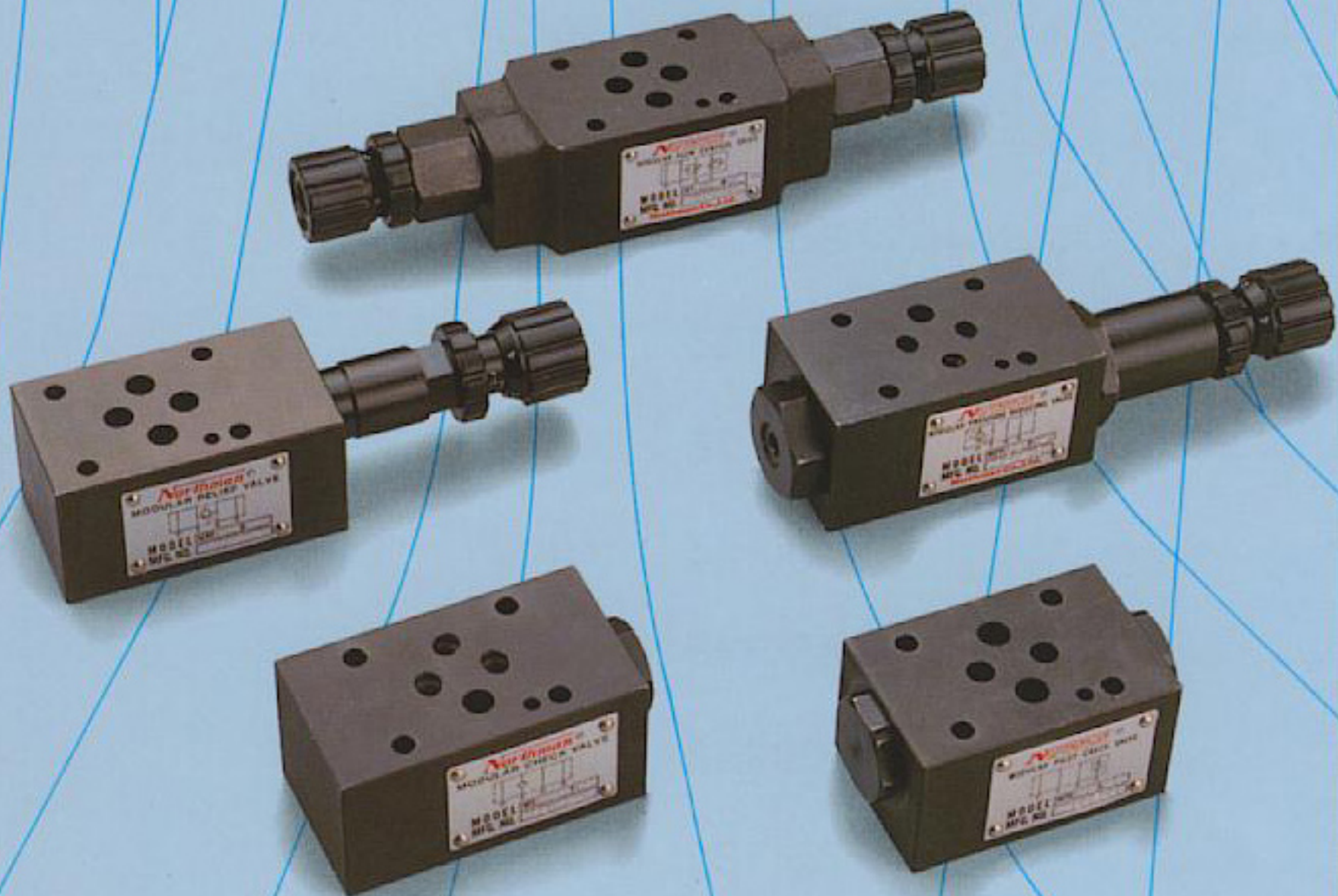




**Northman**



**HYDRAULIC  
MODULAR VALVE**

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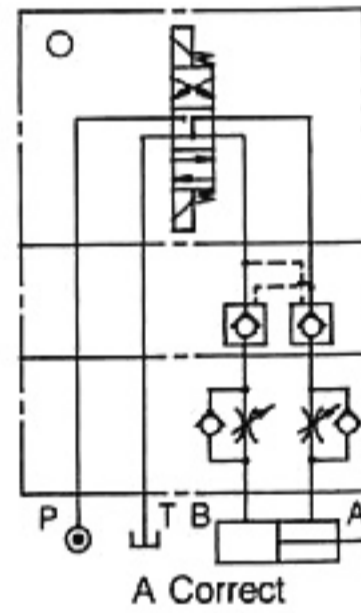
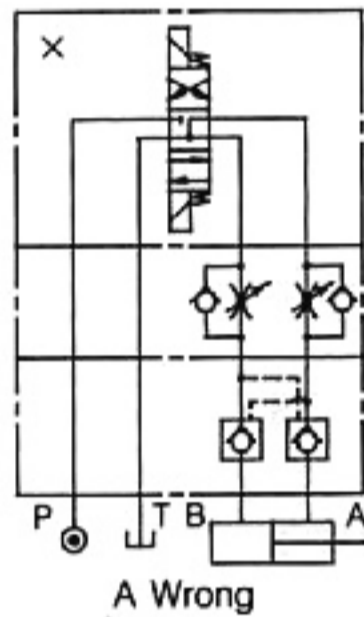
# MODULAR SYSTEM

## FEATURES

Modular type of pressure controls, flow controls, and check valves are sandwiched between directional control valves and their subplates or manifolds. They use no piping and share a common mounting surface, and are the ultimate in modern design, compactness and efficiency. They reduce the possibility of leakage, vibration, flow noise caused by piping. The compactness takes less space, ease the installation and maintenance. They are available in both D03 and D05 sizes.

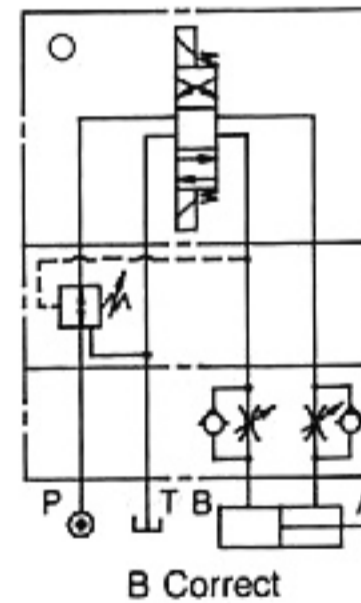
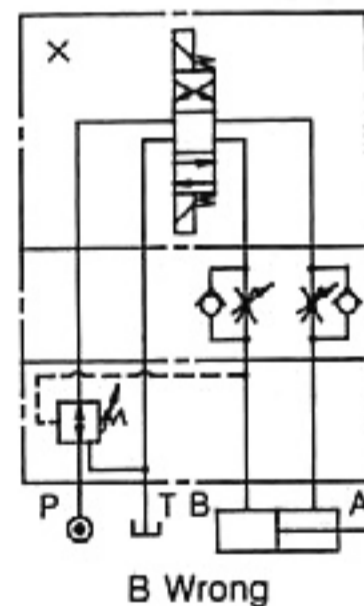
## CIRCUITRY EXAMPLES

**A.**  
Solenoid directional valve  
Pilot operated modular check valve (for A, B lines)  
Modular reducing valve (for B line)



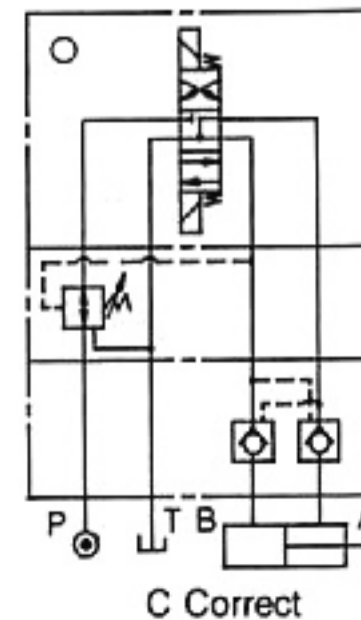
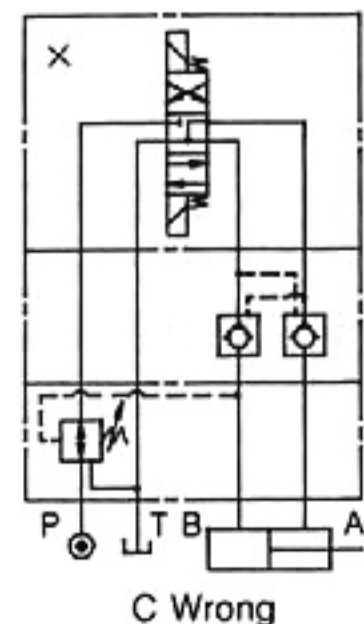
**A.**  
When MT-\*\*\*B and MPC-\*\*\*W are used together in same circuit, the right circuit is correct usage, and left is wrong, as the MPC would not be totally closed.

**B.**  
Solenoid directional valve  
Modular flow control valve (for A, B lines, metering out)  
Modular reducing valve (for B line)

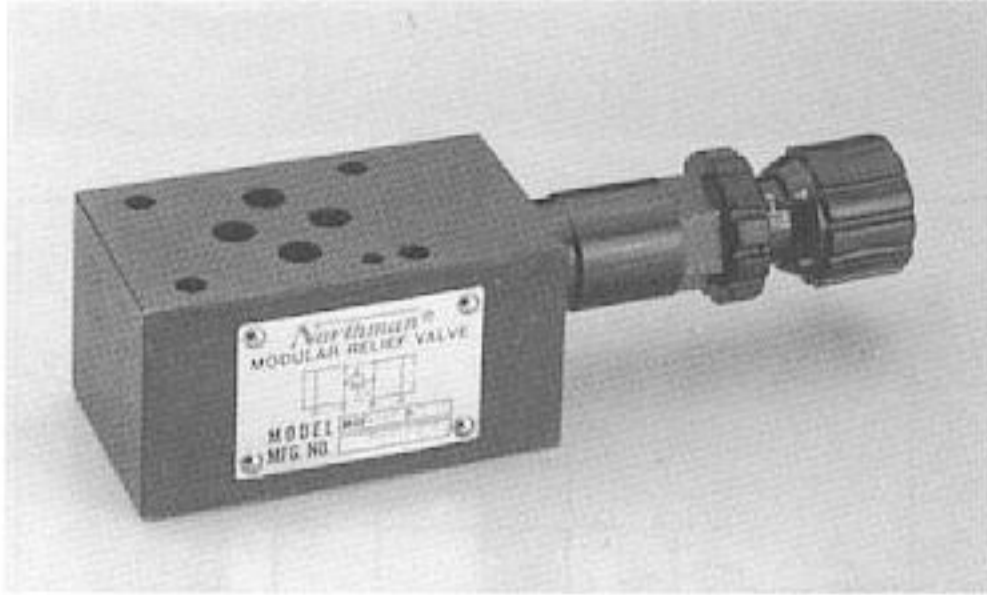


**B.**  
When MPR-\*\*\*B and MT-\*\*\*W are used together in same circuit, the right circuit is correct usage, and left is wrong, as the function of pressure reducing valve will be affected when oil flow from B to T. Because the metering out throttle/check valve will create a pressure which will cause pressure reducing valve to reduce the pressure too low, and the cylinder then can not operate with enough force or move smoothly.

**C.**  
Solenoid directional valve  
Modular flow control valve (for A, B lines, metering out)  
Modular pilot operated check valve (for A, B lines)



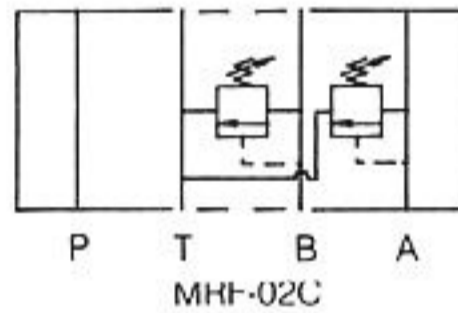
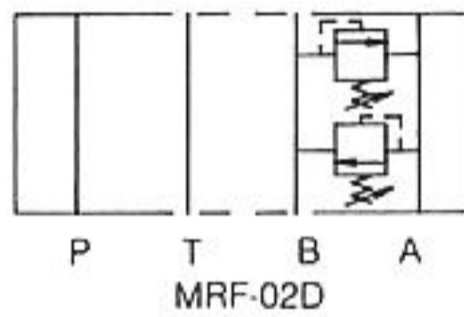
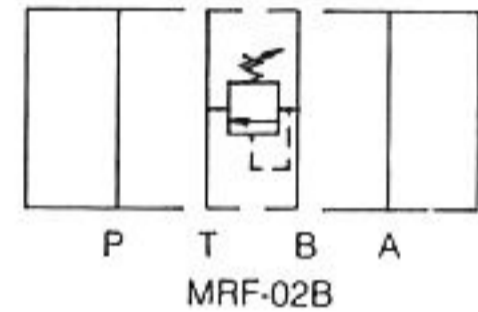
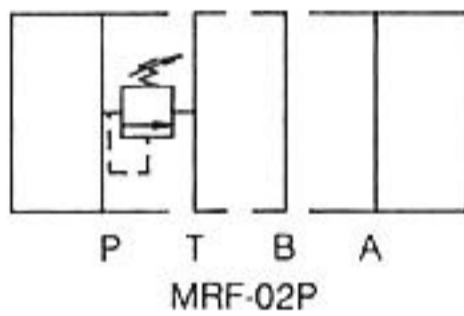
**C.**  
When MT-\*\*\*W and MPC-\*\*\*W are used together in same circuit, the MT should be installed closer to the cylinder ports, otherwise cylinder may have a "knocking" phenomenon happened.



## SPECIFICATIONS

Max. operating pressure	210 Kg/cm <sup>2</sup> (3000PSI)
Max. flow capacity	35 LPM (9.3 GPM)

## SYMBOLS



## HOW TO ORDER

**MRF - 02P - K - 1 - 20**

DESIGN NUMBER

PRESSURE ADJUSTMENT RANGE :

1 : 8-70KGF/CM<sup>2</sup> (120-1000PSI)

2 : 35-140KGF/CM<sup>2</sup> (500-2000PSI)

3 : 70-210KGF/CM<sup>2</sup> (1000-3000PSI)

ADJUSTMENT MODEL :

K : WITH KNOB

NO CODE: WITHOUT KNOB

FUNCTION PORT :

P : P PORT

A : A PORT

B : B PORT

C : A&B PORT VENTING TO TANK

D : A&B PORT CROSS OVER RELIEF

PORT SIZE: 1/4" (D03)

