

# **Flow Control Cartridges**

Powered by Sun **QuickPrint**, your on-demand, customized catalogue solution.

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



FQBA	Fixed orifice, flow fuse valve		1
FQCA	Fixed orifice, flow fuse valve		2
FQEA	Fixed orifice, flow fuse valve		3
FQGA	Fixed orifice, flow fuse valve		4
FQIA	Fixed orifice, flow fuse valve		5
NFBC	Fully adjustable needle valve		6
NFCC	Fully adjustable needle valve		7
NFCD	Fully adjustable needle valve		8
NFDC	Fully adjustable needle valve		9
NFDD	Fully adjustable needle valve		10
NFEC	Fully adjustable needle valve		11
NFED	Fully adjustable needle valve		12
NFFC	Fully adjustable needle valve		13
NFFD	Fully adjustable needle valve		14
NCBB	Fully adjustable needle va check	lve with reverse flow	15
NCCB	Fully adjustable needle va check	lve with reverse flow	16
NCCC	Fully adjustable needle va check	lve with reverse flow	17
NCCD	Fully adjustable needle va check	lve with reverse flow	18
NCEB	Fully adjustable needle val	lve with reverse flow	19
NCEC	Fully adjustable needle va check	lve with reverse flow	20



NCFB	Fully adjustable needle valve with reverse flow	21
NCFC	Fully adjustable needle valve with reverse flow	22
NCGB	Fully adjustable needle valve with reverse flow	23
NCGC	Fully adjustable needle valve with reverse flow	24
NFAB	Fully adjustable needle valve - pilotcapacity	25
CNAC	Fixed orifice, non-pressure compensated, flow control valve with reverse flow check	26
CNCC	Fixed orifice, non-pressure compensated, flow control valve with reverse flow check	27
CNEC	Fixed orifice, non-pressure compensated, flow control valve with reverse flow check	28
CNGC	Fixed orifice, non-pressure compensated, flow control valve with reverse flow check	29
CNIC	Fixed orifice, non-pressure compensated, flow control valve with reverse flow check	30
FXAA	Fixed orifice, pressure compensated flow controlvalve	31
FXAG	Flush mount, pressure compensated flow	32
FXAM	Insert style, pressure compensated flow control	33
FXBA	Fixed orifice, pressure compensated flow controlvalve	34
FXCA	Fixed orifice, pressure compensated flow controlvalve	35
FXDA	Fixed orifice, pressure compensated flow controlvalve	36
FXEA	Fixed orifice, pressure compensated flow control valve	37
FXFA	Fixed orifice, pressure compensated flow control valve	38
FCBB	Fixed orifice pressure compensated flow control valve with reverse flow check	39
FCCB	Fixed orifice pressure compensated flow control valve with reverse flow check	40



FCDB	Fixed orifice pressure compensated flow control valve with reverse flow	41
FCEB	Fixed orifice pressure compensated flow control valve with reverse flow	42
FCFB	Fixed orifice pressure compensated flow control valve with reverse flow	43
FDBA	Fully adjustable pressure compensated flow control valve with reverse flow	44
FDCB	Fully adjustable pressure compensated flow control valve with reverse flow	45
FDEA	Fully adjustable pressure compensated flow control valve with reverse flow	46
FDFA	Fully adjustable pressure compensated flow control valve with reverse flow	47
FXDA8	Ventable fixed orifice, pressure compensated flow control valve with integral T-8A control cavity	48
FRBA	Fixed orifice, bypass/restrictive, priority, flow control valve	49
FRCA	Fixed orifice, bypass/restrictive, priority, flow control valve	50
FRDA	Fixed orifice, bypass/restrictive, priority, flow control valve	51
FREA	Fixed orifice, bypass/restrictive, priority, flow control valve	52
FRFA	Fixed orifice, bypass/restrictive, priority, flow control valve	53
FVCA	Ventable, fixed orifice, bypass/restrictive, priority, flow control valve	54
FVDA	Ventable, fixed orifice, bypass/restrictive, priority, flow controlvalve	55
FVEA	Ventable, fixed orifice, bypass/restrictive, priority, flow control valve	56
FVFA	Ventable, fixed orifice, bypass/restrictive, priority, flow control valve	57
FVCA8	Ventable, fixed orifice, bypass/restrictive, priority, flow control valve with integral T-8A	58
FVDA8	Ventable, fixed orifice, bypass/restrictive, priority, flow control valve with integral T-8A	59
FVEA8	Ventable, fixed orifice, bypass/restrictive, priority, flow control valve with integral T-8A	60



FVFA8	Ventable, fixed orifice, bypass/restrictive, priority, flow control valve with integral T-8A control cavity	61
FPCC	Electro-proportional flow control valve - normally closed	62
FPCH	Electro-proportional flow control valve - normallyopen	63
FPFK	Pilot operated, normally closed, electro-proportional throttle with reverse flow check	64
FPHK	Pilot operated, normally closed, electro-proportional throttle with reverse flow check	65
FMDA	Electro-proportional 3-way flow control valve, meterin	66
FMDB	Electro-proportional 3-way flow control valve, meterin	67
FTCA	2-way, pilot shifted, dual path, proportional throttle	68
FTDA	2-way, pilot shifted, dual path, proportional throttle	69
FTEA	2-way, pilot shifted, dual path, proportional throttle	70
FTFA	2-way, pilot shifted, dual path, proportional throttle	71
FTCAZ	2-way, pilot shifted, dual path, proportional throttle with position switch	72
FTDAZ	2-way, pilot shifted, dual path, proportional throttle with position switch	73
FTEAZ	2-way, pilot shifted, dual path, proportional throttle with position switch	74
FTFAZ	2-way, pilot shifted, dual path, proportional throttle with position switch	75
FKBA	2-way, pilot shifted, proportional throttle	76
FKCA	2-way, pilot shifted, proportional throttle, high capacity	77
FKDA	2-way, pilot shifted, proportional throttle	78
FKEA	2-way, pilot shifted, proportional throttle, high capacity	79
FKFA	2-way, pilot shifted, proportional throttle	80



FKGA	2-way, pilot shifted, proportional throttle, high capacity	81
FKHA	2-way, pilot shifted, proportional throttle	82
FKIA	2-way, pilot shifted, proportional throttle, high capacity	83
FKBB	2-way, pilot shifted, proportional throttle with bleed down	84
FKCB	2-way, pilot shifted, proportional throttle with bleed down, high capacity	85
FKDB	2-way, pilot shifted, proportional throttle with bleed down	86
FKEB	2-way, pilot shifted, proportional throttle with bleed down, high capacity	87
FKFB	2-way, pilot shifted, proportional throttle with bleed down	88
FKGB	2-way, pilot shifted, proportional throttle with bleed down, high capacity	89
FKHB	2-way, pilot shifted, proportional throttle with bleed down	90
FKIB	2-way, pilot shifted, proportional throttle with bleed down, high capacity	91
FSCD	Flow divider valve	92
FSDD	Flow divider valve	93
FSED	Flow divider valve	94
FSFD	Flow divider valve	95
FSBD	High accuracy flow divider valve	96
FSDC	High accuracy flow divider valve	97
FSEC	High accuracy flow divider valve	98
FSFC	High accuracy flow divider valve	99
FSCA	Closed center, flow divider-combiner valve	100



FSDA	Closed center, flow divider-combiner . valve		101
FSEA	Closed center, flow divider-combiner . valve		102
FSFA	Closed center, flow divider-combiner . valve		103
FSAA	High accuracy, closed center, flow divider-covalve	combiner	104
FSBA	High accuracy, closed center, flow divider-covalve	combiner	105
FSDG	High accuracy, closed center, flow divider-covalve	combiner	106
FSEG	High accuracy, closed center, flow divider-covalve	combiner	107
FSFG	High accuracy, closed center, flow divider-covalve	combiner	108
FSCH	High capacity, closed center, flow divider-covalve	ombiner	109
FSDH	High capacity, closed center, flow divider-covalve	ombiner	110
FSEH	High capacity, closed center, flow divider-covalve	ombiner	111
FSFH	High capacity, closed center, flow divider-covalve	ombiner	112
FSCS	Synchronizing, flow divider-combiner valve		113
FSDS	Synchronizing, flow divider-combiner valve		114
FSES	Synchronizing, flow divider-combiner valve		115
FSFS	Synchronizing, flow divider-combiner valve		116
FSAS	High accuracy synchronizing, flow divider-c valve	combiner	117
FSBS	High accuracy synchronizing, flow divider-c valve	combiner	118
FSDR	High accuracy synchronizing, flow divider-c valve	combiner	119
FSER	High accuracy synchronizing, flow divider-c	combiner	120



FSFR	High accuracy synchronizing, flow divider-combiner valve	121
LRBC	Normally closed, modulating element	122
LRDC	Normally closed, modulating element	123
LRFC	Normally closed, modulating element	124
LRHC	Normally closed, modulating element	125
LRJC	Normally closed, modulating element	126
LRBA	Normally closed, modulating element with pilot source from port	127
LRDA	Normally closed, modulating element with pilot source from port	128
LRFA	Normally closed, modulating element with pilot source from port	129
LRHA	Normally closed, modulating element with pilot source from port	130
LRJA	Normally closed, modulating element with pilot source from port	131
LRDS	Normally closed modulating element with shuttle	132
LPBC	Normally open, modulatingelement	133
LPDC	Normally open, modulatingelement	134
LPFC	Normally open, modulatingelement	135
LPFCL	Tuneable, normally open modulatingelement	136
LPHC	Normally open, modulating element	137
LPJC	Normally open, modulating element	138
LPBA	Normally open, modulating element with pilot source from port	139
LPDA	Normally open, modulating element with pilot source from port	140

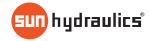


LPFA	Normally open, modulating element with pilot source from port	141
LPHA	Normally open, modulating element with pilot source from port	142
LPJA	Normally open, modulating element with pilot source from port	143
LPJA8	Normally open, modulating element with integral T-8A control cavity and pilot source from port 1	144
LPDS	Normally open modulating element with shuttle	145
LHDT	Normally open, bi-directional, modulating element	146
LHFT	Normally open, bi-directional, modulating element	147
LHHT	Normally open, bi-directional, modulatingelement	148
LHDA	Bypass/restrictive, priority modulating element	149
LHFA	Bypass/restrictive, priority modulating element	150
LHHA	Bypass/restrictive, priority modulating element	151
LHJA	Bypass/restrictive, priority modulating element	152
RVBB	Normally closed modulating element valve with relief function	153
RVCB	Normally closed modulating element valve with relief function	154
RVEB	Normally closed modulating element valve with relief function	155
RVGB	Normally closed modulating element valve with relief function	156
RVIB	Normally closed modulating element valve with relief function	157
LRFCL	Tuneable, normally closed, modulating element	158



# **Cavity Information**

Series	Ports	Cavities
Series Z Cartridges 3/8-24 UNF Cartridge Thread 5 mm Valve Hex Size	2-Port	T-382A
11 - 14 Nm Valve Installation Torque		
Series P Cartridges	2-Port	T-8A
M16 Cartridge Thread	2-Port (Deep)	T-8DP
22,2 mm Valve Hex Size	3-Port	T-9A
27 - 33 Nm Valve Installation Torque		
Series 0 Cartridges	2-Port	T-162A
M16 Cartridge Thread	2-Port (Deep)	T-162DP
9,1 mm Valve Hex Size	3-Port	T-163A
25,4 mm Valve Hex Size		
27 - 33 Nm Valve Installation Torque		
Series 1 Cartridges	2-Port	T-10A
M20 Cartridge Thread	2-Port	T-13A
22,2 mm Valve Hex Size	3-Port	T-11A
1 - 47 Nm Valve Installation Torque	4-Port	T-21A
·	4-Port 6-Port	T-31A T-61A
	6-P0IL	1-01A
Series 2 Cartridges	2-Port	T-3A
L"-14 UNS Cartridge Thread	2-Port	T-5A T-2A
28,6 mm Valve Hex Size	3-Port 4-Port	T-2A T-22A
31 - 68 Nm Valve Installation Torque	4-Port	T-32A
	4-Port (Dual path)	T-52AD
	6-Port	T-52A
	6-Port	T-62A
Series 3 Cartridges	2-Port	T-16A
M36 Cartridge Thread	3-Port	T-17A
11.8 mm Valve Hex Size	4-Port	T-23A
103 - 217 Nm Valve Installation Torque	4-Port	T-33A
221 Mil Valvo Motaliadon Forque	4-Port (Dual path)	T-53AD
	6-Port	T-53A
	6-Port	T-63A
Series 4 Cartridges	2-Port	T-18A
M48 Cartridge Thread	2-Port (Undercut)	T-18AU
11,3 mm Valve Hex Size	3-Port	T-19A T-19AU
174 - 508 Nm Valve Installation Torque	3-Port (Undercut) 4-Port	T-19AU T-24A
	4-Port (Undercut)	T-24AU
	4-Port	T-24A0 T-34A
	4-Port (Dual path)	T-54AD
	6-Port	T-54A
	6-Port	T-64A

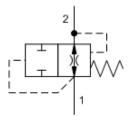


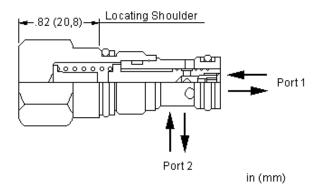


CAPACITY: 8,5 L/min. / CAVITY: T-162A



snhy.com/FQBA





Flow fuse cartridges are used to maintain the position of a hydraulic actuator in the event of a hose or line break. The valve allows flow to and from the actuator but closes instantly if flow from the actuator exceeds the setting of the valve. NOTE: Because the valve responds so rapidly, it is sensitive to any transient flow above the valve setting.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar	
Seal kit - Cartridge	Buna: 990162007	
Seal kit - Cartridge	Polyurethane: 990162002	
Seal kit - Cartridge	Viton: 990162006	

ILH Mild Steel, Zinc-Nickel

_		 			
r	ON.	I ID	M + M + M + M + M + M + M + M + M + M +	ם חו	<b>FIONS</b>
١.	wı	URI	411111	N CJE	כעוטוו

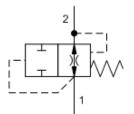
Model Code Example: FQBAXAN

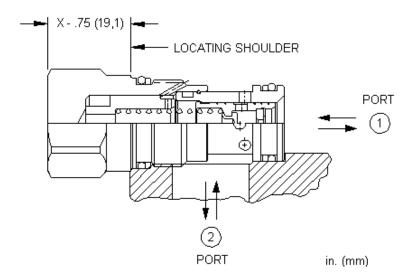
CONTROL	(X) SETTING RANGE (A	A) SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice .5 - 2.25 gpm (2 -	N Buna-N	Standard Material/Coating
	8,5 L/min.)	<b>V</b> Viton	IAP Stainless Steel, Passivated

### SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-13A



snhy.com/FQCA





Flow fuse cartridges are used to maintain the position of a hydraulic actuator in the event of a hose or line break. The valve allows flow to and from the actuator but closes instantly if flow from the actuator exceeds the setting of the valve. NOTE: Because the valve responds so rapidly, it is sensitive to any transient flow above the valve setting.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

### **CONFIGURATION OPTIONS**

Model Code Example: FQCAXAN

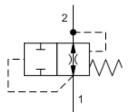
CONTROL	(X)	SETTING RANGE (A)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		A Replaceable Orifice .5 - 6 gpm (2 - 23	N Buna-N		Standard Material/Coating
-		L/min.)	<b>V</b> Viton		/AP Stainless Steel, Passivated
					/LH Mild Steel, Zinc-Nickel

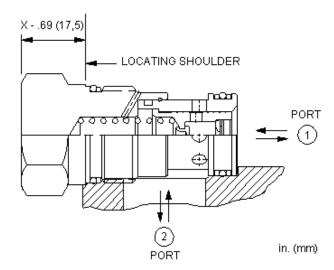


SERIES 2 / CAPACITY: 60 L/min. / CAVITY: T-5A



snhy.com/FQEA





Flow fuse cartridges are used to maintain the position of a hydraulic actuator in the event of a hose or line break. The valve allows flow to and from the actuator but closes instantly if flow from the actuator exceeds the setting of the valve. NOTE: Because the valve responds so rapidly, it is sensitive to any transient flow above the valve setting.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

CONF	GUR	ATION	OPTI	ONS

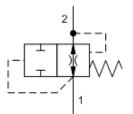
Model Code Example: FQEAXAN

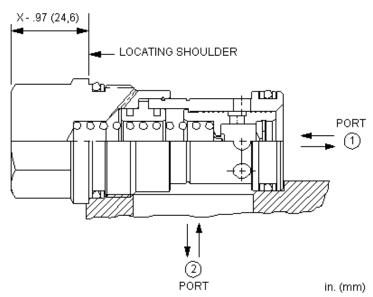
CONTROL (X) SETTING RANGE (A) SEAL MATERIAL (N) MATERIAL/COATING

X Not Adjustable A Replaceable Orifice 1 - 15 gpm (4 - 60 L/min.) N Buna-N Standard Material/Coating /AP Stainless Steel, Passivated



snhy.com/FQGA





Flow fuse cartridges are used to maintain the position of a hydraulic actuator in the event of a hose or line break. The valve allows flow to and from the actuator but closes instantly if flow from the actuator exceeds the setting of the valve. NOTE: Because the valve responds so rapidly, it is sensitive to any transient flow above the valve setting.

### **TECHNICAL DATA**

Maximum Operating Pressure 350 bar		
Maximum Valve Leakage at 110 SUS (24 cSt)	65 cc/min.@70 bar	
Seal kit - Cartridge	Buna: 990016007	
Seal kit - Cartridge Polyurethane: 990016002		
Seal kit - Cartridge	Viton: 990016006	

# **CONFIGURATION OPTIONS**

# **Model Code Example: FQGAXAN**

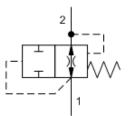
CONTROL	(X) SETTING RANGE (A	SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice 1 - 25 gpm (4 - 95	N Buna-N	Standard Material/Coating
	L/min.)	<b>V</b> Viton	IAP Stainless Steel, Passivated

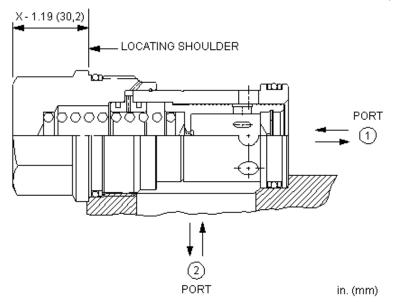


# SERIES 4 / CAPACITY: 200 L/min. / CAVITY: T-18A



snhy.com/FQIA





Flow fuse cartridges are used to maintain the position of a hydraulic actuator in the event of a hose or line break. The valve allows flow to and from the actuator but closes instantly if flow from the actuator exceeds the setting of the valve. NOTE: Because the valve responds so rapidly, it is sensitive to any transient flow above the valve setting.

#### **TECHNICAL DATA**

Maximum Operating Pressure 350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@70 bar
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

# **CONFIGURATION OPTIONS**

# Model Code Example: FQIAXAN

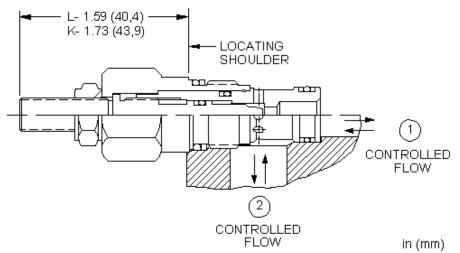
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice 1 - 50 gp	m (4 - 200 <b>N</b> Buna-N	Standard Material/Coating
	L/min.)	<b>V</b> Viton	IAP Stainless Steel, Passivated
			/LH Mild Steel, Zinc-Nickel

CAPACITY: 20 L/min. (4 mm) / CAVITY: T-162A



snhy.com/NFBC





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

#### **CONFIGURATION OPTIONS**

# Model Code Example: NFBCLCN

CONTROL	(L) MAXIMUM ORIFICE DIAMETER	(C) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	<b>C</b> .16 in. (4 mm)	N Buna-N	Standard Material/Coating
<b>K</b> Handknob		<b>E</b> EPDM	IAP Stainless Steel, Passivated
W Hex Wrench Adjustment		<b>V</b> Viton	<b>/LH</b> Mild Steel, Zinc-Nickel



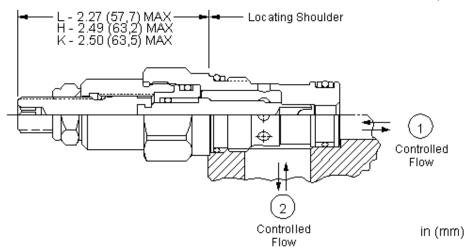


# SERIES 1 / CAPACITY: 28 L/min. (4,8 mm) / CAVITY: T-13A



snhy.com/NFCC





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

(N) MATERIAL/COATING

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

### **CONFIGURATION OPTIONS**

CONTROL

# Model Code Example: NFCCLCN

(C) SEAL MATERIAL

L Standard Screw Adjustment C	: .19 in. (4,8 mm)	N Buna-N	Standard Material/Coating
H Calibrated Handknob with Detent Lock D	.09 in. (2,3 mm)	<b>E</b> EPDM	/AP Stainless Steel, Passivated
<b>K</b> Handknob		<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob, Flow Control			

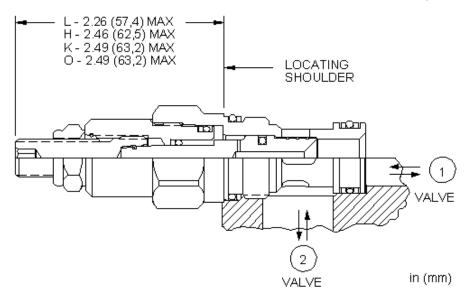
(L) MAXIMUM ORIFICE DIAMETER

SERIES 1 / CAPACITY: 80 L/min. (8,4 mm) / CAVITY: T-13A



snhy.com/NFCD





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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

#### **CONFIGURATION OPTIONS**

Model Code Example: NFCDLFN

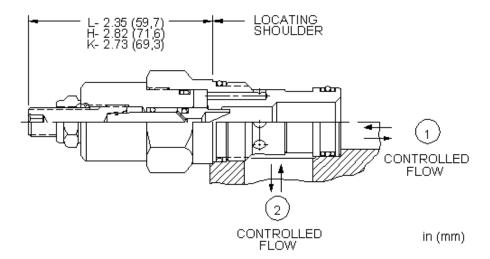
CONTROL	(L) N	MAXIMUM ORIFICE DIAMETER	(F)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment		<b>F</b> .33 in. (8,4 mm)		N Buna-N		Standard Material/Coating
H Calibrated Handknob with Detent L	ock			<b>E</b> EPDM		IAP Stainless Steel, Passivated

K Handknob Y Tri-Grip Handknob SERIES 2 / CAPACITY: 45 L/min. (6,4 mm) / CAVITY: T-5A



snhy.com/NFDC





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

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

# **CONFIGURATION OPTIONS**

# Model Code Example: NFDCLAN

	CONTROL	(L)	MAXIMUM ORIFICE DIAMETER	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
--	---------	-----	--------------------------	-----	---------------	-----	------------------

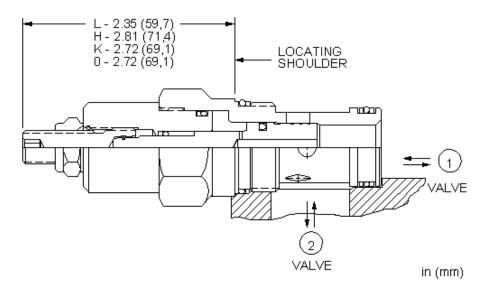
		<u>\</u>	
L Standard Screw Adjustment	<b>A</b> .25 in. (6,4 mm)	N Buna-N	Standard Material/Coating
H Calibrated Handknob with Detent Lock	<b>B</b> .12 in. (3,0 mm)	E EPDM	IAP Stainless Steel, Passivated
<b>K</b> Handknob		<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob			

SERIES 2 / CAPACITY: 200 L/min. (12,7 mm) / CAVITY: T-5A



snhy.com/NFDD





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Polyurethane: 990203014
Seal kit - Cartridge	Viton: 990203006

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

#### **CONFIGURATION OPTIONS**

Y Tri-Grip Handknob

# Model Code Example: NFDDLGN

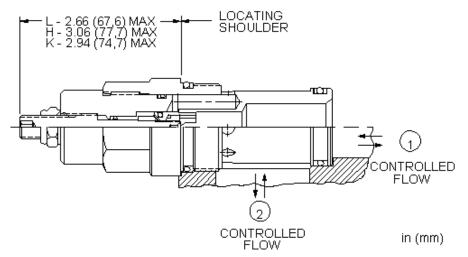
(	CONTROL (L)	MAXIMUM ORIFICE DIAMETER	(G)	SEAL MATERIAL	(N)	MATERIAL/COATING
	L Standard Screw Adjustment	<b>G</b> .5 in. (12,7 mm)		N Buna-N		Standard Material/Coating
	H Calibrated Handknob with Detent Lock			E EPDM		IAP Stainless Steel, Passivated
	K Handknob			<b>V</b> Viton		<b>/LH</b> Mild Steel, Zinc-Nickel

