

Throttle Modular Valves

Specifications

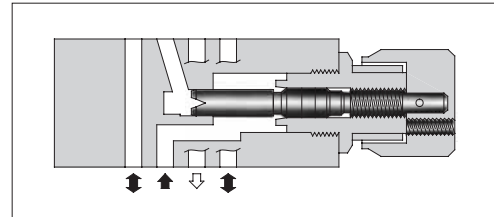
Model Number	Max. Operating Pressure MPa (PSI)	Max. Flow L/min (U.S.GPM)
MSP-01-50	31.5 (4570)	60 (15.9) ★

★ At the low differential pressure, maximum flow is limited. See "Pressure Drop at Throttle Fully Open".

Model Number Designation

F-	MSP	-01	-50	*
Special Seals	Series Number	Valve Size	Design Number	Design Standard
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	MSP: Throttle Valve for P-Line	01	50	Refer to ★

★ Design Standards: None Japanese Standard "JIS", European Design Standard and N. American Design Standard

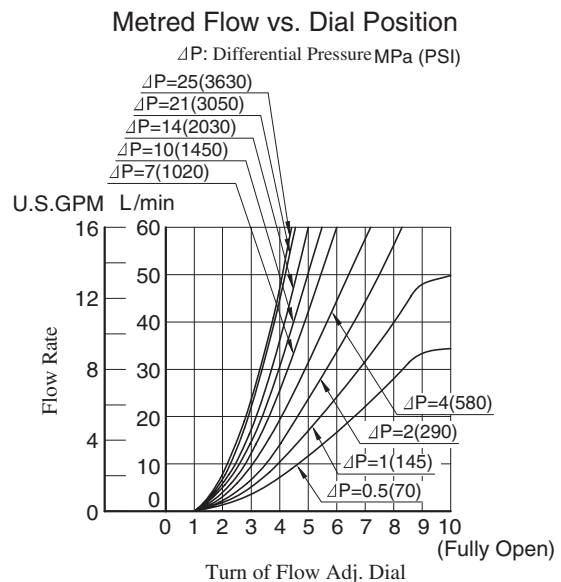
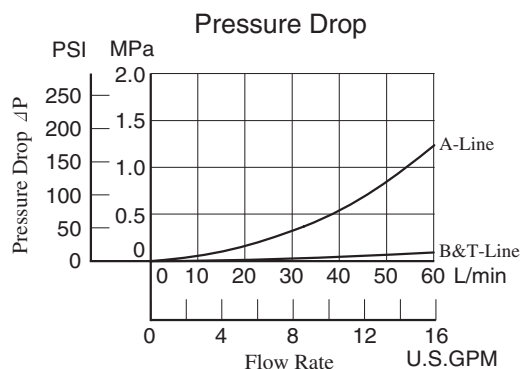
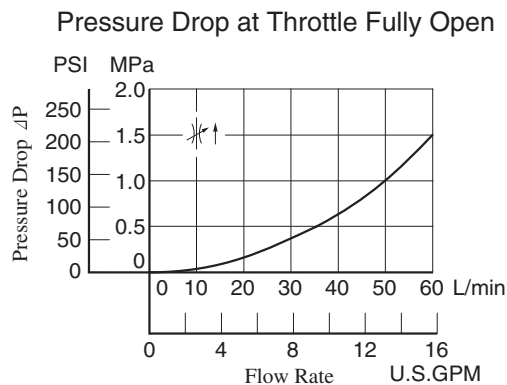


Graphic Symbol



Typical Performance Characteristics

Hydraulic Fluid: Viscosity 35 mm²/s (164 SSU), Specific Gravity 0.850



Instructions

- To make flow rate adjustment, loosen locking screw for the dial and turn the flow adjustment dial clockwise or anti-clockwise. For a decrease of flow, turn the dial clockwise. Be sure to re-tighten the locking screw firmly after the adjustment of the flow rate.