MODULAR RELIEF VALVE

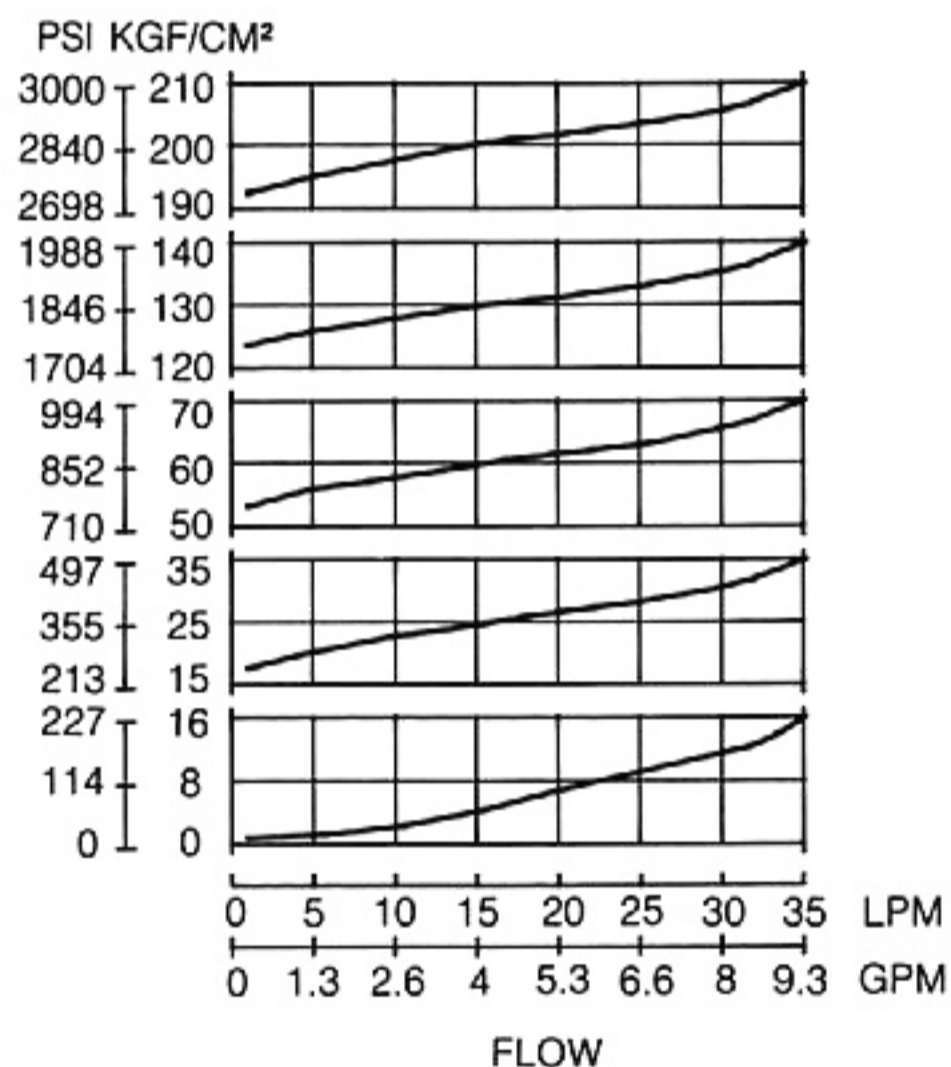
# MRF-02 SERIES

## PERFORMANCE CURVES

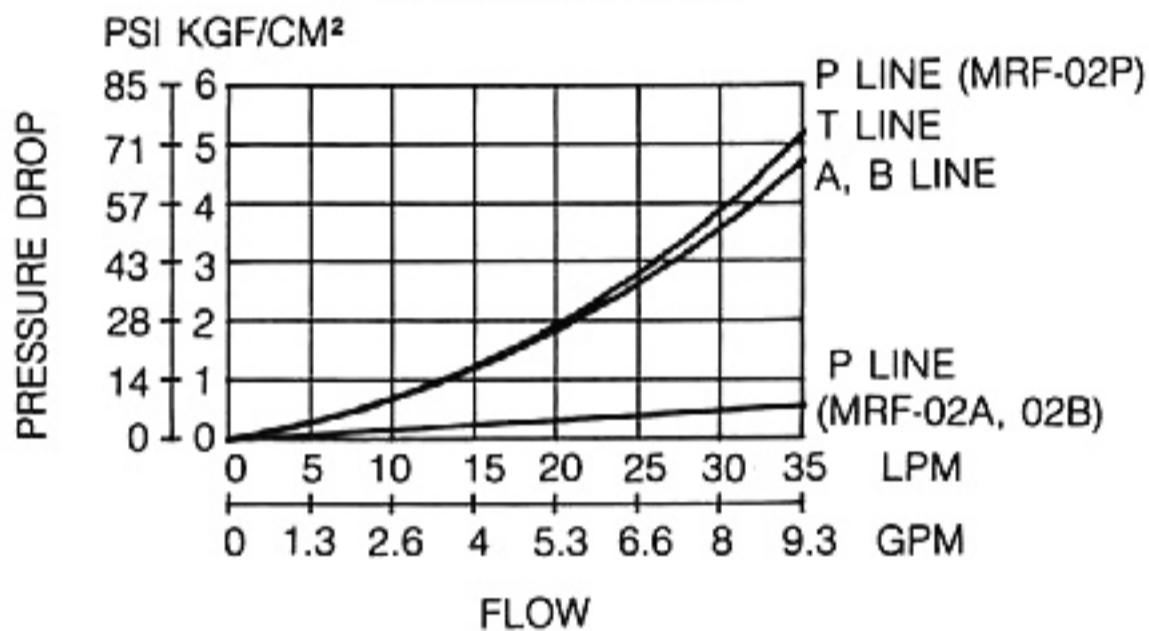
### TEST CONDITIONS

Viscosity: 35 CST  
 Temperature: 50°C

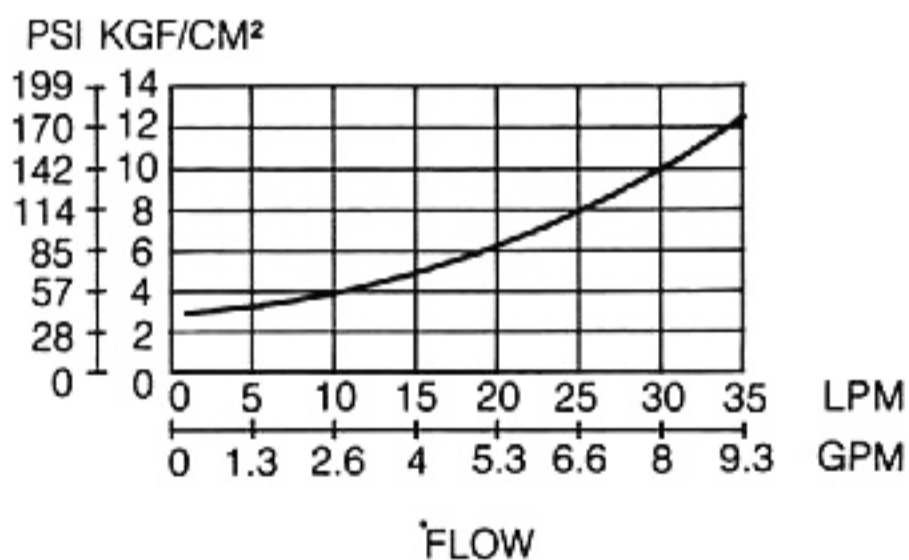
### NOMINAL OVERRIDE CHARACTERISTICS



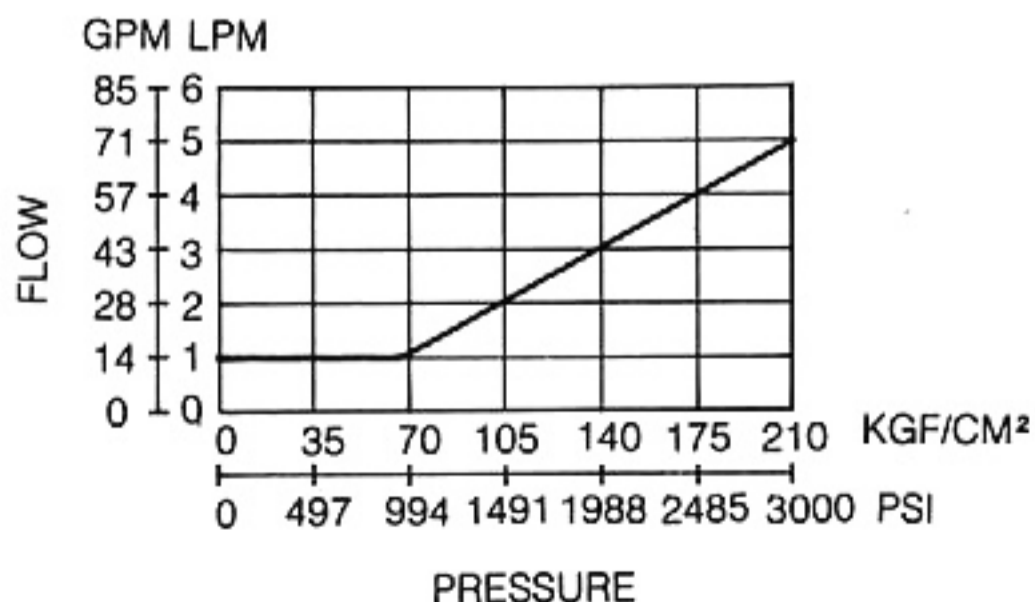
### PRESSURE DROP



### MIN. ADJUSTMENT PRESSURE



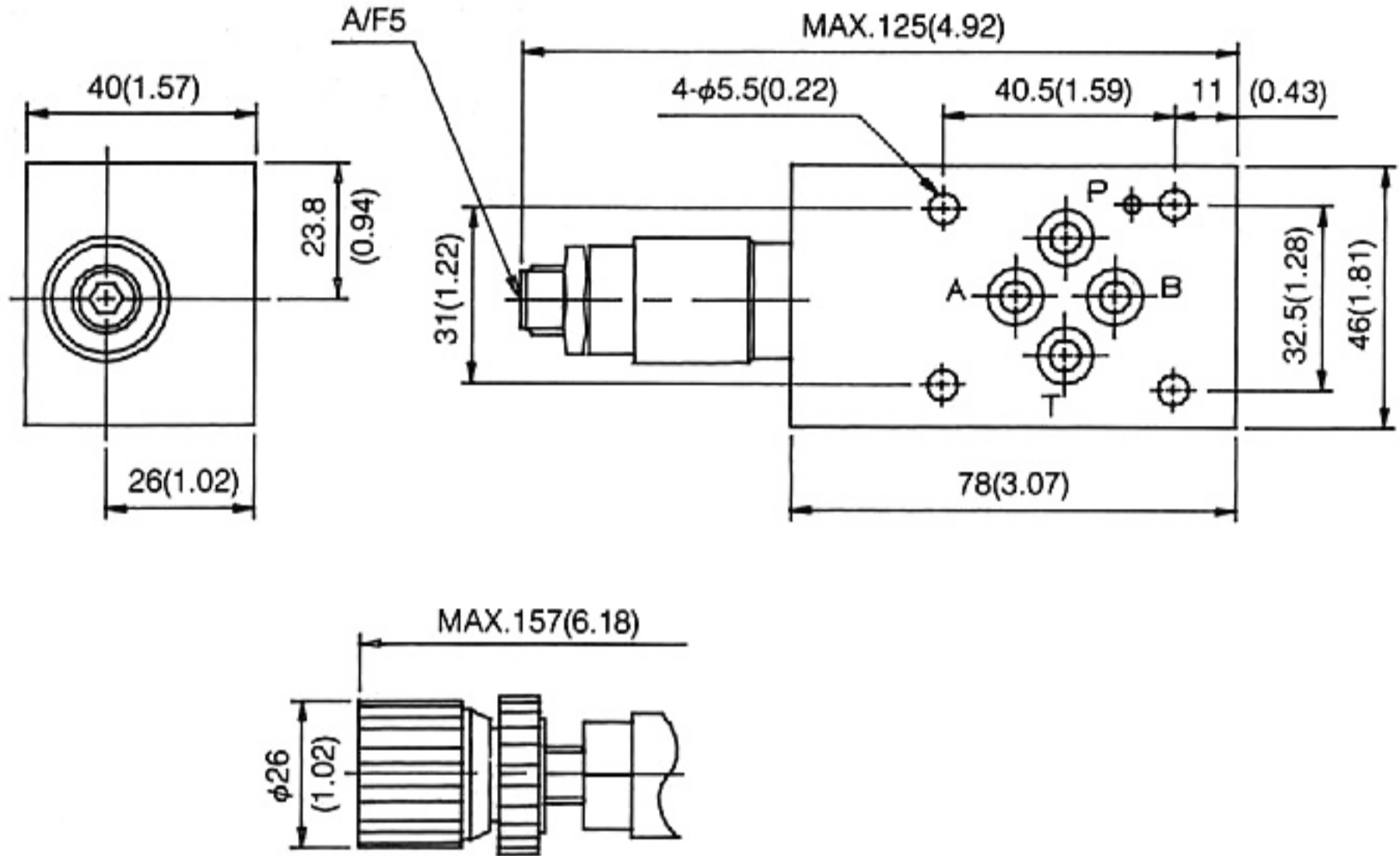
### MIN. FLOW CHARACTERISTICS



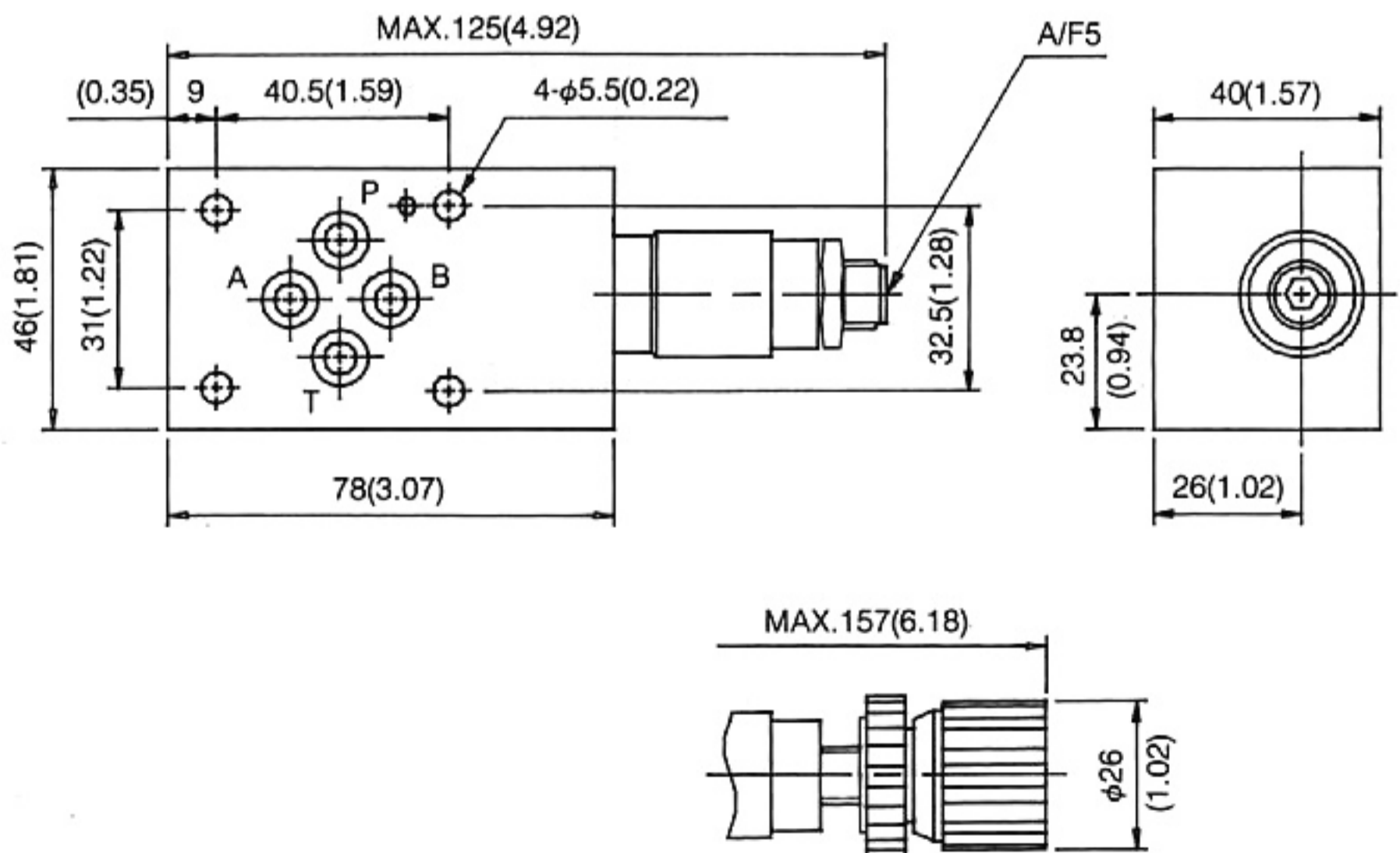
INSTALLATION DIMENSIONS

UNIT: mm (inch)  
WEIGHT: 1.5 kgs (3.3 lbs)

MRF-02A - \* - \* - 20



MRF-02P/B - \* - \* - 20

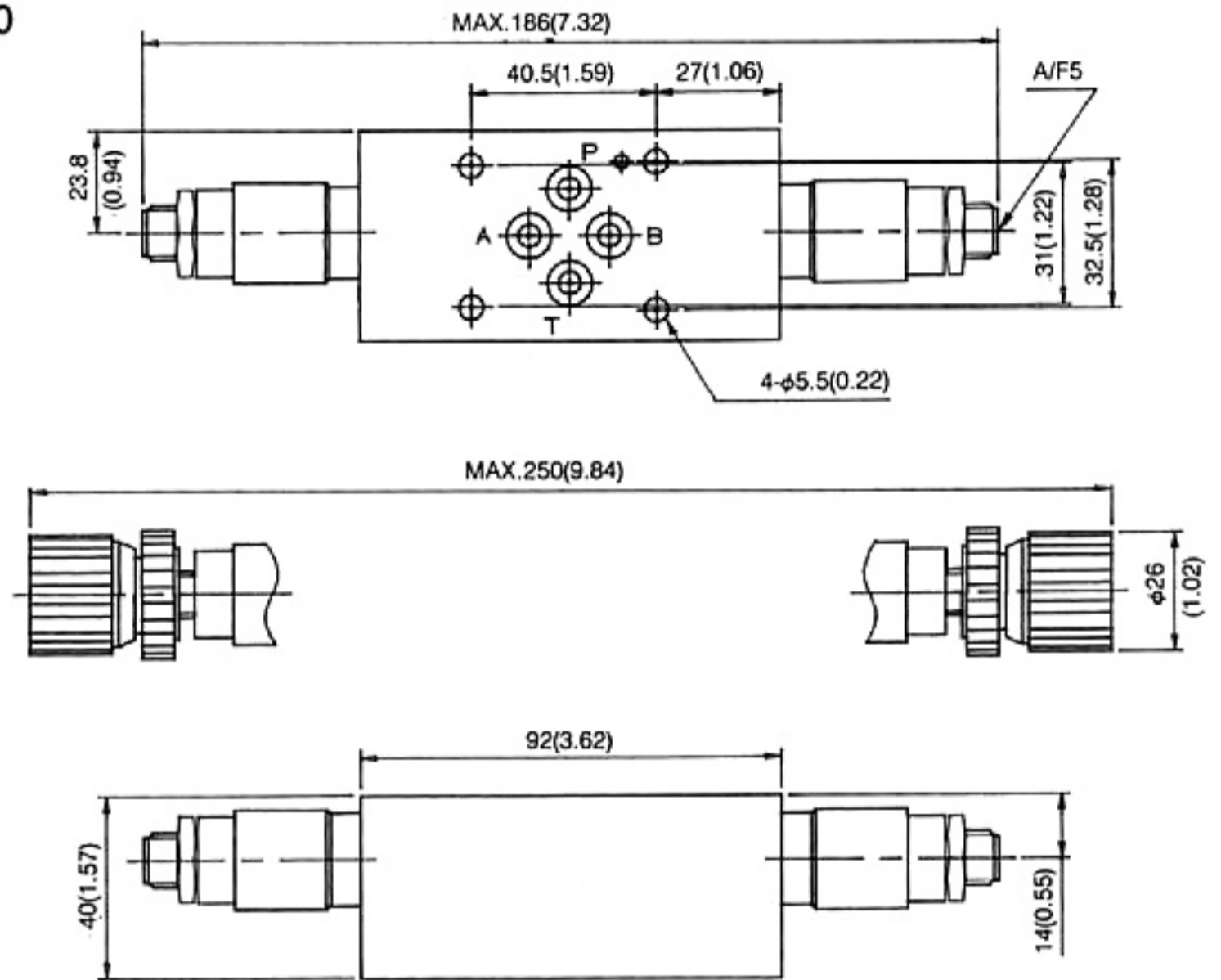


# MRF-02 SERIES

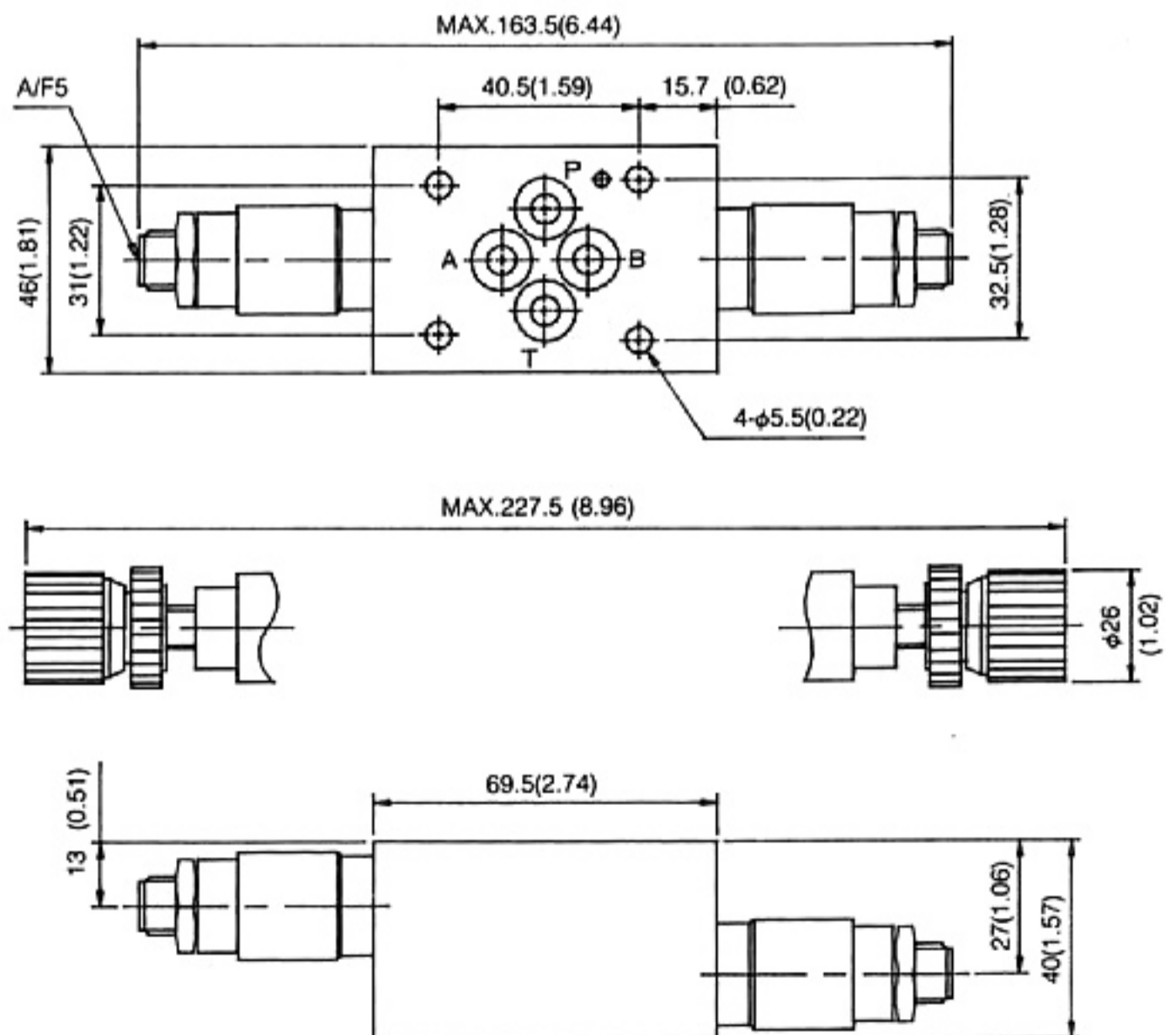
## INSTALLATION DIMENSIONS

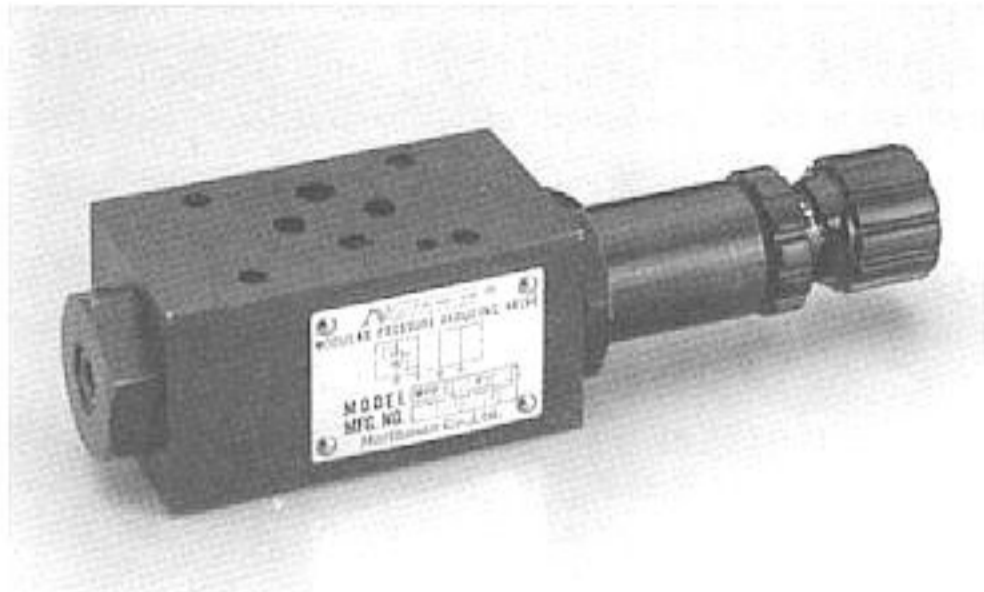
UNIT: mm(inch)  
WEIGHT: 1.7 kgs (3.75 lbs)