SERIES 3 / CAPACITY: 120 L/min. (9,7 mm) / CAVITY: T-16A



snhy.com/NFEC





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

#### **CONFIGURATION OPTIONS**

# Model Code Example: NFECLEN

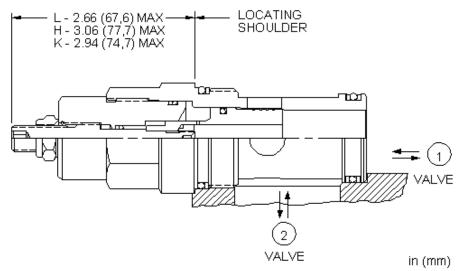
CONTROL	(L) MAXIMUM ORIFICE DIAMETER	(E) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	<b>E</b> .38 in. (9,7 mm)	N Buna-N	Standard Material/Coating
H Calibrated Handknob with Detent Loc	k <b>F</b> .28 in. (7,1 mm)	E EPDM	IAP Stainless Steel, Passivated
<b>K</b> Handknob		<b>V</b> Viton	<b>/LH</b> Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob			

SERIES 3 / CAPACITY: 340 L/min. (17,5 mm) / CAVITY: T-16A



snhy.com/NFED





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

# **CONFIGURATION OPTIONS**

# Model Code Example: NFEDLHN

CONTROL	(L)	MAXIMUM ORIFICE DIAMETER	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
---------	-----	--------------------------	-----	---------------	-----	------------------

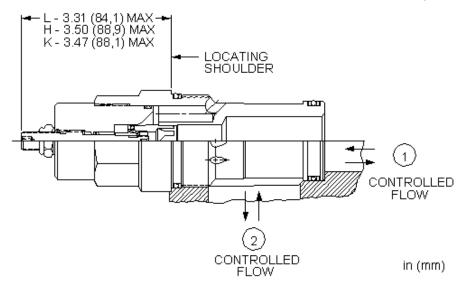
L Standard Screw Adjustment	<b>H</b> .69 in. (17,5 mm)	N Buna-N	Standard Material/Coating
H Calibrated Handknob with Detent Lock		E EPDM	IAP Stainless Steel, Passivated
K Handknob		<b>V</b> Viton	<b>ILH</b> Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob			

SERIES 4 / CAPACITY: 240 L/min. (14,2 mm) / CAVITY: T-18A



snhy.com/NFFC





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

#### **CONFIGURATION OPTIONS**

# Model Code Example: NFFCLGN

CONTROL	(L)	MAXIMUM ORIFICE DIAMETER	(G)	SEAL MATERIAL	(N)	MATERIAL/COATING	
L Standard Screw Adjustment		<b>G</b> .56 in. (14,2 mm)		N Buna-N		Standard Material/Coating	I
H Calibrated Handknob with Detent Lo	ck	<b>H</b> .38 in. (9,7 mm)		<b>E</b> EPDM		IAP Stainless Steel, Passivated	Ī

Y Tri-Grip Handknob, Flow Control



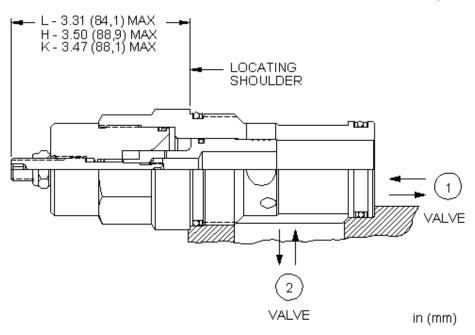


SERIES 4 / CAPACITY: 530 L/min. (21,6 mm) / CAVITY: T-18A



snhy.com/NFFD





Needle valves are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. They are not pressure compensated and may be used as flow controls or as shutoff valves.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

# **CONFIGURATION OPTIONS**

# **Model Code Example: NFFDLIN**

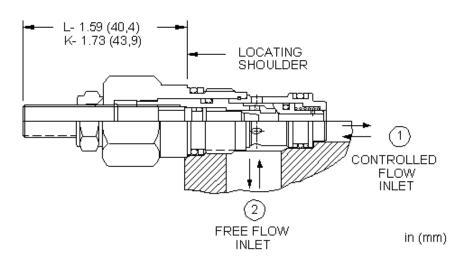
CONTROL	(L) MA	AXIMUM ORIFICE DIAMETER	(I)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment	1	.85 in. (21,6 mm)		N Buna-N		Standard Material/Coating
H Calibrated Handknob with Detent Lo	ock			<b>E</b> EPDM		IAP Stainless Steel, Passivated
<b>K</b> Handknob				<b>V</b> Viton		/LH Mild Steel, Zinc-Nickel
R Capped Screw Adjustment						

CAPACITY: 20 L/min. (4 mm) / CAVITY: T-162A









Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

#### **CONFIGURATION OPTIONS**

Model Code Example: NCBBLCN

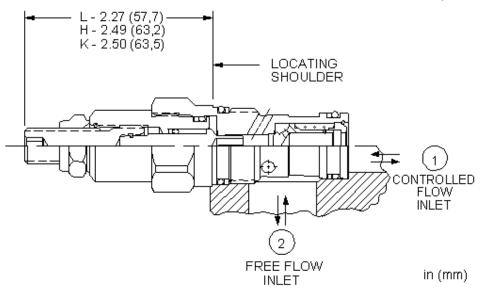
CONTROL	(L) REVERSE FLOW CHECK	(C) SEAL MATERIAL	(N) MATERIAL	/COATING
L Standard Screw Adjustment	<b>C</b> 30 psi (2 bar)	N Buna-N	Standa	rd Material/Coating
<b>K</b> Handknob		<b>V</b> Viton	/AP Stainle	ss Steel, Passivated
			/LH Mild St	eel, Zinc-Nickel

SERIES 1 / CAPACITY: 28 L/min. (4,8 mm) / CAVITY: T-13A



snhy.com/NCCB





Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

**NOTES** 

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

### **CONFIGURATION OPTIONS**

# **Model Code Example: NCCBLCN**

CONTROL	(L)	REVERSE FLOW CHECK	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
				·		

L Standard Screw Adjustment

C 30 psi (2 bar) A 4 psi (0,3 bar) N Buna-N

Standard Material/Coating

H Calibrated Handknob with Detent Lock K Handknob

**E** 75 psi (5 bar)

E EPDM V Viton

IAP Stainless Steel, Passivated **/LH** Mild Steel, Zinc-Nickel

R Capped Screw Adjustment

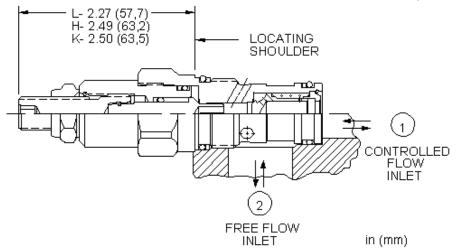
Fully adjustable needle valve with reverse flow check

SERIES 1 / CAPACITY: 8 L/min. (2,3 mm) / CAVITY: T-13A









Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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

#### **CONFIGURATION OPTIONS**

Model Code Example: NCCCLCN

CONTROL (L	.) REVERSE FLOW CHECK	(C) SEAL MATERIAL	(N) MATERIAL/COATING

Standard	Carani	A ali a	Acres a said
Suamorano	Screw	Annis	umemi

**C** 30 psi (2 bar)

٧G

# H Calibrated Handknob with Detent Lock

N Buna-N V Viton

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

K Handknob O Handknob with Panel Mount

R Capped Screw Adjustment

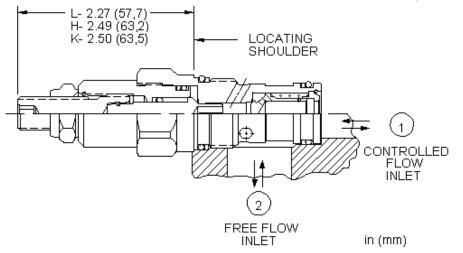
A 4 psi (0,3 bar) **E** 75 psi (5 bar)

SERIES 1 / CAPACITY: 4 L/min. (1,5 mm) / CAVITY: T-13A



snhy.com/NCCD





Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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

#### **CONFIGURATION OPTIONS**

# Model Code Example: NCCDLAN

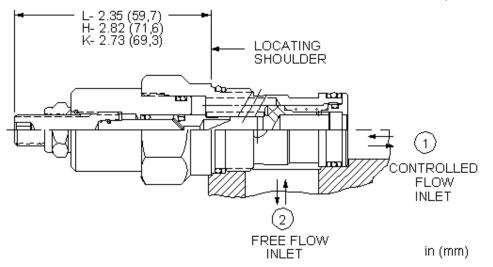
C	ONTROL (L)	REVERSE FLOW CHECK (A)	SEAL MATERIAL (N)	MATERIAL/COATING
	Standard Screw Adjustment	<b>A</b> 4 psi (0,3 bar)	<b>N</b> Buna-N	Standard Material/Coating
Ī	Calibrated Handknob with Detent Lock	<b>B</b> 15 psi (1 bar)	<b>V</b> Viton	IAP Stainless Steel, Passivated
ı	K Handknob	C 30 psi (2 bar)		/LH Mild Steel, Zinc-Nickel
(	D Handknob with Panel Mount	<b>D</b> 50 psi (3,5 bar)		
ı	R Capped Screw Adjustment	<b>E</b> 75 psi (5 bar)		

# SERIES 2 / CAPACITY: 45 L/min. (6,4 mm) / CAVITY: T-5A



snhy.com/NCEB





Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

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

#### **CONFIGURATION OPTIONS**

# Model Code Example: NCEBLCN

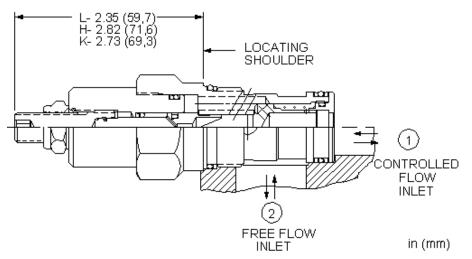
CONTROL [	L) REVERSE FLOW CHECK	(C) SEAL MATERIAL	(N) MATERIAL/COATING
L Standard Screw Adjustment	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
H Calibrated Handknob with Detent Loc	k <b>A</b> 4 psi (0,3 bar)	E EPDM	IAP Stainless Steel, Passivated
<b>K</b> Handknob	<b>E</b> 75 psi (5 bar)	<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob			

SERIES 2 / CAPACITY: 11 L/min. (3,3 mm) / CAVITY: T-5A



snhy.com/NCEC





Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

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

#### **CONFIGURATION OPTIONS**

Model Code Example: NCECLCN

CONTROL (L) REVERSE FLOW CHECK (C) SEAL MATERIAL (N) MATERIAL/COATING

L Standard Screw Adjustment
 H Calibrated Handknob with Detent Lock

C 30 psi (2 bar)
A 4 psi (0,3 bar)

N Buna-N V Viton

Standard Material/Coating

/LH Mild Steel, Zinc-Nickel

**K** Handknob

**E** 75 psi (5 bar)

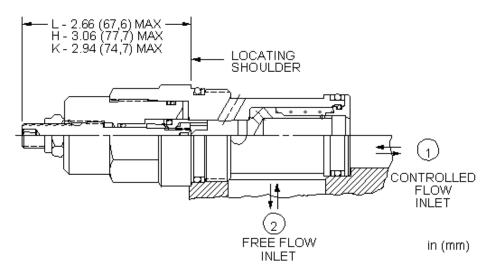
Fully adjustable needle valve with reverse flow check

SERIES 3 / CAPACITY: 120 L/min. (9,7 mm) / CAVITY: T-16A



snhy.com/NCFB





Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

# **CONFIGURATION OPTIONS**

### Model Code Example: NCFBLCN

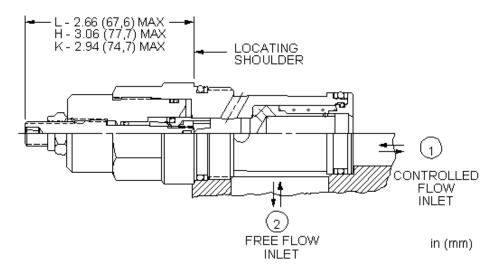
CC	DNTROL	<u>(L)</u>	REVERSE FLOW CHECK	(C)	<u>) SEAL MATERIAL (N</u>	MATERIAL/COATING
L	Standard Screw Adjustment		<b>C</b> 30 psi (2 bar)		N Buna-N	Standard Material/Coating
Н	Calibrated Handknob with Detent Loc	k	<b>A</b> 4 psi (0,3 bar)		V Viton	/AP Stainless Steel, Passivated
K	Handknob		<b>E</b> 75 psi (5 bar)			/LH Mild Steel, Zinc-Nickel
Υ	Tri-Grip Handknob					

SERIES 3 / CAPACITY: 60 L/min. (7,1 mm) / CAVITY: T-16A



snhy.com/NCFC





Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

## **CONFIGURATION OPTIONS**

### Model Code Example: NCFCLCN

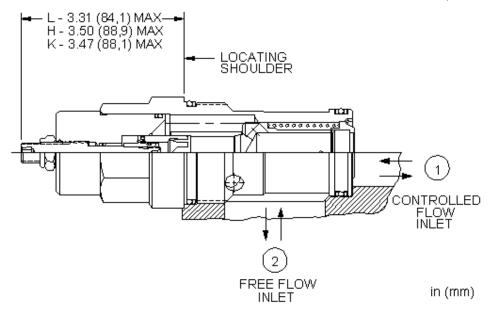
CONTROL	(L) REVERSE FLOW CHECK	(C) SEAL MATERIAL	(N) MATERIAL/COATING	
L Standard Screw Adjustment	<b>C</b> 30 psi (2 bar)	<b>N</b> Buna-N	Standard Material/Coating	
H Calibrated Handknob with Detent Loc	k A 4 psi (0,3 bar)	<b>V</b> Viton	IAP Stainless Steel, Passivated	
<b>K</b> Handknob	<b>E</b> 75 psi (5 bar)		<b>/LH</b> Mild Steel, Zinc-Nickel	
Y Tri-Grip Handknob				

SERIES 4 / CAPACITY: 240 L/min. (14,2 mm) / CAVITY: T-18A



snhy.com/NCGB





Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

(N) MATERIAL/COATING

### **CONFIGURATION OPTIONS**

CONTROL

# Model Code Example: NCGBLCN

(C) SEAL MATERIAL

(-)	112121102112011 0112011	<u> </u>	
L Standard Screw Adjustment	<b>C</b> 30 psi (2 bar)	N Buna-N	Standard Material/Coating
H Calibrated Handknob with Detent Lock	<b>A</b> 4 psi (0,3 bar)	<b>E</b> EPDM	IAP Stainless Steel, Passivated
K Handknob	<b>E</b> 75 psi (5 bar)	<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob			

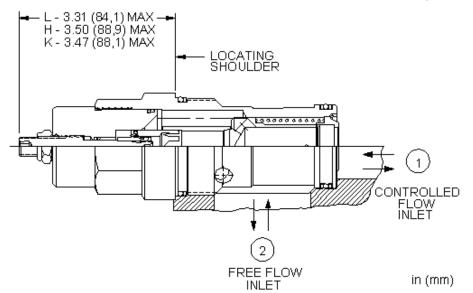
(L) REVERSE FLOW CHECK

SERIES 4 / CAPACITY: 120 L/min. (9,7 mm) / CAVITY: T-18A









Needle valves with reverse-flow check are fully adjustable orifices used to regulate flow. They are infinitely adjustable from fully closed up to the maximum orifice diameter. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. They are not pressure compensated.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	0,3 cc/min.
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

### **CONFIGURATION OPTIONS**

# Model Code Example: NCGCLCN

CONTROL	L) REVERSE FLOW CHECK	(C) SEAL MATERIAL	(N)
L Standard Screw Adjustment	<b>C</b> 30 psi (2 bar)	N Buna-N	
H Calibrated Handknob with Detent Lock	A 4 psi (0,3 bar)	<b>V</b> Viton	

E 75 psi (5 bar)

Y Tri-Grip Handknob

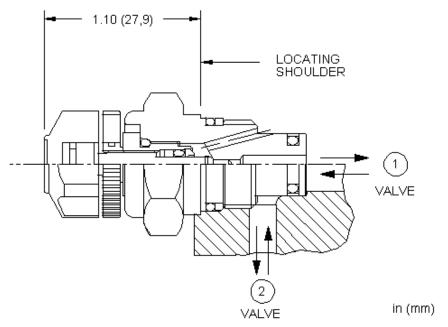
K Handknob

SERIES P / CAPACITY: 0,8 L/min. (0,9 mm) / CAVITY: T-8A









Two-port, pilot-stage needle valves are fully adjustable devices used to regulate pilot flow in a main-stage valve or to meter in/out flow in low flow applications. These cartridges are designed for pilot flow applications and utilize Sun's T-8A cavity so they can be used in conjunction with Sun's pilot-operated, main-stage valves.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	3
Effective Orifice Size	0,9 mm
Seal kit - Cartridge	Buna: 990008007
Seal kit - Cartridge	EPDM: 990008014
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990008006

## **CONFIGURATION OPTIONS**

# Model Code Example: NFABKXN

CONTROL	(K)	MAXIMUM ORIFICE DIAMETER	(X)	SEAL MATERIAL	(N)
K Handknob		X .03 in. (0,8 mm)		N Buna-N	
				E EPDM	
				<b>V</b> Viton	





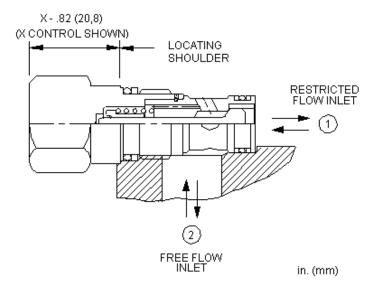
Fixed orifice, non-pressure compensated, flow control valve with reverse flow check

CAPACITY: 30 L/min. / CAVITY: T-162A



snhy.com/CNAC





This valve is a fixed-orifice, non-pressure-compensated flow control with a reverse flow check. The flow setting is specified by the user and is set at the factory.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 1,6 mm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

### **CONFIGURATION OPTIONS**

# Model Code Example: CNACXCN

CONTROL (X) SETTING RANGE (C) SEAL MATERIAL (N) MATERIAL/COATING

X Not Adjustable

**C** 30 psi (2 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm)

A 4 psi (0,3 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm)

**E** 75 psi (5 bar) Cracking Pressure, .016 - .062 in. (0,4 - 1,6 mm)

N Buna-N V Viton Standard Material/Coating

/AP Stainless Steel, Passivated

/LH Mild Steel, Zinc-Nickel





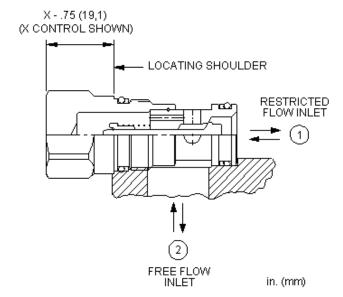
Fixed orifice, non-pressure compensated, flow control valve with reverse flow check

#### SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-13A



snhy.com/CNCC





This valve is a fixed-orifice, non-pressure-compensated flow control with a reverse flow check. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,9 mm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

#### **CONFIGURATION OPTIONS**

## **Model Code Example: CNCCXCN**

CONTROL (X) SETTING RANGE

(C) SEAL MATERIAL

N Buna-N

V Viton

(N) MATERIAL/COATING

X Not Adjustable

**C** 30 psi (2 bar) Cracking Pressure, .016 - .153 in. (0,4 - 3,9 mm)

.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)

Standard Material/Coating

/AP Stainless Steel, Passivated

/LH Mild Steel, Zinc-Nickel





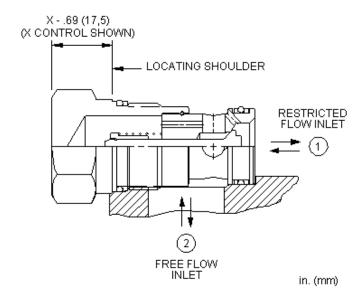
Fixed orifice, non-pressure compensated, flow control valve with reverse flow check

#### SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-5A



snhy.com/CNEC





This valve is a fixed-orifice, non-pressure-compensated flow control with a reverse flow check. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 3,4 mm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: CNECXCN

(C) SEAL MATERIAL CONTROL (X) SETTING RANGE

X Not Adjustable

#### C 30 psi (2 bar) Cracking Pressure, .016 -.135 in. (0,4 - 3,4 mm)

N Buna-N

V Viton

(N) MATERIAL/COATING

A 4 psi (0,3 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)

B 15 psi (1 bar) Cracking Pressure, .016 -.135 in. (0,4 - 3,4 mm)

**D** 50 psi (3,5 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)

E 75 psi (5 bar) Cracking Pressure, .016 -.135 in. (0,4 - 3,4 mm)

F 100 psi (7 bar) Cracking Pressure, .016 - .135 in. (0,4 - 3,4 mm)

Standard Material/Coating IAP Stainless Steel, Passivated





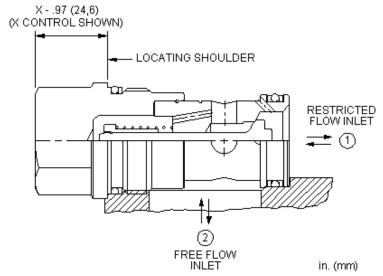
Fixed orifice, non-pressure compensated, flow control valve with reverse flow check

#### SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A









This valve is a fixed-orifice, non-pressure-compensated flow control with a reverse flow check. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 5,5 mm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

#### **CONFIGURATION OPTIONS**

# Model Code Example: CNGCXCN

CONTROL (X) SETTING RANGE

(C) SEAL MATERIAL

16 - N Buna-N

V Viton

(N) MATERIAL/COATING

X Not Adjustable

# **C** 30 psi (2 bar) Cracking Pressure, .016 - .218 in. (0,4 - 5,5 mm)

- **A** 4 psi (0,3 bar) Cracking Pressure, .016 .218 in. (0,4 5,5 mm)
- **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)

Standard Material/Coating

/AP Stainless Steel, Passivated





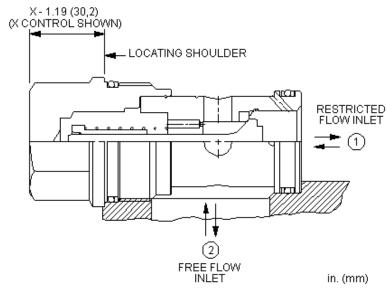
Fixed orifice, non-pressure compensated, flow control valve with reverse flow check

## SERIES 4 / CAPACITY: 480 L/min. / CAVITY: T-18A









This valve is a fixed-orifice, non-pressure-compensated flow control with a reverse flow check. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Orifice Range	0,4 - 5,5 mm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

(N)

#### **CONFIGURATION OPTIONS**

## Model Code Example: CNICXCN

CONTROL	(X) SETTING RANGE	(C)	SEAL MATERIA	AL
X Not Adjustable	C 30 psi (2 bar) Cracking Pressur	re016 -	N Buna-N	

- 218 in. (0,4 5,5 mm)

  A 4 psi (0,3 bar) Cracking Pressure, .016
- **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)

- .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)

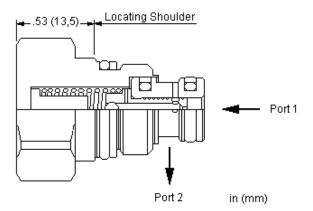
N Buna-N V Viton

# SERIES P / CAPACITY: 2 L/min. / CAVITY: T-8A



snhy.com/FXAA





Fixed-orifice, pressure-compensated flow controls provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. A variety of flow rates are available.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990008007
Seal kit - Cartridge	EPDM: 990008014
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990008006

## **CONFIGURATION OPTIONS**

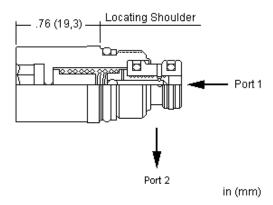
# **Model Code Example: FXAAXAN**

CONTROL	(X) FLOW RATE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	A 15 in³/min. (250 cc/min.)		N Buna-N		Standard Material/Coating
	<b>B</b> 20 in <sup>3</sup> /min. (330 cc/min.)		E EPDM		IAP Stainless Steel, Passivated
	<b>D</b> 40 in <sup>3</sup> /min. (660 cc/min.)		<b>V</b> Viton		<b>/LH</b> Mild Steel, Zinc-Nickel
	<b>F</b> 60 in <sup>3</sup> /min. (1 L/min.)				
	<b>H</b> 80 in <sup>3</sup> /min. (1.3 L/min.)				
	<b>J</b> 100 in³/min. (1.6 L/min.)				
	L 120 in³/min. (2.0 L/min.)				



snhy.com/FXAG





Fixed-orifice, pressure-compensated flow controls provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. A variety of flow rates are available.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Valve Internal Hex Size	8 mm
Seal kit - Cartridge	Buna: 990008007
Seal kit - Cartridge	Polyurethane: 990008002
Seal kit - Cartridge	Viton: 990008006

## **CONFIGURATION OPTIONS**

# Model Code Example: FXAGXAN

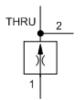
CONTROL	(X)	FLOW RATE	(A)	SEAL MATERIAL	(N)
X Not Adjustable		A 15 in <sup>3</sup> /min. (250 cc/min.)		N Buna-N	
		<b>B</b> 20 in <sup>3</sup> /min. (330 cc/min.)		<b>V</b> Viton	
		<b>D</b> 40 in <sup>3</sup> /min. (660 cc/min.)			
		<b>F</b> 60 in <sup>3</sup> /min. (1 L/min.)			
		<b>H</b> 80 in <sup>3</sup> /min. (1.3 L/min.)			
		<b>J</b> 100 in <sup>3</sup> /min. (1.6 L/min.)			
		L 120 in <sup>3</sup> /min. (2.0 L/min.)			

