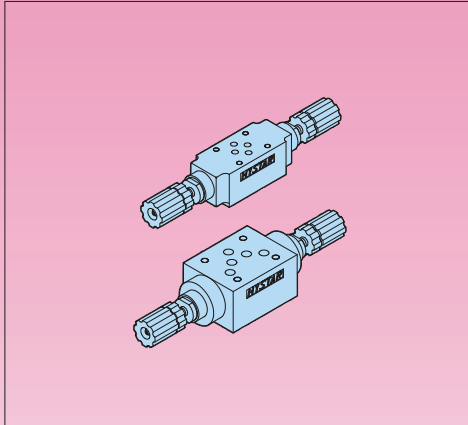


## THROTTLE WITH CHECK MODULAR VALVES

### Throttle with Check Valves (Modular Type)



Model & Symbol		Model & Symbol	
MSA-01 (03)-X		MSA-04 (06)-X	
MSB-01 (03)-X		MSB-04 (06)-X	
MSW-01 (03)-X		MSW-04 (06)-X	
MSA-01 (03)-Y		MSA-04 (06)-Y	
MSB-01 (03)-Y		MSB-04 (06)-Y	
MSW-01 (03)-Y		MSW-04 (06)-Y	

### Ratings

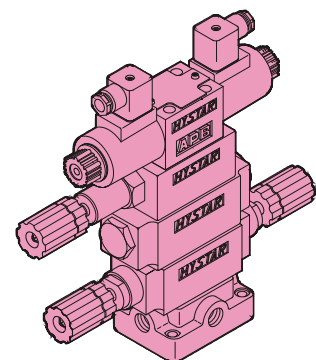
Model	Max Operating Pres bar (PSI)	Max Flow lpm (USgpm)	Valve Size	Weight kg (lb)
MS*-01-*	250 (3600)	50 (13.2)	1/8"	1.5 (3.3)
MS*-03-*	250 (3600)	100 (26.5)	3/8"	3.7 (8.1)
MS*-04-*	250 (3600)	190 (50.2)	1/2"	7.0 (15.4)
MS*-06-*	250 (3600)	300 (79.3)	3/4"	12.2 (26.8)

- This valve is used for actuator speed control.
- Clockwise rotation of the adjusting handle decreases flow rate and counter-clockwise rotation increases it.
- Since the valve is of the spool type, oil flow cannot be shut off completely.
- Cracking pressure of check valve is 0.8 bar.

### Ordering Code

**MS** - **A** - **03** - **X** - **L** - **20** - **S**

Series No	Control Line	Valve Size	Pressure Adj. Range	Pressure Adj. Range	Design No	Option Kits
Throttle Check Modular Valves	A : A Port 	(DSG-) 01 (NFPA-D03) 	X : Meter out	L: 5~ 50 bar 	20 DIN 912 bolts 	None: With Knob 
	B : B Port 	(DSG-) 03 (NFPA-D05) 	Y : Meter in	H: 50~ 250 bar 	2090 UNC bolts (North America) 	S: Soc. Hd. Cap Screw 
	W : A & B Port 	(DSHG-) 04 (NFPA-D07) 				
		(DSHG-) 06 (NFPA-D08) 				