MRF-02C-\*\*-\*\*-20



MRF-02D-\*\*-\*\*-20

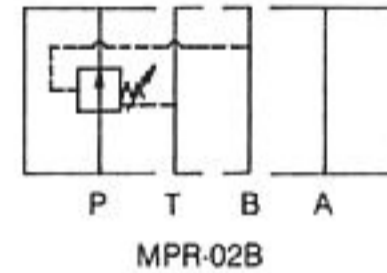
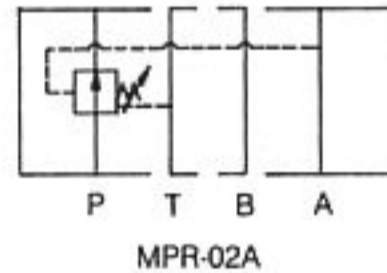
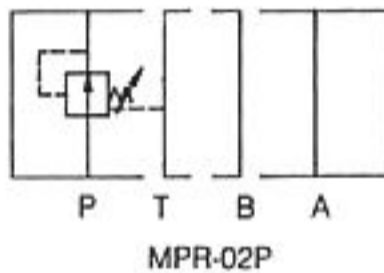




## SPECIFICATIONS

Max. operating pressure	210Kgf/cm <sup>2</sup> (3000PSI)
Max. flow capacity	35 LPM (9.3 GPM)

## SYMBOLS



## HOW TO ORDER

**MPR - 02P - K - 1 - 20**

DESIGN NUMBER

PRESSURE ADJUSTMENT RANGE :

0 : 1.5-35KGF/CM<sup>2</sup> (20-500PSI)

1 : 8-70KGF/CM<sup>2</sup> (120-1000PSI)

2 : 35-140KGF/CM<sup>2</sup> (500-2000PSI)

3 : 70-210KGF/CM<sup>2</sup> (1000-3000PSI)

ADJUSTMENT MODEL :

K : WITH KNOB

NO CODE: WITHOUT KNOB

FUNCTION PORT :

P : P PORT

A : A PORT

B : B PORT

PORT SIZE : 1/4" (D03)

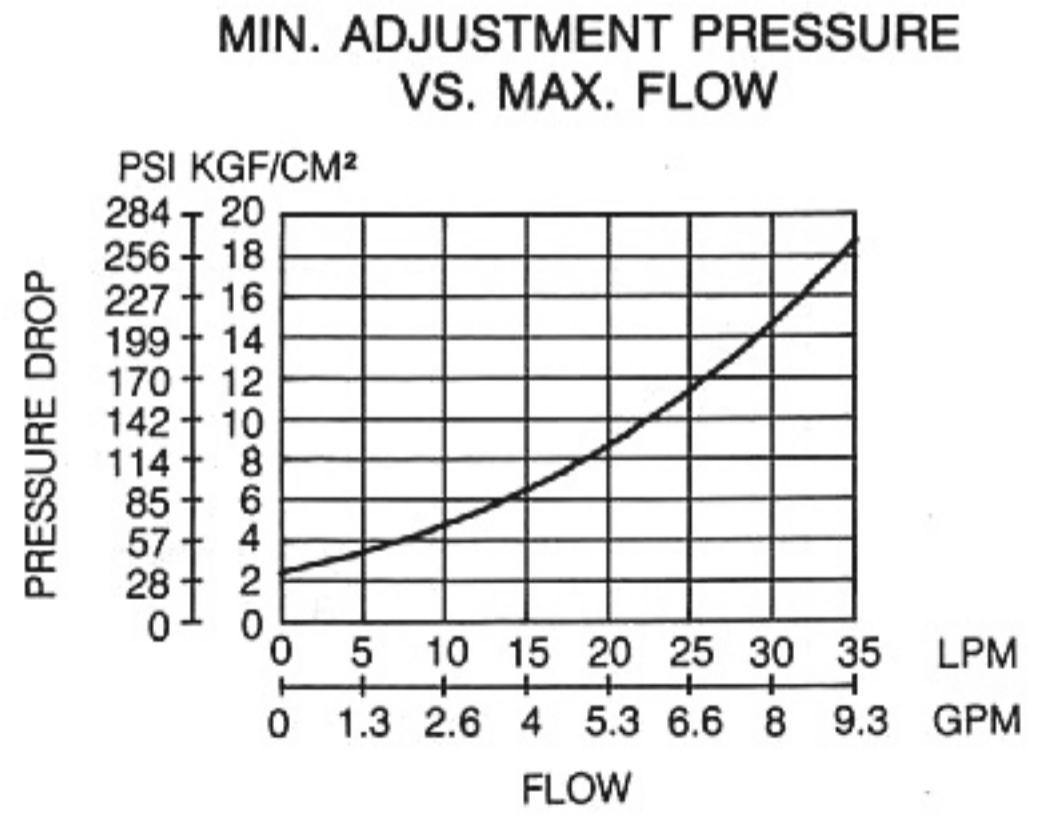
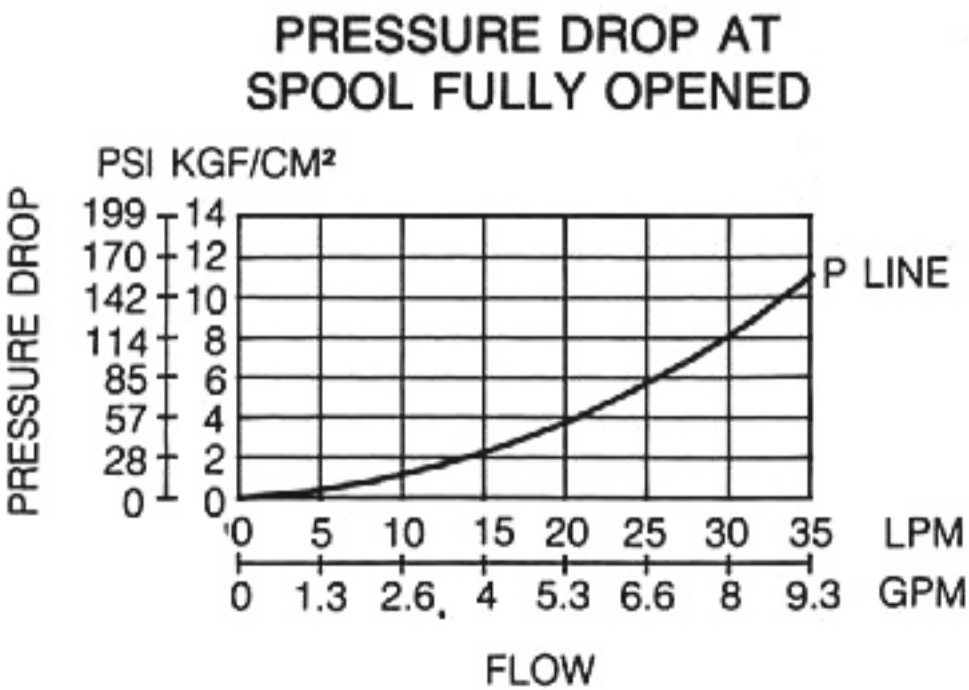
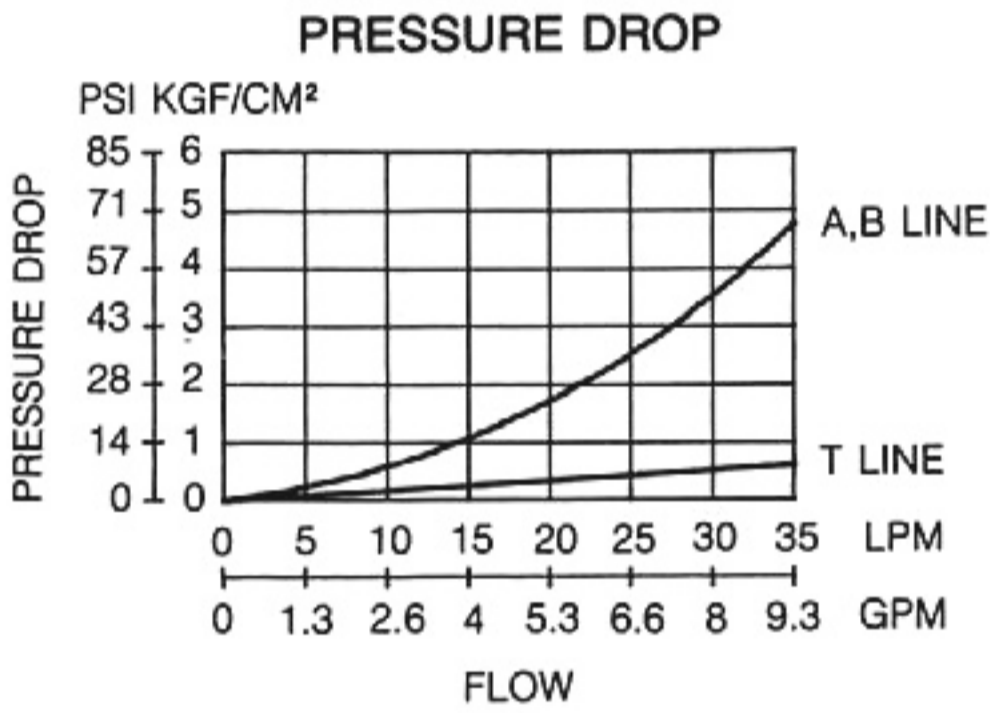
MODULAR PRESSURE REDUCING VALVE

# MPR-02 SERIES

## PERFORMANCE CURVES

### TEST CONDITIONS

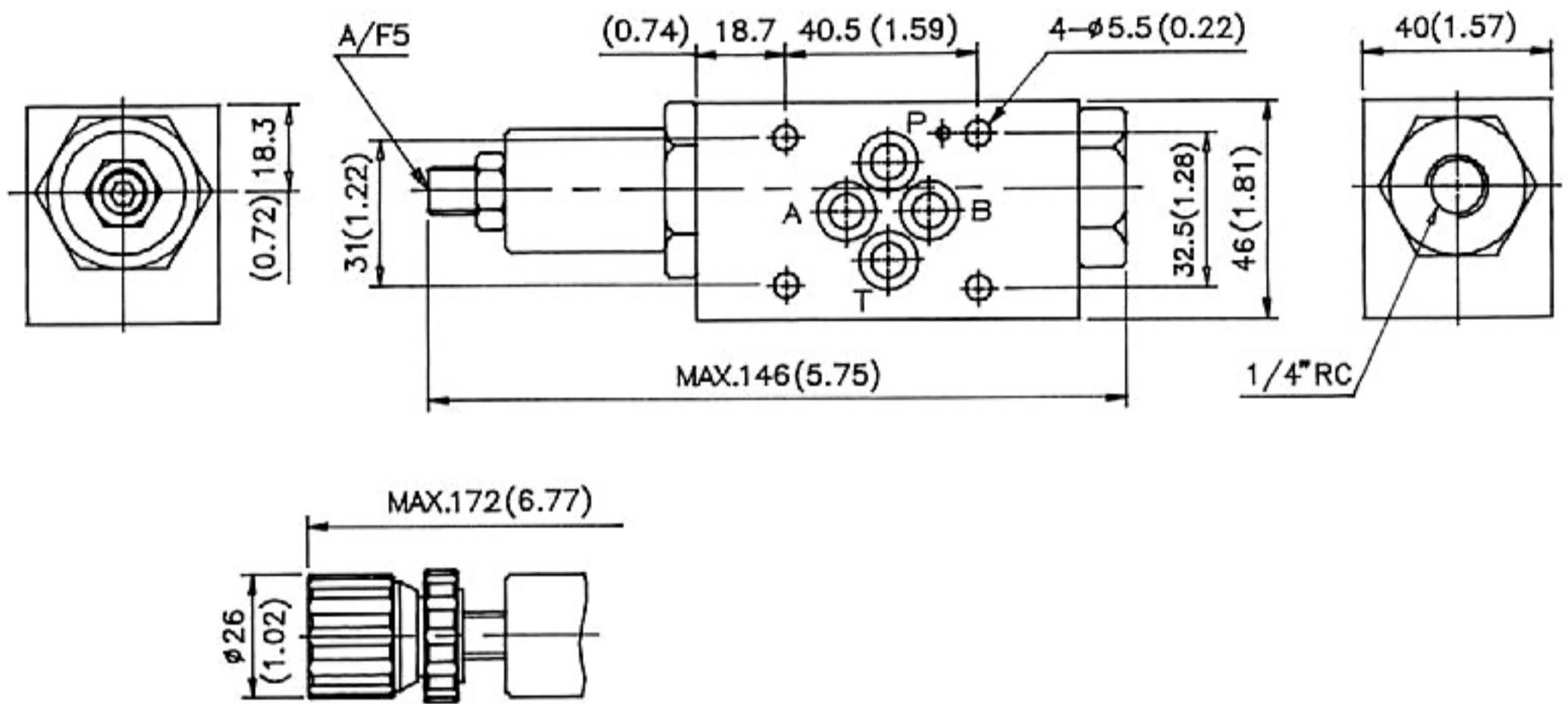
Viscosity: 35 CST  
 Temperature: 50°C



**INSTALLATION DIMENSIONS**

UNIT: mm (inch)  
WEIGHT: 1.2 kgs (2.65 lbs)

MPR-02B - \* - \* - 20



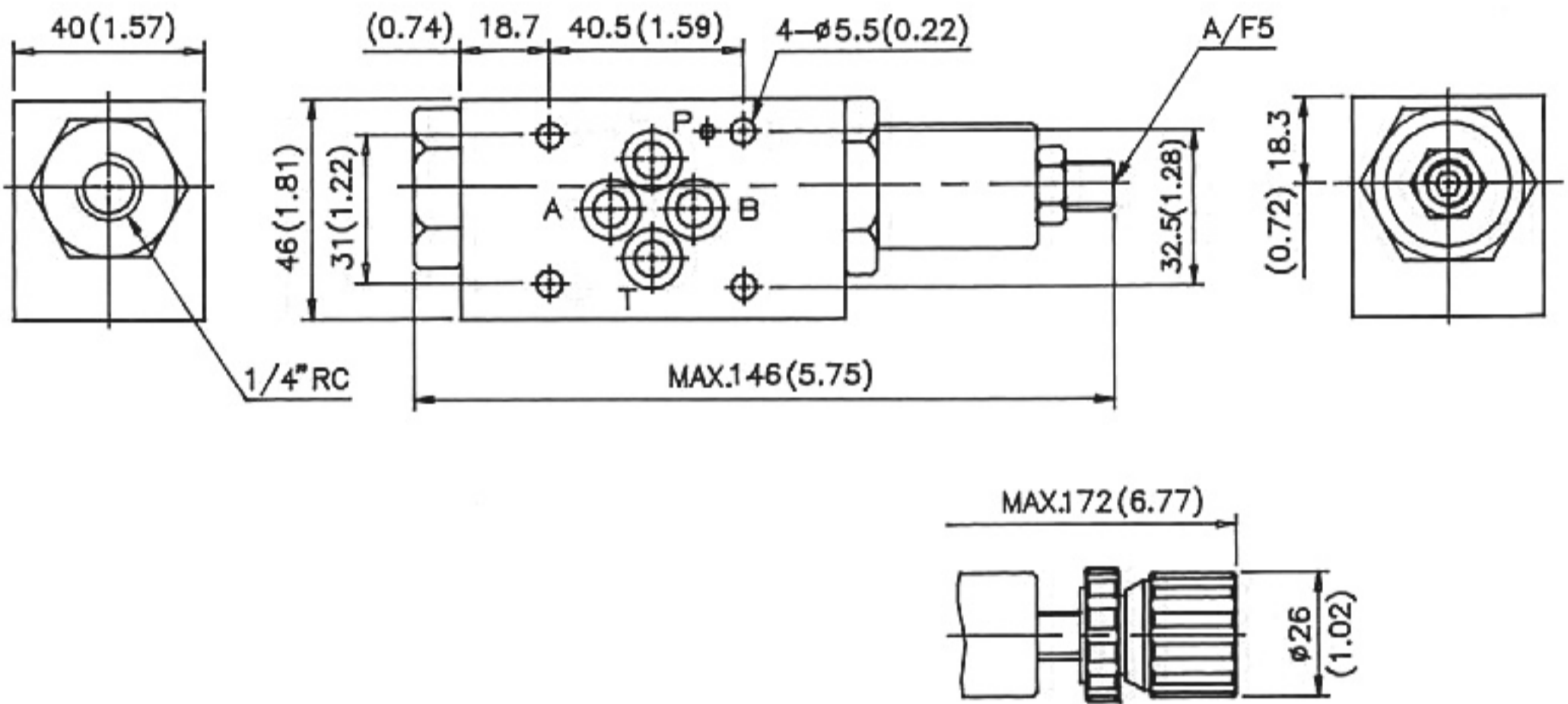
# MPR-02 SERIES

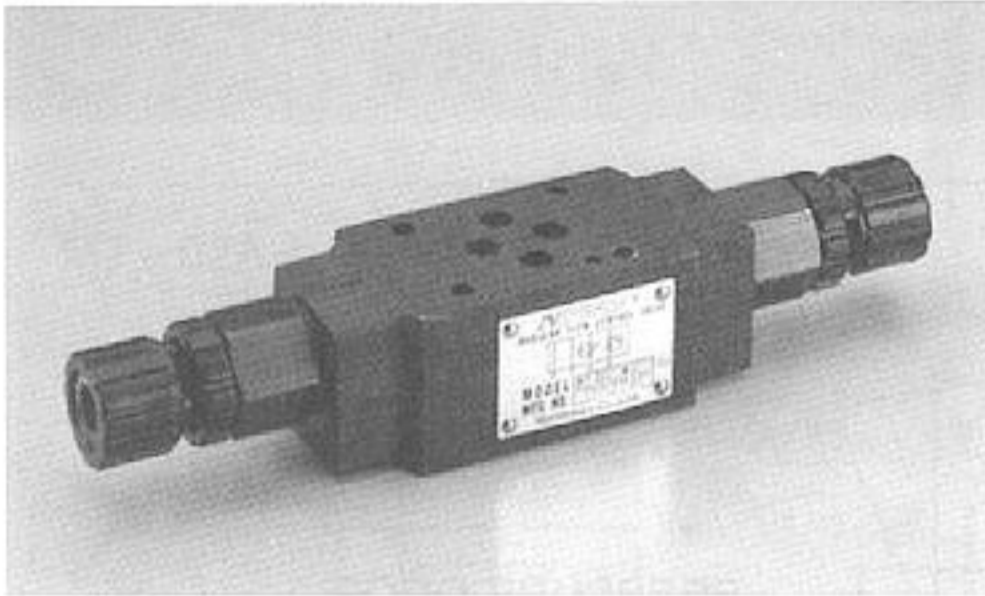
## INSTALLATION DIMENSIONS

UNIT: mm (inch)

WEIGHT: 1.2 kgs (2.65 lbs)

MPR-02P/A - \* - \* - 20

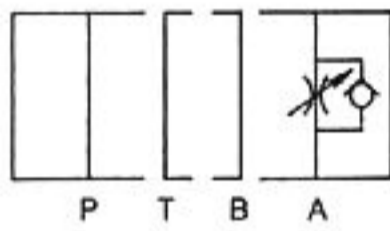




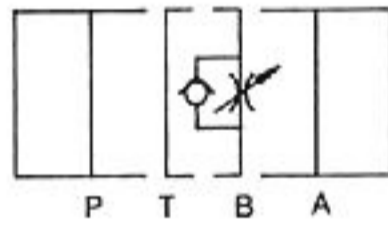
## SPECIFICATIONS

Max. operating pressure	210 Kgf/cm <sup>2</sup> (3000PSI)
Max. flow capacity	35 LPM (9.3 GPM)

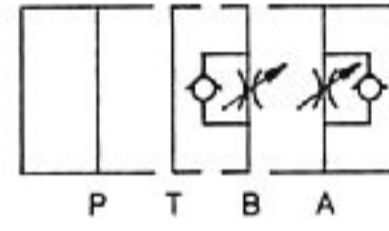
## SYMBOLS



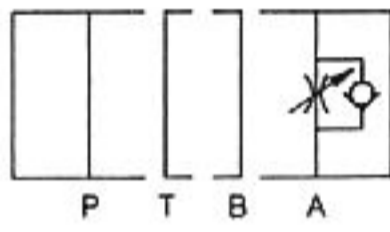
MT-02A



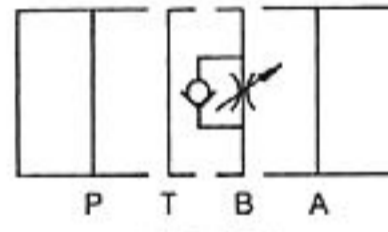
MT-02B



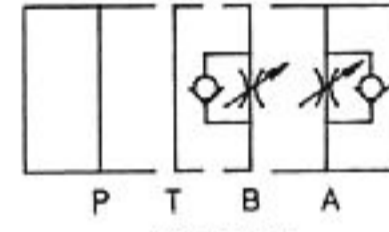
MT-02W



MT-02A-I



MT-02B-I



MT-02W-I

## HOW TO ORDER

**MT - 02W - K - I - 30**

DESIGN NUMBER

CONTROLLED MODEL :  
I : METER IN  
NO CODE : METER OUT

ADJUSTMENT MODEL :  
K : WITH KNOB  
NO CODE : WITHOUT KNOB

FUNCTION PORT :  
A : A PORT  
B : B PORT  
W : A&B PORT

PORT SIZE : 1/4" (D03)