Throttle Modular Valves

Specifications

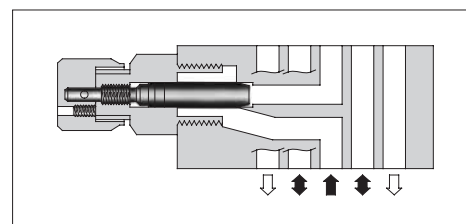
Model Number	Max. Operating Pressure MPa (PSI)	Max. Flow L/min (U.S.GPM)
MSP-03-30	25 (3630)	70 (18.5) ★

★ Maximum flow decreases when the differential pressure is less than 1 MPa (145 PSI).
See "Pressure Drop at Throttle Fully Open".

Model Number Designation

F-	MSP	-03	-30	*
Special Seals	Series Number	Valve Size	Design Number	Design Standard
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	MSP : Throttle Valve for P-Line	03	30	Refer to ★

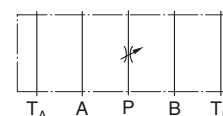
★ Design Standards: None Japanese Standard "JIS", European Design Standard and N. American Design Standard



Graphic Symbol

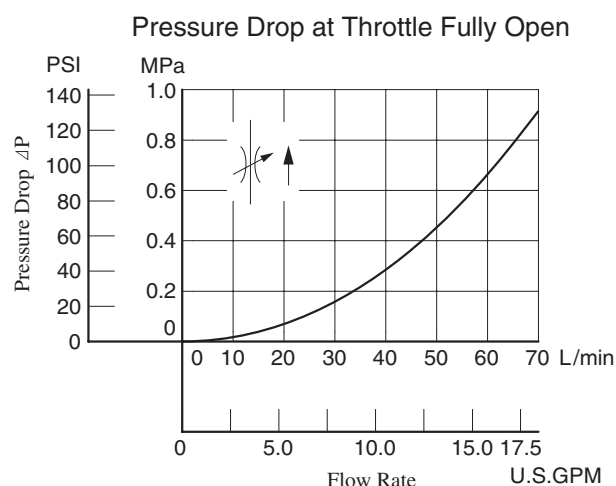
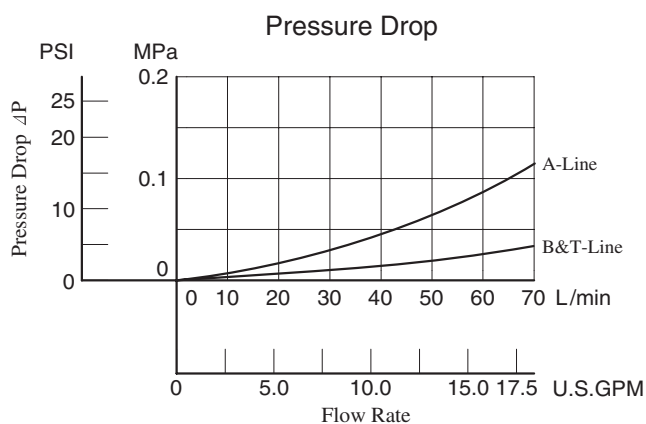


Detailed Graphic Symbol



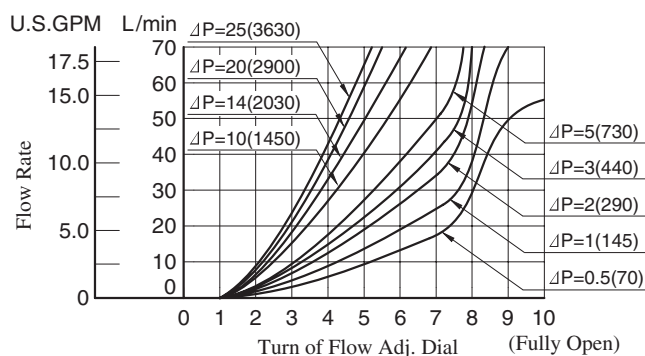
Typical Performance Characteristics

Hydraulic Fluid: Viscosity 35 mm²/s (164 SSU), Specific Gravity 0.850



Metred Flow vs. Dial Position

ΔP: Differential Pressure MPa (PSI)