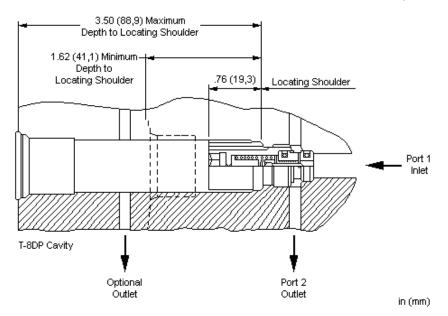
# Insert style, pressure compensated flow control

#### SERIES P / CAPACITY: 2 L/min. / CAVITY: T-8DP









Fixed-orifice, pressure-compensated flow controls provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. A variety of flow rates are available. The THRU port at the top of the valve can be used as the outlet with port 2 blocked. See cavity drawing for details.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Valve Internal Hex Size	8 mm

#### **CONFIGURATION OPTIONS**

# Model Code Example: FXAMXAN

 CONTROL
 (X)
 FLOW RATE
 (A)
 SEAL MATERIAL
 (N)

 X
 Not Adjustable
 A 15 in³/min. (250 cc/min.)
 N Buna-N

 B 20 in³/min. (330 cc/min.)
 V Viton

 D 40 in³/min. (660 cc/min.)
 F 60 in³/min. (1 L/min.)

 H 80 in³/min. (1.3 L/min.)
 J 100 in³/min. (1.6 L/min.)

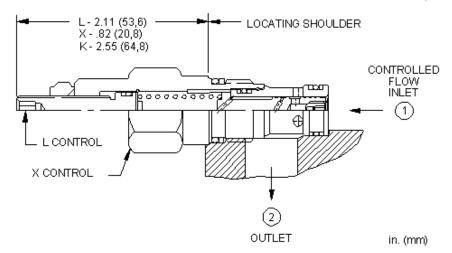
 L 120 in³/min. (2.0 L/min.)
 L

CAPACITY: 11 L/min. / CAVITY: T-162A



snhy.com/FXBA





Fixed-orifice, pressure-compensated flow controls provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	EPDM: 990162014
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

#### **CONFIGURATION OPTIONS**

# Model Code Example: FXBAXAN

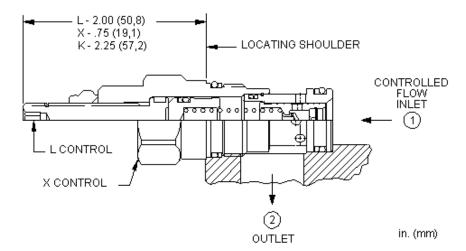
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice .1 - 3 gy	pm (0,4 - 11 <b>N</b> Buna-N	Standard Material/Coating
L Tuning Adjustment	L/min.)	<b>E</b> EPDM	IAP Stainless Steel, Passivated
<b>K</b> Handknob		<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel

SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-13A



snhy.com/FXCA





Fixed-orifice, pressure-compensated flow controls provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

#### **CONFIGURATION OPTIONS**

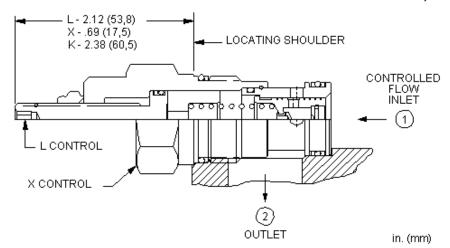
# **Model Code Example: FXCAXAN**

CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice .1 -	6 gpm (0,4 - 23 <b>N</b> Buna-N	Standard Material/Coating
L Tuning Adjustment	L/min.)	<b>E</b> EPDM	IAP Stainless Steel, Passivated
<b>K</b> Handknob		<b>V</b> Viton	<b>/LH</b> Mild Steel, Zinc-Nickel



snhy.com/FXDA





Fixed-orifice, pressure-compensated flow controls provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. The flow setting is specified by the user and is set at the factory.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

#### **CONFIGURATION OPTIONS**

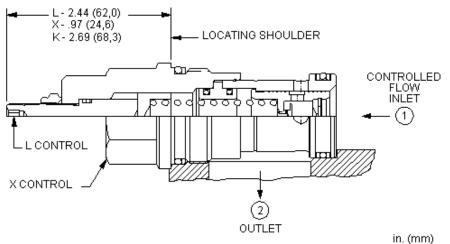
# Model Code Example: FXDAXAN

CONTROL	(X) SETTING RANGE (A	<u>) SEAL MATERIAL (N)</u>	MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice .1 - 12 gpm (0,4 -	N Buna-N	Standard Material/Coating
L Tuning Adjustment	45 L/min.)	E EPDM	IAP Stainless Steel, Passivated
<b>K</b> Handknob		<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel



snhy.com/FXEA





Fixed-orifice, pressure-compensated flow controls provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. The flow setting is specified by the user and is set at the factory.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

#### **CONFIGURATION OPTIONS**

# Model Code Example: FXEALAN

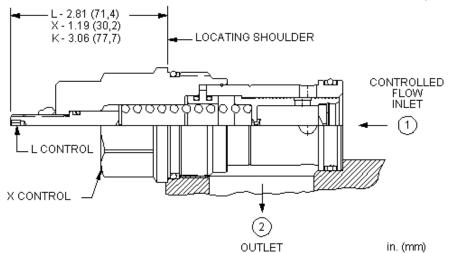
CONTROL	(L)	SETTING RANGE (A)	SEAL MATERIAL (N	MATERIAL/COATING
L Tuning Adjustment		A Replaceable Orifice .2 - 25 gpm (0,8 -	N Buna-N	Standard Material/Coating
C Tamper Resistant - Factory Set		95 L/min.)	E EPDM	/AP Stainless Steel, Passivated
<b>K</b> Handknob			<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel

X Not Adjustable



snhy.com/FXFA





Fixed-orifice, pressure-compensated flow controls provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. The flow setting is specified by the user and is set at the factory.

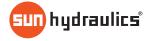
#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

#### **CONFIGURATION OPTIONS**

# **Model Code Example: FXFAXAN**

CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	A Replaceable Orifice .2 - 50 gpm (1 -	N Buna-N	Standard Material/Coating	ı
L Tuning Adjustment	200 L/min.)	<b>E</b> EPDM	IAP Stainless Steel, Passivated	
<b>K</b> Handknob		<b>V</b> Viton		

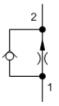


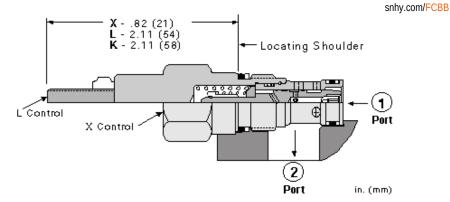


# Fixed orifice pressure compensated flow control valve with reverse flow check

CAPACITY: 11 L/min. / CAVITY: T-162A







Fixed-orifice, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. The flow setting is specified by the user and is set at the factory.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Polyurethane: 990162002
Seal kit - Cartridge	Viton: 990162006

## **CONFIGURATION OPTIONS**

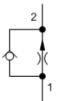
## **Model Code Example: FCBBXAN**

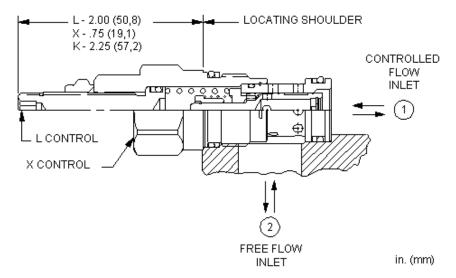
CONTROL	(X)	SETTING RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable		A Replaceable Orifice .1 - 3 gpm (0,4	- 11	N Buna-N		Standard Material/Coating
L Tuning Adjustment		L/min.)		<b>V</b> Viton		IAP Stainless Steel, Passivated
<b>K</b> Handknob						ILH Mild Steel, Zinc-Nickel

#### SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-13A



snhy.com/FCCB





Fixed-orifice, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. The flow setting is specified by the user and is set at the factory.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

#### **CONFIGURATION OPTIONS**

K Handknob

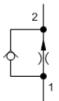
## **Model Code Example: FCCBXAN**

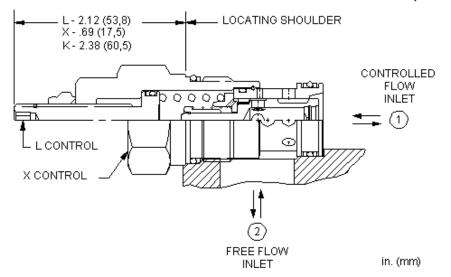
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice .1 - 6 g	pm (0,4 - 23 <b>N</b> Buna-N	Standard Material/Coating
L Tuning Adjustment	L/min.)	<b>V</b> Viton	IAP Stainless Steel, Passivated

#### SERIES 2 / CAPACITY: 45 L/min. / CAVITY: T-5A



snhy.com/FCDB





Fixed-orifice, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

#### CONFIGURATION OPTIONS

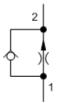
Model Code Example: FCDBXAN

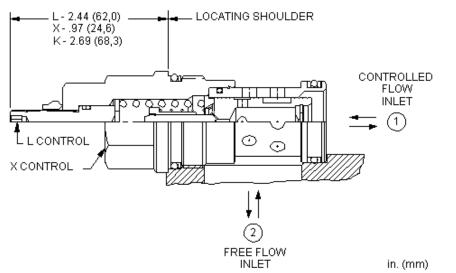
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice .1 - 12 gp	om (0,4 - <b>N</b> Buna-N	Standard Material/Coating
L Tuning Adjustment	45 L/min.)	<b>V</b> Viton	IAP Stainless Steel, Passivated
K Handknoh			/I H Mild Steel Zinc-Nickel

#### SERIES 3 / CAPACITY: 95 L/min. / CAVITY: T-16A









Fixed-orifice, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. The flow setting is specified by the user and is set at the factory.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

## **CONFIGURATION OPTIONS**

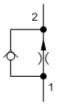
# Model Code Example: FCEBXAN

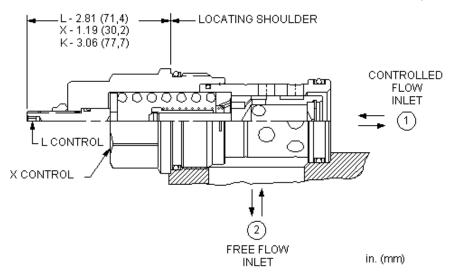
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	A Replaceable Orifice .2	- 25 gpm (0,8 - <b>N</b> Buna-N	Standard Material/Coating	
L Tuning Adjustment	95 L/min.)	<b>V</b> Viton	IAP Stainless Steel, Passivated	
<b>K</b> Handknob				

#### SERIES 4 / CAPACITY: 200 L/min. / CAVITY: T-18A









Fixed-orifice, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

# **CONFIGURATION OPTIONS**

K Handknob

# Model Code Example: FCFBXAN

CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/O	COATING
X Not Adjustable	A Replaceable Orifice .2 - 50 g	gpm (1 - <b>N</b> Buna-N	Standard	d Material/Coating
L Tuning Adjustment	200 L/min.)	V Viton	/AP Stainless	Steel, Passivated



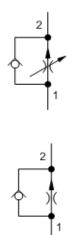


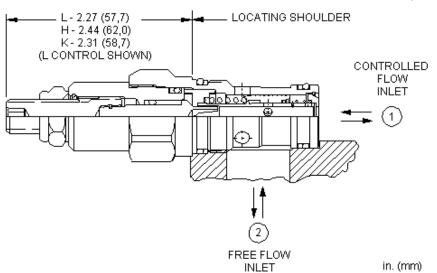
Fully adjustable pressure compensated flow control valve with reverse flow check

# SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-13A



snhy.com/FDBA





Fully adjustable, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. They are infinitely adjustable from nearly closed up to the maximum flow. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990010007
Seal kit - Cartridge	EPDM: 990010014
Seal kit - Cartridge	Polyurethane: 990010002
Seal kit - Cartridge	Viton: 990010006

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

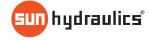
#### **CONFIGURATION OPTIONS**

Model Code Example: FDBALAN

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING
				·		
Chandand Canau Adicatorant		A 1 Causes (0.4 00 1 /min.)		N. Dune M.		Chandard Material/C

L Standard Screw Adjustment	<b>A</b> .1 - 6 gpm (0,4 - 23 L/min.)	N Buna-N	Standard Material/Coating
H Calibrated Handknob with Detent Lock	<b>B</b> .1 - 2 gpm (0,4 - 8 L/min.)	E EPDM	IAP Stainless Steel, Passivated
<b>K</b> Handknob		<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel

Y Tri-Grip Handknob



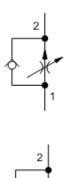


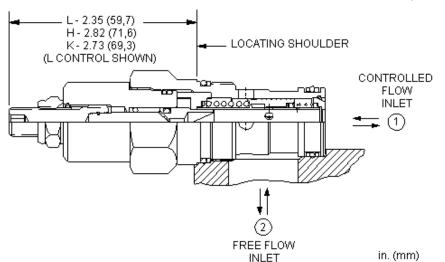
Fully adjustable pressure compensated flow control valve with reverse flow check

SERIES 2 / CAPACITY: 45 L/min. / CAVITY: T-5A









Fully adjustable, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. They are infinitely adjustable from nearly closed up to the maximum flow. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

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

#### **CONFIGURATION OPTIONS**

# Model Code Example: FDCBLAN

CONTROL (L	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING	
L Standard Screw Adjustment	<b>A</b> .1 - 12 gpm (0,4 - 45 L/min.)		N Buna-N		Standard Material/Coating	
H Calibrated Handknob with Detent Lock	<b>B</b> .1 - 3 gpm (0,4 - 11 L/min.)		E EPDM		/LH Mild Steel, Zinc-Nickel	
<b>K</b> Handknob			<b>V</b> Viton			



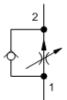


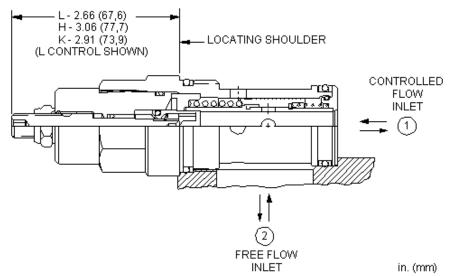
Fully adjustable pressure compensated flow control valve with reverse flow check

SERIES 3 / CAPACITY: 95 L/min. / CAVITY: T-16A









Fully adjustable, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. They are infinitely adjustable from nearly closed up to the maximum flow. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	EPDM: 990016014
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

# **CONFIGURATION OPTIONS**

Y Tri-Grip Handknob

## Model Code Example: FDEALAN

CONTROL	L) ADJUSTMENT RANGE	(A)	SEAL MATERIAL (N)	MATERIAL/COATING
L Standard Screw Adjustment	<b>A</b> .2 - 25 gpm (0,8 - 95 L/min.)		N Buna-N	Standard Material/Coating
H Calibrated Handknob with Detent Loc	<b>B</b> .2 - 16 gpm (0,8 - 60 L/min.)		E EPDM	/LH Mild Steel, Zinc-Nickel
<b>K</b> Handknob			<b>V</b> Viton	



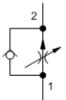


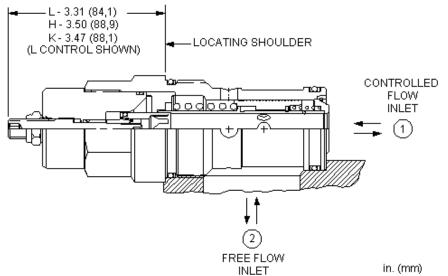
Fully adjustable pressure compensated flow control valve with reverse flow check

## SERIES 4 / CAPACITY: 200 L/min. / CAVITY: T-18A









Fully adjustable, pressure-compensated flow controls with reverse-flow check provide precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. They are infinitely adjustable from nearly closed up to the maximum flow. An integral high-capacity check valve provides unrestricted flow from port 2 to port 1.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990018007
Seal kit - Cartridge	EPDM: 990018014
Seal kit - Cartridge	Polyurethane: 990018002
Seal kit - Cartridge	Viton: 990018006

#### **CONFIGURATION OPTIONS**

Y Tri-Grip Handknob

## **Model Code Example: FDFALAN**

CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING	_
L Standard Screw Adjustment		<b>A</b> .2 - 50 gpm (1 - 200 L/min.)		N Buna-N		Standard Material/Coating	ı
H Calibrated Handknob with Detent	Lock			E EPDM		/LH Mild Steel, Zinc-Nickel	
<b>K</b> Handknob				<b>V</b> Viton			



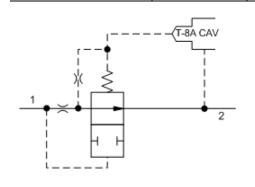
MODEL FXDA8

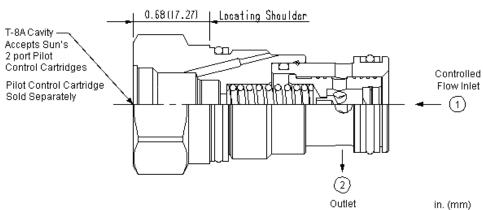
Ventable fixed orifice, pressure compensated flow control valve with integral T-8A control cavity

SERIES 2 / CAPACITY: 45 L/min. / CAVITY: T-5A



snhy.com/FXDA8





This valve is a fixed-orifice, pressure-compensated flow control valve with an integral pilot control cavity. The pilot control cavity will accept any T-8A pilot control cartridge. This type of valve provides precise flow regulation for meter-in or meter-out applications where there may be wide pressure fluctuations. The flow setting is specified by the user and is set at the factory.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Pilot Control Cavity	T-8A
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	Viton: 990203006

**NOTES** 

**SETTING RANGE** 

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

#### **CONFIGURATION OPTIONS**

Model Code Example: FXDA8AN

(N)

A Replaceable Orifice .1 - 12 gpm (0,4 -

(A) SEAL MATERIAL

N Buna-N

45 L/min.)

**E** EPDM

**B** Permanent Orifice .1 - 12 gpm (0,4 - 45 L/min.)

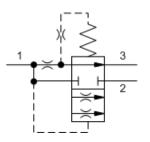
**V** Viton

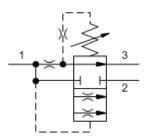
Fixed orifice, bypass/restrictive, priority, flow control valve

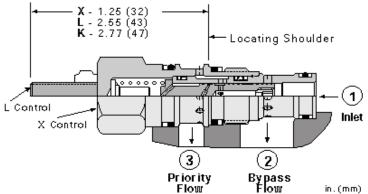
CAPACITY: 11 L/min. / CAVITY: T-163A



snhy.com/FRBA







Bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Input Flow	30 L/min.	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990163007	
Seal kit - Cartridge	Polyurethane: 990163002	
Seal kit - Cartridge	Viton: 990163006	

#### **CONFIGURATION OPTIONS**

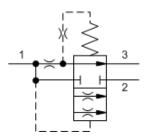
Model Code Example: FRBAXAN

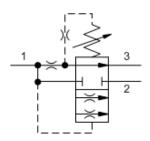
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL (N)
X Not Adjustable	A Replaceable Orifice .1 - 3 gpm (0,	4 - 11 <b>N</b> Buna-N
L Tuning Adjustment	L/min.)	<b>V</b> Viton

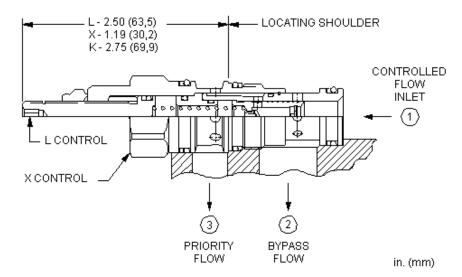
#### SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-11A



snhy.com/FRCA







Bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Input Flow	60 L/min.	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990011007	
Seal kit - Cartridge	Polyurethane: 990011002	
Seal kit - Cartridge	Viton: 990011006	

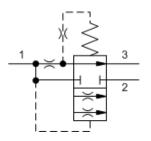
#### **CONFIGURATION OPTIONS**

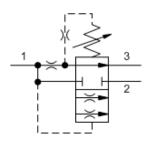
## Model Code Example: FRCAXAN

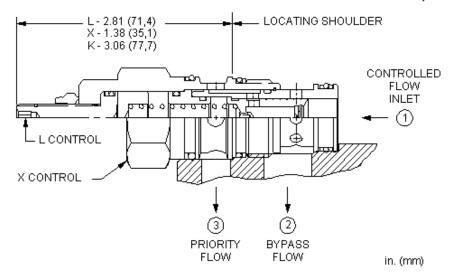
C	ONTROL	(X)	SETTING RANGE (A	<u>1)</u>	SEAL MATERIAL (N	<u>1)</u>	MATERIAL/COATING	_
X	Not Adjustable		A Replaceable Orifice .1 - 6 gpm (0,4 - 23	23	N Buna-N		Standard Material/Coating	
L	. Tuning Adjustment		L/min.)		<b>V</b> Viton		IAP Stainless Steel, Passivated	
K	C Handknob							



snhy.com/FRDA







Bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Input Flow	120 L/min.
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	EPDM: 990202014
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

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

## **CONFIGURATION OPTIONS**

Model Code Example: FRDAXAN

CONTROL ()	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING

X Not Adjustable A Replace L Tuning Adjustment 45 L/K Handknob

A Replaceable Orifice .1 - 12 gpm (0,4 - 45 L/min.)

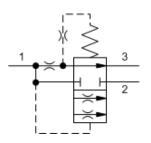
N Buna-N
E EPDM
V Viton

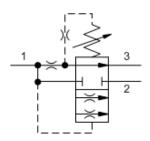
IAP Stainless Steel, Passivated

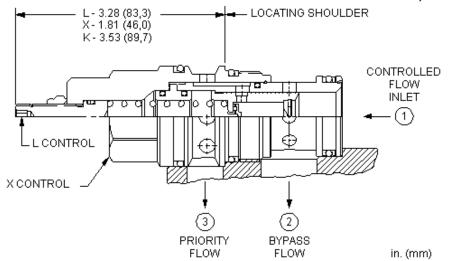
#### SERIES 3 / CAPACITY: 95 L/min. / CAVITY: T-17A



snhy.com/FREA







Bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Input Flow	240 L/min.	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990017007	
Seal kit - Cartridge	Polyurethane: 990017002	
Seal kit - Cartridge	Viton: 990017006	

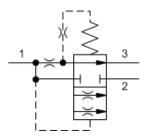
## **CONFIGURATION OPTIONS**

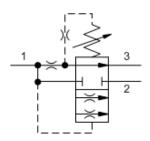
## Model Code Example: FREAXAN

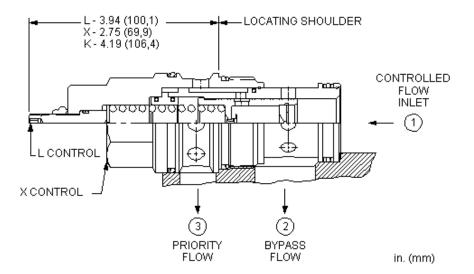
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	A Replaceable Orifice .2 - 2	5 gpm (0,8 - <b>N</b> Buna-N	Standard Material/Coating
L Tuning Adjustment	95 L/min.)	<b>V</b> Viton	/AP Stainless Steel, Passivated
K Handknoh			ILH Mild Steel Zinc-Nickel



snhy.com/FRFA







Bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit.