MODULAR THROTTLE AND CHECK VALVE

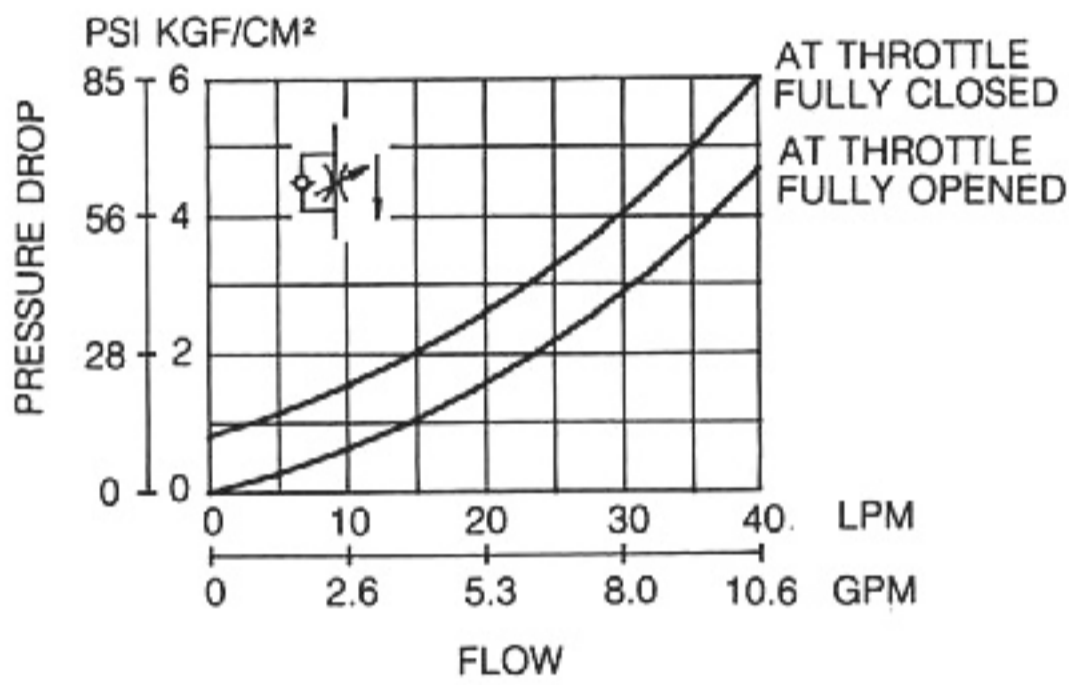
# MT-02 SERIES

## PERFORMANCE CURVES

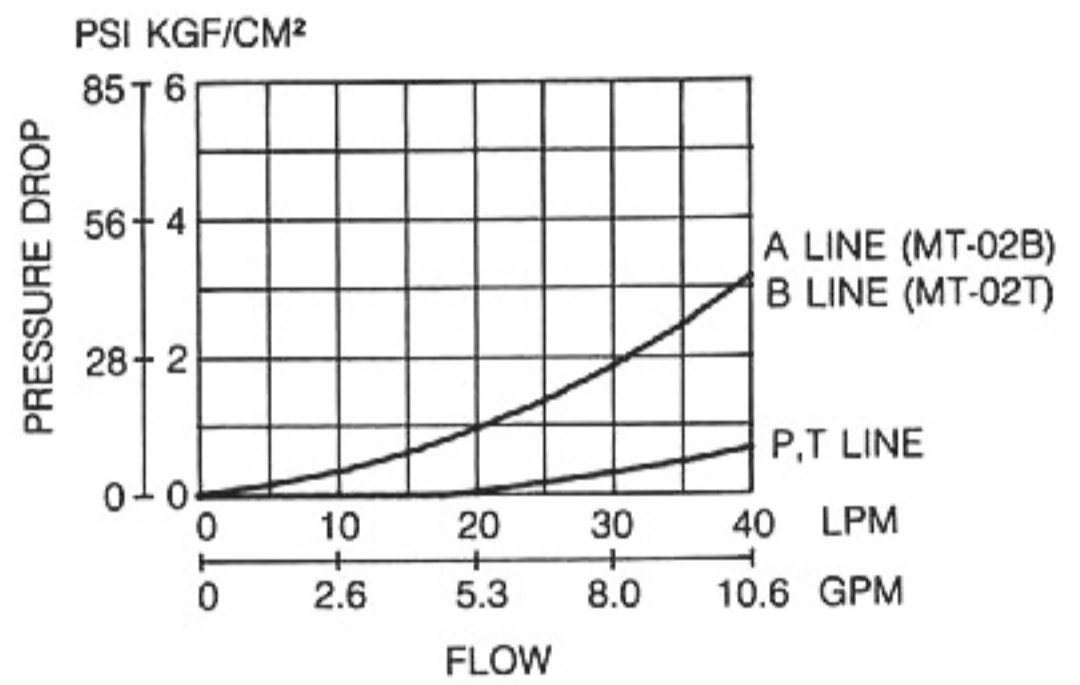
### TEST CONDITIONS

Viscosity: 35 CST  
 Temperature: 50°C

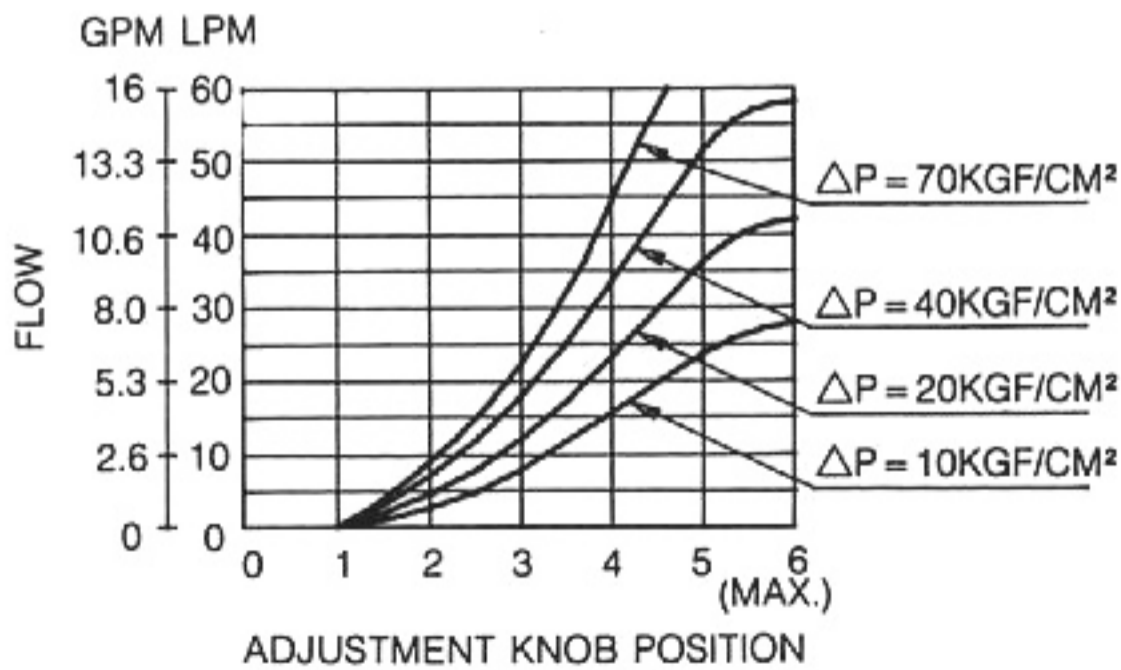
#### PRESSURE DROP FOR FREE FLOW



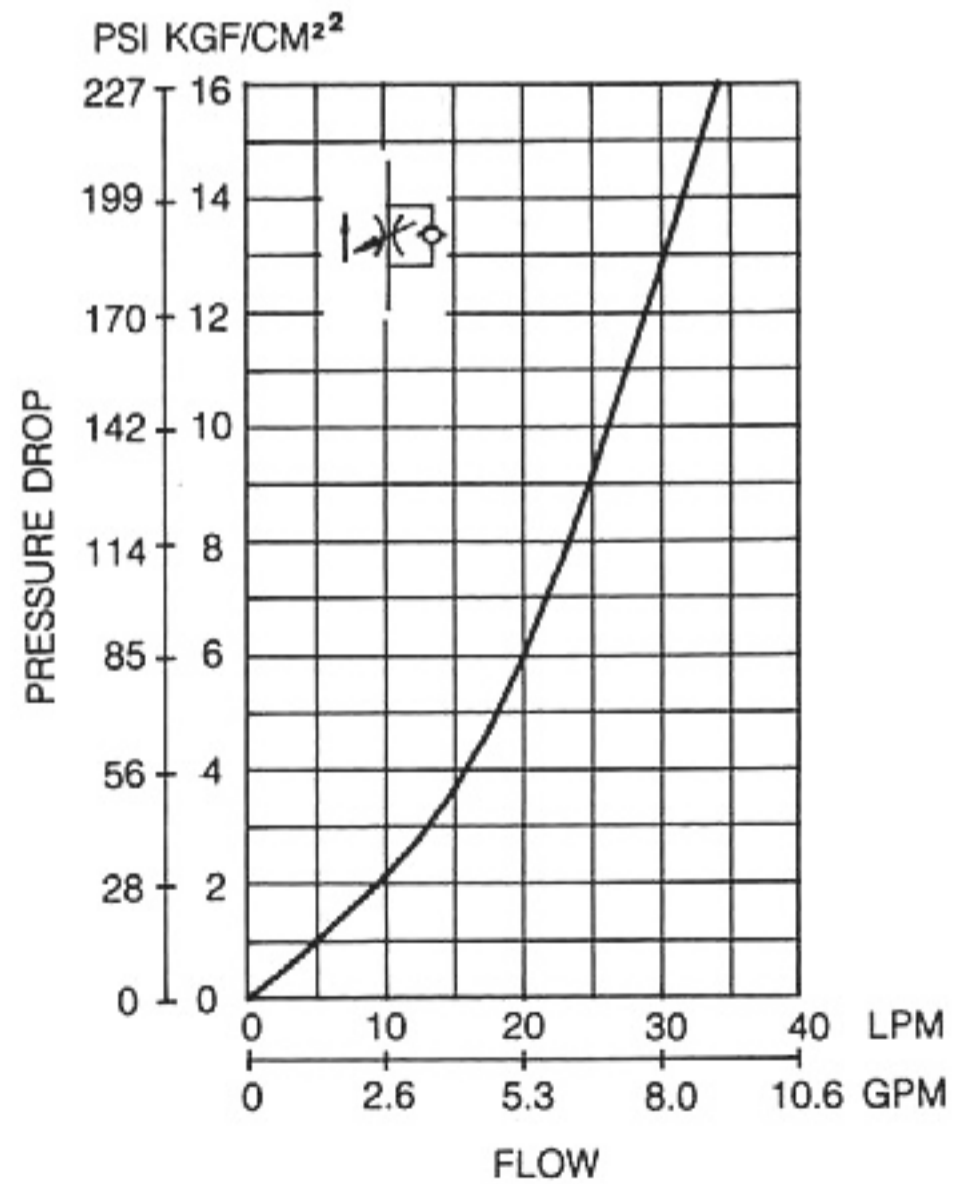
#### PRESSURE DROP



#### METERED FLOW VS. DIAL POSITION



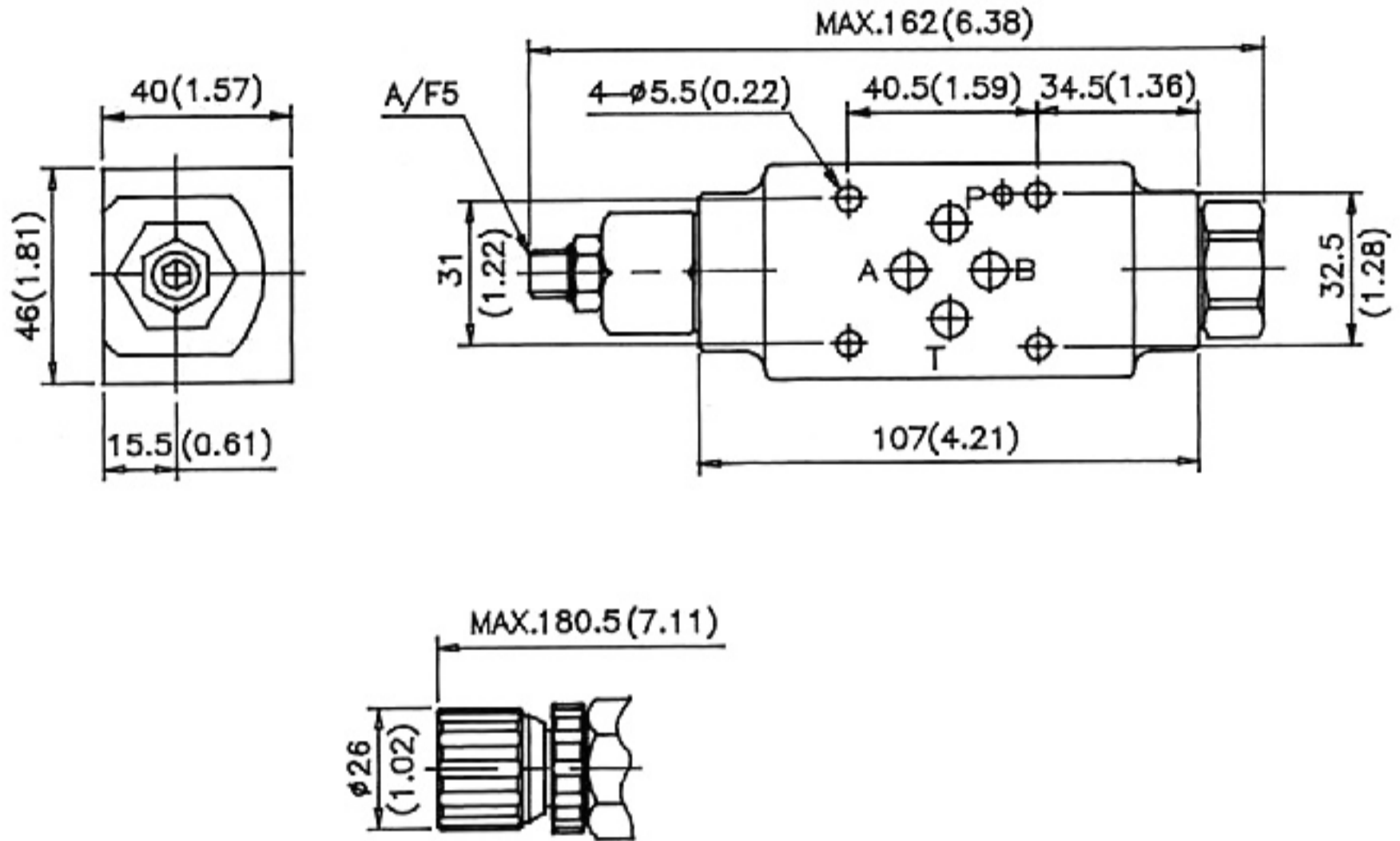
#### PRESSURE DROP AT THROTTLE FULLY OPENED



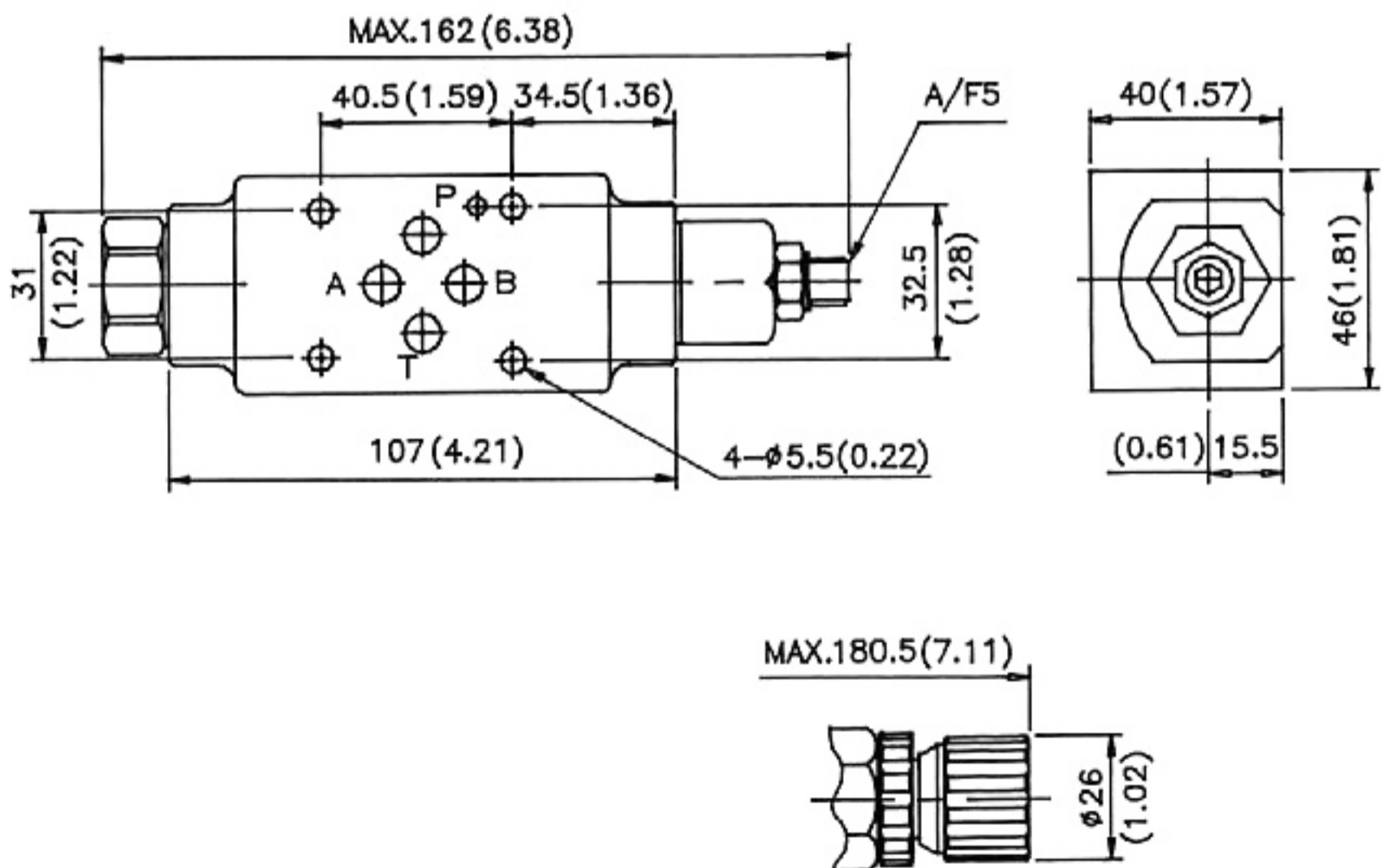
INSTALLATION DIMENSIONS

UNIT: mm(inch)  
WEIGHT: 1.2 kgs (2.65 lbs)