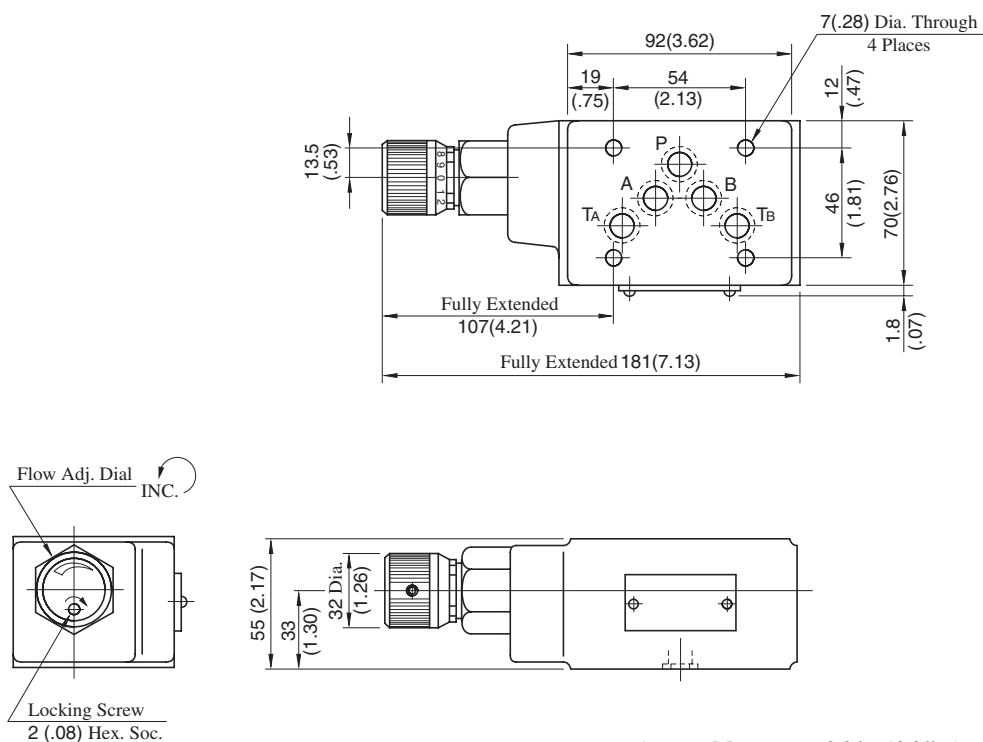


Instructions

- To make flow rate adjustment, loosen locking screw for the dial and turn the flow adjustment dial clockwise or anti-clockwise. For a decrease of flow, turn the dial clockwise. Be sure to re-tighten the locking screw firmly after the adjustment of the flow rate.

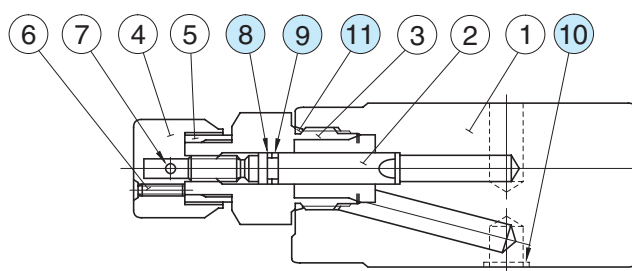
MSP-03-30

**DIMENSIONS IN
MILLIMETRES (INCHES)**



■ Spare Parts List

MSP-03-30



● List of Seals

Item	Name of Parts	Part Numbers	Qty.	Remarks
8	Back Up Ring	900-VK411915-2	1	Included in Seal Kit Kit No.: KS-MSP-03-30
9	O-Ring	SO-NA-P7	1	
10	O-Ring	SO-NB-A014	5	
11	O-Ring	SO-NB-P24	1	

Check and Throttle Modular Valves

Specifications

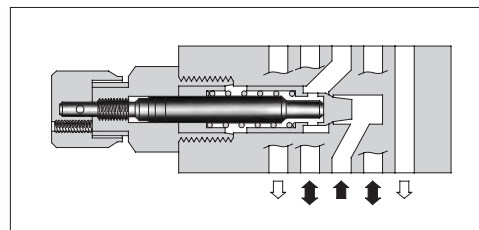
Model Number	Max. Operating Pressure MPa (PSI)	Max. Flow L/min (U.S.GPM)
MSCP-03-20	25 (3630)	70 (18.5) ★

★ Maximum flow decreases when the differential pressure is less than 1 MPa (145 PSI).
See "Pressure Drop at Throttle Fully Open".

