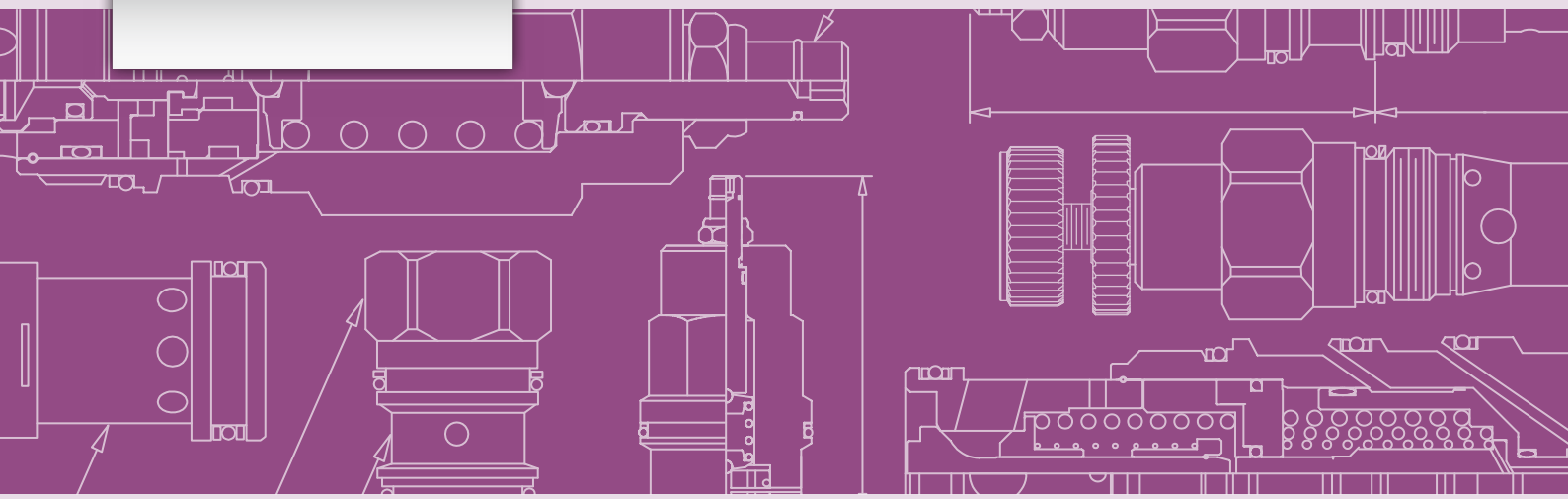
STEED
HYDRAULIC TECHNOLOGY



Cartridge Valve

Solenoid Operated
Pressure Control
Flow Control
Directional
Load Holding
Logic Element
Circuit Saver
Electronic Amplifier P-C Board
Filter
Cavity Plug

www.steedmachinery.com.tw

Contents

Cartridge Valve

(continue)

Contents

(continue)

Contents

Operating Recommendation

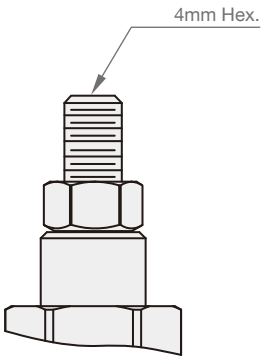
· **Fluid Viscosity Recommendations**
15 to 380 cSt

· **Fluid Cleanliness Recommendations**
Specified in accordance with ISO 4406:1999; 4μm / 6μm / 14μm

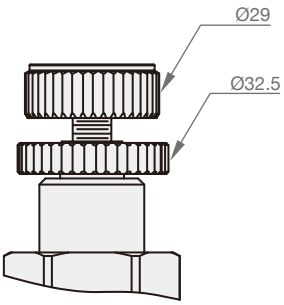
· **Fluid Temperature Recommendations**
Buna N (Nitrile) : -35°C to 90°C
Viton : -20°C to 120°C

CONTROL MANNER

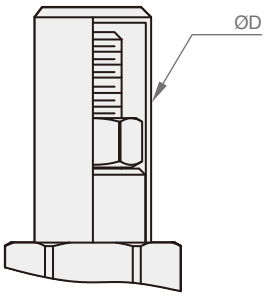
▸ **L : Standard Screw Adjustment**



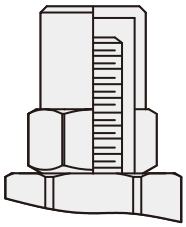
▸ **K : Hand Knob with Lock Knob**



▸ **C : Tamper Resistant Cover**



For Line Mount Type



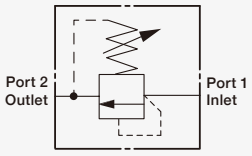
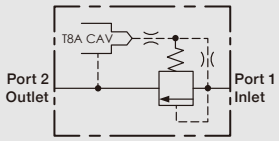
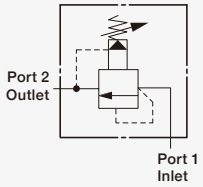
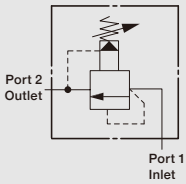
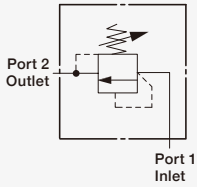
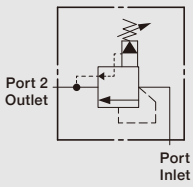
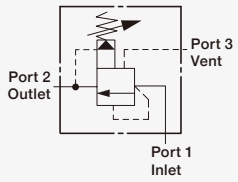
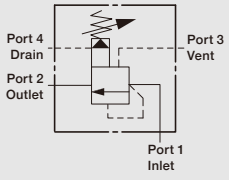
For SAE Cavity Type

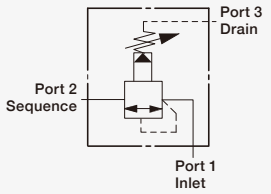
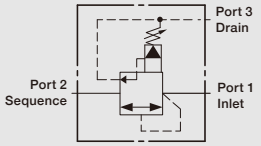
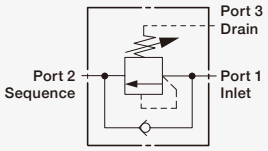
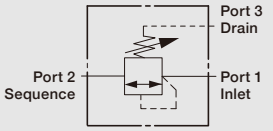
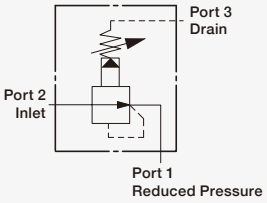
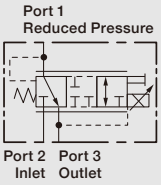
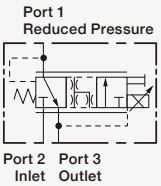
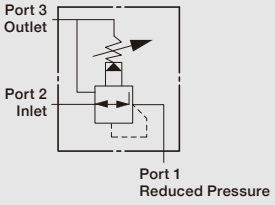
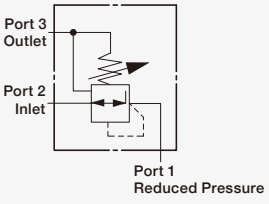
ØD	Size	Cavity
Ø19	02	T10, T11, T13
Ø25	03	T2, T3, T5
Ø30	06	T16, T17
Ø40	08	T18, T19

Index

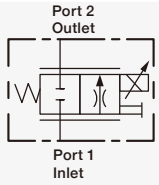
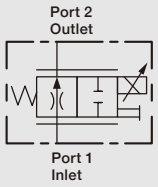
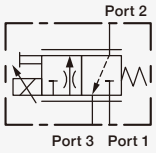
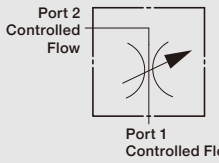
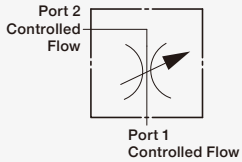
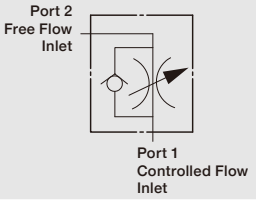
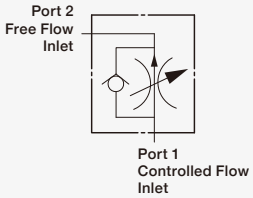
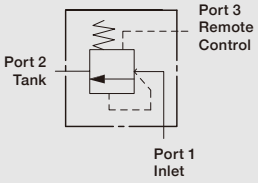
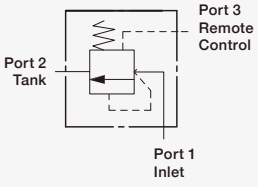
Solenoid Operated

Pressure Control

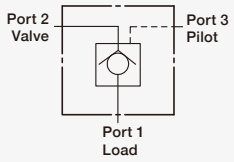
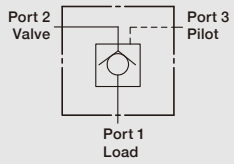
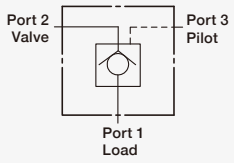
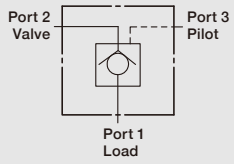
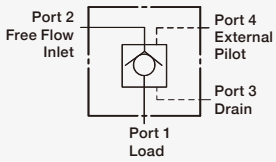
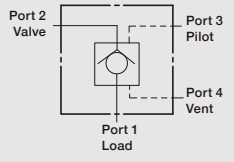
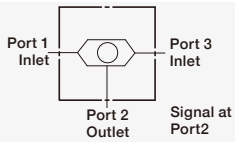
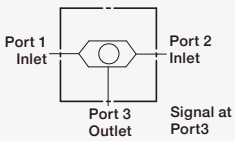
Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
34	Pilot Stage, Direct-acting Relief Valve - Pilot Capacity		RB2C	T10A	1	✓	✓	
			RB3A	T3A	2	✓	✓	
36	Main Stage, Pilot Operated Relief with Integral T8A Cavity		RP2C8	T10A	95			
			RP3C8	T3A	200			
			RP6C8	T16A	380			
			RP8C8	T18A	760			
38	Pilot Operated Relief Valve		RP2C	T10A	95	✓	✓	
			RP3C	T3A	200	✓	✓	
			RP6C	T16A	380	✓	✓	
			RP8C	T18A	760	✓	✓	
40	Fast-acting, Pilot Operated Relief		RP2E	T10A	95	✓	✓	
			RP3E	T3A	200	✓	✓	
			RP6E	T16A	380	✓	✓	
			RP8E	T18A	760	✓	✓	
42	Direct-acting Relief Valve		RD1A	T162A	28.4	✓		
			RD2A	T10A	95	✓		
			RD3A	T3A	200	✓		
			RD6A	T16A	380	✓		
			RD8A	T18A	760	✓		
44	Kick-down, Pilot-operated, Balanced Piston Relief Valve		RQ2B	T10A	95	✓	✓	
			RQ3B	T3A	200	✓	✓	
			RQ6B	T16A	380	✓	✓	
			RQ8B	T18A	760	✓	✓	
46	Pilot Operated Relief Valve with Vent		RV1A	T163A	28.4	✓	✓	
			RV2A	T11A	60	✓	✓	
			RV3A	T2A	120	✓	✓	
			RV6A	T17A	240	✓	✓	
			RV8A	T19A	480	✓	✓	
48	Ventable, Pilot-operated, Balanced Piston Relief Valve with Drain to Port 4		RV2D	T21A	60	✓	✓	
			RV3D	T22A	120	✓	✓	
			RV6D	T23A	240	✓	✓	
			RV8D	T24A	480	✓	✓	

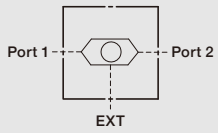
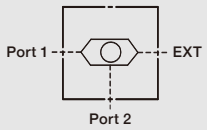
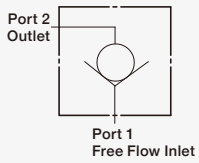
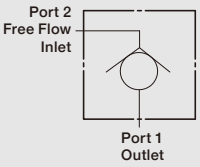
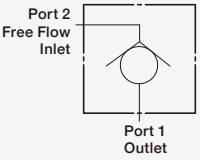
Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner			
						L	K	X	M
50	Pilot Operated Sequence Valve		RS2C	T11A	60	✓	✓		
			RS3C	T2A	120	✓	✓		
			RS6C	T17A	240	✓	✓		
			RS8C	T19A	480	✓	✓		
52	Kick-down, Pilot-operated, Balanced Piston Sequence Valve		SQ2B	T11A	60	✓	✓		
			SQ3B	T2A	120	✓	✓		
			SQ6B	T17A	240	✓	✓		
			SQ8B	T19A	480	✓	✓		
54	Direct-acting Sequence Valve with Reverse Flow Check		SC2A	T11A	60	✓	✓		
			SC3A	T2A	120	✓	✓		
			SC6A	T17A	240	✓	✓		
			SC8A	T19A	480	✓	✓		
56	Direct-acting Sequence Valve without Reverse Flow Check		SX2A	T11A	60	✓	✓		
			SX3A	T2A	120	✓	✓		
58	Pilot Operated Reducing Valve		PB2B	T11A	40	✓	✓		
			PB3B	T2A	80	✓	✓		
			PB6B	T17A	160	✓	✓		
			PB8B	T19A	320	✓	✓		
60	Proportional, Direct Acting Pressure Reducing / Relieving, Low Leakage		PR2P	T11A	20				✓
62	Proportional, Direct Acting Pressure Reducing / Relieving, Better Dynamic Response		PR2L	T11A	20				✓
64	Pilot Operated Reducing / Relieving Valve		PP2B	T11A	40	✓	✓		
			PP3B	T2A	80	✓	✓		
			PP6B	T17A	160	✓	✓		
			PP8B	T19A	320	✓	✓		
66	Direct-acting Pressure Reducing / Relieving Valve		PR2B	T11A	40	✓	✓		
			PR3B	T2A	80	✓	✓		
			PR6B	T17A	160	✓	✓		
			PR8B	T19A	320	✓	✓		

Flow Control

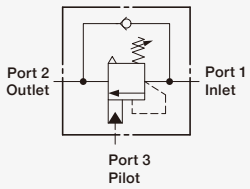
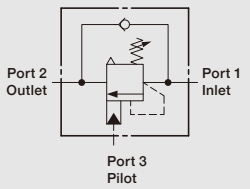
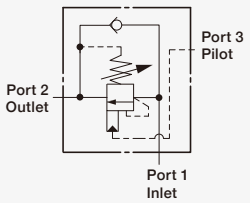
Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner			
						L	K	X	M
68	Proportional, Normally Closed, Flow Control Valve		FP2C	T13A	40				✓
70	Proportional, Normally Open, Flow Control Valve		FP2H	T13A	28				✓
72	Proportional, 3-way, Flow Control Valve		FM2A	T11A	34				✓
74	Fully Adjustable Needle Valve		NF1C	T162A	18.9	✓	✓		
			NF2C	T13A	25	✓	✓		
			NF3C	T5A	50	✓	✓		
			NF6C	T16A	100	✓	✓		
			NF8C	T18A	200	✓	✓		
76	Fully Adjustable and High Capacity Needle Valve		NF2D	T13A	80	✓	✓		
			NF3D	T5A	160	✓	✓		
			NF6D	T16A	320	✓	✓		
			NF8D	T18A	500	✓	✓		
78	Fully Adjustable Needle Valve (with Free Flow Check Valve)		NC2B	T13A	25	✓	✓		
			NC3B	T5A	50	✓	✓		
			NC6B	T16A	100	✓	✓		
			NC8B	T18A	200	✓	✓		
80	Pressure Compensated Fully Adjustable Flow Control Valve (with Free Flow Check Valve)		FD2A	T13A	23	✓	✓		
			FD3B	T5A	45	✓	✓		
			FD6A	T16A	95	✓	✓		
			FD8A	T18A	200	✓	✓		
82	Normally Closed, Modulating Element with Pilot Source from Port 1		LR2A	T11A	60	✓		✓	
			LR3A	T2A	120	✓		✓	
			LR6A	T17A	240	✓		✓	
			LR8A	T19A	480	✓		✓	
84	Normally Closed, Modulating Element		LR2C	T11A	60	✓		✓	
			LR3C	T2A	120	✓		✓	
			LR6C	T17A	240	✓		✓	
			LR8C	T19A	480	✓		✓	

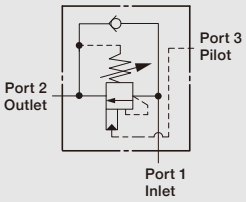
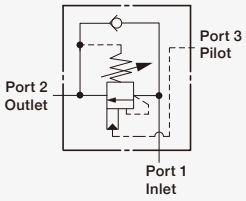
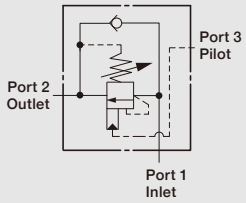
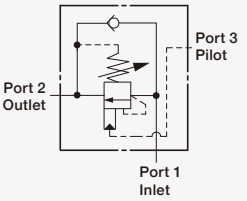
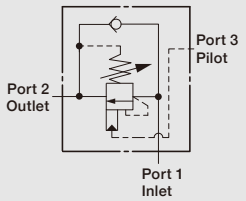
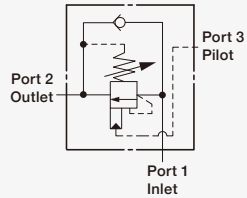
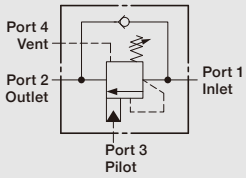
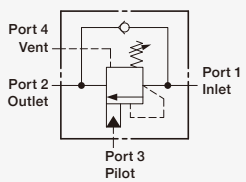
Directional

Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner				
						L	K	X	V	E
86	Pilot-to-Open Check Valve with Standard Pilot & POM Seat		CK2A	T11A	60	✓		✓		
			CK3A	T2A	120	✓		✓		
			CK6A	T17A	240	✓		✓		
			CK8A	T19A	480	✓		✓		
88	Pilot-to-Open Check Valve with Standard Pilot		CK1B	T163A	28.4	✓		✓		
			CK2B	T11A	60	✓		✓		
			CK3B	T2A	120	✓		✓		
			CK6B	T17A	240	✓		✓		
			CK8B	T19A	480	✓		✓		
90	Pilot-to-Open Check Valve with Sealed Pilot & POM Seat		CK2C	T11A	60	✓		✓		
			CK3C	T2A	120	✓		✓		
			CK6C	T17A	240	✓		✓		
			CK8C	T19A	480	✓		✓		
92	Pilot-to-Open Check Valve with Sealed Pilot		CK2D	T11A	60	✓		✓		
			CK3D	T2A	120	✓		✓		
			CK6D	T17A	240	✓		✓		
			CK8D	T19A	480	✓		✓		
94	Vented, Pilot-to-Open Check Valve with External Pilot Port		CK2F	T11A	60				✓	
			CK3F	T2A	120				✓	
			CK6F	T17A	240				✓	
			CK8F	T19A	480				✓	
96	Vented, Pilot-to-Open Check Valve		CV2V	T21A	60	✓		✓		
			CV3V	T22A	120	✓		✓		
			CV6V	T23A	240	✓		✓		
			CV8V	T24A	480	✓		✓		
98	Shuttle Valve		CS2D	T11A	10			✓		
			CS2B	T11A	10			✓		

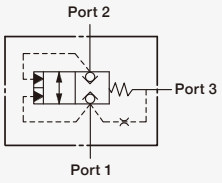
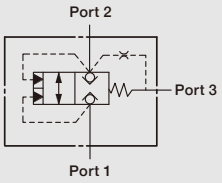
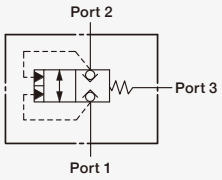
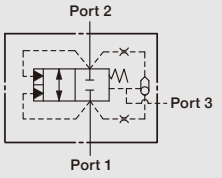
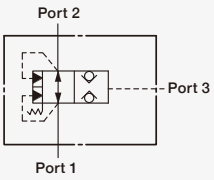
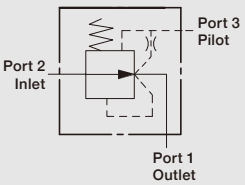
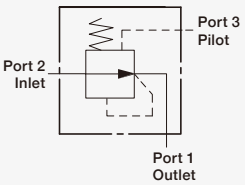
Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner				
						L	K	X	V	E
100	Shuttle Valve, with External Port		CS2A	T13A	10					✓
			CS2C	T13A	10					✓
102	Check Valve, Free Flow Port1 to Port2		CX2A	T13A	80			✓		
			CX3A	T5A	160			✓		
			CX7A	T16A	320			✓		
			CX8A	T18A	640			✓		
104	Check Valve, Free Flow Port2 to Port1 with POM Seat		CX2B	T13A	60			✓		
			CX3B	T5A	120			✓		
			CX6B	T16A	240			✓		
			CX8B	T18A	480			✓		
106	Check Valve, Free Flow Port2 to Port1		CX2D	T13A	60			✓		
			CX3D	T5A	120			✓		
			CX7D	T16A	240			✓		
			CX8D	T18A	480			✓		

Load Holding

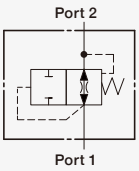
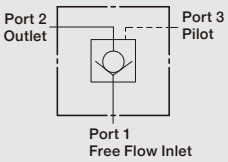
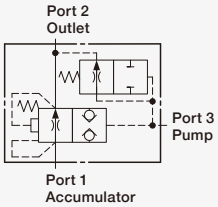
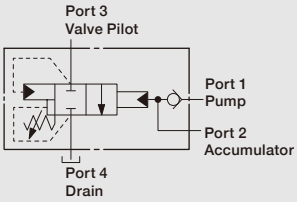
Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
108	3:1 Pilot Ratio, Vented Counterbalance Valve - Atmospherically Referenced		CA2A	T11A	60	✓		
			CA3A	T2A	120	✓		
			CA6A	T17A	240	✓		
			CA8A	T19A	480	✓		
110	5:1 Pilot Ratio, Vented Counterbalance Valve - Atmospherically Referenced		CA2G	T11A	60	✓		
			CA3G	T2A	120	✓		
			CA6G	T17A	240	✓		
			CA8G	T19A	480	✓		
112	Counterbalance 3:1 Pilot Ratio External Pilot Non-Vented Valve		CB2A	T11A	60	✓		
			CB3A	T2A	120	✓		
			CB6A	T17A	240	✓		
			CB8A	T19A	480	✓		

Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
114	Counterbalance 4.5:1 Pilot Ratio External Pilot Non-Vented Valve		CB2G	T11A	60	✓		
			CB3G	T2A	120	✓		
			CB6G	T17A	240	✓		
			CB8G	T19A	480	✓		
116	Counterbalance 10:1 Pilot Ratio External Pilot Non-Vented Valve		CB2H	T11A	60	✓		
			CB3H	T2A	120	✓		
			CB6H	T17A	240	✓		
			CB8H	T19A	480	✓		
118	3:1 Pilot Ratio, Semi-restrictive Counterbalance Valve		CB2C	T11A	40	✓		
			CB3C	T2A	80	✓		
			CB6C	T17A	160	✓		
120	4.5:1 Pilot Ratio, Semi-restrictive Counterbalance Valve		CB2D	T11A	40	✓		
			CB3D	T2A	80	✓		
			CB6D	T17A	160	✓		
122	3:1 Pilot Ratio, Restrictive Counterbalance Valve		CB2E	T11A	15	✓		
			CB3E	T2A	30	✓		
			CB6E	T17A	60	✓		
			CB8E	T19A	80	✓		
124	4.5:1 Pilot Ratio, Restrictive Counterbalance Valve		CB2F	T11A	15	✓		
			CB3F	T2A	30	✓		
			CB6F	T17A	60	✓		
			CB8F	T19A	80	✓		
126	3:1 Pilot Ratio, Vented, Counterbalance Valve		CW2A	T21A	60	✓		
			CW3A	T22A	120	✓		
			CW6A	T23A	240	✓		
			CW8A	T24A	480	✓		
128	5:1 Pilot Ratio, Vented, Counterbalance Valve		CW2G	T21A	60	✓		
			CW3G	T22A	120	✓		
			CW6G	T23A	240	✓		
			CW8G	T24A	480	✓		

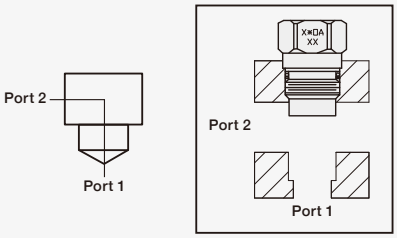
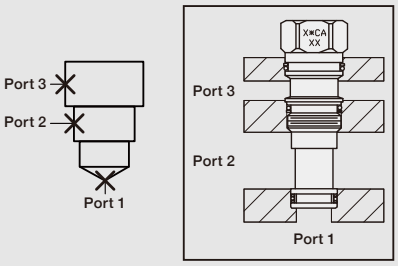
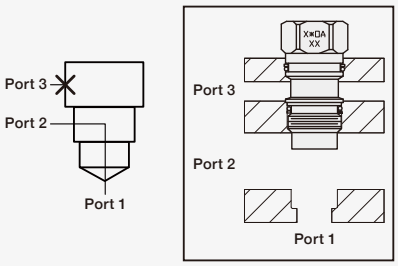
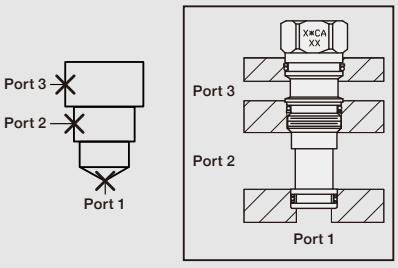
Logic Element

Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
130	Logic Elements (Spring biased closed, pilot source from port 1)		LO2A	T11A	80	✓		✓
			LO3A	T2A	160	✓		✓
			LO6A	T17A	320	✓		✓
			LO8A	T19A	640	✓		✓
130	Logic Elements (Spring biased closed, pilot source from port 2)		LO2B	T11A	80	✓		✓
			LO3B	T2A	160	✓		✓
			LO6B	T17A	320	✓		✓
			LO8B	T19A	640	✓		✓
130	Logic Elements (Spring biased closed, pilot source from port 3)		LO2C	T11A	80	✓		✓
			LO3C	T2A	160	✓		✓
			LO6C	T17A	320	✓		✓
			LO8C	T19A	640	✓		✓
130	Logic Elements (Spring biased closed, higher of port 1 or 2 pilot source)		LO2D	T11A	80	✓		✓
			LO3D	T2A	160	✓		✓
			LO6D	T17A	320	✓		✓
			LO8D	T19A	640	✓		✓
130	Logic Elements (Spring biased open, pilot source from port 3)		LO2O	T11A	80	✓		✓
			LO3O	T2A	160	✓		✓
			LO6O	T17A	320	✓		✓
			LO8O	T19A	640	✓		✓
132	Normally Open, Logic Madulating, Internal Pilot		LP2A	T11A	60	✓		✓
			LP3A	T2A	120	✓		✓
			LP6A	T17A	240	✓		✓
			LP8A	T19A	480	✓		✓
132	Normally Open, Logic Madulating, External Pilot		LP2C	T11A	60	✓		✓
			LP3C	T2A	120	✓		✓
			LP6C	T17A	240	✓		✓
			LP8C	T19A	480	✓		✓

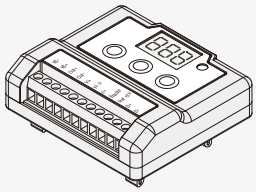
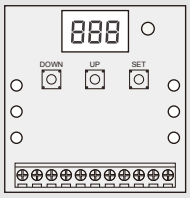
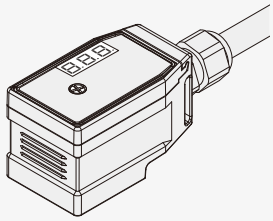
Circuit Saver

Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
134	Fixed Orifice, Flow Fuse Valve		FQ2A	T13A	23			✓
			FQ3A	T5A	60			✓
			FQ6A	T16A	95			✓
			FQ8A	T18A	200			✓
136	1.8:1 Pilot Ratio, Pilot to Close Check Valve		CO1A	T163A	40			✓
			CO2A	T11A	80			✓
			CO3A	T2A	160			✓
			CO6A	T17A	320			✓
			CO8A	T19A	640			✓
138	120:1 Pilot Ratio, Pilot to Close Check Valve		CO3O	T2A	4			✓
140	30%, Accumulator Sense, Pump Unload Valve with Check - Pilot Capacity		QC2A	T21A	60	✓	✓	
			QC2B	T21A	60	✓	✓	
			QC2C	T21A	60	✓	✓	

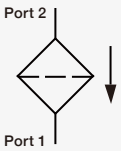
Cavity Plug

Page No.	Function	Symbols	Model No.	Cavity	Thread
142	2 Holes External Port Blocked Cavity Plug		X1OA2	T162A	M16 P15
			X2OA2	T10A	M20 P1.5
			X2OA2	T13A	M20 P1.5
			X3OA2	T3A	1"-14UNS-2B
			X3OA2	T5A	1"-14UNS-2B
			X6OA2	T16A	M36 P2
			X8OA2	T18A	M48 P2
143	2 Holes All Ports Blocked Cavity Plug		X1CA2	T162A	M16 P15
			X2CA2	T10A	M20 P1.5
			X2CA2	T13A	M20 P1.5
			X3CA2	T3A	1"-14UNS-2B
			X3CA2	T5A	1"-14UNS-2B
			X6CA2	T16A	M36 P2
			X8CA2	T18A	M48 P2
144	Port 1 to 2 Open, Port 3 Blocked Cavity Plug		X1OA3	T163A	M16 P1.5
			X2OA3	T11A	M20 P1.5
			X3OA3	T2A	1"-14UNS-2B
			X6OA3	T17A	M36 P2
			X8OA3	T19A	M48 P2
145	3 Holes All Ports Blocked Cavity Plug		X1CA3	T163A	M16 P1.5
			X2CA3	T13A	M20 P1.5
			X3CA3	T2A	1"-14UNS-2B
			X6CA3	T17A	M36 P2
			X8CA3	T19A	M48 P2

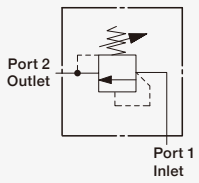
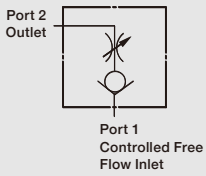
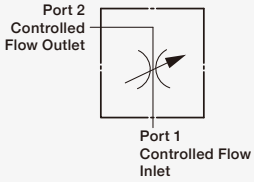
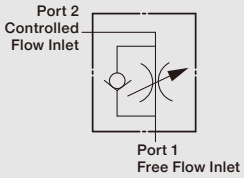
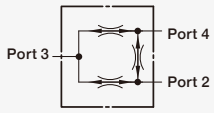
Electronic Amplifier P-C Board

Page No.	Function	Appearance	Model No.	Type
146	Digital Proportional Controller - Case		SY-DPCA-C-1	Case with DIN-35 rail clamps
148	Digital Proportional Controller - PCB Only		SY-DPCA-P-1	PCB only
150	Digital Proportional Controller - DIN Plug		SY-DPCA-D-P9-1	DIN43650A plug

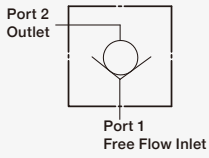
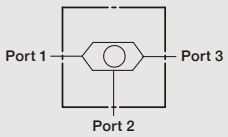
Filter

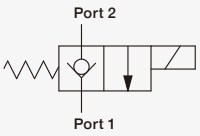
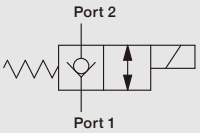
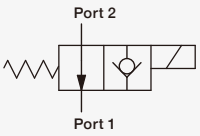
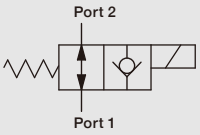
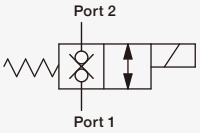
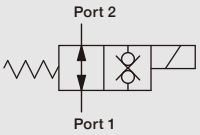
Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
152	Filter		FL2A	T13A	37.9			✓
			FL3A	T5A	75.7			✓
			FL6A	T16A	151.4			✓
			FL8A	T18A	302.8			✓

SAE Cavity Cartridge Valve > Flow Control

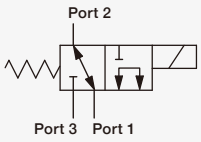
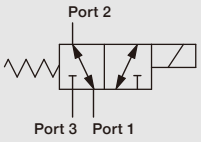
Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner			
						L	K	X	C
156	Noiseless Direct Acting Diagonal Area Relief Valve		MH-082	T082	25	✓	✓		✓
			MH-092	T092	45	✓	✓		✓
			MH-102	T102	45	✓	✓		✓
			MH-122	T122	85	✓	✓		✓
158	Check with Manual Flow Adjustment		CN-082	T082	30	✓	✓		
			CN-102	T102	50	✓	✓		
			CN-122	T122	80	✓	✓		
			CN-162	T162	150	✓	✓		
160	Fully Adjustable Needle		NV-082	T082	30	✓	✓		
			NV-102	T102	50	✓	✓		
			NV-122	T122	80	✓	✓		
			NV-162	T162	150	✓	✓		
162	Fully Adjustable Needle with Free Flow Check		NC-082	T082	30	✓	✓		
			NC-102	T102	50	✓	✓		
			NC-122	T122	80	✓	✓		
			NC-162	T162	150	✓	✓		
164	Flow Divider (Flow Ratio: 1:1)		CP-104	T104	45			✓	
			CP-124	T124	75			✓	
			CP-164	T164	150			✓	

SAE Cavity Cartridge Valve > Directional

Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
166	Check Free Flow 1-2, , Poppet Type		CV-082	T082	30			✓
			CV-102	T102	50			✓
			CV-122	T122	80			✓
			CV-162	T162	150			✓
168	Shuttle Valve		LS-083	T083	15			✓
			LS-103	T103	30			✓

Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
170	Normally Closed Single Check		HS-2A	T082	28			✓
			JS-2A	T102	50			✓
			LS-2A	T122	100			✓
			PS-2A	T162	150			✓
172	Normally Closed Single Check Reverse Flow		HS-2B	T082	28			✓
			JS-2B	T102	50			✓
			LS-2B	T122	100			✓
			PS-2B	T162	150			✓
174	Normally Open Single Check		HS-2C	T082	28			✓
			JS-2C	T102	50			✓
			LS-2C	T122	100			✓
			PS-2C	T162	150			✓
176	Normally Open Single Check Reverse Flow		HS-2D	T082	28			✓
			JS-2D	T102	50			✓
			LS-2D	T122	100			✓
			PS-2D	T162	150			✓
178	Normally Closed Double Check		HS-2I	T082	28			✓
			JS-2I	T102	50			✓
			LS-2I	T122	100			✓
			PS-2I	T162	150			✓
180	Normally Open Double Check		HS-2J	T082	28			✓
			JS-2J	T102	50			✓
			LS-2J	T122	100			✓
			PS-2J	T162	150			✓

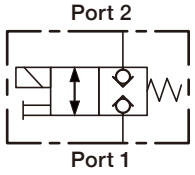
SAE Cavity Cartridge Valve > Directional > On/Off Valves 3 Way Valve

Page No.	Function	Symbols	Model No.	Cavity	Capacity (l/min)	Control Manner		
						L	K	X
182	3 Way, 2 Position		HS-3A	T082	15			✓
			JS-3A	T102				✓
184	3 Way, 2 Position		HS-3X	T082	13			✓
			JS-3X	T102	38			✓

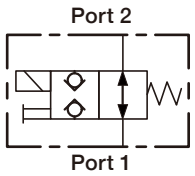
DTA

SYMBOLS

normally closed



normally open



ORDER CODES

DT	2	A	-	T13A	-	M	C	N	-	DG	24
①	②			③		④	⑤	⑥		⑦	⑧

①	Model Name	DT	
②	Capacity (l/min)	2	40
③	Cavity	T13A	
④	Control Manner	M	manual override
⑤	Type	C	normally closed
		H	normally open
⑥	Material of Seal	N	buna-N
		V	viton
⑦	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
⑧	Voltage (coil)	12	12 VDC
		24	24 VDC

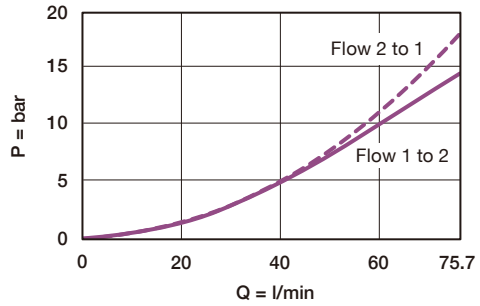
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
DT2A	T13A	40	350	less than 0.7 cc/min	45/50

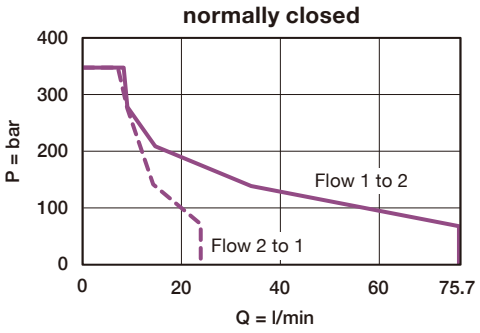
Model	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
DT2A	1820mA@12VDC 910mA@24VDC	22	0.24	0.23

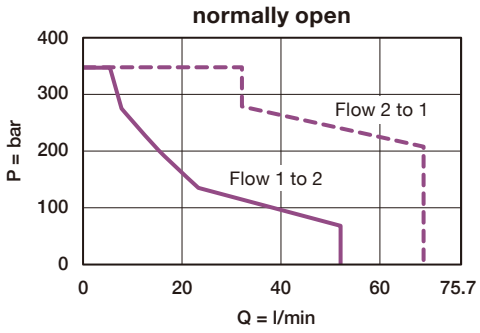
PERFORMANCE CURVES

▸ Pressure Differential vs. Flow



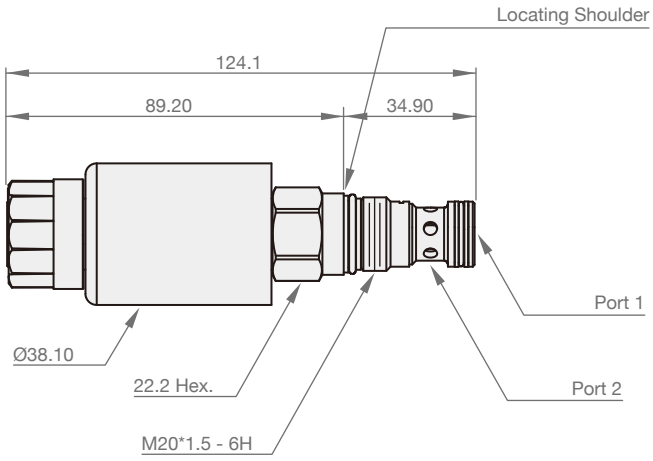
▸ Valve Performance Limits @ 10% Undervoltage & Stabilized Coil Temperature





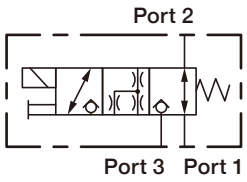
DIMENSION

(UNIT : mm)



DWA

SYMBOLS



ORDER CODES

DW 2 A - T11A - M A N - DR 24

(1) (2) (3) (4) (5) (6) (7) (8)

1	Model Name	DW	
2	Capacity (l/min)	2	30
3	Cavity	T11A	
4	Control Manner	M	manual override
5	Type	A	1-2 normally open, 2-3 closed
6	Material of Seal	N	buna-N
		V	viton
7	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
8	Voltage (coil)	12	12 VDC
		24	24 VDC

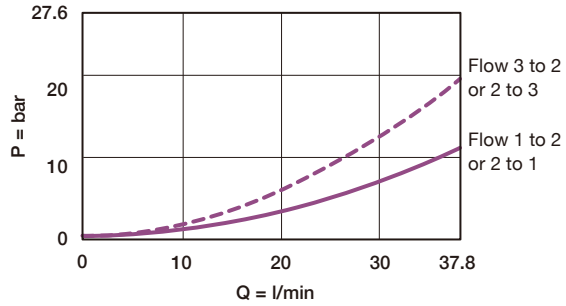
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
DW2A	T11A	30	350	less than 0.7 cc/min	45/50

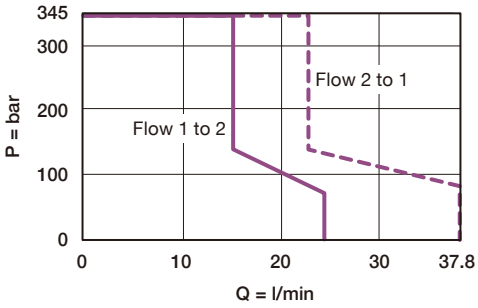
Model	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
DW2A	1820mA@12VDC 910mA@24VDC	22	0.28	0.23

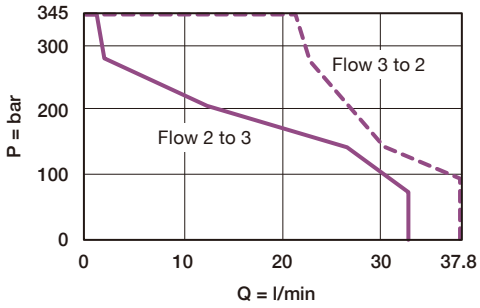
PERFORMANCE CURVES

▸ Pressure Differential vs. Flow



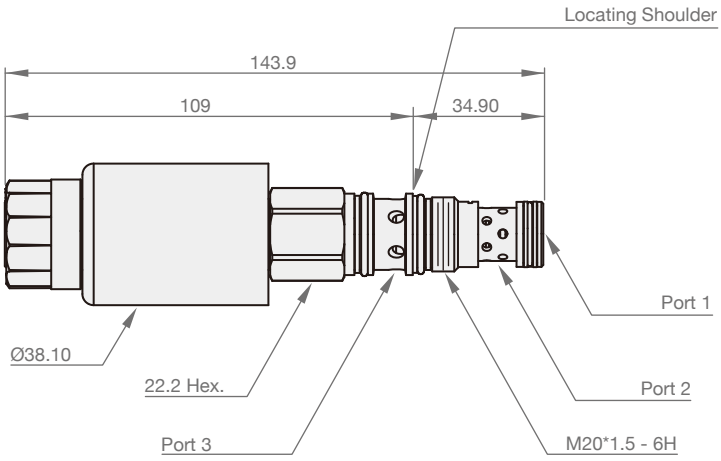
▸ Valve Performance Limits @ 10% Undervoltage & Stabilized Coil Temperature





DIMENSION

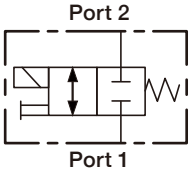
(UNIT : mm)



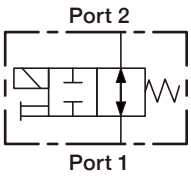
DLA

SYMBOLS

normally closed



normally open



ORDER CODES

DL	2	A	-	T13A	-	M	C	N	-	DG	24
1	2			3		4	5	6		7	8

1	Model Name	DL	
2	Capacity (l/min)	2	45
3	Cavity	T13A	
4	Control Manner	M	manual override
5	Type	C	normally closed
		H	normally open
6	Material of Seal	N	buna-N
		V	viton
7	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
8	Voltage (coil)	12	12 VDC
		24	24 VDC

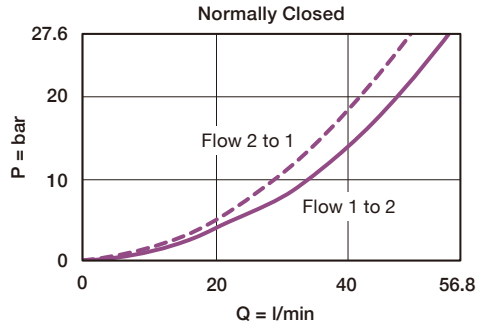
MODEL SPEC.

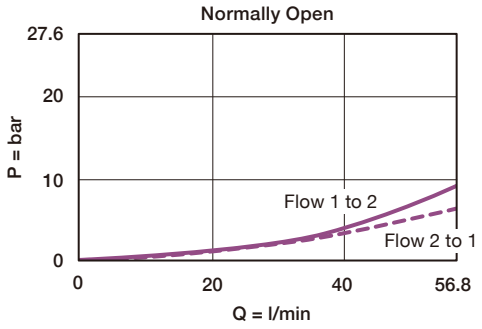
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
DL2A	T13A	45	350	less than 100 cc/min	40/50

Model	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
DL2A	1820mA@12VDC 910mA@24VDC	22	0.24	0.23

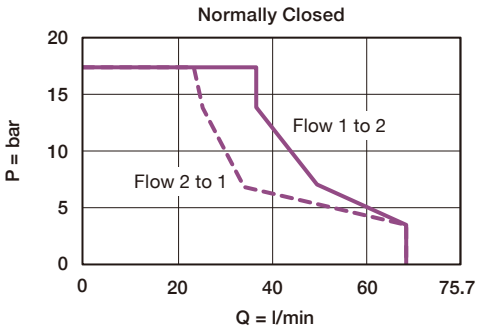
PERFORMANCE CURVES

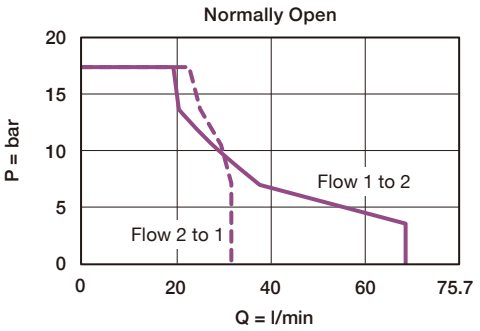
▸ Typical Pressure Differential vs. Folw





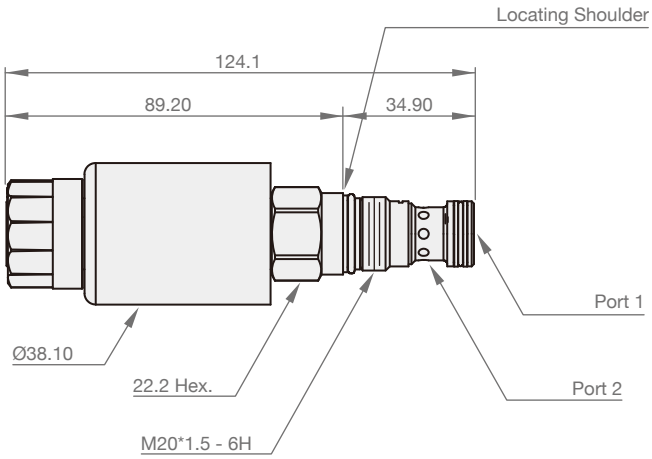
▸ Valve Performance Limits @ 10% Undervoltage & Stabilized Coil Temperature





DIMENSION

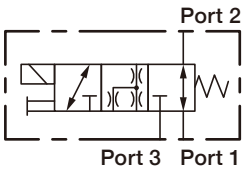
(UNIT : mm)



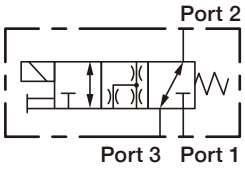
DMA

SYMBOLS

Type A



Type N



ORDER CODES

DM	2	A	-	T11A	-	M	A	N	-	DR	24
①	②			③		④	⑤	⑥		⑦	⑧

①	Model Name	DM	
②	Capacity (l/min)	2	45
③	Cavity	T11A	
④	Control Manner	M	manual override
⑤	Type	A	1-2 normally open, 2-3 closed
		N	2-3 normally open, 1-2 closed
⑥	Material of Seal	N	buna-N
		V	viton
⑦	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
⑧	Voltage (coil)	12	12 VDC
		24	24 VDC

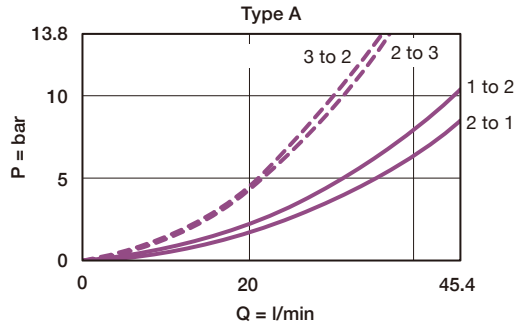
MODEL SPEC.