MT - 02A - \* - 30



MT - 02B - \* - 30



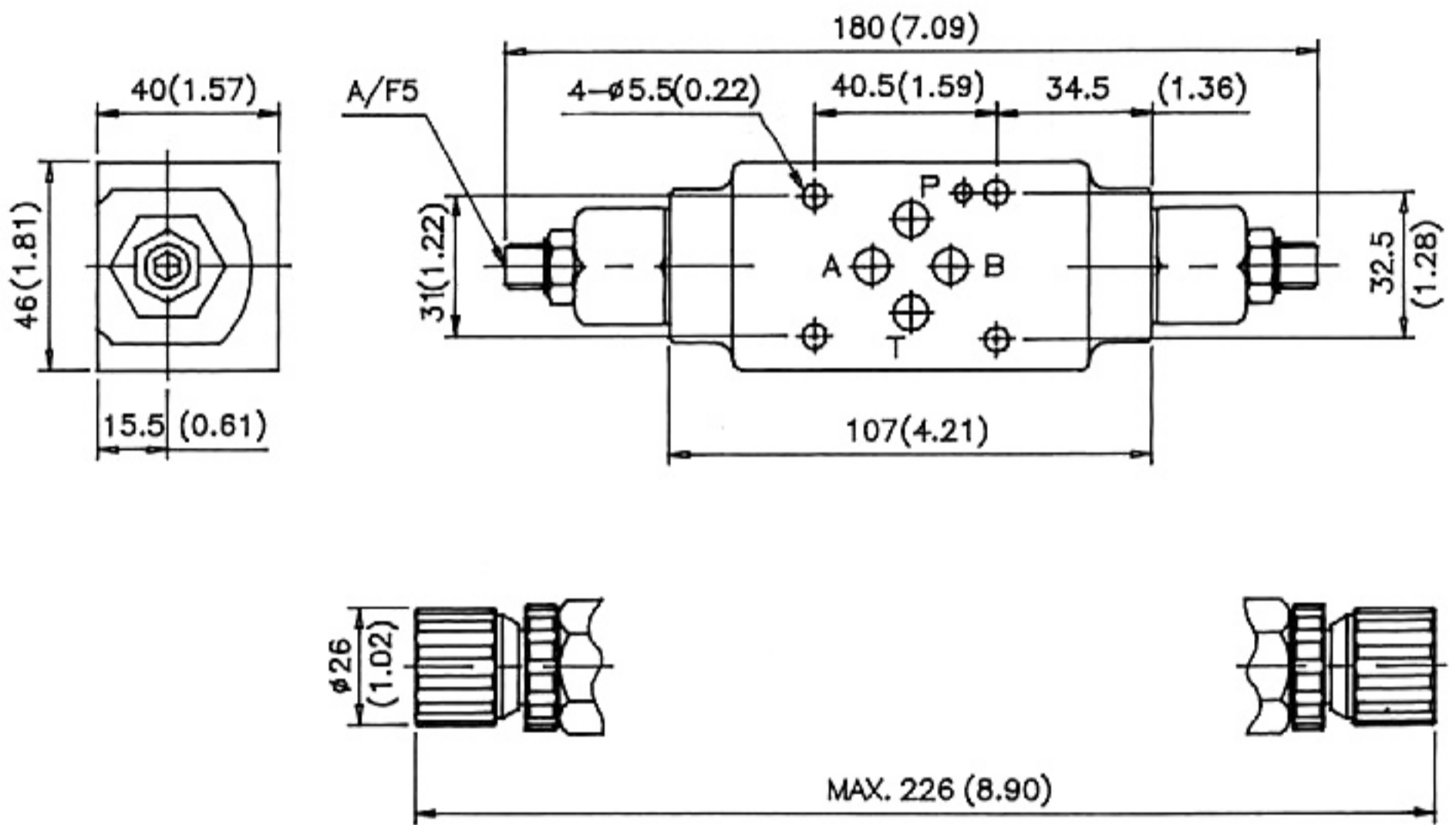
# MT-02 SERIES

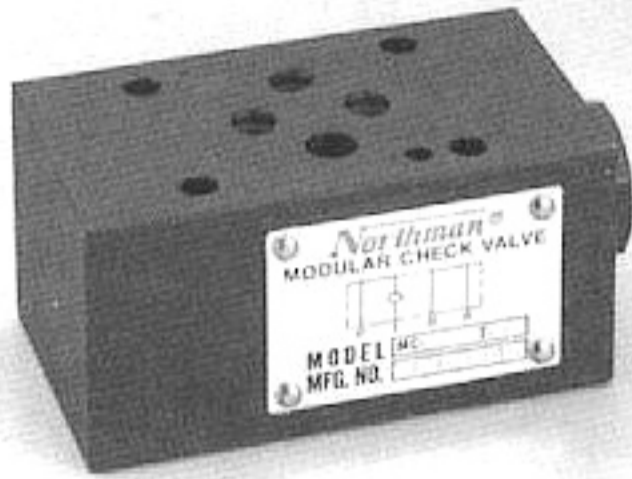
## INSTALLATION DIMENSIONS

UNIT: mm(inch)

WEIGHT: 1.4 kgs (3.1 lbs)

MT-02W-\*\*-\*\*-30

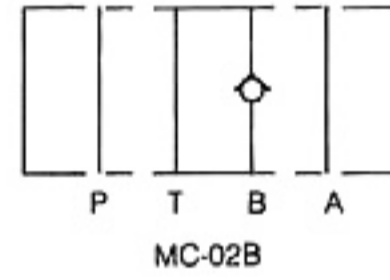
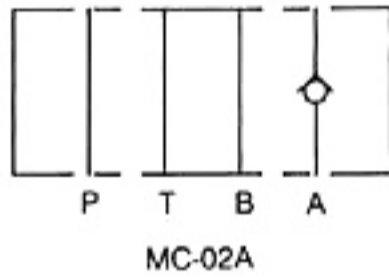
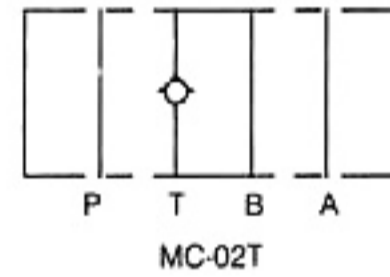
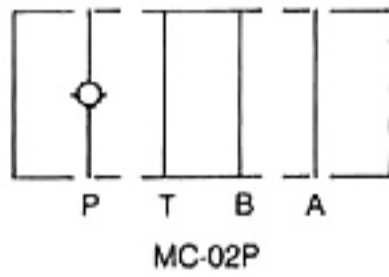




## SPECIFICATIONS

Max. operating pressure	210 Kg/cm <sup>2</sup> (3000PSI)
Max. flow capacity	35 LPM (9.3 GPM)

## SYMBOLS



## HOW TO ORDER

**MC - 02P - 05 - 20**

DESIGN NUMBER

CRACKING PRESSURE :  
05 : 0.5 KGF/CM<sup>2</sup> (7 PSI)  
50 : 3.5KGF/CM<sup>2</sup> (50 PSI)

FUNCTION PORT :  
P : P PORT  
A : A PORT  
B : B PORT  
T : T PORT

PORT SIZE : 1/4" (D03)

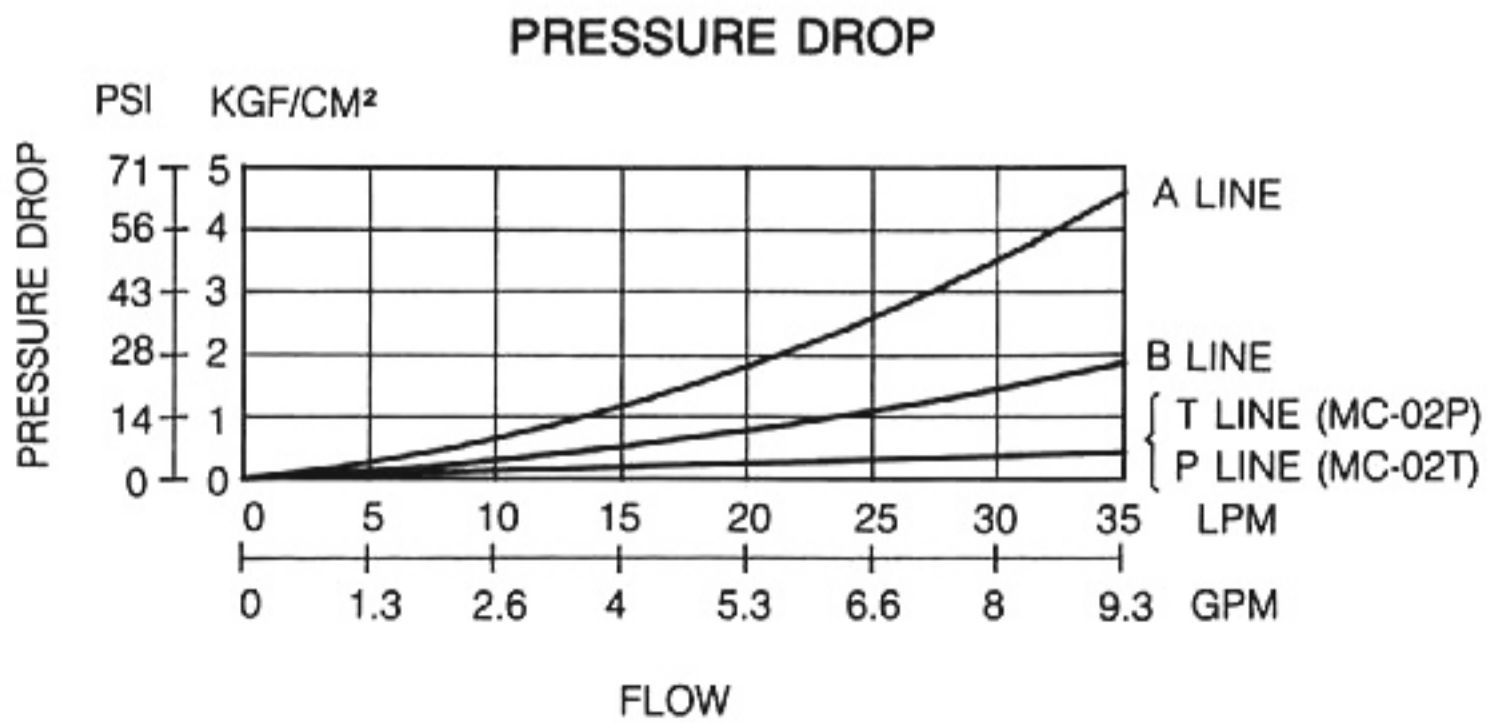
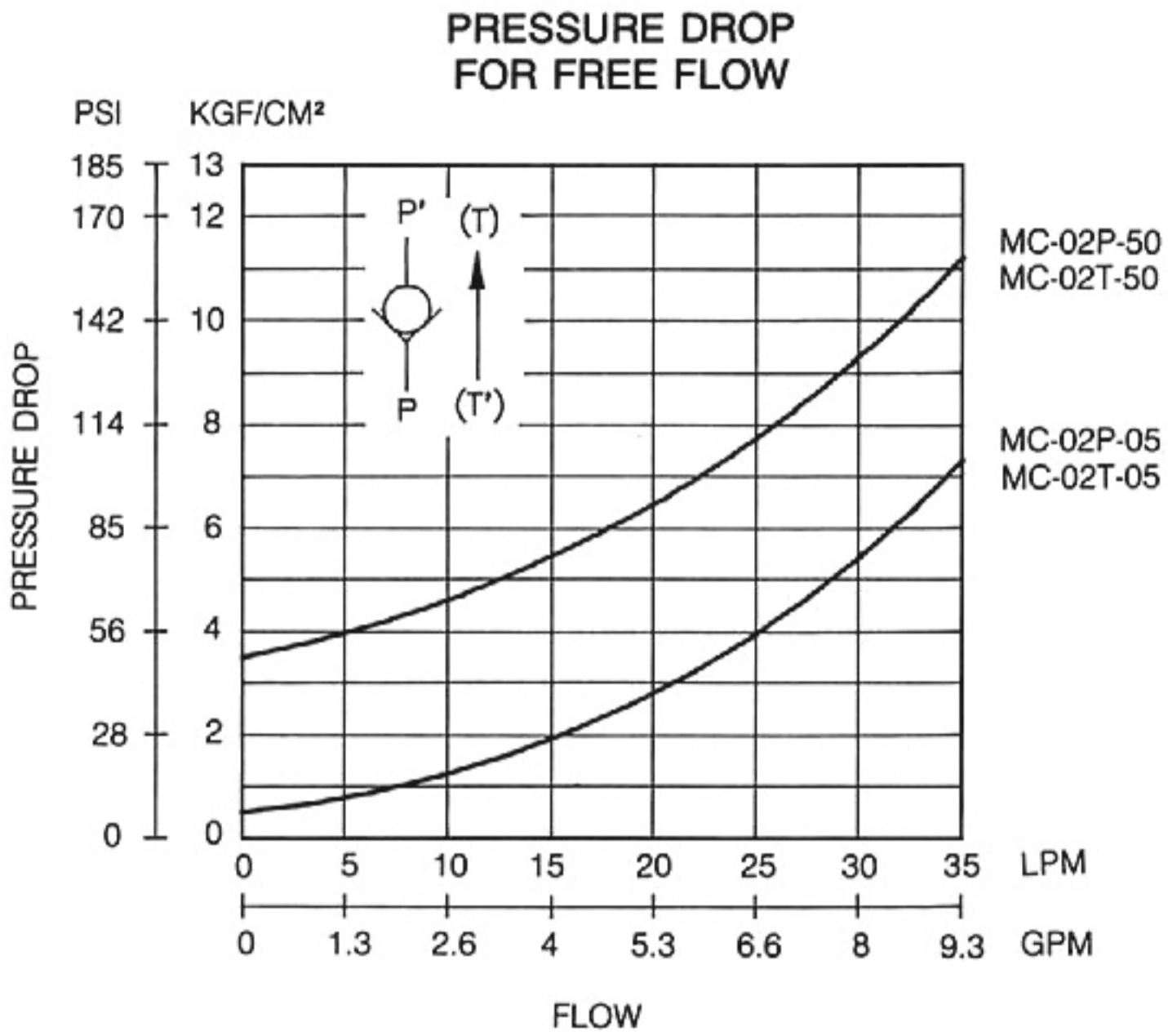
MODULAR CHECK VALVE

# MC-02 SERIES

## PERFORMANCE CURVES

### TEST CONDITIONS

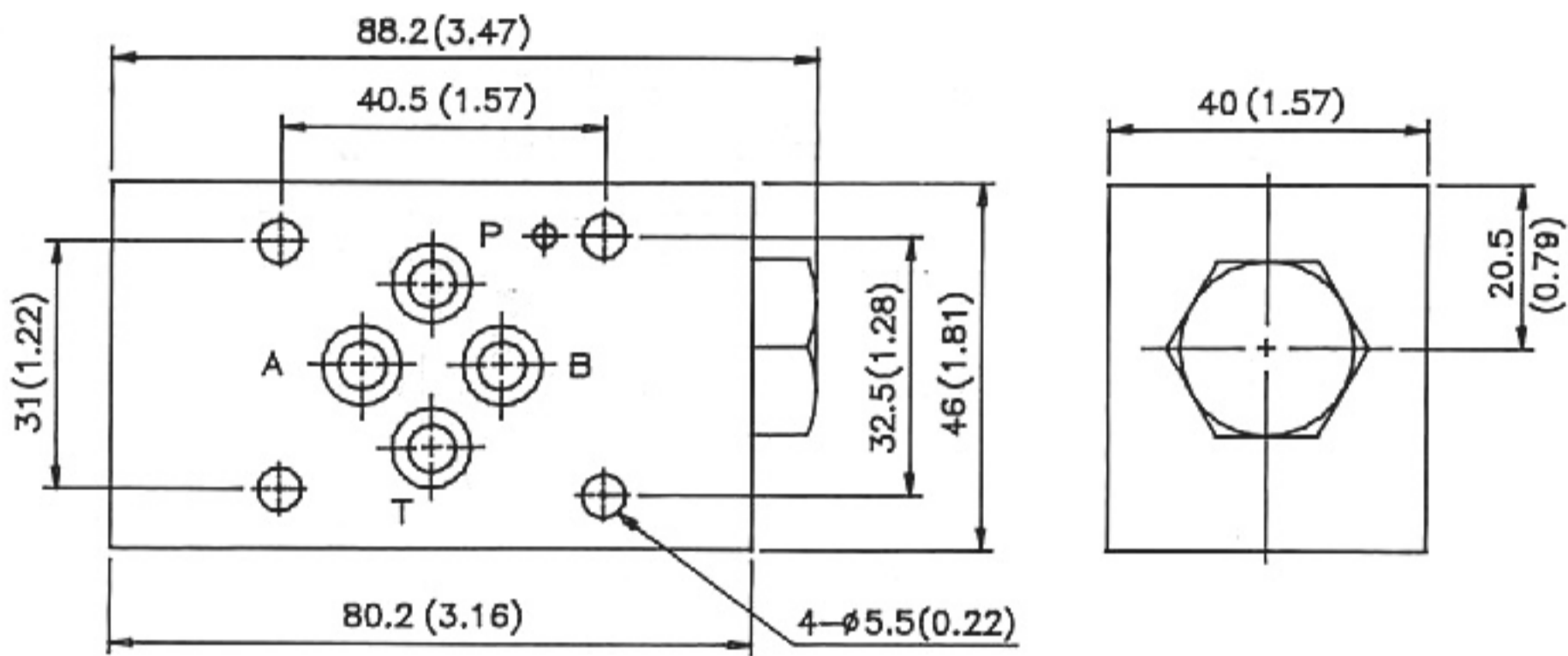
Viscosity: 35 CST  
 Temperature: 50°C



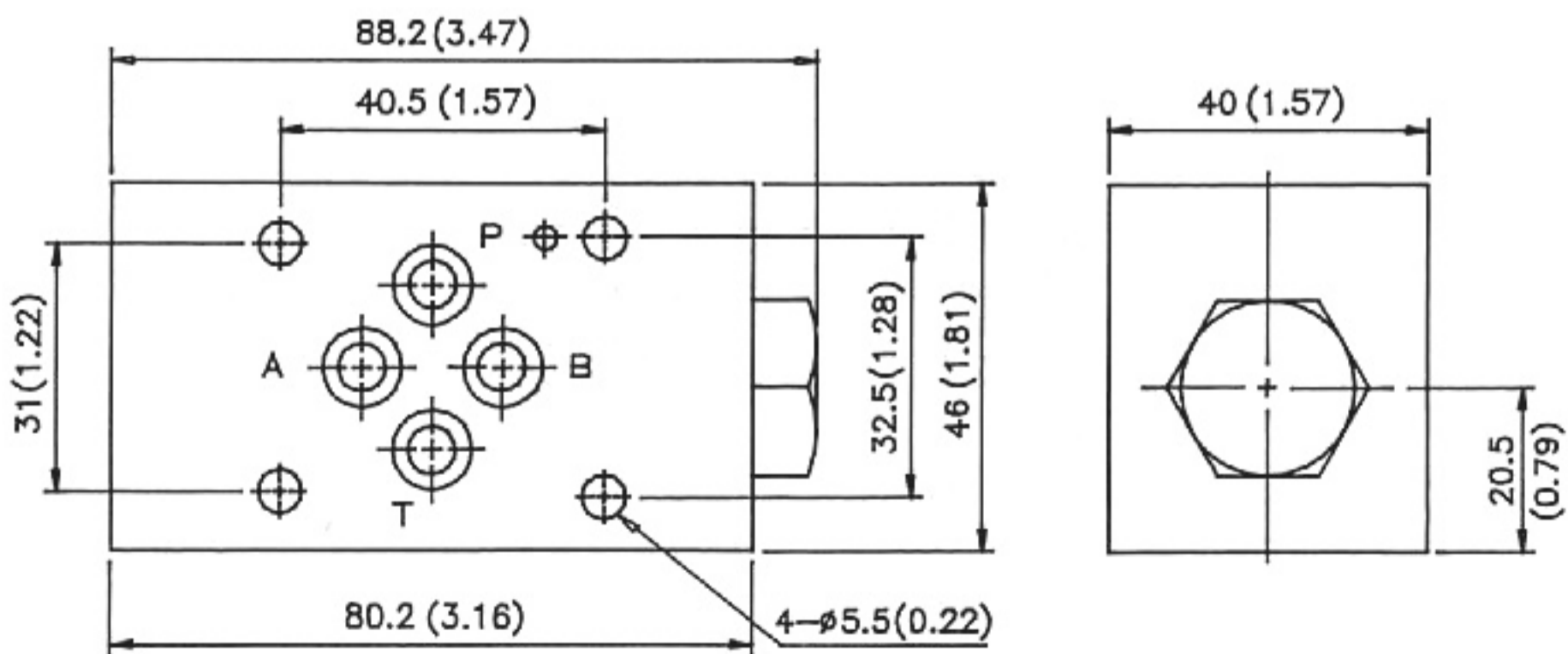
INSTALLATION DIMENSIONS

UNIT: mm(inch)  
WEIGHT: 1.2 kgs (2.65 lbs)