## **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Input Flow	480 L/min.
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

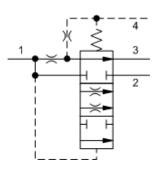
#### **CONFIGURATION OPTIONS**

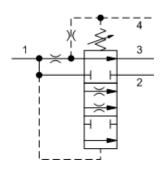
## Model Code Example: FRFAXAN

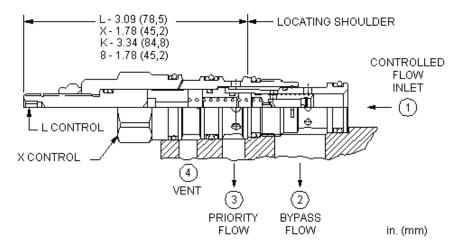
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	A Replaceable Orifice .2 - 50 gpm (1	L - <b>N</b> Buna-N	Standard Material/Coating	
L Tuning Adjustment	200 L/min.)	<b>V</b> Viton	IAP Stainless Steel, Passivated	
<b>K</b> Handknob				



snhy.com/FVCA







Ventable, bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit. A vent port (port 4) allows these valves to be controlled remotely.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,75 L/min.
Maximum Input Flow	60 L/min.
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

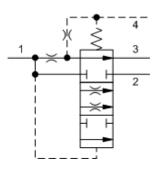
#### **CONFIGURATION OPTIONS**

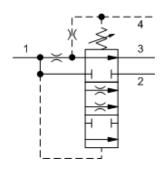
# Model Code Example: FVCAXAN

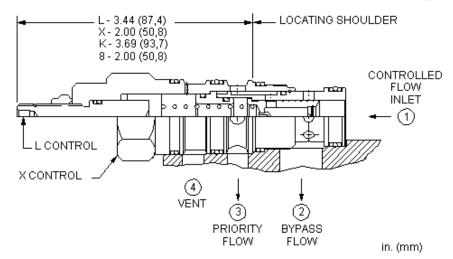
CONTROL	(X)	SETTING RANGE	(A)	SEAL MATERIAL	(N)
X Not Adjustable		A Replaceable Orifice .1 - 6 gpm (0,4 -	23	N Buna-N	
L Tuning Adjustment		L/min.)		<b>V</b> Viton	_



snhy.com/FVDA







Ventable, bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit. A vent port (port 4) allows these valves to be controlled remotely.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Nominal Vent Flow	0,75 L/min.	
Maximum Input Flow	120 L/min.	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990022007	
Seal kit - Cartridge	EPDM: 990022014	
Seal kit - Cartridge	Polyurethane: 990022002	
Seal kit - Cartridge	Viton: 990022006	

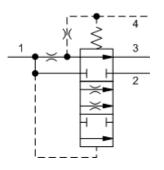
#### **CONFIGURATION OPTIONS**

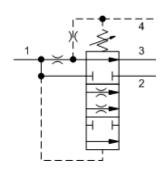
# Model Code Example: FVDAXAN

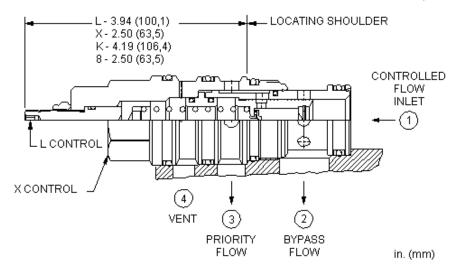
CONTROL	(X) SETTING RANGE	(A) SEAL MATERIAL	(N)
X Not Adjustable	A Replaceable Orifice .1 - 12	gpm (0,4 - <b>N</b> Buna-N	
L Tuning Adjustment	45 L/min.)	<b>E</b> EPDM	
		<b>V</b> Viton	



snhy.com/FVEA







Ventable, bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit. A vent port (port 4) allows these valves to be controlled remotely.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Nominal Vent Flow	0,75 L/min.	
Maximum Input Flow	240 L/min.	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990023007	
Seal kit - Cartridge	Polyurethane: 990023002	
Seal kit - Cartridge	Viton: 990023006	

## **CONFIGURATION OPTIONS**

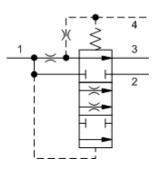
L Tuning Adjustment

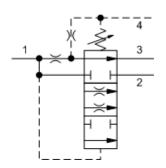
# **Model Code Example: FVEAXAN**

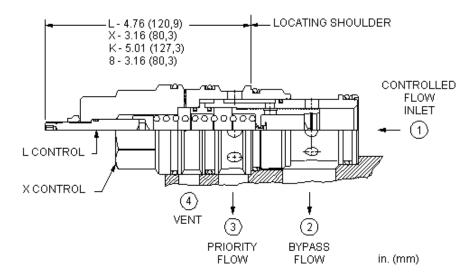
CONTROL	(X)	SETTING RANGE (A)	SEAL MATERIAL	(N)
X Not Adjustable		A Replaceable Orifice .2 - 25 gpm (0,8 -	N Buna-N	
K Handknob		95 L/min.)	<b>V</b> Viton	



snhy.com/FVFA







Ventable, bypass/restrictive, fixed-orifice, priority flow controls take an input flow at port 1 and use it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess is bypassed out port 2. The bypass flow may be used in a secondary circuit. A vent port (port 4) allows these valves to be controlled remotely.

## **TECHNICAL DATA**

Ī	•
Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,75 L/min.
Maximum Input Flow	480 L/min.
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
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: FVFAXAN**

CONTROL	(X)	SETTING RANGE	(A)	SEAL MATERIAL	(N)
X Not Adjustable		A Replaceable Orifice .2 - 50 gpm (1 -		N Buna-N	
L Tuning Adjustment		200 L/min.)		<b>E</b> EPDM	
				<b>V</b> Viton	



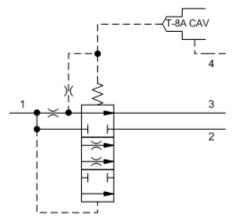


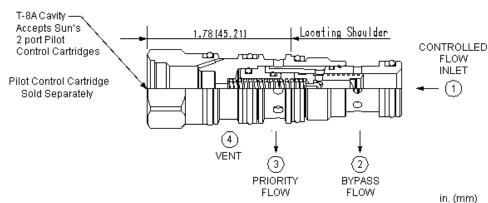
Ventable, fixed orifice, bypass/restrictive, priority, flow control valve with integral T-8A control cavity

SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-21A



snhy.com/FVCA8





This valve is a ventable, bypass/restrictive, fixed-orifice, priority flow control with an integral pilot control cavity. The pilot control cavity will accept any T-8A pilot pressure or directional control cartridge. It takes an input flow at port 1 and uses it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess flow is bypassed out of port 2. Bypass flow may be used for a secondary circuit. Depending on which pilot control valve is installed in the T-8A cavity, priority flow can be selected electrically, manually, hydraulically or pneumatically.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Nominal Vent Flow	0,75 L/min.	
Maximum Input Flow	60 L/min.	
Pilot Control Cavity	T-8A	
Pilot Control Valve Installation Torque	27 - 33 Nm	
Pilot Control Valve Hex Size	22,2 mm	
Seal kit - Cartridge	Buna: 990021007	
Seal kit - Cartridge	Polyurethane: 990021002	
Seal kit - Cartridge	Viton: 990021006	

**NOTES** 

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

#### **CONFIGURATION OPTIONS**

Model Code Example: FVCA8AN

**SETTING RANGE** 

(A) SEAL MATERIAL

(N)

A Replaceable Orifice .1 - 6 gpm (0,4 - 23 L/min.)

N Buna-N V Viton

B Permanent Orifice .1 - 6 gpm (0,4 - 23 L/min.)



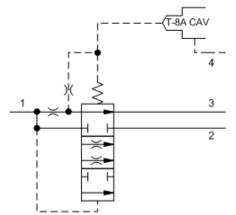


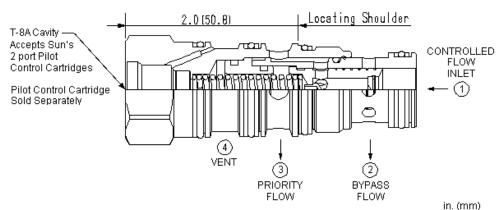
Ventable, fixed orifice, bypass/restrictive, priority, flow control valve with integral T-8A control cavity

SERIES 2 / CAPACITY: 45 L/min. / CAVITY: T-22A



snhy.com/FVDA8





This valve is a ventable, bypass/restrictive, fixed-orifice, priority flow control with an integral pilot control cavity. The pilot control cavity will accept any T-8A pilot pressure or directional control cartridge. It takes an input flow at port 1 and uses it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess flow is bypassed out of port 2. Bypass flow may be used for a secondary circuit. Depending on which pilot control valve is installed in the T-8A cavity, priority flow can be selected electrically, manually, hydraulically or pneumatically.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Nominal Vent Flow	0,75 L/min.
Maximum Input Flow	120 L/min.
Pilot Control Cavity	T-8A
Pilot Control Valve Installation Torque	27 - 33 Nm
Pilot Control Valve Hex Size	22,2 mm
Seal kit - Cartridge	Buna: 990022007
Seal kit - Cartridge	EPDM: 990022014
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

**NOTES** 

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

#### **CONFIGURATION OPTIONS**

Model Code Example: FVDA8AN

SETTING RANGE
(A) SEAL MATERIAL

A Replaceable Orifice .1 - 12 gpm (0,4 - N Buna-N

SEAL MATERIAL (N)

N Buna-N

E EPDM

**B** Permanent Orifice .1 - 12 gpm (0,4 - 45 L/min.)

**V** Viton



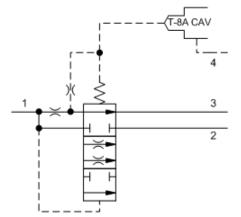


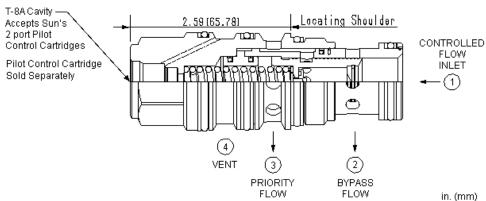
Ventable, fixed orifice, bypass/restrictive, priority, flow control valve with integral T-8A control cavity

SERIES 3 / CAPACITY: 95 L/min. / CAVITY: T-23A



snhy.com/FVEA8





This valve is a ventable, bypass/restrictive, fixed-orifice, priority flow control with an integral pilot control cavity. The pilot control cavity will accept any T-8A pilot pressure or directional control cartridge. It takes an input flow at port 1 and uses it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess flow is bypassed out of port 2. Bypass flow may be used for a secondary circuit. Depending on which pilot control valve is installed in the T-8A cavity, priority flow can be selected electrically, manually, hydraulically or pneumatically.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar			
Nominal Vent Flow	0,75 L/min.			
Maximum Input Flow	240 L/min.			
Pilot Control Cavity	T-8A			
Pilot Control Valve Installation Torque	27 - 33 Nm			
Pilot Control Valve Hex Size	22,2 mm			
Seal kit - Cartridge	Buna: 990023007			
Seal kit - Cartridge	Polyurethane: 990023002			
Seal kit - Cartridge	Viton: 990023006			

#### **NOTES**

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

#### **CONFIGURATION OPTIONS**

Model Code Example: FVEA8AN

SETTING RANGE (A

A Replaceable Orifice .2 - 25 gpm (0,8 -

(A) SEAL MATERIAL

(N)

95 L/min.)

B Permanent Orifice .2 - 25 gpm (0,8 - 95

N Buna-N V Viton

L/min.)



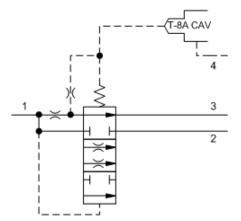


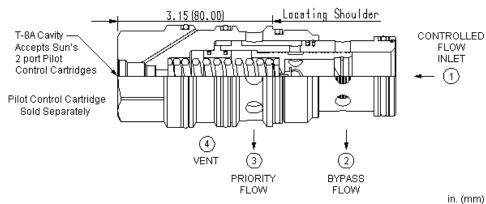
Ventable, fixed orifice, bypass/restrictive, priority, flow control valve with integral T-8A control cavity

SERIES 4 / CAPACITY: 200 L/min. / CAVITY: T-24A



snhy.com/FVFA8





This valve is a ventable, bypass/restrictive, fixed-orifice, priority flow control with an integral pilot control cavity. The pilot control cavity will accept any T-8A pilot pressure or directional control cartridge. It takes an input flow at port 1 and uses it to satisfy the priority flow at port 3. If the input flow exceeds the priority flow requirement, the excess flow is bypassed out of port 2. Bypass flow may be used for a secondary circuit. Depending on which pilot control valve is installed in the T-8A cavity, priority flow can be selected electrically, manually, hydraulically or pneumatically.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar			
Nominal Vent Flow	0,75 L/min.			
Maximum Input Flow	480 L/min.			
Pilot Control Cavity	T-8A			
Pilot Control Valve Installation Torque	27 - 33 Nm			
Pilot Control Valve Hex Size	22,2 mm			
Seal kit - Cartridge	Buna: 990024007			
Seal kit - Cartridge	EPDM: 990024014			
Seal kit - Cartridge	Polyurethane: 990024002			
Seal kit - Cartridge	Viton: 990024006			

**NOTES** 

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

#### **CONFIGURATION OPTIONS**

Model Code Example: FVFA8AN

(N)

SETTING RANGE

A Replaceable Orifice .2 - 50 gpm (1 - 200 L/min.)

SEAL MATERIAL

N Buna-N
E EPDM

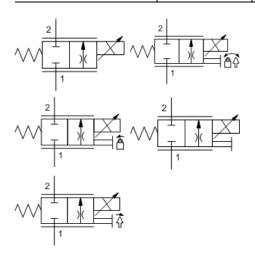
**B** Permanent Orifice .2 - 50 gpm (1 - 200 L/min.)

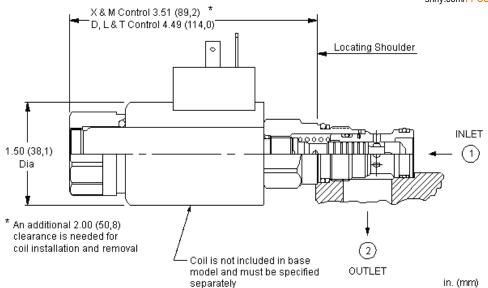
**V** Viton

#### SERIES 1 / CAPACITY: 40 L/min. / CAVITY: T-13A



snhy.com/FPCC





This valve is a normally closed, electro-proportional throttle that is spring-biased closed. Energizing the coil generates an opening force on the spool proportional to the command current, and this force is countered by the spring and flow forces. This force balance creates a metering orifice whose effective size is proportional to the current. The valve exhibits a large degree of self-compensation in the 1-to-2 direction and will provide proportional flow control in the 2-to-1 direction with the addition of an external compensator. Full reverse flow (2-to-1) with 100% command in the 2-to-1 direction is possible without a compensator under all conditions.

#### **TECHNICAL DATA**

Maximum Valve Leakage at 110 SUS (24 cSt)	100 cc/min.@210 bar		
Manual Override Force Requirement	33 N/100 bar @ Port 1		
Manual Override Stroke	2,5 mm		
Seal kit - Cartridge	Buna: 990413007		
Seal kit - Cartridge	EPDM: 990010014		
Seal kit - Cartridge	Polyurethane: 990413002		
Seal kit - Cartridge	Viton: 990413006		

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

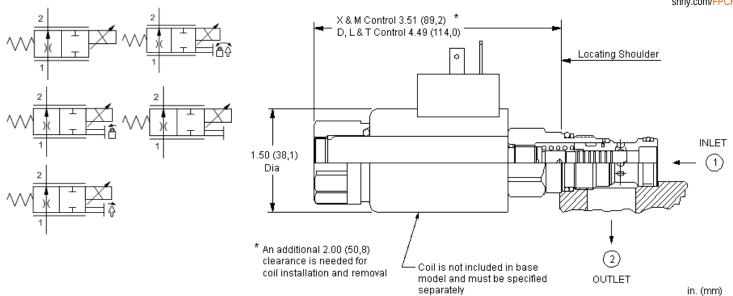
#### **CONFIGURATION OPTIONS**

#### Model Code Example: FPCCXCN

CONTROL	(X)	FLOW RATE	(C)	SEAL MATERIAL	(N)	COIL *
X No Manual Override		<b>C</b> .25 - 7 gpm (1 - 28 L/min.)		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override		<b>A</b> .1 - 1.5 gpm (0,4 - 6 L/min.)		E EPDM	<u></u>	212 DIN 43650-Form A, 12 VDC
E Twist (Extended) Manual Override		<b>B</b> .15 - 3.5 gpm (0,6 - 14 L/min.)		<b>V</b> Viton		224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	е	<b>D</b> .25 - 10 gpm (1 - 40 L/min.)				<b>712</b> Twin Lead, 12 VDC
M Manual Override						724 Twin Lead, 24 VDC
T Twist (Momentary) Manual Override	)					912 Deutsch DT04-2P, 12 VDC
						<b>924</b> Deutsch DT04-2P, 24 VDC * Additional coil options are available



snhy.com/FPCH



This valve is a normally open electro-proportional throttle that is spring-biased open. Energizing the coil generates an closing force on the spool proportional to the command current, and this force is countered by the spring and flow forces. This force balance creates a metering orifice whose effective size is proportional to the current. The valve exhibits a large degree of self-compensation in the 1-to-2 direction and will provide proportional flow control in the 2-to-1 direction with the addition of an external compensator. Full reverse flow (2-to-1) with no command in the 2-to-1 direction is possible without a compensator under all conditions.

#### **TECHNICAL DATA**

Maximum Valve Leakage at 110 SUS (24 cSt)	100 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006

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

#### **CONFIGURATION OPTIONS**

# Model Code Example: FPCHXCN

CONTROL	(X) FLOW RATE	(C)	SEAL MATERIAL	(IN)	COIL "
X No Manual Override	<b>C</b> .25 - 7 gpm (1 - 28 L/min.)		N Buna-N		No coil
D Twist/Lock (Dual) Manual Override	<b>A</b> .1 - 1.5 gpm (0,4 - 6 L/min.)		<b>E</b> EPDM		212 DIN 43650-Form A, 12 VDC
E Twist (Extended) Manual Override	<b>B</b> .15 - 3.5 gpm (0,6 - 14 L/min.)		<b>V</b> Viton		224 DIN 43650-Form A, 24 VDC
L Twist/Lock (Detent) Manual Override	9				<b>712</b> Twin Lead, 12 VDC
M Manual Override					<b>724</b> Twin Lead, 24 VDC
T Twist (Momentary) Manual Override					912 Deutsch DT04-2P, 12 VDC
					924 Deutsch DT04-2P, 24 VDC
					* Additional coil options are available



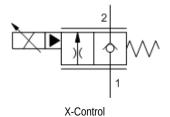


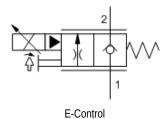
Pilot operated, normally closed, electro-proportional throttle with reverse flow check

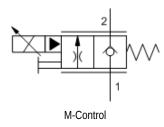
SERIES 2 / CAPACITY: 80 L/min. / CAVITY: T-5A

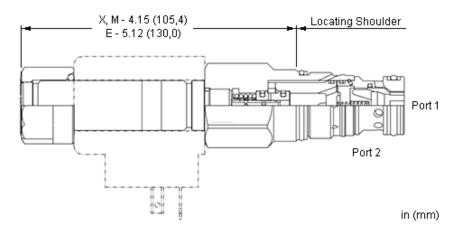


snhy.com/FPFK









This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally. Metered flow is from port 1 to port 2 with reverse free flow from port 2 to port 1.

#### **TECHNICAL DATA**

Recommended dither frequency	100 Hz
Maximum Valve Leakage at 110 SUS (24 cSt)	20 drops/min.@5000 psi
Manual Override Force Requirement	33 N/100 bar @ Port 1
Deadband, nominal (as a percentage of input)	25%
Manual Override Stroke	1,50 mm
Seal kit - Cartridge	Buna: 990203007
Seal kit - Cartridge	EPDM: 990203014
Seal kit - Cartridge	Viton: 990203006

#### **CONFIGURATION OPTIONS**

# Model Code Example: FPFKXDN

CONTROL	(X) FLOW RATE	(D) SEAL MATERIAL	(N)	COIL *

#### X No Manual Override

- E Twist (Extended) Manual Override
- M Manual Override
- **D** Nominal 20 gpm @ 200 psi (14 bar) differential (80 L/min.)
- **B** Nominal 10 gpm @ 200 psi (14 bar) differential (40 L/min.)

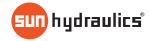
# N Buna-N E EPDM

**V** Viton

#### No coil

212 DIN 43650-Form A, 12 VDC 224 DIN 43650-Form A, 24 VDC 712 Twin Lead, 12 VDC 724 Twin Lead, 24 VDC 912 Deutsch DT04-2P, 12 VDC 924 Deutsch DT04-2P, 24 VDC

\* Additional coil options are available



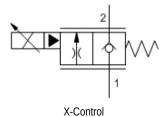


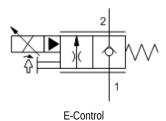
Pilot operated, normally closed, electro-proportional throttle with reverse flow check

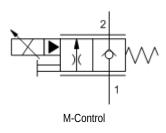
# SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-16A

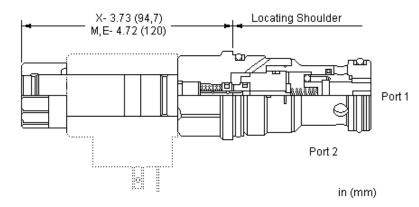


snhy.com/FPHK









This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally. Metered flow is from port 1 to port 2 with reverse free flow from port 2 to port 1.

# **TECHNICAL DATA**

Recommended dither frequency	100 Hz
Maximum Valve Leakage at 110 SUS (24 cSt)	0,7 cc/min.@350 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Deadband, nominal (as a percentage of input)	25%
Manual Override Stroke	1,50 mm
Seal kit - Cartridge	Buna: 990016007
Seal kit - Cartridge	Polyurethane: 990016002
Seal kit - Cartridge	Viton: 990016006

# **CONFIGURATION OPTIONS**

# Model Code Example: FPHKXCN

CONTROL (X) FLOW RATE (C) SEAL MATERIAL (N) COIL\*

#### X No Manual Override

- E Twist (Extended) Manual Override
- M Manual Override
- C Nominal 40 gpm @ 200 psi (14 bar) differential (160 L/min.)
- A Nominal 20 gpm @ 200 psi (14 bar) differential (80 L/min.)
- E Nominal 60 gpm @ 200 psi (14 bar) differential (240 L/min.)

#### N Buna-N E EPDM

**V** Viton

# No coil

212 DIN 43650-Form A, 12 VDC
224 DIN 43650-Form A, 24 VDC
712 Twin Lead, 12 VDC
724 Twin Lead, 24 VDC
912 Deutsch DT04-2P, 12 VDC
924 Deutsch DT04-2P, 24 VDC

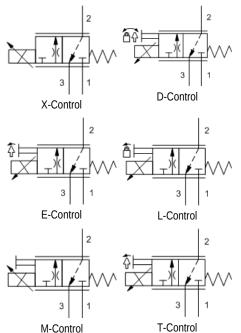
<sup>\*</sup> Additional coil options are available

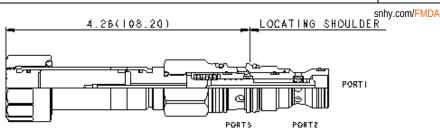


**MODEL FMDA** 

# Electro-proportional 3-way flow control valve, meter in SERIES 1 / CAPACITY: 34 L/min. / CAVITY: T-11A







This valve is a 3-way, meter-in, electro-proportional throttle. The flow path, unenergized, has the supply blocked at port 1 and port 2 is drained to tank at port 3. Energizing the coil generates a closing force on the spool, creating a metering orifice in the 1 to 2 direction that is proportional to the coil command current. The valve self-compensates in the 1-to-2 direction and with the addition of an external compensator will provide pressure compensated flow

Flow in the 2-to-3 direction is not proportional and is limited in the interest of increased resolution and capacity. Flow capacity in the 2-to-3 direction is about 1.5 gpm (6 L/min). This valve is meant to be used in a circuit that has a separate passage to tank such as a cushion lock circuit. Two FMDAs in conjunction with a cushion lock circuit create a meter-in/meter-out 3-position 4-way.

#### **TECHNICAL DATA**

N	Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
N	Manual Override Force Requirement	33 N/100 bar @ Port 1
N	Manual Override Stroke	2,5 mm
5	Seal kit - Cartridge	Buna: 990411007
5	Seal kit - Cartridge	Viton: 990411006

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

#### **CONFIGURATION OPTIONS**

# Model Code Example: FMDAXDN

N Buna-N

V Viton

CONTROL	(X) FLOW	RATE (D)	<u>) SEAL MATERIAL</u>	. (N)	COIL *
---------	----------	----------	------------------------	-------	--------

# X No Manual Override

D Twist/Lock (Dual) Manual Override

E Twist (Extended) Manual Override

L Twist/Lock (Detent) Manual Override

M Manual Override

T Twist (Momentary) Manual Override

# **D** .1 - 9 gpm (0,4 - 34 L/min.)

**A** .1 - 1.6 gpm (0,4 - 6.1 L/min.)

**B** .1 - 4 gpm (0,4 - 15 L/min.)

C .1 - 6 gpm (0,4 - 23 L/min.)

212 DIN 43650-Form A, 12 VDC

224 DIN 43650-Form A, 24 VDC

712 Twin Lead, 12 VDC

No coil

724 Twin Lead, 24 VDC

912 Deutsch DT04-2P, 12 VDC

924 Deutsch DT04-2P, 24 VDC

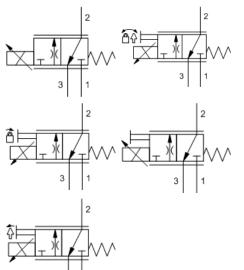
\* Additional coil options are available

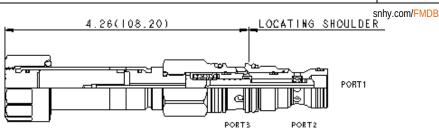




# Electro-proportional 3-way flow control valve, meter in SERIES 1 / CAPACITY: 23 L/min. / CAVITY: T-11A







This valve is a 3-way, meter-in, electro-proportional throttle. The flow path, unenergized, has the supply blocked at port 1 and port 2 connected to tank at port 3. Energizing the coil generates a closing force on the spool, creating a metering orifice in the 1 to 2 direction that is proportional to the coil command current. The valve self-compensates in the 1 to 2 direction and with the addition of an external compensator will provide pressure compensated flow control. Flow in the 2 to 3 direction is not proportional.

# **TECHNICAL DATA**

Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
Seal kit - Cartridge	Buna: 990411007
Seal kit - Cartridge	Viton: 990411006

**NOTES** 

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

#### **CONFIGURATION OPTIONS**

# Model Code Example: FMDBXCN

(X) FLOW RATE (C) SEAL MATERIAL CONTROL (N) COIL \*

#### X No Manual Override

- D Twist/Lock (Dual) Manual Override
- E Twist (Extended) Manual Override
- L Twist/Lock (Detent) Manual Override
- M Manual Override
- T Twist (Momentary) Manual Override

# C .1 - 6 gpm (0,4 - 23 L/min.)

- A .1 1.6 gpm (0,4 6.1 L/min.)
- **B** .1 4 gpm (0,4 15 L/min.)