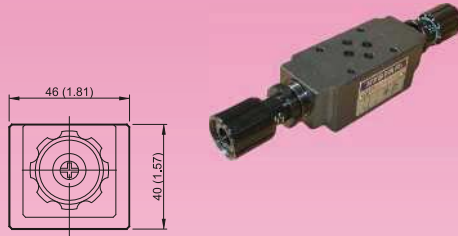


## DIMENSIONS

## MILLIMETERS(INCHES)

### MSW-01 Throttle with Check Valves(Modular Type)

MOUNTING SURFACE:MS\*-01-CETOP3  
ISO 03-NFPAD03

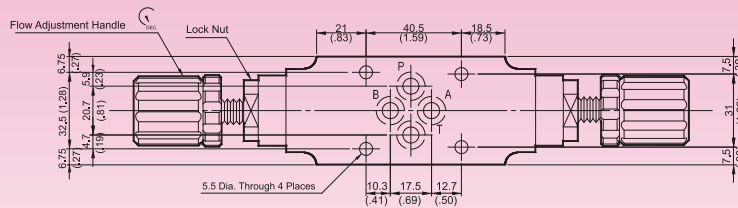


#### Valve Specifications & Attachment

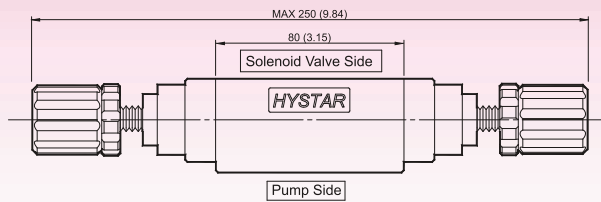
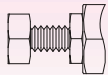
Flow Rating	50 lpm (13.2 gpm)
Max. Pressure	250 bar (3600 psi)
Weight kg(lbs.)	1.5 (3.3)
CODE:20	M5 X85LgX4pcs
CODE:2090	10-24UNCX3-1/4"LgX4pcs
Mounting Surface O-Ring	P9 x 4 pc



SYMBOL



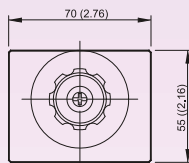
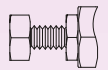
OPTION  
Design No: 30 (3090)



### MSW-03 Throttle with Check Valves(Modular Type)

MOUNTING SURFACE:MS\*-03-CETOP5  
ISO 05-NFPAD05

OPTION  
Design No: 30 (3090)

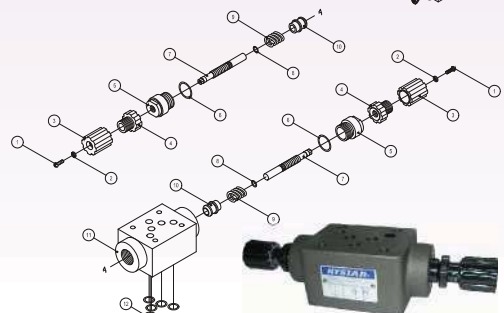
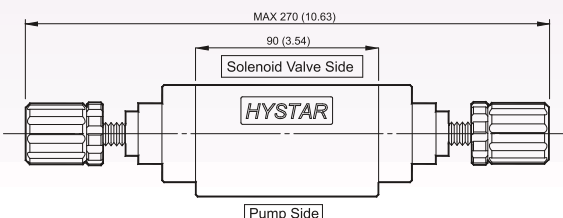
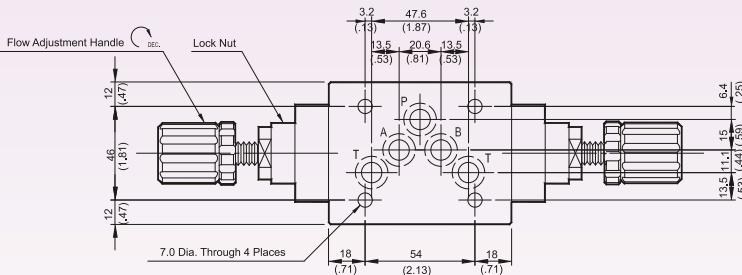


#### Valve Specifications & Attachment

Flow Rating	100 lpm (26.5 gpm)
Max. Pressure	250 bar (3600 psi)
Weight kg(lbs.)	3.7 (8.2)
CODE:20	M6 X90LgX4pcs
CODE:2090	1/4-20UNCX3-1/2LgX4pcs
Mounting Surface O-Ring	P12 x 5 pc