MC-02P-\*\*-20



MC-02T-\*\*-20



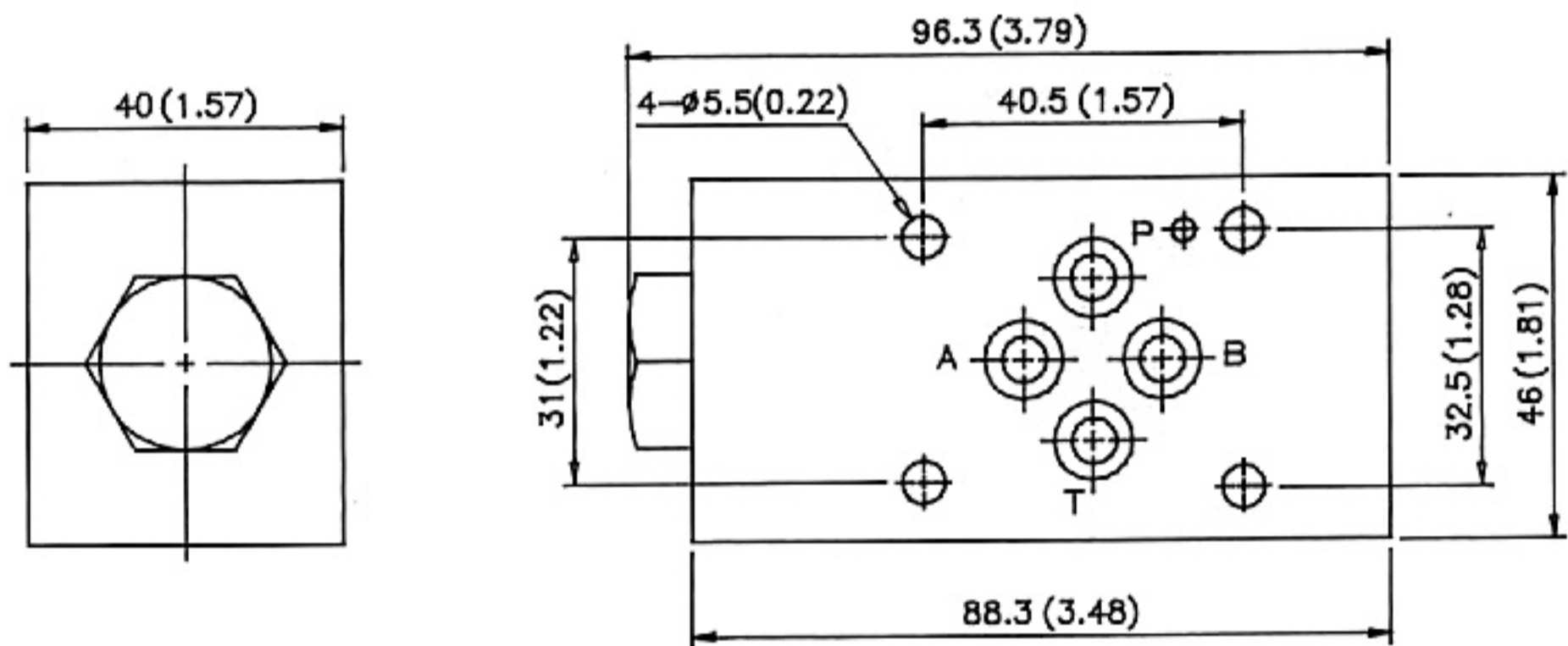
# MC-02 SERIES

## INSTALLATION DIMENSIONS

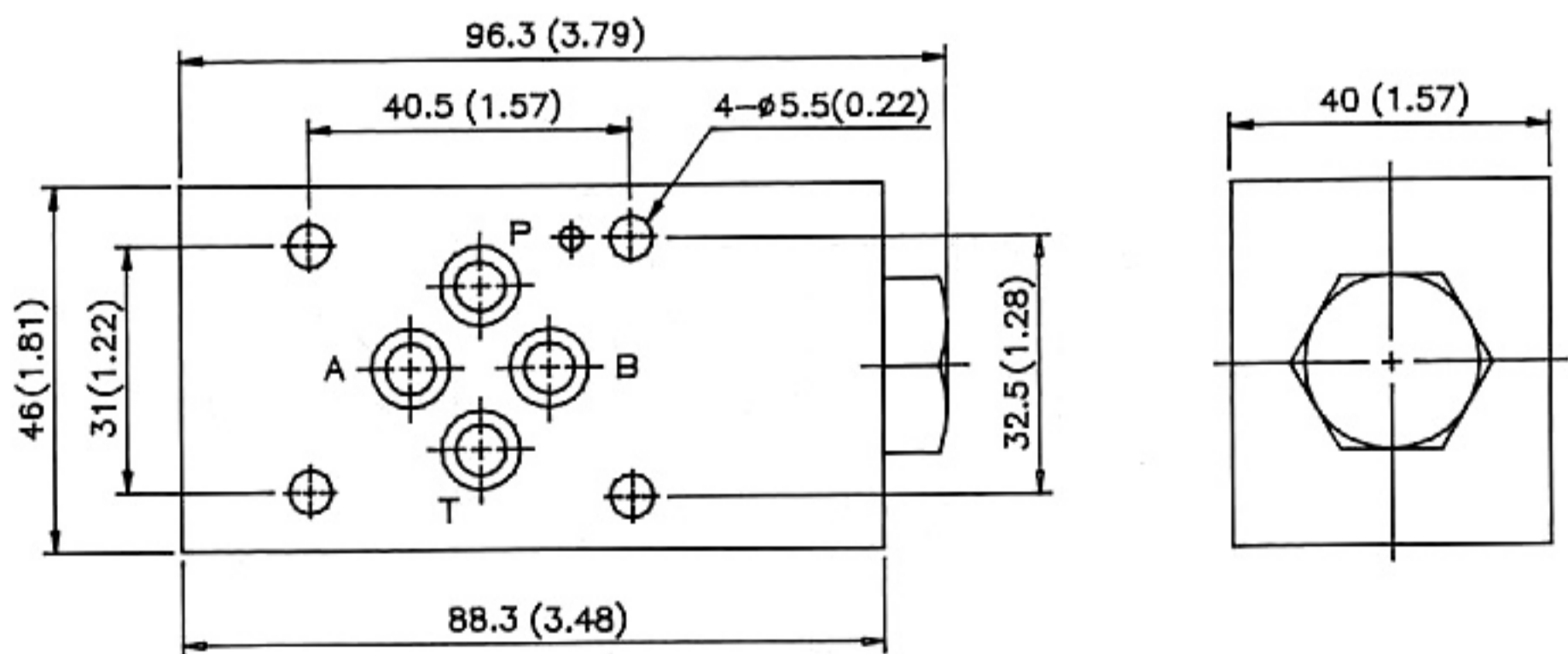
UNIT: mm(inch)

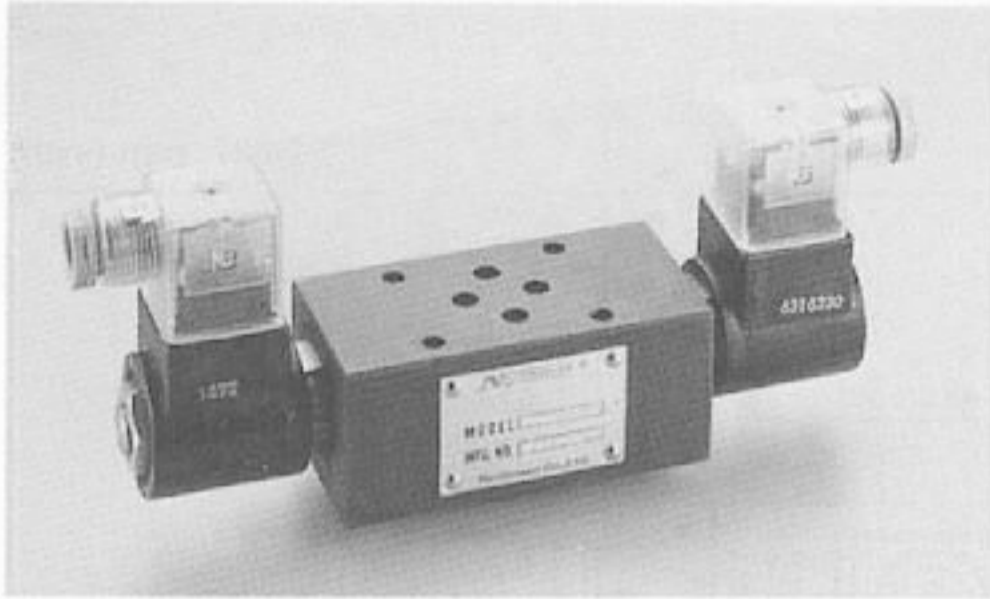
WEIGHT: 1.2 kgs (2.65 lbs)

MC-02A-\*\*-20



MC-02B-\*\*-20

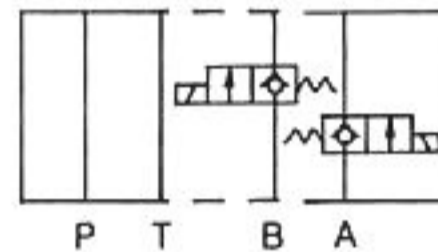




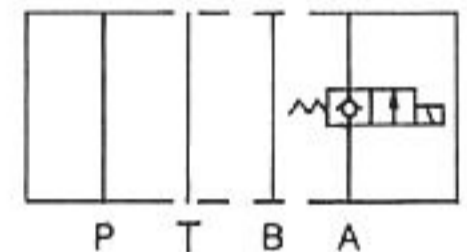
## SPECIFICATIONS

Max. operating pressure	210 Kgf/cm <sup>2</sup> (3000PSI)
Max. flow capacity	30 LPM (8 GPM)

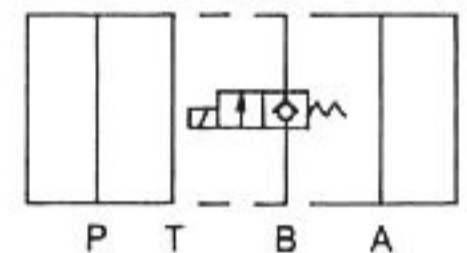
## SYMBOLS



MSC-02W-\*\*\*\*\*-NC-\*\*\*



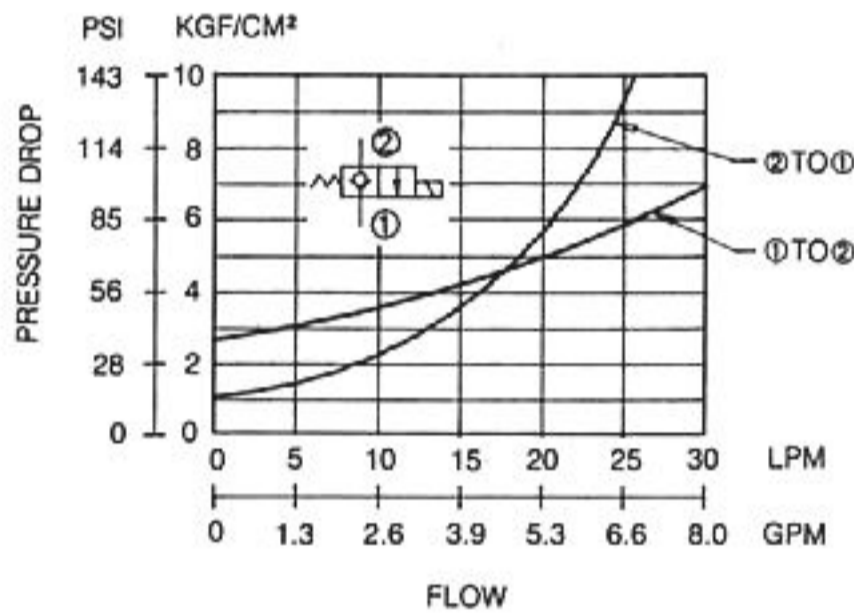
MSC-02A-\*\*\*\*\*-NC-\*\*\*



MSC-02B-\*\*\*\*\*-NC-\*\*\*

## PERFORMANCE CURVES

### PRESSURE DROP



## HOW TO ORDER

**MSC - 02W - 230AP - NC - 10**

OPTION:

10: WITHOUT MANUAL OVERRIDE OPTION

20: WITH MANUAL OVERRIDE OPTION

CONTROLLED MODEL:

NC: NORMALLY CLOSED

WIRING:

AP: 1/2" CONDUIT FOR AC COIL

DL: LEADWIRES FOR DC COIL

AG: DIN CONNECTOR FOR AC COIL

DG: DIN CONNECTOR FOR DC COIL

COIL VOLTAGE:

12: 12VDC

24: 24VDC

115: 115VAC

230: 230VAC

FUNCTION PORT :

W: A & B PORT

A: A PORT

B: B PORT

PORT SIZE: 1/4" (D03)

MODULAR SOLENOID CHECK VALVE

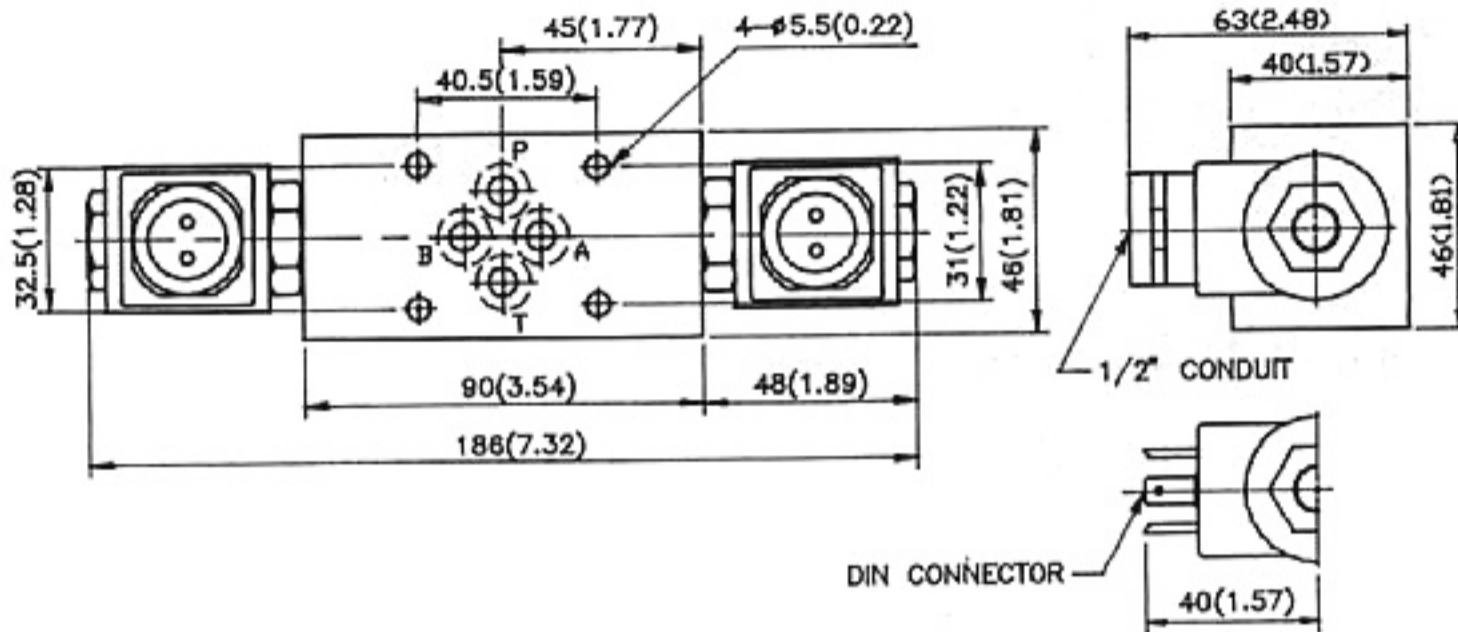
# MSC-02 SERIES

## INSTALLATION DIMENSIONS

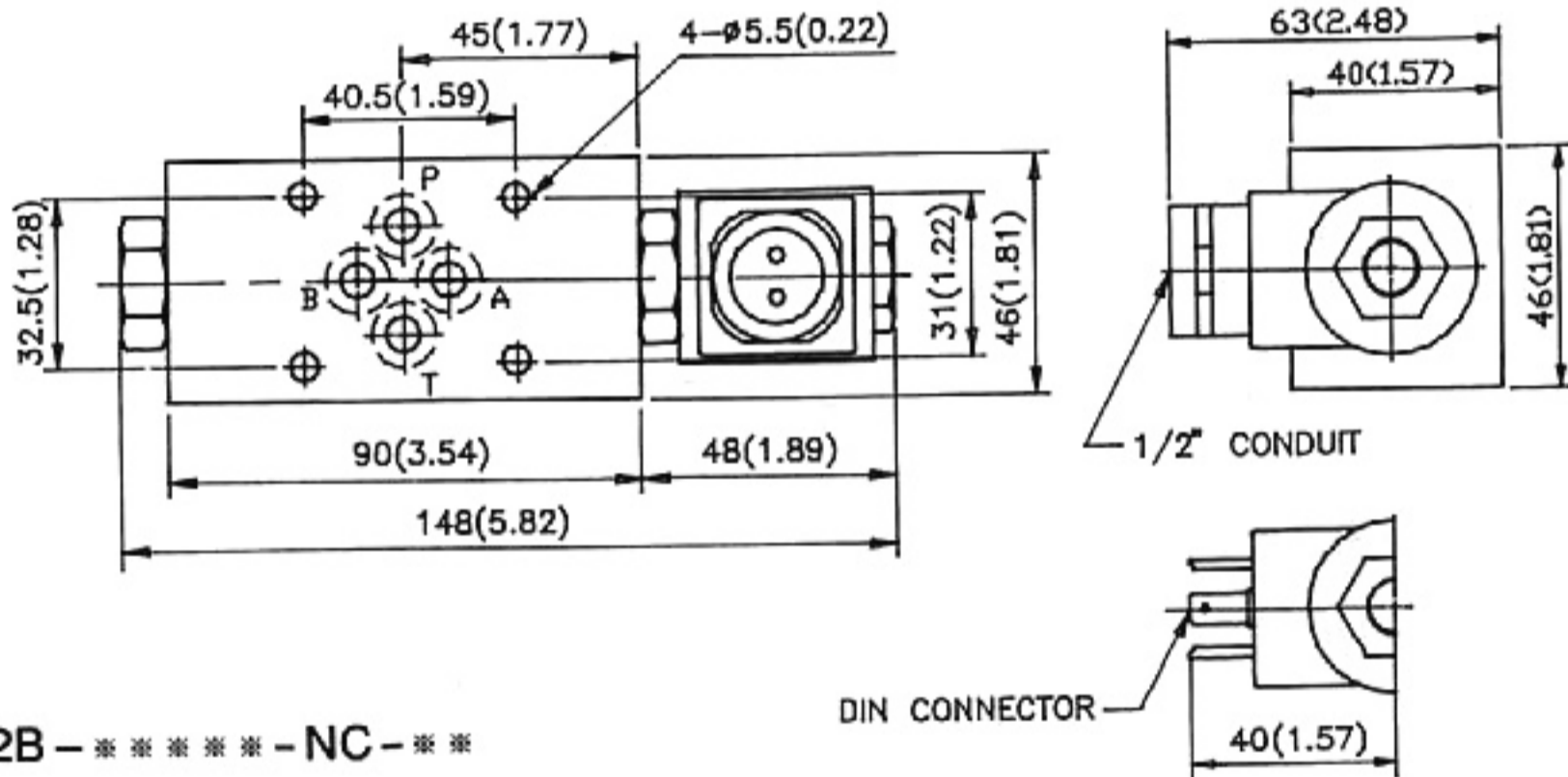
UNIT: mm (inch)

MSC-02W-\*\*\*\*\*-NC-\*\*\*

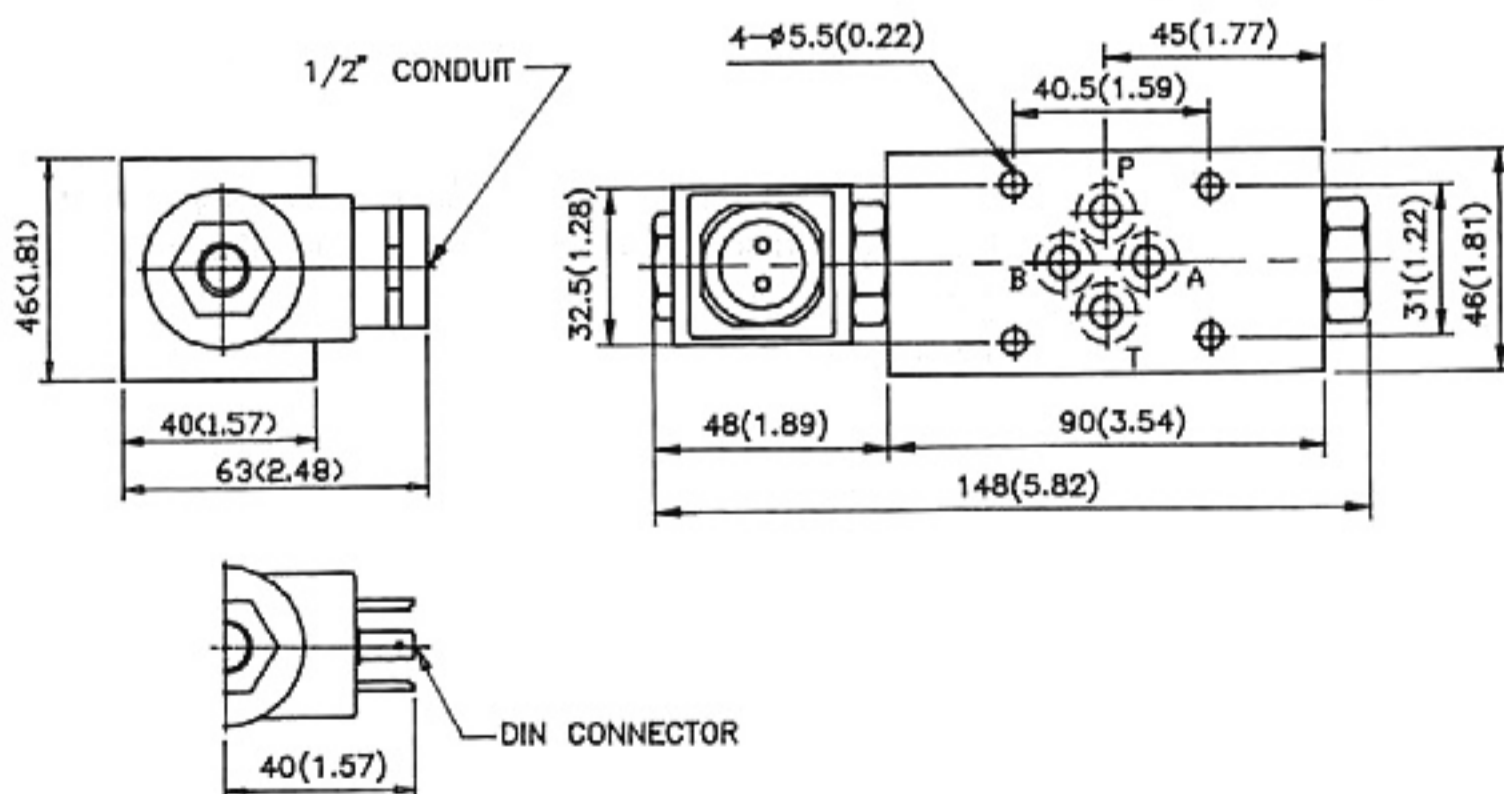
WEIGHT: 1.4 kgs (3.1 lbs)