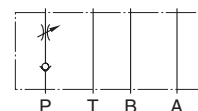
Model Number Designation

F-	MSCP	-03	-20	*
Special Seals	Series Number	Valve Size	Design Number	Design Standard
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	MSCP : Check and Throttle Valve for P-Line	03	20	Refer to ★

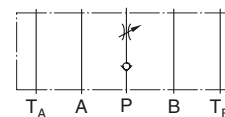
★ Design Standards: None Japanese Standard "JIS", European Design Standard and N. American Design Standard



Graphic Symbol

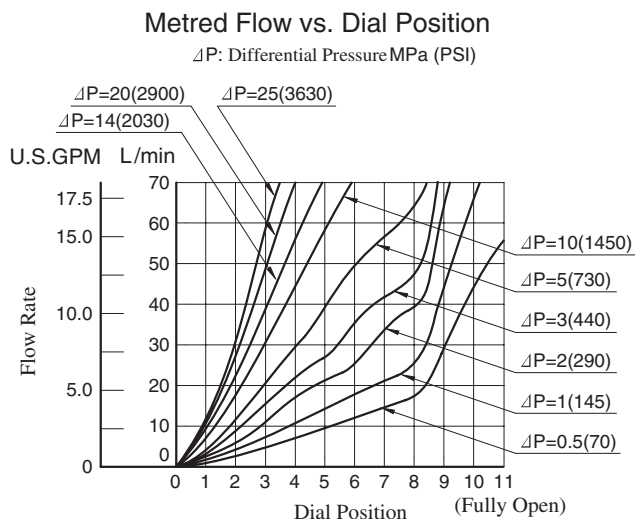
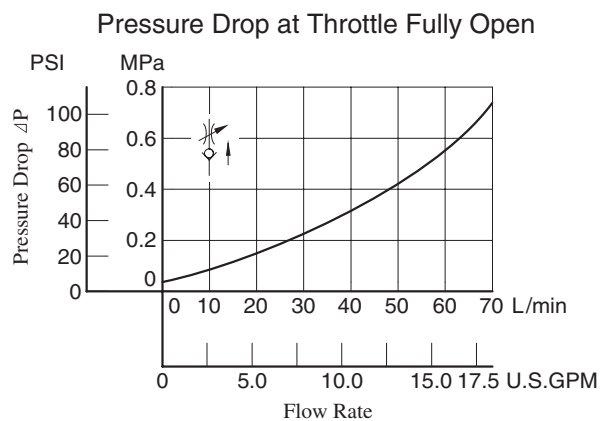
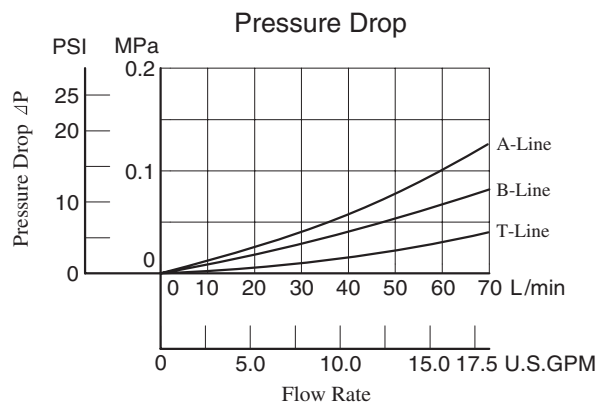