#### N Buna-N

V Viton

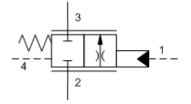
#### No coil

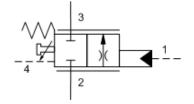
212 DIN 43650-Form A, 12 VDC 224 DIN 43650-Form A, 24 VDC 712 Twin Lead, 12 VDC 724 Twin Lead, 24 VDC 912 Deutsch DT04-2P, 12 VDC 924 Deutsch DT04-2P, 24 VDC

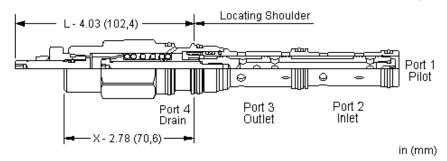
<sup>\*</sup> Additional coil options are available



snhy.com/FTCA







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

**Model Code Example: FTCAXCN** 

The valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,82 cc
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Hysteresis	± 2 %
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990152007
Seal kit - Cartridge	Viton: 990152006

NOTES When installed in Sun's standard T-52A line mount manifold, plug unused ports and expect higher pressure drops.

# **CONFIGURATION OPTIONS**

CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N)

X Not Adjustable C Normally Closed N Buna-N

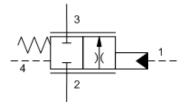
L Stroke Adjustment V Viton

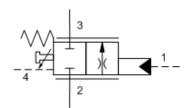


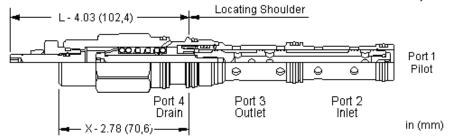
2-way, pilot shifted, dual path, proportional throttle SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-52AD



snhy.com/FTDA







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

**Model Code Example: FTDAXCN** 

The valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,82 cc
Hysteresis	± 2 %
Seal kit - Cartridge	Buna: 990152007
Seal kit - Cartridge	Viton: 990152006

**NOTES** When installed in Sun's standard T-52A line mount manifold, plug unused ports and expect higher pressure drops.

# **CONFIGURATION OPTIONS**

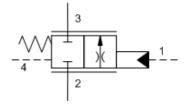
CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N)

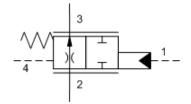
X Not Adjustable C Normally Closed N Buna-N

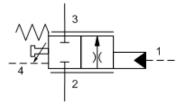
L Stroke Adjustment V Viton

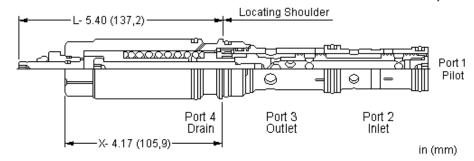


snhy.com/FTEA









This valve is a 2-way, 2-position proportional throttle. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

The valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@70 bar
Pilot Volume Displacement	1,6 cc
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Hysteresis	± 2 %
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

**NOTES** 

When installed in Sun's standard T-53A line mount manifold, plug unused ports and expect higher pressure drops.

#### **CONFIGURATION OPTIONS**

# Model Code Example: FTEAXCN

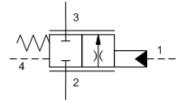
CONTROL	X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
L Stroke Adjustment	H Normally Open	<b>V</b> Viton	

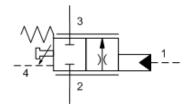
2-way, pilot shifted, dual path, proportional throttle

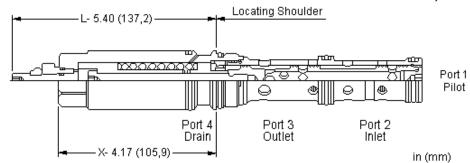
SERIES 3 / CAPACITY: 200 L/min. / CAVITY: T-53AD



snhy.com/FTFA







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 opposes the spring and creates a variable metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

The valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	4 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@70 bar
Pilot Volume Displacement	1,6 cc
Adjustment - Number of Counterclockwise Turns - Fully Closed to Fully Open	5
Hysteresis	± 2 %
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

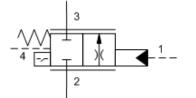
NOTES When installed in Sun's standard T-53A line mount manifold, plug unused ports and expect higher pressure drops.

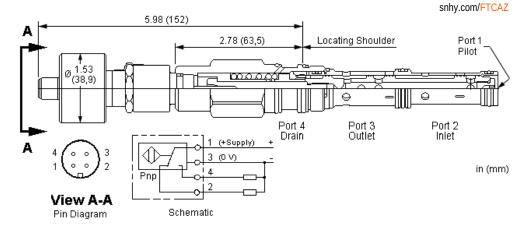
#### CONFIGURATION OPTIONS

Model Code Example: FTFAXCN

CONTROL	(X) SPOUL CONFIGURATION	(C) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	C Normally Closed	N Buna-N	Standard Material/Coating
L Stroke Adjustment		<b>V</b> Viton	/AP Stainless Steel, Passivated







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide confirmation that the valve is closed.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	3,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990152007
Seal kit - Cartridge	Viton: 990152006

NOTES When installed in Sun's standard T-52A line mount manifold, plug unused ports and expect higher pressure drops.

# **CONFIGURATION OPTIONS**

Model Code Example: FTCAZCN

SPOOL CONFIGURATION (C)
C Normally Closed

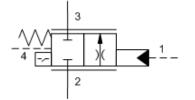
(C) SEAL MATERIAL

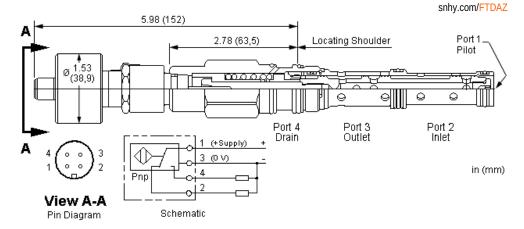
N Buna-N

(N)

**V** Viton







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide confirmation that the valve is closed.

# **TECHNICAL DATA**

Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,82 cc
Seal kit - Cartridge	Buna: 990152007
Seal kit - Cartridge	Viton: 990152006

**NOTES** When installed in Sun's standard T-52A line mount manifold, plug unused ports and expect higher pressure drops.

**CONFIGURATION OPTIONS** 

Model Code Example: FTDAZCN

SPOOL CONFIGURATION

(C) SEAL MATERIAL

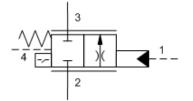
/NI\

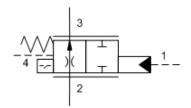
C Normally Closed

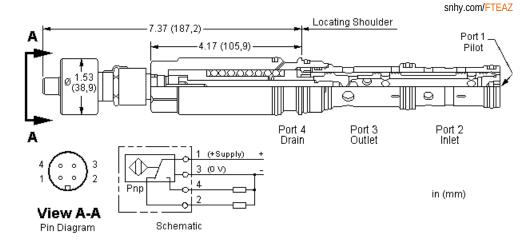
N Buna-NV Viton

Created on 11/05/2016









This valve is a 2-way, 2-position proportional throttle. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design, Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide position confirmation.

# **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	5,5 bar
Pilot Pressure Required for Full Shift at Rated Flow	24 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@70 bar
Pilot Volume Displacement	1,6 cc
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

**NOTES** 

When installed in Sun's standard T-53A line mount manifold, plug unused ports and expect higher pressure drops.

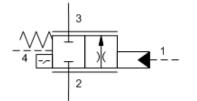
Model Code Example: FTEAZCN

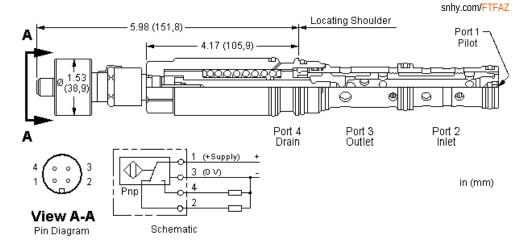
# **CONFIGURATION OPTIONS**

# SPOOL CONFIGURATION (C) SEAL MATERIAL (N C Normally Closed N Buna-N H Normally Open V Viton

# SERIES 3 / CAPACITY: 200 L/min. / CAVITY: T-53AD







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The metering passage is self-compensating.

This valve uses a dual-path design. Ports 2 and 3 incorporate a double-port area.

This valve incorporates a position switch to provide confirmation that the valve is closed.

#### **TECHNICAL DATA**

Minimum Pilot Pressure Required to Shift Valve	4 bar
Pilot Pressure Required for Full Shift at Rated Flow	20 bar
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@70 bar
Pilot Volume Displacement	1,6 cc
Seal kit - Cartridge	Buna: 990053007
Seal kit - Cartridge	Viton: 990053006

**NOTES** 

When installed in Sun's standard T-53A line mount manifold, plug unused ports and expect higher pressure drops.

# **CONFIGURATION OPTIONS**

**Model Code Example: FTFAZCN** 

SPOOL CONFIGURATION (C) SEAL MATERIAL (I
C Normally Closed N Buna-N
V Viton

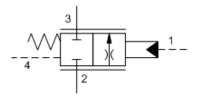


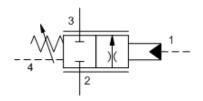
# 2-way, pilot shifted, proportional throttle

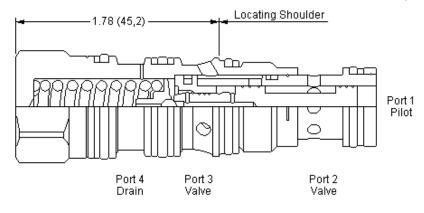
SERIES 1 / CAPACITY: 20 L/min. / CAVITY: T-21A



snhy.com/FKBA







in (mm)

This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Minimum Pilot Pressure to Operate	7 bar
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	EPDM: 990021014
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

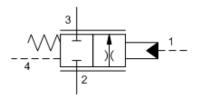
# **CONFIGURATION OPTIONS**

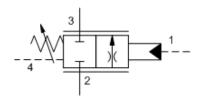
Model Code Example: FKBAXCN

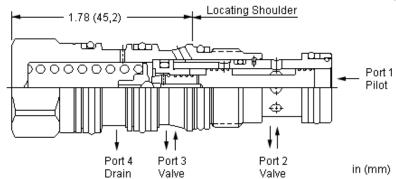
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
L Tuning Adjustment				E EPDM	
				<b>V</b> Viton	



snhy.com/FKCA







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	0,33 cc
Minimum Pilot Pressure to Operate	7 bar
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

# **CONFIGURATION OPTIONS**

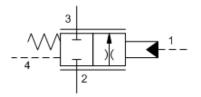
# **Model Code Example: FKCAXCN**

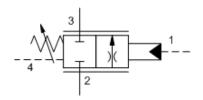
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
L Tuning Adjustment		V Viton	

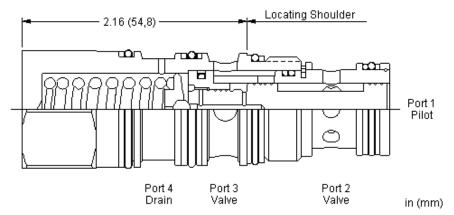
SERIES 2 / CAPACITY: 40 L/min. / CAVITY: T-22A



snhy.com/FKDA







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	.03 in <sup>3</sup>
Minimum Pilot Pressure to Operate	7 bar
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022002
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

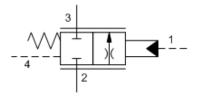
Model Code Example: FKDAXCN

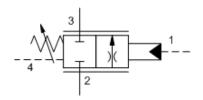
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
L Tuning Adjustment		V Viton	

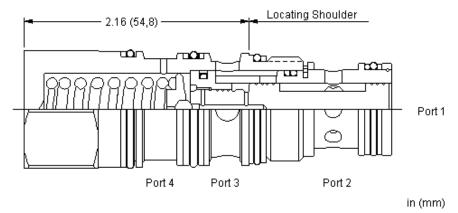
SERIES 2 / CAPACITY: 80 L/min. / CAVITY: T-22A



snhy.com/FKEA







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	4,9 cc
Minimum Pilot Pressure to Operate	7 bar
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022002
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

#### **CONFIGURATION OPTIONS**

# Model Code Example: FKEAXCN

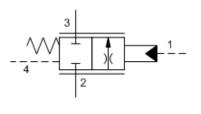
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
L Tuning Adjustment	_	<b>V</b> Viton	_

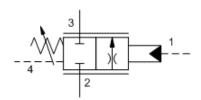
2-way, pilot shifted, proportional throttle

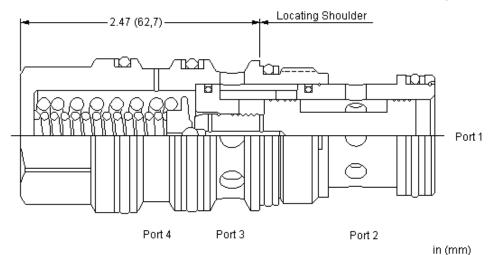
SERIES 3 / CAPACITY: 80 L/min. / CAVITY: T-23A











This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	65 cc/min.@70 bar
Pilot Volume Displacement	1,6 cc
Minimum Pilot Pressure to Operate	7 bar
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

# **CONFIGURATION OPTIONS**

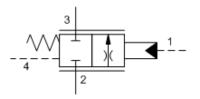
**Model Code Example: FKFAXCN** 

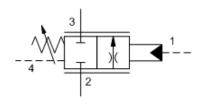
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
L Tuning Adjustment		<b>V</b> Viton	

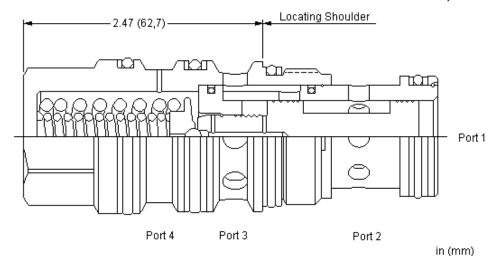
# SERIES 3 / CAPACITY: 120 L/min. / CAVITY: T-23A



snhy.com/FKGA







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

# **TECHNICAL DATA**

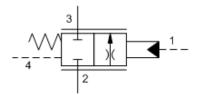
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	65 cc/min.@70 bar
Pilot Volume Displacement	1,6 cc
Minimum Pilot Pressure to Operate	7 bar
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

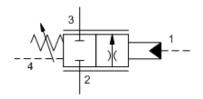
# **CONFIGURATION OPTIONS**

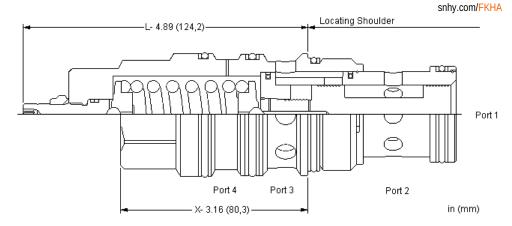
Model Code Example: FKGAXCN

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
L Tuning Adjustment		<b>E</b> EPDM	
		<b>V</b> Viton	









This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	98 cc/min.@70 bar
Pilot Volume Displacement	3,3 cc
Minimum Pilot Pressure to Operate	7 bar
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

# **CONFIGURATION OPTIONS**

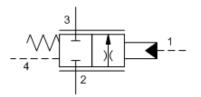
# **Model Code Example: FKHAXCN**

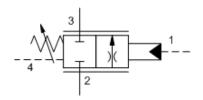
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
L Tuning Adjustment		<b>V</b> Viton	

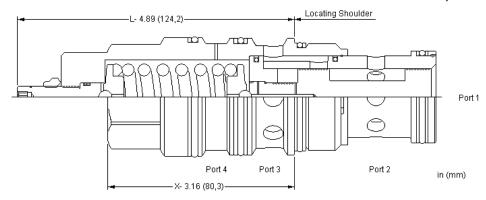
# SERIES 4 / CAPACITY: 240 L/min. / CAVITY: T-24A



snhy.com/FKIA







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

Pressure at port 4 directly opposes pressure at port 1.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	98 cc/min.@70 bar
Pilot Volume Displacement	3,3 cc
Minimum Pilot Pressure to Operate	7 bar
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

#### **CONFIGURATION OPTIONS**

Model Code Example: FKIAXCN

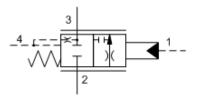
CONTROL	(X) SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	C Normally Closed		N Buna-N		Standard Material/Coating
L Tuning Adjustment			<b>V</b> Viton		IAP Stainless Steel, Passivated

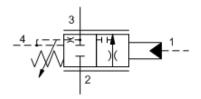


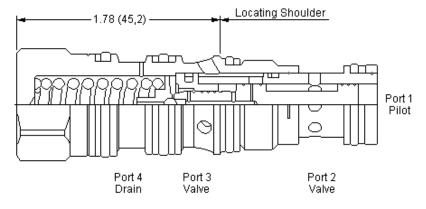
# 2-way, pilot shifted, proportional throttle with bleed down SERIES 1 / CAPACITY: 20 L/min. / CAVITY: T-21A



snhy.com/FKBB







in (mm)

This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1.

Pressure at port 4 directly opposes pressure at port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar	
Pilot Volume Displacement	0,33 cc	
Minimum Pilot Pressure to Operate	7 bar	
Bypass orifice	0,8 mm	
Hysteresis	± 2 %	
Adjustment - Number of Clockwise Turns to Increase Setting	5	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990021007	
Seal kit - Cartridge	Polyurethane: 990021002	
Seal kit - Cartridge	Viton: 990021006	

#### **CONFIGURATION OPTIONS**

Model Code Example: FKBBXCN

CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N

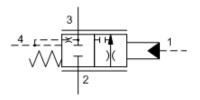
X Not Adjustable C Normally Closed N Buna-N

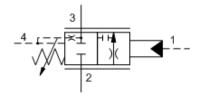
L Tuning Adjustment V Viton

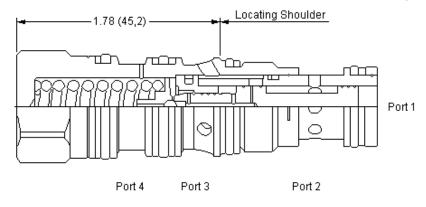
# SERIES 1 / CAPACITY: 34 L/min. / CAVITY: T-21A



snhy.com/FKCB







in (mm)

This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1

Pressure at port 4 directly opposes pressure at port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar	
Pilot Volume Displacement	0,33 cc	
Minimum Pilot Pressure to Operate	7 bar	
Bypass orifice	0,8 mm	
Hysteresis	± 2 %	
Adjustment - Number of Clockwise Turns to Increase Setting	5	
Locknut Hex Size	15 mm	
Locknut Torque	9 - 10 Nm	
Seal kit - Cartridge	Buna: 990021007	
Seal kit - Cartridge	Polyurethane: 990021002	
Seal kit - Cartridge	Viton: 990021006	

#### **CONFIGURATION OPTIONS**

Model Code Example: FKCBXCN

 CONTROL
 (X)
 SPOOL CONFIGURATION
 (C)
 SEAL MATERIAL
 (N)

 X Not Adjustable
 C Normally Closed
 N Buna-N

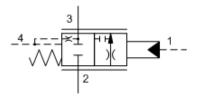
L Standard Screw Adjustment

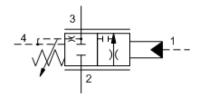
**V** Viton

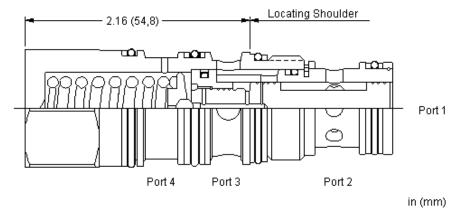
# SERIES 2 / CAPACITY: 40 L/min. / CAVITY: T-22A



snhy.com/FKDB







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1.

Pressure at port 4 directly opposes pressure at port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	4,9 cc
Minimum Pilot Pressure to Operate	7 bar
Bypass orifice	0,8 mm
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022002
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

# **CONFIGURATION OPTIONS**

Model Code Example: FKDBXCN

CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N

X Not Adjustable C Normally Closed N Buna-N

L Tuning Adjustment V V Viton

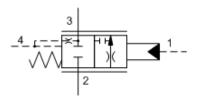


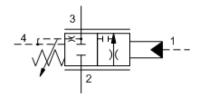
# 2-way, pilot shifted, proportional throttle with bleed down, high capacity

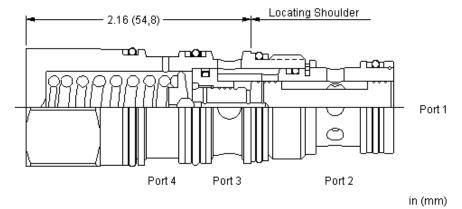
SERIES 2 / CAPACITY: 80 L/min. / CAVITY: T-22A



snhy.com/FKEB







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1.

Pressure at port 4 directly opposes pressure at port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Pilot Volume Displacement	4,9 cc
Minimum Pilot Pressure to Operate	7 bar
Bypass orifice	0,8 mm
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990022002
Seal kit - Cartridge	Polyurethane: 990022002
Seal kit - Cartridge	Viton: 990022006

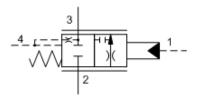
# **CONFIGURATION OPTIONS**

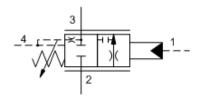
**Model Code Example: FKEBXCN** 

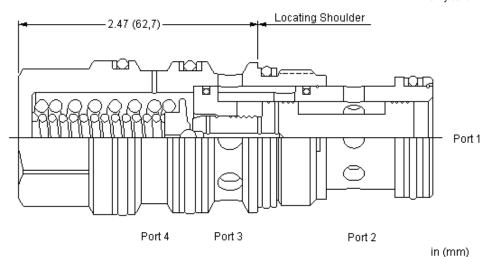
CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	N Buna-N	
I Tuning Adjustment		<b>V</b> Viton	



snhy.com/FKFB







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1.

Pressure at port 4 directly opposes pressure at port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	65 cc/min.@70 bar
Pilot Volume Displacement	1,6 cc
Minimum Pilot Pressure to Operate	7 bar
Bypass orifice	0,8 mm
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	EPDM: 990023014
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

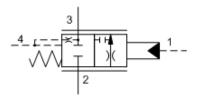
# **CONFIGURATION OPTIONS**

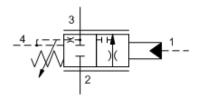
Model Code Example: FKFBXCN

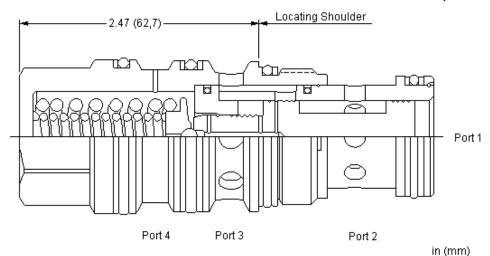
CONTROL	(X)	SPOOL CONFIGURATION	(C)	SEAL MATERIAL	(N)
X Not Adjustable		C Normally Closed		N Buna-N	
L Tuning Adjustment				<b>E</b> EPDM	
				V Viton	



snhy.com/FKGB







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1.

Pressure at port 4 directly opposes pressure at port 1.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	65 cc/min.@70 bar
Pilot Volume Displacement	1,6 cc
Minimum Pilot Pressure to Operate	7 bar
Bypass orifice	0,8 mm
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990023007
Seal kit - Cartridge	Polyurethane: 990023002
Seal kit - Cartridge	Viton: 990023006

# **CONFIGURATION OPTIONS**

# **Model Code Example: FKGBXCN**

CONTROL	(X) SPOOL CONFIGURATION	(C) SEAL MATERIAL	(N)
X Not Adjustable	C Normally Closed	<b>N</b> Buna-N	
L Tuning Adjustment		<b>V</b> Viton	

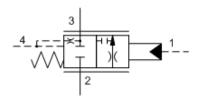


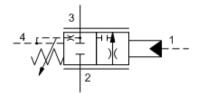
# 2-way, pilot shifted, proportional throttle with bleed down

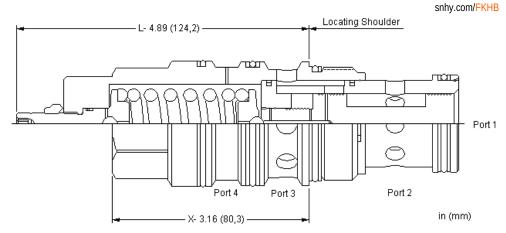
SERIES 4 / CAPACITY: 160 L/min. / CAVITY: T-24A











This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1.

Pressure at port 4 directly opposes pressure at port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	98 cc/min.@70 bar
Pilot Volume Displacement	3,3 cc
Minimum Pilot Pressure to Operate	7 bar
Bypass orifice	0,8 mm
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
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: FKHBXCN

CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N

X Not Adjustable
L Tuning Adjustment

C Normally Closed

N Buna-N

E EPDM

V Viton

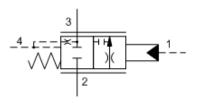


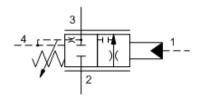
# 2-way, pilot shifted, proportional throttle with bleed down, high capacity

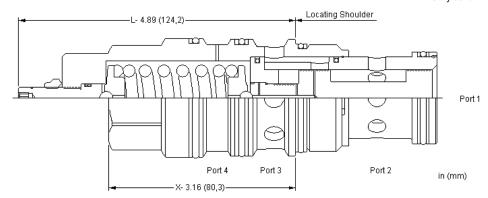
SERIES 4 / CAPACITY: 240 L/min. / CAVITY: T-24A



snhy.com/FKIB







This valve is a 2-way, 2-position proportional throttle. Ports 2 and 3 are normally closed. Pilot pressure at port 1 creates a metering orifice between port 2 and 3 that is proportional to the pressure at 1. The force balance of the flow forces, spring and pilot pressure results in a degree of partial self-compensation as the load pressure changes.