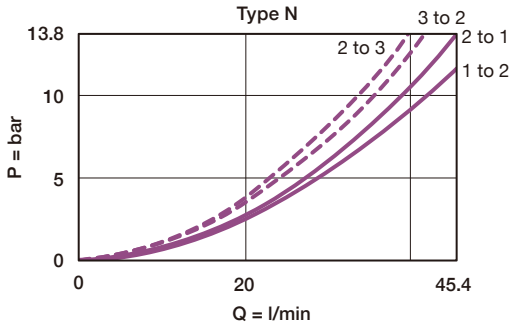
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
DM2A	T11A	45	350	less than 100 cc/min	40/50

Model	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
DM2A	1820mA@12VDC 910mA@24VDC	22	0.28	0.23

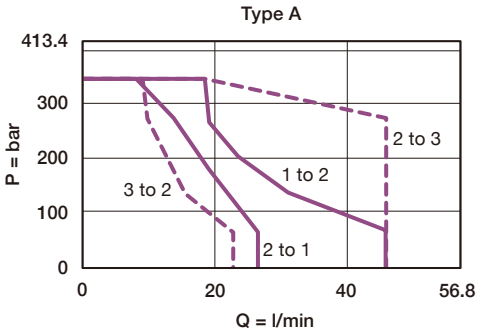
PERFORMANCE CURVES

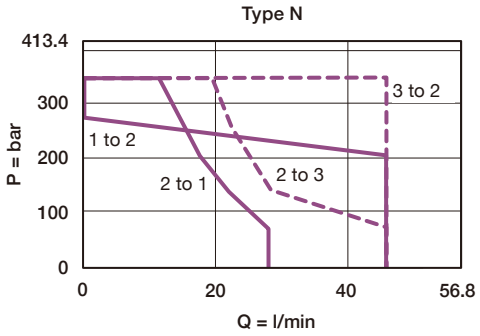
▸ Typical Pressure Differential vs. Folw





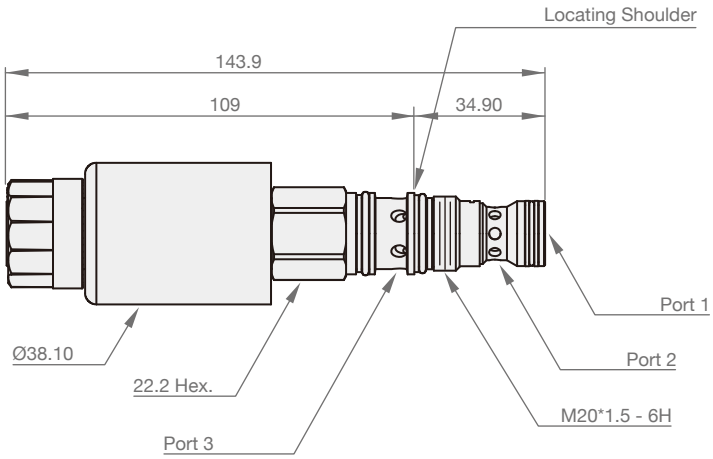
▸ Valve Performance Limits @ 10% Undervoltage & Stabilized Coil Temperature





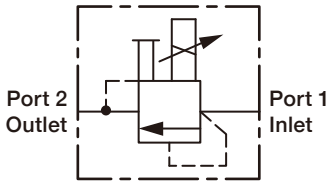
DIMENSION

(UNIT : mm)



RBP

SYMBOLS



ORDER CODES

RB 1 P - T8A - M A N - DG 24

1	Model Name	RBP	
2	Capacity (l/min)	1	1
3	Cavity	T8A	
4	Control Manner	M	manual override
5	Adjustment Range (bar)	A	20 ~ 210
		B	10.5 ~ 105
		D	3.5 ~ 50
		W	35 ~ 350
6	Material of Seal	N	buna-N
		V	viton
7	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
8	Voltage (coil)	12	12 VDC
		24	24 VDC

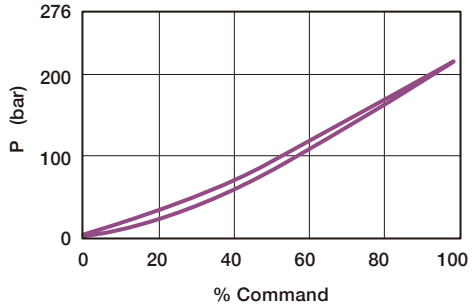
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
RB1P	T8A	1	350	less than 25 cc/min	9/10

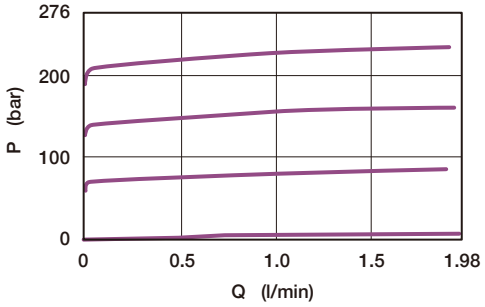
Model	Hysteresis	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
RB1P	5%	1820mA@12VDC 910mA@24VDC	22	0.26	0.23

PERFORMANCE CURVES

▸ **Pressure vs. Command (Range A)**

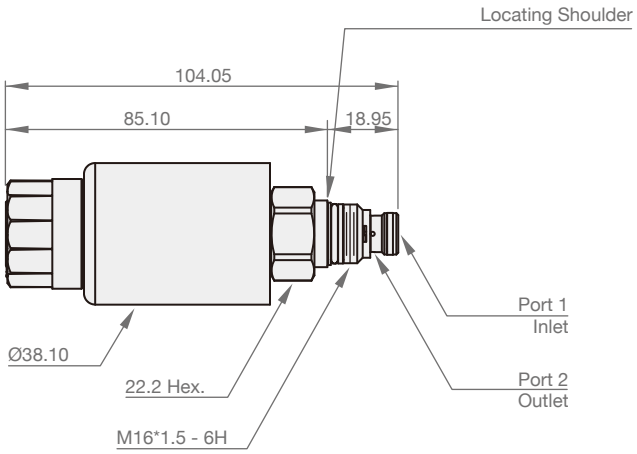


▸ **Typical Pressure Rise**



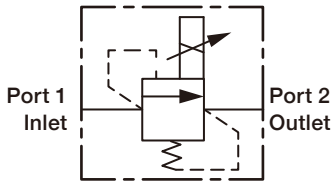
DIMENSION

(UNIT : mm)



RBN

SYMBOLS



ORDER CODES

RB	1	N	-	T8A	-	M	A	N	-	DR	24
①	②	①		③		④	⑤	⑥		⑦	⑧

①	Model Name	RBN	
②	Capacity (l/min)	1	1
③	Cavity	T8A	
④	Control Manner	M	manual override
⑤	Adjustment Range (bar)	A	105 ~ 210
		B	55 ~ 105
		D	20 ~ 55
		W	210 ~ 350
⑥	Material of Seal	N	buna-N
		V	viton
⑦	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
⑧	Voltage (coil)	12	12 VDC
		24	24 VDC

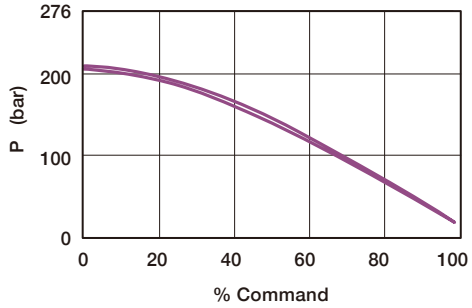
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
RB1N	T8A	1	350	less than 25 cc/min	9/10

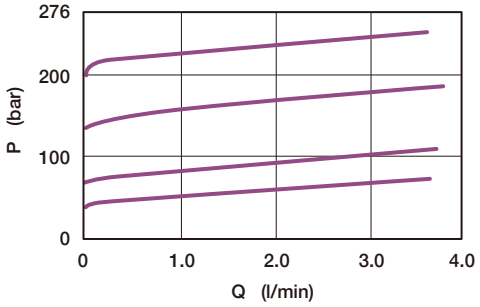
Model	Hysteresis	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
RB1N	5%	1820mA@12VDC 910mA@24VDC	22	0.45	0.23

PERFORMANCE CURVES

▸ **Pressure vs. Command (Range A)**

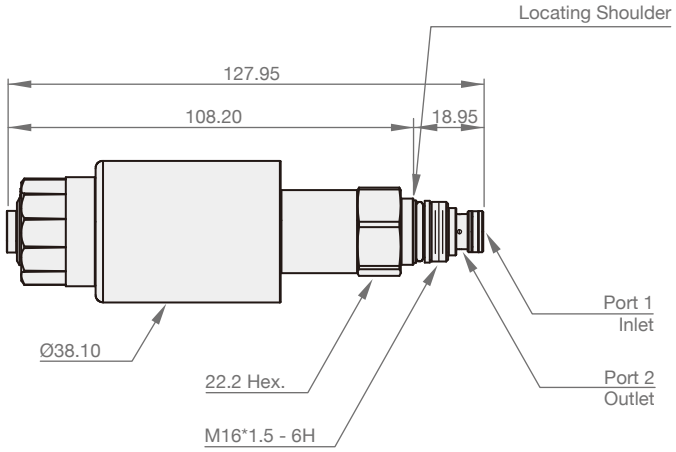


▸ **Pressure Differential vs. Flow (Range A)**



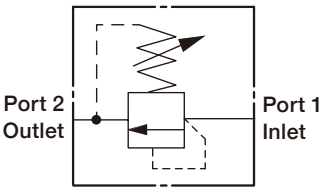
DIMENSION

(UNIT : mm)



RBC, RBA

SYMBOLS



ORDER CODES

RB 2C - T10A - L A N

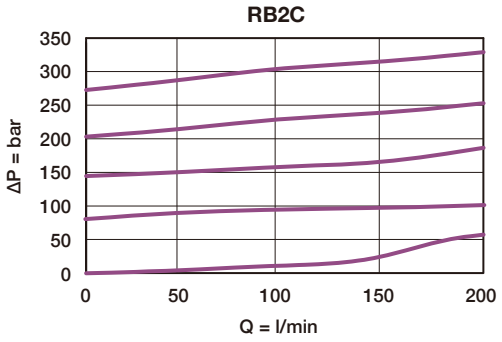
1	Model Name	RB	
2	Capacity	2C	1 l/min
		3A	2 l/min
3	Cavity	T10A, T3A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~ 105 bar
		C	10.5 ~ 400 bar
		N	5 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

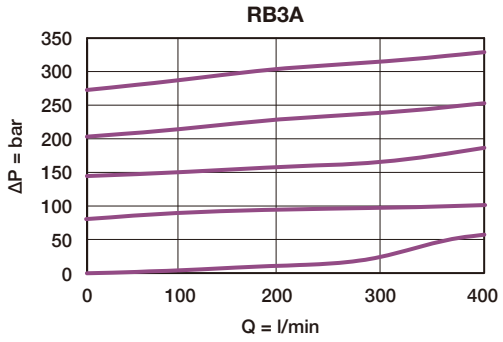
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RB2C	T10A	1	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.15
RB3A	T3A	2	350	60/70		0.25

PERFORMANCE CURVES

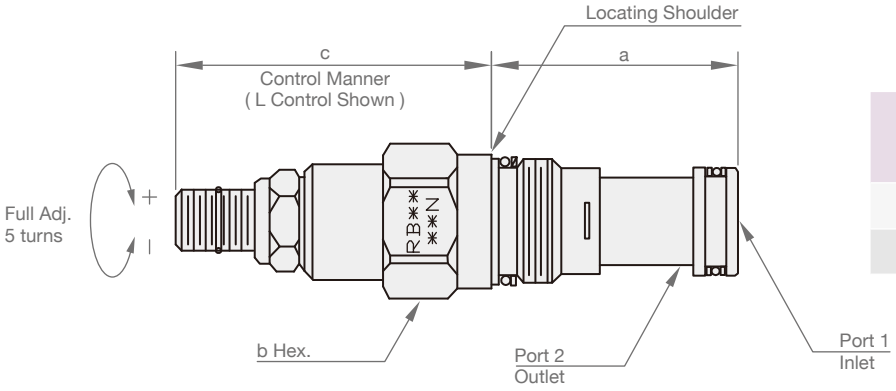
▸ Typical Pressure Rise





DIMENSION

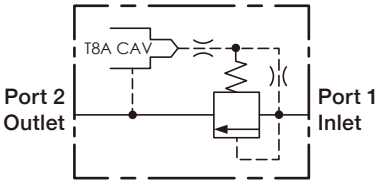
(UNIT : mm)



Model	a	b	c	
			L	K
RB2C	39.7	22.2	51	58
RB3A	47.8	28.6	54	61

RPC8

SYMBOLS



ORDER CODES

RP 3 C - T3A - 8 W N

1	Model Name	RPC	
2	Valve Size	2, 3, 6, 8	
3	Cavity	T10A, T3A, T16A, T18A	
4	Control Manner	8	integral cavity T8A
5	Cracking Pressure (bar)	W	7
		D	1.7
6	Material of Seal	N	buna-N
		V	viton

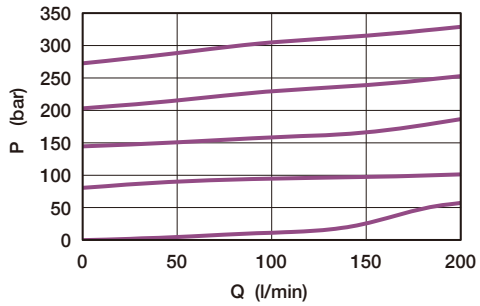
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RP2C8	T10A	95	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.09
RP3C8	T3A	200	350	60/70		0.17
RP6C8	T16A	380	350	200/215		0.43
RP8C8	T18A	760	350	465/500		0.59

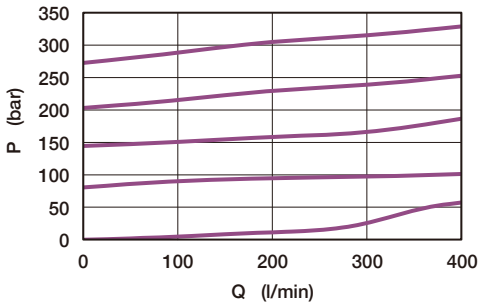
PERFORMANCE CURVES

▸ Typical Pressure Rise

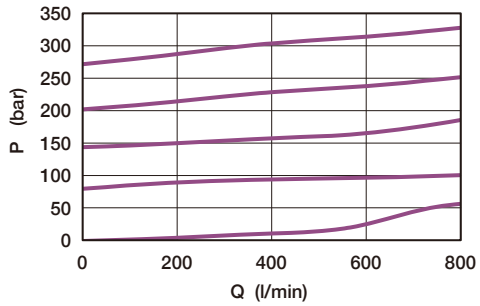
RP2C8



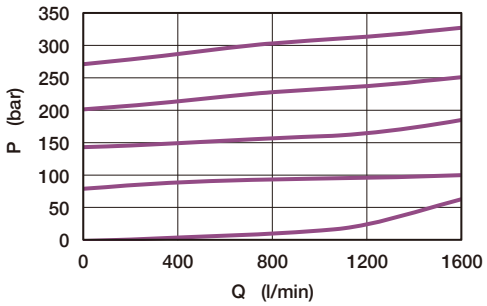
RP3C8



RP6C8

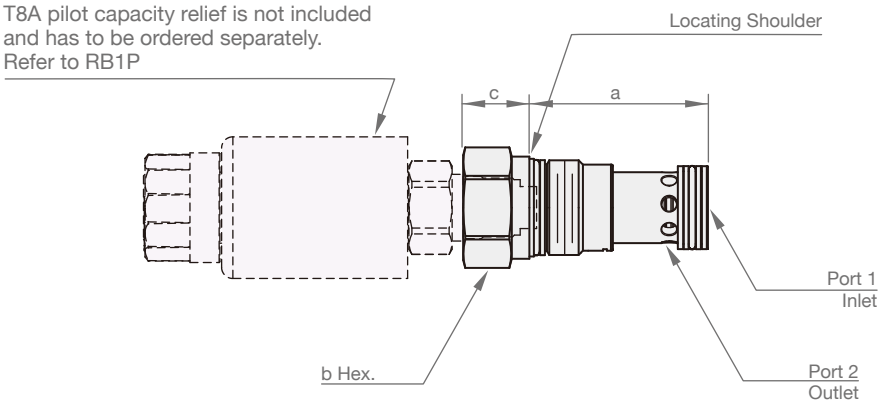


RP8C8



DIMENSION

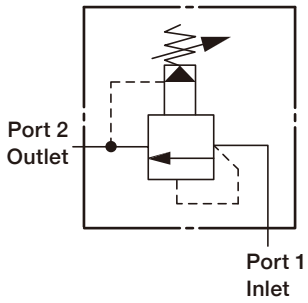
(UNIT : mm)



Model	a	b	c
RP2C8	39.7	22.2	19
RP3C8	47.8	28.6	17.5
RP6C8	61.9	31.8	24.6
RP8C8	79.4	41.3	30.2

RPC

SYMBOLS



ORDER CODES

RP 2 C - T10A - L A N
1 2 1 3 4 5 6

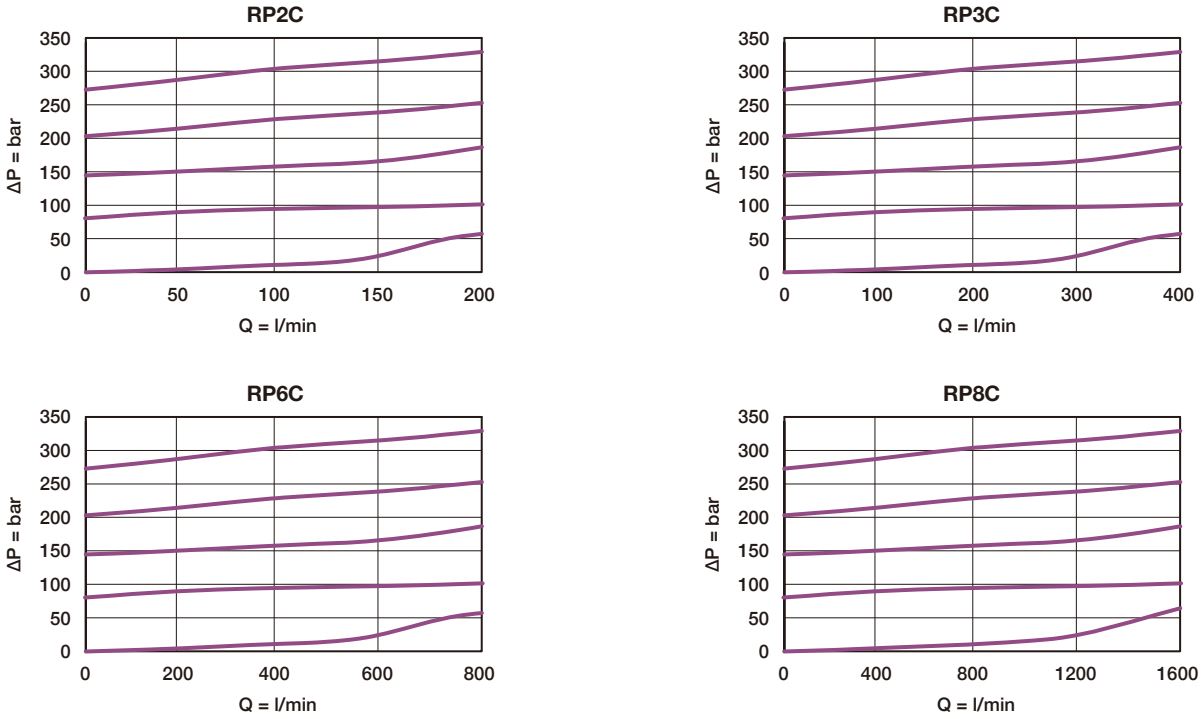
1	Model Name	RPC	
2	Valve Size	2, 3, 6, 8	
3	Cavity	T10A, T3A, T16A, T18A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~ 105 bar
		C	10.5 ~ 400 bar
		N	5 ~ 55 bar
		W	10.5~315 bar
6	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RP2C	T10A	95	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.15
RP3C	T3A	200	350	60/70		0.25
RP6C	T16A	380	350	200/215		0.55
RP8C	T18A	760	350	465/500		1.17

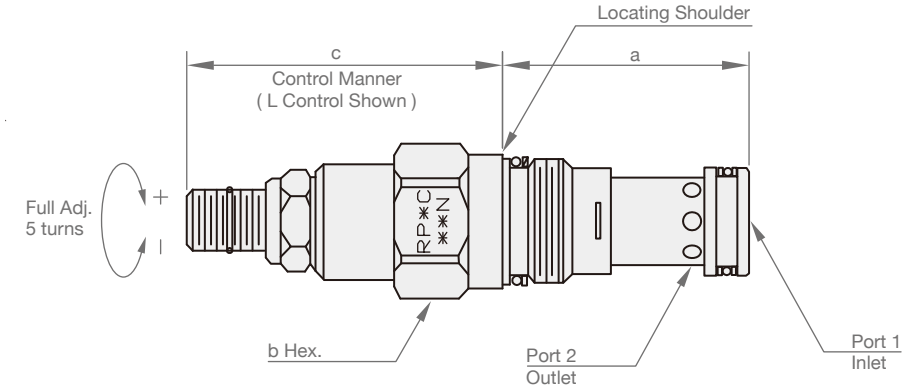
PERFORMANCE CURVES

▸ Typical Pressure Rise



DIMENSION

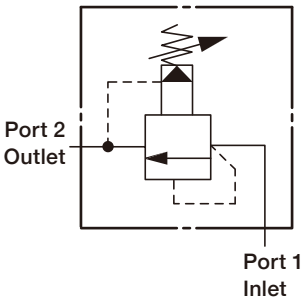
(UNIT : mm)



Model	a	b	c	
			L	K
RP2C	39.7	22.2	51	58
RP3C	47.8	28.6	54	61
RP6C	61.9	31.8	62	69
RP8C	79.4	41.3	71	78

RPE

SYMBOLS



ORDER CODES

RP 2 E - T10A - L A N

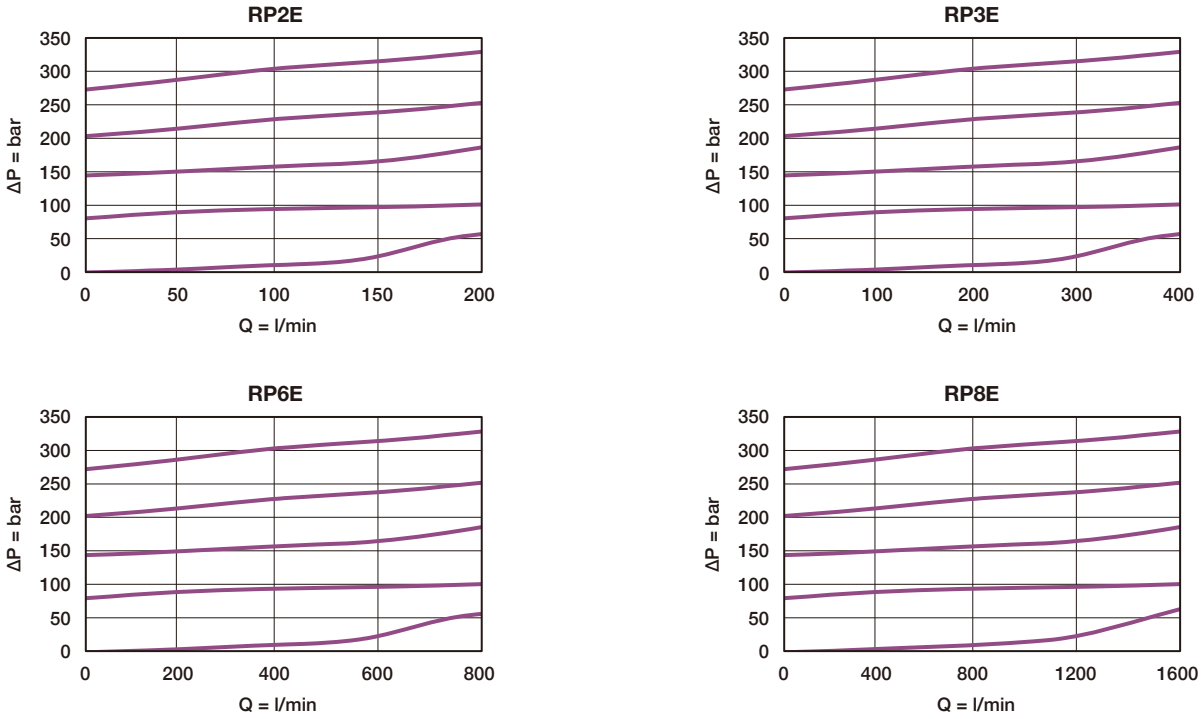
1	Model Name	RPE	
2	Valve Size	2, 3, 6, 8	
3	Cavity	T10A, T3A, T16A, T18A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~ 105 bar
		C	10.5 ~ 400 bar
		N	5 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RP2E	T10A	95	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.15
RP3E	T3A	200	350	60/70		0.25
RP6E	T16A	380	350	200/215		0.55
RP8E	T18A	760	350	465/500		1.17

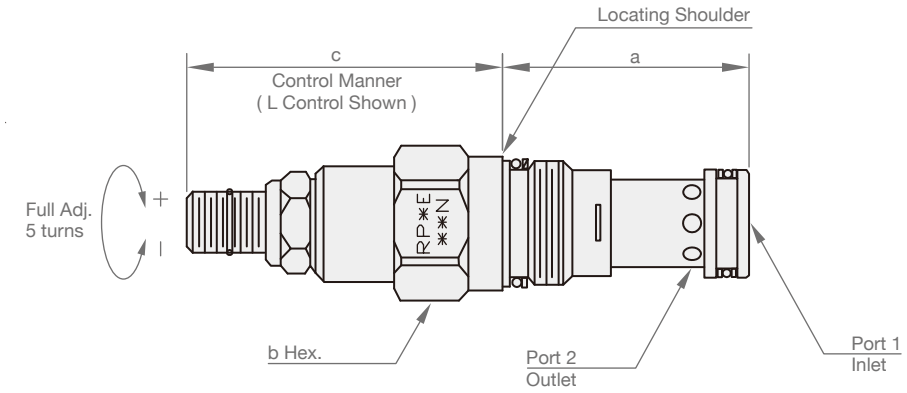
PERFORMANCE CURVES

▸ Typical Pressure Rise



DIMENSION

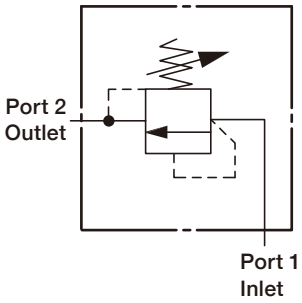
(UNIT : mm)



Model	a	b	c	
			L	K
RP2E	39.7	22.2	51	58
RP3E	47.8	28.6	54	61
RP6E	61.9	31.8	62	69
RP8E	79.4	41.3	71	78

RD

SYMBOLS



ORDER CODES

RD | 2A | - | T10A | - | L | A | N

1 2 3 4 5 6

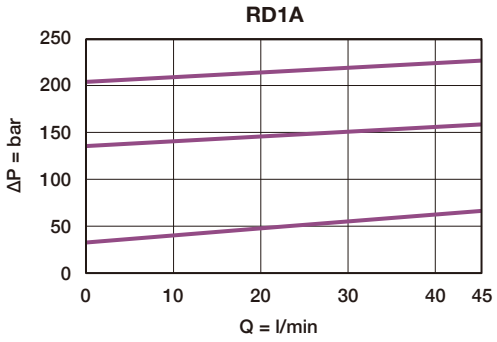
1	Model Name	RD	
2	Valve Size	1A, 2A, 3A, 6A, 8A	
3	Cavity	T162A, T10A, T3A, T16A, T18A	
4	Control Manner	L	standard screw adjustment
5	Adjustable Range	A	35 ~ 210 bar
		B	20 ~ 105 bar
		C	70 ~ 420 bar
		D	14 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

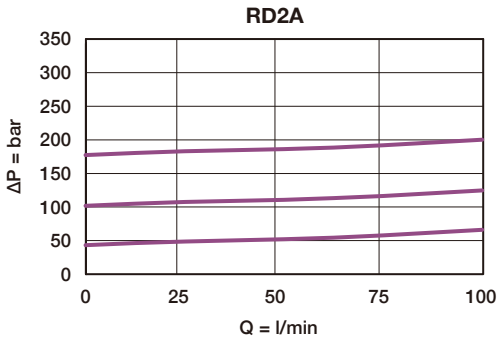
MODEL SPEC.

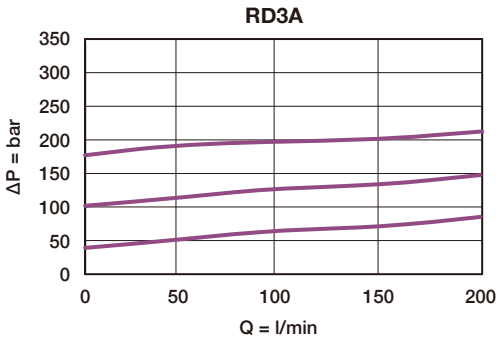
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RD1A	T162A	28.4	350	27/33	-35 ~ 100°C (-31 ~ 212°F)	0.1
RD2A	T10A	95	350	40/50		0.155
RD3A	T3A	200	350	60/70		0.295
RD6A	T16A	380	350	200/215		0.670
RD8A	T18A	760	350	465/500		1.450

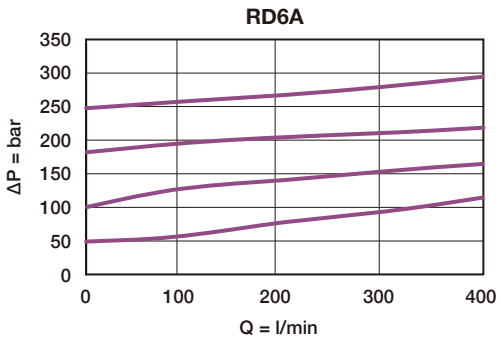
PERFORMANCE CURVES

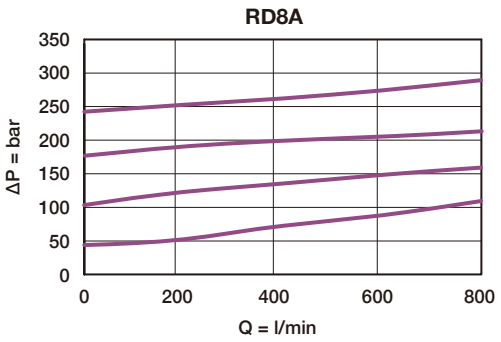
▸ Typical Pressure Rise





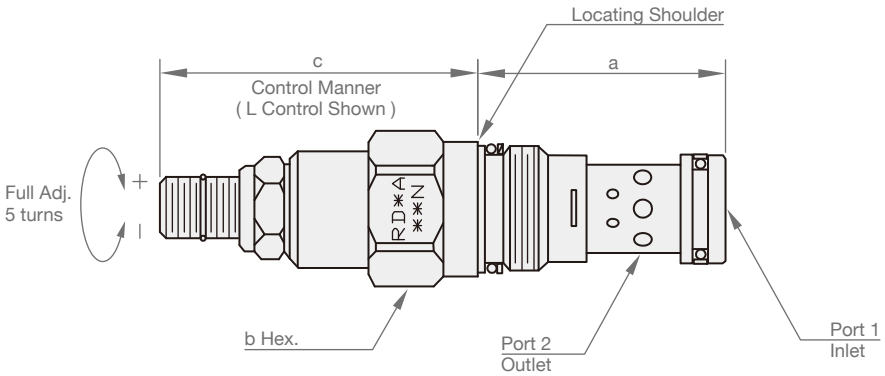






DIMENSION

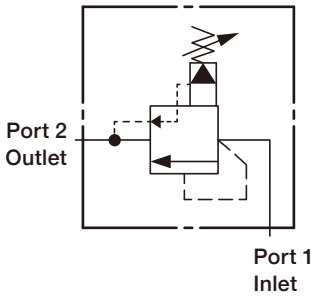
(UNIT : mm)



Model	a	b	c
			L
RD1A	30.2	18.62	54.1
RD2A	39.7	22.2	61
RD3A	47.8	28.6	64
RD6A	61.9	31.8	83
RD8A	79.4	41.3	100

RQ

SYMBOLS



ORDER CODES

RQ 2B - T10A - L A N

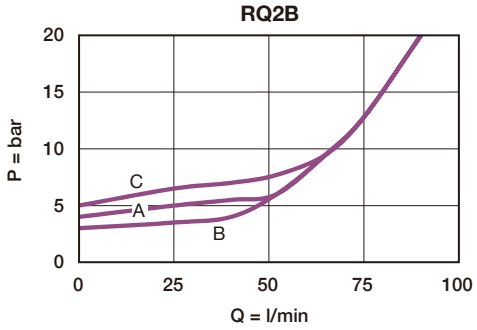
1	Model Name	RQ	
2	Valve Size	2B, 3B, 6B, 8B	
3	Cavity	T10A, T3A, T16A, T18A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~ 105 bar
		C	10.5 ~ 420 bar
		N	5 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

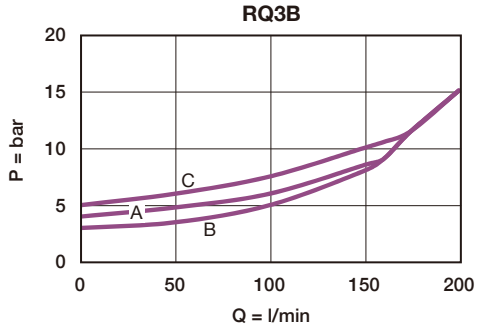
MODEL SPEC.

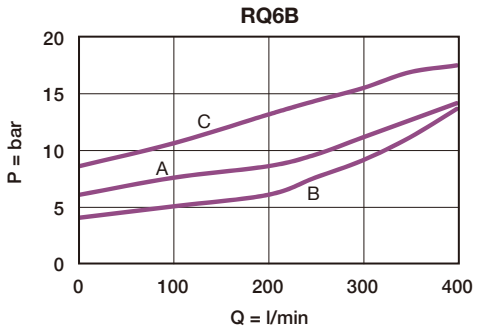
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RQ2B	T10A	95	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.14
RQ3B	T3A	200	350	60/70		0.26
RQ6B	T16A	380	350	200/215		0.54
RQ8B	T18A	760	350	465/500		1.17

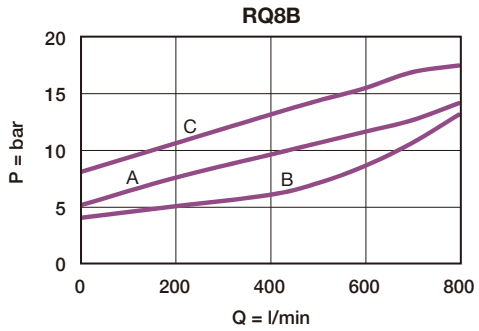
PERFORMANCE CURVES

▸ Unloaded Pressure Drop



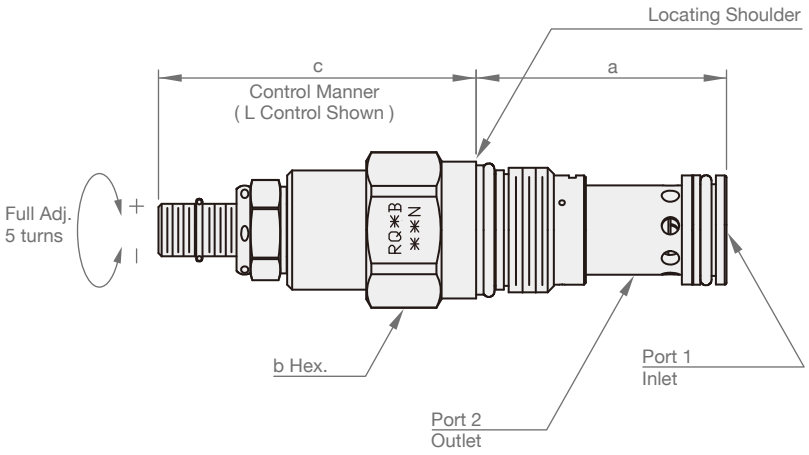






DIMENSION

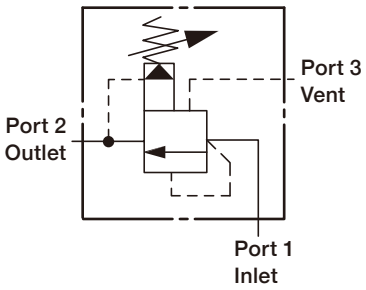
(UNIT : mm)



Model	a	b	c	
			L	K
RQ2B	39.6	22.2	50.8	57.2
RQ3B	47.8	28.6	53.8	60.5
RQ6B	62.0	31.8	62.0	68.3
RQ8B	79.5	41.3	71.4	77.7

RVA

SYMBOLS



ORDER CODES

RV	2A	-	T11A	-	L	A	N
1	2		3		4	5	6

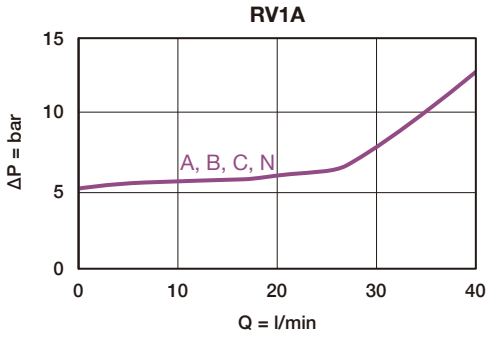
1	Model Name	RV	
2	Valve Size	1A, 2A, 3A, 6A, 8A	
3	Cavity	T163A, T11A, T2A, T17A, T19A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~105 bar
		C	10.5 ~ 420 bar
		N	5 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

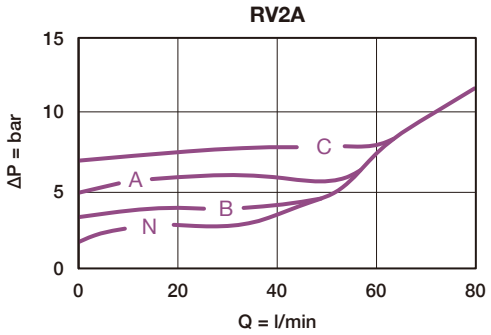
MODEL SPEC.

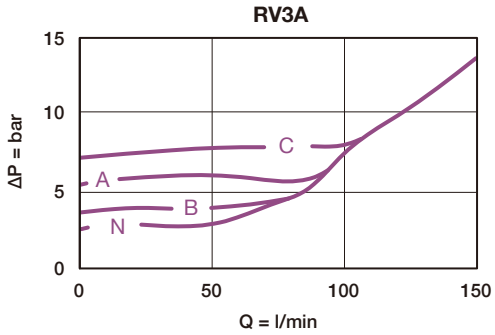
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RV1A	T163A	28.4	350	40/48	-35 ~ 100°C (-31 ~ 212°F)	0.12
RV2A	T11A	60	350	40/50		0.17
RV3A	T2A	120	350	60/70		0.30
RV6A	T17A	240	350	200/215		0.64
RV8A	T19A	480	350	465/500		1.43

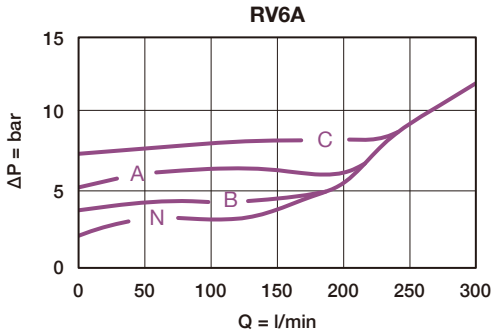
PERFORMANCE CURVES

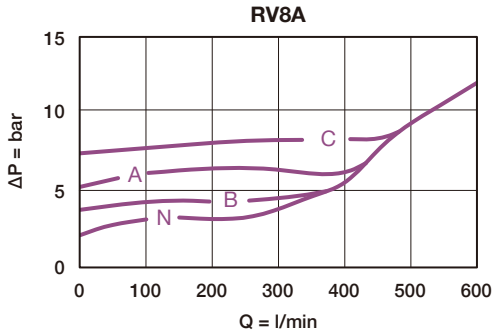
▸ Vented Pressure Drop





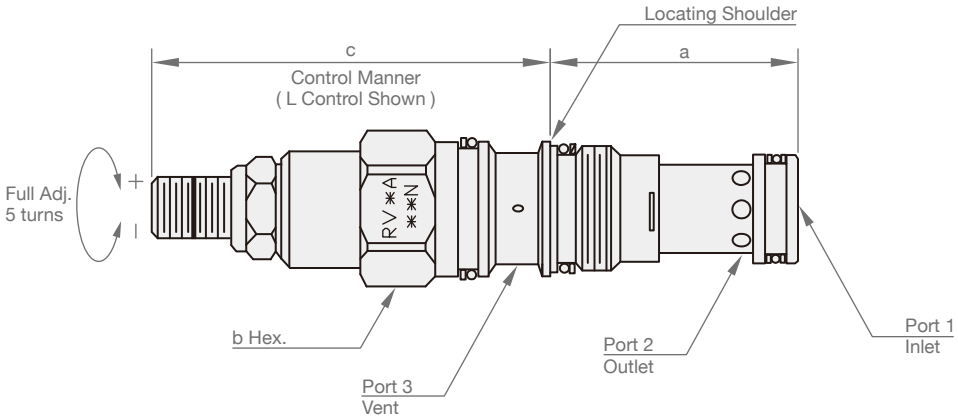






DIMENSION

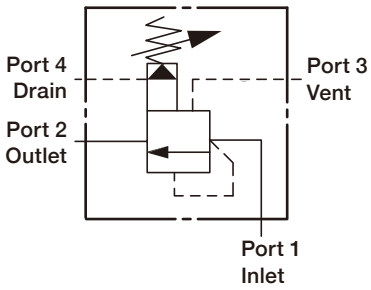
(UNIT : mm)



Model	a	b	c	
			L	K
RV1A	29.9	19	66	72
RV2A	34.9	22.2	64	70
RV3A	34.9	28.6	72	78
RV6A	46.0	31.8	84	90
RV8A	63.5	41.3	100	107

RVD

SYMBOLS



ORDER CODES

RV	2D	-	T21A	-	L	A	N
1	2		3		4	5	6

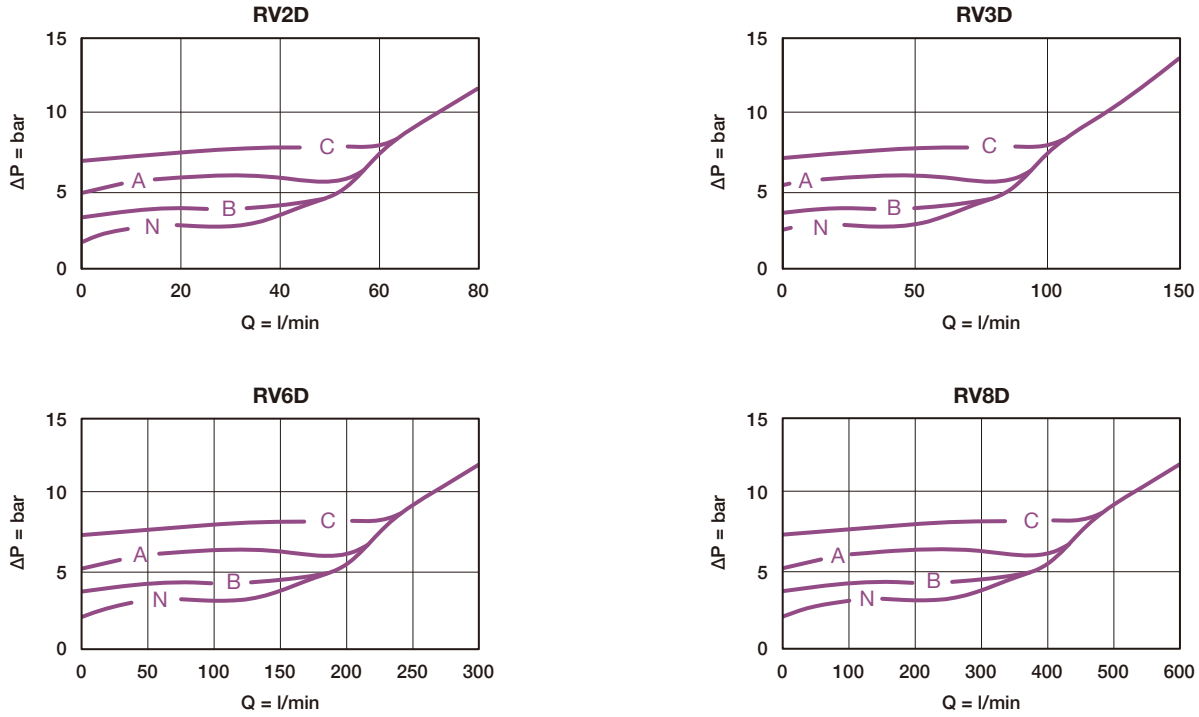
1	Model Name	RV	
2	Valve Size	2D, 3D, 6D, 8D	
3	Cavity	T21A, T22A, T23A, T24A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~105 bar
		C	10.5 ~ 420 bar
		N	5 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RV2D	T21A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.20
RV3D	T22A	120	350	60/70		0.35
RV6D	T23A	240	350	200/215		0.75
RV8D	T24A	480	350	465/500		1.75

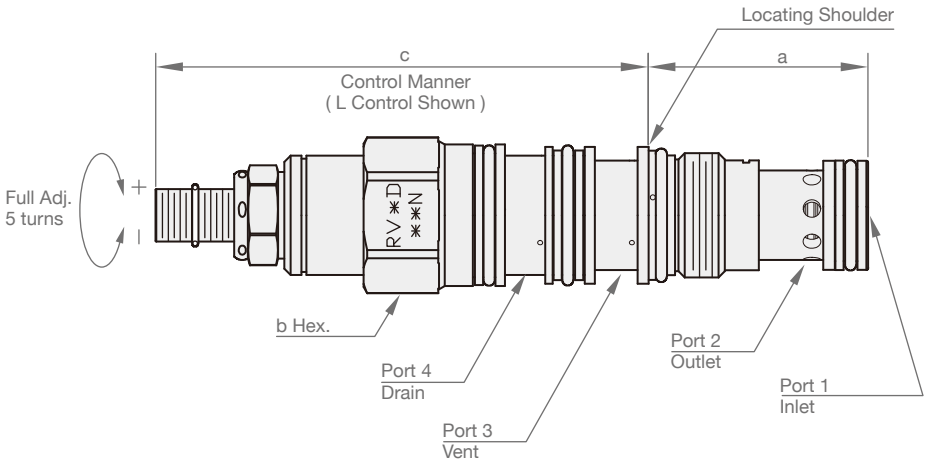
PERFORMANCE CURVES

▸ Vented Pressure Drop



DIMENSION

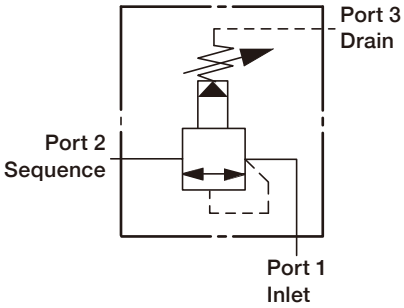
(UNIT : mm)



Model	a	b	c	
			L	K
RV2D	35.1	22.2	78.5	84.8
RV3D	35.1	28.6	87.4	93.7
RV6D	46.0	31.8	99.8	106.4
RV8D	63.5	41.3	121.4	127.8

RS

SYMBOLS



ORDER CODES

RS	2C	-	T11A	-	L	A	N
1	2		3		4	5	6

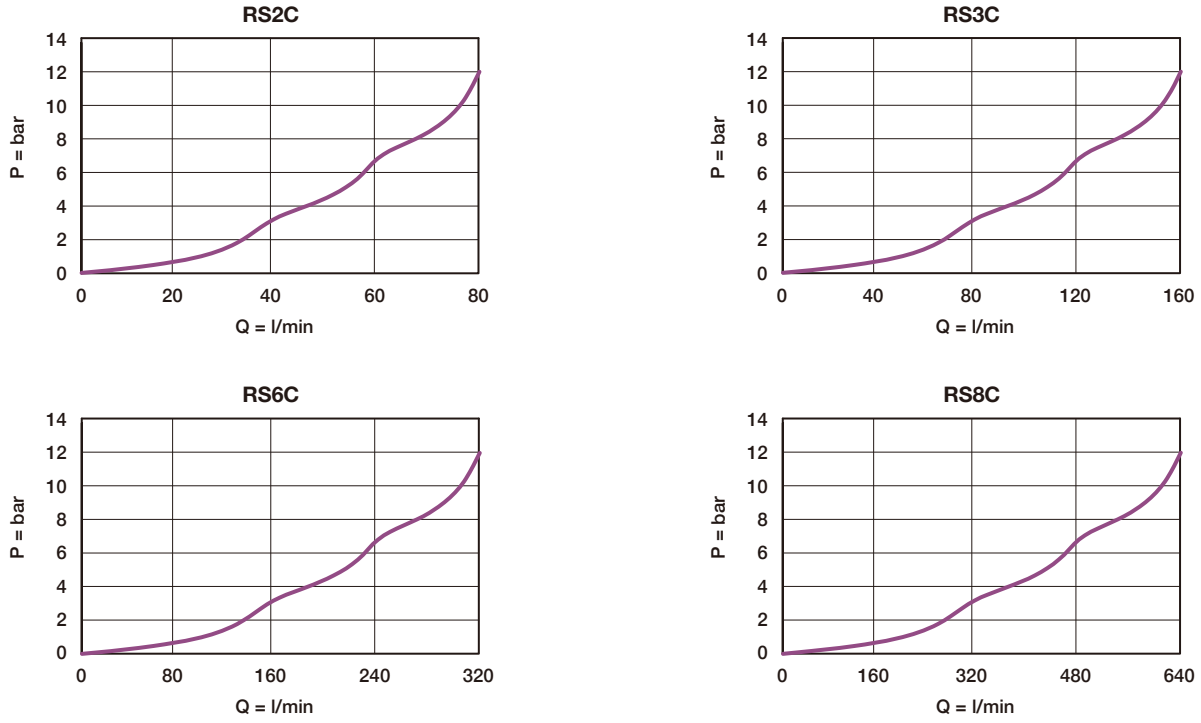
1	Model Name	RS	
2	Valve Size	2C, 3C, 6C, 8C	
3	Cavity	T11A, T2A, T17A, T19A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~105 bar
		C	10.5~ 420 bar
		E	1.7 ~ 28 bar
		N	5 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
RS2C	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
RS3C	T2A	120	350	60/70		0.30
RS6C	T17A	240	350	200/215		0.64
RS8C	T19A	480	350	465/500		1.43

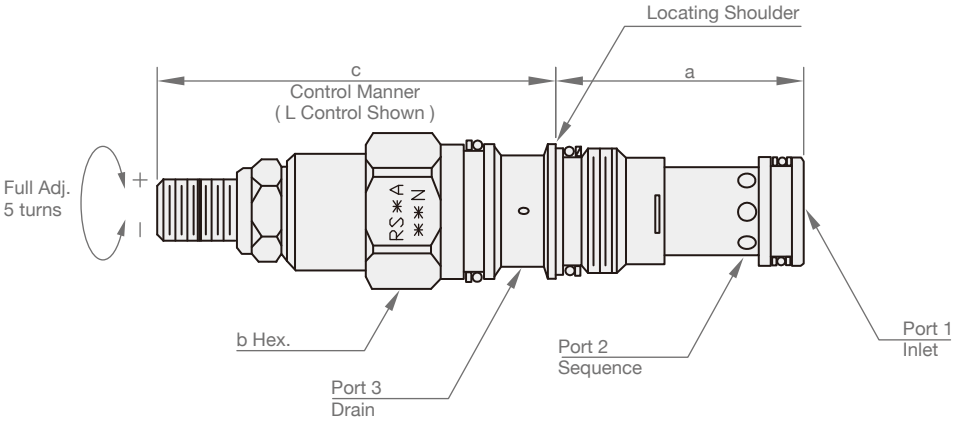
PERFORMANCE CURVES

▸ Pressure Drop Fully Sequence



DIMENSION

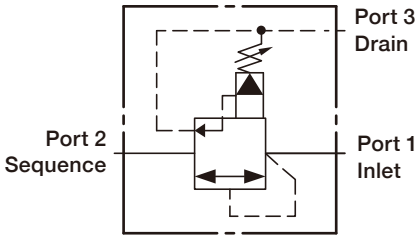
(UNIT : mm)



Model	a	b	c	
			L	K
RS2C	34.9	22.2	64	70
RS3C	34.9	28.6	72	78
RS6C	46.0	31.8	84	90
RS8C	63.5	41.3	100	107

SQ

SYMBOLS



ORDER CODES

SQ	2B	-	T11A	-	L	A	N
1	2		3		4	5	6

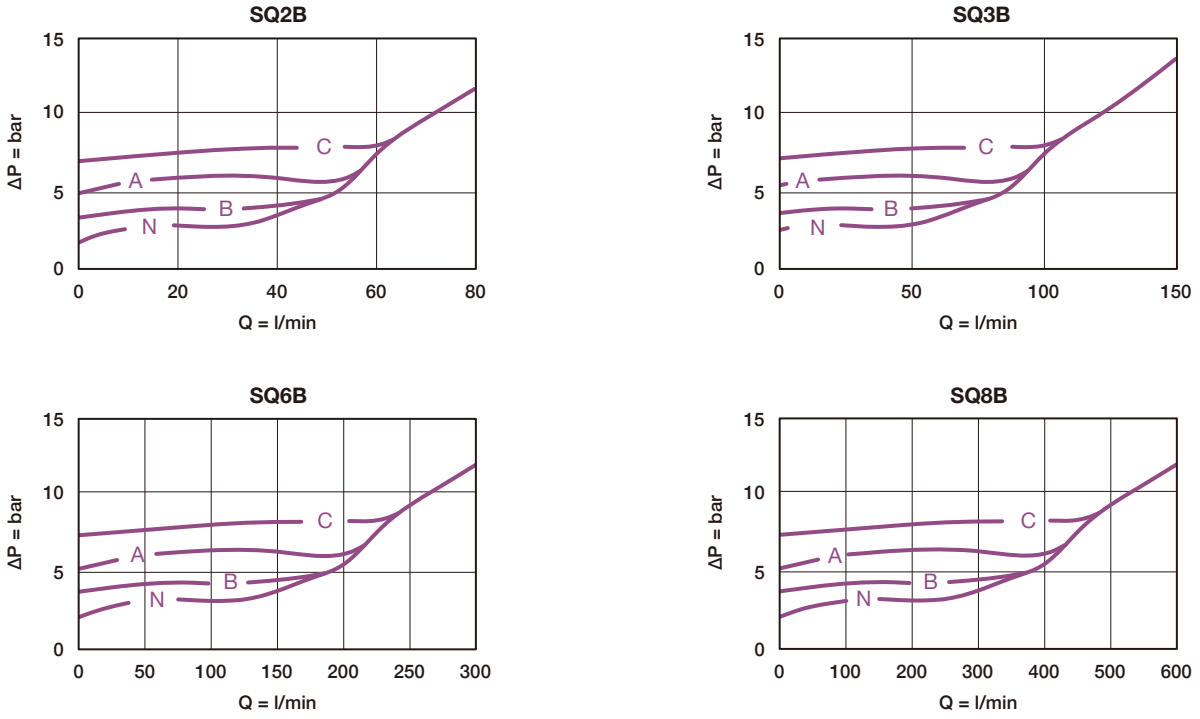
1	Model Name	SQ	
2	Valve Size	2C, 3C, 6C, 8C	
3	Cavity	T11A, T2A, T17A, T19A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~105 bar
		C	10 ~ 400 bar
		N	5 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
SQ2B	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
SQ3B	T2A	120	350	60/70		0.30
SQ6B	T17A	240	350	200/215		0.64
SQ8B	T19A	480	350	465/500		1.43

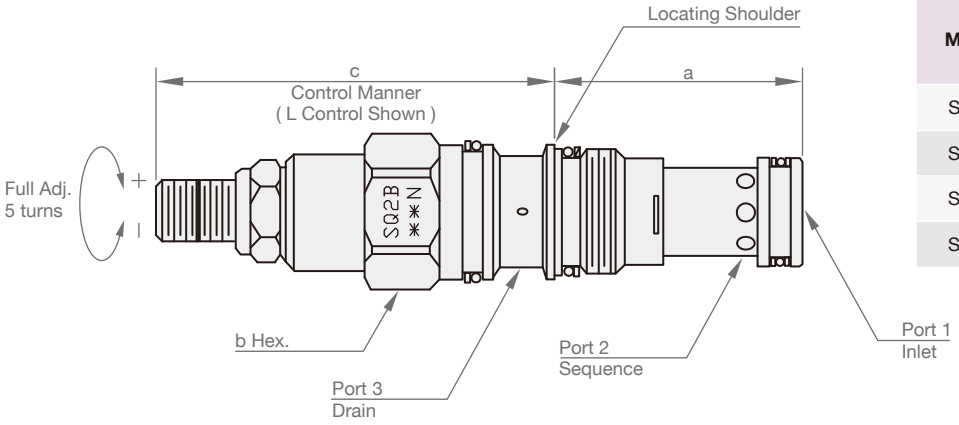
PERFORMANCE CURVES

▸ Pressure Drop After Opening



DIMENSION

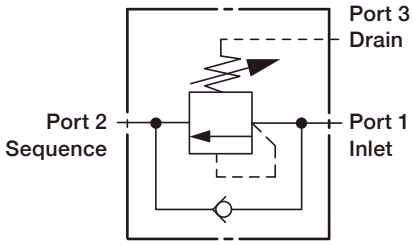
(UNIT : mm)



Model	a	b	c	
			L	K
SQ2B	34.9	22.2	64	70
SQ3B	34.9	28.6	72	78
SQ6B	46.0	31.8	84	90
SQ8B	63.5	41.3	100	107

SC

SYMBOLS



ORDER CODES

SC ❶ | 2A ❷ | - | T11A ❸ | - | L ❹ | A ❺ | N ❻

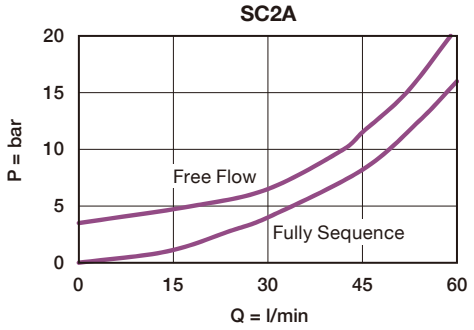
❶	Model Name	SC	
❷	Valve Size	2A, 3A, 6A, 8A	
❸	Cavity	T11A, T2A, T17A, T19A	
❹	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
❺	Adjustable Range	A	35 ~ 210 bar
		B	20 ~105 bar
		C	140 ~ 420 bar
		D	14 ~ 55 bar
❻	Material of Seal	N	buna-N
		V	viton

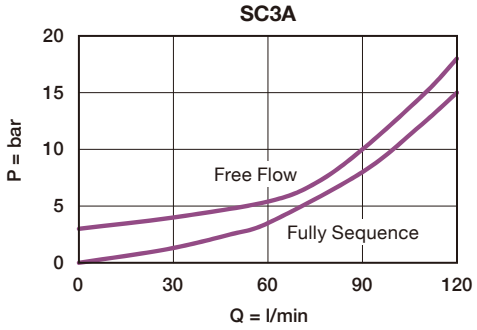
MODEL SPEC.