Detailed Graphic Symbol



Typical Performance Characteristics

Hydraulic Fluid: Viscosity 35 mm²/s (164 SSU), Specific Gravity 0.850

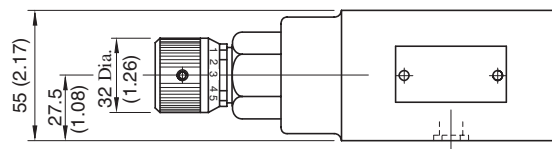
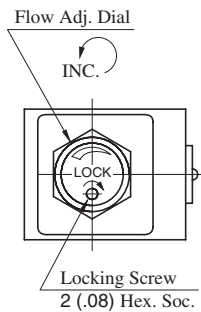
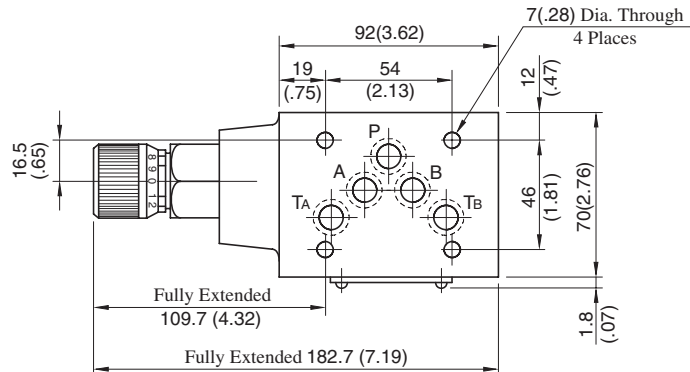


Instructions

- To make flow rate adjustment, loosen locking screw for the dial and turn the flow adjustment dial clockwise or anti-clockwise. For a decrease of flow, turn the dial clockwise. Be sure to re-tighten the locking screw firmly after the adjustment of the flow rate.

MSCP-03-20

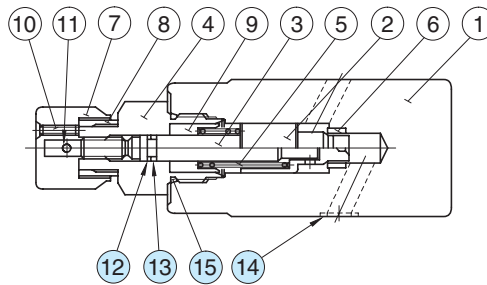
**DIMENSIONS IN
MILLIMETRES (INCHES)**



Approx. Mass.....3.0 kg (6.6 lbs.)

■ Spare Parts List

MSCP-03-20



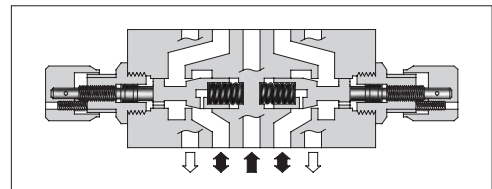
● List of Seals

Item	Name of Parts	Part Numbers	Qty.	Remarks
12	Back Up Ring	900-VK411915-2	1	Included in Seal Kit Kit No.: KS-MSP-03-30
13	O-Ring	SO-NA-P7	1	
14	O-Ring	SO-NB-A014	5	
15	O-Ring	SO-NB-P24	1	

Throttle and Check Modular Valves

Specifications

Model Numbers	Max. Operating Pressure MPa (PSI)	Max. Flow L/min (U.S.GPM)
MSA-03-* -40 MSB-03-* -40 MSW-03-* -40	25 (3630)	120 (31.7)



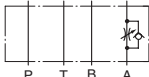
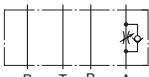
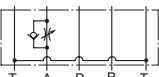
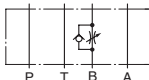
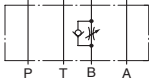
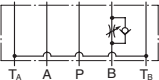
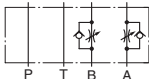
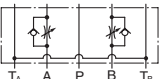
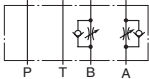
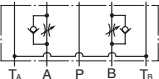
Model Number Designation

F-	MSW	-03	-X	-40	*
Special Seals	Series Number	Valve Size	Direction of Flow	Design Number	Design Standard
F: Special Seals for Phosphate Ester Type Fluids (Omit if not required)	MSA : Throttle and Check Valve for A-Line MSB : Throttle and Check Valve for B-Line MSW : Throttle and Check Valve for A&B-Lines	03	X : Metre-out Y : Metre-in	40	Refer to ★

★ Design Standards: None Japanese Standard "JIS", European Design Standard and N. American Design Standard