This valve includes a bleed-down feature which connects ports 3 to 4 in the spring-biased position. The bleed-down feature is useful when the valve is used as a meter-in flow control in circuits which include counterbalance valves downstream of port 3. The bleed-down connection is closed as the valve is piloted with increasing pressure at port 1.

Pressure at port 4 directly opposes pressure at port 1.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	98 cc/min.@70 bar
Pilot Volume Displacement	3,3 cc
Minimum Pilot Pressure to Operate	7 bar
Bypass orifice	0,8 mm
Hysteresis	± 2 %
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990024007
Seal kit - Cartridge	Polyurethane: 990024002
Seal kit - Cartridge	Viton: 990024006

#### **CONFIGURATION OPTIONS**

Model Code Example: FKIBXCN

CONTROL (X) SPOOL CONFIGURATION (C) SEAL MATERIAL (N

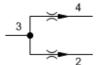
X Not Adjustable C Normally Closed N Buna-N

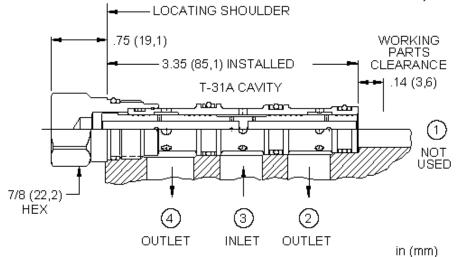
L Tuning Adjustment V Viton

# Flow divider valve SERIES 1 / CAPACITY: 6 - 30 L/min. / CAVITY: T-31A



snhy.com/FSCD





Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

#### **TECHNICAL DATA**

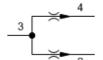
Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	±6.5%
Divisional Accuracy at Max Input Flow	±3.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	18 bar
Rated Input Flow with 50/50 Split	6 - 30 L/min.
Rated Input Flow with 40/60 Split	5,3 - 26,5 L/min.
Rated Input Flow with 33/67 Split	4,5 - 22,7 L/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

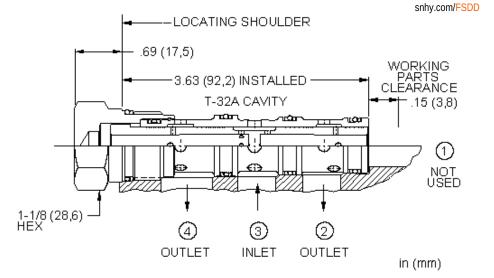
#### **CONFIGURATION OPTIONS**

# Model Code Example: FSCDXAN

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	<b>A</b> 50/50	N Buna-N		Standard Material/Coating	
	<b>B</b> 40/60	<b>V</b> Viton		IAP Stainless Steel, Passivated	
	<b>C</b> 33/67			<b>/LH</b> Mild Steel, Zinc-Nickel	







Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	±6.5%
Divisional Accuracy at Max Input Flow	±3.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	18 bar
Rated Input Flow with 50/50 Split	12 - 60 L/min.
Rated Input Flow with 40/60 Split	9,4 - 47 L/min.
Rated Input Flow with 33/67 Split	8,4 - 42 L/min.
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006
	,

# **CONFIGURATION OPTIONS**

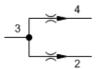
# **Model Code Example: FSDDXAN**

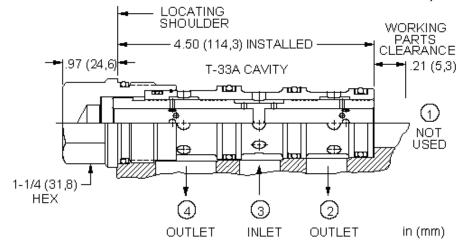
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	
	<b>B</b> 40/60	V Viton	
	<b>C</b> 33/67		

# SERIES 3 / CAPACITY: 23 - 120 L/min. / CAVITY: T-33A



snhy.com/FSED





Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	±6.5%
Divisional Accuracy at Max Input Flow	±3.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	18 bar
Rated Input Flow with 50/50 Split	23 - 120 L/min.
Rated Input Flow with 40/60 Split	19 - 95 L/min.
Rated Input Flow with 33/67 Split	17 - 85 L/min.
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

# **CONFIGURATION OPTIONS**

# Model Code Example: FSEDXAN

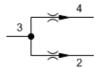
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	Standard Material/Coating
	<b>B</b> 40/60	V Viton	/AP Stainless Steel, Passivated
	<b>C</b> 33/67		

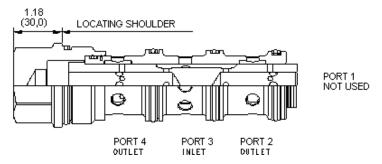
# Flow divider valve

# SERIES 4 / CAPACITY: 45 - 240 L/min. / CAVITY: T-34A



snhy.com/FSFD





Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	±6.5%
Divisional Accuracy at Max Input Flow	±3.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	18 bar
Rated Input Flow with 50/50 Split	45 - 240 L/min.
Rated Input Flow with 40/60 Split	38 - 200 L/min.
Rated Input Flow with 33/67 Split	36 - 180 L/min.
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

# **CONFIGURATION OPTIONS**

# Model Code Example: FSFDXAN

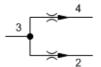
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	N Buna-N	Standard Material/Coating
	<b>B</b> 40/60	<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel
	<b>C</b> 33/67		

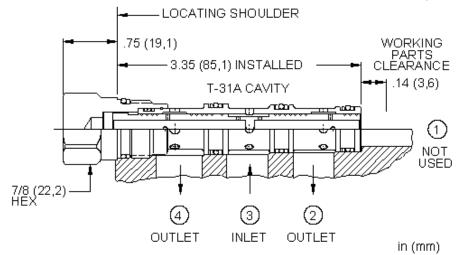
**D** 25/75

SERIES 1 / CAPACITY: 2,5 - 12 L/min. / CAVITY: T-31A



snhy.com/FSBD





Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	±4.5%
Divisional Accuracy at Max Input Flow	±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	18 bar
Rated Input Flow with 50/50 Split	2,5 - 12 L/min.
Rated Input Flow with 40/60 Split	2,8 - 9,5 L/min.
Rated Input Flow with 33/67 Split	1,7 - 8,5 L/min.
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

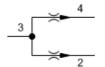
# **CONFIGURATION OPTIONS**

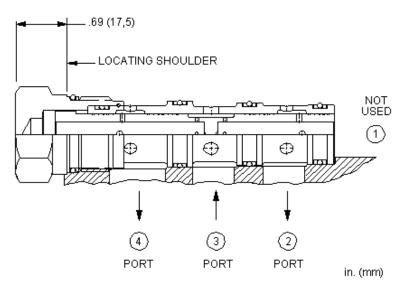
# Model Code Example: FSBDXAN

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	N Buna-N	Standard Material/Coating
	<b>B</b> 40/60	<b>V</b> Viton	IAP Stainless Steel, Passivated
	<b>C</b> 33/67		



snhy.com/FSDC





Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

#### **TECHNICAL DATA**

Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	18 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

# **CONFIGURATION OPTIONS**

Model Code Example: FSDCXAN

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	N Buna-N		Standard Material/Coating
		V Viton		IAP Stainless Steel, Passivated

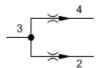


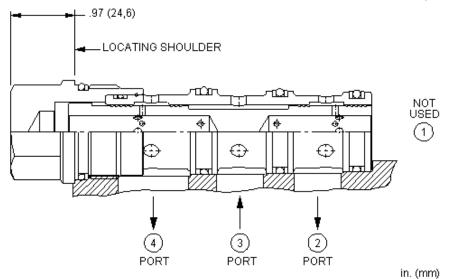
High accuracy flow divider valve

SERIES 3 / CAPACITY: 12 - 60 L/min. / CAVITY: T-33A



snhy.com/FSEC





Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

# **TECHNICAL DATA**

Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	18 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### **CONFIGURATION OPTIONS**

# **Model Code Example: FSECXAN**

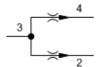
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 50/50	N Buna-N	
	<del>-</del>	<b>V</b> Viton	_

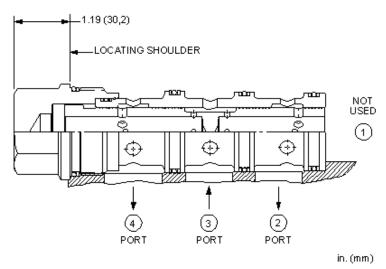
# High accuracy flow divider valve

# SERIES 4 / CAPACITY: 23 - 120 L/min. / CAVITY: T-34A



snhy.com/FSFC





Flow dividers are sliding-spool, pressure-compensated devices used to split oil flow to two different branches of a circuit in a designated ratio. These valves are suitable for applications that use the following: unidirectional hydraulic motors, hydraulic cylinders where flow division in one direction only is required, and multiple circuits that are serviced from one pump supply.

### **TECHNICAL DATA**

Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	18 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

### **CONFIGURATION OPTIONS**

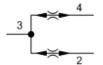
# Model Code Example: FSFCXAN

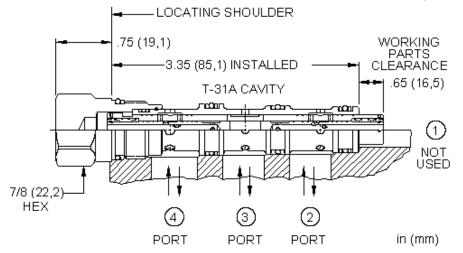
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	
	· ·	<b>V</b> Viton	

### SERIES 1 / CAPACITY: 6 - 30 L/min. / CAVITY: T-31A



snhy.com/FSCA





Closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±4.5%
Divisional Accuracy at Max Input Flow	50% ±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

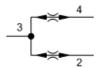
# **CONFIGURATION OPTIONS**

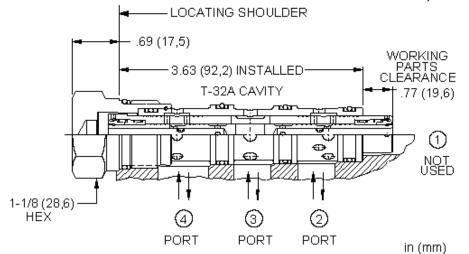
# Model Code Example: FSCAXAN

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) M	ATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	N Buna-N		Standard Material/Coating
		<b>V</b> Viton		AP Stainless Steel, Passivated



snhy.com/FSDA





Closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±4.5%
Divisional Accuracy at Max Input Flow	50% ±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	EPDM: 990032014
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

# **CONFIGURATION OPTIONS**

# **Model Code Example: FSDAXAN**

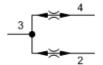
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	N Buna-N		Standard Material/Coating
	<del></del>	<b>E</b> EPDM		IAP Stainless Steel, Passivated

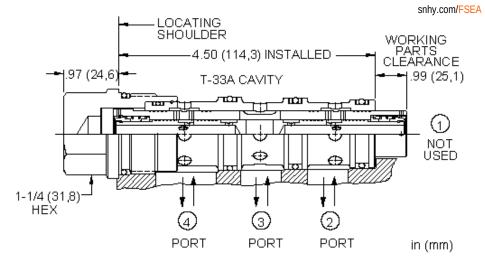
**V** Viton

Closed center, flow divider-combiner valve

SERIES 3 / CAPACITY: 23 - 120 L/min. / CAVITY: T-33A







Closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±4.5%
Divisional Accuracy at Max Input Flow	50% ±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

# CONFIGURATION OPTIONS

# **Model Code Example: FSEAXAN**

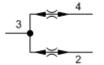
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 50/50	N Buna-N	
		<b>V</b> Viton	

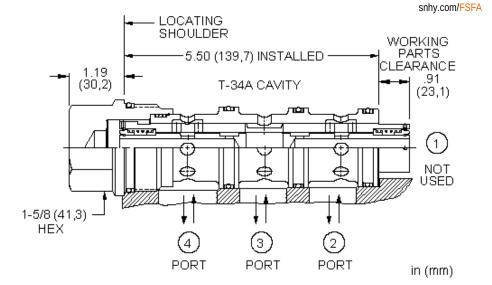


# Closed center, flow divider-combiner valve

SERIES 4 / CAPACITY: 45 - 240 L/min. / CAVITY: T-34A







Closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±4.5%
Divisional Accuracy at Max Input Flow	50% ±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

### **CONFIGURATION OPTIONS**

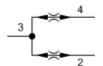
# Model Code Example: FSFAXAN

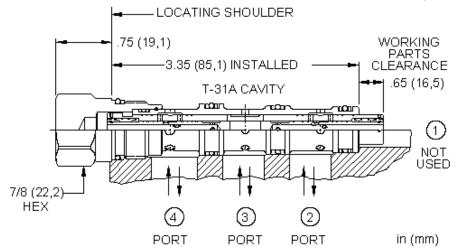
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>A</b> 50/50	N Buna-N	Standard Material/Coating	
		<b>V</b> Viton		

### SERIES 1 / CAPACITY: 1 - 6 L/min. / CAVITY: T-31A



snhy.com/FSAA





High accuracy, closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±3.5%
Divisional Accuracy at Max Input Flow	50% ±2.0%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

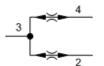
# CONFIGURATION OPTIONS

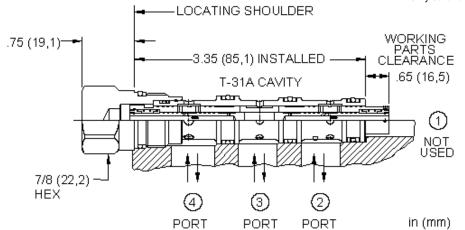
# Model Code Example: FSAAXAN

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	N Buna-N	Standard Material/Coating
	<u> </u>	<b>V</b> Viton	/AP Stainless Steel, Passivated



snhy.com/FSBA





Closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±3.0%
Divisional Accuracy at Max Input Flow	50% ±2.0%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

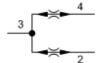
# CONFIGURATION OPTIONS Model Code Example: FSBAXAN

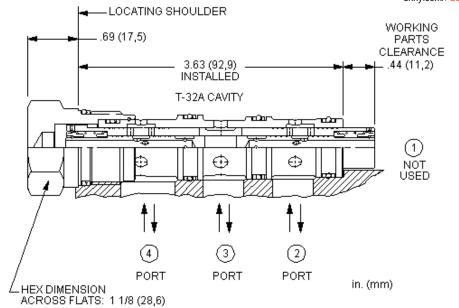
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	<b>A</b> 50/50	N Buna-N		Standard Material/Coating	
		V Viton		IAP Stainless Steel, Passivated	
				<b>/LH</b> Mild Steel, Zinc-Nickel	

# SERIES 2 / CAPACITY: 6 - 30 L/min. / CAVITY: T-32A



snhy.com/FSDG





High accuracy, closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

#### **TECHNICAL DATA**

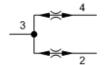
Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±2.5%
Divisional Accuracy at Max Input Flow	50% ±1.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

# CONFIGURATION OPTIONS Model Code Example: FSDGXAN

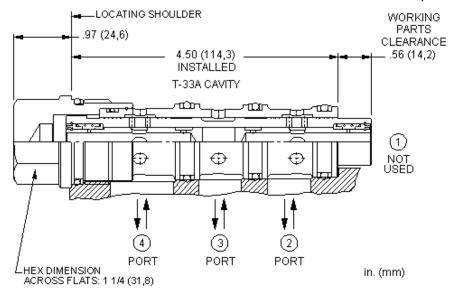
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	N Buna-N	Standard Material/Coating
·		V Viton	/I H Mild Steel Zinc-Nickel



snhy.com/FSEG



un hydraulics



High accuracy, closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±2.5%
Divisional Accuracy at Max Input Flow	50% ±1.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

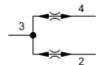
### **CONFIGURATION OPTIONS**

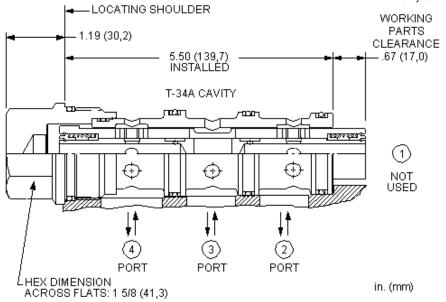
# Model Code Example: FSEGXAN

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	
_	· ·	V Viton	



snhy.com/FSFG





High accuracy, closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves may be used to accurately control two or more cylinders or hydraulic motors where bidirectional operation is required.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±2.5%
Divisional Accuracy at Max Input Flow	50% ±1.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

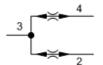
### **CONFIGURATION OPTIONS**

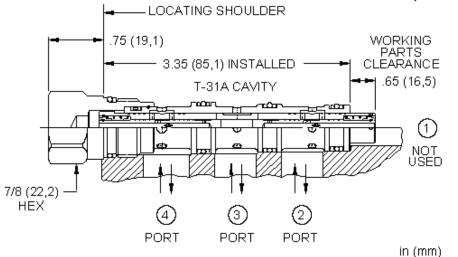
# **Model Code Example: FSFGXAN**

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	
		<b>V</b> Viton	



snhy.com/FSCH





High-capacity, closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves have approximate 15% greater capacity than standard closed-center divider/combiners and are designed for use in tractive drive systems. Note: Accuracy on these cartridges is not equivalent to the accuracy of standard closed-center divider/combiners.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±6.5%
Divisional Accuracy at Max Input Flow	50% ±3.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

(NI) MATERIAL ICOATING

# CONFIGURATION OPTIONS Model Code Example: FSCHXAN

(V) ELOW SDLIT

CONTROL	(^)	FLOW SPLII	(A)	SEAL WATERIAL (IV	<u>v)</u>	MATERIAL/COATING	_
X Not Adjustable		A 50/50		N Buna-N		Standard Material/Coating	
				<b>V</b> Viton		IAP Stainless Steel, Passivated	

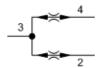
(A) CEAL MATERIAL

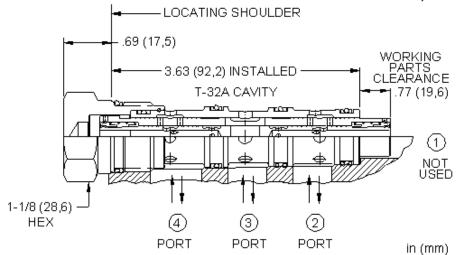
CONTROL

### SERIES 2 / CAPACITY: 15 - 65 L/min. / CAVITY: T-32A



snhy.com/FSDH





High-capacity, closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves have approximate 15% greater capacity than standard closed-center divider/combiners and are designed for use in tractive drive systems. Note: Accuracy on these cartridges is not equivalent to the accuracy of standard closed-center divider/combiners.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±6.5%
Divisional Accuracy at Max Input Flow	50% ±3.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

### CONFIGURATION OPTIONS

Model Code Example: FSDHXAN

 CONTROL
 (X)
 FLOW SPLIT
 (A)
 SEAL MATERIAL
 (N)

 X Not Adjustable
 A 50/50
 N Buna-N

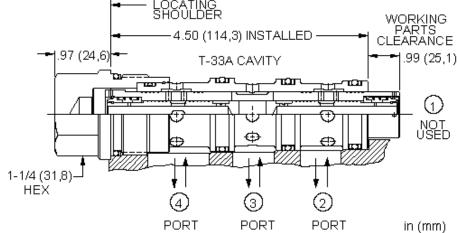
 V Viton

### SERIES 3 / CAPACITY: 32 - 130 L/min. / CAVITY: T-33A



snhy.com/FSEH





High-capacity, closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves have approximate 15% greater capacity than standard closed-center divider/combiners and are designed for use in tractive drive systems. Note: Accuracy on these cartridges is not equivalent to the accuracy of standard closed-center divider/combiners.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±6.5%
Divisional Accuracy at Max Input Flow	50% ±3.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

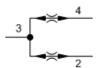
# **CONFIGURATION OPTIONS**

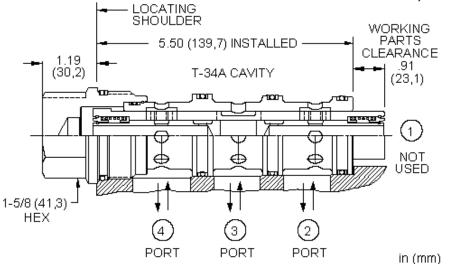
# **Model Code Example: FSEHXAN**

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	
_	· -	V Viton	



snhy.com/FSFH





High-capacity, closed-center flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. These valves have approximate 15% greater capacity than standard closed-center divider/combiners and are designed for use in tractive drive systems. Note: Accuracy on these cartridges is not equivalent to the accuracy of standard closed-center divider/combiners.

#### **TECHNICAL DATA**

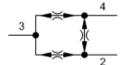
Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±6.5%
Divisional Accuracy at Max Input Flow	50% ±3.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

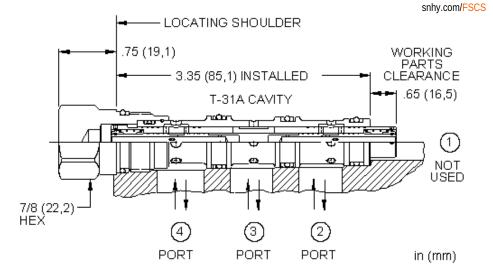
### CONFIGURATION OPTIONS

# Model Code Example: FSFHXAN

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	Standard Material/Coating	
		<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel	







Synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±4.5%
Divisional Accuracy at Max Input Flow	50% ±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

#### CONFIGURATION OPTIONS

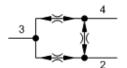
# Model Code Example: FSCSXAN

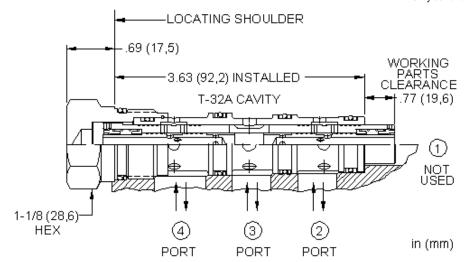
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	<b>A</b> 50/50	N Buna-N		Standard Material/Coating	
		<b>V</b> Viton		IAP Stainless Steel, Passivated	

SERIES 2 / CAPACITY: 12 - 60 L/min. / CAVITY: T-32A



snhy.com/FSDS





Synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±4.5%
Divisional Accuracy at Max Input Flow	50% ±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

### CONFIGURATION OPTIONS

Model Code Example: FSDSXAN

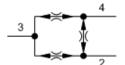
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N		Standard Material/Coating	
		V Viton		IAP Stainless Steel, Passivated	

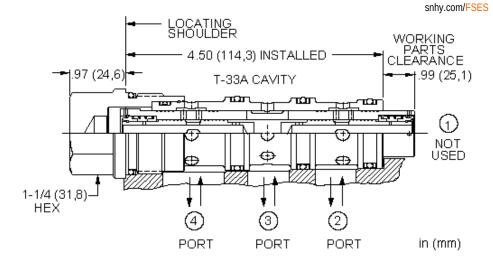
/LH Mild Steel, Zinc-Nickel

Synchronizing, flow divider-combiner valve

SERIES 3 / CAPACITY: 23 - 120 L/min. / CAVITY: T-33A







Synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±4.5%
Divisional Accuracy at Max Input Flow	50% ±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

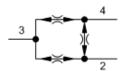
#### **CONFIGURATION OPTIONS**

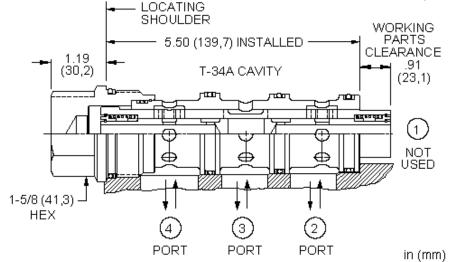
# **Model Code Example: FSESXAN**

CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	Standard Material/Coating
		<b>V</b> Viton	IAP Stainless Steel, Passivated



snhy.com/FSFS





Synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±4.5%
Divisional Accuracy at Max Input Flow	50% ±2.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

#### **CONFIGURATION OPTIONS**

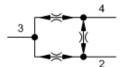
# Model Code Example: FSFSXAN

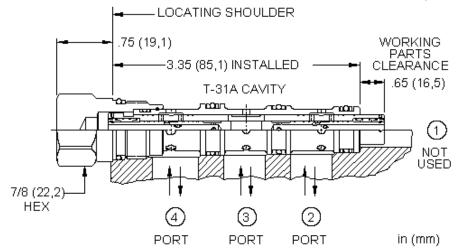
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N)
X Not Adjustable	<b>A</b> 50/50	N Buna-N	
		<b>V</b> Viton	

### SERIES 1 / CAPACITY: 1 - 6 L/min. / CAVITY: T-31A



snhy.com/FSAS





High accuracy, synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±3.5%
Divisional Accuracy at Max Input Flow	50% ±2.0%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

