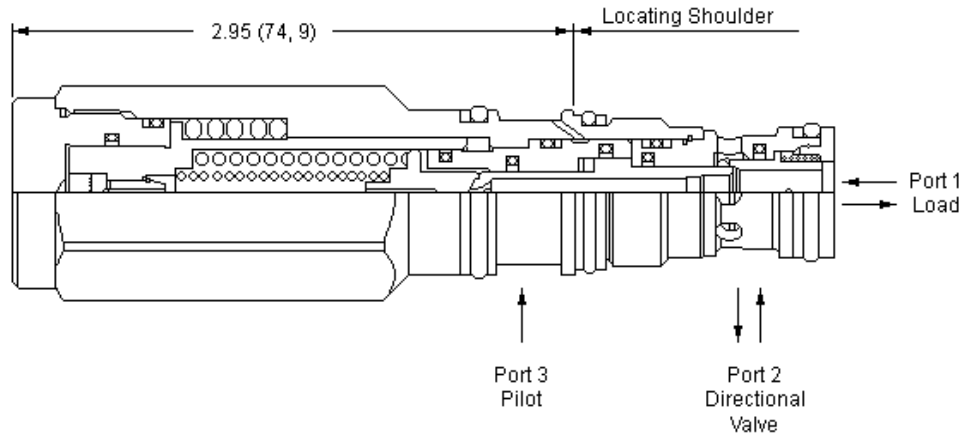
CONFIGURATION OPTIONS

Model Code Example: MBDALHN

CONTROL	(L) FUNCTIONAL SETTING RANGE	(H)	SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	H 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting	N Buna-N	Standard Material/Coating	
C Tamper Resistant - Factory Set	J 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting	V Viton	/AP Stainless Steel, Passivated	



3-Port Non-vented, Fixed Setting



in (mm)

These valves are self-setting counterbalance valves which combine multiple functions in one package; reverse free flow, load, and thermal relief. The check allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting pilot function self adjusts to approximately 1.3 times the load induced pressure up to the thermal relief setting.

TECHNICAL DATA

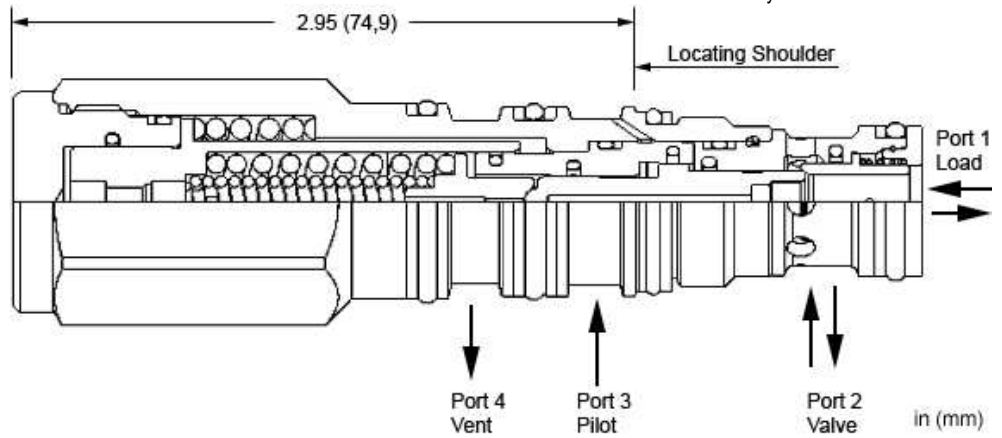
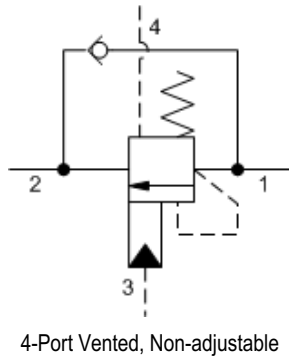
NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Maximum Operating Pressure	5000 psi
Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

CONFIGURATION OPTIONS

Model Code Example: MBDPDHN

CONTROL	(D) FACTORY SET	(H) SEAL MATERIAL	(N) MATERIAL/COATING
D LoadMatch™	H 4000 psi (280 bar) G 6000 psi (420 bar) J 5000 psi (350 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated



These valves are self-setting counterbalance valves which combine multiple functions in one package; reverse free flow, load, and thermal relief. The check allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting pilot function self adjusts to approximately 1.3 times the load induced pressure up to the thermal relief setting. Backpressure at port 2 does not affect self setting performance because the spring chamber references the vent (port 4).

TECHNICAL DATA

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

Maximum Recommended Load Pressure	See Technical Features
Factory Pressure Settings Established at	2 in ³ /min.
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at Reseat	5 drops/min.
Check Cracking Pressure	25 psi
Reseat	≥77% of setting
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

CONFIGURATION OPTIONS

Model Code Example: MWDPDHN

CONTROL	(D) FACTORY SET	(H) SEAL MATERIAL	(N) MATERIAL/COATING
D LoadMatch™	H 4000 psi (280 bar) G 6000 psi (420 bar) J 5000 psi (350 bar)	N Buna-N V Viton	Standard Material/Coating /AP Stainless Steel, Passivated /LH Mild Steel, Zinc-Nickel

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