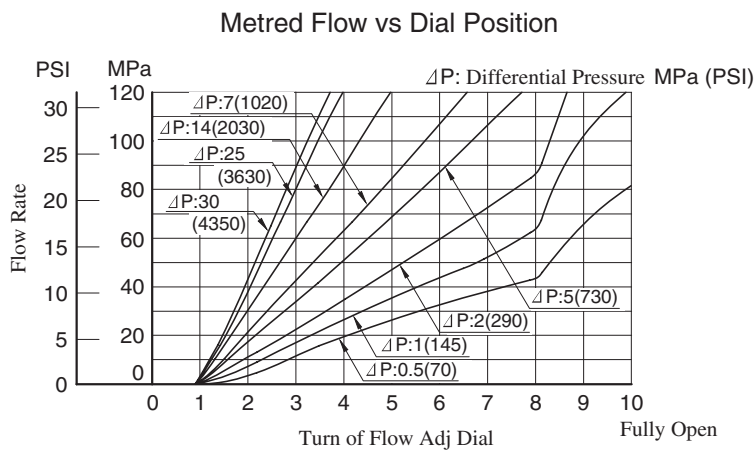
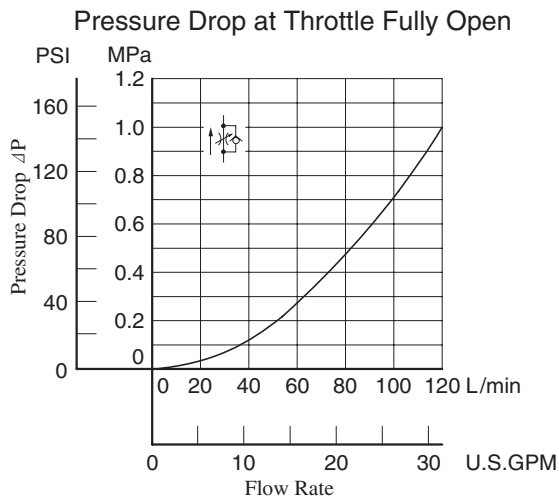
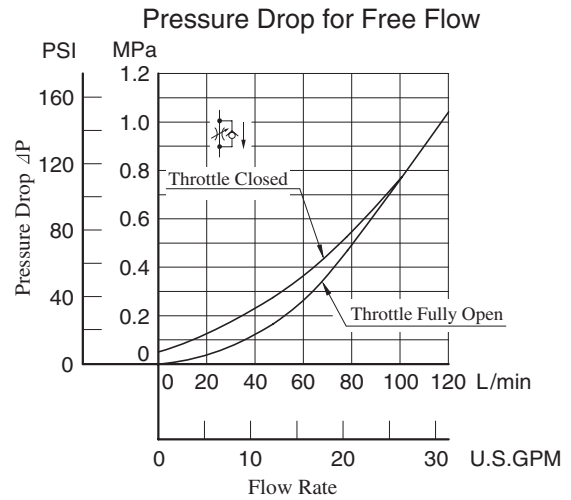
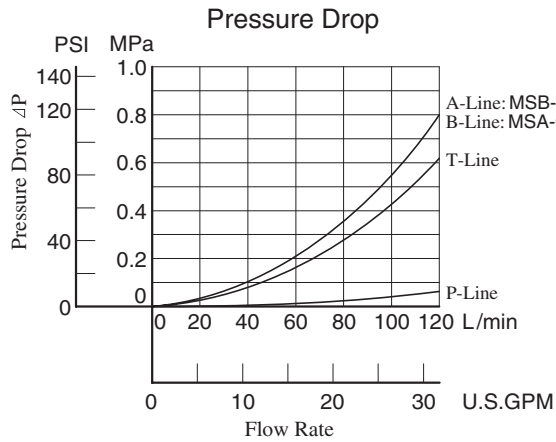
Instructions

- To make flow rate adjustment, loosen locking screw for the dial and turn the flow adjustment dial clockwise or anti-clockwise. For a decrease of flow, turn the dial clockwise. Be sure to re-tighten the locking screw firmly after the adjustment of the flow rate.