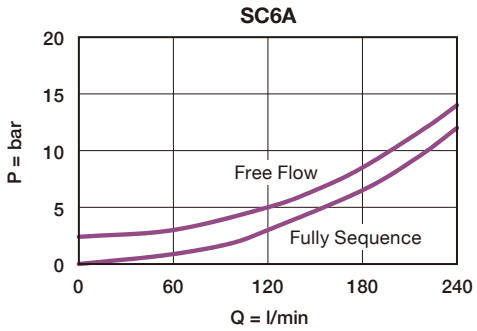
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
SC2A	T11A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.20
SC3A	T2A	120	350	60/70		0.38
SC6A	T17A	240	350	200/215		0.74
SC8A	T19A	480	350	465/500		1.62

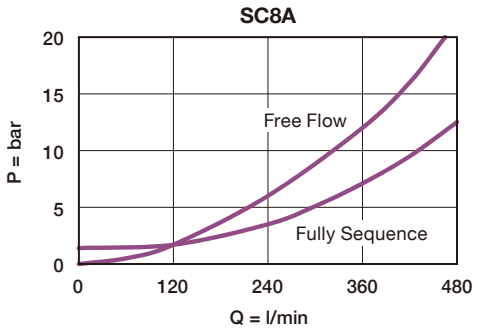
PERFORMANCE CURVES

▸ Free Flow & Pressure Drop Fully Sequenced



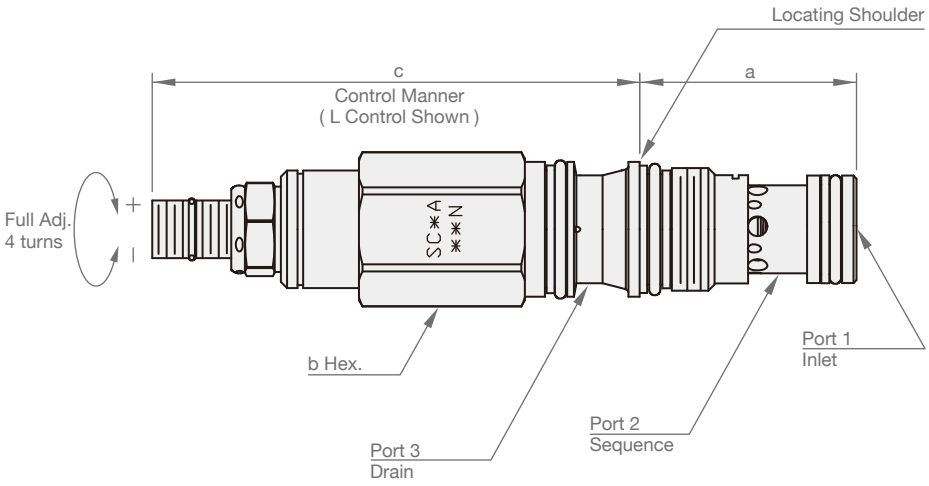






DIMENSION

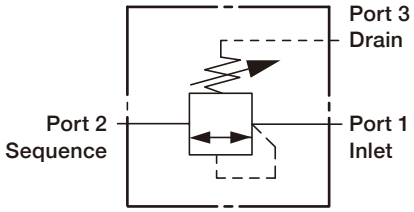
(UNIT : mm)



Model	a	b	c	
			L	K
SC2A	35.1	22.2	78.5	84.8
SC3A	35.1	28.6	88.1	94.0
SC6A	46.0	31.8	100.0	-
SC8A	63.5	41.3	122.9	-

SX

SYMBOLS



ORDER CODES

SX	3A	-	T11A	-	L	A	N
1	2		3		4	5	6

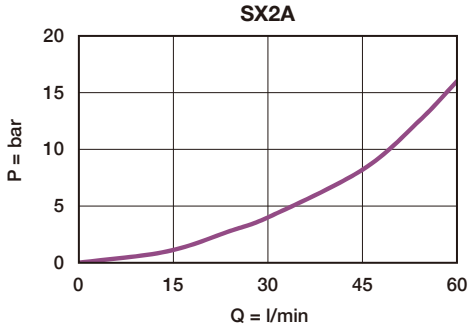
1	Model Name	SX	
2	Valve Size	2A, 3A	
3	Cavity	T11A, T2A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	35 ~ 210 bar
		B	20 ~105 bar
		C	140 ~ 420 bar
		D	14 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

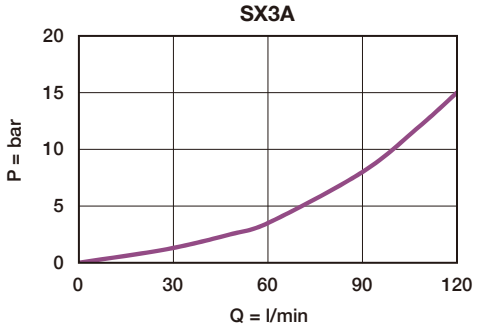
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
SX2A	T11A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.20
SX3A	T2A	120	350	60/70		0.36

PERFORMANCE CURVES

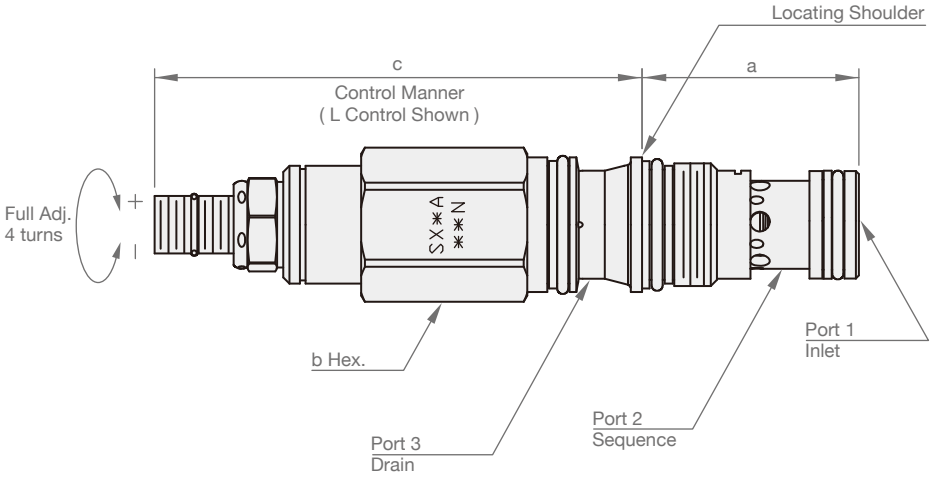
▸ Pressure Drop Fully Sequenced





DIMENSION

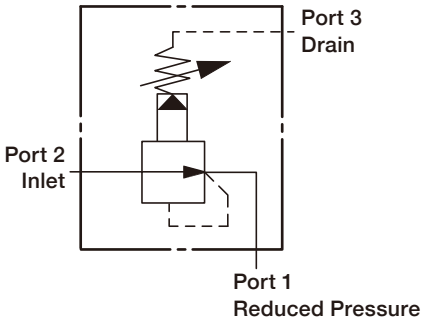
(UNIT : mm)



Model	a	b	c	
			L	K
SX2A	35.1	22.2	78.5	84.8
SX3A	35.1	28.6	88.1	94.0

PB

SYMBOLS



ORDER CODES

PB	2B	-	T11A	-	L	A	N
1	2		3		4	5	6

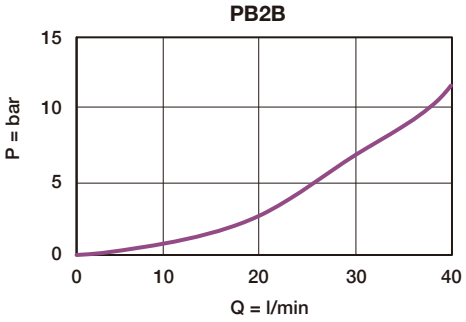
1	Model Name	PB	
2	Valve Size	2B, 3B, 6B, 8B	
3	Cavity	T11A, T2A, T17A, T19A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~105 bar
		C	10.5~420 bar
		N	4~55 bar
6	Material of Seal	N	buna-N
		V	viton

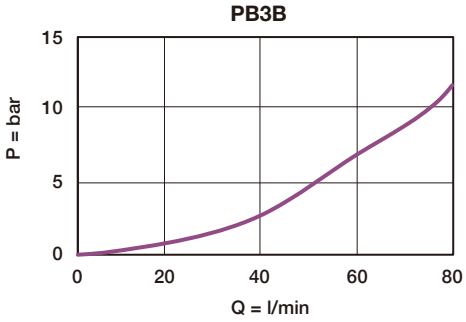
MODEL SPEC.

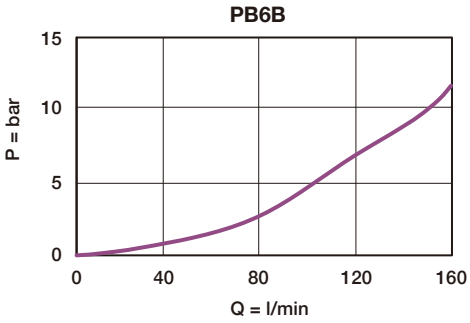
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
PB2B	T11A	40	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
PB3B	T2A	80	350	60/70		0.30
PB6B	T17A	160	350	200/215		0.64
PB8B	T19A	320	350	465/500		1.43

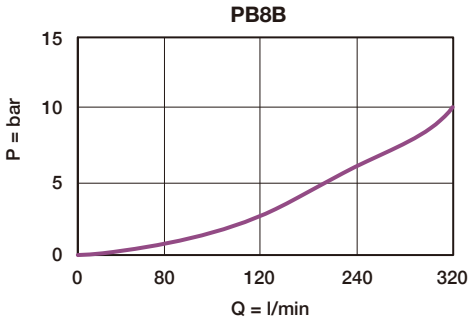
PERFORMANCE CURVES

▸ No Load Pressure Drop



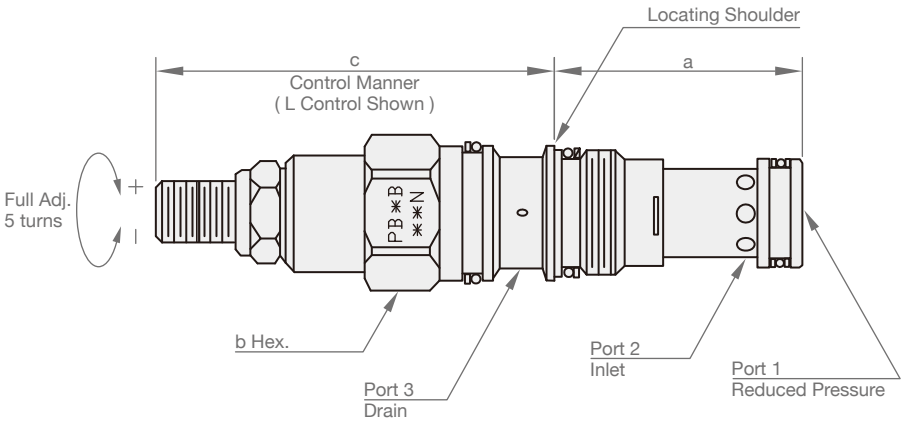






DIMENSION

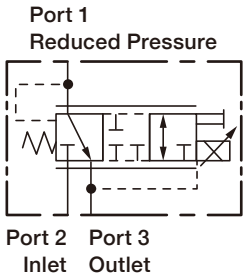
(UNIT : mm)



Model	a	b	c	
			L	K
PB2B	34.9	22.2	64	70
PB3B	34.9	28.6	72	78
PB6B	46.0	31.8	84	90
PB8B	63.5	41.3	100	107

PRP

SYMBOLS



ORDER CODES

PR 2 P - T11A - M D N - DR 24

1	Model Name	PRP	
2	Capacity (l/min)	2	20
3	Cavity	T11A	
4	Control Manner	M	manual override
5	Adjustment Range (bar)	D	3.5 ~ 33.5
6	Material of Seal	N	buna-N
		V	viton
7	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
8	Voltage (coil)	12	12 VDC
		24	24 VDC

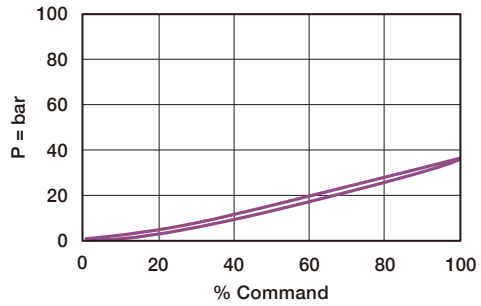
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
PR2P	T11A	20	350	less than 45 cc/min	40/50

Model	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
PR2P	1820mA@12VDC 910mA@24VDC	22	0.33	0.23

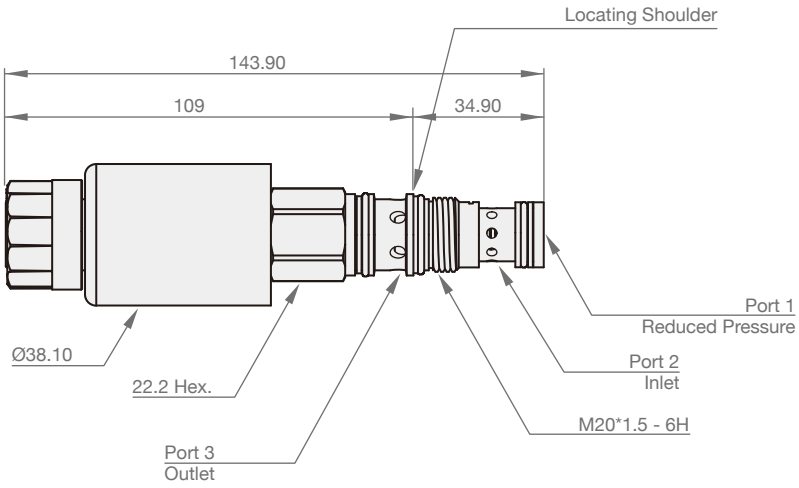
PERFORMANCE CURVES

▸ **Pressure vs. Command**



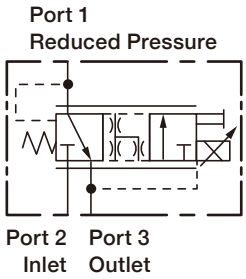
DIMENSION

(UNIT : mm)



PRL

SYMBOLS



ORDER CODES

PR 2 L - T11A - M D N - DG 24

1	Model Name	PRL	
2	Capacity (l/min)	2	20
3	Cavity	T11A	
4	Control Manner	M	manual override
5	Adjustment Range (bar)	D	3.5 ~ 33.5
6	Material of Seal	N	buna-N
		V	viton
7	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
8	Voltage (coil)	12	12 VDC
		24	24 VDC

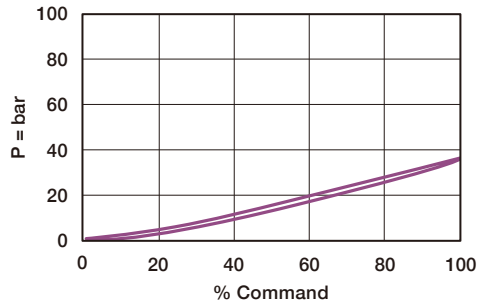
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
PR2L	T11A	20	350	less than 330 cc/min	40/50

Model	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
PR2L	1820mA@12VDC 910mA@24VDC	22	0.33	0.23

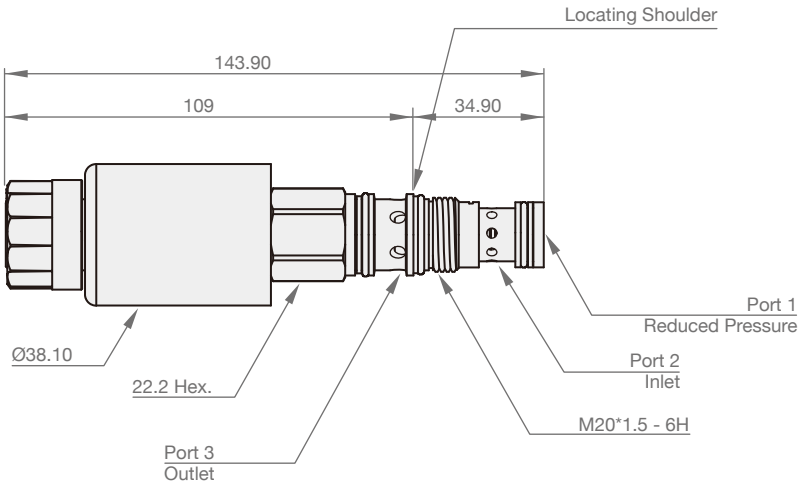
PERFORMANCE CURVES

▸ **Pressure vs. Command**



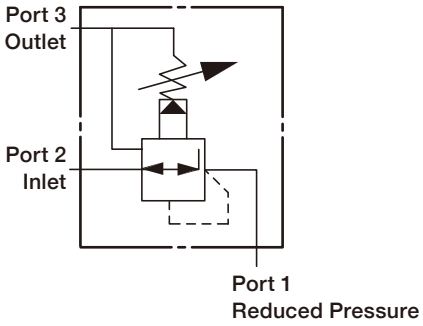
DIMENSION

(UNIT : mm)



PP

SYMBOLS



ORDER CODES

PP | 2B | - | T11A | - | L | A | N

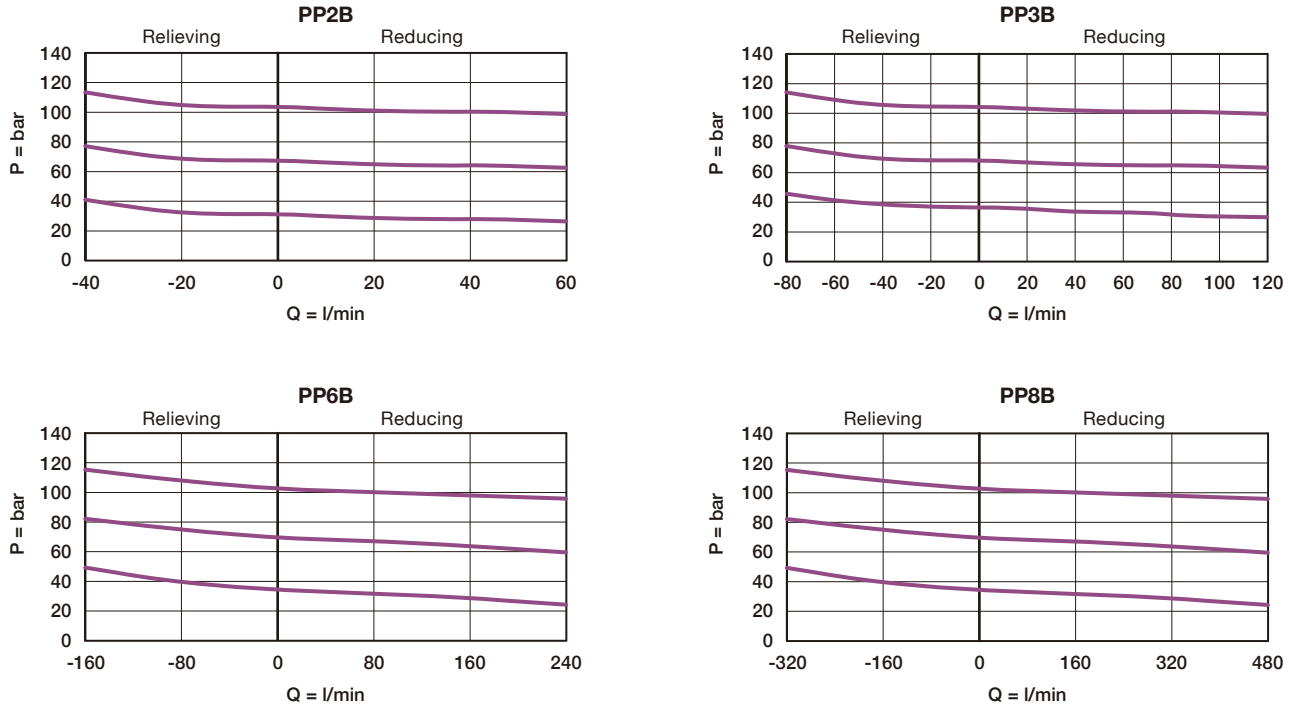
1	Model Name	PP	
2	Valve Size	2B, 3B, 6B, 8B	
3	Cavity	T11A, T2A, T17A, T19A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~105 bar
		C	10.5 ~ 420 bar
		N	4 ~ 55 bar
6	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
PP2B	T11A	40	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
PP3B	T2A	80	350	60/70		0.30
PP6B	T17A	160	350	200/215		0.64
PP8B	T19A	320	350	465/500		1.43

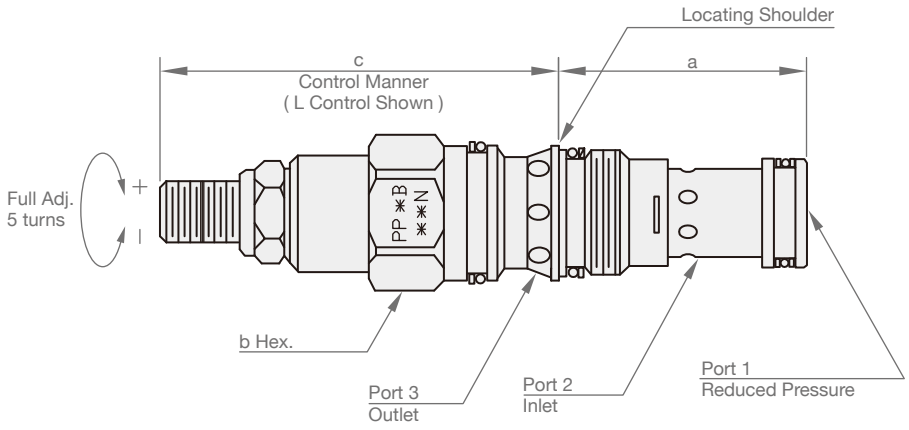
PERFORMANCE CURVES

▸ Regulated Pressure



DIMENSION

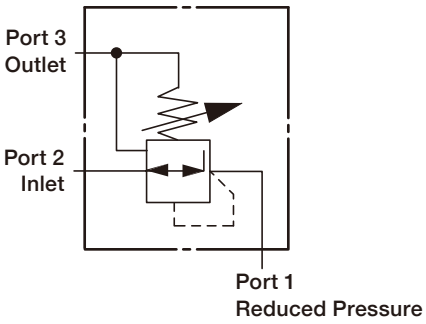
(UNIT : mm)



Model	a	b	c	
			L	K
PP2B	34.9	22.2	64	70
PP3B	34.9	28.6	72	78
PP6B	46.0	31.8	84	90
PP8B	63.5	41.3	100	107

PRB

SYMBOLS



ORDER CODES

PR 2 B - T11A - L A N

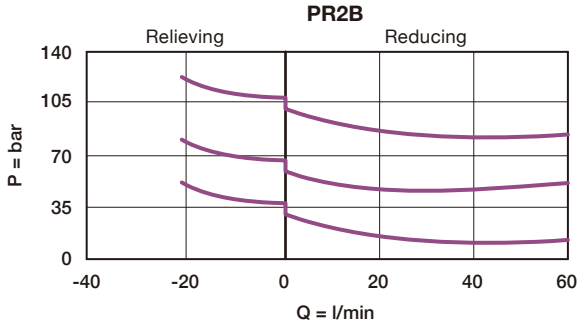
1	Model Name	PRB	
2	Valve Size	2, 3, 6, 8	
3	Cavity	T11A, T2A, T17A, T19A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	35 ~ 210 bar
		B	3.5 ~ 105 bar
		D	1.7 ~ 55 bar
		W	50 ~ 315 bar
6	Material of Seal	N	buna-N
		V	viton

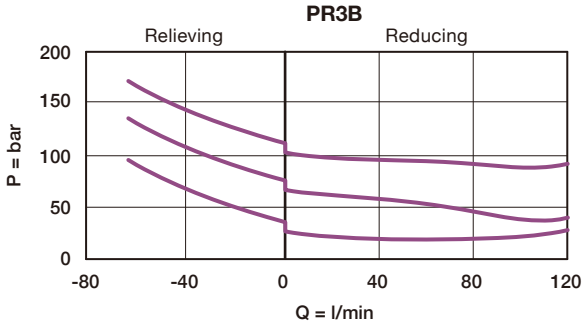
MODEL SPEC.

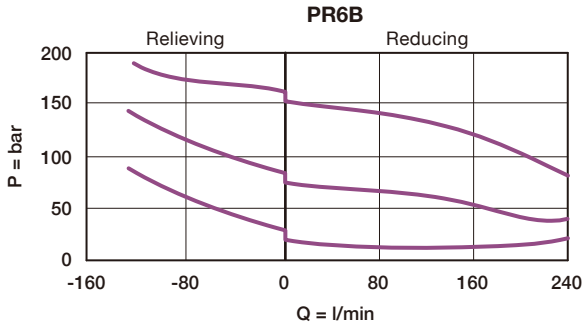
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
PR2B	T11A	40	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.20
PR3B	T2A	80	350	60/70		0.36
PR6B	T17A	160	350	200/215		0.76
PR8B	T19A	320	350	465/500		1.58

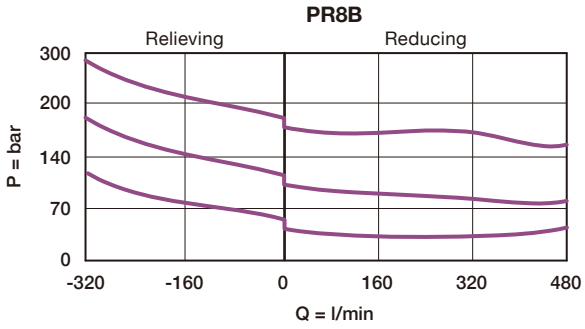
PERFORMANCE CURVES

▸ Regulated Pressure



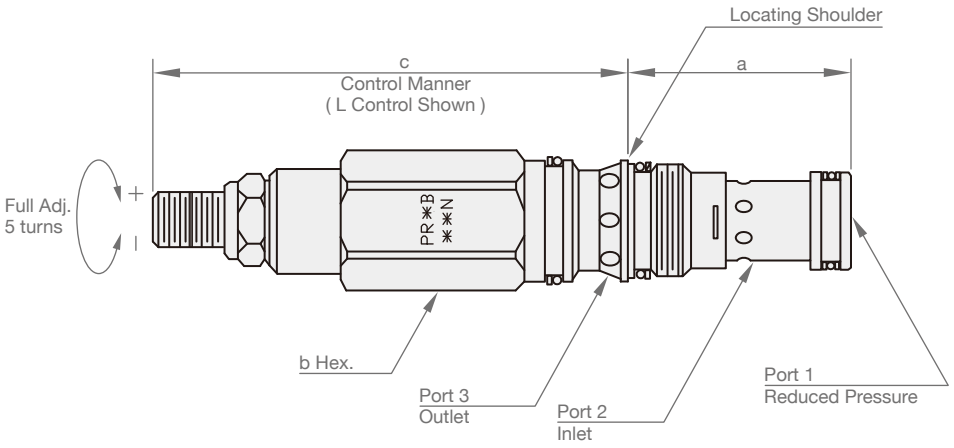






DIMENSION

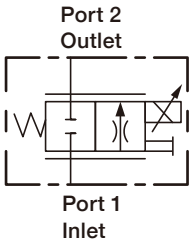
(UNIT : mm)



Model	a	b	c	
			L	K
PR2B	34.9	22.2	79	85
PR3B	34.9	28.6	89	96
PR6B	46.0	31.8	100	107
PR8B	63.5	41.3	124	130

FPC

SYMBOLS



ORDER CODES

FP	2	C	-	T13A	-	M	C	N	-	DR	24
①	②	①		③		④	⑤	⑥		⑦	⑧

①	Model Name	FPC	normally closed
②	Capacity (l/min)	2	40
③	Cavity	T13A	
④	Control Manner	M	manual override
⑤	Flow Range (l/min)	C	1 ~ 28
⑥	Material of Seal	N	buna-N
		V	viton
⑦	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
⑧	Voltage (coil)	12	12 VDC
		24	24 VDC

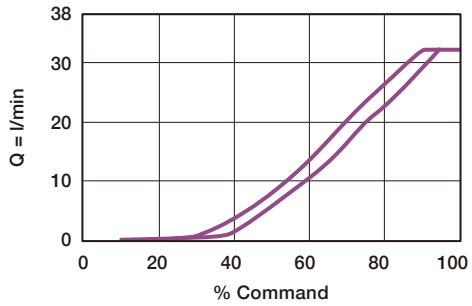
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
FP2C	T13A	40	350	less than 100 cc/min	45/50

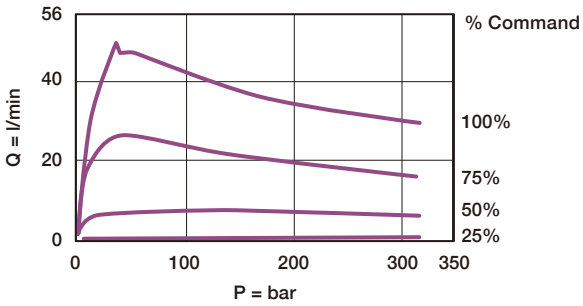
Model	Hysteresis	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
FP2C	5%	1820mA@12VDC 910mA@24VDC	22	0.27	0.23

PERFORMANCE CURVES

▸ Flow vs. Command @14bar

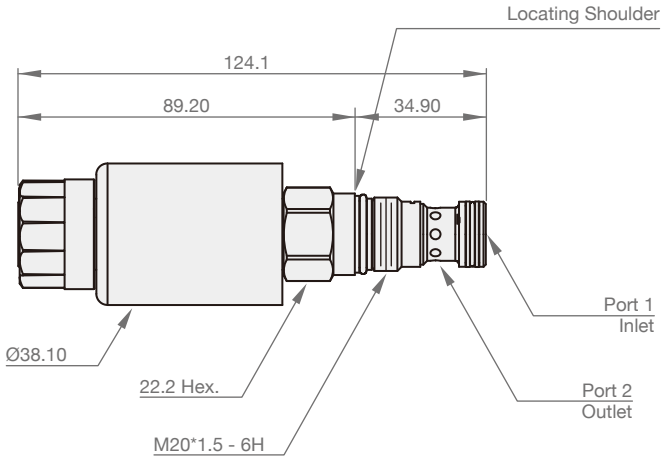


▸ Flow vs. Pressure Differential



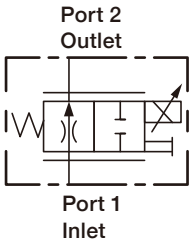
DIMENSION

(UNIT : mm)



FPH

SYMBOLS



ORDER CODES

FP 2 H - T13A - M C N - DG 24

1	Model Name	FPH	normally open
2	Capacity (l/min)	2	28
3	Cavity	T13A	
4	Control Manner	M	manual override
5	Flow Range (l/min)	C	1 ~ 28
6	Material of Seal	N	buna-N
		V	viton
7	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
8	Voltage (coil)	12	12 VDC
		24	24 VDC

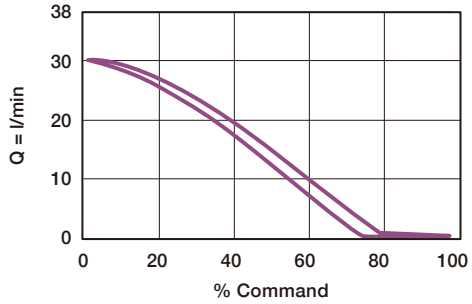
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
FP2H	T13A	28	350	less than 100 cc/min	45/50

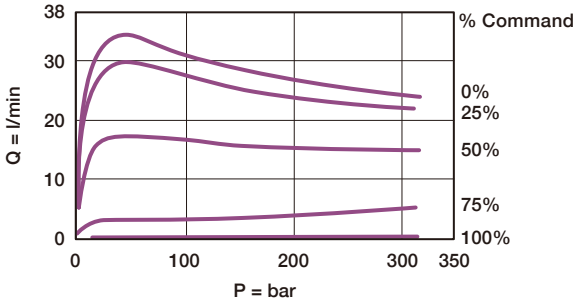
Model	Hysteresis	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
FP2H	5%	1820mA@12VDC 910mA@24VDC	22	0.27	0.23

PERFORMANCE CURVES

▸ Flow vs. Command @14bar

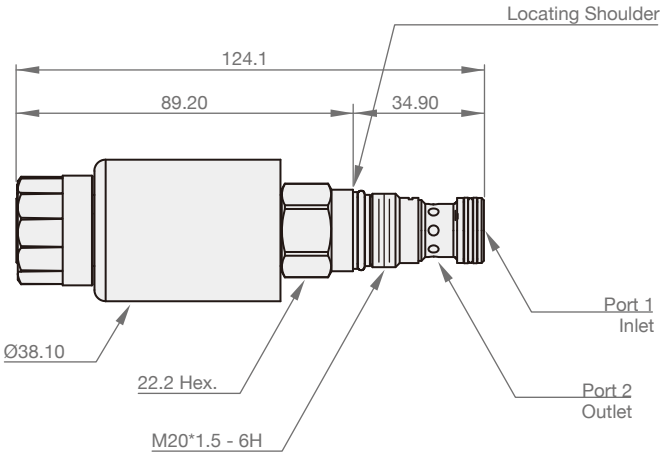


▸ Flow vs. Pressure Differential



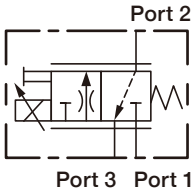
DIMENSION

(UNIT : mm)



FMA

SYMBOLS



ORDER CODES

FM 2 A - T11A - M D N - DG 24

1	Model Name	FMA	
2	Capacity (l/min)	2	34
3	Cavity	T11A	
4	Control Manner	M	manual override
5	Flow Range (l/min)	D	0.4 ~ 34
6	Material of Seal	N	buna-N
		V	viton
7	Connector (coil)	DG	ISO/DIN43650
		DR	Deutsch DT04-2P
8	Voltage (coil)	12	12 VDC
		24	24 VDC

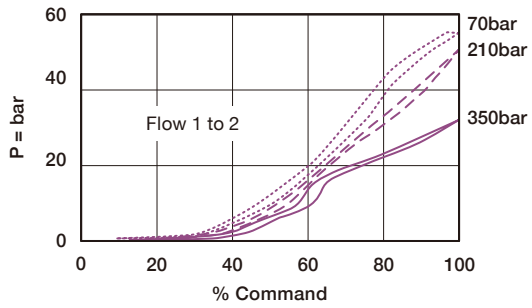
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Leakage	Installation Torque (Nm)
FM2A	T11A	34	350	less than 100 cc/min	40/50

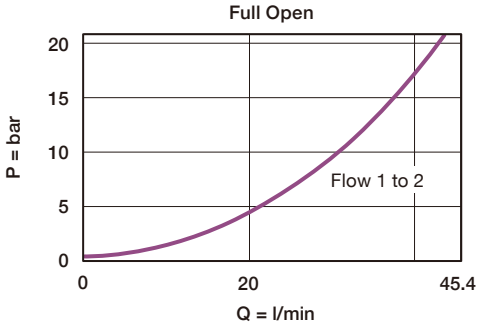
Model	Hysteresis	Max. Current	Power Consumption (watts)	Body's Weight (kg)	Coil's Weight (kg)
FM2A	5%	1820mA@12VDC 910mA@24VDC	22	0.28	0.23

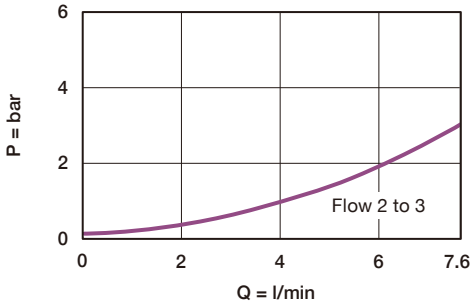
PERFORMANCE CURVES

▸ Flow vs. Command



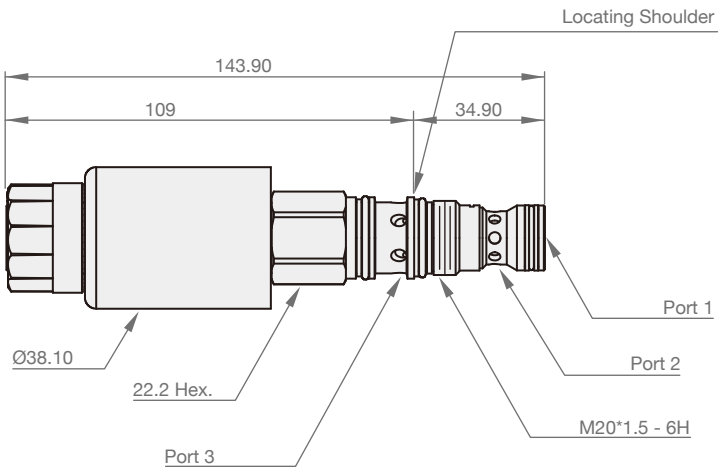
▸ Pressure vs. Flow





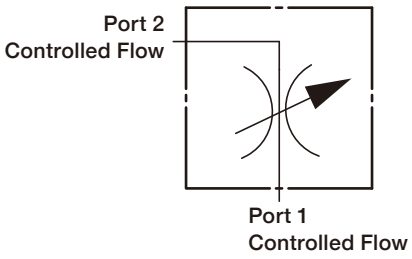
DIMENSION

(UNIT : mm)



NFC

SYMBOLS



ORDER CODES

NF 2C - T13A - L C N

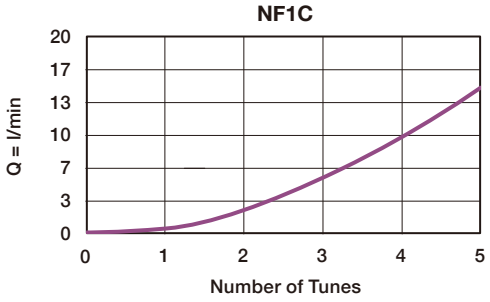
1	Model Name	NF	
2	Valve Size	1C, 2C, 3C, 6C, 8C	
3	Cavity	T162A, T13A, T5A, T16A, T18A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Max. Orifice	C	T162A : 4mm T13A : 4.8mm
		A	T5A : 6.3mm
		E	T16A : 9.6mm
		G	T18A : 14.2mm
6	Material of Seal	N	buna-N
		V	viton

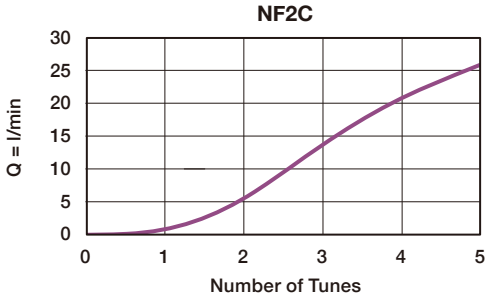
MODEL SPEC.

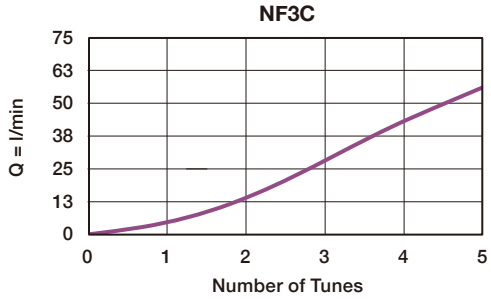
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
NF1C	T162A	18.9	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.07
NF2C	T13A	25	350	40/50		0.14
NF3C	T5A	50	350	60/70		0.26
NF6C	T16A	100	350	200/215		0.55
NF8C	T18A	200	350	465/500		1.21

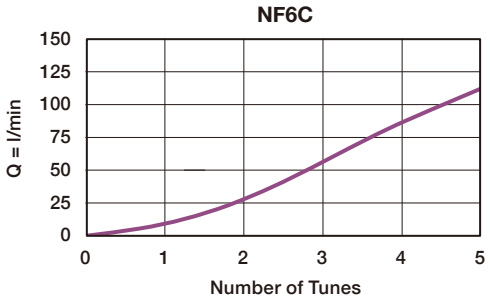
PERFORMANCE CURVES

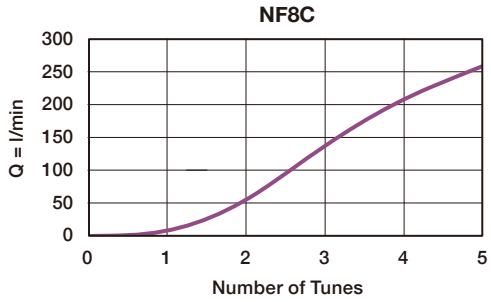
▸ **Adjustment Sensitivity at 7 bar Differential**





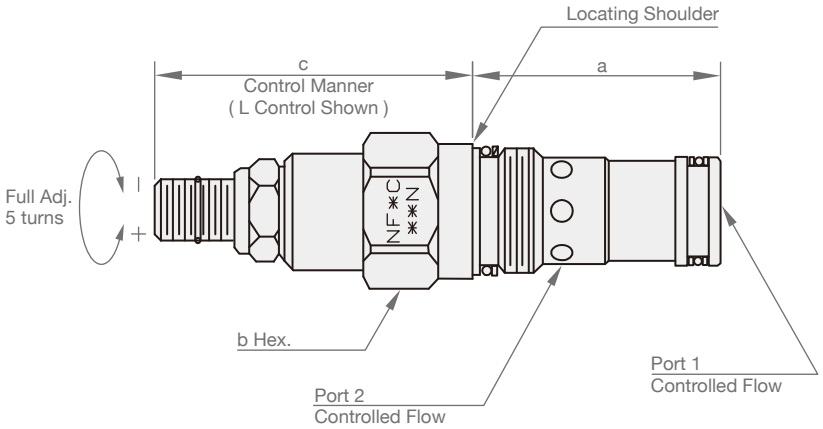






DIMENSION

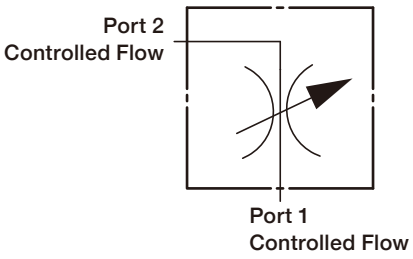
(UNIT : mm)



Model	a	b	c	
			L	K
NF1C	30	19	24.8	30.8
NF2C	34.9	22.2	58	64
NF3C	41.1	28.6	67	73
NF6C	61.9	31.8	73	79
NF8C	79.4	41.3	84	90

NFD

SYMBOLS



ORDER CODES

NF ❶ | 2 ❷ | D ❸ - T13A ❹ - L ❺ | F ❻ | N ❼

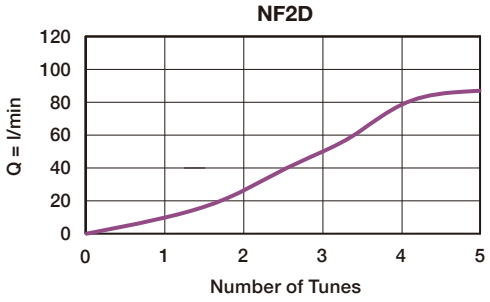
❶	Model Name	NF	
❷	Valve Size	2, 3, 6, 8	
❸	Operation	D	high capacity
❹	Cavity	T13A, T5A, T16A, T18A	
❺	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
❻	Max. Orifice	F	T13A : 8.4mm
		G	T5A : 12.7mm
		H	T16A : 17.5mm
		I	T18A : 21.6mm
❼	Material of Seal	N	buna-N
		V	viton

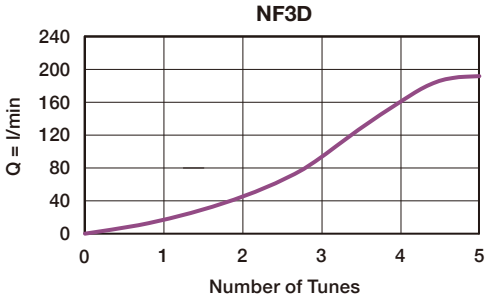
MODEL SPEC.

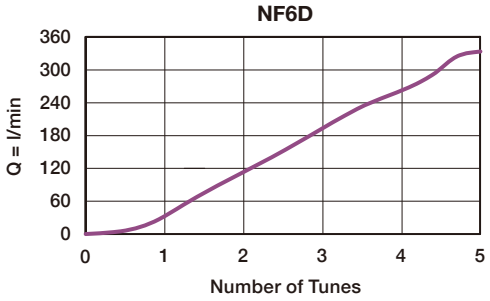
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
NF2D	T13A	80	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.15
NF3D	T5A	160	350	60/70		0.28
NF6D	T16A	320	350	200/215		0.57
NF8D	T18A	500	350	465/500		1.24

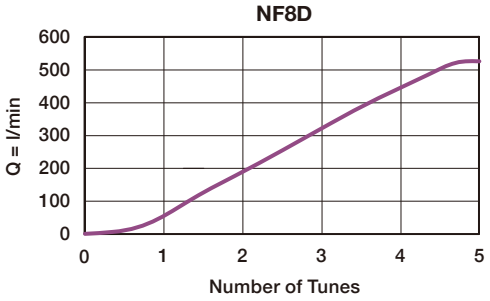
PERFORMANCE CURVES

▸ **Adjustment Sensitivity at 7 bar Differential**



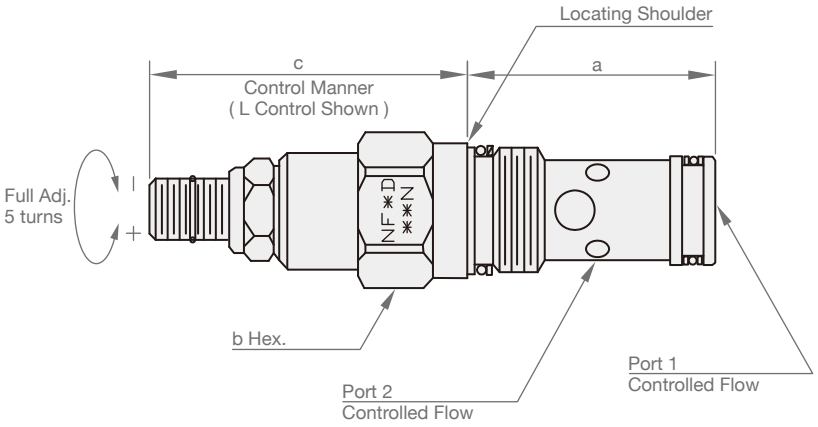






DIMENSION

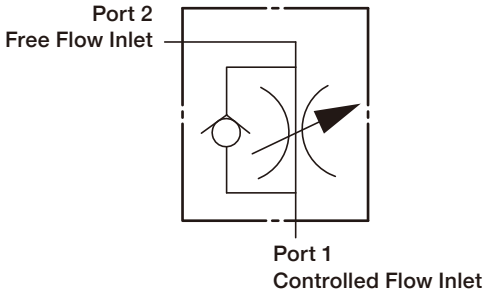
(UNIT : mm)



Model	a	b	c	
			L	K
NF2D	34.9	22.2	58	64
NF3D	41.1	28.6	67	73
NF6D	61.9	31.8	73	79
NF8D	79.4	41.3	84	90

NCB

SYMBOLS



ORDER CODES

NC	2B	-	T13A	-	L	C	N
1	2		3		4	5	6

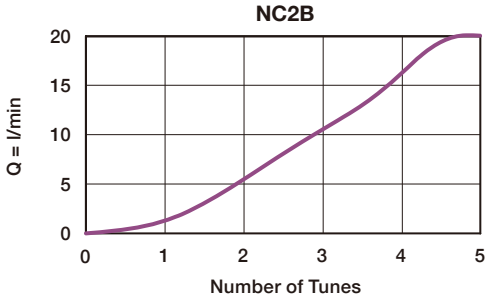
1	Model Name	NC	
2	Valve Size	2B, 3B, 6B, 8B	
3	Cavity & Max. Orifice	T13A	4.8mm
		T5A	6.3mm
		T16A	9.6mm
		T18A	14.2mm
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
6	Material of Seal	N	buna-N
		V	viton

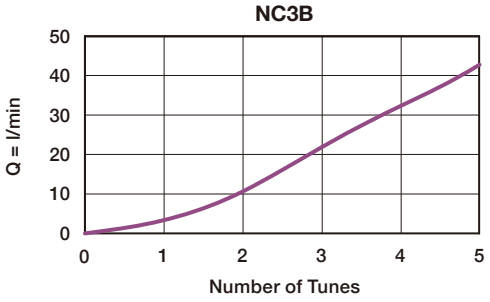
MODEL SPEC.

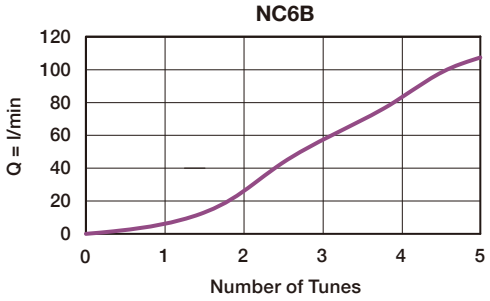
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
NC2B	T13A	25	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.14
NC3B	T5A	50	350	60/70		0.26
NC6B	T16A	100	350	200/215		0.58
NC8B	T18A	200	350	465/500		1.23

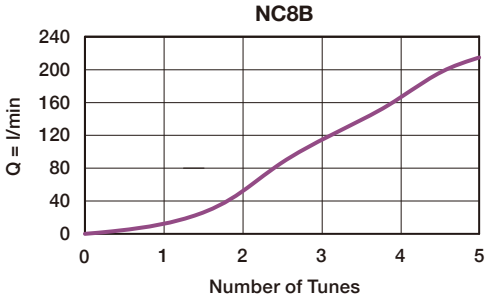
PERFORMANCE CURVES

▸ **Adjustment Sensitivity at 7 bar Differential**



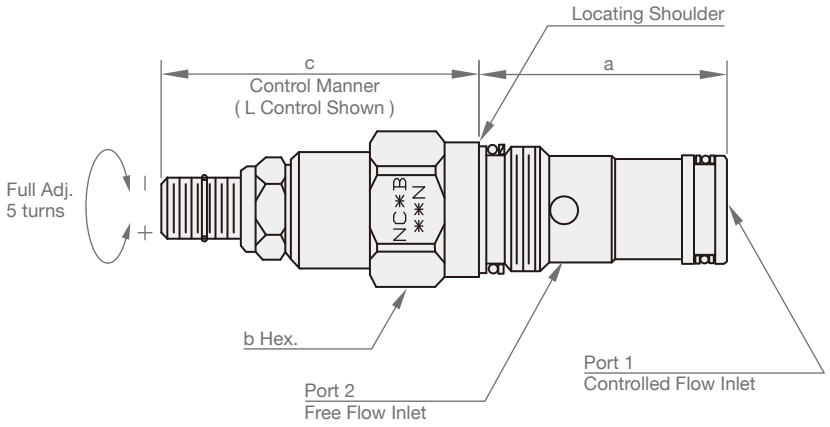






DIMENSION

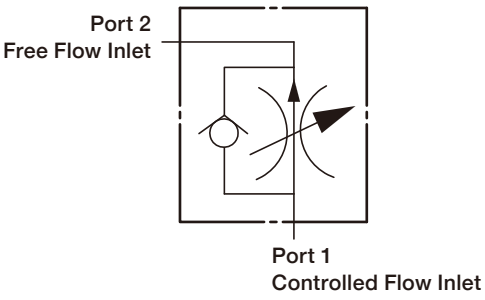
(UNIT : mm)



Model	a	b	c	
			L	K
NC2B	34.9	22.2	58	64
NC3B	41.1	28.6	67	73
NC6B	61.9	31.8	73	79
NC8B	79.4	41.3	84	90

FD

SYMBOLS



ORDER CODES

FD 2A - T13A - L A N
1 2 3 4 5 6

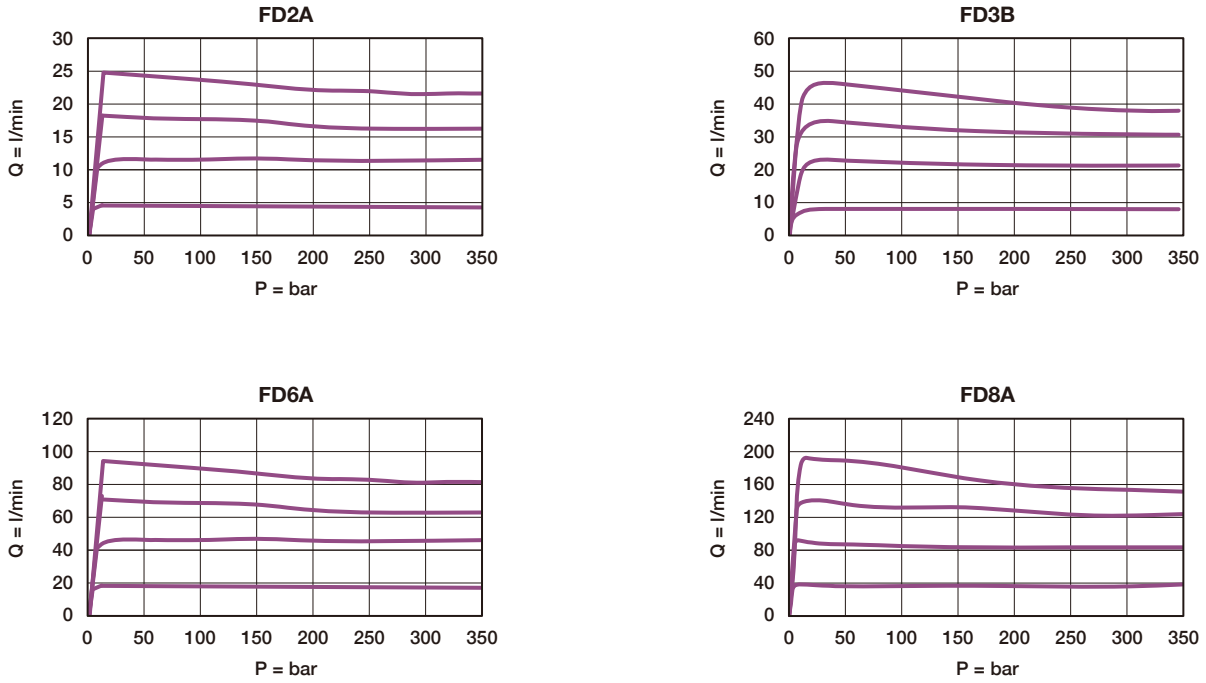
1	Model Name	FD	
2	Valve Size	2A, 3B, 6A, 8A	
3	Cavity	T13A, T5A, T16A, T18A	
4	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
5	Adjustable Range	A	2A : 0.4 ~ 23 l/min 3B : 0.4 ~ 45 l/min 6A : 1.0 ~ 95 l/min 8A : 1.0 ~ 200 l/min
6	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
FD2A	T13A	23	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.14
FD3B	T5A	45	350	60/70		0.28
FD6A	T16A	95	350	200/215		0.55
FD8A	T18A	200	350	465/500		1.23

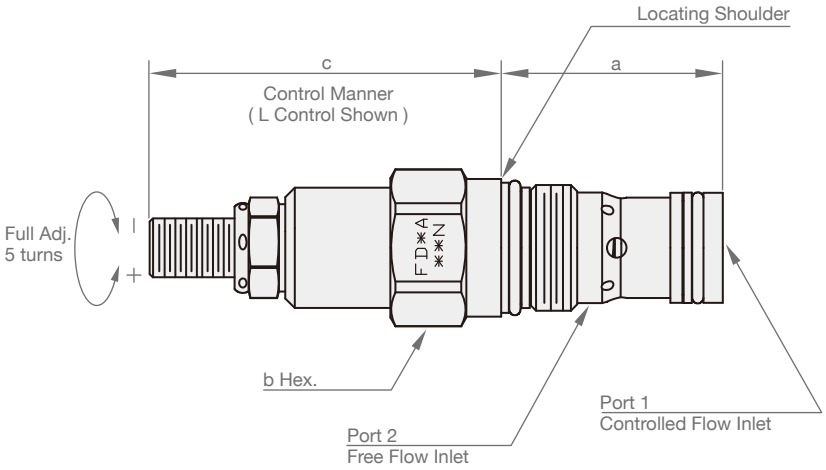
PERFORMANCE CURVES

▸ Typical Performance



DIMENSION

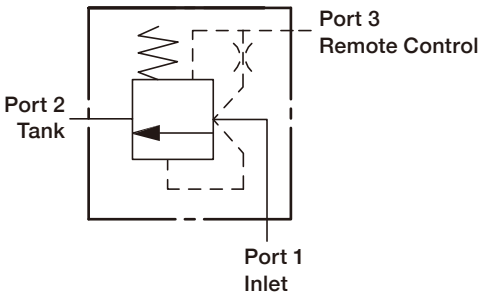
(UNIT : mm)



Model	a	b	c	
			L	K
FD2A	34.9	22.2	58	64
FD3B	41.1	28.6	67	73
FD6A	61.9	31.8	73	79
FD8A	79.4	41.3	84	90

LRA

SYMBOLS



ORDER CODES

LR	2	A	-	T11A	-	X	D	N
1	2	3		4		5	6	7

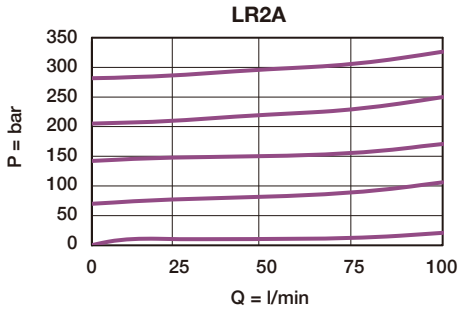
1	Model Name	LR	
2	Valve Size	2, 3, 6, 8	
3	Type	A	internal pilot
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	X	unadjustable
		L	standard screw adjustment
6	Cracking Pressure	D	3.5 bar
		F	7.0 bar
		G	10.0 bar
7	Material of Seal	N	buna-N
		V	viton

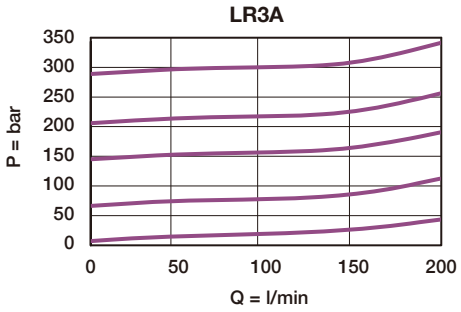
MODEL SPEC.