# CONFIGURATION OPTIONS

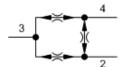
# Model Code Example: FSASXAN

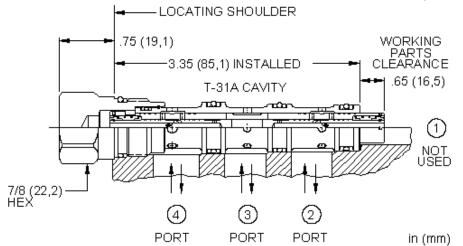
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING	_
X Not Adjustable	<b>A</b> 50/50	<b>N</b> Buna-N	Standard Material/Coating	
		<b>V</b> Viton	/AP Stainless Steel, Passivated	
			<b>/LH</b> Mild Steel, Zinc-Nickel	

SERIES 1 / CAPACITY: 2,5 - 12 L/min. / CAVITY: T-31A



snhy.com/FSBS





Synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±3.0%
Divisional Accuracy at Max Input Flow	50% ±2.0%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

### **CONFIGURATION OPTIONS**

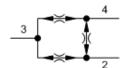
### Model Code Example: FSBSXAN

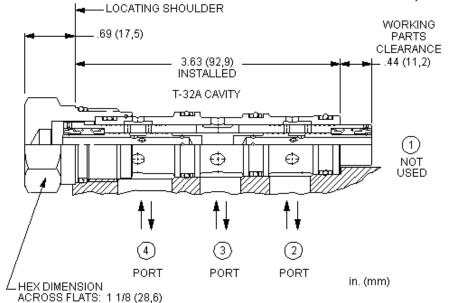
CONTROL	(X) FLOW SPLIT	(A) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>A</b> 50/50	N Buna-N	Standard Material/Coating	ĺ
		<b>V</b> Viton	IAP Stainless Steel, Passivated	
			/I H Mild Steel Zinc-Nickel	

# SERIES 2 / CAPACITY: 6 - 30 L/min. / CAVITY: T-32A



snhy.com/FSDR





High accuracy, synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

#### **TECHNICAL DATA**

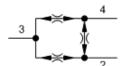
Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±3.0%
Divisional Accuracy at Max Input Flow	50% ±2.0%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

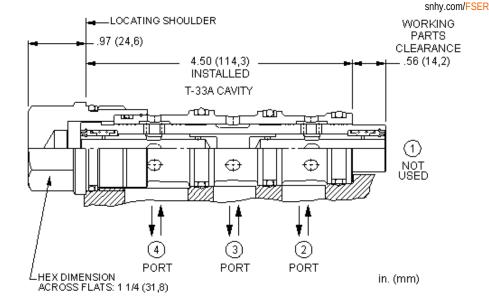
# CONFIGURATION OPTIONS

**Model Code Example: FSDRXAN** 

CONTROL	(X)	FLOW SPLIT	(A)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable		A 50/50		N Buna-N		Standard Material/Coating	
				V Viton		IAP Stainless Steel, Passivated	







High accuracy, synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±2.5%
Divisional Accuracy at Max Input Flow	50% ±1.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

#### **CONFIGURATION OPTIONS**

Model Code Example: FSERXAN

(A) OF AL MATERIAL

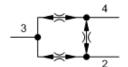
CONTROL	(X) FLOW SPLII	(A) SEAL MATERIAL	(N) MAIE	RIAL/COATING	
X Not Adjustable	<b>A</b> 50/50	N Buna-N	S	Standard Material/Coating	
		<b>V</b> Viton	/LH M	Mild Steel, Zinc-Nickel	

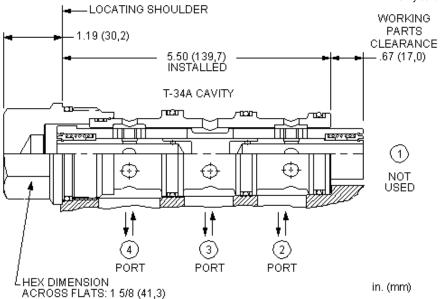
(A) ELOW OBLIT

### SERIES 4 / CAPACITY: 23 - 120 L/min. / CAVITY: T-34A



snhy.com/FSFR





High accuracy, synchronizing flow divider/combiners are sliding-spool, pressure-compensated devices used to split flow in one direction and combine flow in the opposite direction. With a sychronizing feature, these valves can be used to allow two hydraulic cylinders to fully stroke and synchronize at the end of the stroke. When the first cylinder has reached the end of its stroke, a pressure-compensated, reduced flow is metered to or from the second cylinder until it also reaches the end of its stroke.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Divisional Accuracy at Minimum Input Flow	50% ±2.5%
Divisional Accuracy at Max Input Flow	50% ±1.5%
Pressure Drop at Minimum Rated Input Flow	2 bar
Pressure Drop at Maximum Rated Input Flow	24 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

CONFIGURATION OPTIONS

**Model Code Example: FSFRXAN** 

CONTROL (X) FLOW SPLIT (A) SEAL MATERIAL (N) MATERIAL/COATING

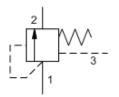
X Not Adjustable A 50/50 N Buna-N V Viton

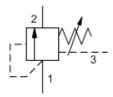
Standard Material/Coating // IAP Stainless Steel, Passivated

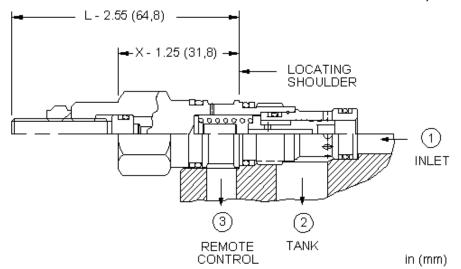
**/LH** Mild Steel, Zinc-Nickel



snhy.com/LRBC







Normally closed modulating elements without an internal orifice act as a bypass compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

#### **TECHNICAL DATA**

Maximum Operating Pressure 350 bar	
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

### **CONFIGURATION OPTIONS**

# Model Code Example: LRBCXHN

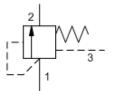
CONTROL	(X) DIFFERENTIAL PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING	_
X Not Adjustable	<b>H</b> 200 psi (14 bar)	N Buna-N	Standard Material/Coating	
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	/AP Stainless Steel, Passivated	
	<b>F</b> 100 psi (7 bar)			

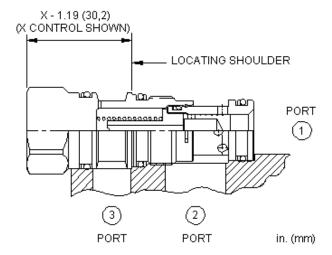
Normally closed, modulating element

SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-11A



snhy.com/LRDC





Normally closed modulating elements without an internal orifice act as a bypass compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Seal kit - Cartridge	Buna: 990011007	
Seal kit - Cartridge	Polyurethane: 990011002	
Seal kit - Cartridge	Viton: 990011006	

# **CONFIGURATION OPTIONS**

# Model Code Example: LRDCXHN

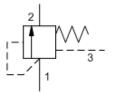
CONTROL	(X) DIFFERENTIAL PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)	N Buna-N	Standard Material/Coating
	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	IAP Stainless Steel, Passivated
	<b>F</b> 100 psi (7 bar)		/LH Mild Steel, Zinc-Nickel
	<b>G</b> 150 psi (10,5 bar)		

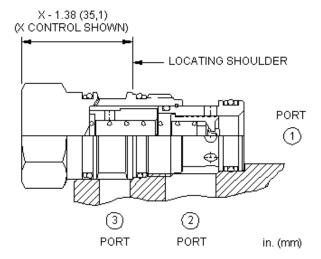
Normally closed, modulating element

SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-2A



snhy.com/LRFC





Normally closed modulating elements without an internal orifice act as a bypass compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

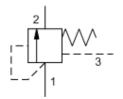
# **CONFIGURATION OPTIONS**

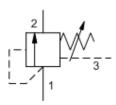
# Model Code Example: LRFCXHN

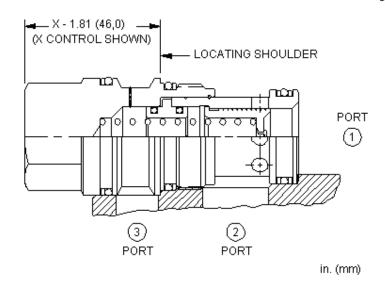
CONTROL	(X) DIFFERENTIAL PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	<b>H</b> 200 psi (14 bar)		N Buna-N		Standard Material/Coating	
	<b>D</b> 50 psi (3,5 bar)		<b>E</b> EPDM		IAP Stainless Steel, Passivated	
	<b>F</b> 100 psi (7 bar)		<b>V</b> Viton		<b>/LH</b> Mild Steel, Zinc-Nickel	
	<b>G</b> 150 nsi (10 5 har)					



snhy.com/LRHC







Normally closed modulating elements without an internal orifice act as a bypass compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

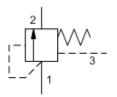
# Model Code Example: LRHCXHN

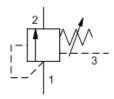
CONTROL	(X) DIFFERENTIAL PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)	N Buna-N	Standard Material/Coating
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	IAP Stainless Steel, Passivated
	<b>F</b> 100 psi (7 bar)		

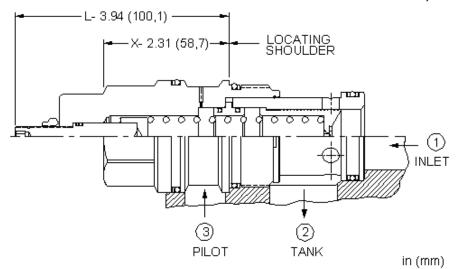
**G** 150 psi (10,5 bar)



snhy.com/LRJC







Normally closed modulating elements without an internal orifice act as a bypass compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	EPDM: 990019014
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

### **CONFIGURATION OPTIONS**

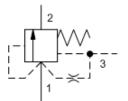
# **Model Code Example: LRJCXHN**

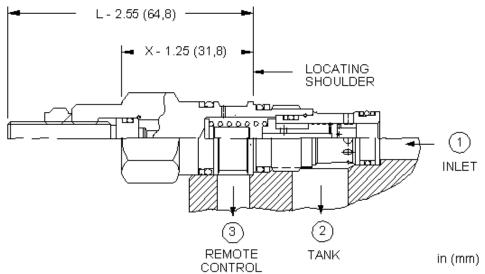
CONTROL	(X) DIFFERENTIAL PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING	_
X Not Adjustable	<b>H</b> 200 psi (14 bar)	<b>N</b> Buna-N	Standard Material/Coating	
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	<b>E</b> EPDM	/AP Stainless Steel, Passivated	
	<b>F</b> 100 psi (7 bar)	<b>V</b> Viton		
	<b>G</b> 150 psi (10,5 bar)			

CAPACITY: 30 L/min. / CAVITY: T-163A









Normally closed modulating elements with an internal orifice between port 1 and port 3 can be used as a mainstage relief valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Control Orifice Diameter	0,4 mm
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

# **CONFIGURATION OPTIONS**

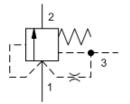
# Model Code Example: LRBALDN

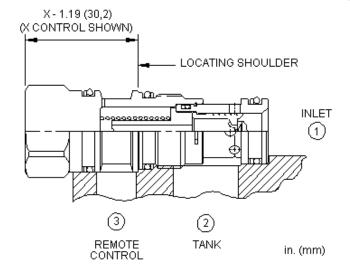
CONTROL	(L) DIFFERENTIAL PRESSURE	(D) SEAL MATERIAL	(N)
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	N Buna-N	
	<b>F</b> 100 psi (7 bar)	<b>V</b> Viton	
	<b>H</b> 200 psi (14 bar)		

SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-11A



snhy.com/LRDA





Normally closed modulating elements with an internal orifice between port 1 and port 3 can be used as a mainstage relief valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Maximum Valve Leakage at 110 SUS (24 cSt)	15 cc/min.@70 bar
Control Orifice Diameter	0,4 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

# **CONFIGURATION OPTIONS**

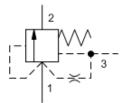
# **Model Code Example: LRDAXHN**

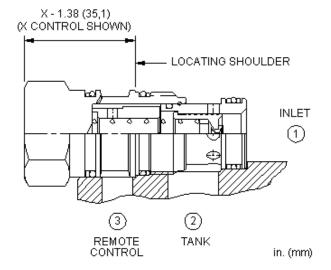
CONTROL	(X) BIAS PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/	COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)	<b>N</b> Buna-N	Standard	d Material/Coating
	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	/AP Stainles	Steel, Passivated
	<b>F</b> 100 psi (7 bar)			

SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-2A



snhy.com/LRFA





Normally closed modulating elements with an internal orifice between port 1 and port 3 can be used as a mainstage relief valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Control Orifice Diameter	0,4 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

### **CONFIGURATION OPTIONS**

# **Model Code Example: LRFAXHN**

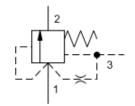
CONTROL	(X) BIAS PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>H</b> 200 psi (14 bar)	<b>N</b> Buna-N	Standard Material/Coating	ı
	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	/AP Stainless Steel, Passivated	_

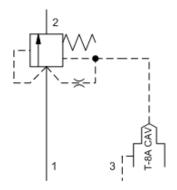
**F** 100 psi (7 bar)

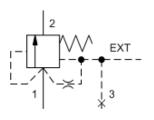
**G** 150 psi (10,5 bar)

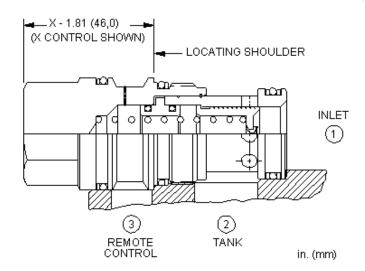


snhy.com/LRHA









Normally closed modulating elements with an internal orifice between port 1 and port 3 can be used as a mainstage relief valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,25 - 0,50 L/min.
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

# **CONFIGURATION OPTIONS**

# **Model Code Example: LRHAXHN**

CONTROL	(X) BIAS PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)	N Buna-N	Standard Material/Coating

E External 4-SAE Port, Port 3 blocked

L Tuning Adjustment

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

**F** 100 psi (7 bar)

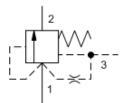
**G** 150 psi (10,5 bar)

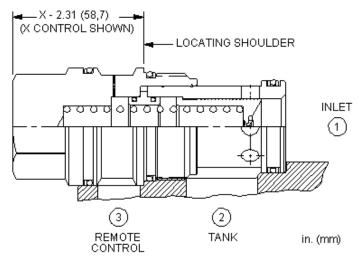
V Viton

IAP Stainless Steel, Passivated



snhy.com/LRJA





Normally closed modulating elements with an internal orifice between port 1 and port 3 can be used as a mainstage relief valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,25 - 0,50 L/min.
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

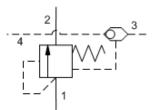
### **CONFIGURATION OPTIONS**

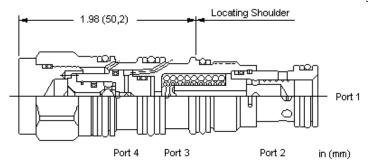
# Model Code Example: LRJAXHN

CONTROL	(X) DIFFERENTIAL PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)		N Buna-N		Standard Material/Coating
	<b>A</b> 12 psi		<b>V</b> Viton		IAP Stainless Steel, Passivated
	<b>B</b> 20 psi (1,5 bar)				



snhy.com/LRDS





A normally closed modulating element, used as a bypass compensator, ensures a constant pressure drop across an external orifice to create a pressure compensated flow control. The resulting flow remains constant regardless of variations in upstream or downstream pressure.

A ball shuttle connects the after orifice signal from the higher of port 3 or 4 to the pilot area.

### **TECHNICAL DATA**

Nominal Compensating Pressure	14 bar
Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

### **CONFIGURATION OPTIONS**

Model Code Example: LRDSXHN

CONTROL	(X)	DIFFERENTIAL PRESSURE (I	(H)	SEAL MATERIAL	(N)
X Not Adjustable		<b>H</b> 200 psi (14 bar)		N Buna-N	
				V Buna-N	

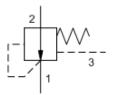


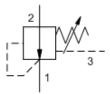
Normally open, modulating element

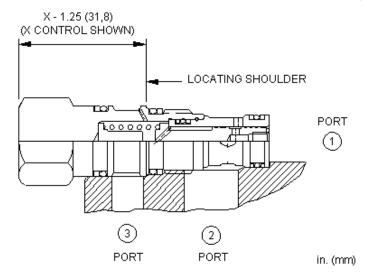
CAPACITY: 30 L/min. / CAVITY: T-163A



snhy.com/LPBC







Normally open modulating elements without an internal orifice act as a restrictive compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

### **CONFIGURATION OPTIONS**

# Model Code Example: LPBCXHN

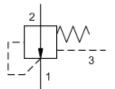
CONTROL	(X) DIFFERENTIAL PRESSURE	(H) SEAL MATERIAL	(N)
X Not Adjustable	<b>H</b> 200 psi (14 bar)	N Buna-N	
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	V Viton	
	<b>F</b> 100 psi (7 bar)		

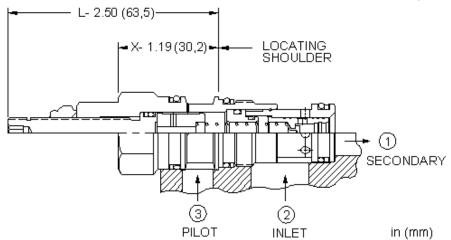
Normally open, modulating element

SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-11A



snhy.com/LPDC





Normally open modulating elements without an internal orifice act as a restrictive compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

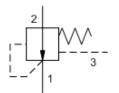
### **CONFIGURATION OPTIONS**

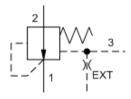
# Model Code Example: LPDCXHN

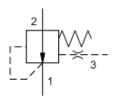
CONTROL (X)	DIFFERENTIAL PRESSURE (H)	SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)	<b>N</b> Buna-N	Standard Material/Coating
	<b>D</b> 50 psi (3,5 bar)	E EPDM	IAP Stainless Steel, Passivated
	<b>F</b> 100 psi (7 bar)	<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel
	<b>G</b> 150 psi (10,5 bar)		

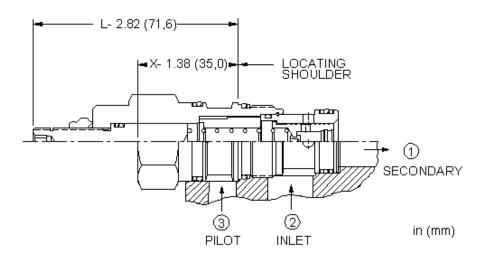


snhy.com/LPFC









Normally open modulating elements without an internal orifice act as a restrictive compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

# Model Code Example: LPFCXHN

CONTROL	(X) DIFFERENTIAL PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>H</b> 200 psi (14 bar)	<b>N</b> Buna-N	Standard Material/Coating	
	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	IAP Stainless Steel, Passivated	
	<b>F</b> 100 psi (7 bar)		<b>/LH</b> Mild Steel, Zinc-Nickel	

**G** 150 psi (10,5 bar)

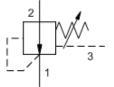


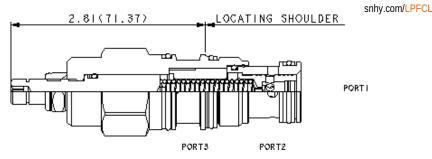


Tuneable, normally open modulating element

SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-2A







Normally open modulating elements without an internal orifice act as a restrictive compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

**Model Code Example: LPFCLDN** 

**DIFFERENTIAL PRESSURE** (N) MATERIAL/COATING (D) SEAL MATERIAL **D** 50 psi (3,5 bar) N Buna-N

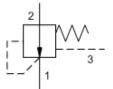
Standard Material/Coating

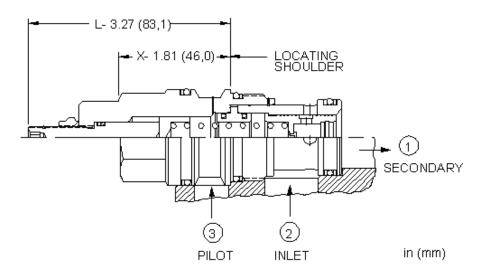
Normally open, modulating element

SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-17A



snhy.com/LPHC





Normally open modulating elements without an internal orifice act as a restrictive compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	EPDM: 990017014
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

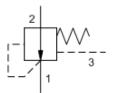
# **CONFIGURATION OPTIONS**

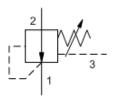
# Model Code Example: LPHCXHN

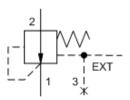
CONTROL	(X) DIFFERENTIAL PRESSURE	(H)	SEAL MATERIAL	(N)	MATERIAL/COATING	
X Not Adjustable	<b>H</b> 200 psi (14 bar)		N Buna-N		Standard Material/Coating	
	<b>D</b> 50 psi (3,5 bar)		<b>E</b> EPDM		IAP Stainless Steel, Passivated	
	<b>F</b> 100 psi (7 bar)		<b>V</b> Viton		/LH Mild Steel, Zinc-Nickel	
	<b>G</b> 150 psi (10,5 bar)					

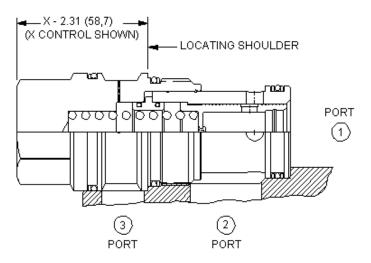


snhy.com/LPJC









in. (mm)

Normally open modulating elements without an internal orifice act as a restrictive compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

# **CONFIGURATION OPTIONS**

# **Model Code Example: LPJCXHN**

CONTROL	(X) DIFFERENTIAL PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)	N Buna-N	Standard Material/Coatin

X Not Adjustable P External 1/4 NPTF Pilot Port, Port 3 Blocked

H 200 psi (14 bar) **D** 50 psi (3,5 bar)

**F** 100 psi (7 bar)

**G** 150 psi (10,5 bar)

**V** Viton

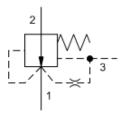
Standard Material/Coating

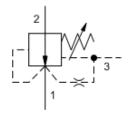
IAP Stainless Steel, Passivated

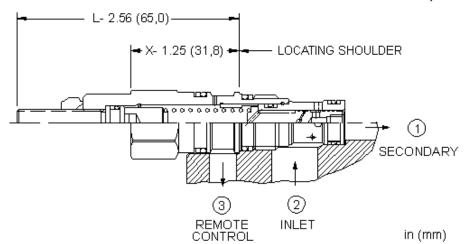
CAPACITY: 30 L/min. / CAVITY: T-163A



snhy.com/LPBA







These normally open modulating elements with an internal orifice between port 1 and port 3 can be used as a main-stage reducing valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Orifice Diameter	0,4 mm
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

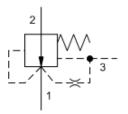
#### **CONFIGURATION OPTIONS**

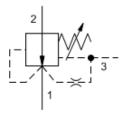
# **Model Code Example: LPBAXHN**

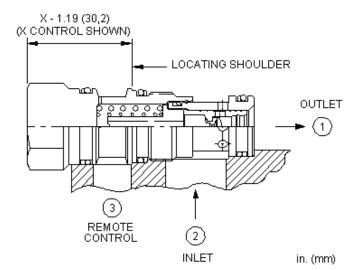
CONTROL	(X) BIAS PRESSURE	(H) SEAL MATERIAL	(N)
X Not Adjustable	<b>H</b> 200 psi (14 bar)	<b>N</b> Buna-N	
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	
	<b>F</b> 100 psi (7 bar)		



snhy.com/LPDA







These normally open modulating elements with an internal orifice between port 1 and port 3 can be used as a main-stage reducing valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Control Orifice Diameter	0,4 mm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

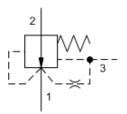
# **Model Code Example: LPDAXHN**

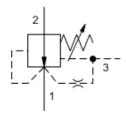
CONTROL	(X) BIAS PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING	MATERIAL/COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)	<b>N</b> Buna-N	Standard Material/Coating	Standard Material/Coating
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	/AP Stainless Steel, Passivated	IAP Stainless Steel, Passivated
	<b>F</b> 100 psi (7 bar)			

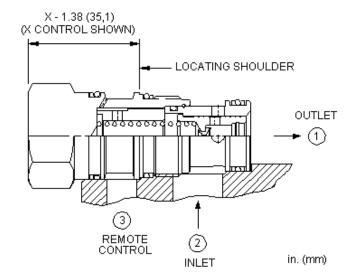
SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-2A



snhy.com/LPFA







These normally open modulating elements with an internal orifice between port 1 and port 3 can be used as a main-stage reducing valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,16 - 0,25 L/min.
Control Orifice Diameter	0,4 mm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

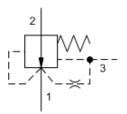
#### **CONFIGURATION OPTIONS**

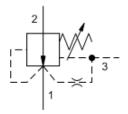
# **Model Code Example: LPFAXHN**

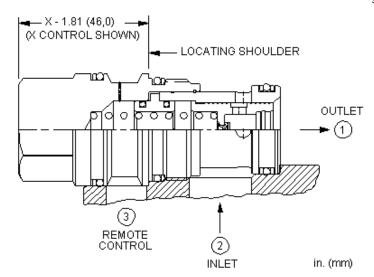
CONTROL	(X) BIAS PRESSURE	(H) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	H 200 psi (14 bar)	<b>N</b> Buna-N	Standard Material/Coating	
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton	/AP Stainless Steel, Passivated	



snhy.com/LPHA







These normally open modulating elements with an internal orifice between port 1 and port 3 can be used as a main-stage reducing valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Control Pilot Flow	0,25 - 0,50 L/min.	
Control Orifice Diameter	0,53 mm	
Seal kit - Cartridge	Buna: 990017007	
Seal kit - Cartridge	Polyurethane: 990017002	
Seal kit - Cartridge	Viton: 990017006	

#### **CONFIGURATION OPTIONS**

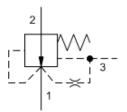
# Model Code Example: LPHAXDN

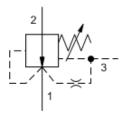
CONTROL	(X) BIAS PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING	
X Not Adjustable	<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating	
L Tuning Adjustment	<b>F</b> 100 psi (7 bar)	<b>V</b> Viton	IAP Stainless Steel, Passivated	
	<b>G</b> 150 psi (10,5 bar)			

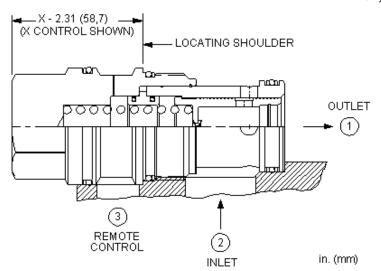
H 200 psi (14 bar)



snhy.com/LPJA







These normally open modulating elements with an internal orifice between port 1 and port 3 can be used as a main-stage reducing valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Control Pilot Flow	0,25 - 0,50 L/min.	
Control Orifice Diameter	0,53 mm	
Seal kit - Cartridge	Buna: 990019007	
Seal kit - Cartridge	Polyurethane: 990019002	
Seal kit - Cartridge	Viton: 990019006	

# **CONFIGURATION OPTIONS**

# **Model Code Example: LPJAXHN**

CONTROL	(X) BIAS PRESSURE	(H) SEAL MATERIAL	(N)	MATERIAL/COATING
X Not Adjustable	<b>H</b> 200 psi (14 bar)	N Buna-N		Standard Material/Coating
L Tuning Adjustment	<b>D</b> 50 psi (3,5 bar)	<b>V</b> Viton		IAP Stainless Steel, Passivated
	<b>F</b> 100 psi (7 bar)			

**G** 150 psi (10,5 bar)



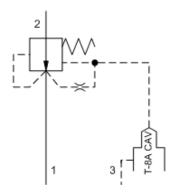
MODEL LPJA8

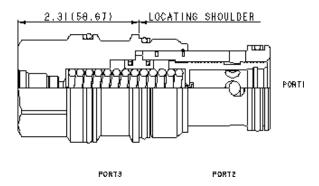
Normally open, modulating element with integral T-8A control cavity and pilot source from port 1

SERIES 4 / CAPACITY: 480 L/min. / CAVITY: T-19A



snhy.com/LPJA8





These normally open modulating elements with an internal orifice between port 1 and port 3 can be used as a main-stage reducing valve. The valve can be controlled remotely using a pilot relief or pilot solenoid valve.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Control Pilot Flow	0,25 - 0,50 L/min.
Pilot Control Cavity	T-8A
Control Orifice Diameter	0,53 mm
Seal kit - Cartridge	Buna: 990019007
Seal kit - Cartridge	Polyurethane: 990019002
Seal kit - Cartridge	Viton: 990019006

**NOTES** 

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

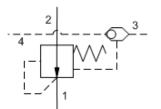
# **CONFIGURATION OPTIONS**

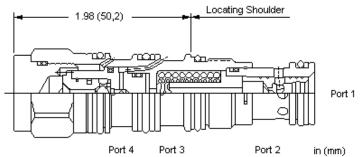
Model Code Example: LPJA8DN

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



snhy.com/LPDS





A normally open modulating element, used as a restrictive compensator, ensures a constant pressure drop across an external orifice to create a pressure compensated flow control. The resulting flow remains constant regardless of variations in upstream or downstream pressure.