Model No.	Graphic Symbols	Detailed Graphic Symbols	Model No.	Graphic Symbols	Detailed Graphic Symbols
	Metre-out			Metre-in	
MSA-03-X			MSA-03-Y		
MSB-03-X			MSB-03-Y		
MSW-03-X			MSW-03-Y		

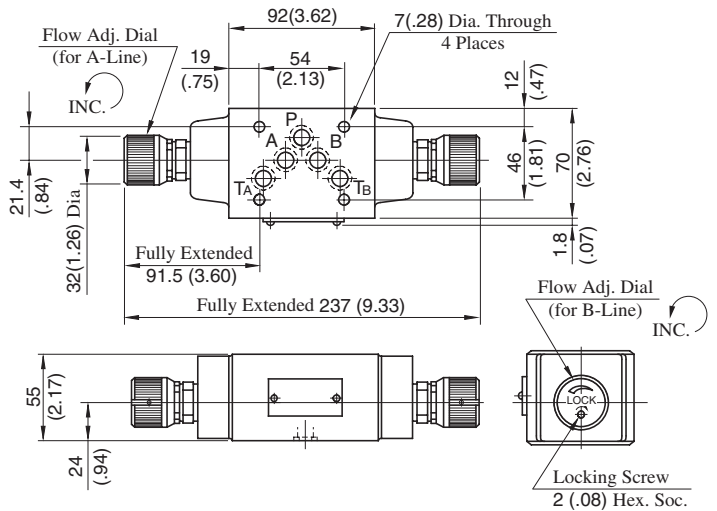
Typical Performance Characteristics

Hydraulic Fluid: Viscosity 35 mm²/s (164 SSU), Specific Gravity 0.850



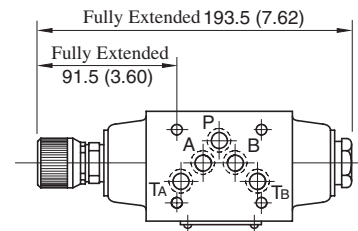
MSW-03-X_Y-40

DIMENSIONS IN MILLIMETRES (INCHES)



Approx. Mass.....3.7 kg (8.2 lbs.)

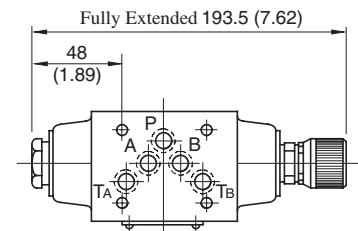
MSA-03-X_Y-40



Approx. Mass.....3.5 kg (7.7 lbs.)

● For other dimensions, refer to "MSW-03" drawing left.

MSB-03-X_Y-40

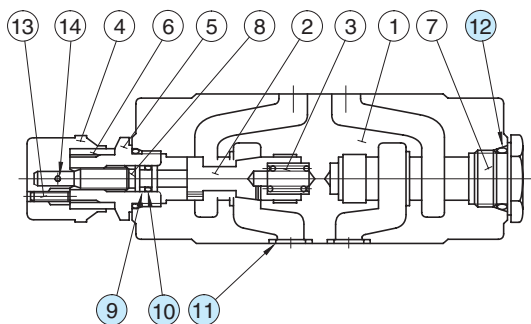


Approx. Mass.....3.5 kg (7.7 lbs.)

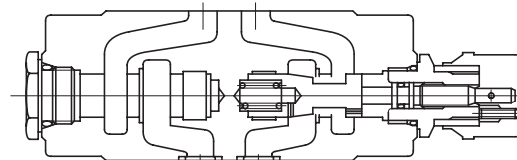
● For other dimensions, refer to "MSW-03" drawing left.

■ Spare Parts List

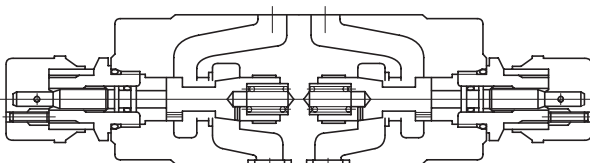
MSA-03-X_Y-40



MSB-03-X_Y-40



MSW-03-X_Y-40



● List of Seals

Item	Name of Parts	Part Numbers	Quantity		
			MSA-03	MSB-03	MSW-03
9	Back Up Ring	SO-BB-P8	1	1	2
10	O-Ring	SO-NA-P8	1	1	2
11	O-Ring	SO-NB-A014	5	5	5
12	O-Ring	SO-NB-P18	2	2	2

Note: When ordering seals, please specify the seal kit number from the table right.

● List of Seal Kits

Valve Model Numbers	Seal Kit Numbers
MSA-03	KS-MSA-03-40
MSB-03	
MSW-03	KS-MSW-03-40