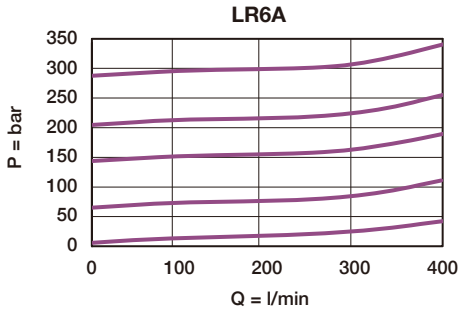
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
LR2A	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.12
LR3A	T2A	120	350	60/70		0.22
LR6A	T17A	240	350	200/215		0.50
LR8A	T19A	480	350	465/500		1.15

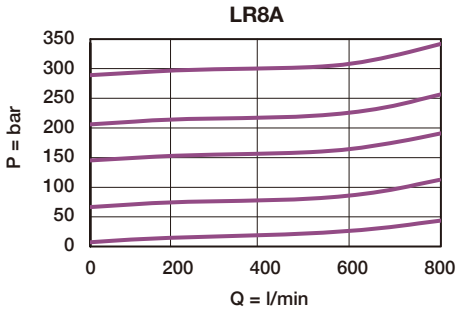
PERFORMANCE CURVES

▸ Typical Pressure Drop



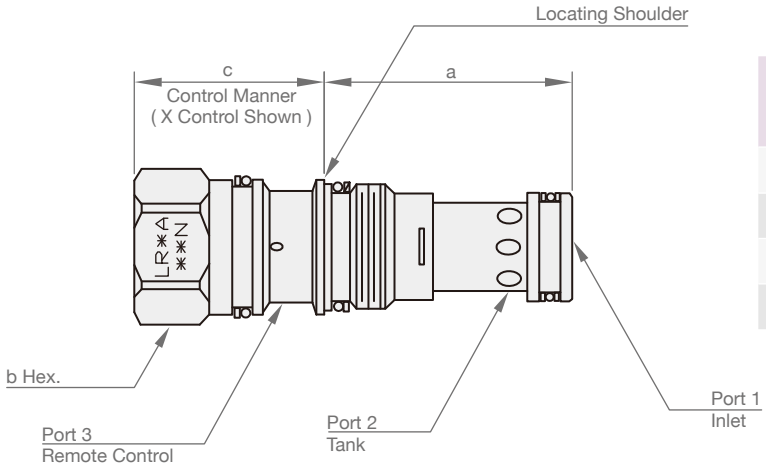






DIMENSION

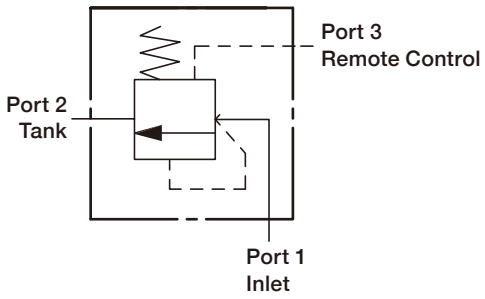
(UNIT : mm)



Model	a	b	c	
			X	L
LR2A	34.9	22.2	31	64
LR3A	34.9	28.6	35	72
LR6A	46.0	31.8	46	84
LR8A	63.5	41.3	59	100

LRC

SYMBOLS



ORDER CODES

LR	2	C	-	T11A	-	X	D	N
1	2	3		4		5	6	7

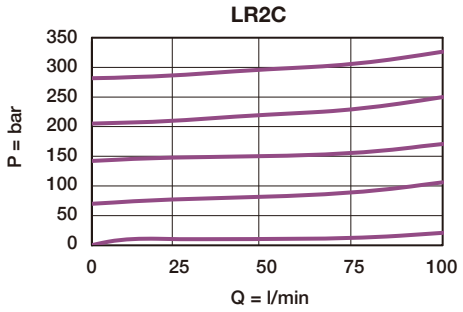
1	Model Name	LR	
2	Valve Size	2, 3, 6, 8	
3	Type	C	external pilot
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	X	unadjustable
		L	standard screw adjustment
6	Cracking Pressure	D	3.5 bar
		F	7.0 bar
		G	10.0 bar
7	Material of Seal	N	buna-N
		V	viton

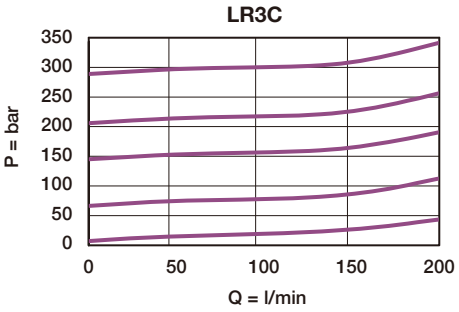
MODEL SPEC.

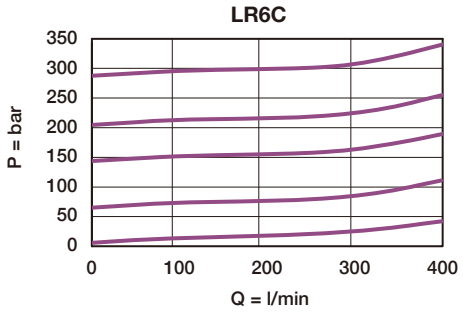
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
LR2C	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.12
LR3C	T2A	120	350	60/70		0.22
LR6C	T17A	240	350	200/215		0.50
LR8C	T19A	480	350	465/500		1.15

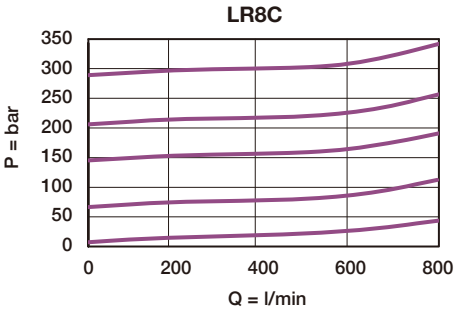
PERFORMANCE CURVES

▸ Typical Pressure Drop



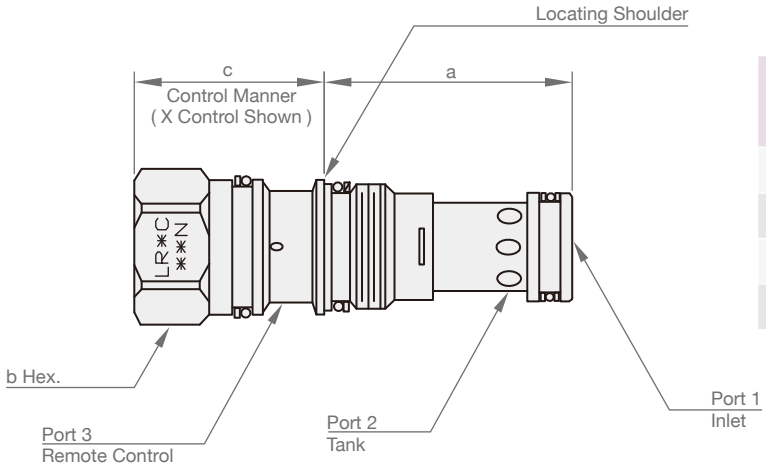






DIMENSION

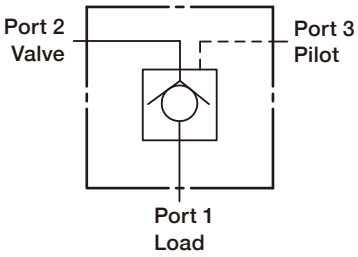
(UNIT : mm)



Model	a	b	c	
			X	L
LR2C	34.9	22.2	31	64
LR3C	34.9	28.6	35	72
LR6C	46.0	31.8	46	84
LR8C	63.5	41.3	59	100

CKA

SYMBOLS



Pilot Ratio = 3:1

ORDER CODES

CK	2	A	-	T11A	-	X	C	N
1	2	3		4		5	6	7

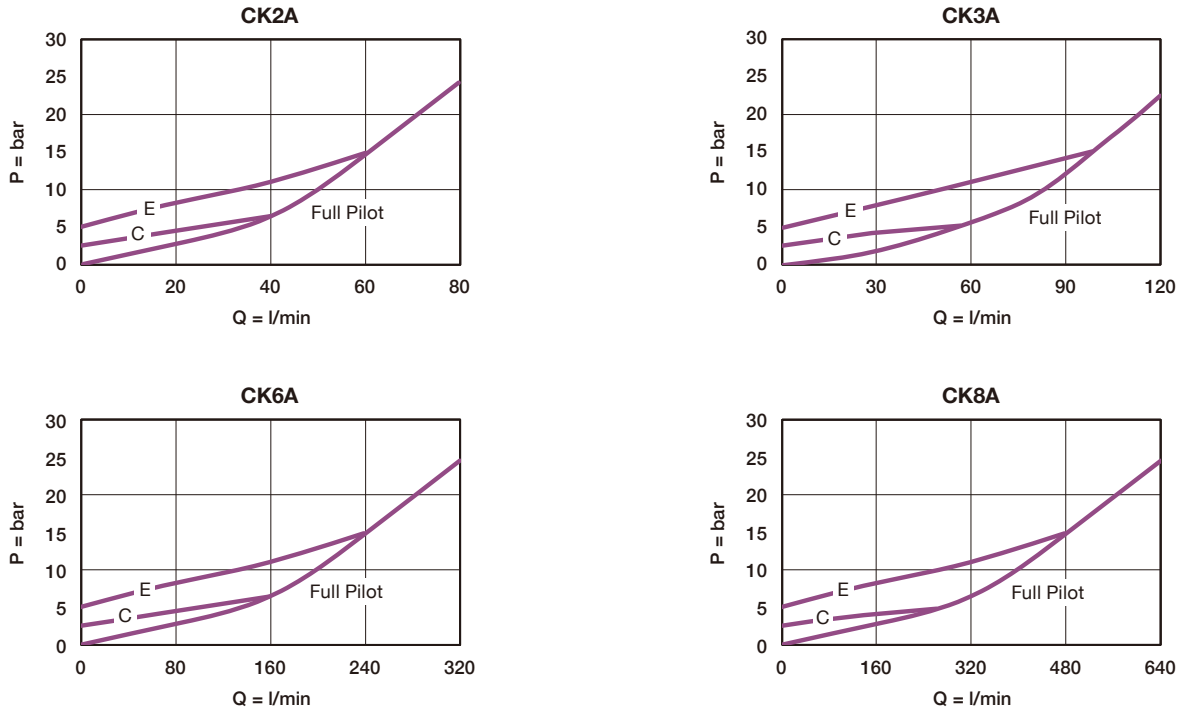
1	Model Name	CK	
2	Valve Size	2, 3, 6, 8	
3	Pilot Version	A	bleed through pilot
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	X	standard pilot
		L	manual load release
6	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CK2A	T11A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.13
CK3A	T2A	120	350	60/70		0.24
CK6A	T17A	240	350	200/215		0.53
CK8A	T19A	480	350	465/500		1.16

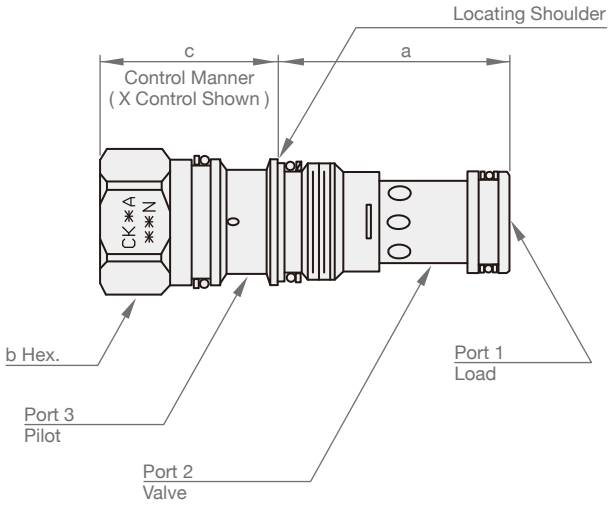
PERFORMANCE CURVES

▸ Typical Pressure Drop



DIMENSION

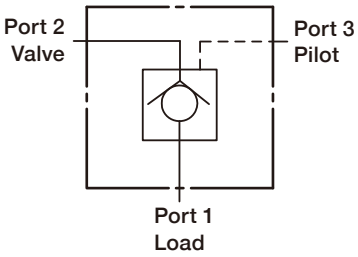
(UNIT : mm)



Model	a	b	c	
			X	L
CK2A	34.9	22.2	31	64
CK3A	34.9	28.6	35	72
CK6A	46.0	31.8	46	84
CK8A	63.5	41.3	59	100

CKB

SYMBOLS



Pilot Ratio = 3:1

ORDER CODES

CK	2	B	-	T11A	-	X	C	N
1	2	3		4		5	6	7

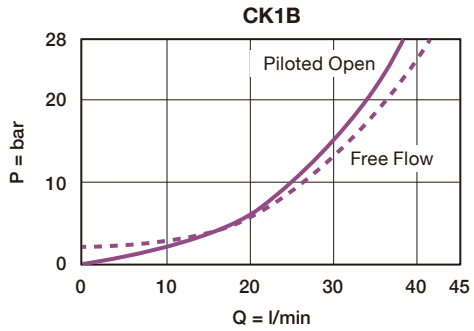
1	Model Name	CK	
2	Valve Size	1, 2, 3, 6, 8	
3	Pilot Version	B	bleed through pilot
4	Cavity	T163A, T11A, T2A, T17A, T19A	
5	Control Manner	X	standard pilot
		L	manual load release
6	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
7	Material of Seal	N	buna-N
		V	viton

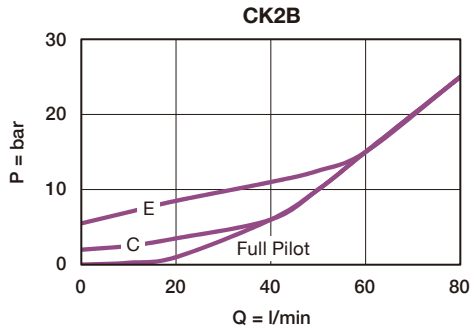
MODEL SPEC.

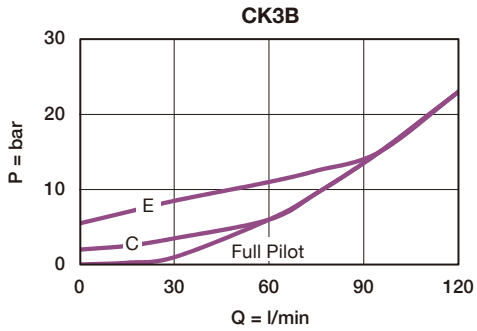
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CK1B	T163A	28.4	350	40/48	-35 ~ 100°C (-31 ~ 212°F)	0.09
CK2B	T11A	60	350	40/50		0.10
CK3B	T2A	120	350	60/70		0.24
CK6B	T17A	240	350	200/215		0.53
CK8B	T19A	480	350	465/500		1.16

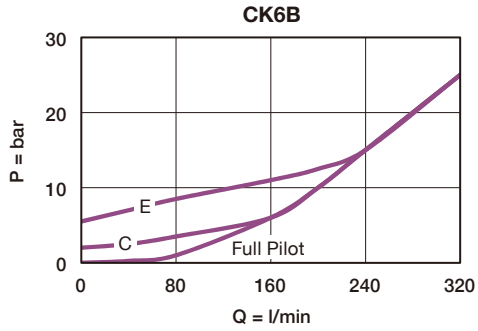
PERFORMANCE CURVES

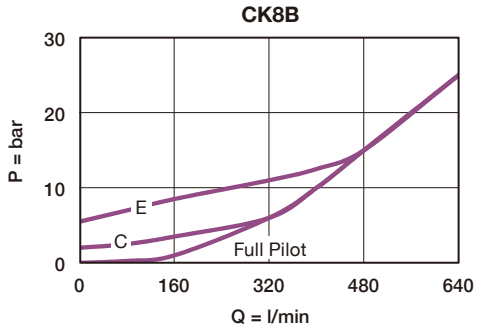
▸ Typical Pressure Drop





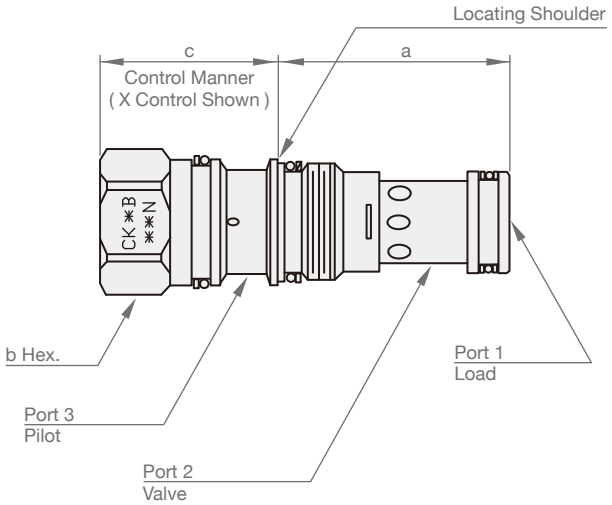






DIMENSION

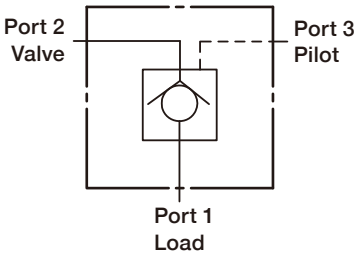
(UNIT : mm)



Model	a	b	c	
			X	L
CK1B	31.2	19	32	64
CK2B	34.9	22.2	31	64
CK3B	34.9	28.6	35	72
CK6B	46.0	31.8	46	84
CK8B	63.5	41.3	59	100

CKC

SYMBOLS



Pilot Ratio = 3:1

ORDER CODES

CK	2	C	-	T11A	-	X	C	N
1	2	3		4		5	6	7

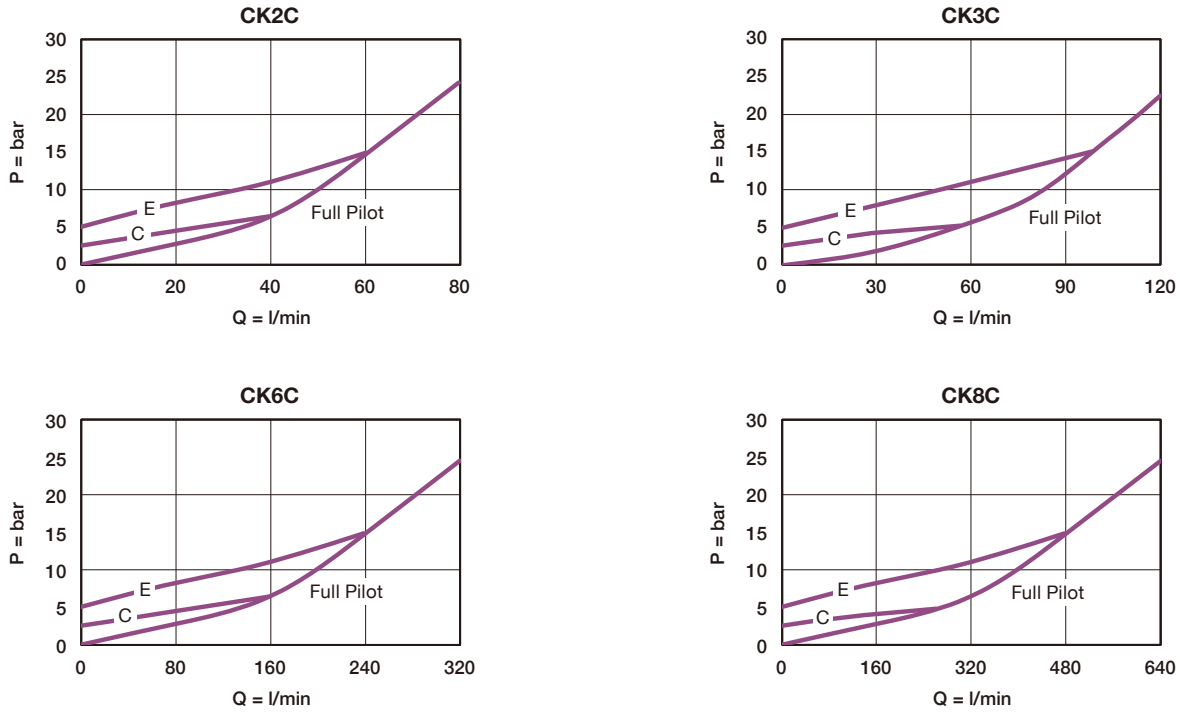
1	Model Name	CK	
2	Valve Size	2, 3, 6, 8	
3	Pilot Version	C	sealed pilot
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	X	standard pilot
		L	manual load release
6	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CK2C	T11A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.13
CK3C	T2A	120	350	60/70		0.24
CK6C	T17A	240	350	200/215		0.53
CK8C	T19A	480	350	465/500		1.16

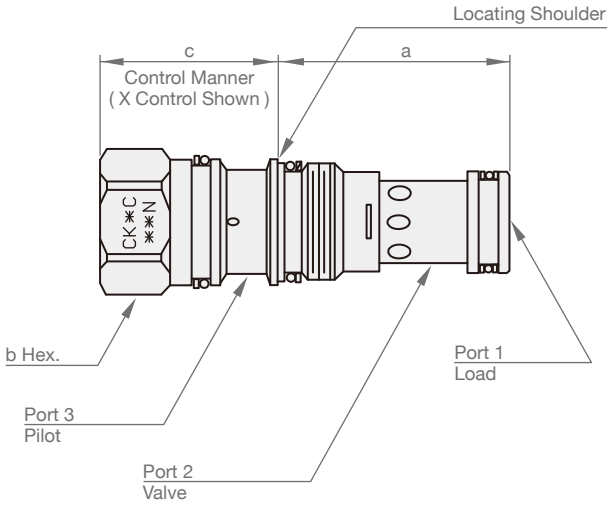
PERFORMANCE CURVES

▸ Typical Pressure Drop



DIMENSION

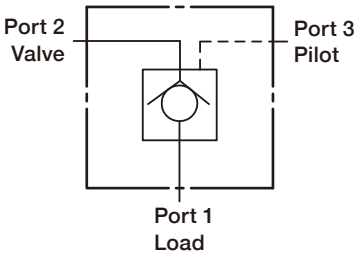
(UNIT : mm)



Model	a	b	c	
			X	L
CK2C	34.9	22.2	31	64
CK3C	34.9	28.6	35	72
CK6C	46.0	31.8	46	84
CK8	63.5	41.3	59	100

CKD

SYMBOLS



Pilot Ratio = 3:1

ORDER CODES

CK	2	D	-	T11A	-	X	C	N
1	2	3		4		5	6	7

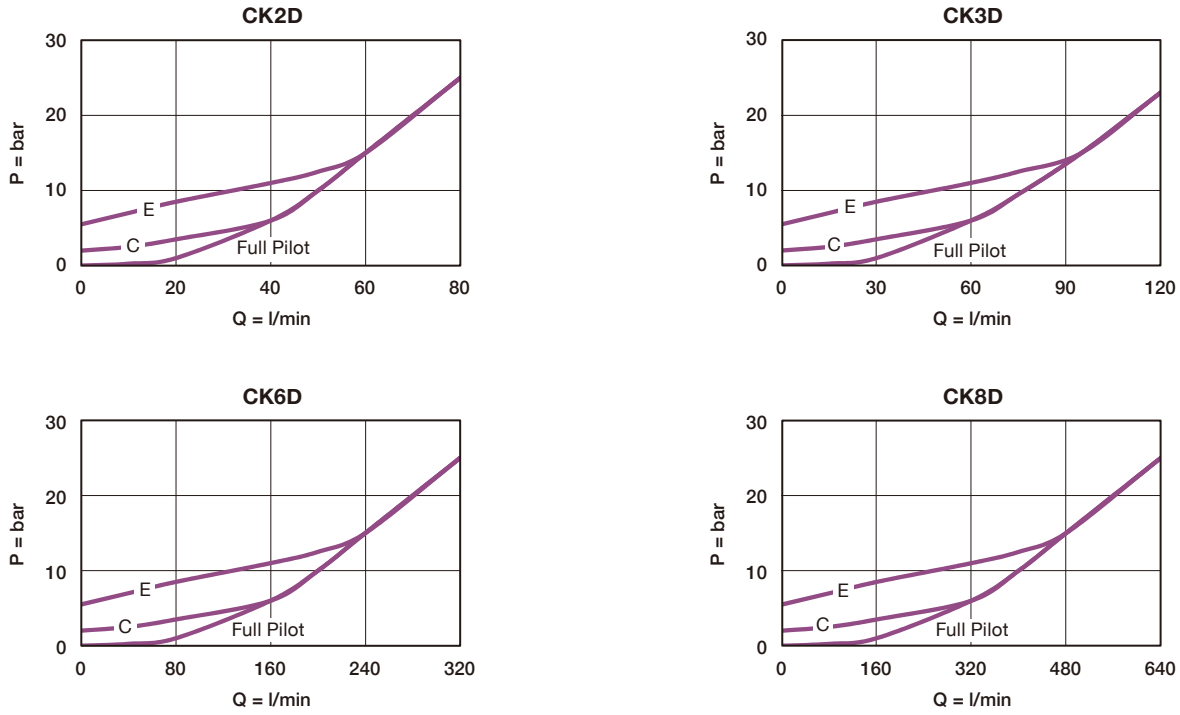
1	Model Name	CK	
2	Valve Size	2, 3, 6, 8	
3	Pilot Version	D	sealed pilot
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	X	standard pilot
		L	manual load release
6	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CK2D	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.13
CK3D	T2A	120	350	60/70		0.24
CK6D	T17A	240	350	200/215		0.53
CK8D	T19A	480	350	465/500		1.16

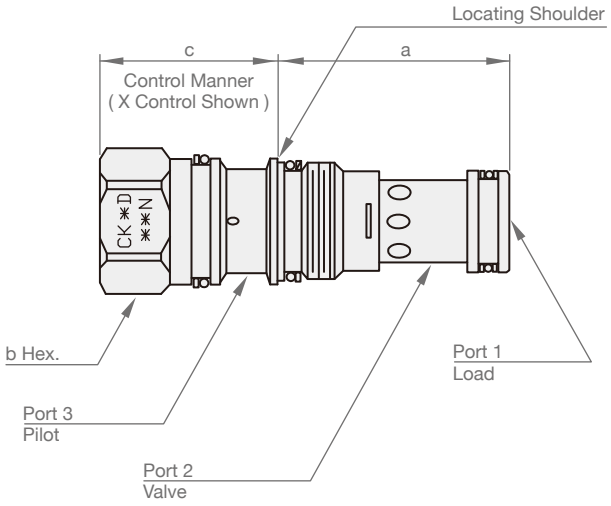
PERFORMANCE CURVES

▸ Typical Pressure Drop



DIMENSION

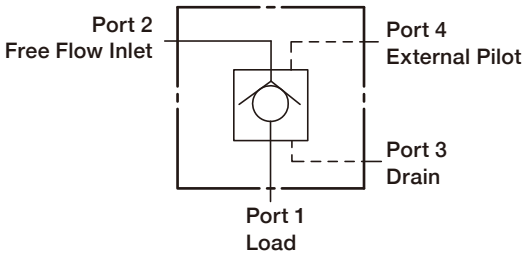
(UNIT : mm)



Model	a	b	c	
			X	L
CK2D	34.9	22.2	31	64
CK3D	34.9	28.6	35	72
CK6D	46.0	31.8	46	84
CK8D	63.5	41.3	59	100

CKF

SYMBOLS



Pilot Ratio = 3:1

ORDER CODES

CK	2	F	-	T11A	-	V	C	N
1	2	3		4		5	6	7

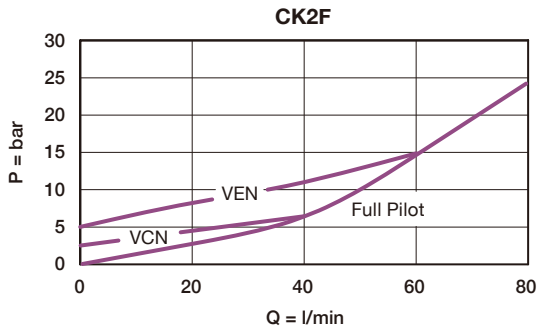
1	Model Name	CK	
2	Valve Size	2, 3, 6, 8	
3	Pilot Version	F	external pilot
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	V	external pilot port
6	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
7	Material of Seal	N	buna-N
		V	viton

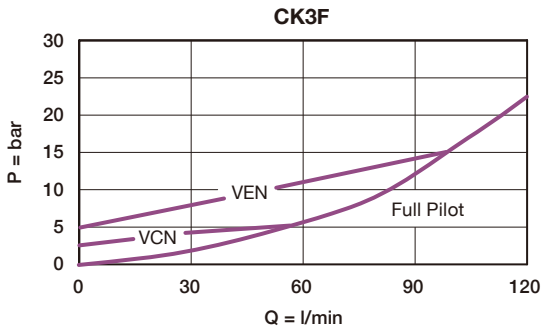
MODEL SPEC.

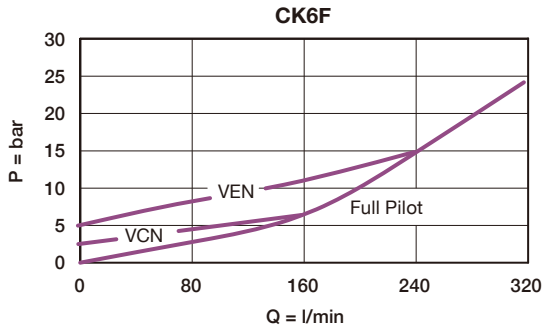
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CK2F	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.13
CK3F	T2A	120	350	60/70		0.24
CK6F	T17A	240	350	200/215		0.53
CK8F	T19A	480	350	465/500		1.16

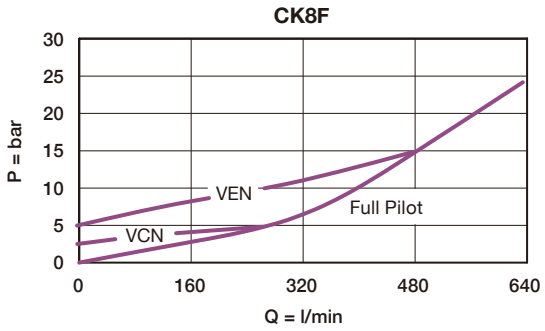
PERFORMANCE CURVES

▸ Typical Pressure Drop



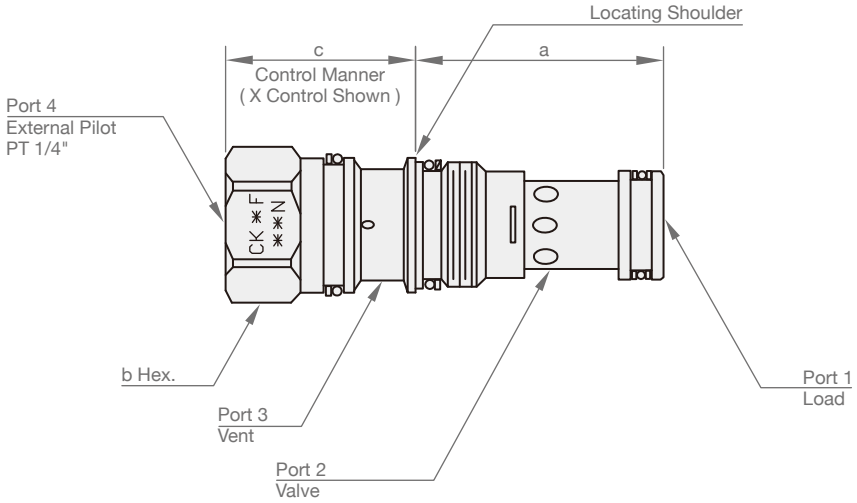






DIMENSION

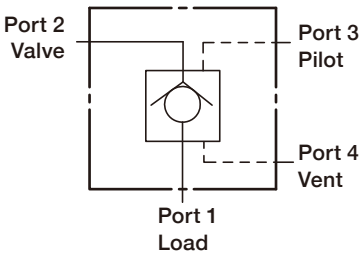
(UNIT : mm)



Model	a	b	c	
			X	L
CK2B	34.9	22.2	31	64
CK3B	34.9	28.6	35	72
CK6B	46.0	31.8	46	84
CK8B	63.5	41.3	59	100

CVV

SYMBOLS



Pilot Ratio = 3:1

ORDER CODES

CV	2V	-	T21A	-	X	C	N
1	2		3		4	5	6

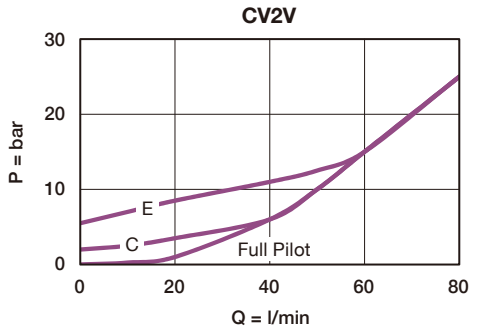
1	Model Name	CV	
2	Valve Size	2V, 3V, 6V, 8V	
3	Cavity	T21A, T22A, T23A, T24A	
4	Control Manner	X	standard pilot
		L	manual load release
5	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
6	Material of Seal	N	buna-N
		V	viton

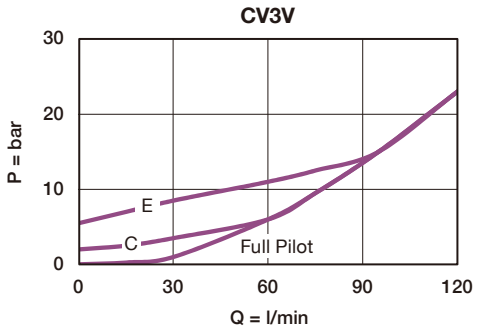
MODEL SPEC.

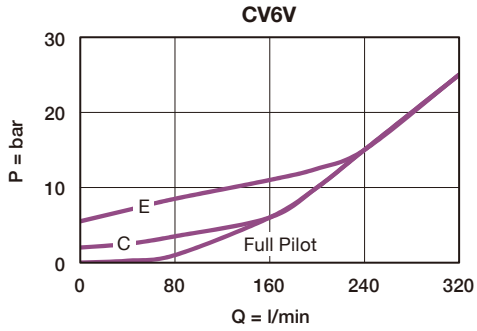
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CV2V	T21A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.18
CV3V	T22A	120	350	60/70		0.30
CV6V	T23A	240	350	200/215		0.68
CV8V	T24A	480	350	465/500		1.49

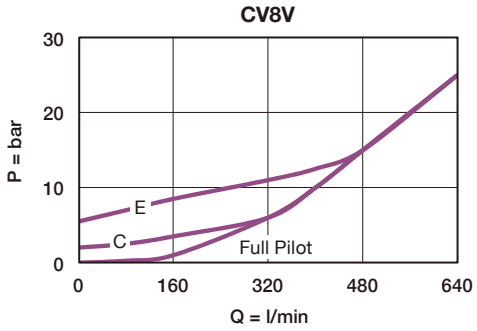
PERFORMANCE CURVES

▸ Unloaded Pressure Drop



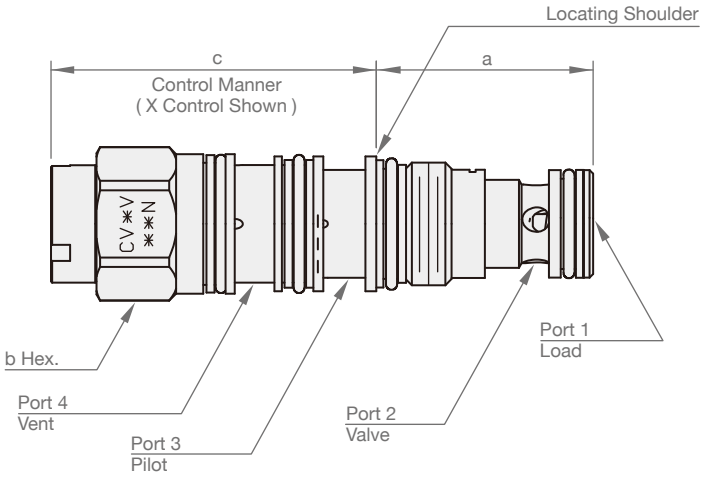






DIMENSION

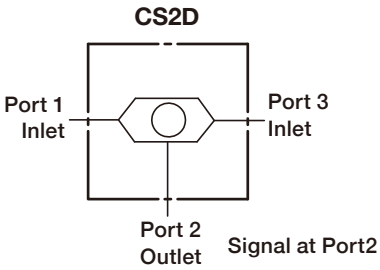
(UNIT : mm)

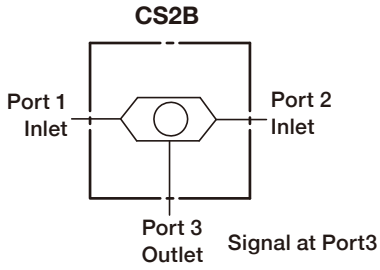


Model	a	b	c	
			X	L
CV2V	35.1	22.2	53.3	59.4
CV3V	35.1	28.6	59.4	65.0
CV6V	46.0	31.8	71.4	77.0
CV8V	63.5	41.3	88.9	95.8

CSD, CSB

SYMBOLS





ORDER CODES

CS	2	D	-	T11A	-	X	X	N
1	2	3		4		5	6	7

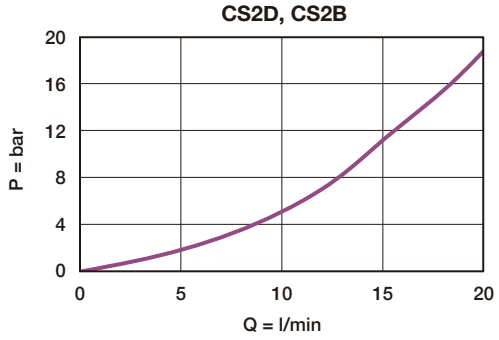
1	Model Name	CS	
2	Valve Size	2	
3	Operation	D	T11A, signal at port 2
		B	T11A, signal at port 3
4	Cavity	T11A	
5	Control Manner	X	unadjustable
6	Adjustment Range	X	unadjustable
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CS2D	T11A	10	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.12
CS2B	T11A	10	350	40/50		0.12

PERFORMANCE CURVES

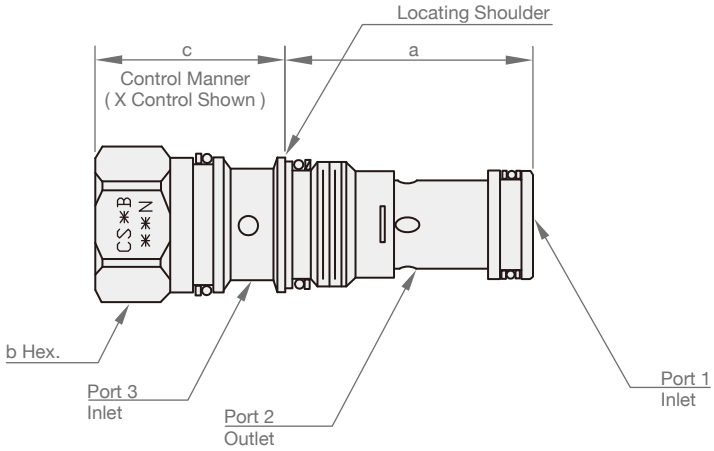
▸ Typical Pressure Drop



DIMENSION

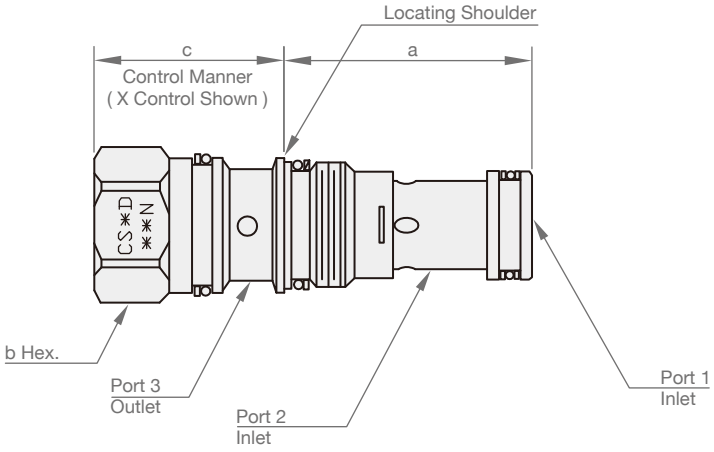
(UNIT : mm)

▸ CS2D



Model	a	b	c
			X
CS2D	34.9	22.2	31
CS2B	34.9	22.2	31

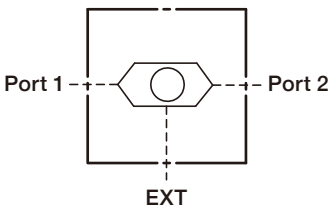
▸ CS2B



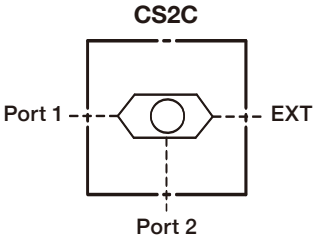
CSA, CSC

SYMBOLS

CS2A



CS2C



ORDER CODES

CS	2	A	-	T13A	-	E	X	N
1	2	3		4		5	6	7

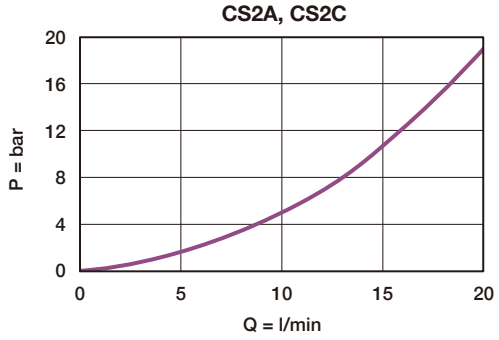
1	Model Name	CS	
2	Valve Size	2	
3	Operation	A	signal external
		C	signal at port 2
4	Cavity	T13A	
5	Control Manner	E	external 4-SAE port
6	Adjustment Range	X	unadjustable
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CS2A	T13A	10	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.1
CS2C	T13A	10	350	45/50		0.1

PERFORMANCE CURVES

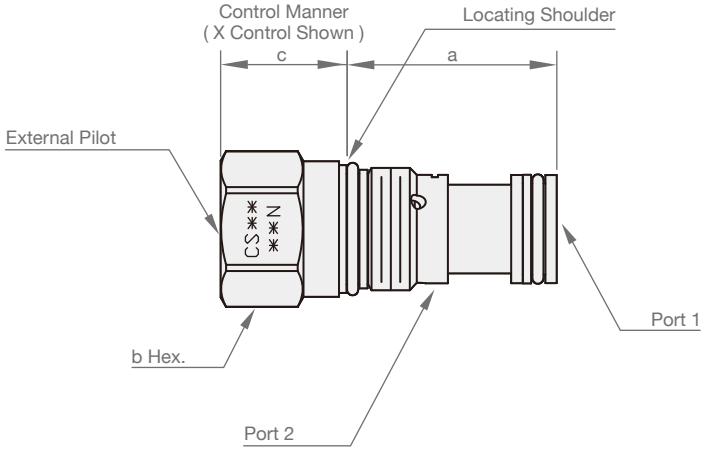
▸ Typical Pressure Drop



DIMENSION

(UNIT : mm)

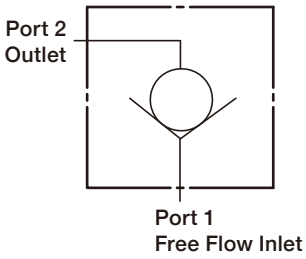
▸ CS2A, CS2C



Model	a	b	c
			X
CS2A	34.9	22.2	19
CS2C	34.9	22.2	19

CXA

SYMBOLS



ORDER CODES

CX 2 A - T13A - X C N

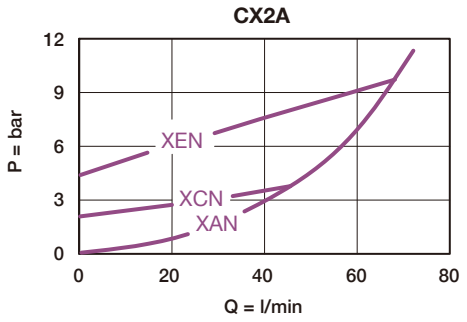
1	Model Name	CX	
2	Valve Size	2, 3, 6, 8	
3	Operation	A	Free Flow Port1 to Port2
4	Cavity	T13A, T5A, T16A, T18A	
5	Control Manner	X	unadjustable
6	Cracking Pressure	A	0.3 bar
		B	1.0 bar
		C	2.0 bar
		D	3.5 bar
		E	5.0 bar
7	Material of Seal	N	buna-N
		V	viton

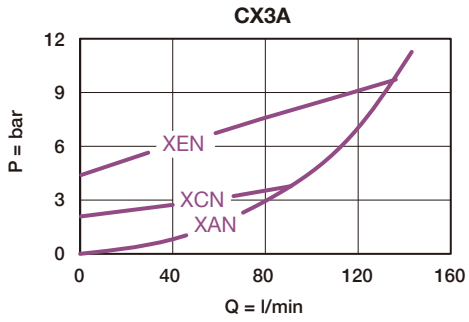
MODEL SPEC.

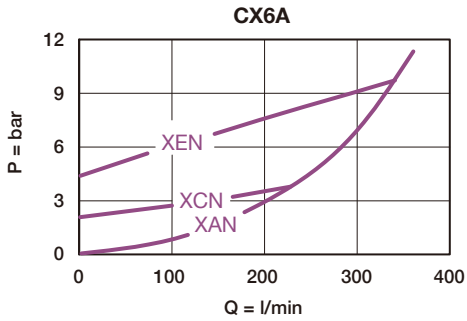
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CX2A	T13A	80	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.12
CX3A	T5A	160	350	60/70		0.18
CX6A	T16A	320	350	200/215		0.42
CX8A	T18A	640	350	465/500		0.93

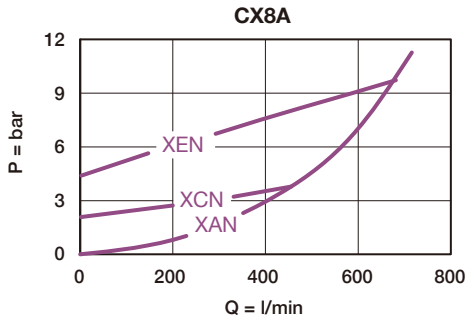
PERFORMANCE CURVES

▸ Typical Pressure Drop



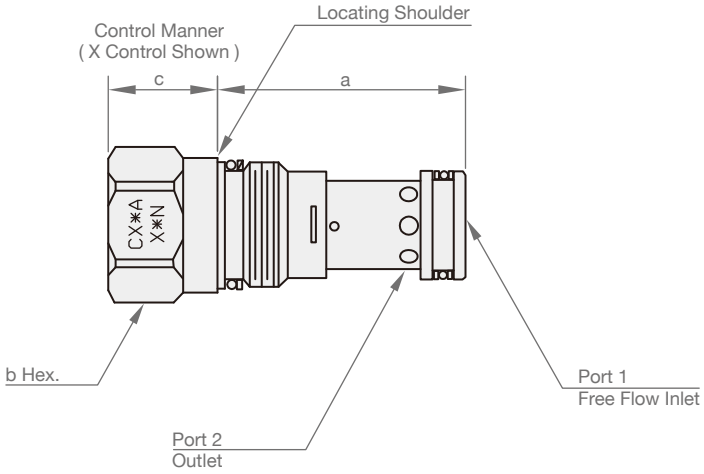






DIMENSION

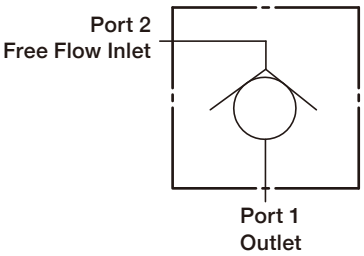
(UNIT : mm)



Model	a	b	c
			X
CX2A	34.9	22.2	19
CX3A	41.1	28.6	18
CX6A	61.9	31.8	25
CX8A	79.4	41.3	31

CXB

SYMBOLS



ORDER CODES

CX	2	B	-	T13A	-	X	C	N
1	2	1		3		4	5	6

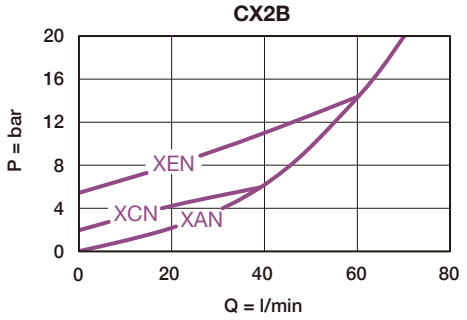
1	Model Name	CXB	
2	Valve Size	2, 3, 6, 8	
3	Cavity	T13A, T5A, T16A, T18A	
4	Control Manner	X	unadjustable
5	Cracking Pressure	A	0.3 bar
		B	1.0 bar
		C	2.0 bar
		D	3.5 bar
		E	5.0 bar
6	Material of Seal	N	buna-N
		V	viton

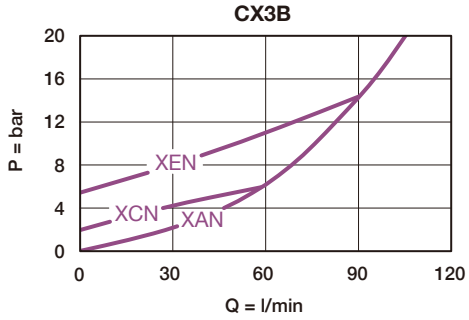
MODEL SPEC.