A ball shuttle connects the after orifice signal from the higher of port 3 or 4 to the pilot area.

# **TECHNICAL DATA**

Nominal Compensating Pressure	14 bar
Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006

#### **CONFIGURATION OPTIONS**

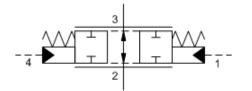
**Model Code Example: LPDSXHN** 

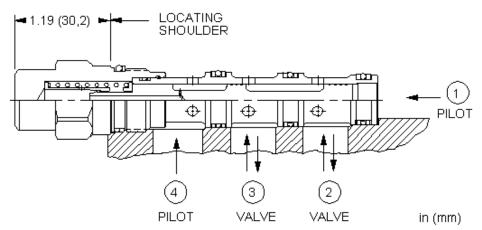
CONTROL	(X) DIFFERENTIAL PRESSURE	(H) SEAL MATERIAL	(N)
X Not Adjustable	<b>H</b> 200 psi (14 bar)	N Buna-N	
		<b>V</b> Viton	

# SERIES 1 / CAPACITY: 60 L/min. / CAVITY: T-31A



snhy.com/LHDT





These bi-directional, normally open, modulating elements used with an external orifice, create a bi-directional, pressure compensated flow control.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar	
Seal kit - Cartridge	Buna: 990031007	
Seal kit - Cartridge	EPDM: 990031014	
Seal kit - Cartridge	Polyurethane: 990031002	
Seal kit - Cartridge	Viton: 990031006	

#### **CONFIGURATION OPTIONS**

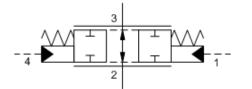
# Model Code Example: LHDTXFN

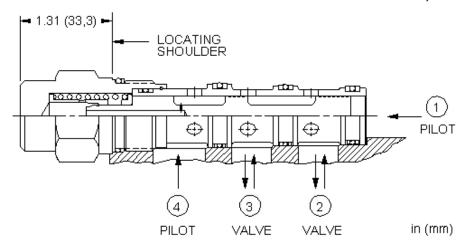
CONTROL	(X) NOMINAL CONTROL PRESSUR	RE (F) SEAL MATERIAL (N)	
X Not Adjustable	<b>F</b> 100 psi (7 bar)	N Buna-N	
	<b>D</b> 50 psi (3,5 bar)	<b>E</b> EPDM	
	<b>E</b> 75 psi (5 bar)	<b>V</b> Viton	

Normally open, bi-directional, modulating element SERIES 2 / CAPACITY: 120 L/min. / CAVITY: T-32A



snhy.com/LHFT





These bi-directional, normally open, modulating elements used with an external orifice, create a bi-directional, pressure compensated flow control.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	EPDM: 990032014
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

# **CONFIGURATION OPTIONS**

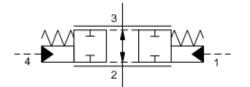
# **Model Code Example: LHFTXFN**

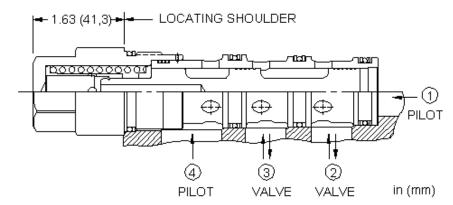
CONTROL	(X) NOMINAL CONTROL PRESSU	IRE (F) SEAL MATERIAL	(N)
X Not Adjustable	<b>F</b> 100 psi (7 bar)	N Buna-N	
	<b>D</b> 50 psi (3,5 bar)	<b>E</b> EPDM	
	<b>E</b> 75 psi (5 bar)	<b>V</b> Viton	

# Normally open, bi-directional, modulating element SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-33A



snhy.com/LHHT





These bi-directional, normally open, modulating elements used with an external orifice, create a bi-directional, pressure compensated flow control.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	EPDM: 990033014
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

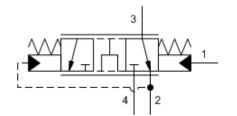
# **CONFIGURATION OPTIONS**

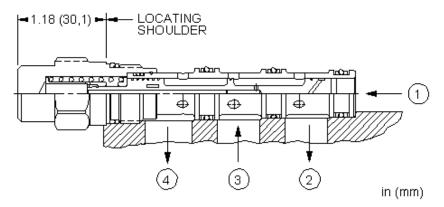
# Model Code Example: LHHTXFN

CONTROL	(X) DIFFERENTIAL PRESSURE	(F) SEAL MATERIAL	(N) MATERIAL/COATING
X Not Adjustable	<b>F</b> 100 psi (7 bar)	<b>N</b> Buna-N	Standard Material/Coating
	<b>D</b> 50 psi (3,5 bar)	<b>E</b> EPDM	IAP Stainless Steel, Passivated
	<b>E</b> 75 psi (5 har)	<b>V</b> Viton	



snhy.com/LHDA





Bypass/restrictive modulating elements, when combined with an external orifice, create a bypass/restrictive flow control. Input flow (port 3) is directed to the priority or control flow at port 2. Once the priority requirements are met, excess flow is bypassed out port 4. The after-orifice signal is connected to port 1. The before-orifice design allows both pressure and flow to be controlled on the priority side of the circuit regardless of pressure in the bypass circuit. These valves work equally well in either closed or open center systems. Their main use is to allow after-market accessories to be driven off the host machine's hydraulic system without adding an additional pump.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990031007
Seal kit - Cartridge	Polyurethane: 990031002
Seal kit - Cartridge	Viton: 990031006

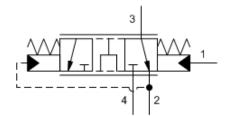
#### **CONFIGURATION OPTIONS**

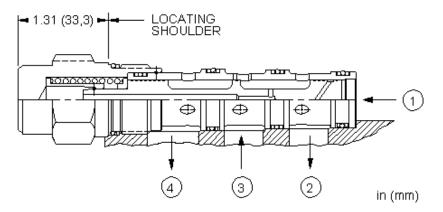
# Model Code Example: LHDAXFN

CONTROL	(X) DIFFERENTIAL PRESSURE	(F) SEAL MATERIAL	(N)
X Not Adjustable	<b>F</b> 100 psi (7 bar)	N Buna-N	
•	<b>E</b> 75 psi (5 bar)	<b>E</b> EPDM	
		<b>V</b> Viton	



snhy.com/LHFA





Bypass/restrictive modulating elements, when combined with an external orifice, create a bypass/restrictive flow control. Input flow (port 3) is directed to the priority or control flow at port 2. Once the priority requirements are met, excess flow is bypassed out port 4. The after-orifice signal is connected to port 1. The before-orifice design allows both pressure and flow to be controlled on the priority side of the circuit regardless of pressure in the bypass circuit. These valves work equally well in either closed or open center systems. Their main use is to allow after-market accessories to be driven off the host machine's hydraulic system without adding an additional pump.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990032007
Seal kit - Cartridge	EPDM: 990032014
Seal kit - Cartridge	Polyurethane: 990032002
Seal kit - Cartridge	Viton: 990032006

#### **CONFIGURATION OPTIONS**

# **Model Code Example: LHFAXFN**

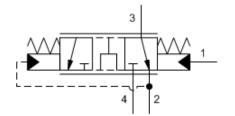
CONTROL	(X) DIFFERENTIAL PRESSURE	(F) SEAL MATERIAL	(N)
X Not Adjustable	<b>F</b> 100 psi (7 bar)	N Buna-N	
	<b>E</b> 75 psi (5 bar)	E EPDM	
		<b>V</b> Viton	

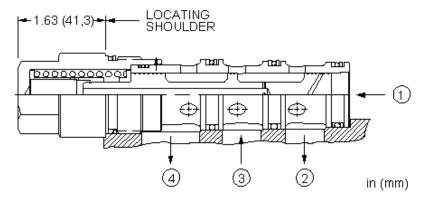
Bypass/restrictive, priority modulating element

SERIES 3 / CAPACITY: 240 L/min. / CAVITY: T-33A



snhy.com/LHHA





Bypass/restrictive modulating elements, when combined with an external orifice, create a bypass/restrictive flow control. Input flow (port 3) is directed to the priority or control flow at port 2. Once the priority requirements are met, excess flow is bypassed out port 4. The after-orifice signal is connected to port 1. The before-orifice design allows both pressure and flow to be controlled on the priority side of the circuit regardless of pressure in the bypass circuit. These valves work equally well in either closed or open center systems. Their main use is to allow after-market accessories to be driven off the host machine's hydraulic system without adding an additional pump.

# **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	EPDM: 990033014
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006

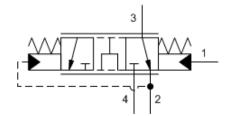
## **CONFIGURATION OPTIONS**

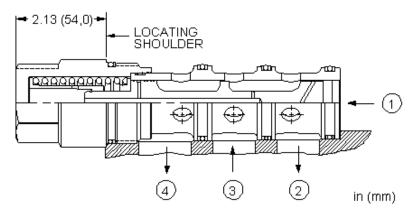
# Model Code Example: LHHAXFN

CONTROL	(^)	DIFFERENTIAL PRESSURE	(F)	SEAL MATERIAL	(IN)
X Not Adjustable		<b>F</b> 100 psi (7 bar)		N Buna-N	
		<b>E</b> 75 psi (5 bar)		<b>E</b> EPDM	
				<b>V</b> Viton	



snhy.com/LHJA





Bypass/restrictive modulating elements, when combined with an external orifice, create a bypass/restrictive flow control. Input flow (port 3) is directed to the priority or control flow at port 2. Once the priority requirements are met, excess flow is bypassed out port 4. The after-orifice signal is connected to port 1. The before-orifice design allows both pressure and flow to be controlled on the priority side of the circuit regardless of pressure in the bypass circuit. These valves work equally well in either closed or open center systems. Their main use is to allow after-market accessories to be driven off the host machine's hydraulic system without adding an additional pump.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990034007
Seal kit - Cartridge	EPDM: 990034014
Seal kit - Cartridge	Polyurethane: 990034002
Seal kit - Cartridge	Viton: 990034006

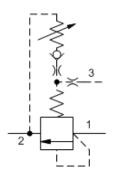
#### **CONFIGURATION OPTIONS**

**Model Code Example: LHJAXFN** 

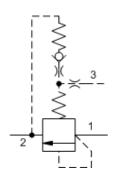
CONTROL	(X) DIFFERENTIAL PRESSURE	(F) SEAL MATERIAL	(N)
X Not Adjustable	<b>F</b> 100 psi (7 bar)	N Buna-N	
	<b>E</b> 75 psi (5 bar)	<b>E</b> EPDM	_
		<b>V</b> Viton	

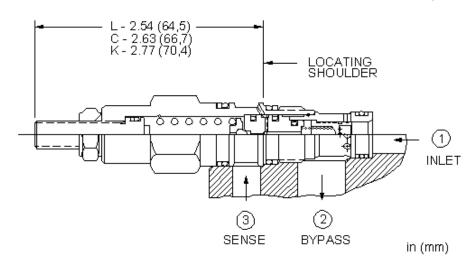


snhy.com/RVBB



un hydraulics





Three-port normally closed modulating elements with relief provide two functions when combined with an external orifice. The mainstage is a bypass compensator that controls a priority flow into the circuit, determined by the external orifice. Input flow in excess of the priority flow is bypassed to tank (port 2). If the inlet (port 1) pressure rises to the valve setting, the valve operates as a normal relief valve.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Response Time - Typical	10 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	Polyurethane: 990163002
Seal kit - Cartridge	Viton: 990163006

#### **CONFIGURATION OPTIONS**

# Model Code Example: RVBBLAN

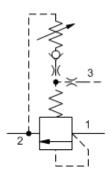
CONTROL	(L)	ADJUSTMENT RANGE	(A)	SEAL MATERIAL	(N)
L Standard Screw Adjustment		A 75 - 3000 psi (5 - 210 bar), 1	L000 psi (70	N Buna-N	
C Tamper Resistant - Factory Set		bar) Standard Setting		<b>V</b> Viton	

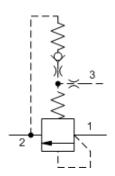
- C Tamper Resistant Factory Set
- K Handknob

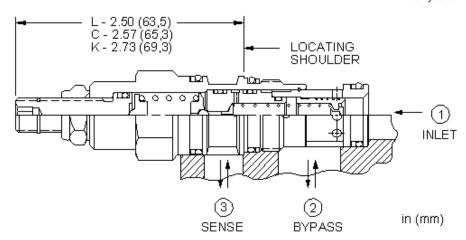
- **B** 75 1500 psi (5 105 bar), 1000 psi (70 bar) Standard Setting
- C 75 6000 psi (5 420 bar), 1000 psi (70 bar) Standard Setting
- N 75 800 psi (5 55 bar), 400 psi (28 bar) Standard Setting
- Q 75 400 psi (5 28 bar), 200 psi (14
- bar) Standard Setting **W** 75 4500 psi (5 315 bar), 1000 psi (70 bar) Standard Setting



snhy.com/RVCB







Three-port normally closed modulating elements with relief provide two functions when combined with an external orifice. The mainstage is a bypass compensator that controls a priority flow into the circuit, determined by the external orifice. Input flow in excess of the priority flow is bypassed to tank (port 2). If the inlet (port 1) pressure rises to the valve setting, the valve operates as a normal relief valve.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Response Time - Typical	10 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	30 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990011007
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006

#### **CONFIGURATION OPTIONS**

# Model Code Example: RVCBLAN

CONTROL (L) ADJUSTMENT RANGE (A) SEAL MATERIAL (N) MATERIAL/COATING

L Standard Screw Adjustment

 $\textbf{C} \quad \text{Tamper Resistant - Factory Set} \\$ 

**K** Handknob

A 100 - 3000 psi (7 - 210 bar), 1000 psi

(70 bar) Standard Setting

B 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting

C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting

N Buna-N
V Viton

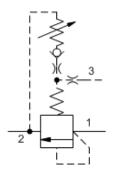
Standard Material/Coating

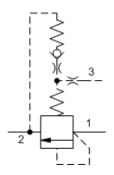
/AP Stainless Steel, Passivated
//LH Mild Steel, Zinc-Nickel

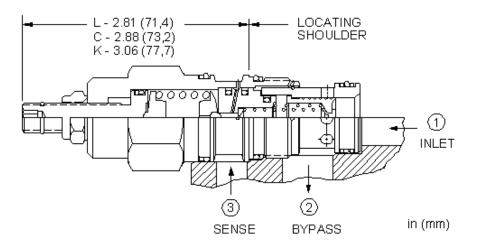
SERIES 2 / CAPACITY: 80 L/min. / CAVITY: T-2A



snhy.com/RVEB







Three-port normally closed modulating elements with relief provide two functions when combined with an external orifice. The mainstage is a bypass compensator that controls a priority flow into the circuit, determined by the external orifice. Input flow in excess of the priority flow is bypassed to tank (port 2). If the inlet (port 1) pressure rises to the valve setting, the valve operates as a normal relief valve.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Response Time - Typical	10 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	50 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: RVEBLAN

Ctand	ard Carous	Adjustment	

- C Tamper Resistant Factory Set
- K Handknob

CONTROL

- W Hex Wrench Adjustment
- Y Tri-Grip Handknob

# (L) ADJUSTMENT RANGE

(A) SEAL MATERIAL

MATERIAL/COATING

# A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting

- **B** 50 1500 psi (3,5 105 bar), 1000 psi (70 bar) Standard Setting
- C 100 6000 psi (7 420 bar), 1000 psi (70 bar) Standard Setting
- W 100 4500 psi (7 315 bar), 1000 psi (70 bar) Standard Setting

# N Buna-N

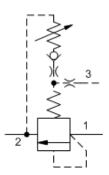
V Viton

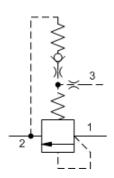
Standard Material/Coating

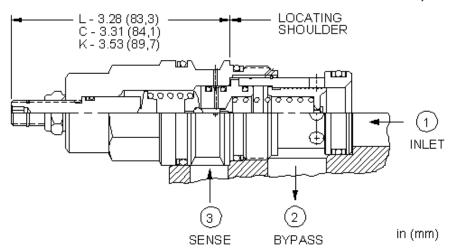
IAP Stainless Steel, Passivated



snhy.com/RVGB







Three-port normally closed modulating elements with relief provide two functions when combined with an external orifice. The mainstage is a bypass compensator that controls a priority flow into the circuit, determined by the external orifice. Input flow in excess of the priority flow is bypassed to tank (port 2). If the inlet (port 1) pressure rises to the valve setting, the valve operates as a normal relief valve.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Response Time - Typical	10 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	65 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
Seal kit - Cartridge	Buna: 990017007
Seal kit - Cartridge	Polyurethane: 990017002
Seal kit - Cartridge	Viton: 990017006

#### **CONFIGURATION OPTIONS**

#### Model Code Example: RVGBLAN

CONTROL (L) OPERATING RANGE (A) SEAL MATERIAL (N)

L Standard Screw Adjustment

C Tamper Resistant - Factory Set

**K** Handknob

A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting

**B** 150 - 1500 psi (10,5 - 105 bar), 1000 psi (70 bar) Standard Setting

C 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting

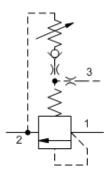
N Buna-N V Viton

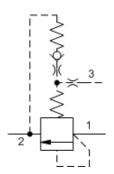


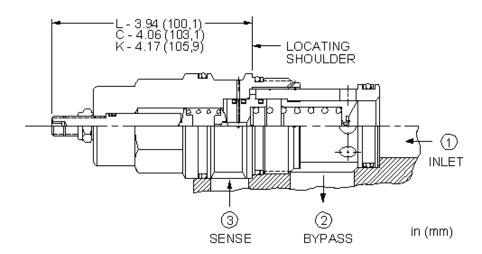
SERIES 4 / CAPACITY: 320 L/min. / CAVITY: T-19A



snhy.com/RVIB







Three-port normally closed modulating elements with relief provide two functions when combined with an external orifice. The mainstage is a bypass compensator that controls a priority flow into the circuit, determined by the external orifice. Input flow in excess of the priority flow is bypassed to tank (port 2). If the inlet (port 1) pressure rises to the valve setting, the valve operates as a normal relief valve.

#### **TECHNICAL DATA**

Factory Pressure Settings Established at	15 L/min.
Maximum Operating Pressure	350 bar
Response Time - Typical	10 ms
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@70 bar
Adjustment - Number of Clockwise Turns to Increase Setting	5
Locknut Hex Size	15 mm
Locknut Torque	9 - 10 Nm
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: RVIBLAN

L	Standard Screw Adjustment

C Tamper Resistant - Factory Set

K Handknob

CONTROL

A 100 - 3000 psi (7 - 210 bar), 1000 psi (70 bar) Standard Setting

(L) ADJUSTMENT RANGE

**B** 50 - 1500 psi (3,5 - 105 bar), 1000 psi (70 bar) Standard Setting

**C** 150 - 6000 psi (10,5 - 420 bar), 1000 psi (70 bar) Standard Setting

(A) SEAL MATERIAL

N Buna-N

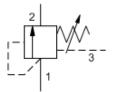
**E** EPDM

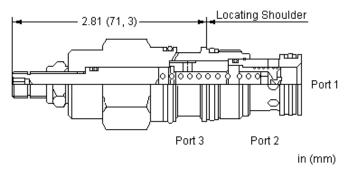
V Viton

(N)



snhy.com/LRFCL





Normally closed modulating elements without an internal orifice act as a bypass compensator to maintain a constant pressure drop across an orifice, regardless of variations in upstream or downstream pressure.

#### **TECHNICAL DATA**

Maximum Operating Pressure	350 bar
Seal kit - Cartridge	Buna: 990202007
Seal kit - Cartridge	Polyurethane: 990002002
Seal kit - Cartridge	Viton: 990202006

#### **CONFIGURATION OPTIONS**

# Model Code Example: LRFCLDN

DIFFERENTIAL PRESSURE	(D) SEAL MATERIAL	(N) MATERIAL/COATING
<b>D</b> 50 psi (3,5 bar)	N Buna-N	Standard Material/Coating
<b>F</b> 100 psi (7 bar)	<b>E</b> EPDM	/AP Stainless Steel, Passivated
	<b>V</b> Viton	/LH Mild Steel, Zinc-Nickel



#### **Corporate Headquarters**

1500 West University Parkway Sarasota, FL 34243 U.S.A. Phone: 941.362.1200

suninfo@sunhydraulics.com

# ONE RELIABLE SOURCE

# **ENDLESS SOLUTIONS**



### **Sun Hydraulics Limited**

Wheler Road Coventry CV3 4LA England

Ph: +44-2476-217-400 sales@sunuk.com

# Sun Hydraulics Korea Corp.

92 Hogupo-ro Namdong-gu Incheon 405-818 Korea

Ph: +82-32-813-1350 sales@sunhydraulics.co.kr

#### Sun Hydraulik GmbH

Brüsseler Allee 2 D-41812 Erkelenz Germany Ph: +49-2431-8091-0

sales@sunhydraulik.de

#### Sun Hydraulics China Co. Ltd

Hong Kong New World Tower 47th Floor 300, Huaihai Zhong Road Shanghai 200021 P.R.China Ph: +86-21-5116-2862

sunchinainfo@sunhydraulics.com

#### **Sun Hydraulics Corporation**

55 rue Fragonard Résidence Rambouillet - Appt A-42 33520 Bruges France Ph: +33-673063371 info@sunfr.com

# Sun Hydraulics (India)

No. 48 'Regent Prime' Unit No. 306, Level 3 Whitefield Main Road, Whitefield, Bangalore - 560 066 India

Ph: +0091-80-28456325 <a href="mailto:sunindiainfo@sunhydraulics.com">sunindiainfo@sunhydraulics.com</a>