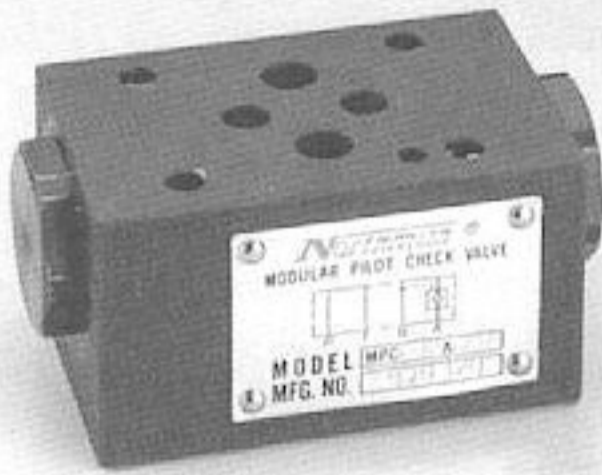


MSC-02A-\*\*\*\*\*-NC-\*\*\*



MSC-02B-\*\*\*\*\*-NC-\*\*\*

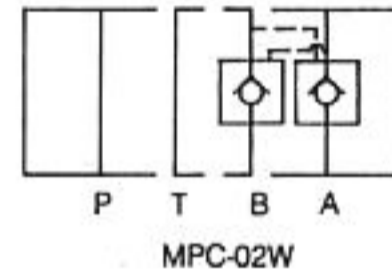
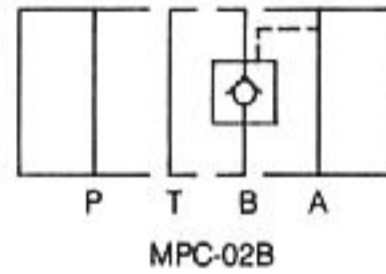
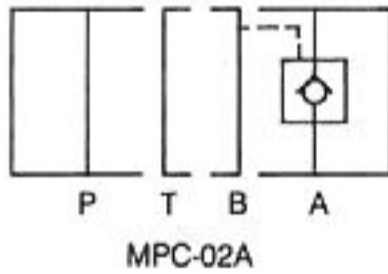




## SPECIFICATIONS

Max. operating pressure	210 Kg/cm <sup>2</sup> (3000PSI)
Max. flow capacity	35 LPM (9.3 GPM)

## SYMBOLS



## HOW TO ORDER

**MPC - 02W - 30**

DESIGN NUMBER

FUNCTION PORT :

A : A PORT

B : B PORT

W : A&B PORT

PORT SIZE : 1/4" (D03)

MODULAR PILOT CHECK VALVE

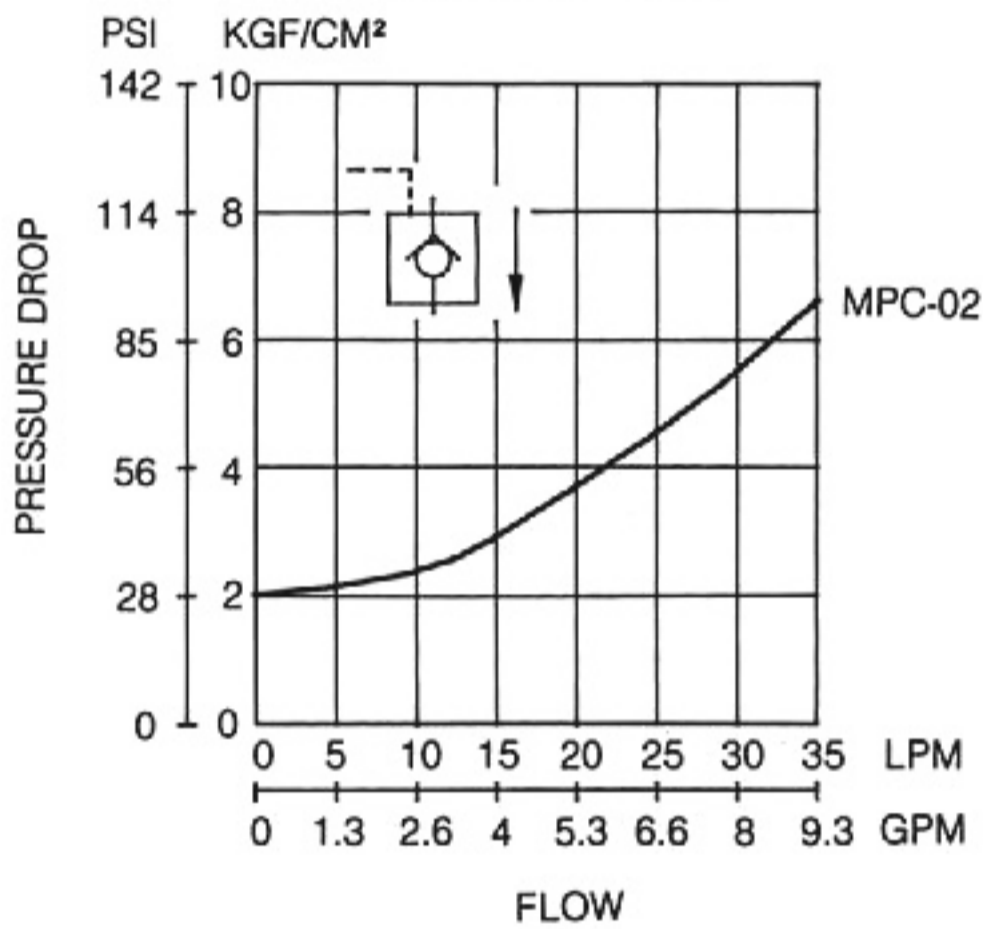
# MPC-02 SERIES

## PERFORMANCE CURVES

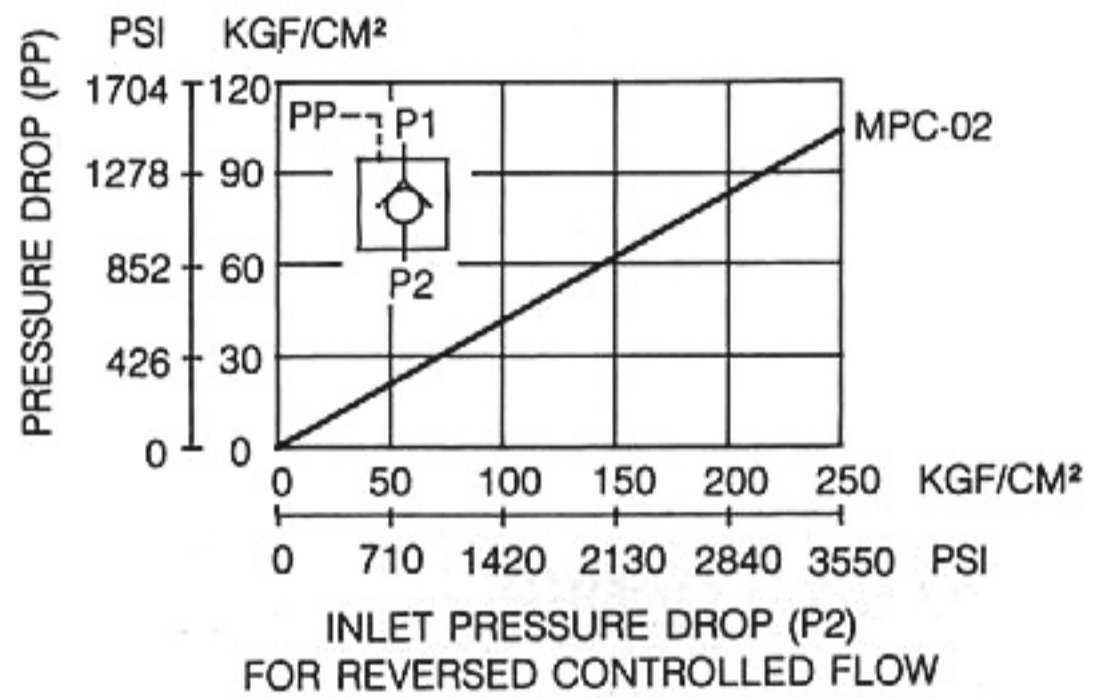
### TEST CONDITIONS

Viscosity: 35 CST  
Temperature: 50°C

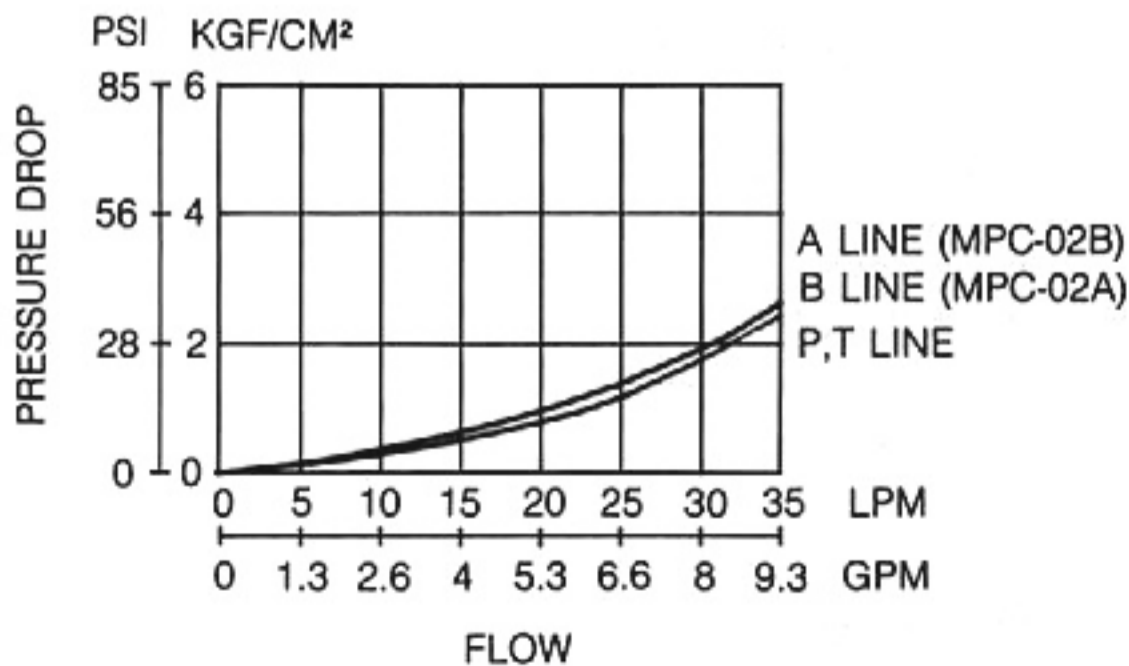
### PRESSURE DROP FOR FREE FLOW



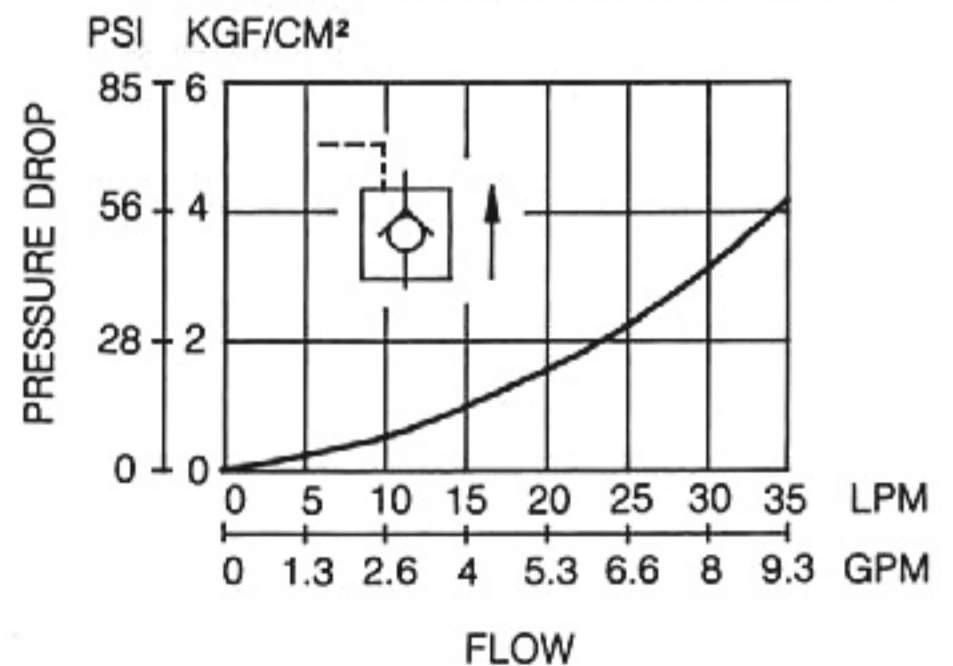
### MIN. PILOT PRESSURE



### PRESSURE DROP



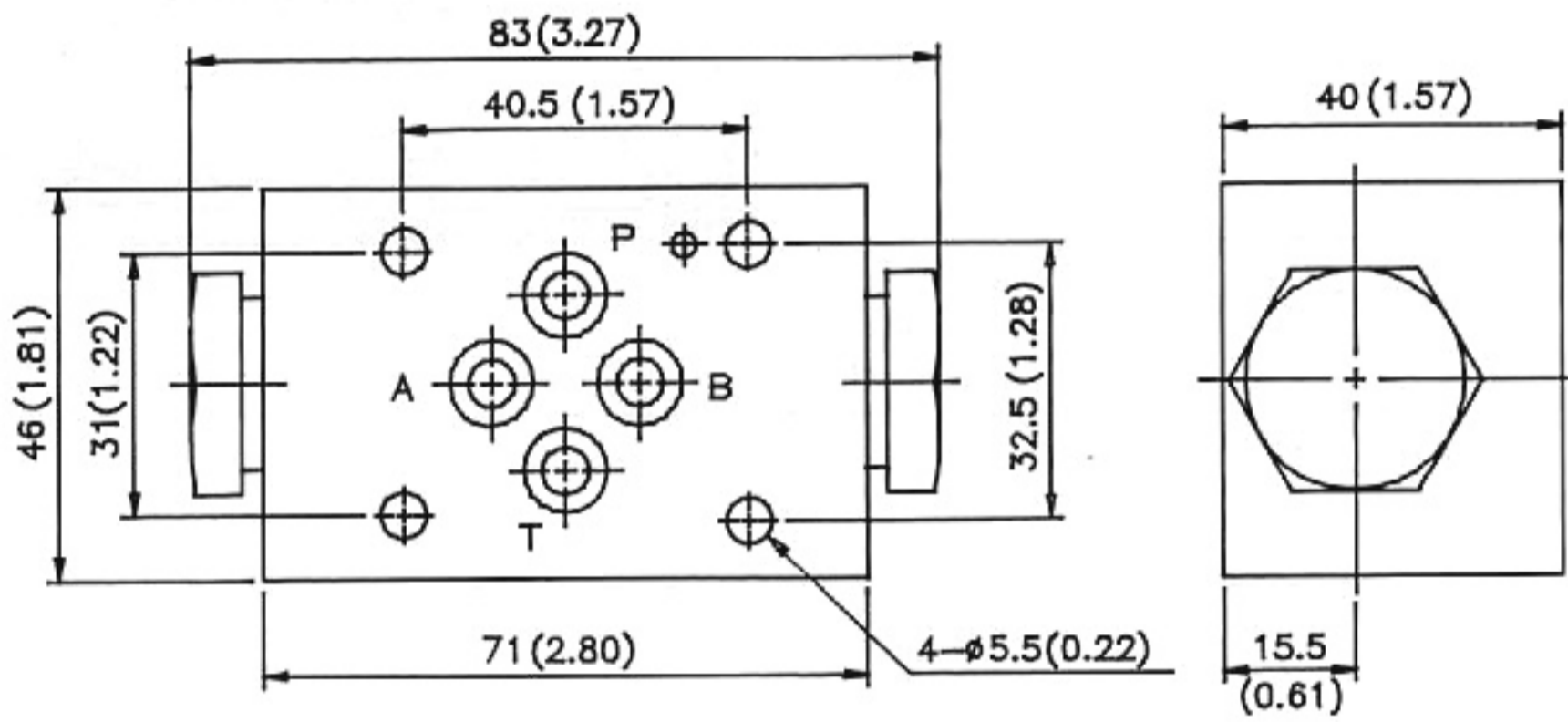
### PRESSURE DROP FOR REVERSE CONTROLLED FLOW

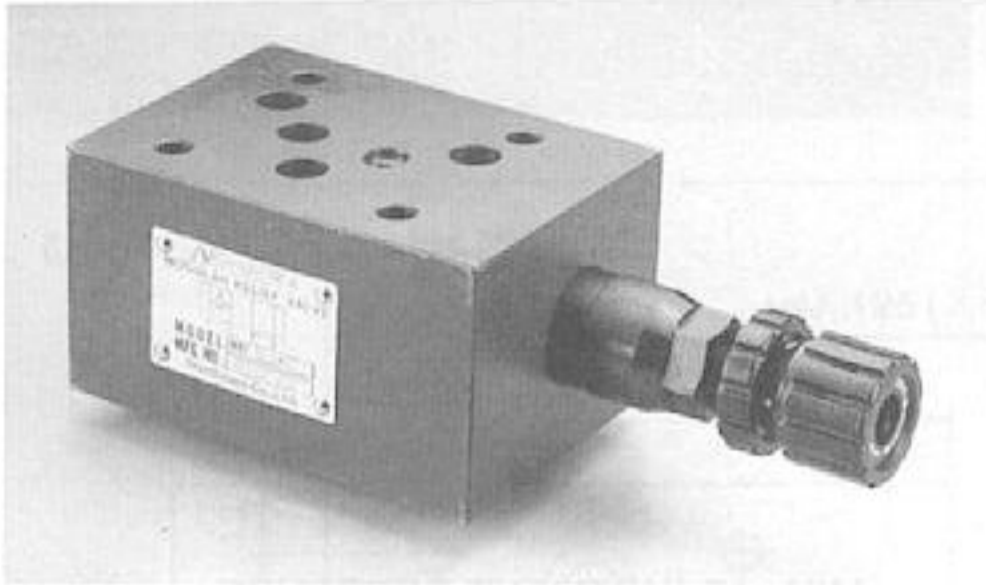


**INSTALLATION DIMENSIONS**

UNIT: mm(inch)  
WEIGHT: 1.1 kgs (2.43 lbs)

MPC - 02 \* - 30

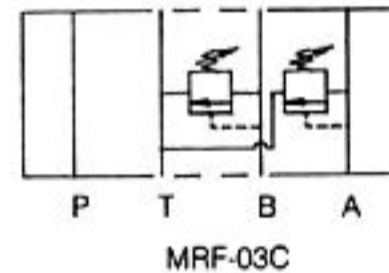
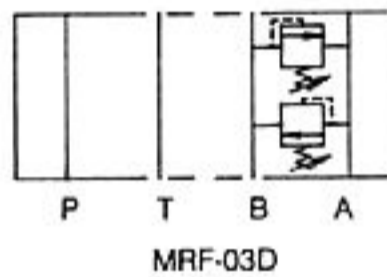
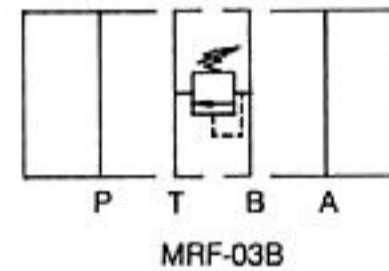
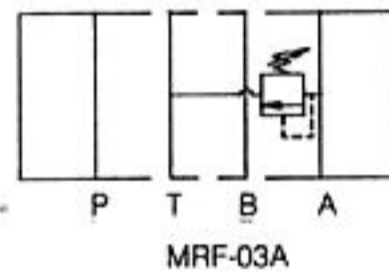
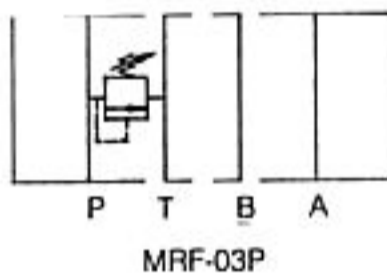