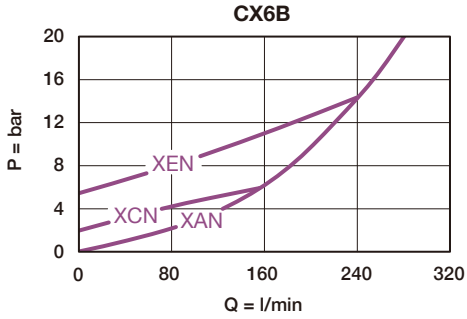
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CX2B	T13A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.12
CX3B	T5A	120	350	60/70		0.18
CX6B	T16A	240	350	200/215		0.42
CX8B	T18A	480	350	465/500		0.93

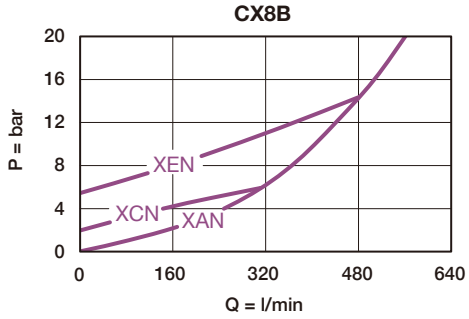
PERFORMANCE CURVES

▸ Typical Pressure Drop



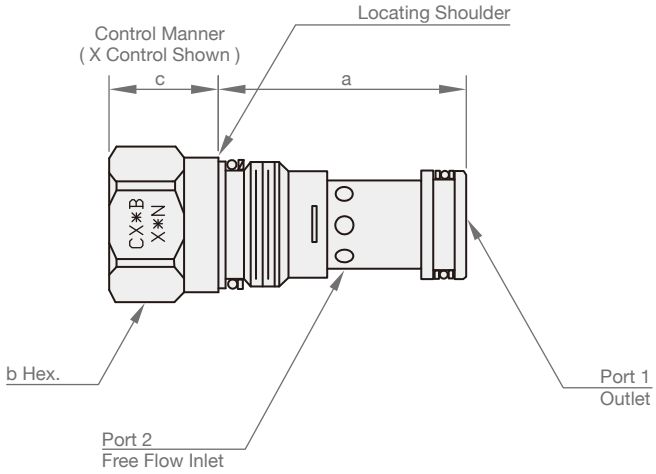






DIMENSION

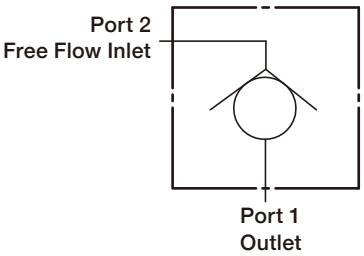
(UNIT : mm)



Model	a	b	c
			X
CX2B	34.9	22.2	19
CX3B	41.1	28.6	18
CX6B	61.9	31.8	25
CX8B	79.4	41.3	31

CXD

SYMBOLS



ORDER CODES

CX 2 D - T13A - X C N

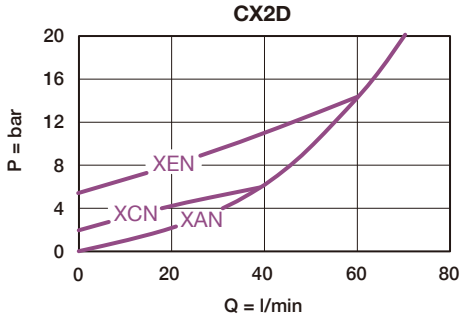
1	Model Name	CX	
2	Valve Size	2, 3, 6, 8	
3	Operation	D	Free Flow Por2 to Port1
4	Cavity	T13A, T5A, T16A, T18A	
5	Control Manner	X	unadjustable
6	Cracking Pressure	A	0.3 bar
		B	1.0 bar
		C	2.0 bar
		D	3.5 bar
		E	5.0 bar
7	Material of Seal	N	buna-N
		V	viton

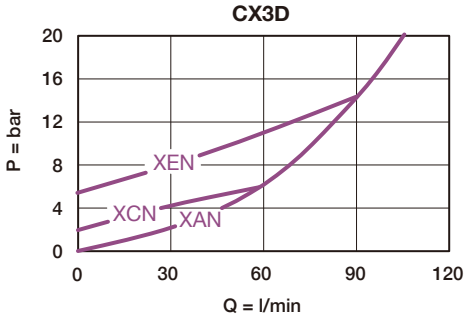
MODEL SPEC.

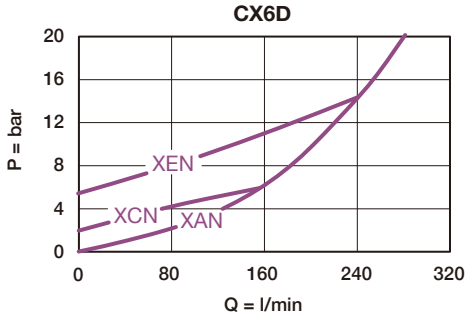
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CX2D	T13A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.12
CX3D	T5A	120	350	60/70		0.18
CX6D	T16A	240	350	200/215		0.42
CX8D	T18A	480	350	465/500		0.93

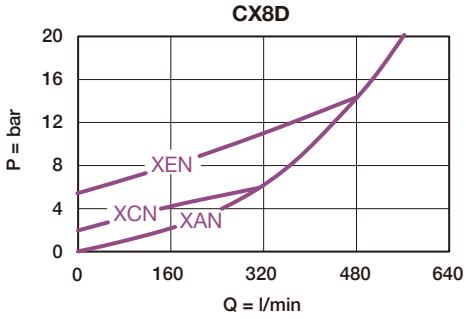
PERFORMANCE CURVES

▸ Typical Pressure Drop



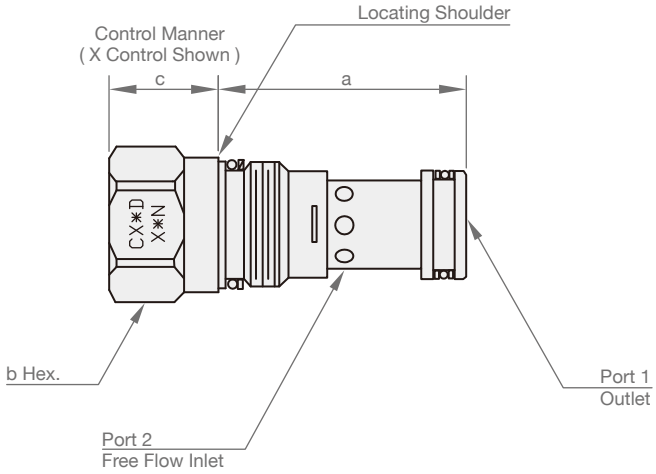






DIMENSION

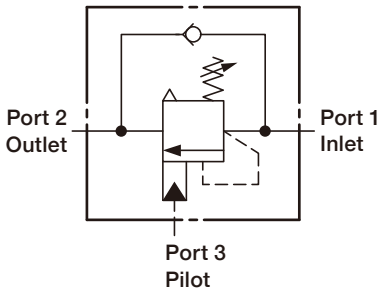
(UNIT : mm)



Model	a	b	c
			X
CX2D	34.9	22.2	19
CX3D	41.1	28.6	18
CX6D	61.9	31.8	25
CX8D	79.4	41.3	31

CAA

SYMBOLS



ORDER CODES

CA	2	A	-	T11A	-	L	I	N
1	2	3		4		5	6	7

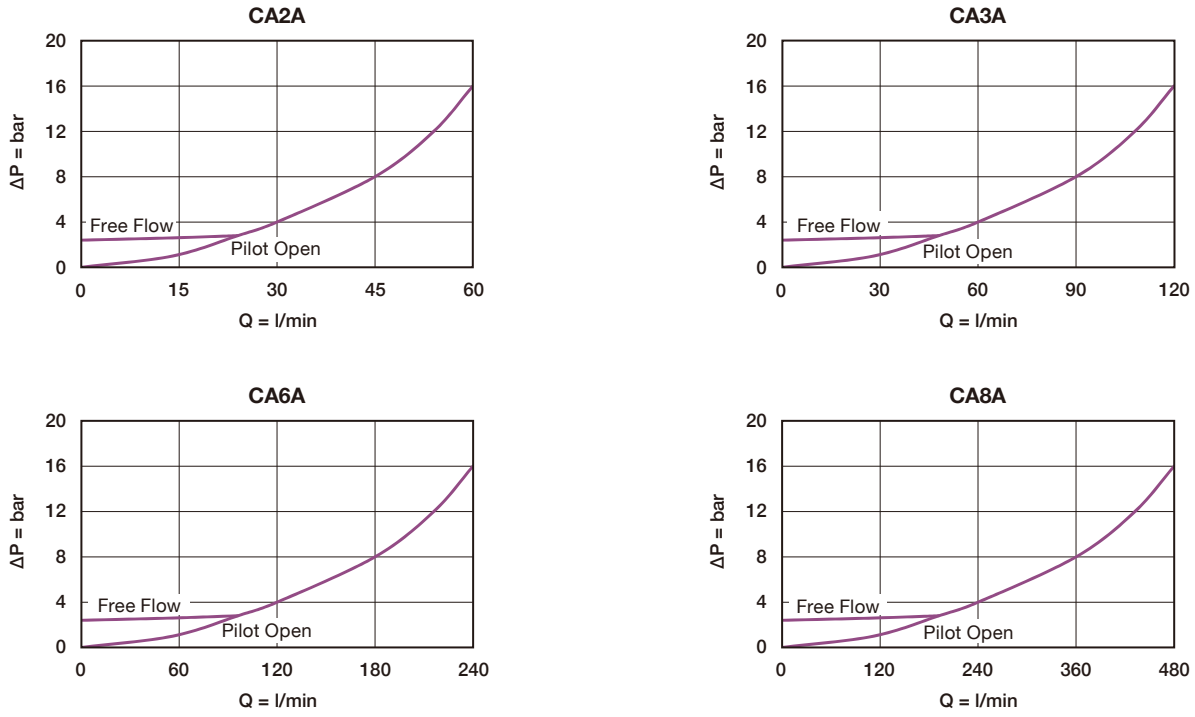
1	Model Name	CA	
2	Valve Size	2, 3, 6, 8	
3	Pilot Pressure	A	3:1
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	H	70 ~ 280 bar, 210 bar initially setting
		I	25 ~ 105 bar, 70 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CA2A	T11A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.20
CA3A	T2A	120	350	60/70		0.38
CA6A	T17A	240	350	200/215		0.74
CA8A	T19A	480	350	465/500		1.62

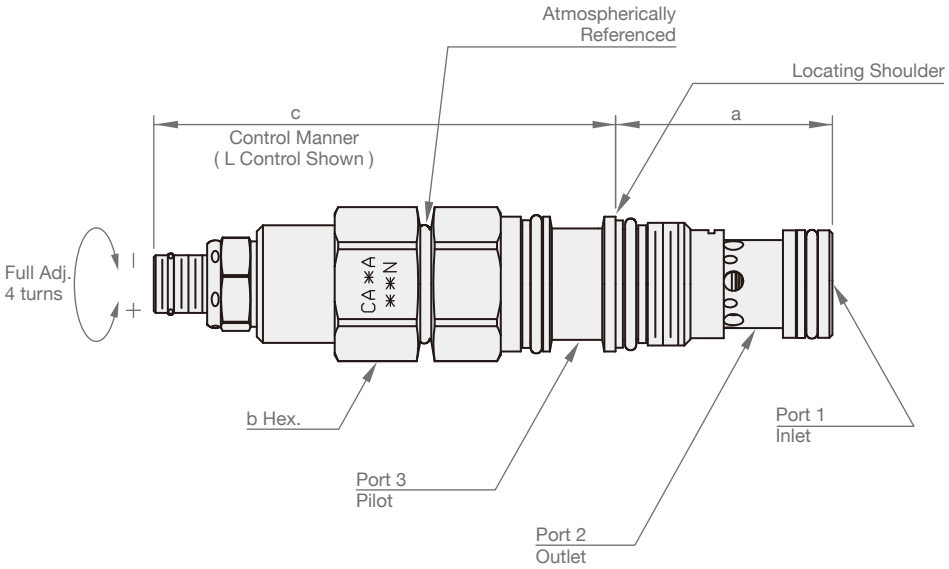
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



DIMENSION

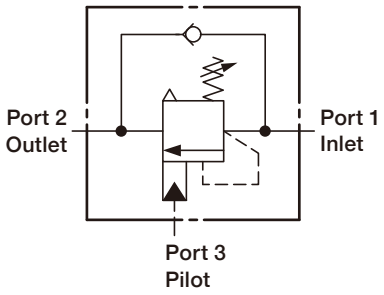
(UNIT : mm)



Model	a	b	c
			L
CA2A	35.1	22.2	73.4
CA3A	35.1	28.6	83.6
CA6A	46.0	31.8	95.0
CA8A	63.5	41.3	116.3

CAG

SYMBOLS



ORDER CODES

CA	2	G	-	T11A	-	L	G	N
1	2	3		4		5	6	7

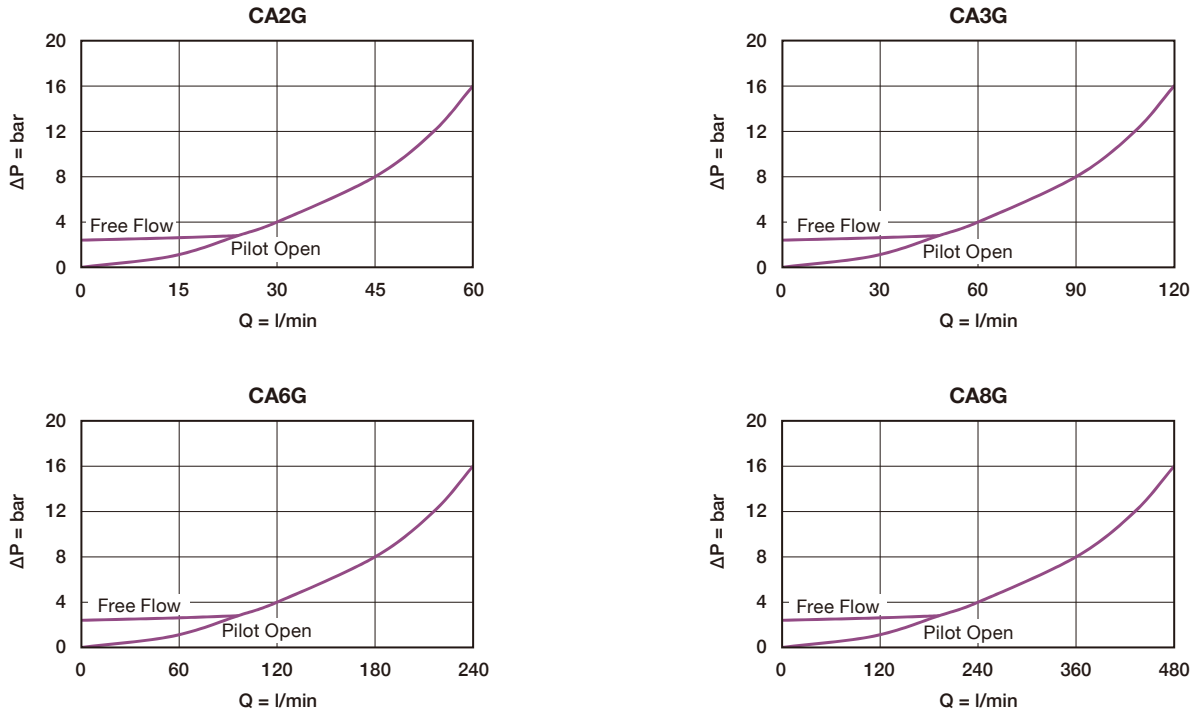
1	Model Name	CA	
2	Valve Size	2, 3, 6, 8	
3	Pilot Pressure	G	5:1
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	G	140 ~ 420 bar, 280 bar initially setting
		F	70 ~ 175 bar, 140 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CA2G	T11A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.20
CA3G	T2A	120	350	60/70		0.38
CA6G	T17A	240	350	200/215		0.74
CA8G	T19A	480	350	465/500		1.62

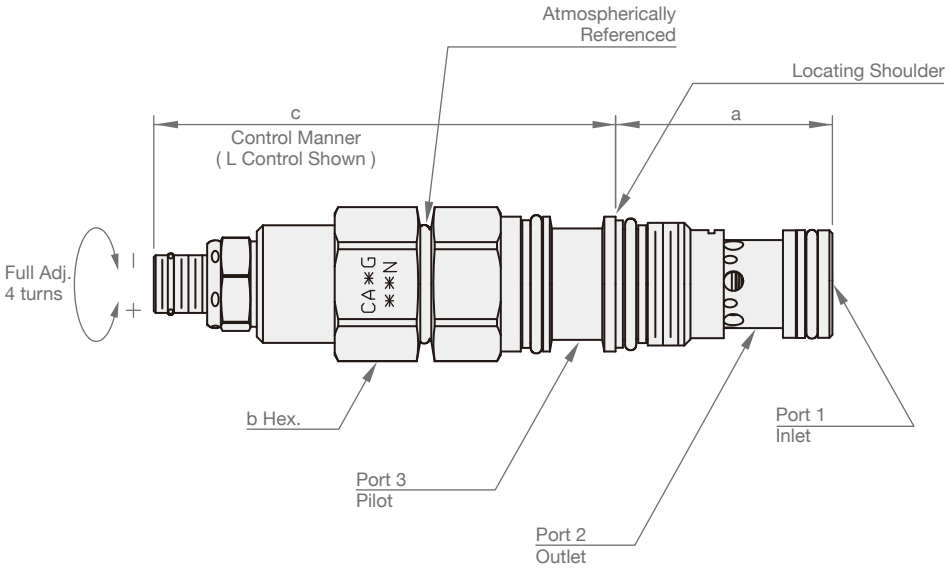
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



DIMENSION

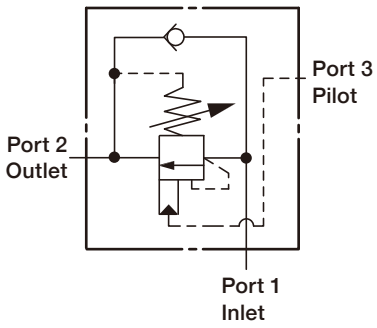
(UNIT : mm)



Model	a	b	c
			L
CA2G	35.1	22.2	73.4
CA3G	35.1	28.6	83.6
CA6G	46.0	31.8	95.0
CA8G	63.5	41.3	116.3

CBA

SYMBOLS



ORDER CODES

CB	2	A	-	T11A	-	L	I	N
1	2	3		4		5	6	7

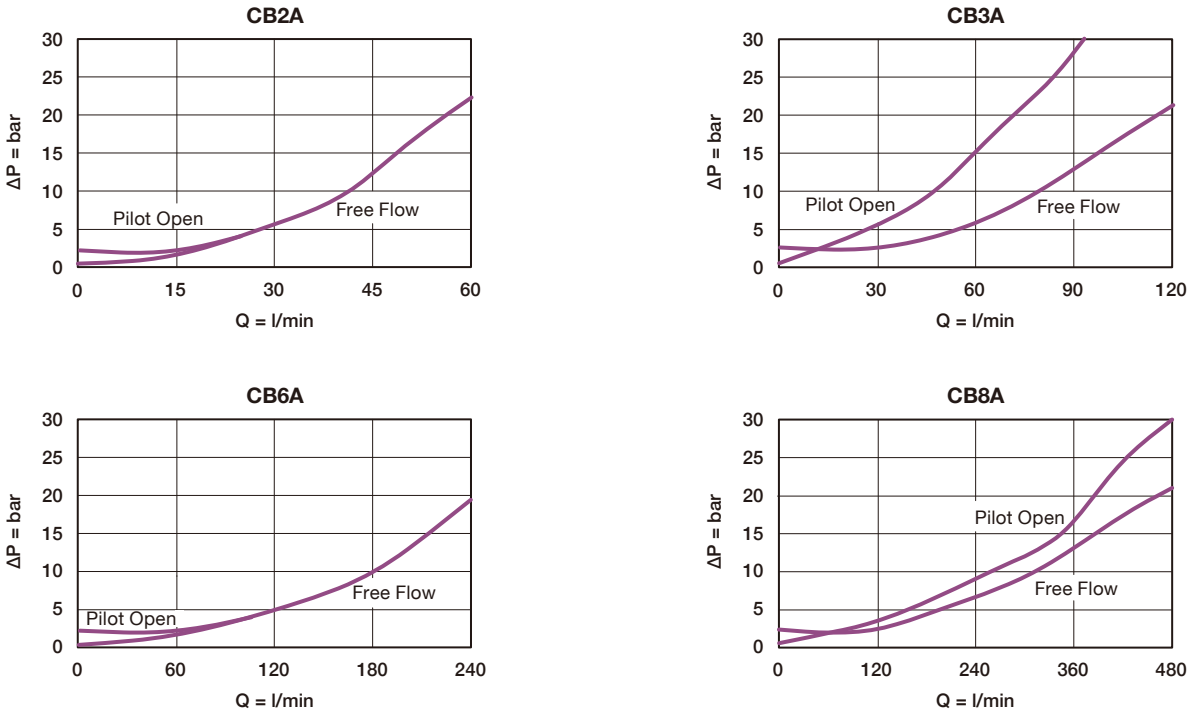
1	Model Name	CB	
2	Valve Size	2, 3, 6, 8	
3	Pilot Ratio	A	3:1
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	H	70 ~ 280 bar, w/1.7 bar check, 210 bar initially setting
		I	25 ~ 105 bar, w/1.7 bar check, 70 bar initially setting
		A	70 ~ 280 bar, w/0.3 bar check, 210 bar initially setting
		B	25 ~ 105 bar, w/0.3 bar check, 70 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CB2A	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
CB3A	T2A	120	350	60/70		0.30
CB6A	T17A	240	350	200/215		0.64
CB8A	T19A	480	350	465/500		1.47

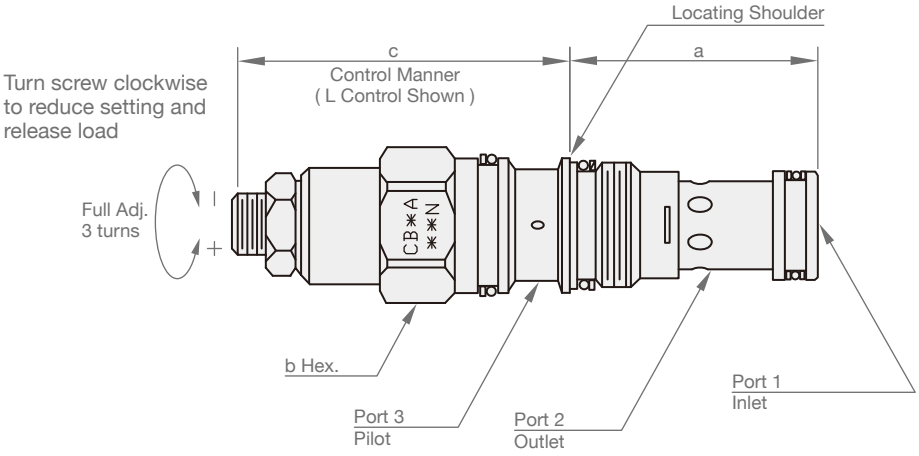
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



DIMENSION

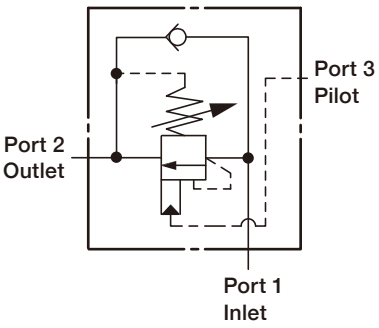
(UNIT : mm)



Model	a	b	c
			L
CB2A	34.9	22.2	50
CB3A	34.9	28.6	61
CB6A	46.0	31.8	70
CB8A	63.5	41.3	90

CBG

SYMBOLS



ORDER CODES

CB	2	G	-	T11A	-	L	K	N
1	2	3		4		5	6	7

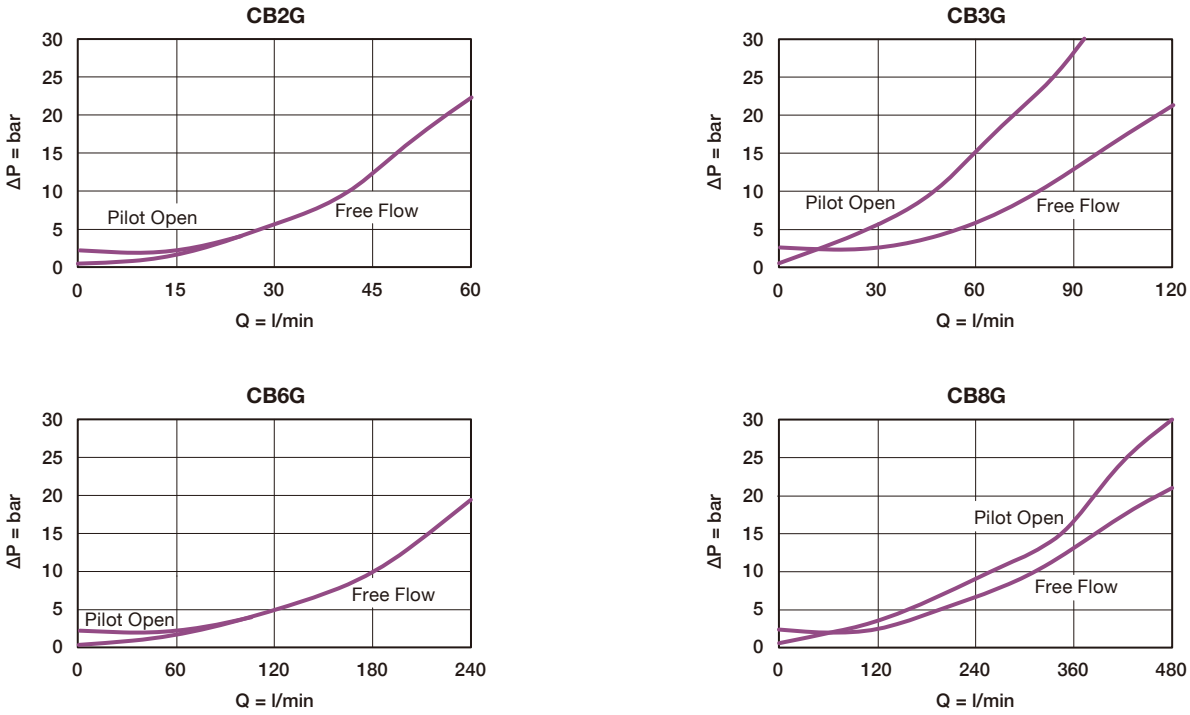
1	Model Name	CB	
2	Valve Size	2, 3, 6, 8	
3	Pilot Ratio	G	4.5:1
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	J	140 ~ 350 bar, w/1.7 bar check, 210 bar initially setting
		K	70 ~ 175 bar, w/1.7 bar check, 140 bar initially setting
		C	140 ~ 350 bar, w/0.3 bar check, 210 bar initially setting
		D	70 ~ 175 bar, w/0.3 bar check, 140 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CB2G	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
CB3G	T2A	120	350	60/70		0.30
CB6G	T17A	240	350	200/215		0.64
CB8G	T19A	480	350	465/500		1.47

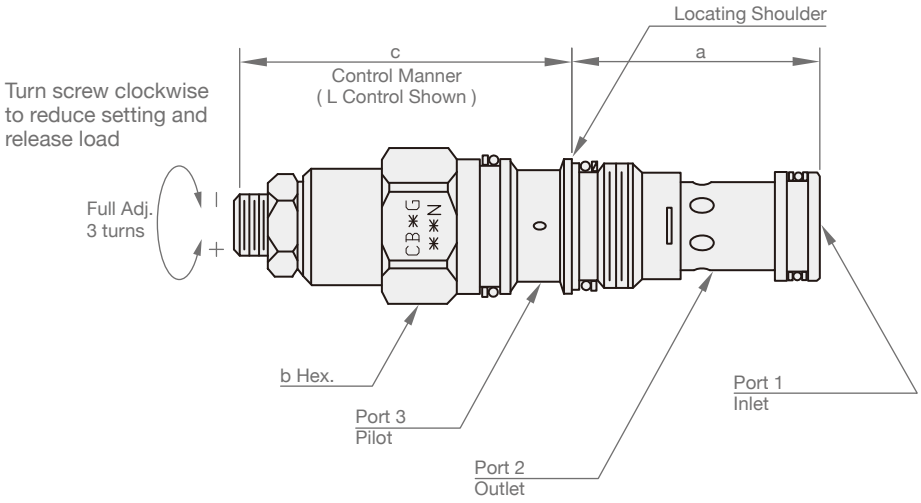
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



DIMENSION

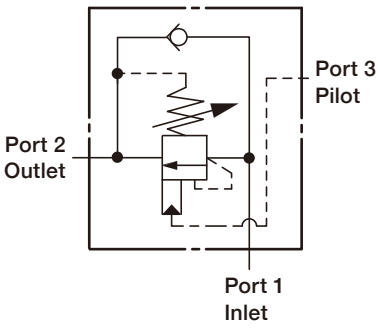
(UNIT : mm)



Model	a	b	c
			L
CB2G	34.9	22.2	50
CB3G	34.9	28.6	61
CB6G	46.0	31.8	70
CB8G	63.5	41.3	90

CBH

SYMBOLS



ORDER CODES

CB	2	H	-	T11A	-	L	K	N
1	2	3		4		5	6	7

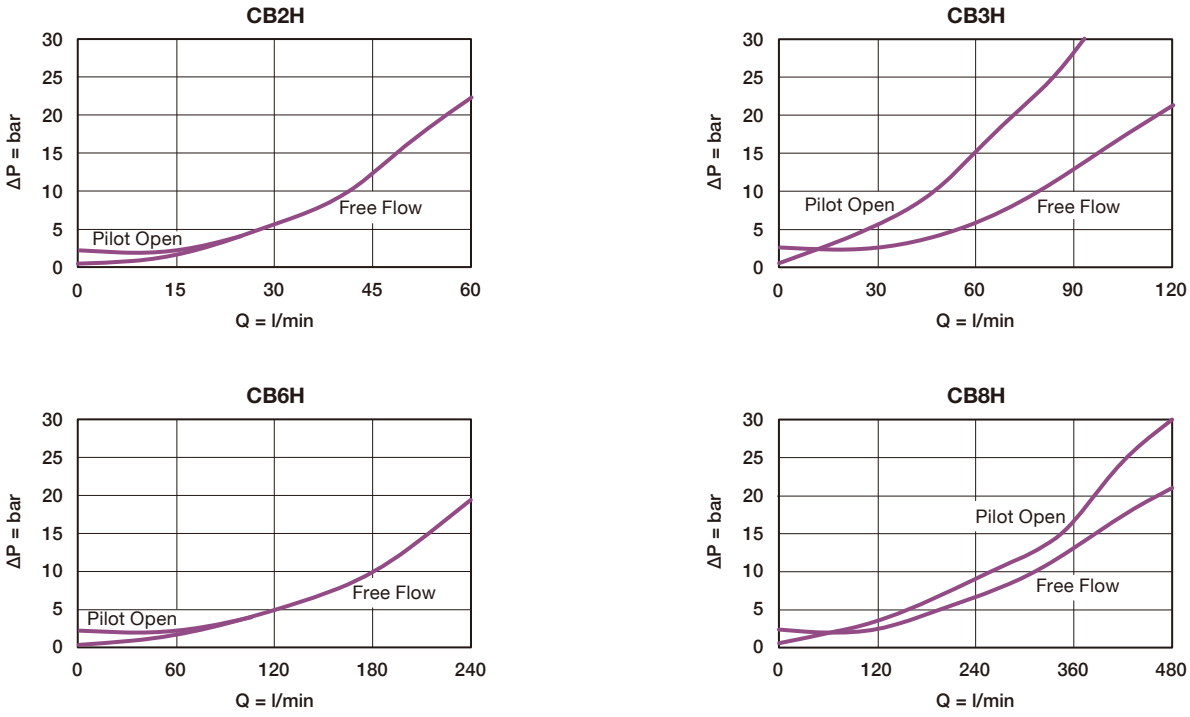
1	Model Name	CB	
2	Valve Size	2, 3, 6, 8	
3	Pilot Ratio	H	10:1
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	J	140 ~ 350 bar, w/1.7 bar check, 210 bar initially setting
		K	70 ~ 175 bar, w/1.7 bar check, 140 bar initially setting
		C	140 ~ 350 bar, w/0.3 bar check, 210 bar initially setting
		D	70 ~ 175 bar, w/0.3 bar check, 140 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CB2H	T11A	60	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
CB3H	T2A	120	350	60/70		0.30
CB6H	T17A	240	350	200/215		0.64
CB8H	T19A	480	350	465/500		1.47

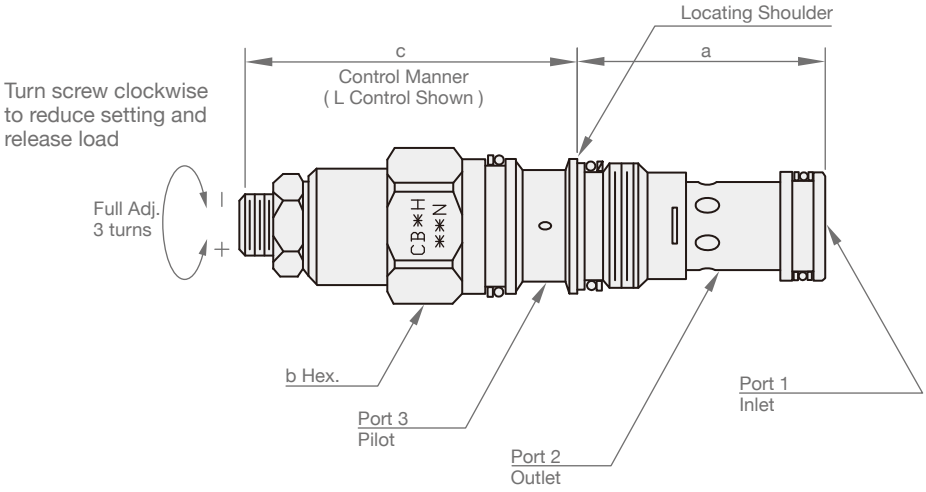
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



DIMENSION

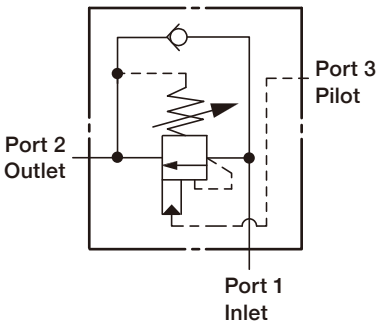
(UNIT : mm)



Model	a	b	c
			L
CB2H	34.9	22.2	50
CB3H	34.9	28.6	61
CB6H	46.0	31.8	70
CB8H	63.5	41.3	90

CBC

SYMBOLS



ORDER CODES

CB	2	C	-	T11A	-	L	I	N
1	2	3		4		5	6	7

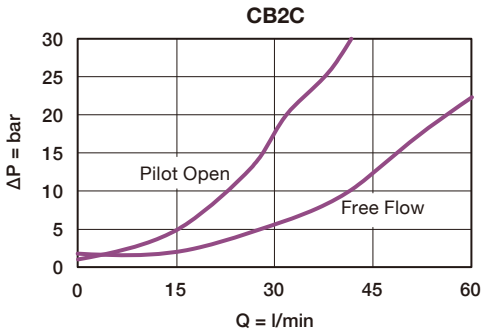
1	Model Name	CB	
2	Valve Size	2, 3, 6	
3	Pilot Ratio	C	3:1
4	Cavity	T11A, T2A, T17A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	H	70 ~ 280 bar, w/1.7 bar check, 210 bar initially setting
		I	25 ~ 105 bar, w/1.7 bar check, 70 bar initially setting
		A	70 ~ 280 bar, w/0.3 bar check, 210 bar initially setting
		B	25 ~ 105 bar, w/0.3 bar check, 70 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

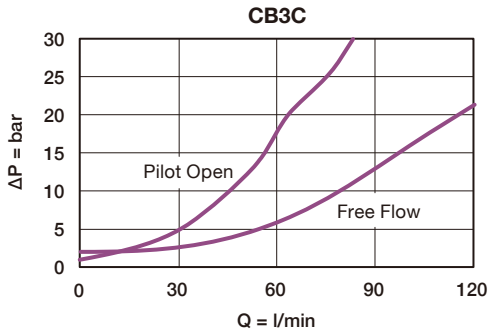
MODEL SPEC.

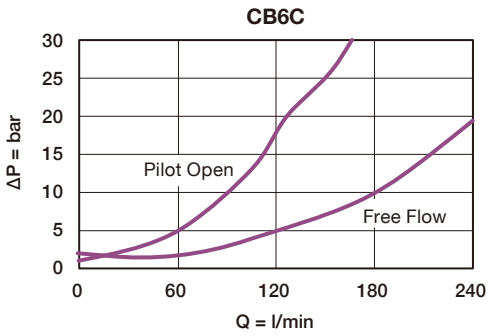
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CB2C	T11A	40	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
CB3C	T2A	80	350	60/70		0.30
CB6C	T17A	160	350	200/215		0.64

PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop

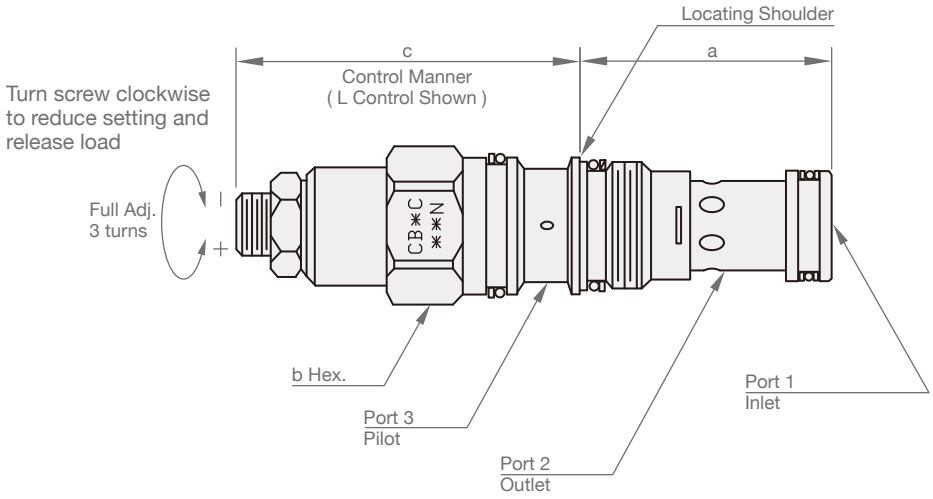






DIMENSION

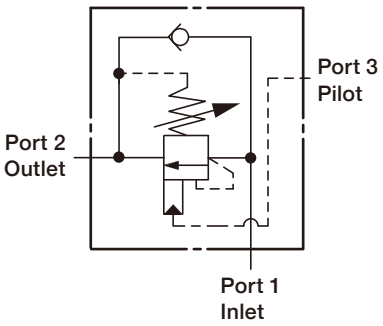
(UNIT : mm)



Model	a	b	c
			L
CB2C	34.9	22.2	50
CB3C	34.9	28.6	61
CB6C	46.0	31.8	70

CBD

SYMBOLS



ORDER CODES

CB	2	D	-	T11A	-	L	J	N
1	2	3		4		5	6	7

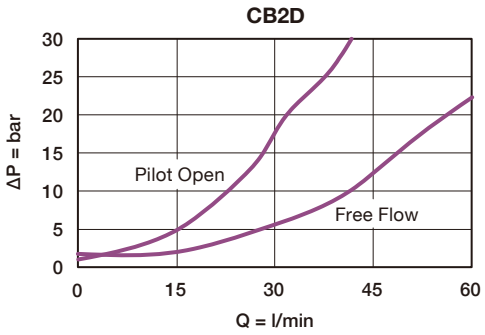
1	Model Name	CB	
2	Valve Size	2, 3, 6	
3	Pilot Ratio	D	4.5:1
4	Cavity	T11A, T2A, T17A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	J	140 ~ 350 bar, w/1.7 bar check, 210 bar initially setting
		K	70 ~ 175 bar, w/1.7 bar check, 140 bar initially setting
		C	140 ~ 350 bar, w/0.3 bar check, 210 bar initially setting
		D	70 ~ 175 bar, w/0.3 bar check, 140 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

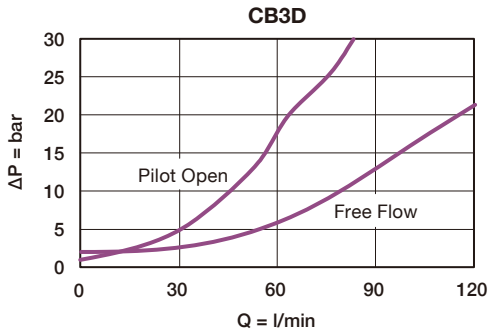
MODEL SPEC.

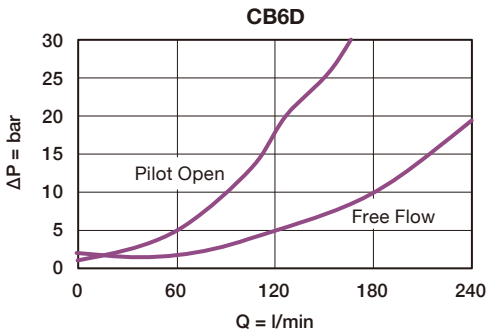
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CB2D	T11A	40	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
CB3D	T2A	80	350	60/70		0.30
CB6D	T17A	160	350	200/215		0.64

PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop

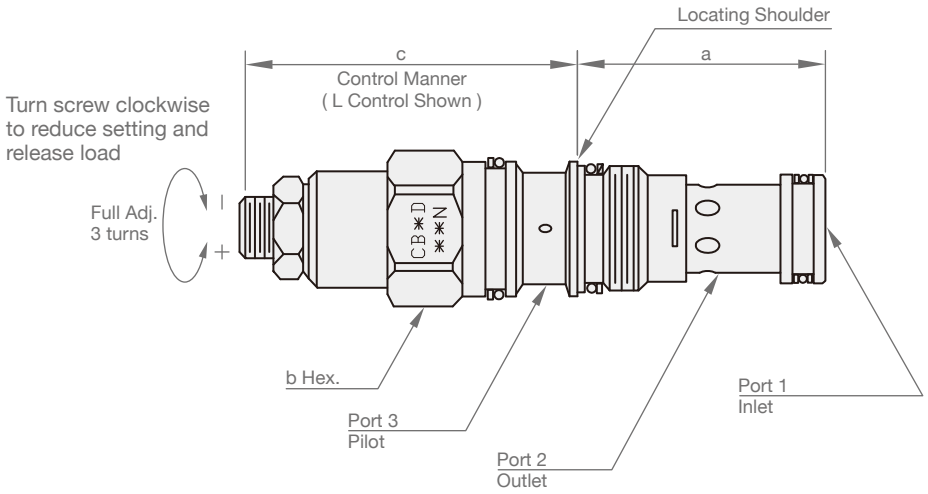






DIMENSION

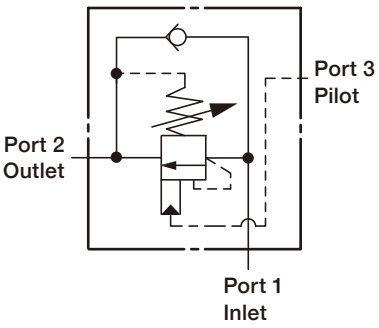
(UNIT : mm)



Model	a	b	c
			L
CB2D	34.9	22.2	50
CB3D	34.9	28.6	61
CB6D	46.0	31.8	70

CBE

SYMBOLS



ORDER CODES

CB 2 E - T11A - L I N

1 2 3 4 5 6 7

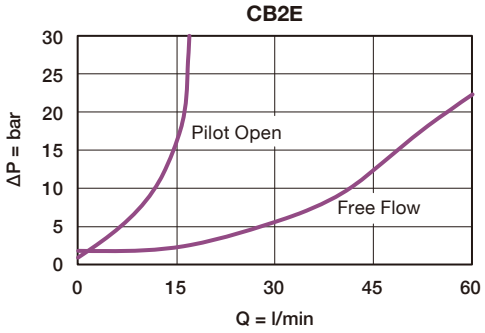
1	Model Name	CB	
2	Valve Size	2, 3, 6, 8	
3	Pilot Ratio	E	3:1
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	H	70 ~ 280 bar, w/1.7 bar check, 210 bar initially setting
		I	25 ~ 105 bar, w/1.7 bar check, 70 bar initially setting
		A	70 ~ 280 bar, w/0.3 bar check, 210 bar initially setting
		B	25 ~ 105 bar, w/0.3 bar check, 70 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

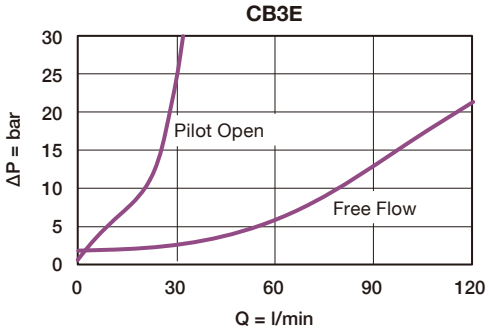
MODEL SPEC.

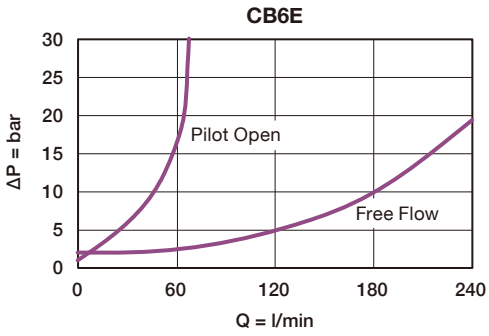
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CB2E	T11A	15	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
CB3E	T2A	30	350	60/70		0.30
CB6E	T17A	60	350	200/215		0.64
CB8E	T19A	80	350	465/500		1.47

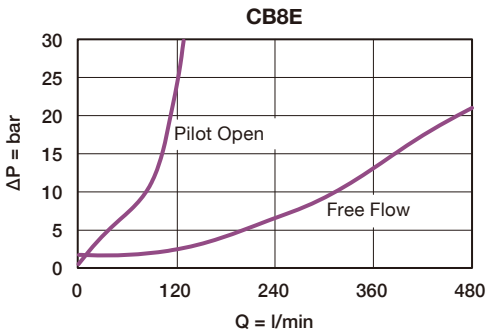
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



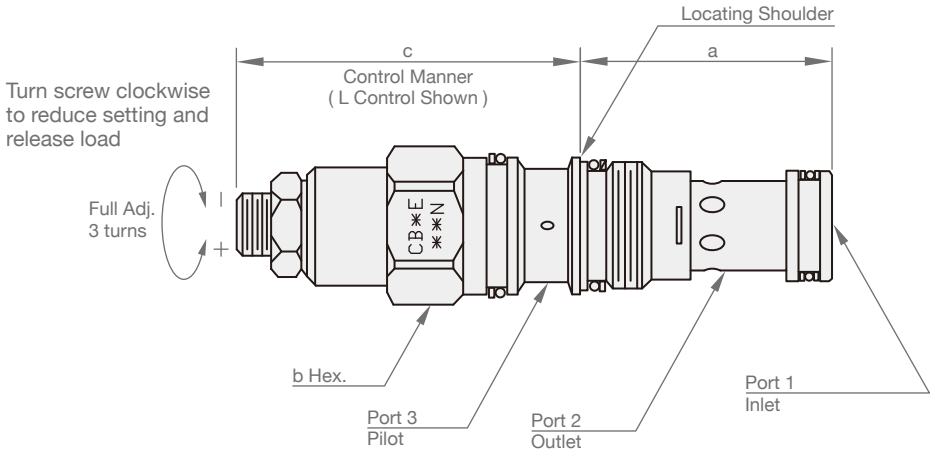






DIMENSION

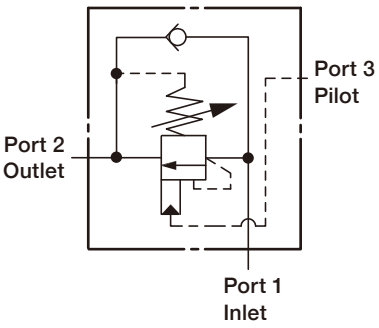
(UNIT : mm)



Model	a	b	c
			L
CB2E	34.9	22.2	50
CB3E	34.9	28.6	61
CB6E	46.0	31.8	70
CB8E	63.5	41.3	90

CBF

SYMBOLS



ORDER CODES

CB	2	F	-	T11A	-	L	K	N
1	2	3		4		5	6	7

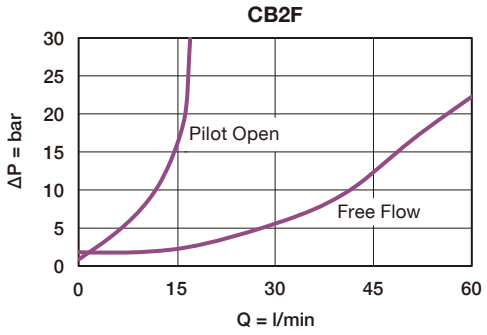
1	Model Name	CB	
2	Valve Size	2, 3, 6, 8	
3	Pilot Ratio	F	4.5:1
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	J	140 ~ 350 bar, w/1.7 bar check, 210 bar initially setting
		K	70 ~ 175 bar, w/1.7 bar check, 140 bar initially setting
		C	140 ~ 350 bar, w/0.3 bar check, 210 bar initially setting
		D	70 ~ 175 bar, w/0.3 bar check, 140 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

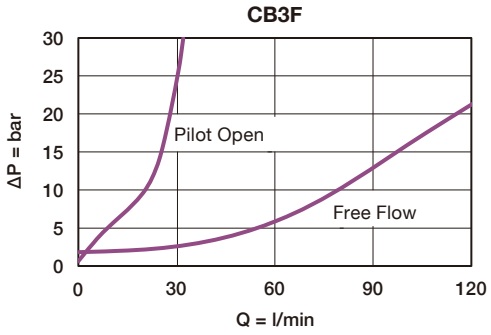
MODEL SPEC.

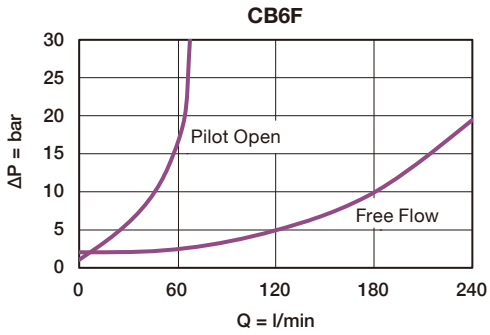
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CB2F	T11A	15	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.17
CB3F	T2A	30	350	60/70		0.30
CB6F	T17A	60	350	200/215		0.64
CB8F	T19A	80	350	465/500		1.47

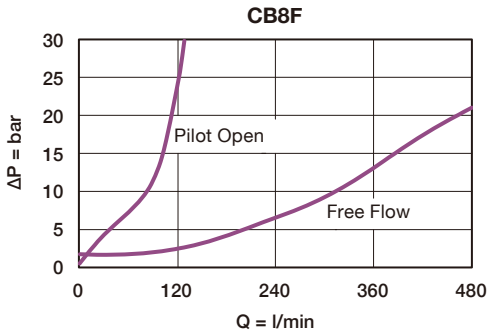
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



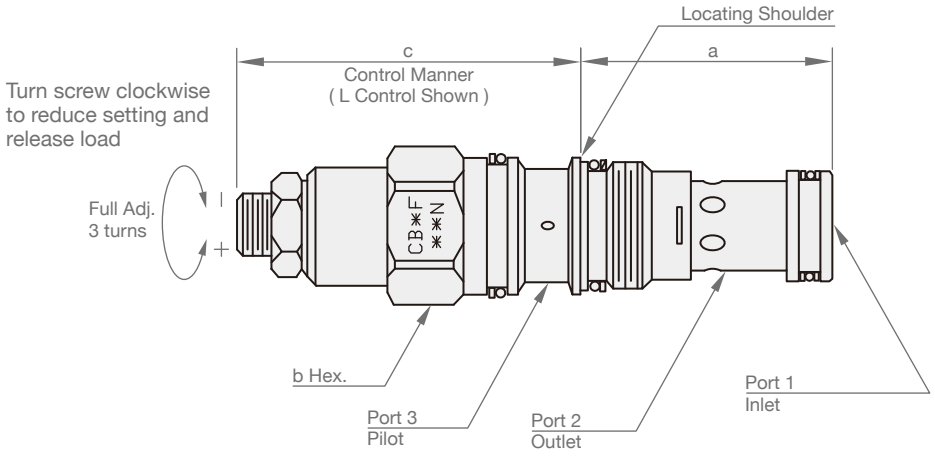






DIMENSION

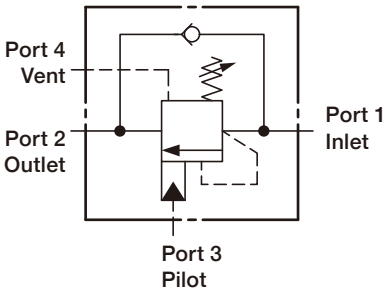
(UNIT : mm)



Model	a	b	c
			L
CB2F	34.9	22.2	50
CB3F	34.9	28.6	61
CB6F	46.0	31.8	70
CB8F	63.5	41.3	90

CWA

SYMBOLS



ORDER CODES

CW	2	A	-	T21A	-	L	I	N
1	2	3		4		5	6	7

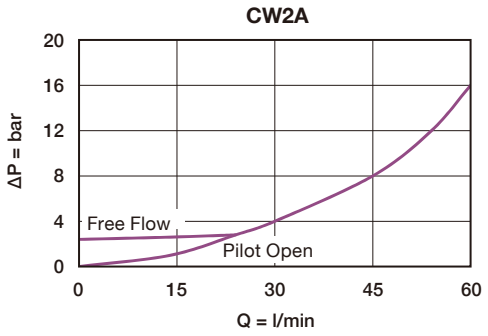
1	Model Name	CW	
2	Valve Size	2, 3, 6, 8	
3	Pilot Ratio	A	3:1
4	Cavity	T21A, T22A, T23A, T24A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	H	70 ~ 280 bar, 210 bar initially setting
		I	25 ~ 105 bar, 70 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

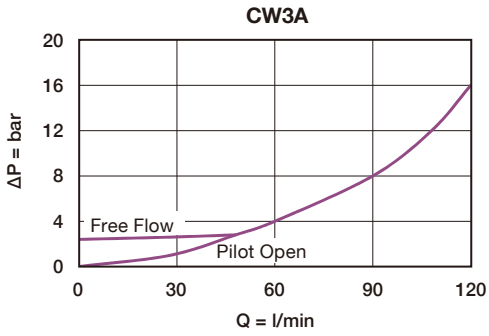
MODEL SPEC.