SYMBOL





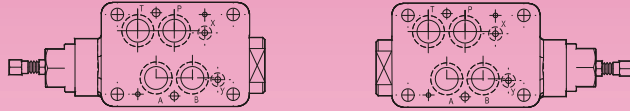
# MODULAR CONTROL VALVES

## DIMENSIONS

## MILLIMETERS(INCHES)

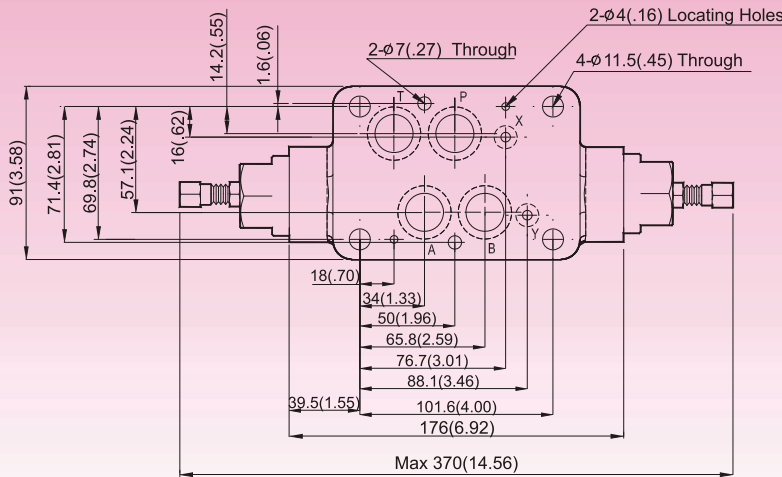
### MS\*-04 Throttle with Check Valves(Modular Type)

MOUNTING SURFACE:MS\*-04-CETOP7  
ISO 07-NFPAD07

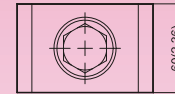


MSB-04

MSA-04



MSW-04



SYMBOL

#### Valve Specifications & Attachment

Flow Rating	190 lpm (50.2 gpm)
Max. Pressure	250 bar (3600 psi)
Weight kg.(lbs.)	7.0 (15.4)
CODE:20	M6X125LgX2pcs M10X120LgX4pcs
CODE:2090	1/4-20UNCX4-7/8"LgX2pcs 3/8-16UNCX4-5/8"Lg X4pcs
Mounting Surface O-Ring	P9 x 2 pc & P22A x 4 pcs

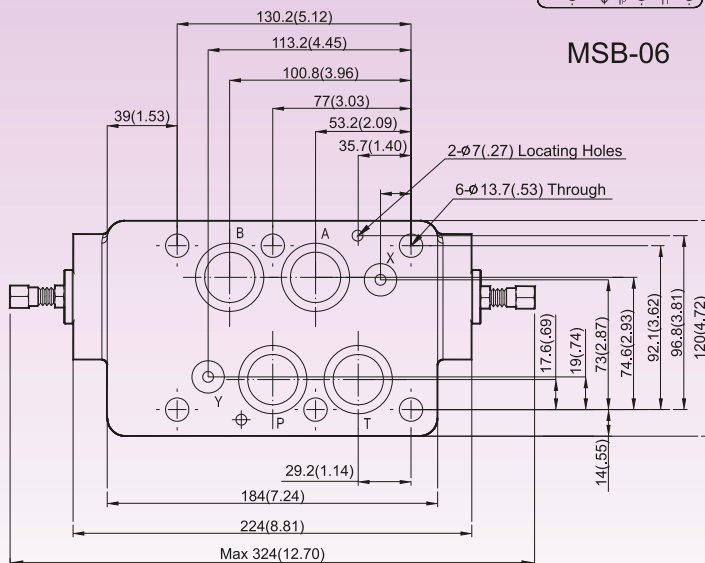
### MS\*-06 Throttle with Check Valves(Modular Type)

MOUNTING SURFACE:MS\*-06-CETOP8  
ISO 08-NFPAD08

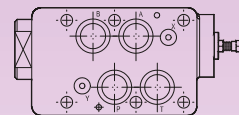


MSB-06

MSA-06



MSW-06



SYMBOL

#### Valve Specifications & Attachment

Flow Rating	300 lpm (79.3 gpm)
Max. Pressure	250 bar (3600 psi)
Weight kg.(lbs.)	11.2 (24.6)
CODE:20	M12X140LgX6pcs
CODE:2090	1/2-13UNCX4-5/8"Lg X6pcs
Mounting Surface O-Ring	P12 x 2 pc, P28 x 4 pcs