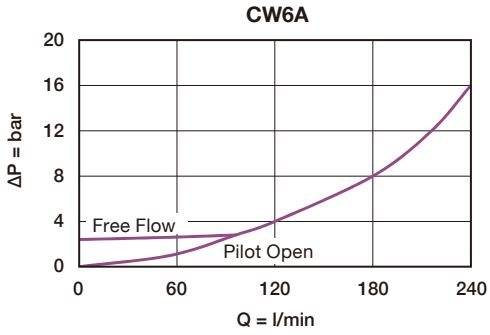
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CW2A	T21A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.19
CW3A	T22A	120	350	60/70		0.36
CW6A	T23A	240	350	200/215		0.72
CW8A	T24A	480	350	465/500		1.60

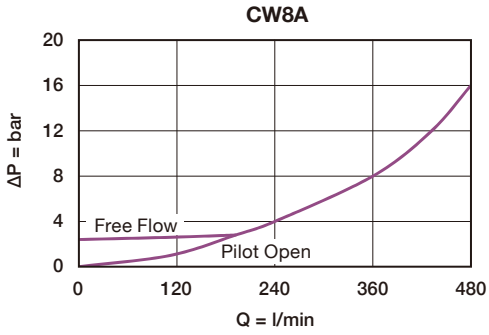
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



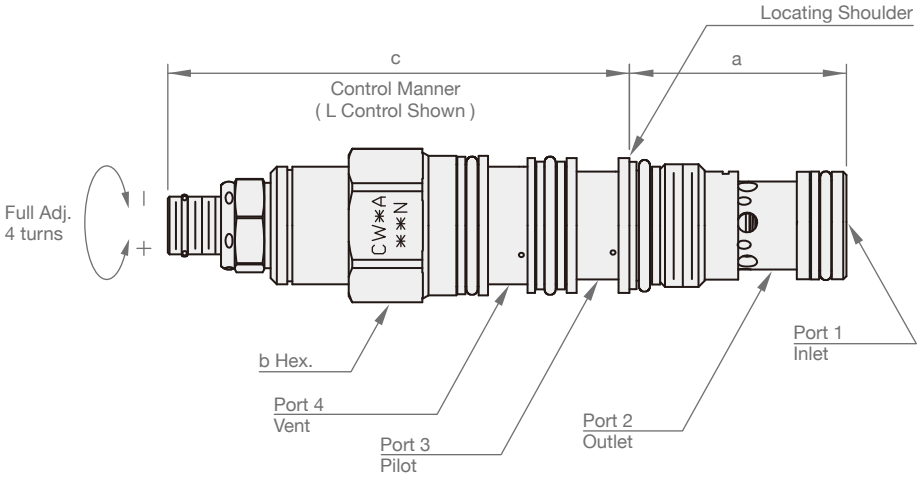






DIMENSION

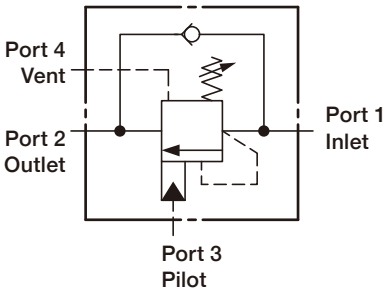
(UNIT : mm)



Model	a	b	c
			L
CW2A	34.9	22.2	74.0
CW3A	34.9	28.6	84.0
CW6A	46.0	31.8	95.3
CW8A	63.5	41.3	117.0

CWG

SYMBOLS



ORDER CODES

CW	2	G	-	T21A	-	L	F	N
1	2	3		4		5	6	7

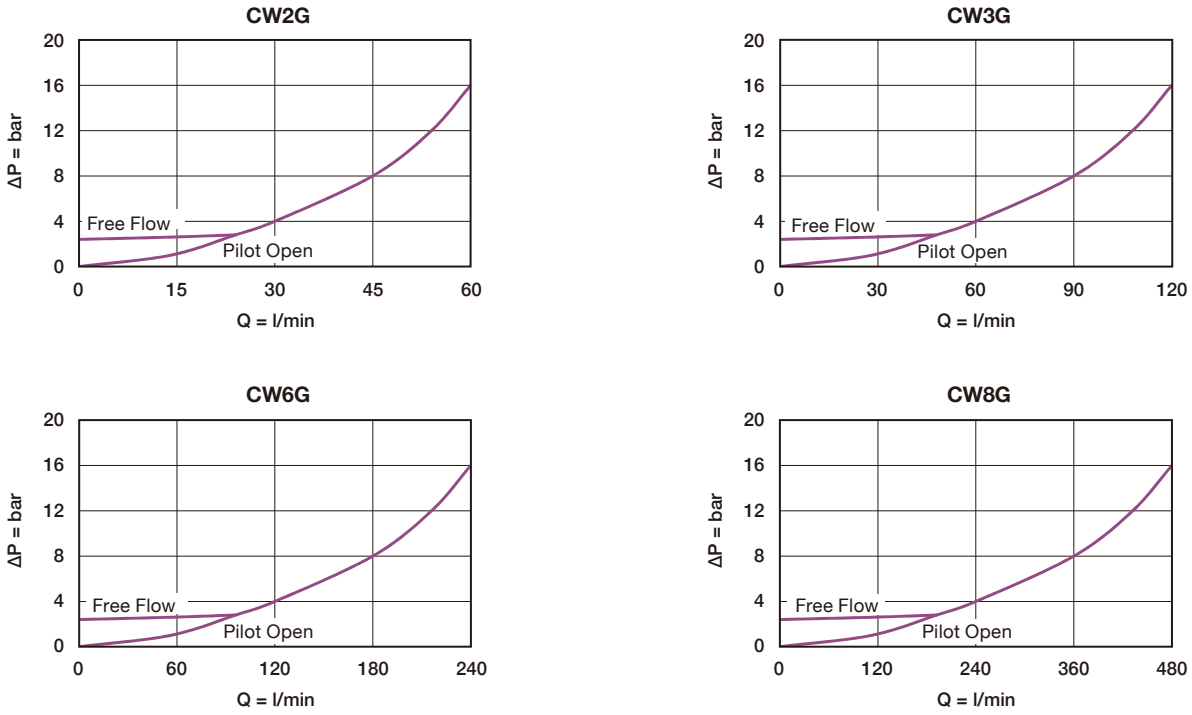
1	Model Name	CW	
2	Valve Size	2, 3, 6, 8	
3	Pilot Ratio	G	5:1
4	Cavity	T21A, T22A, T23A, T24A	
5	Control Manner	L	standard screw adjustment
6	Adjustable Range	G	140 ~ 420 bar, 280 bar initially setting
		F	70 ~ 175 bar, 140 bar initially setting
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CW2G	T21A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.19
CW3G	T22A	120	350	60/70		0.36
CW6G	T23A	240	350	200/215		0.72
CW8G	T24A	480	350	465/500		1.60

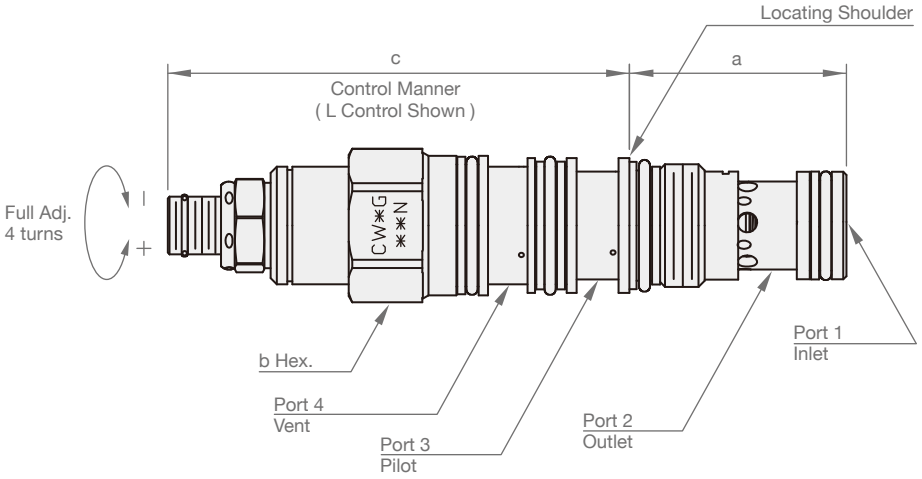
PERFORMANCE CURVES

▸ Free Flow & Piloted Open Pressure Drop



DIMENSION

(UNIT : mm)



Model	a	b	c
			L
CW2G	34.9	22.2	74.0
CW3G	34.9	28.6	84.0
CW6G	46.0	31.8	95.3
CW8G	63.5	41.3	117.0

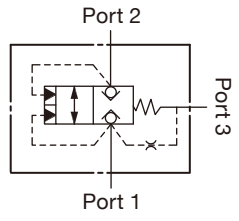
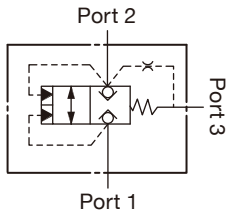
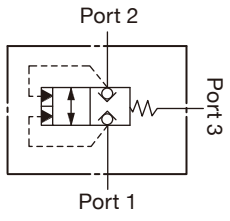
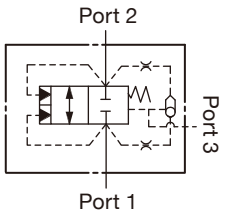
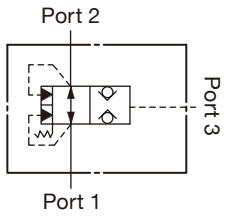
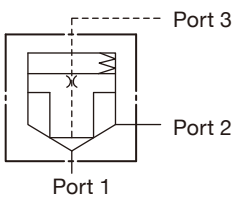
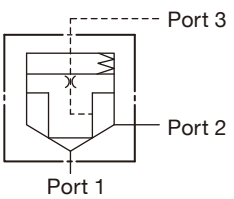
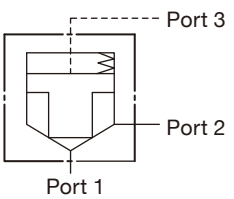
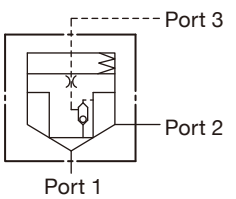
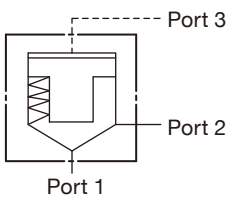
LO

ORDER CODES

LO	2	C	-	T11A	-	X	D	N
1	2	3		4		5	6	7

1	Model Name	LO	
2	Valve Size	2, 3, 6, 8	
3	Operation	A, B, C, D, O	
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	X	unadjustable
		L	standard screw adjustment
6	Cracking Pressure (bar)	D	Type A, B, C, D, Port 1 : 3.5 Type O, Port 3 : 2
7	Material of Seal	N	buna-N
		V	viton

SYMBOLS

LO∗A	LO∗B	LO∗C	LO∗D	LO∗O
Vent-to-Open	**Vent-to-Open**	**Pilot-to-Close**	**Vent-to-Open**	**Pilot-to-Close**
				
				
Spring biased closed, pilot source from port 1	Spring biased closed, pilot source from port 2	Spring biased closed, pilot source from port 3	Spring biased closed, higher of port 1 or 2 pilot source	Spring biased open, pilot source from port 3

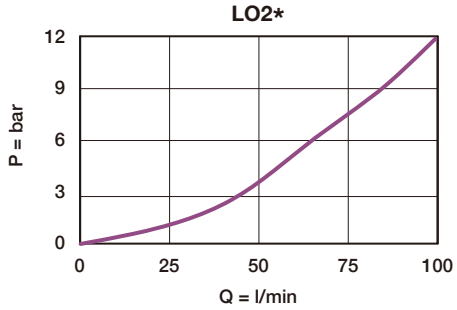
MODEL SPEC.

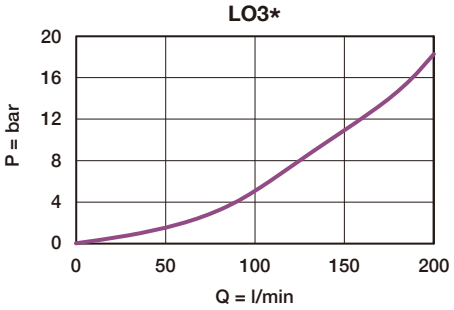
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Control Orifice Diameter (mm)	Operating Temperature	Weight (kg)
LO2*	T11A	80	350	40/50	Ø0.5	-35 ~ 100°C (-31 ~ 212°F)	0.12
LO3*	T2A	160	350	60/70	Ø0.5		0.22
LO6*	T17A	320	350	200/215	Ø0.8		0.50
LO8*	T19A	640	350	465/500	Ø0.9		1.15

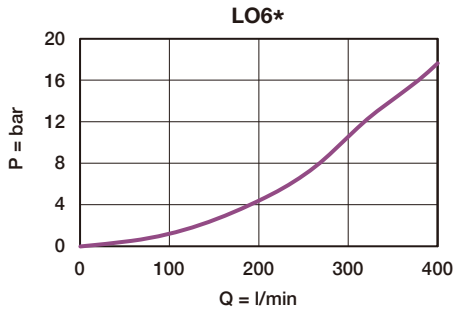
Area ratio, A3 to A1 : 1.8:1 (with sealed piston)
Area ratio, A3 to A2 : 2.25:1 (with sealed piston)

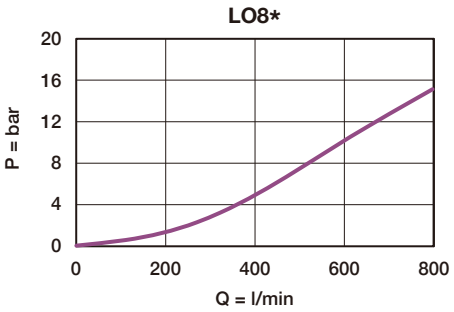
PERFORMANCE CURVES

▸ Typical Pressure Drop



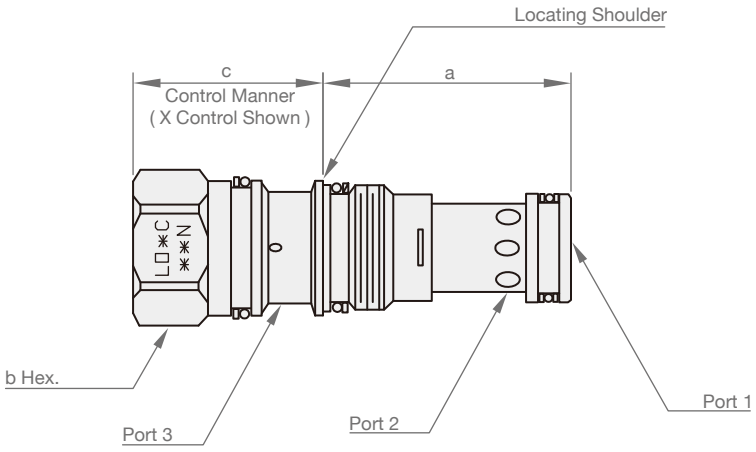






DIMENSION

(UNIT : mm)

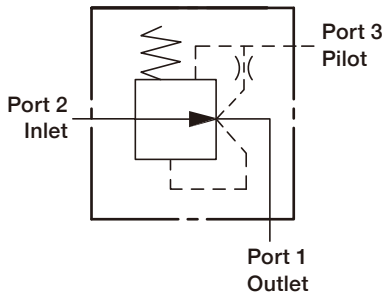


Model	a	b	c	
			X	L
LO2*	34.9	22.2	31	64
LO3*	34.9	28.6	35	72
LO6*	46.0	31.8	46	84
LO8*	63.5	41.3	59	100

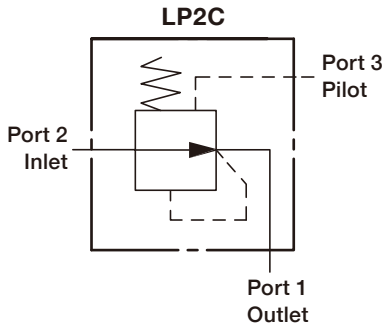
LP

SYMBOLS

LP2A



LP2C



ORDER CODES

LP	2	C	-	T11A	-	X	D	N
1	2	3		4		5	6	7

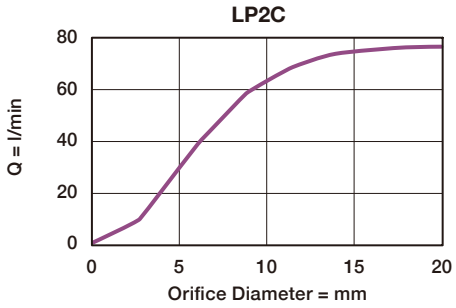
1	Model Name	LP	
2	Valve Size	2, 3, 6, 8	
3	Type	A	internal pilot
		C	external pilot
4	Cavity	T11A, T2A, T17A, T19A	
5	Control Manner	X	unadjustable
		L	standard screw adjustment
6	Cracking Pressure	D	3.5 bar
		F	7.0 bar
		G	10.0 bar
		H	14.0 bar
7	Material of Seal	N	buna-N
		V	viton

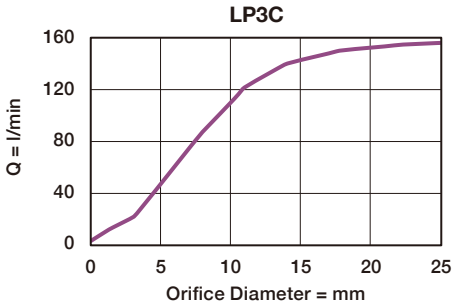
MODEL SPEC.

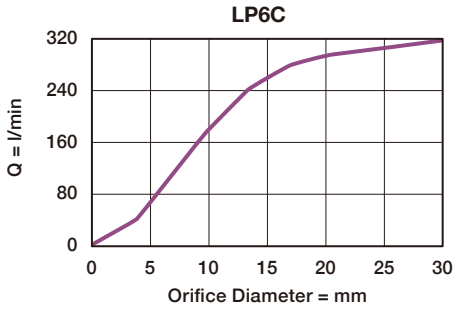
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
LP2A, LP2C	T11A	60	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.15
LP3A, LP3C	T2A	120	350	60/70		0.25
LP6A, LP6C	T17A	240	350	200/215		0.55
LP8A, LP8C	T19A	480	350	465/500		1.17

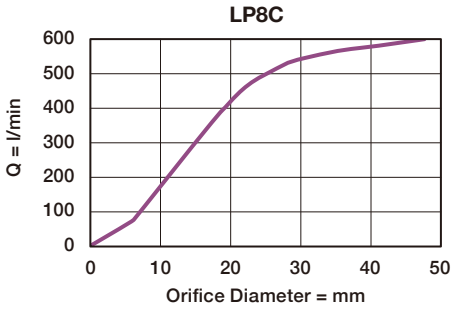
PERFORMANCE CURVES

▸ Capacity as a Restrictive Compensator



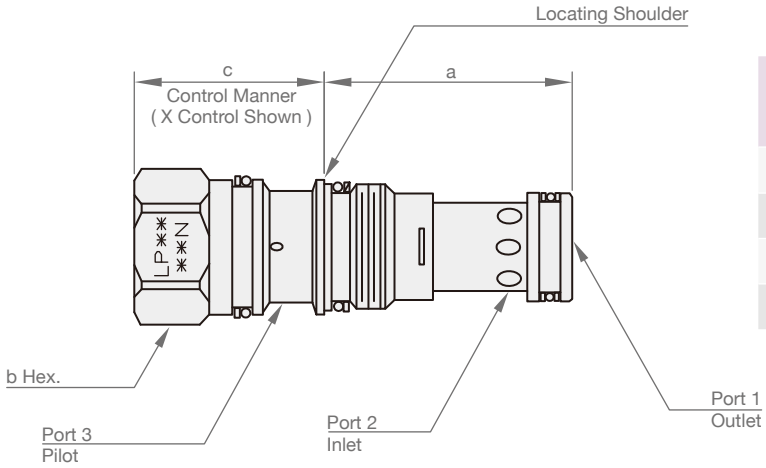






DIMENSION

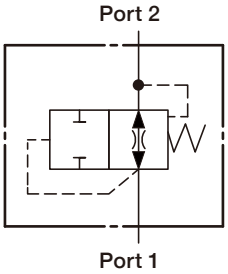
(UNIT : mm)



Model	a	b	c	
			X	L
LP2*	34.9	22.2	31	64
LP3*	34.9	28.6	35	72
LP6*	46.0	31.8	46	84
LP8*	63.5	41.3	59	100

FQ

SYMBOLS



ORDER CODES

FQ	2A	-	T13A	-	X	A	N
1	2		3		4	5	6

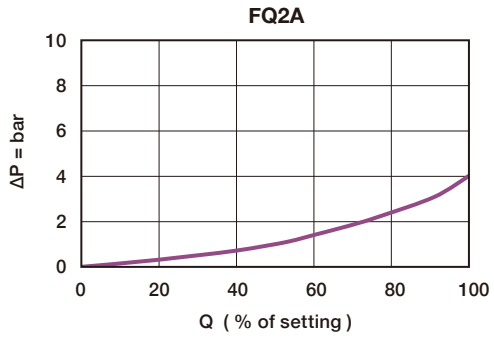
1	Model Name	FQ	
2	Valve Size	2A, 3A, 6A, 8A	
3	Cavity	T13A, T5A, T16A, T18A	
4	Control Manner	X	unadjustable
5	Orifice Type	A	replaceable
		B	permanent
6	Material of Seal	N	buna-N
		V	viton

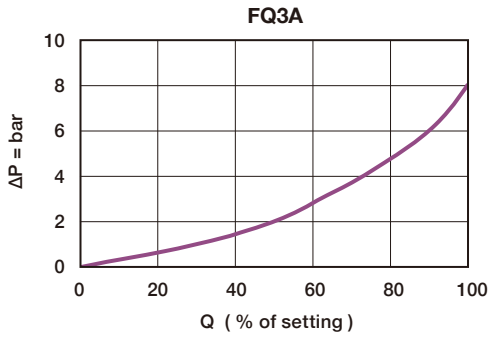
MODEL SPEC.

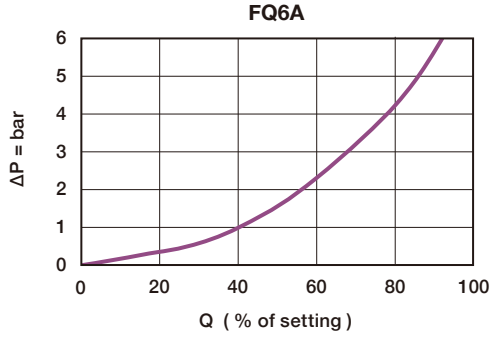
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
FQ2A	T13A	23	350	45/50	-35 ~ 100°C (-31 ~ 212°F)	0.10
FQ3A	T5A	60	350	60/70		0.19
FQ6A	T16A	95	350	200/215		0.46
FQ8A	T18A	200	350	465/500		0.92

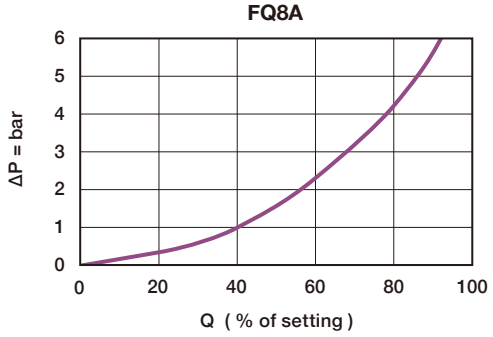
PERFORMANCE CURVES

▸ Typical Pressure Drop



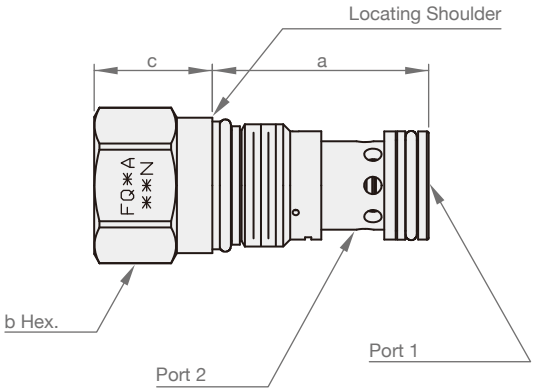






DIMENSION

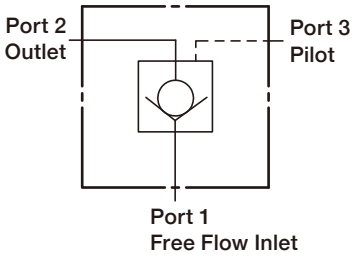
(UNIT : mm)



Model	a	b	c
			X
FQ2A	35.1	22.2	19.1
FQ3A	41.1	28.6	17.5
FQ6A	62.0	31.8	24.6
FQ8A	79.5	41.3	30.2

COA

SYMBOLS



Pilot Ratio = 1.8:1

ORDER CODES

CO	2	A	-	T11A	-	X	C	N
①	②	③		④		⑤	⑥	⑦

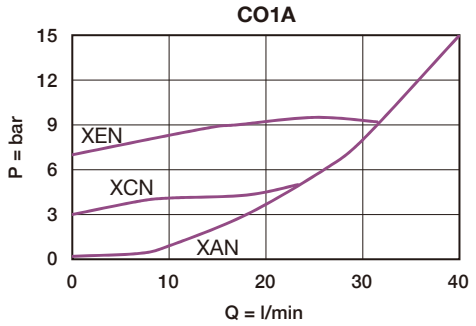
①	Model Name	CO	
②	Valve Size	1, 2, 3, 6, 8	
③	Pilot Ratio	A	1.8:1
④	Cavity	T163A, T11A, T2A, T17A, T19A	
⑤	Control Manner	X	standard pilot
⑥	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
⑦	Material of Seal	N	buna-N
		V	viton

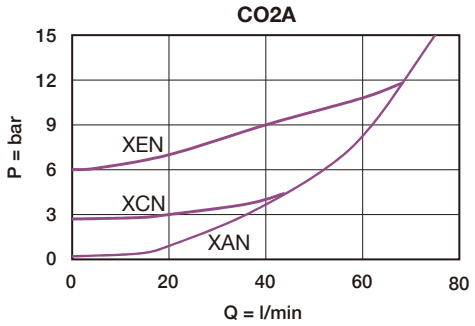
MODEL SPEC.

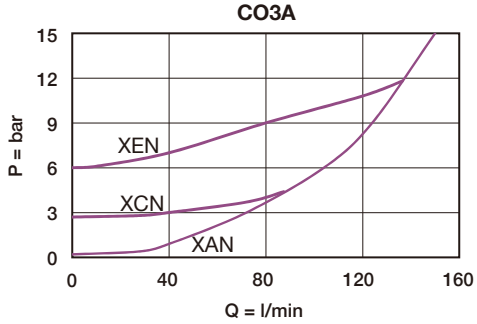
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CO1A	T163A	40	350	30/40	-35 ~ 100°C (-31 ~ 212°F)	0.10
CO2A	T11A	80	350	40/50		0.13
CO3A	T2A	160	350	60/70		0.24
CO6A	T17A	320	350	200/215		0.53
CO8A	T19A	640	350	465/500		1.19

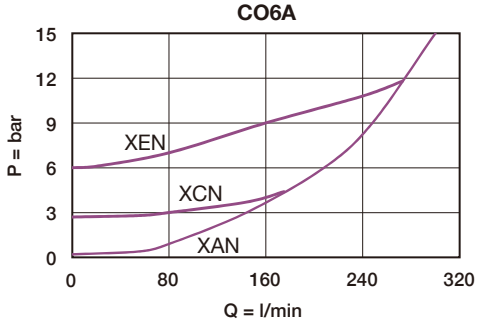
PERFORMANCE CURVES

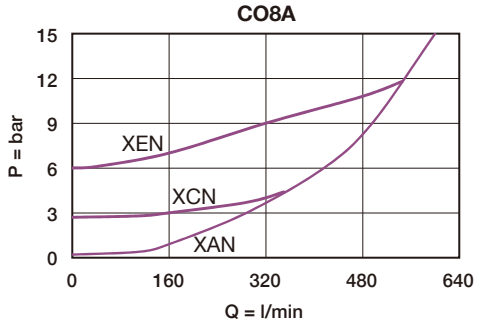
▸ Typical Pressure Drop





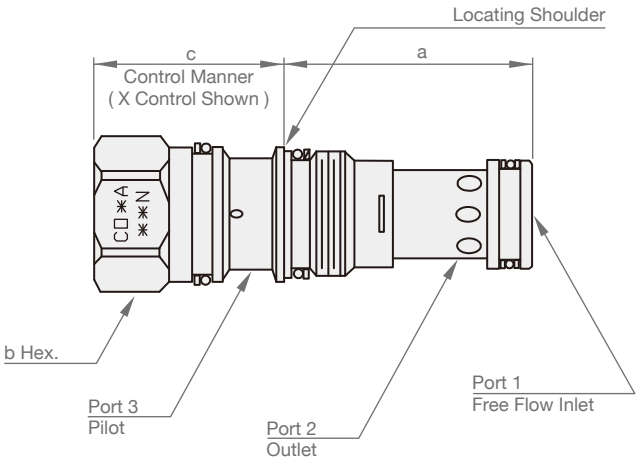






DIMENSION

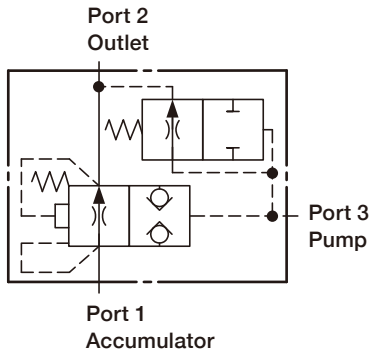
(UNIT : mm)



Model	a	b	c
			X
CO1A	31.0	19.1	32
CO2A	34.9	22.2	31
CO3A	34.9	28.6	35
CO6A	46.0	31.8	46
CO8A	63.5	41.3	59

COO

SYMBOLS



Pilot Ratio = 120:1

ORDER CODES

CO	3	O	-	T2A	-	X	D	N
1	2	3		4		5	6	7

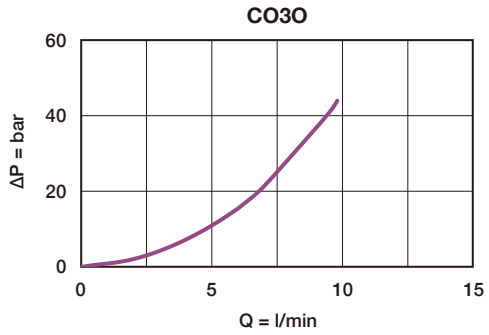
1	Model Name	CO	
2	Valve Size	3	
3	Pilot Ratio	O	120:1
4	Cavity	T2A	
5	Control Manner	X	standard pilot
6	Min. Pilot Pressure	D	4 bar
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CO3O	T2A	4	350	60/70	-35 ~ 100°C (-31 ~ 212°F)	0.22

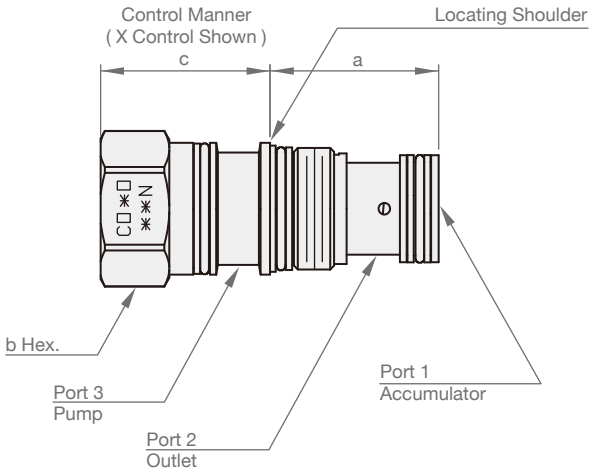
PERFORMANCE CURVES

▸ **Pressure Differential v.s. Flow**



DIMENSION

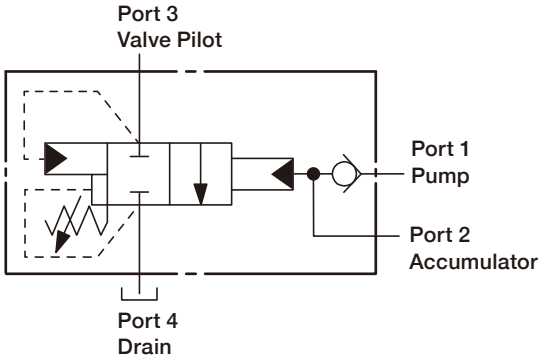
(UNIT : mm)



Model	a	b	c
			X
CO3O	35.1	28.6	35.1

QC

SYMBOLS



ORDER CODES

QC	2	C	-	T21A	-	L	A	N
1	2	3		4		5	6	7

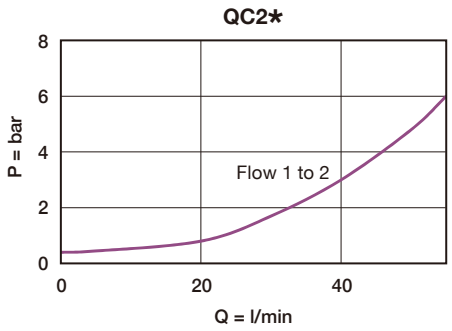
1	Model Name	QC	
2	Capacity	2	60
3	Pressure Differential Ratio btw. Unload & Reset	A	10%
		B	15%
		C	30%
4	Cavity	T21A	
5	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
6	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~ 105 bar
		C	140 ~ 350 bar
		D	18 ~ 55 bar
7	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

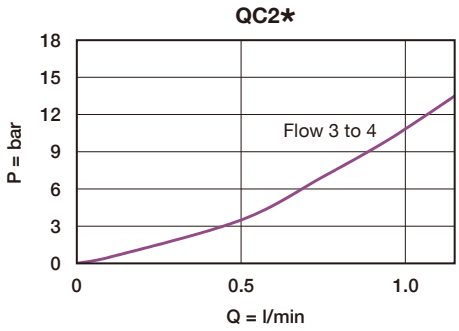
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
QC2*	T21A	60	350	60/70	-35 ~ 100°C (-31 ~ 212°F)	0.22

PERFORMANCE CURVES

▸ Pressure Differential vs. Flow

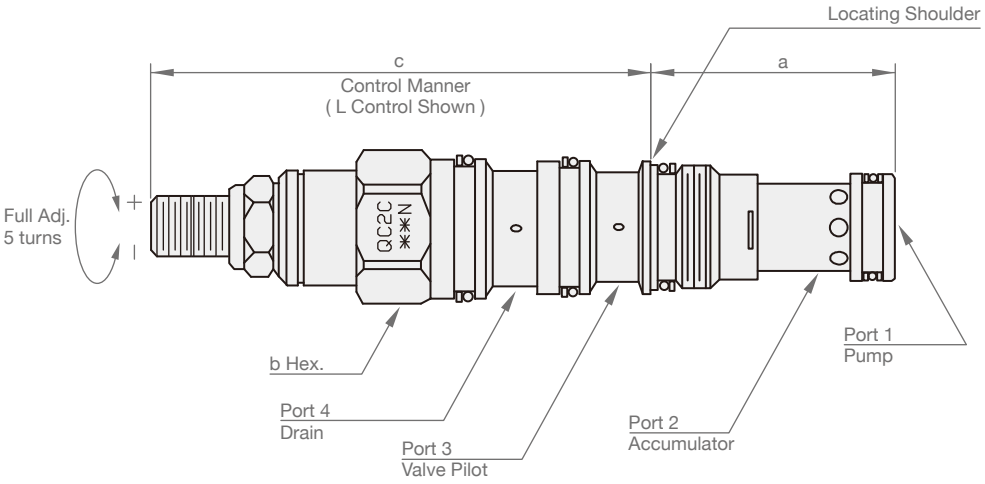


▸ Pressure Differential vs. Flow (Full Piloted Open)



DIMENSION

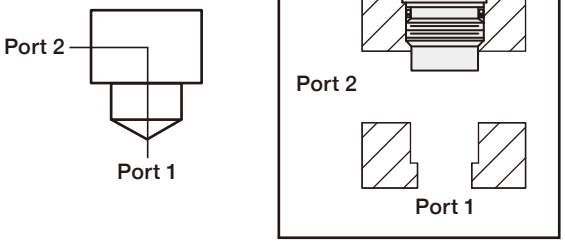
(UNIT : mm)



Model	a	b	c	
			L	K
QC2C	34.9	22.2	78.5	84.8

OA2

SYMBOLS

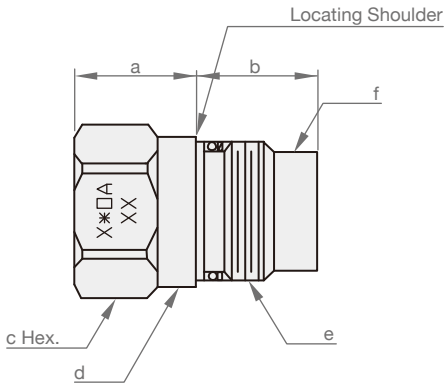


MODEL SPEC.

Model	Cavity	Thread	Material of Seal	Weight (kg)
X1OA2-T162A-XX	T162A	M16 P1.5	buna-N	0.05
X2OA2-T10A-XX	T10A	M20 P1.5		0.09
X2OA2-T13A-XX	T13A	M20 P1.5		0.09
X3OA2-T3A-XX	T3A	1"-14UNS-2B		0.13
X3OA2-T5A-XX	T5A	1"-14UNS-2B		0.13
X6OA2-T16A-XX	T16A	M36 P2		0.28
X8OA2-T18A-XX	T18A	M48 P2		0.57

DIMENSION

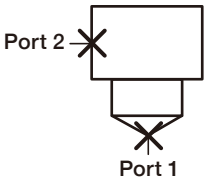
(UNIT : mm)

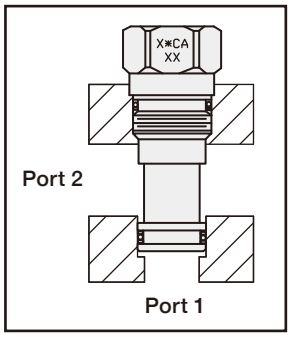


Model	a	b	c	d	e	f
X2OA2	20.3	16.3	22.2	Ø21.7	M16 P1.5-6H	Ø17.4
X3OA2	17.8	22.2	28.6	Ø27.3	1”-14UNS-2B	Ø22.6
X6OA2	26	25	31.7	Ø39.7	M36 P2.0-6H	Ø33
X8OA2	30.4	26.8	41.2	Ø52.5	M48 P2.0-6H	Ø43

CA2

SYMBOLS



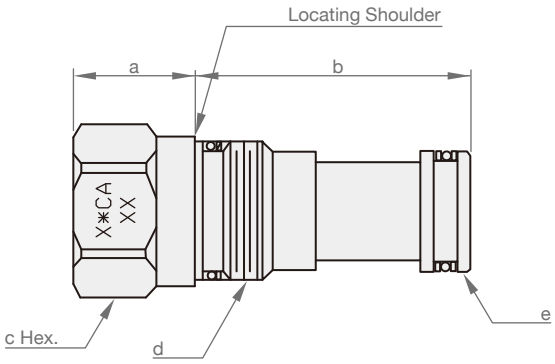


MODEL SPEC.

Model	Cavity	Thread	Material of Seal	Weight (kg)
X1CA2-T162A-XX	T162A	M16 P1.5	buna-N	0.07
X2CA2-T10A-XX	T10A	M20 P1.5		0.12
X2CA2-T13A-XX	T13A	M20 P1.5		0.12
X3CA2-T3A-XX	T3A	1"-14UNS-2B		0.21
X3CA2-T5A-XX	T5A	1"-14UNS-2B		0.20
X6CA2-T16A-XX	T16A	M36 P2		0.49
X8CA2-T18A-XX	T18A	M48 P2		1.10

DIMENSION

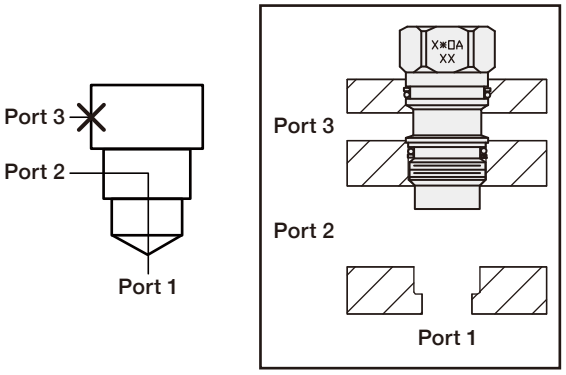
(UNIT : mm)



Model	a	b	c	d	e
X2CA2	20.2	38.2	22.2	M16 P1.5-6H	Ø17.4
X3CA2	17.8	47.7	28.6	1”-14UNS-2B	Ø22.2
X6CA2	25.7	60.8	31.7	M32 P2.0-6H	Ø31.7
X8CA2	30	79.6	41.2	M48 P2.0-6H	Ø41.2

OA3

SYMBOLS

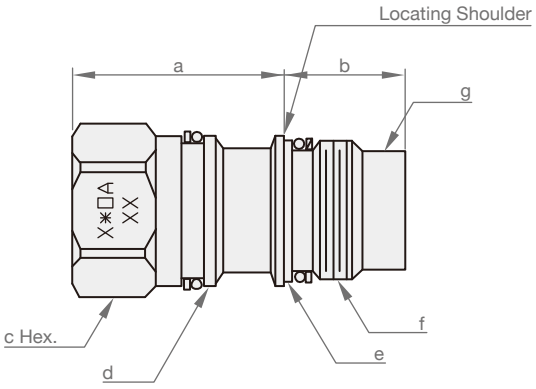


MODEL SPEC.

Model	Cavity	Thread	Material of Seal	Weight (kg)
X1OA3-T163A-XX	T163A	M16 P1.5	buna-N	0.06
X2OA3-T11A-XX	T11A	M20 P1.5		0.09
X3OA3-T2A-XX	T2A	1"-14UNS-2B		0.16
X6OA3-T17A-XX	T17A	M36 P2		0.31
X8OA3-T19A-XX	T19A	M48 P2		0.68

DIMENSION

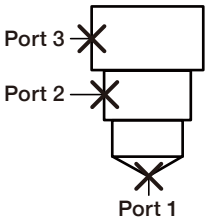
(UNIT : mm)

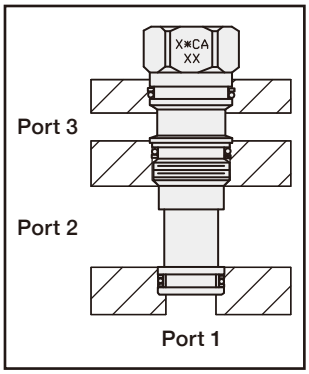


Model	a	b	c	d	e	f	g
X1OA3	31.86	14.54	19.1	Ø17.8	Ø16.6	M16 P1.5-6H	Ø13.9
X2OA3	30	17.8	22.2	Ø21.7	Ø20.5	M16 P1.5-6H	Ø17.4
X3OA3	35.2	15.2	28.6	Ø27.3	Ø26	1"-14UNS-2B	Ø22.8
X6OA3	46.2	18.3	31.6	Ø39.6	Ø36.4	M36 P2.0-6H	Ø32.5
X8OA3	59	23.5	41	Ø52.4	Ø48.2	M36 P2.0-6H	Ø43

CA3

SYMBOLS



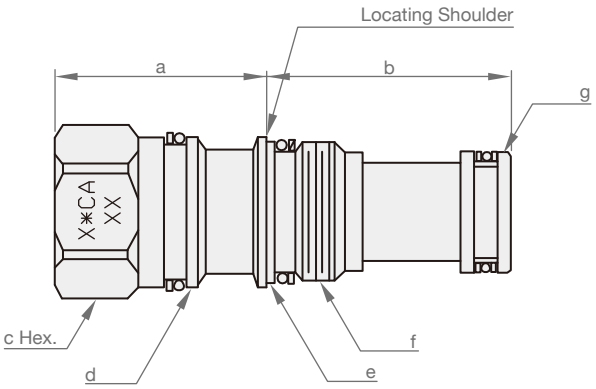


MODEL SPEC.

Model	Cavity	Thread	Material of Seal	Weight (kg)
X1CA3-T163A-XX	T163A	M16 P1.5	buna-N	0.08
X2CA3-T11A-XX	T11A	M20 P1.5		0.12
X3CA3-T2A-XX	T2A	1"-14UNS-2B		0.22
X6CA3-T17A-XX	T17A	M36 P2		0.52
X8CA3-T19A-XX	T19A	M48 P2		1.20

DIMENSION

(UNIT : mm)



Model	a	b	c	d	e	f	g
X1CA3	32	31	19.1	Ø17.8	Ø16.6	M16 P1.5-6H	Ø13.9
X2CA3	30.5	34.8	22.2	Ø21.8	Ø20.5	M16 P1.5-6H	Ø17.3
X3CA3	35	35	28.6	Ø27.3	Ø26	1”-14UNS-2B	Ø22.1
X6CA3	46.4	46	31.6	Ø39.6	Ø36.4	M36 P2.0-6H	Ø31.6
X8CA3	46.4	46	31.6	Ø39.6	Ø36.4	M36 P2.0-6H	Ø31.6

SY-DPCA-C-1

FEATURES

1. Precise Control
   Digital microprocessor
2. Simple Setup
   Digital display and buttons
3. Full Function
   Adjustable input signal and output current
4. Safety
   Short, open circuit protection with error code

ORDER CODES

SY - DPCA - C - 1
1 2 3 4

1	Model Name	SY	
2	Control Mode	DPCA	Digital Proportional Controller
3	Type	C	Case with Din-35 Rail Clamps
4	Output	1	single coil

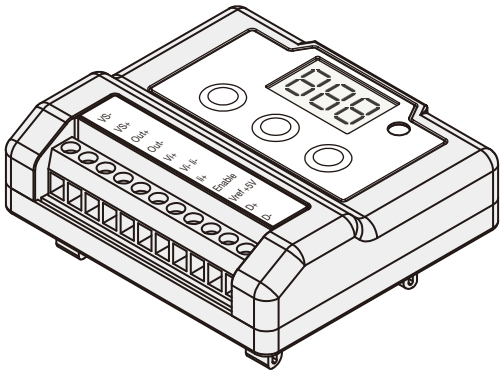
MODEL SPEC.

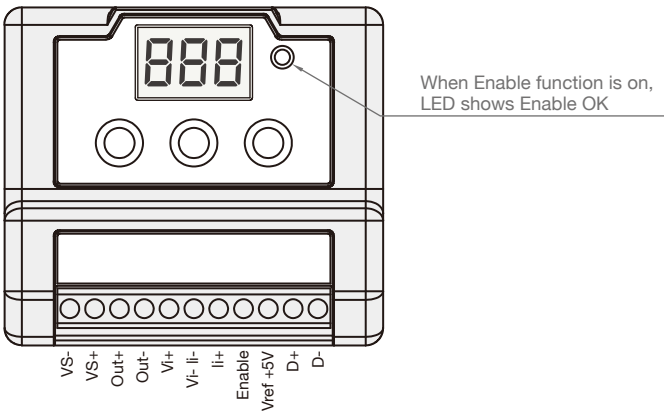
Model	SY-DPCA-C-1
Operating Voltage	9 ~ 32VDC
Voltage Tolerance	5%
Input Signal Options	0~5V, 0~10V, 4~20mA, RS485
Output Current	3A max.
Dither Frequency	70 ~ 350Hz
Ramp Up and Down	0.1 ~ 5.0s
Reference Voltage	5V (max. current 5mA)
Communication Interface	RS485
Communication Protocol	Modbus RTU
Operating Conditions	-20 ~ 60°C
Weight	0.1kg

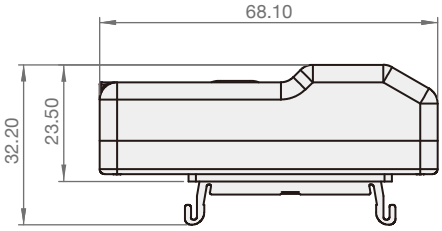
CONNECTIONS & DIMENSIONS (UNIT : mm)

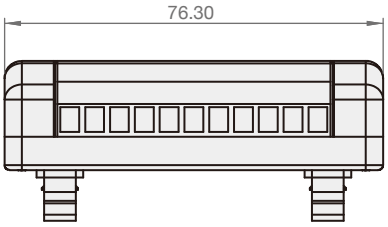
Wiring Instruction		
1	VS-	Power-
2	VS+	Power+
3	Out+	Coil+
4	Out-	Coil-
5	Vi+	Input voltage signal
6	Vi- Ii-	Signal ground
7	Ii+	Input current signal
8	Enable	Enable *
9	Vref +5V	+5V reference voltage
10	D+	RS485+ (optional)
11	D-	RS485- (optional)

* Default off. Ground this pin to enable controller when PEA function is on.





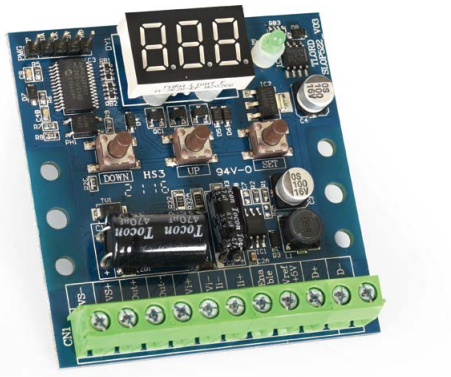




CE

This product has been designed and tested to meet specific standards outlined in the European Electromagnetic Compatibility Directive (EMC)2014/30/EU.
Emission: EN 61000-6-4:2019
Immunity: EN 61000-6-2:2019: EN 61000-4-2:2009, EN 61000-4-3:2020, EN 61000-4-8:2010
Certificate No. NE1105240044

SY-DPCA-P-1



FEATURES

1. Precise Control
   Digital microprocessor
2. Simple Setup
   Digital display and buttons
3. Full Function
   Adjustable input signal and output current
4. Safety
   Short, open circuit protection with error code

ORDER CODES

SY - DPCA - P - 1

1	Model Name	SY	
2	Control Mode	DPCA	Digital Proportional Controller
3	Type	P	PCB only
4	Output	1	single coil

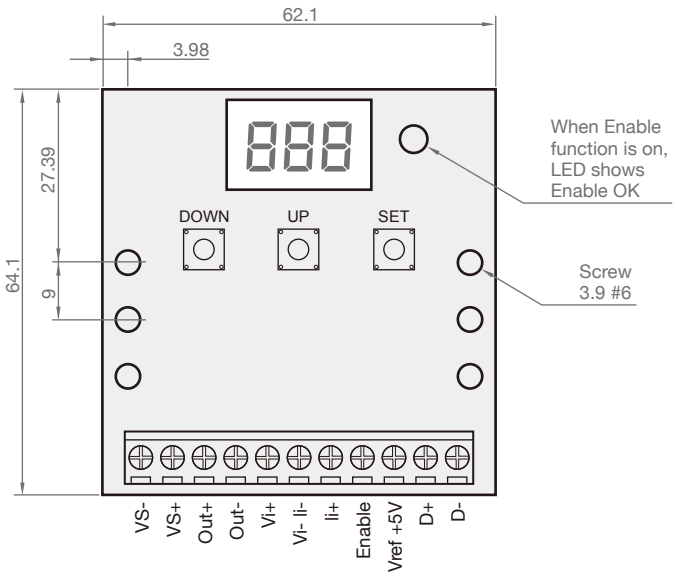
MODEL SPEC.

Model	SY-DPCA-P-1
Operating Voltage	9 ~ 32VDC
Voltage Tolerance	5%
Input Signal Options	0~5V, 0~10V, 4~20mA, RS485
Output Current	3A max.
Dither Frequency	70 ~ 350Hz
Ramp Up and Down	0.1 ~ 5.0s
Reference Voltage	5V (max. current 5mA)
Communication Interface	RS485
Communication Protocol	Modbus RTU
Operating Conditions	-20 ~ 60°C
Weight	0.06kg

CONNECTIONS & DIMENSIONS (UNIT : mm)

Wiring Instruction		
1	VS-	Power-
2	VS+	Power+
3	Out+	Coil+
4	Out-	Coil-
5	Vi+	Input voltage signal
6	Vi- Ii-	Signal ground
7	Ii+	Input current signal
8	Enable	Enable *
9	Vref +5V	+5V reference voltage
10	D+	RS485+ (optional)
11	D-	RS485- (optional)

* Default off. Ground this pin to enable controller when PEA function is on.



This product has been designed and tested to meet specific standards outlined in the European Electromagnetic Compatibility Directive (EMC)2014/30/EU.
Emission: EN 61000-6-4:2019
Immunity: EN 61000-6-2:2019: EN 61000-4-2:2009, EN 61000-4-3:2020, EN 61000-4-8:2010
Certificate No. NE1105240044

SY-DPCA-D-P9-1

FEATURES

· Direct assambly on the DIN43650 solenoid valve
· Control with digital microprocessor
· Simple setup via physical screen and button
· Short, open circuit protection with error code

ORDER CODES

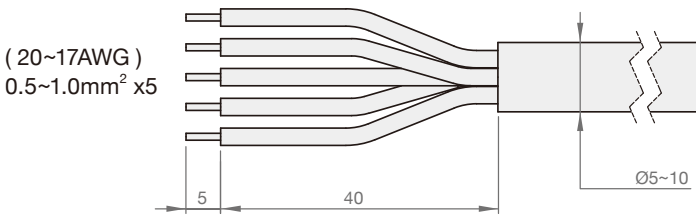
SY - DPCA - D - P9 - 1
1 2 3 4 5

1	Model Name	SY	
2	Control Mode	DPCA	Digital Proportional Controller
3	Type	D	DIN43650A Plug
4	Connection	P9	PG9 Cable Gland
5	Output	1	single coil

MODEL SPEC.

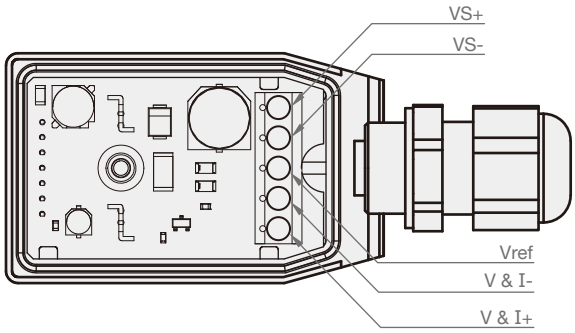
Model	SY-DPCA-D-P9-1
Operating Voltage	9 ~ 32VDC
Voltage Tolerance	5%
Input Signal Options	0~5V, 0~10V, 4~20mA
Output Current	3A max.
Dither Frequency	70 ~ 350Hz
Ramp Up and Down	0.1 ~ 5.0s
Reference Voltage	5V (max. current 5mA)
Operating Conditions	-20 ~ 60°C
Weight	0.2kg

WIRING PAREPARATION

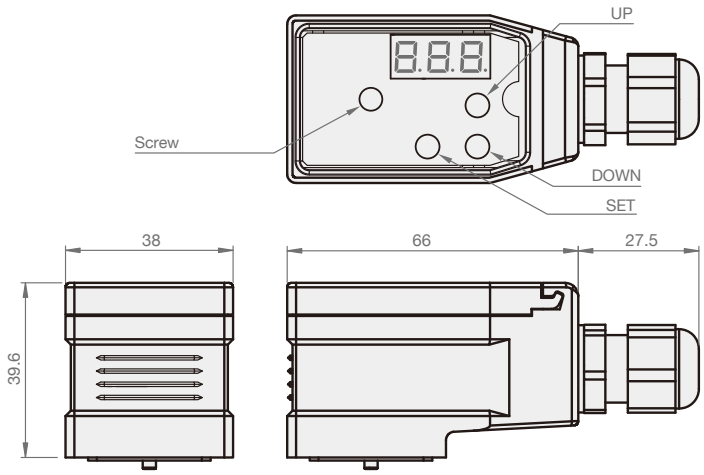


CONNECTIONS

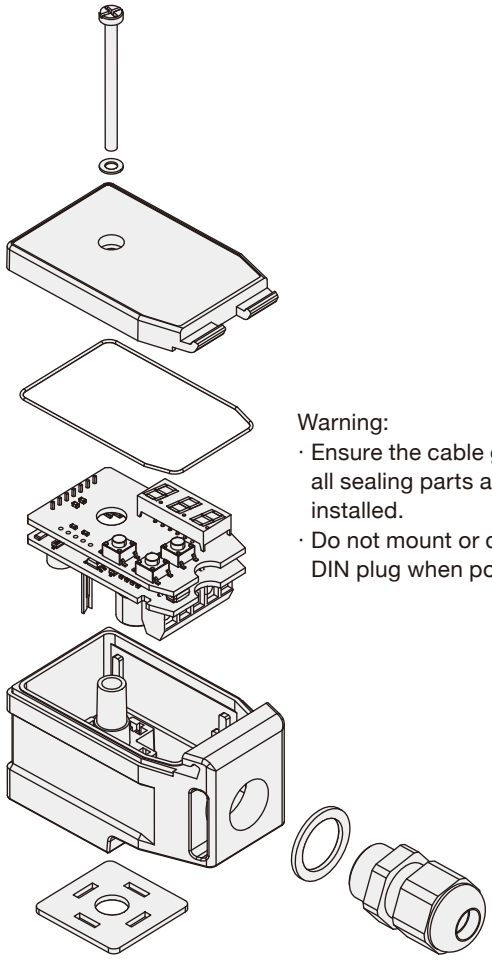
Wiring Instruction		
1	VS+	Power+
2	VS-	Power-
3	Vref	+5V reference voltage
4	V & I-	Command ground
5	V & I+	Command



DIMENSIONS (UNIT : mm)



ASSEMBLY

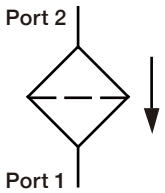


Warning:
- Ensure the cable gland and all sealing parts are properly installed.
- Do not mount or dismount the DIN plug when power is on.

This product has been designed and tested to meet specific standards outlined in the European Electromagnetic Compatibility Directive (EMC)2014/30/EU.
Emission: EN 61000-6-4:2019
Immunity: EN 61000-6-2:2019: EN 61000-4-2:2009, EN 61000-4-3:2020, EN 61000-4-8:2010
Certificate No. NE1105240044

FLA

SYMBOLS



ORDER CODES

FL 2 A - T13A - X D N

1	Model Name	FLA	
2	Valve Size	2, 3, 6, 8	
3	Cavity	T13A, T5A, T16A, T18A	
4	Control Manner	X	unadjustable
5	Filter Rating (FL2A, FL3A)	D	40um (surface type)
5	Filter Rating (FL6A, FL8A)	D	40um (surface type)
		A	3um (depth type)
		B	10um (depth type)
		C	25um (depth type)
6	Material of Seal	N	buna-N
		V	viton

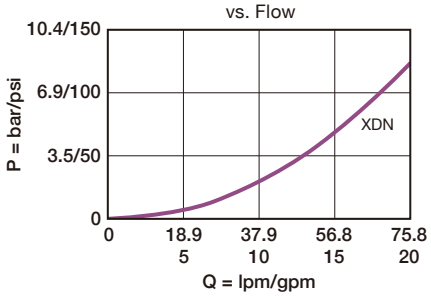
MODEL SPEC.

Model	Cavity	Capacity	Max. Pressure	Installation Torque (Nm)	Operating Temperature	Weight (kg)
FL2A	T13A	37.9 l/min / 10 gpm	345 bar / 5000 psi	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.09
FL3A	T5A	75.7 l/min / 20 gpm		60/70		0.19
FL6A	T16A	151.4 l/min / 40 gpm		200/215		0.315
FL8A	T18A	302.8 l/min / 80 gpm		465/500		0.71

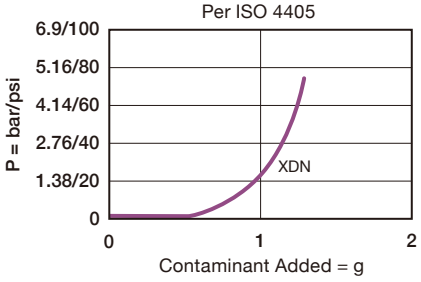
PERFORMANCE CURVES

▸ FL2A

Typical Pressure Differential vs. Flow

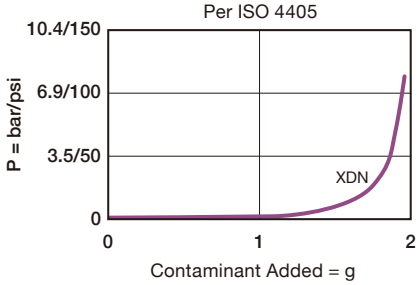


Typical Pressure Differential vs. Contaminant Added Per ISO 4405



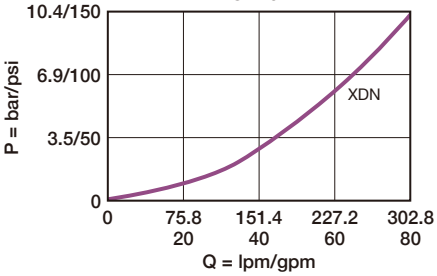
▸ FL3A

Typical Pressure Differential vs. Contaminant Added Per ISO 4405

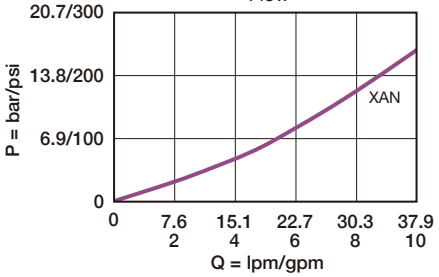


▸ FL6A

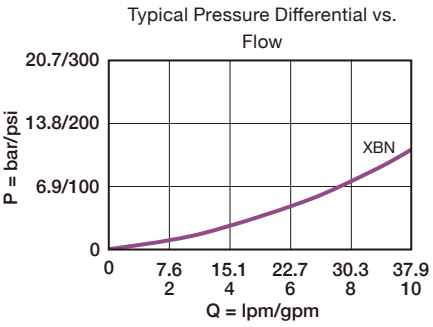
Typical Pressure Differential vs. Flow



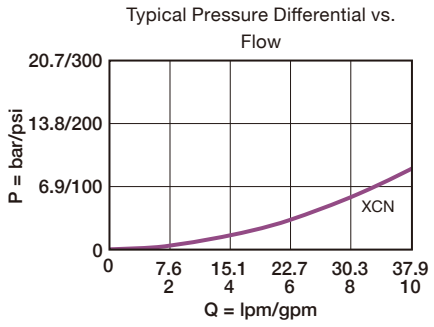
Typical Pressure Differential vs. Flow



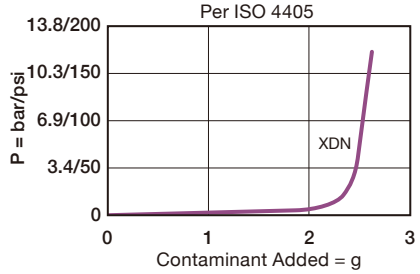
Typical Pressure Differential vs. Flow



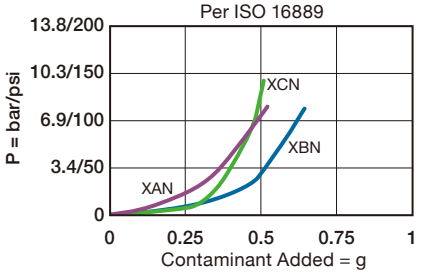
Typical Pressure Differential vs. Flow



Typical Pressure Differential vs. Contaminant Added Per ISO 4405



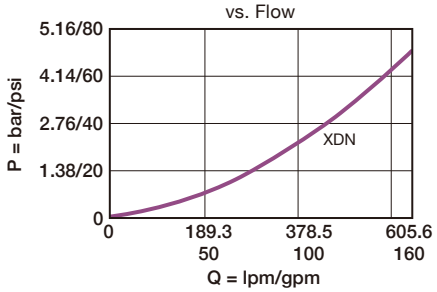
Typical Pressure Differential vs. Contaminant Added Per ISO 16889



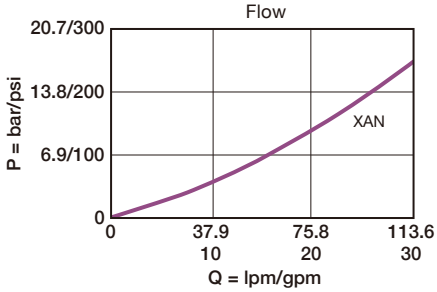
PERFORMANCE CURVES

▸ FL8A

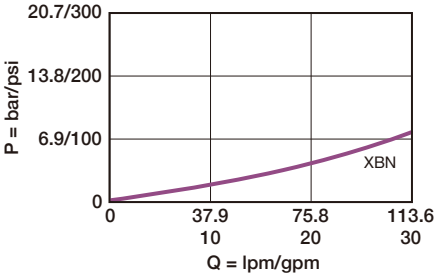
Typical Pressure Differential vs. Flow



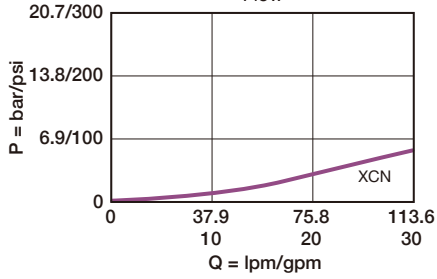
Typical Pressure Differential vs. Flow



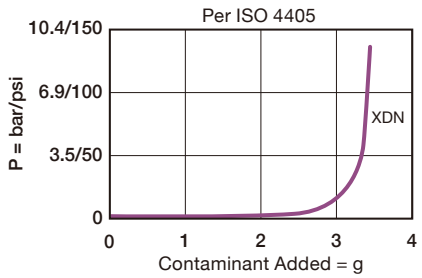
Typical Pressure Differential vs. Flow



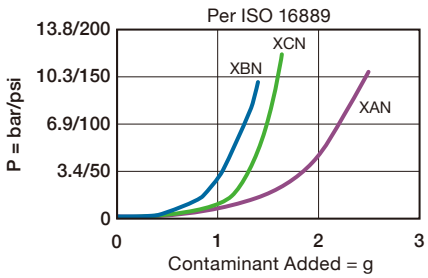
Typical Pressure Differential vs. Flow



Typical Pressure Differential vs. Contaminant Added Per ISO 4405

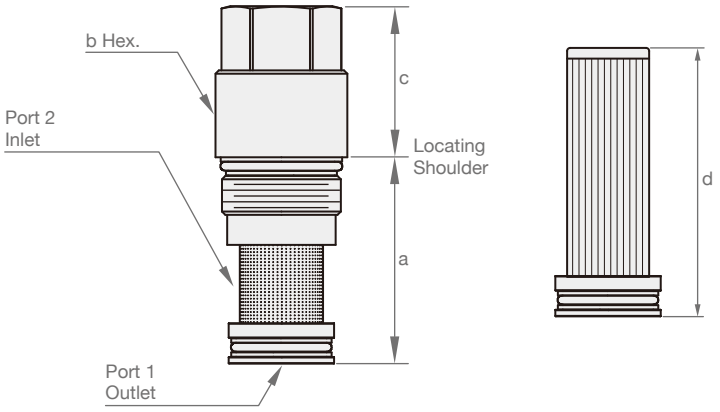


Typical Pressure Differential vs. Contaminant Added Per ISO 16889



DIMENSION

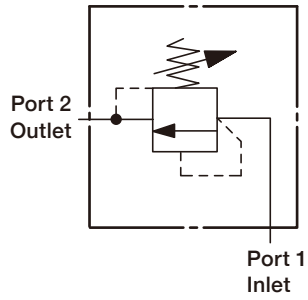
(UNIT : mm)



Model	a	b	c	d
FL2A	40.0	22.2	30.7	59.5
FL3A	41.7	28.6	33.3	66.0
FL6A	62.2	31.8	41.4	97.5
FL8A	79.5	41.3	54.1	126

MH

SYMBOLS



ORDER CODES

MH - 082 - L A N

(1) (2) (3) (4) (5)

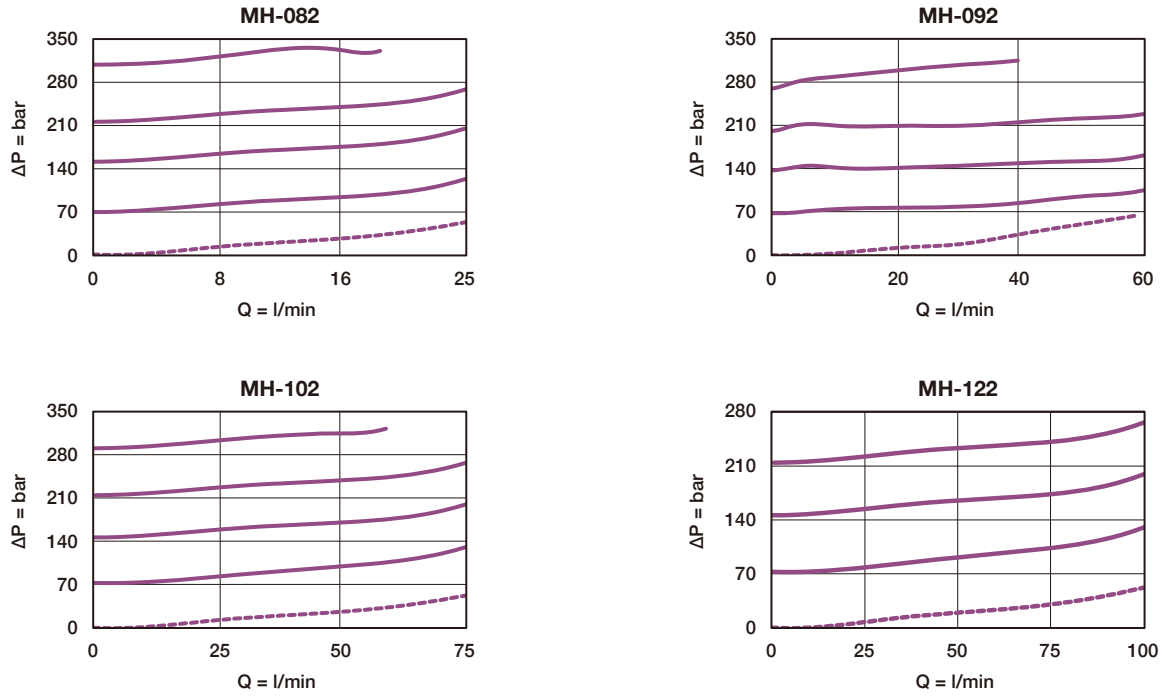
(1)	Model Name	MH	
(2)	Valve Size & Cavity	082, 092, 102, 122	
(3)	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
		C	tamper resistant cover
(4)	Adjustable Range	A	7 ~ 210 bar
		B	3.5 ~105 bar
		C	90 ~ 350 bar
(5)	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
MH-082	T082	25	350	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.15
MH-092	T092	45	350	40/50		0.25
MH-102	T102	55	350	40/50		0.20
MH-122	T122	85	280	45/50		0.32

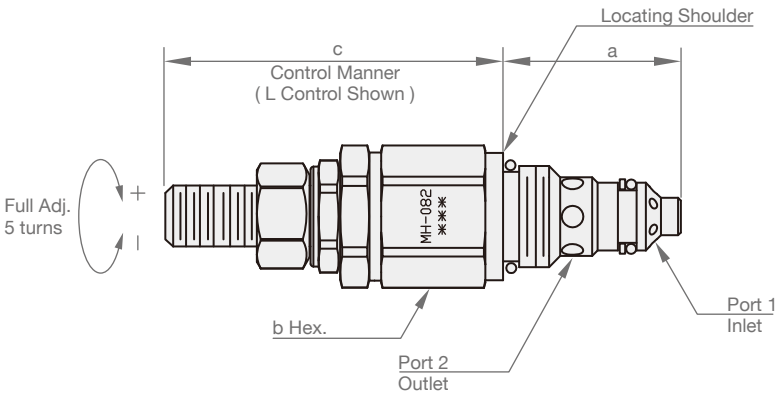
PERFORMANCE CURVES

▸ Typical Pressure Rise



DIMENSION

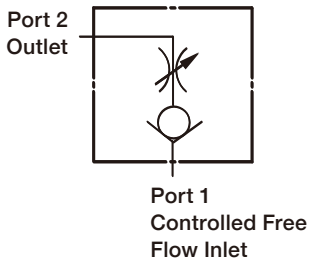
(UNIT : mm)



Model	a	b	c		
			L	K	C
MH-082	34	24	60	66	48
MH-092	54	26	58	93	36
MH-102	38.8	25.4	58	64	36
MH-122	59	31.8	61	-	67

CN

SYMBOLS



ORDER CODES

CN - 082 - L A N
1 2 3 4 5

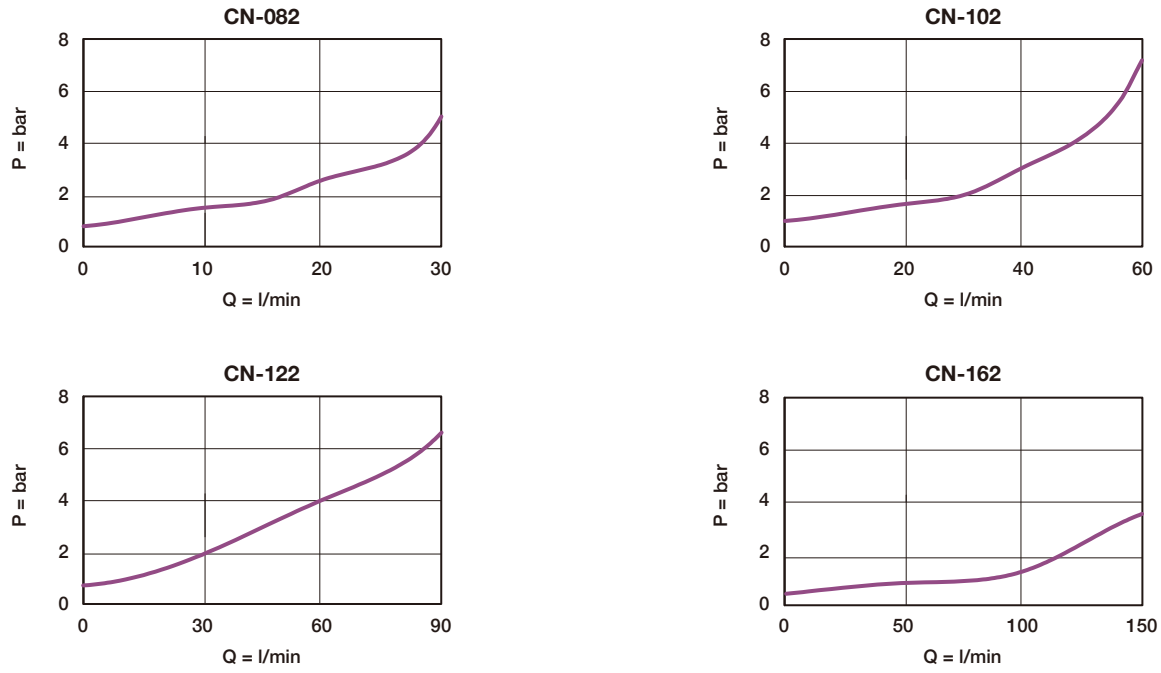
1	Model Name	CN	
2	Cavity & Max. Orifice	082, 102, 122, 162	
3	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
4	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
5	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CN-082	T082	30	300	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.11
CN-102	T102	50	300	40/50		0.14
CN-122	T122	80	300	40/50		0.26
CN-162	T162	150	300	40/50		0.39

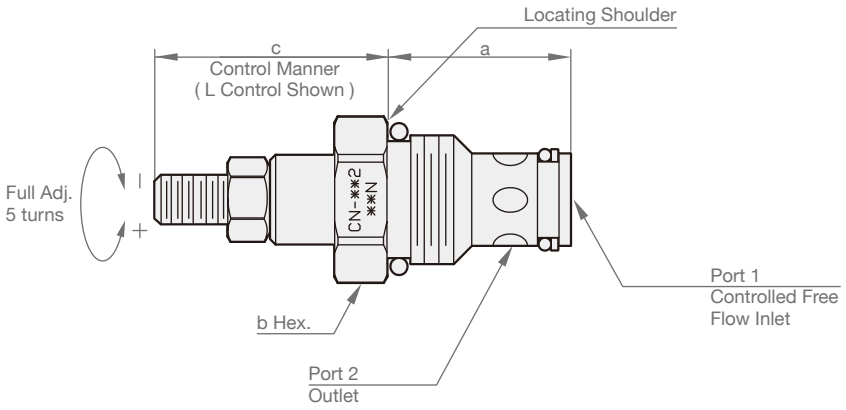
PERFORMANCE CURVES

▸ Typical Pressure Drop



DIMENSION

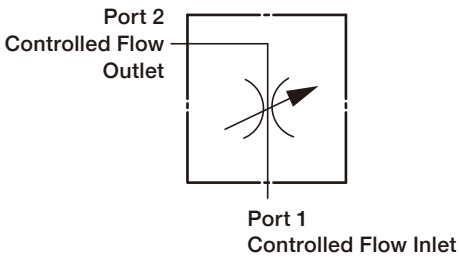
(UNIT : mm)



Model	a	b	c	
			L	K
CN-082	27.7	22.4	48	53
CN-102	31.8	25.4	51	56
CN-122	46.0	31.8	53	58
CN-162	44.5	38.1	59	64

NV

SYMBOLS



ORDER CODES

NV - 082 - L A N
1 2 3 4

1	Model Name	NV	
2	Cavity & Max. Orifice	082	T082, 6.5mm
		102	T102, 8.5mm
		122	T122, 12.5mm
		162	T162, 16mm
3	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
4	Material of Seal	N	buna-N
		V	viton

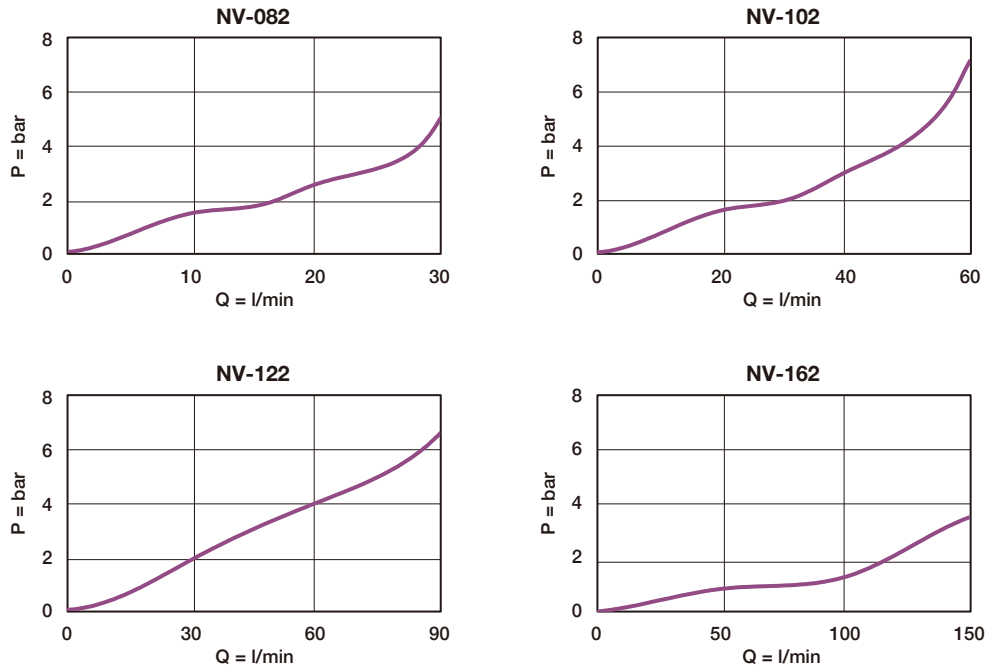
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
NV-082	T082	30	300	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.11
NV-102	T102	50	300	40/50		0.14
NV-122	T122	80	300	40/50		0.26
NV-162	T162	150	300	40/50		0.39

PERFORMANCE CURVES

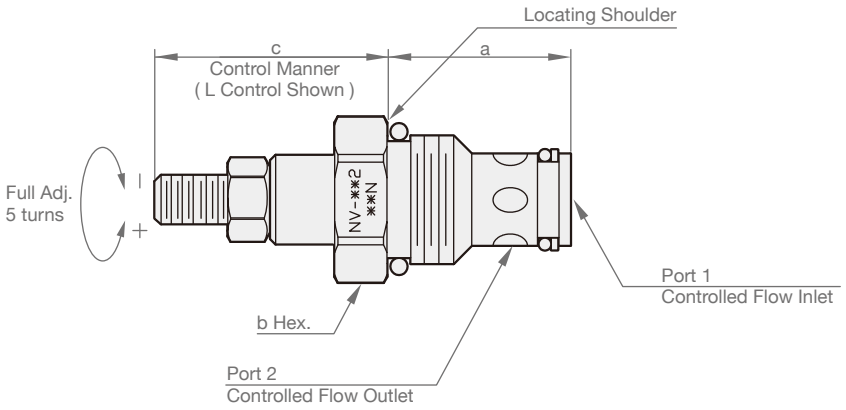
▸ Typical Pressure Drop

Fully Open, Port1 ~ Port2



DIMENSION

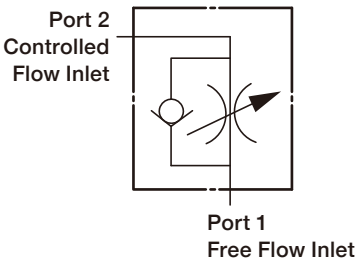
(UNIT : mm)



Model	a	b	c	
			L	K
NC-082	27.7	22.4	48	53
NC-102	31.8	25.4	51	56
NC-122	46.0	31.8	53	58
NC-162	44.5	38.1	59	64

NC

SYMBOLS



ORDER CODES

NC - 082 - L C N

① ② ③ ④ ⑤

①	Model Name	NC	
②	Cavity & Max. Orifice	082	T082, 5.9mm
		102	T102, 8mm
		122	T122, 11mm
		162	T162, 13mm
③	Control Manner	L	standard screw adjustment
		K	hand knob with lock knob
④	Cracking Pressure	C	2.0 bar
⑤	Material of Seal	N	buna-N
		V	viton

MODEL SPEC.

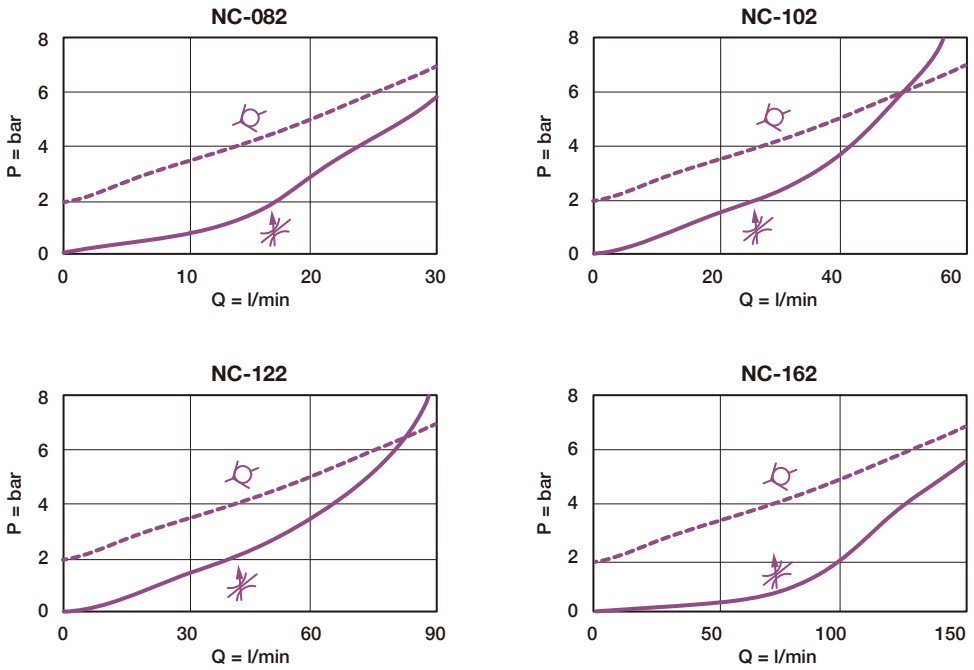
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
NC-082	T082	30	300	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.11
NC-102	T102	50	300	40/50		0.14
NC-122	T122	80	300	40/50		0.26
NC-162	T162	150	300	40/50		0.39

PERFORMANCE CURVES

▸ Typical Pressure Drop

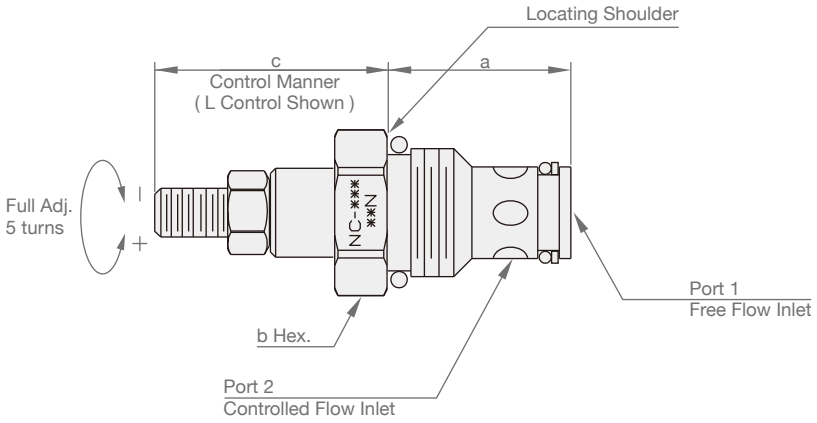
Free Flow, Port1 ~ Port2

Fully Open, Port2 ~ Port1



DIMENSION

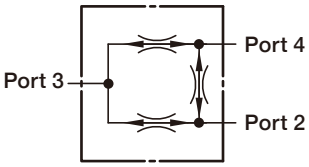
(UNIT : mm)



Model	a	b	c	
			L	K
NC-082	27.7	22.4	48	53
NC-102	31.8	25.4	51	56
NC-122	46.0	31.8	53	58
NC-162	44.5	38.1	59	64

CP

SYMBOLS



Flow Ratio:
Port 2 : Port 4 = 1:1

ORDER CODES

CP - 104 - 2 - X C N
1 2 3 4 5 6

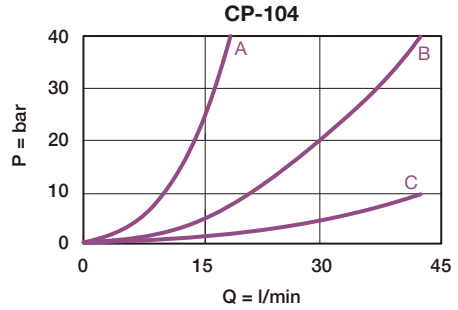
1	Model Name	CP	
2	Valve Size & Cavity	104, 124, 164	
3	Type	none	standard
		2	anti-stall
4	Control Manner	X	unadjustable
5	Capacity (l/min)	A	CP-104: 7.6, CP-124: 38, CP-164: 91
		B	CP-104: 23, CP-124: 53, CP-164: 114
		C	CP-104: 45, CP-124: 90, CP-164: 150
6	Material of Seal	N	buna-N
		V	viton

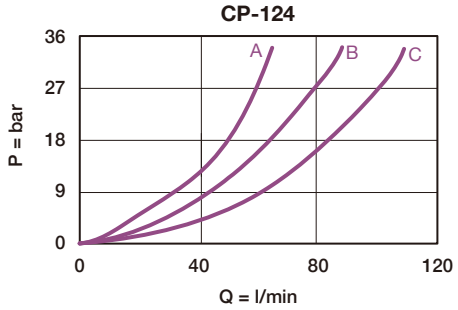
MODEL SPEC.

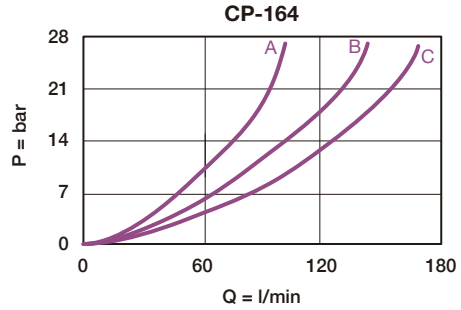
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CP-104	T104	45	210	35/45	-35 ~ 100°C (-31 ~ 212°F)	0.11
CP-124	T124	90	210	45/55		0.23
CP-164	T164	150	210	60/70		0.37

PERFORMANCE CURVES

▸ Typical Pressure Drop

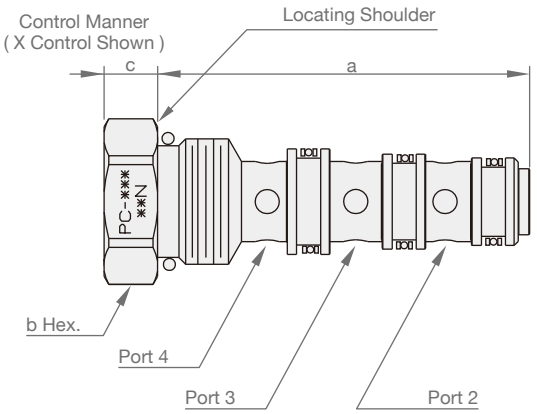






DIMENSION

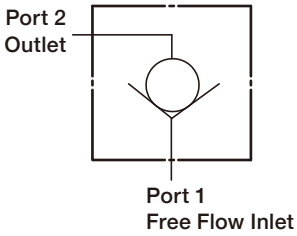
(UNIT : mm)



Model	a	b	c
			X
CP-104	64.8	25.4	7.9
CP-124	85.1	31.8	9.5
CP-164	105.0	38.1	12.7

CV

SYMBOLS



ORDER CODES

CV - 082 - X A N

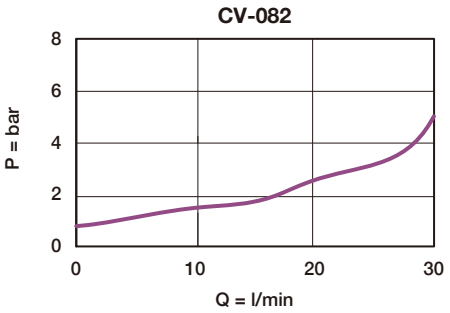
1	Model Name	CV	
2	Valve Size & Cavity	082, 102, 122, 162	
3	Control Manner	X	unadjustable
4	Cracking Pressure	A	0.3 bar
		C	2.0 bar
		E	5.0 bar
5	Material of Seal	N	buna-N
		V	viton

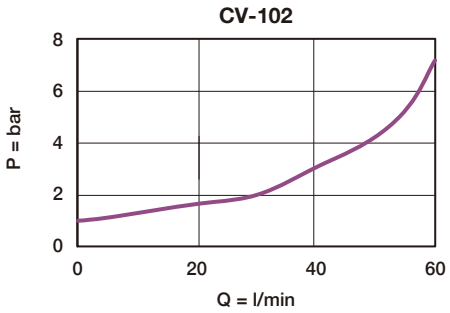
MODEL SPEC.

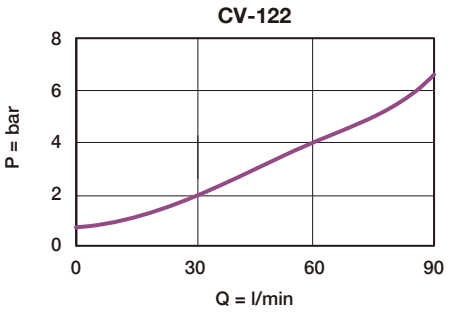
Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
CV-082	T082	30	300	40/50	-35 ~ 100°C (-31 ~ 212°F)	0.06
CV-102	T102	50	300	40/50		0.09
CV-122	T122	80	300	40/50		0.15
CV-162	T162	150	300	40/50		0.27

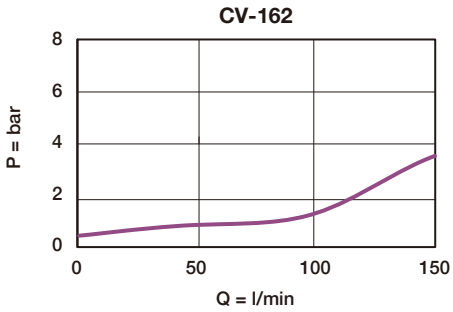
PERFORMANCE CURVES

▸ Typical Pressure Drop



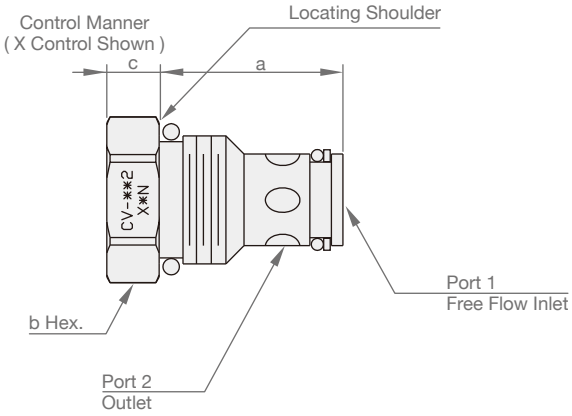






DIMENSION

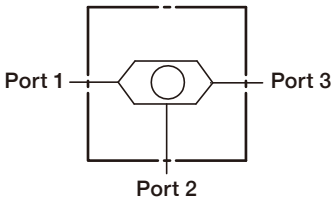
(UNIT : mm)



Model	a	b	c
			X
CV-082	27.7	22.4	7.9
CV-102	31.8	25.4	7.9
CV-122	46.0	31.8	9.5
CV-162	44.5	38.1	14.0

LS

SYMBOLS



ORDER CODES

LS - 083 - X X N

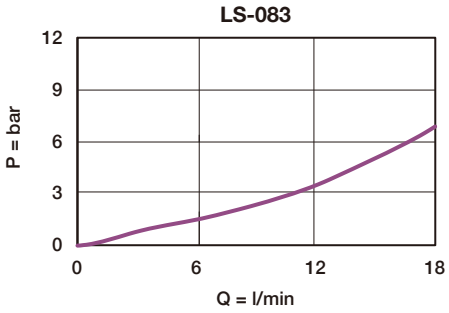
1	Model Name	LS	
2	Valve Size & Cavity	083, 103	
3	Control Manner	X	unadjustable
4	Material of Seal	N	buna-N
		V	viton

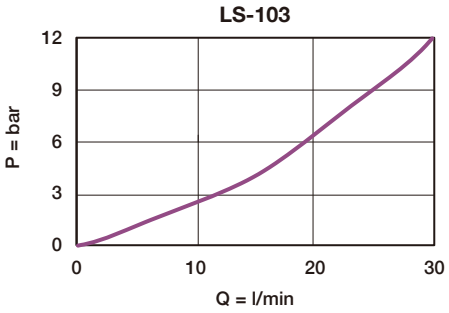
MODEL SPEC.

Model	Cavity	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Operating Temperature	Weight (kg)
LS-083	T083	15	240	30/40	-35 ~ 100°C (-31 ~ 212°F)	0.06
LS-103	T103	30	240	40/50		0.10

PERFORMANCE CURVES

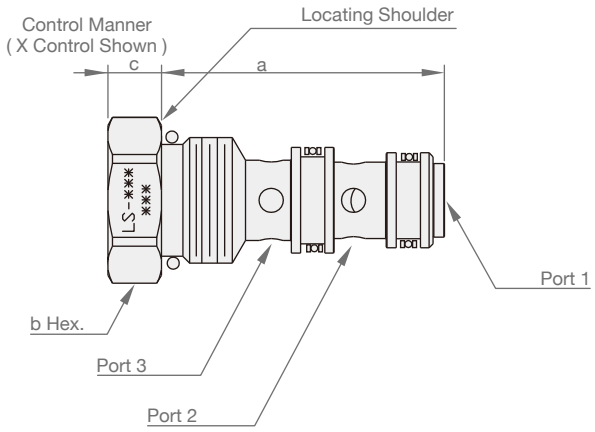
▸ Typical Pressure Drop





DIMENSION

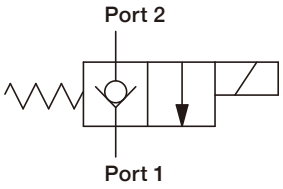
(UNIT : mm)



Model	a	b	c
			X
LS-083	42.2	22.4	8
Ls-103	46.0	25.4	8

HS, JS, LS, PS-2A

SYMBOLS



ORDER CODES

HS - 2A - 16 - A1

1	Cavity	HS	T082
		JS	T102
		LS	T122
		PS	T162
2	Type of Valve	2A	
3	Tube Diameter	16	
4	Power Source	A1	RAC110V
		A2	RAC220V
		D1	DC12V
		D2	DC24V

MODEL SPEC.

Model	Cavity	Tube Diameter	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Weight (kg)
HS-2A	T082	16	28	250	39/51	0.41
JS-2A	T102	16	50	250	39/51	0.43
LS-2A	T122	16	100	250	39/51	0.53
PS-2A	T162	16	150	250	39/51	0.62

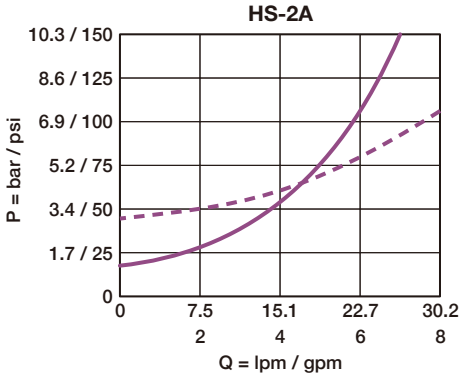
PERFORMANCE CURVES

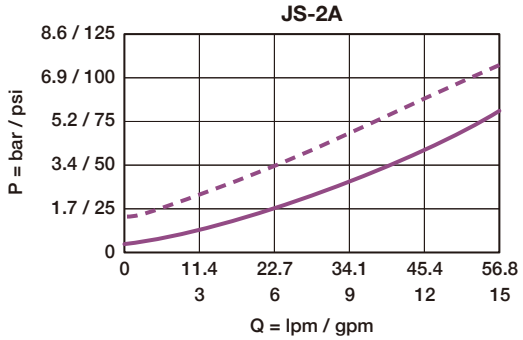
▸ Typical Pressure Drop

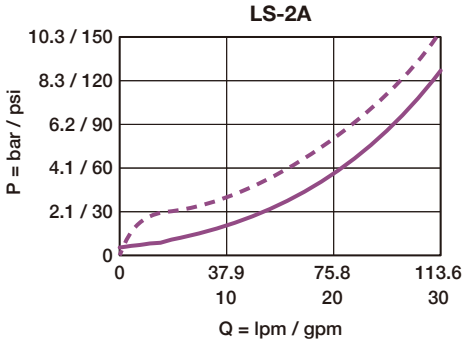
- - - - de-energized, Port 1 → Port 2

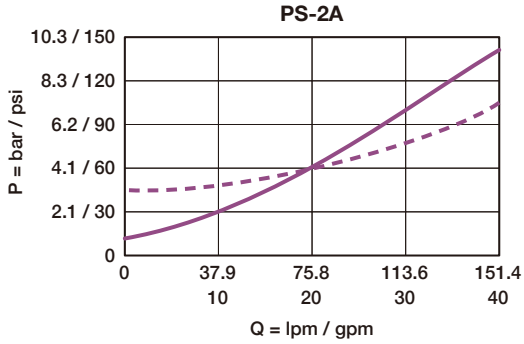
——— energized, Port 2 → Port 1

* 32cSt / 150 ssu oil at 40°C



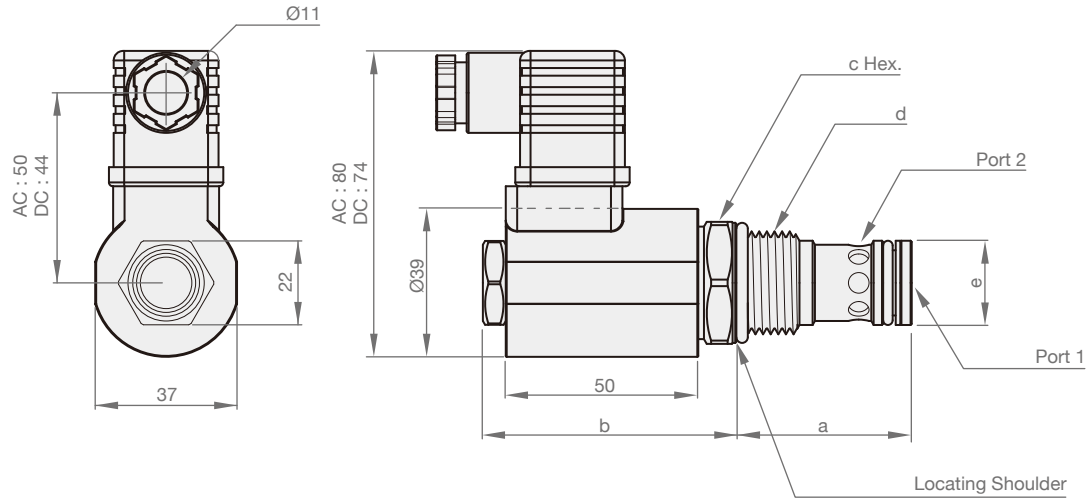






DIMENSION

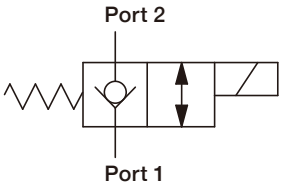
(UNIT : mm)



Model	a	b	c	d	e
HS-2A	28	64	22	3/4"-16UNF	12.7
JS-2A	32	64	25.4	7/8"-14UNF	15.8
LS-2A	45	64	32	1 1/16"-12UNF	22.2
PS-2A	45	65	38	1 5/16"-12UNF	28.6

HS, JS, LS, PS-2B

SYMBOLS



ORDER CODES

HS - 2B - 16 - A2
1 2 3 4

1 ▸	Cavity	HS	T082
		JS	T102
		LS	T122
		PS	T162
2 ▸	Type of Valve	2B	
3 ▸	Tube Diameter	16	
4 ▸	Power Source	A1	RAC110V
		A2	RAC220V
		D1	DC12V
		D2	DC24V

MODEL SPEC.

Model	Cavity	Tube Diameter	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Weight (kg)
HS-2B	T082	16	28	250	39/51	0.41
JS-2B	T102	16	50	250	39/51	0.43
LS-2B	T122	16	100	250	39/51	0.53
PS-2B	T162	16	150	250	39/51	0.62

PERFORMANCE CURVES

▸ Typical Pressure Drop

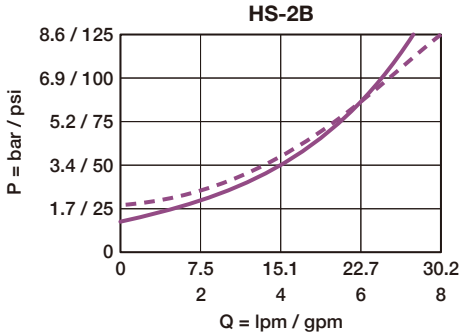
HS-2B, PS-2B

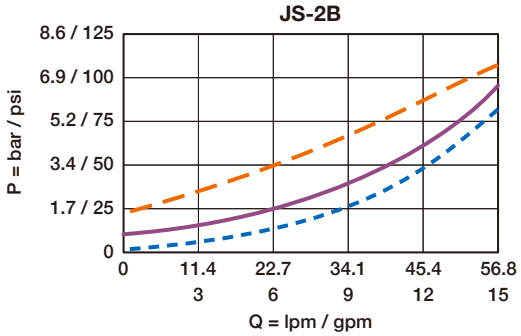
- de-energized, Port 1 → Port 2
- energized, Port 2 → Port 1

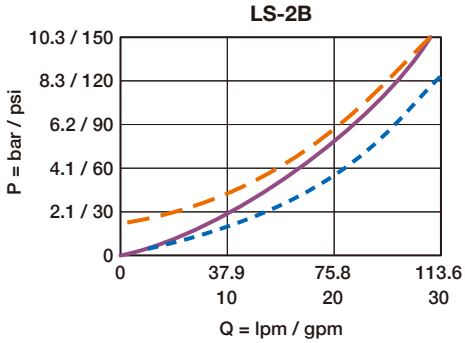
JS-2B, LS-2B

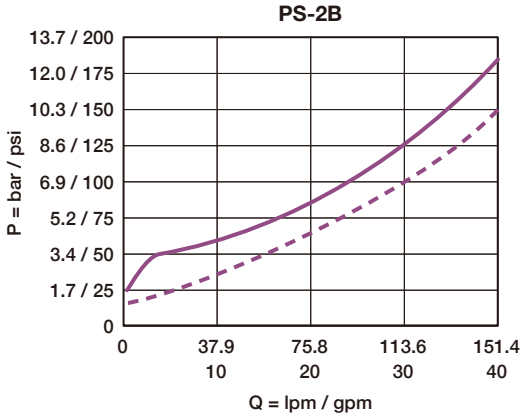
- de-energized, Port 1 → Port 2
- energized, Port 2 → Port 1
- energized, Port 1 → Port 2

* 32cSt / 150 ssu oil at 40°C



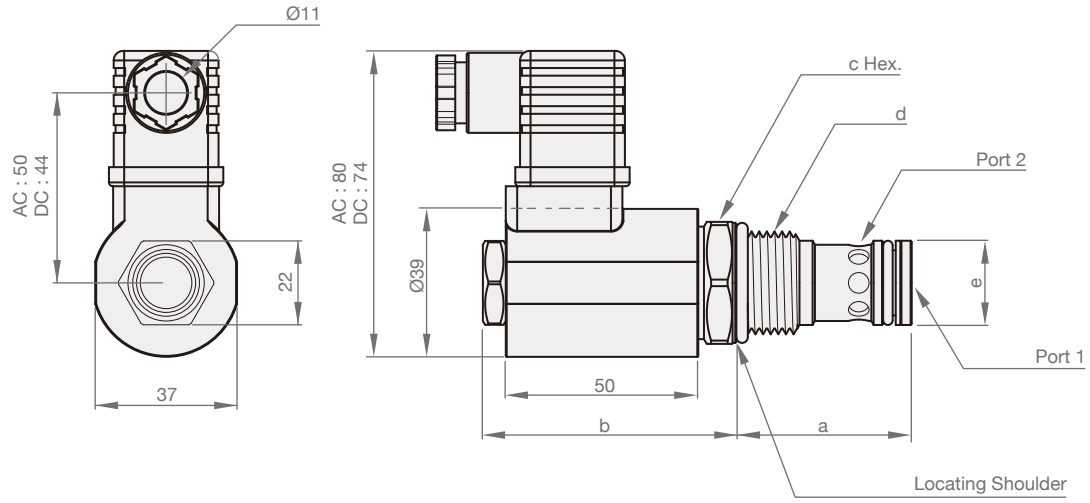






DIMENSION

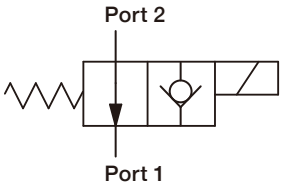
(UNIT : mm)



Model	a	b	c	d	e
HS-2B	28	64	22	3/4"-16UNF	12.7
JS-2B	32	64	25.4	7/8"-14UNF	15.8
LS-2B	45	64	32	1 1/16"-12UNF	22.2
PS-2B	45	65	38	1 5/16"-12UNF	28.6

HS, JS, LS, PS-2C

SYMBOLS



ORDER CODES

JS - 2C - 16 - A1
1 2 3 4

1 ▸	Cavity	HS	T082
		JS	T102
		LS	T122
		PS	T162
2 ▸	Type of Valve	2C	
3 ▸	Tube Diameter	16	
4 ▸	Power Source	A1	RAC110V
		A2	RAC220V
		D1	DC12V
		D2	DC24V

MODEL SPEC.

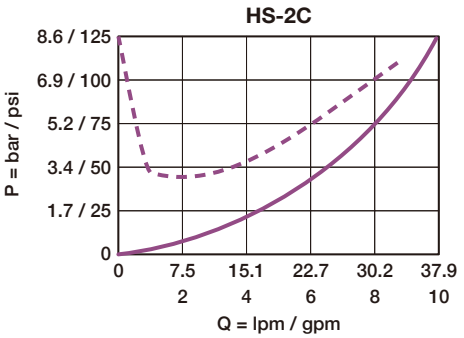
Model	Cavity	Tube Diameter	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Weight (kg)
HS-2C	T082	16	28	250	39/51	0.41
JS-2C	T102	16	50	250	39/51	0.43
LS-2C	T122	16	100	250	39/51	0.56
PS-2C	T162	16	150	250	39/51	0.67

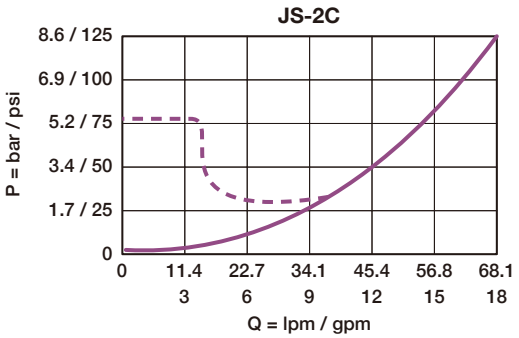
PERFORMANCE CURVES

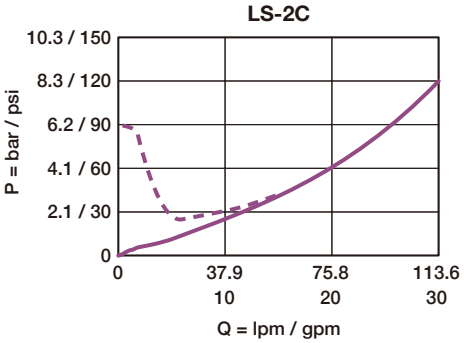
▸ Typical Pressure Drop

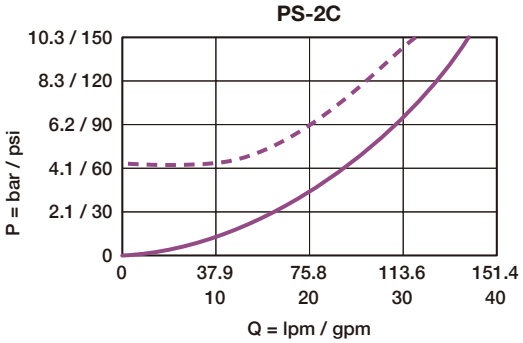
- energized, Port 1 → Port 2
- de-energized, Port 2 → Port 1

* 32cSt / 150 ssu oil at 40°C



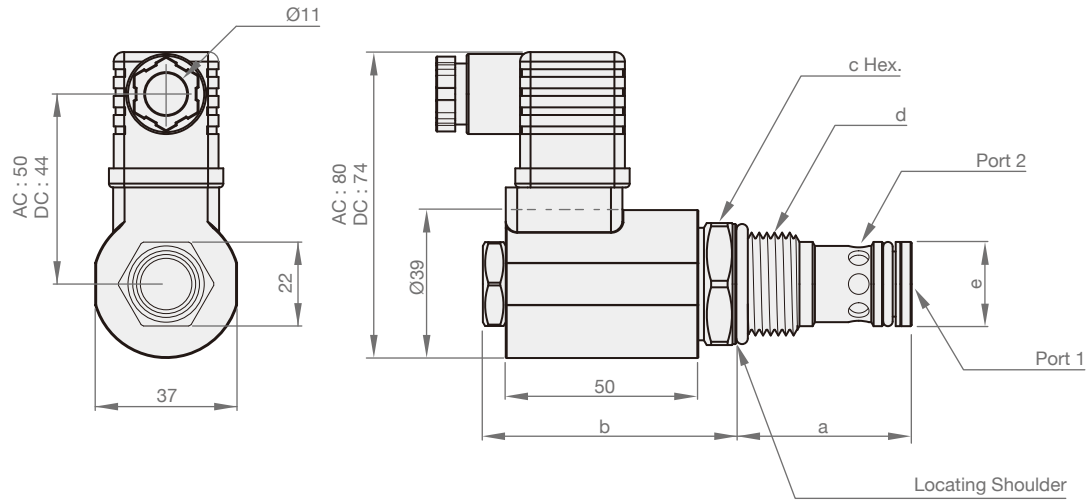






DIMENSION

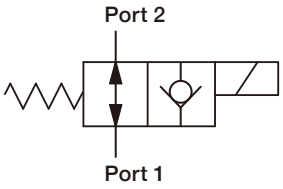
(UNIT : mm)



Model	a	b	c	d	e
HS-2C	28	64	22	3/4"-16UNF	12.7
JS-2C	32	64	25.4	7/8"-14UNF	15.8
LS-2C	45	64	32	1 1/16"-12UNF	22.2
PS-2C	45	65	38	1 5/16"-12UNF	28.6

HS, JS, LS, PS-2D

SYMBOLS



ORDER CODES

JS - 2D - 16 - A2
1 2 3 4

1 ▸	Cavity	HS	T082
		JS	T102
		LS	T122
		PS	T162
2 ▸	Type of Valve	2D	
3 ▸	Tube Diameter	16	
4 ▸	Power Source	A1	RAC110V
		A2	RAC220V
		D1	DC12V
		D2	DC24V

MODEL SPEC.

Model	Cavity	Tube Diameter	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Weight (kg)
HS-2D	T082	16	28	250	39/51	0.41
JS-2D	T102	16	50	250	39/51	0.46
LS-2D	T122	16	100	250	39/51	0.56
PS-2D	T162	16	150	250	39/51	0.67

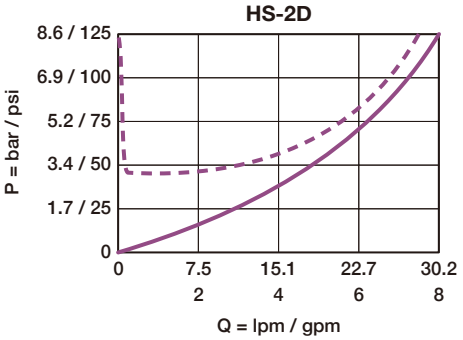
PERFORMANCE CURVES

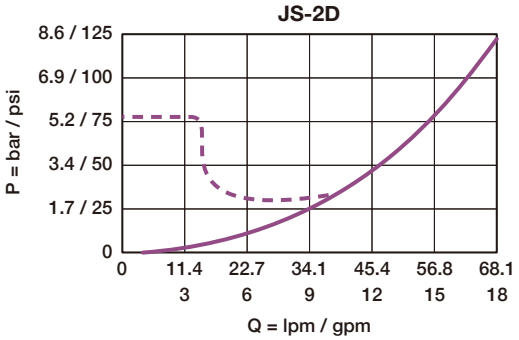
▸ Typical Pressure Drop

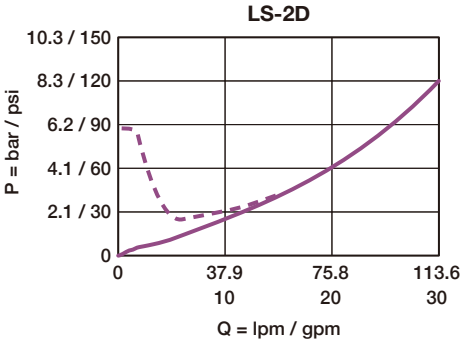
energized,
Port 1 → Port 2

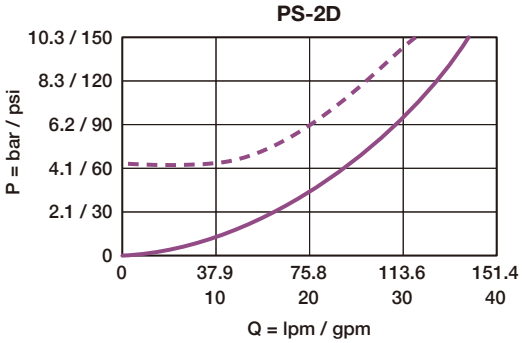
de-energized,
Port 2 → Port 1

* 32cSt / 150 ssu oil at 40°C



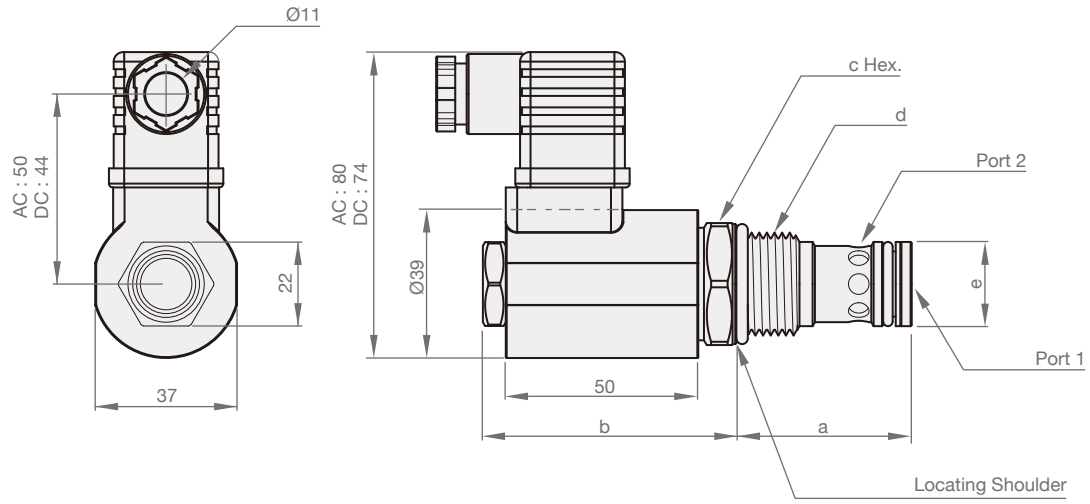






DIMENSION

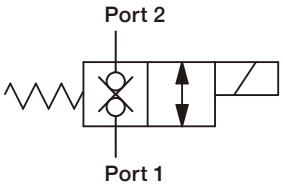
(UNIT : mm)



Model	a	b	c	d	e
HS-2D	28	64	22	3/4"-16UNF	12.7
JS-2D	32	64	25.4	7/8"-14UNF	15.8
LS-2D	45	64	32	1 1/16"-12UNF	22.2
PS-2D	45	65	38	1 5/16"-12UNF	28.6

HS, JS, LS, PS-2I

SYMBOLS



ORDER CODES

PS - 2I - 19 - D1
1 2 3 4

1 ▸	Cavity	HS	T082
		JS	T102
		LS	T122
		PS	T162
2 ▸	Type of Valve	2I	
3 ▸	Tube Diameter	16, 19	
4 ▸	Power Source	A1	RAC110V
		A2	RAC220V
		D1	DC12V
		D2	DC24V

MODEL SPEC.

Model	Cavity	Tube Diameter	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Weight (kg)
HS-2I	T082	16	28	250	39/51	0.41
JS-2I	T102	16	50	250	39/51	0.45
LS-2I	T122	16	100	250	39/51	0.56
PS-2I	T162	19	150	250	39/51	0.67

PERFORMANCE CURVES

▸ Typical Pressure Drop

HS-2I

energized,
Port 2 ↔ Port 1

JS-2I

energized,
Port 1 → Port 2

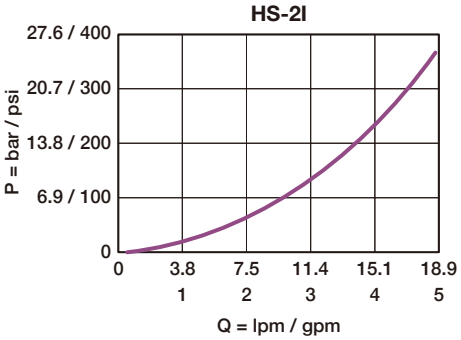
energized,
Port 2 → Port 1

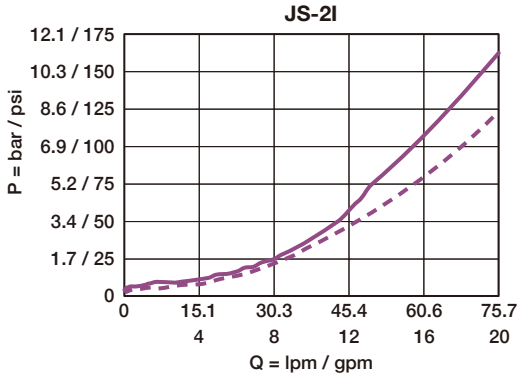
LS-2I, PS-2I

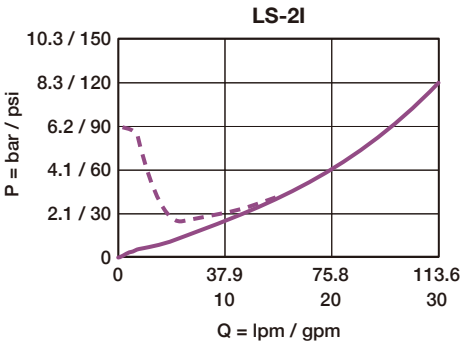
energized,
Port 1 → Port 2

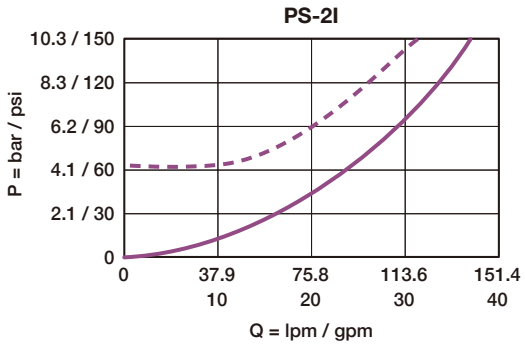
de-energized,
Port 2 → Port 1

* 32cSt / 150 ssu oil at 40°C



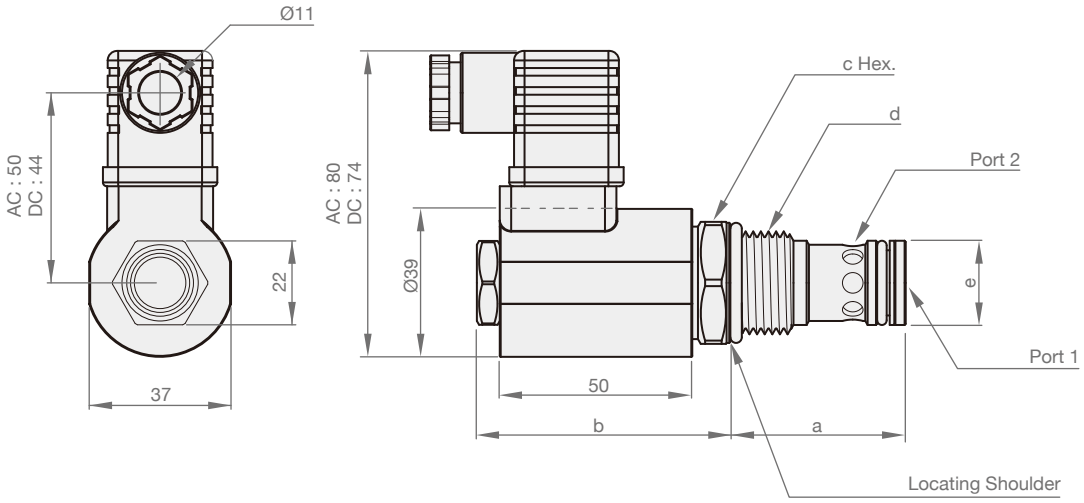






DIMENSION

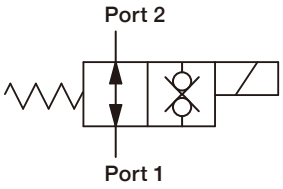
(UNIT : mm)



Model	a	b	c	d	e
HS-2I	28	64	22	3/4"-16UNF	12.7
JS-2I	32	64	25.4	7/8"-14UNF	15.8
LS-2I	45	64	32	1 1/16"-12UNF	22.2
PS-2I	45	65	38	1 5/16"-12UNF	28.6

HS, JS, LS, PS-2J

SYMBOLS



ORDER CODES

LS - 2J - 16 - D2
1 2 3 4

1 ▸	Cavity	HS	T082
		JS	T102
		LS	T122
		PS	T162
2 ▸	Type of Valve	2J	
3 ▸	Tube Diameter	16	
4 ▸	Power Source	A1	RAC110V
		A2	RAC220V
		D1	DC12V
		D2	DC24V

MODEL SPEC.

Model	Cavity	Tube Diameter	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Weight (kg)
HS-2J	T082	16	28	250	39/51	0.41
JS-2J	T102	16	50	250	39/51	0.43
LS-2J	T122	16	100	250	39/51	0.56
PS-2J	T162	16	150	250	39/51	0.67

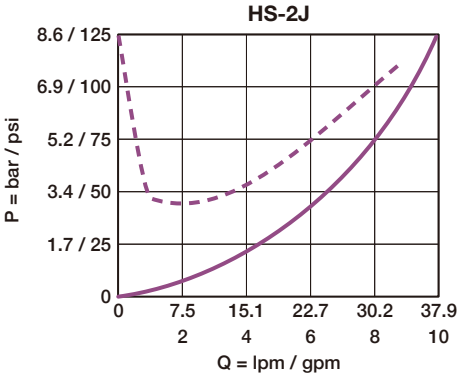
PERFORMANCE CURVES

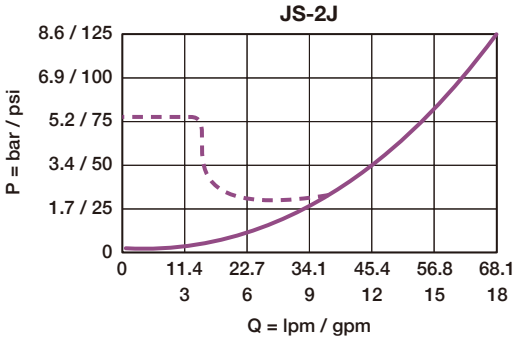
▸ Typical Pressure Drop

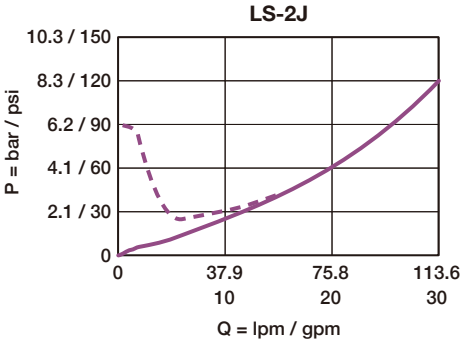
energized, Port 1 → Port 2

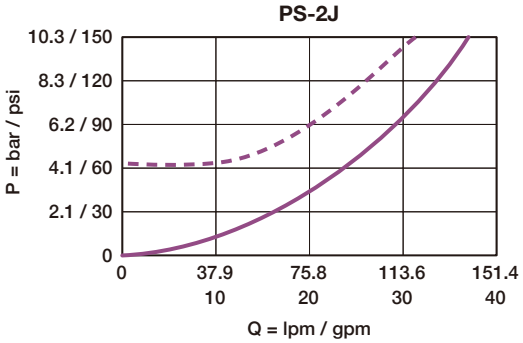
de-energized, Port 2 → Port 1

* 32cSt / 150 ssu oil at 40°C



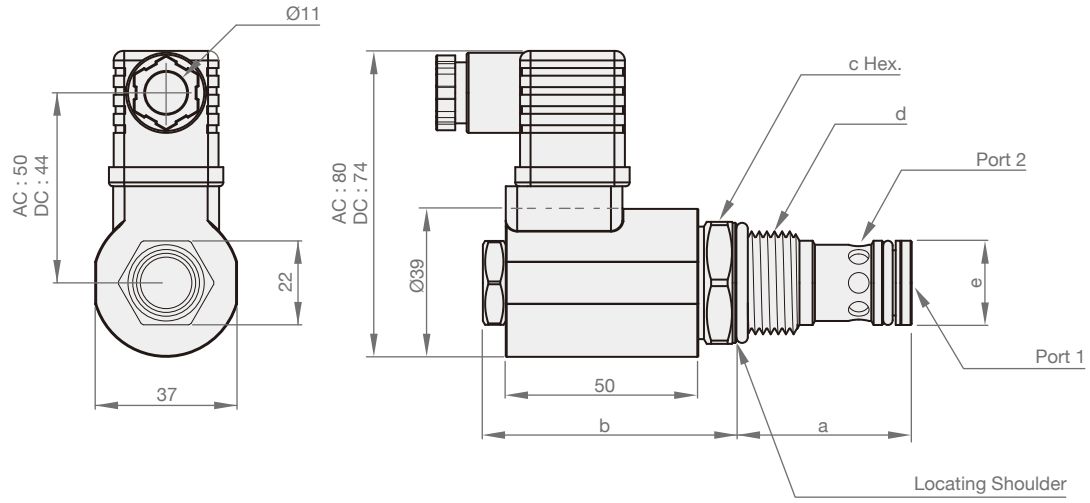






DIMENSION

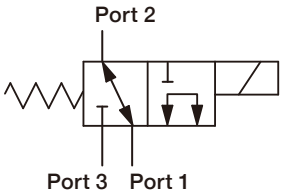
(UNIT : mm)



Model	a	b	c	d	e
HS-2A	28	64	22	3/4"-16UNF	12.7
JS-2A	32	64	25.4	7/8"-14UNF	15.8
LS-2A	45	64	32	1 1/16"-12UNF	22.2
PS-2A	45	65	38	1 5/16"-12UNF	28.6

HS-3A

SYMBOLS



ORDER CODES

HS - 3A - 16 - D2

1	Cavity	HS	T082
		JS	T102
2	Type of Valve	3A	
3	Tube Diameter	16	
4	Power Source	A1	RAC110V
		A2	RAC220V
		D1	DC12V
		D2	DC24V

MODEL SPEC.

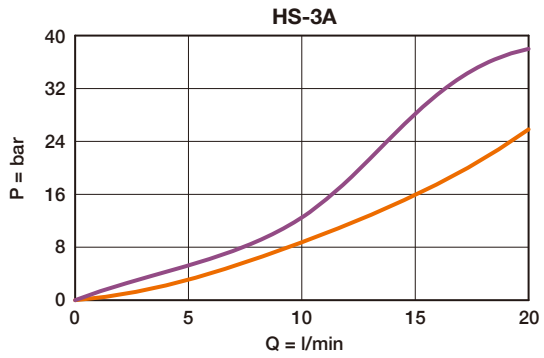
Model	Cavity	Tube Diameter	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Weight (kg)
HS-3A	T082	16	15	250	39/51	0.43
JS-3A	T102	16		250	39/51	

PERFORMANCE CURVES

▸ Typical Pressure Drop

Port 1 → Port 3

Port 1 → Port 2
Port 2 → Port 1



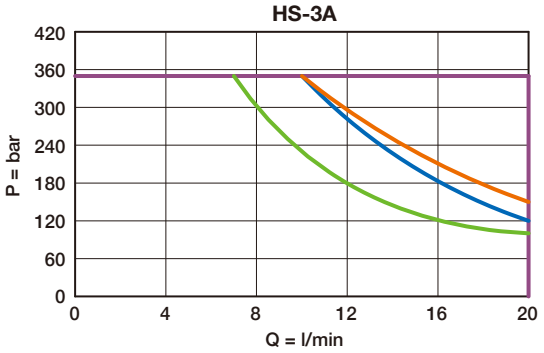
▸ Limits of Application

Port 1 → Port 3

Port 2 → Port 1

Port 3 → Port 1

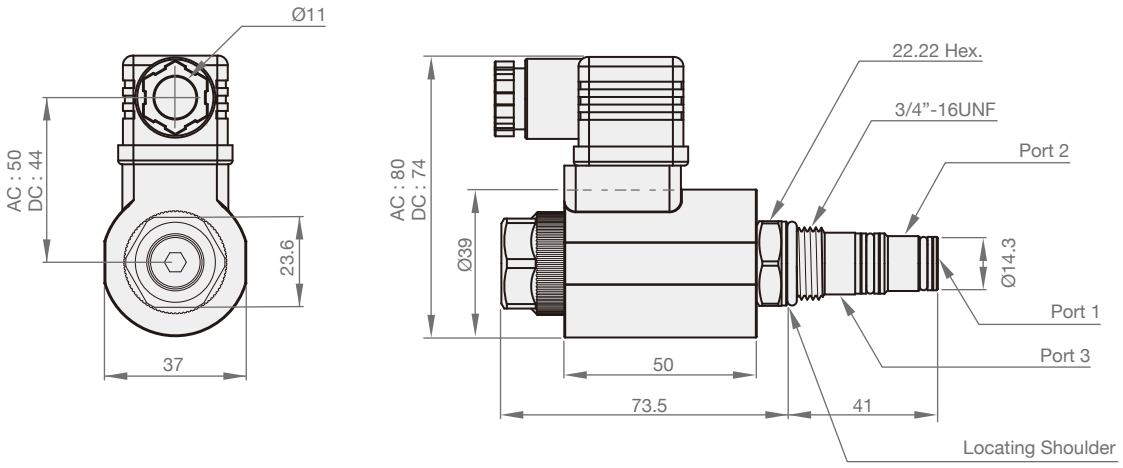
Port 1 → Port 2



DIMENSION

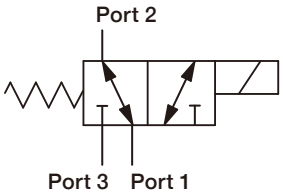
(UNIT : mm)

▸ HS-3A



HS-3X

SYMBOLS



ORDER CODES

HS - 3X - 16 - A2

1	Cavity	HS	T082
		JS	T102
2	Type of Valve	3X	
3	Tube Diameter	16	
4	Power Source	A1	RAC110V
		A2	RAC220V
		D1	DC12V
		D2	DC24V

MODEL SPEC.

Model	Cavity	Tube Diameter	Capacity (l/min)	Max. Pressure (bar)	Installation Torque (Nm)	Weight (kg)
HS-3X	T082	16	13	207	39/51	0.43
JS-3X	T102	16	38	207	39/51	0.52

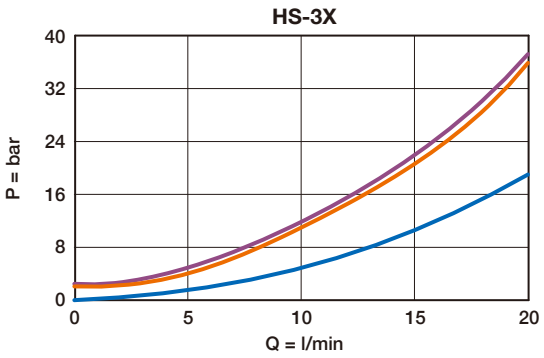
PERFORMANCE CURVES

▸ Typical Pressure Drop

Port 3 → Port 2

Port 2 → Port 3

Port 1 → Port 2
Port 2 → Port 1

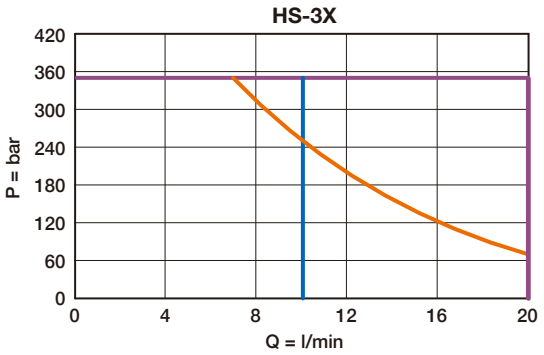


▸ Limits of Application

Port 2 → Port 3
Port 3 → Port 2

Port 1 → Port 2

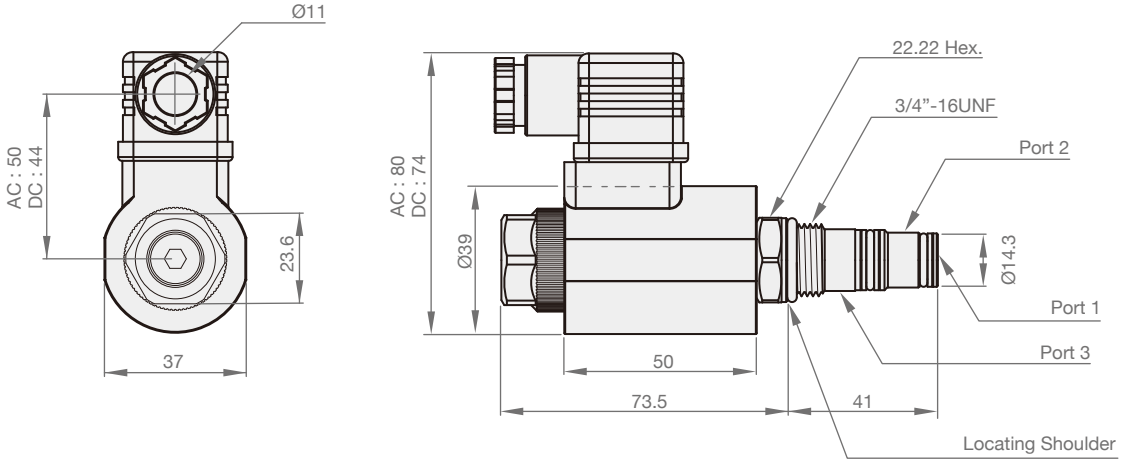
Port 2 → Port 1



DIMENSION

(UNIT : mm)

▸ HS-3X

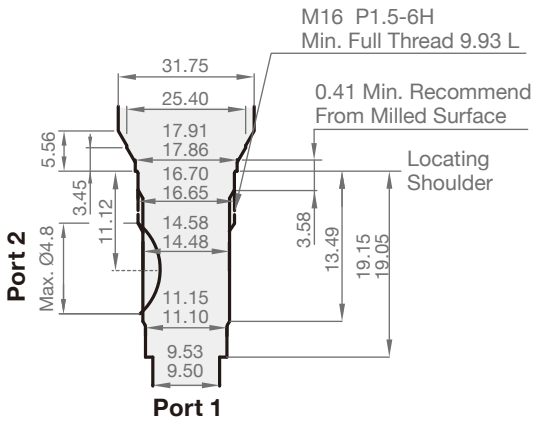


Cavities Tooling

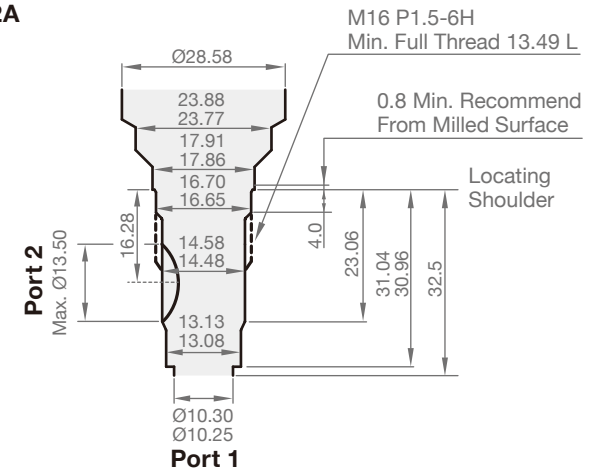
2 Port Cavities Tooling

(UNIT : mm)

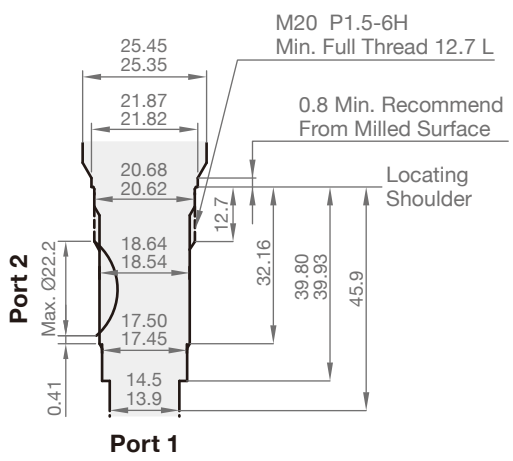
▸ T8A



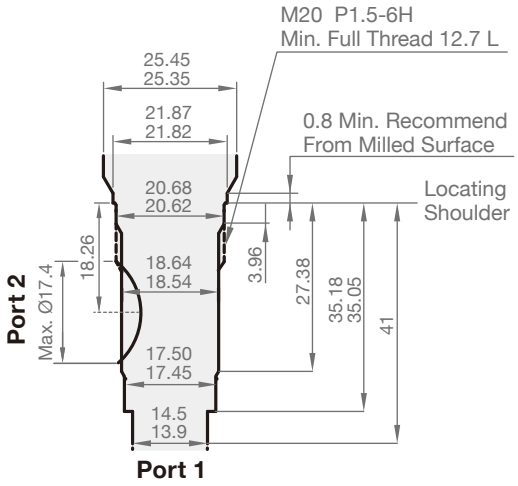
▸ T162A



▸ T10A

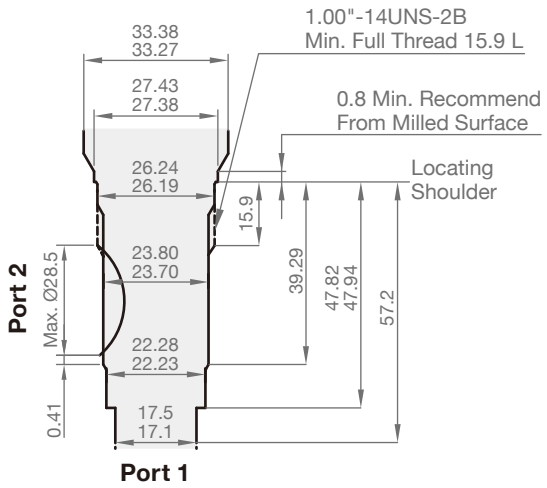


▸ T13A

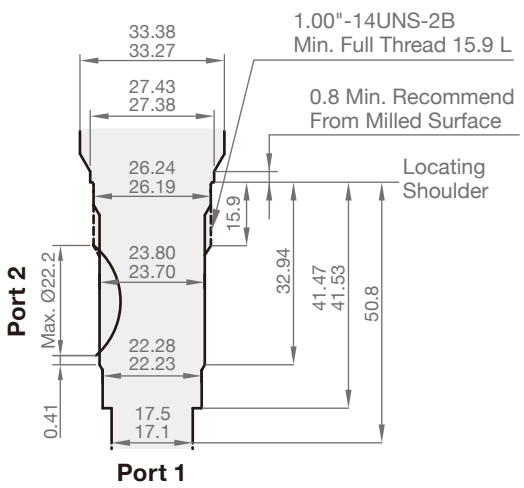


Size	Cavity
01	T8A, T162A
02	T10A, T13A
03	T3A, T5A
06	T16A
08	T18A

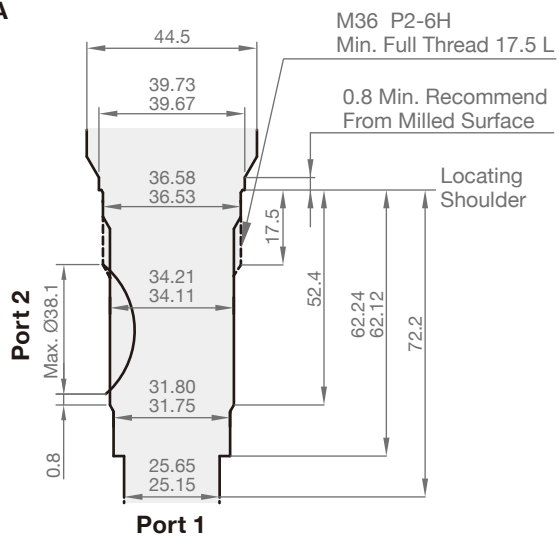
▸ **T3A**



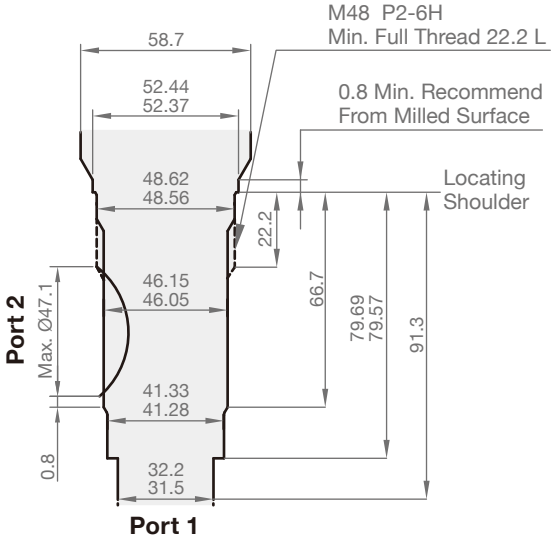
▸ **T5A**



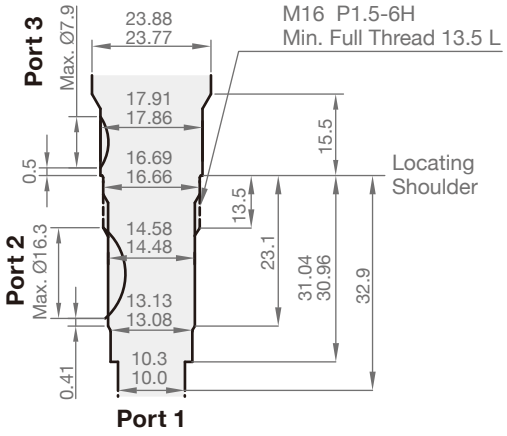
▸ **T16A**



▸ **T18A**

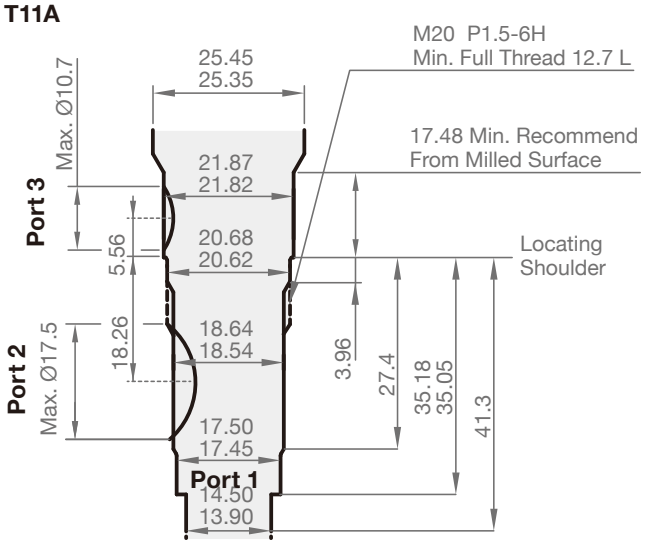


▸ T163A

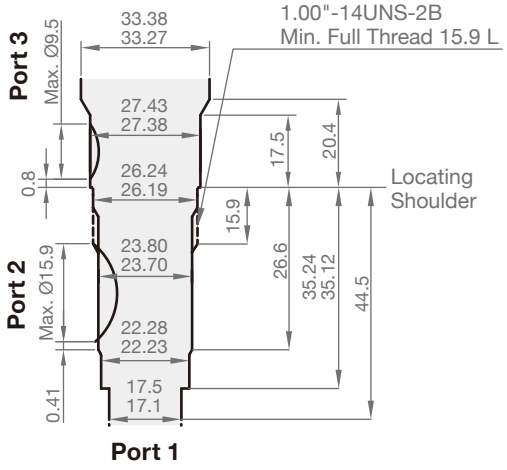


Size	Cavity
01	T163A
02	T11A
03	T2A
06	T17A
08	T19A

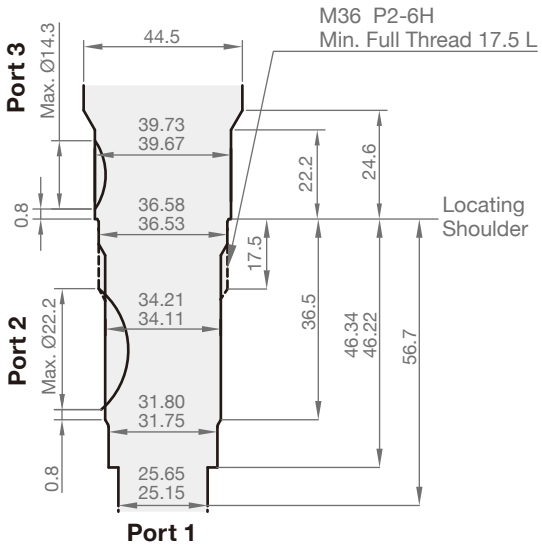
▸ T11A



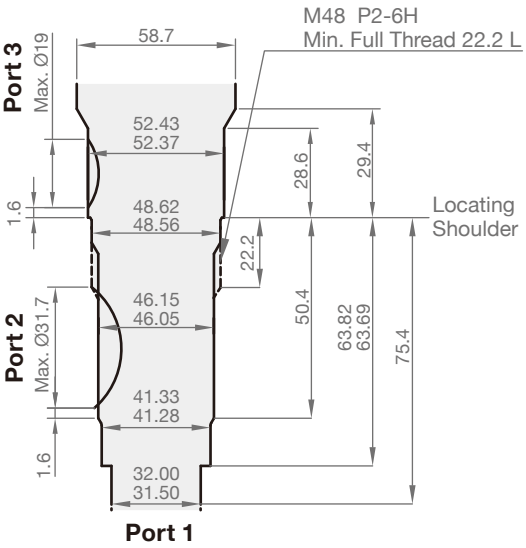
▸ T2A



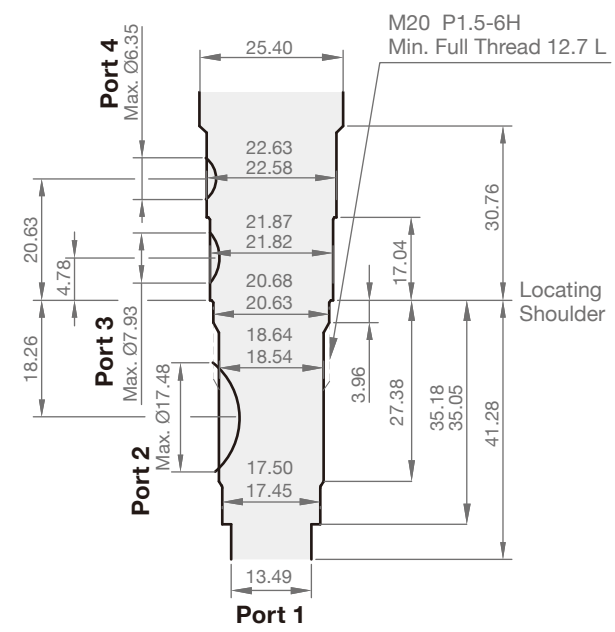
▸ T17A



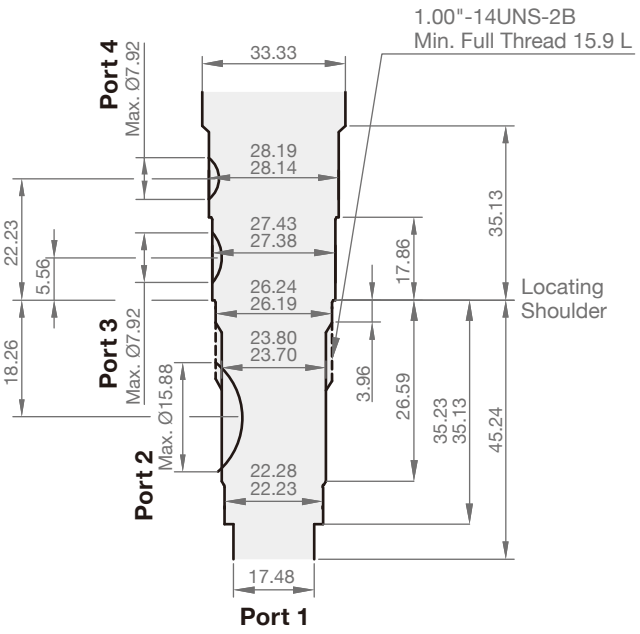
▸ T19A



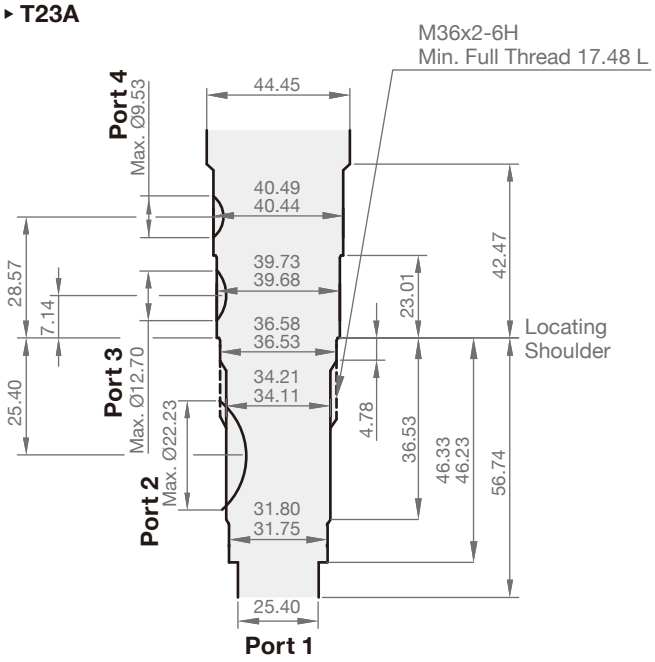
▸ T21A



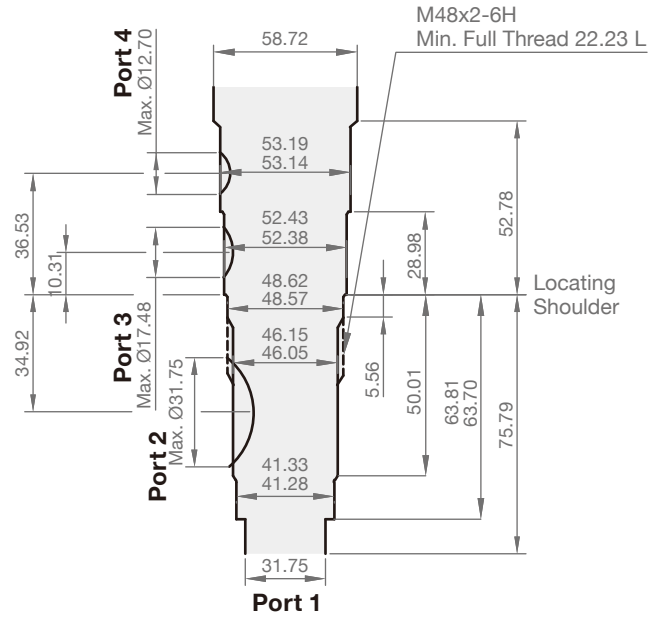
▸ T22A



▸ T23A



▸ T24A

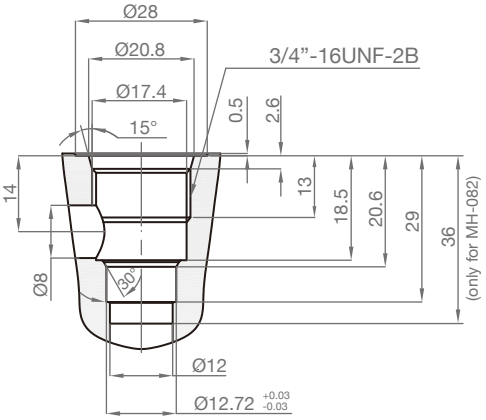


Cavities Tooling (SAE Cavity)

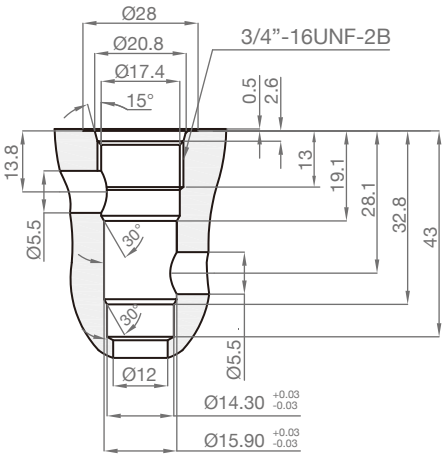
DIMENSION

(UNIT : mm)

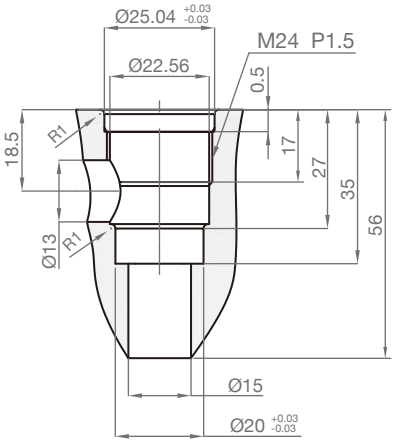
▸ T82



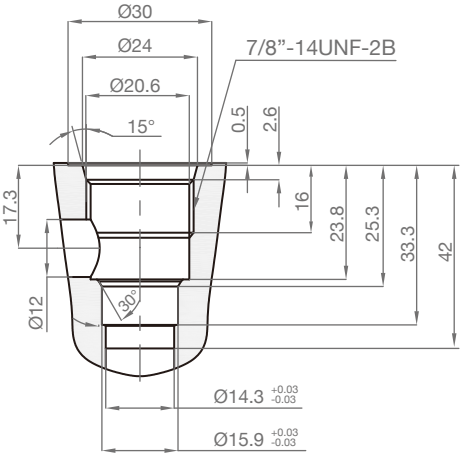
▸ T83



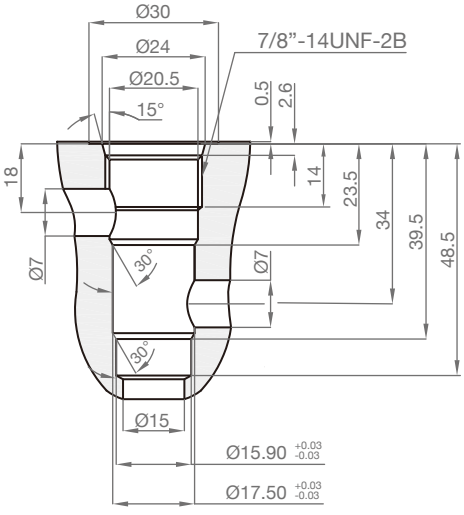
▸ T092



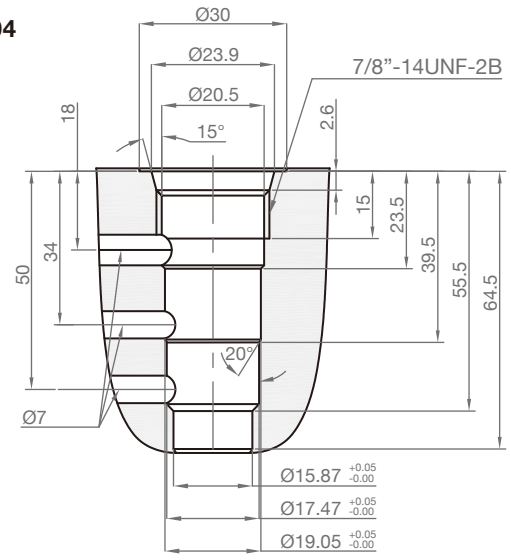
▸ T102



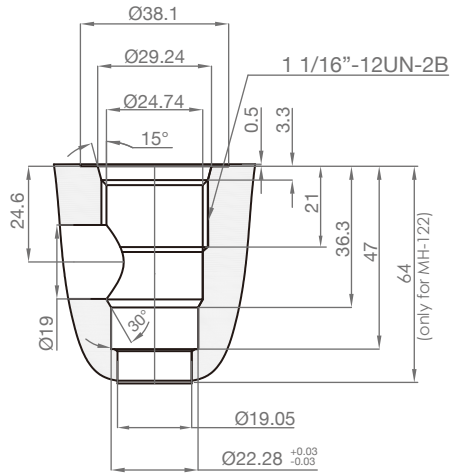
▸ T103



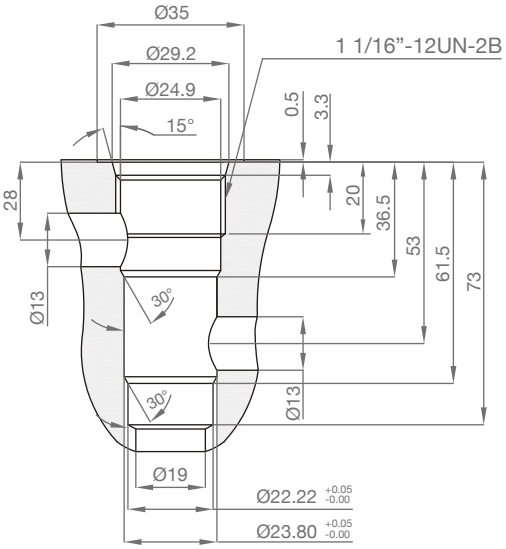
▸ T104



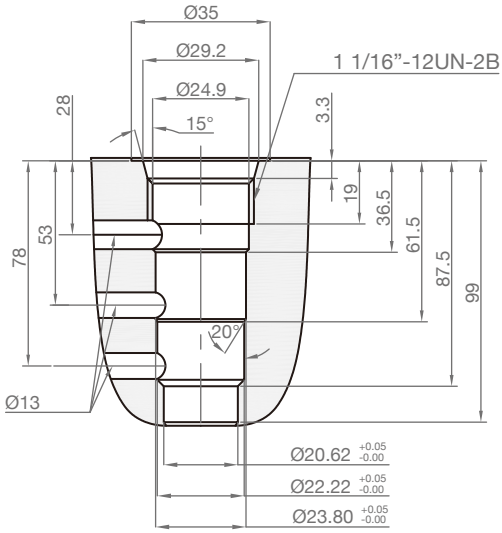
▸ T122



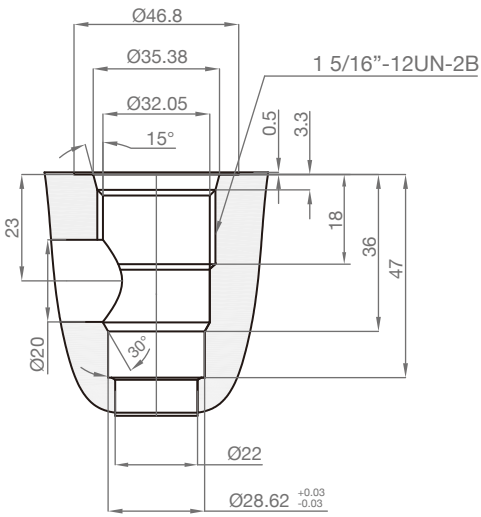
▸ T123



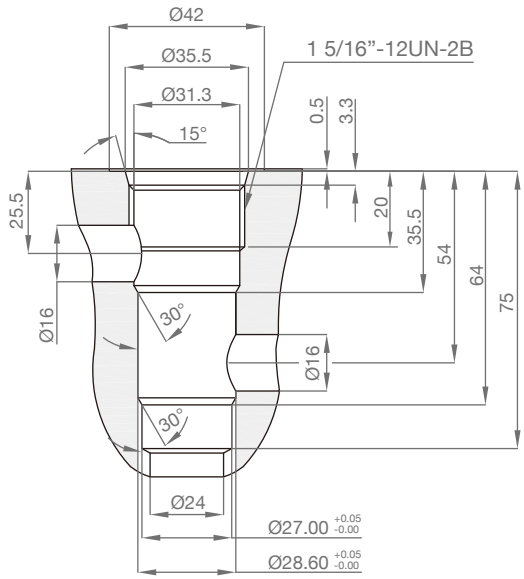
▸ T124



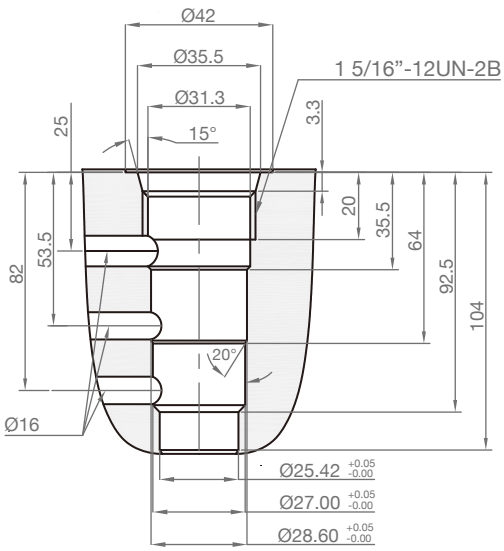
▸ T162



▸ T163



▸ T164



Steed Machinery Co., Ltd.

No. 28, Ruiguang St., South Dist.,
Taichung City 402006,
Taiwan
Tel : +886-4-2285-4867
Fax : +886-4-2285-2848
Email : info@steedmachinery.com.tw

more information
www.steedmachinery.com.tw

STEED
HYDRAULIC TECHNOLOGY

* We reserve the right to make changes without notice
in the course of continued development.