## SPECIFICATIONS

Max. operating pressure	210 Kg/cm <sup>2</sup> (3000PSI)
Max. flow capacity	70 LPM (20 GPM)

## SYMBOLS



## HOW TO ORDER

**MRF - 03P - K - 1 - 30**

DESIGN NUMBER

PRESSURE ADJUSTMENT RANGE :  
1 : 8-70KGF/CM<sup>2</sup> (120-1000PSI)  
2 : 35-140KGF/CM<sup>2</sup> (500-2000PSI)  
3 : 70-210KGF/CM<sup>2</sup> (1000-3000PSI)

ADJUSTMENT MODEL:  
K : WITH KNOB  
NO CODE: WITHOUT KNOB

FUNCTION PORT :  
P : P PORT  
A : A PORT  
B : B PORT  
C : A&B PORT VENTING TO TANK  
D : A&B PORT CROSS OVER RELIEF

PORT SIZE : 3/8" (D05)

MODULAR RELIEF VALVE

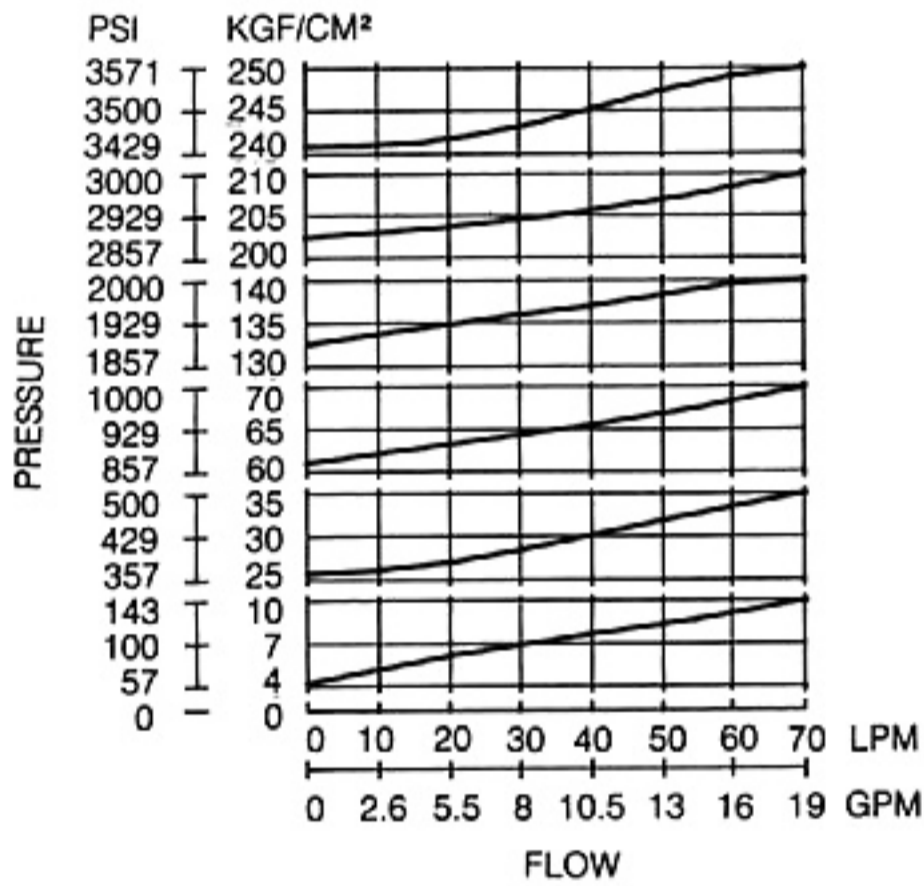
# MRF-03 SERIES

## PERFORMANCE CURVES

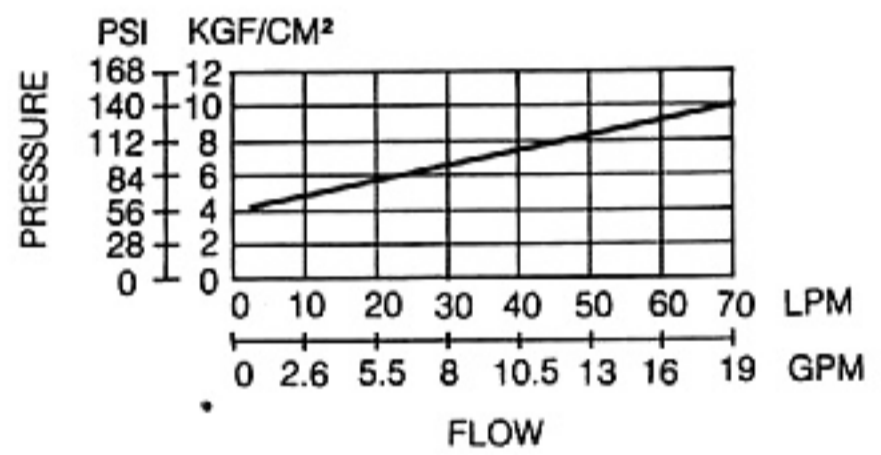
### TEST CONDITIONS

Viscosity: 35 CST  
 Temperature: 50°C

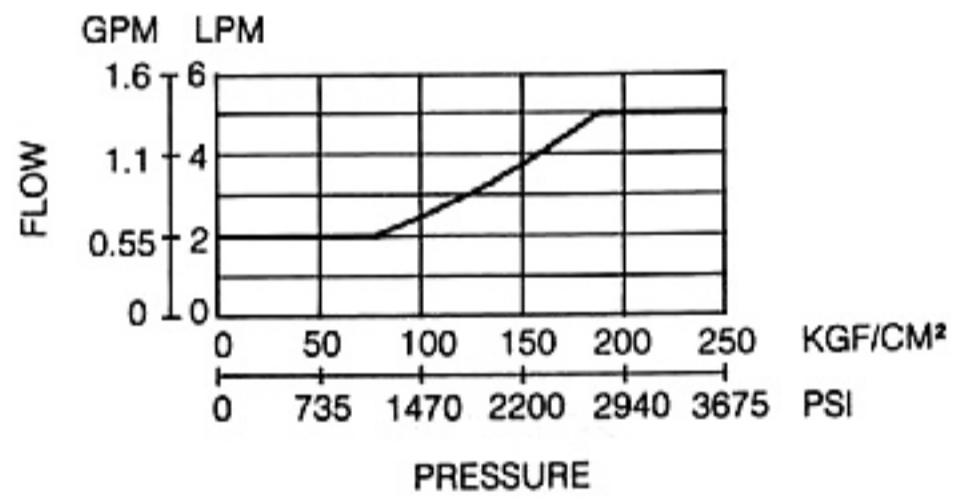
**NOMINAL OVERRIDE CHARACTERISTICS**



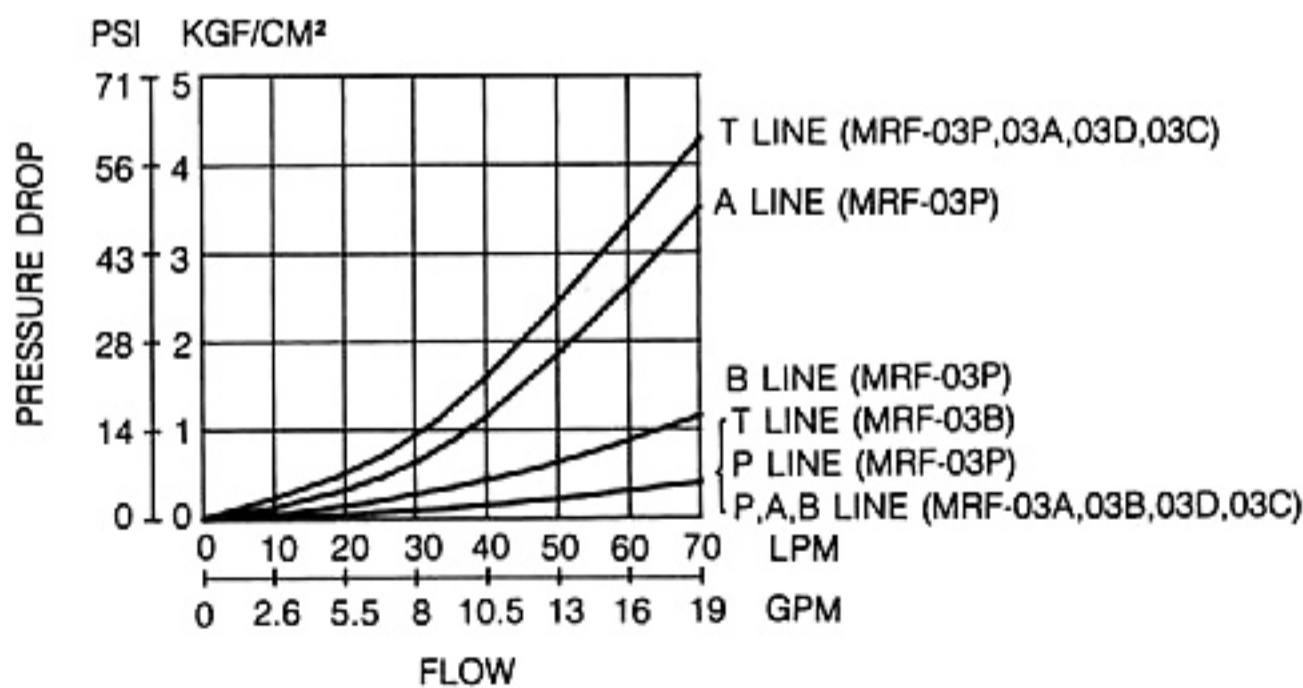
**MIN ADJUSTMENT PRESSURE**



**MIN. FLOW VS. ADJUSTMENT PRESSURE**



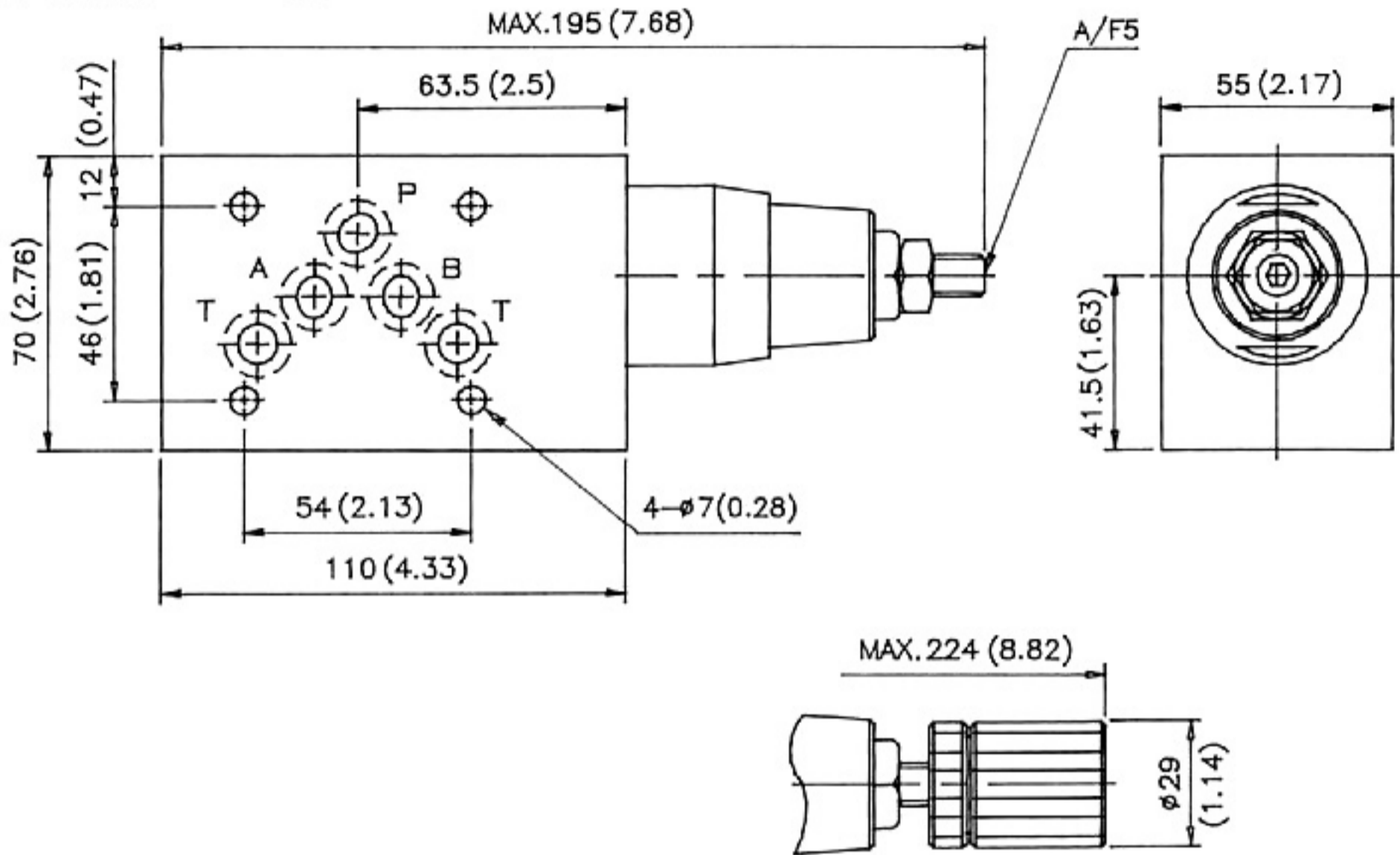
**PRESSURE DROP**



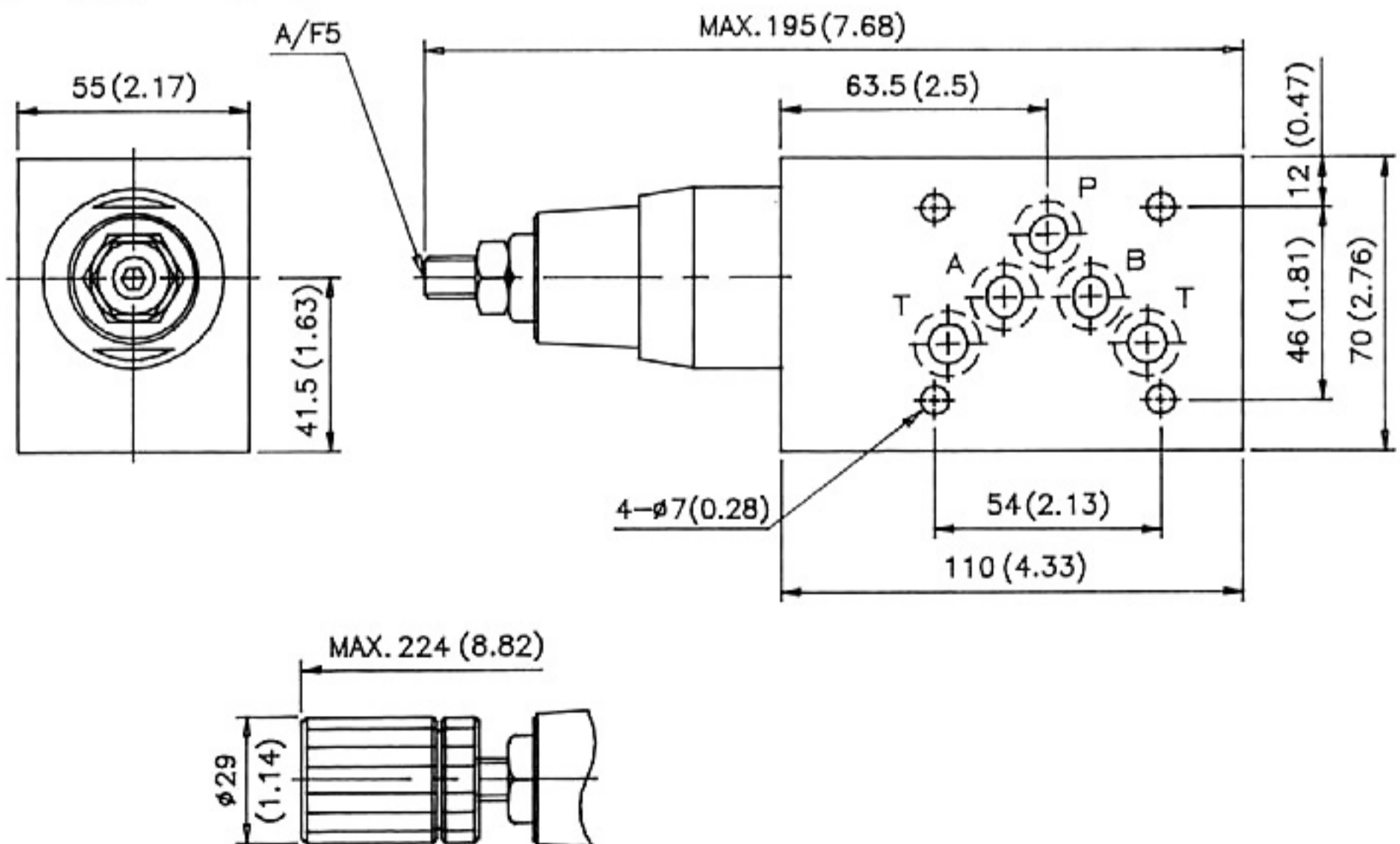
**INSTALLATION DIMENSIONS**

UNIT: mm(inch)  
WEIGHT: 3.3kgs (7.28lbs)

MRF-03P/A - \* - \* - 30



MRF - 03B - \* - \* - 30

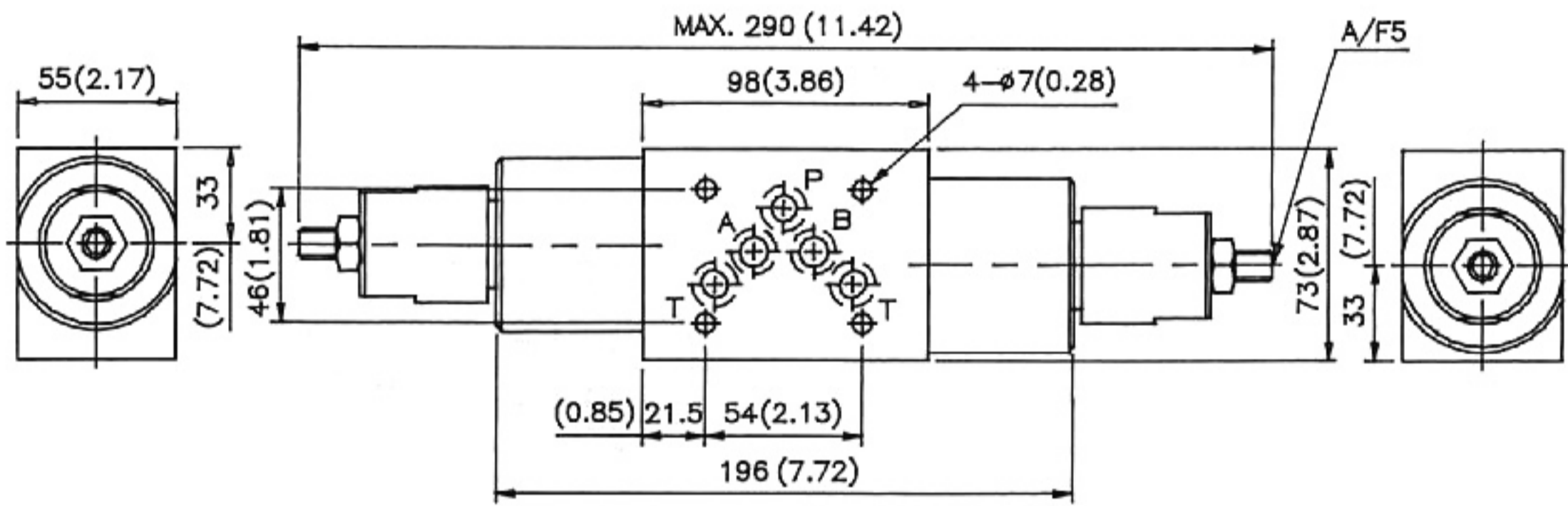


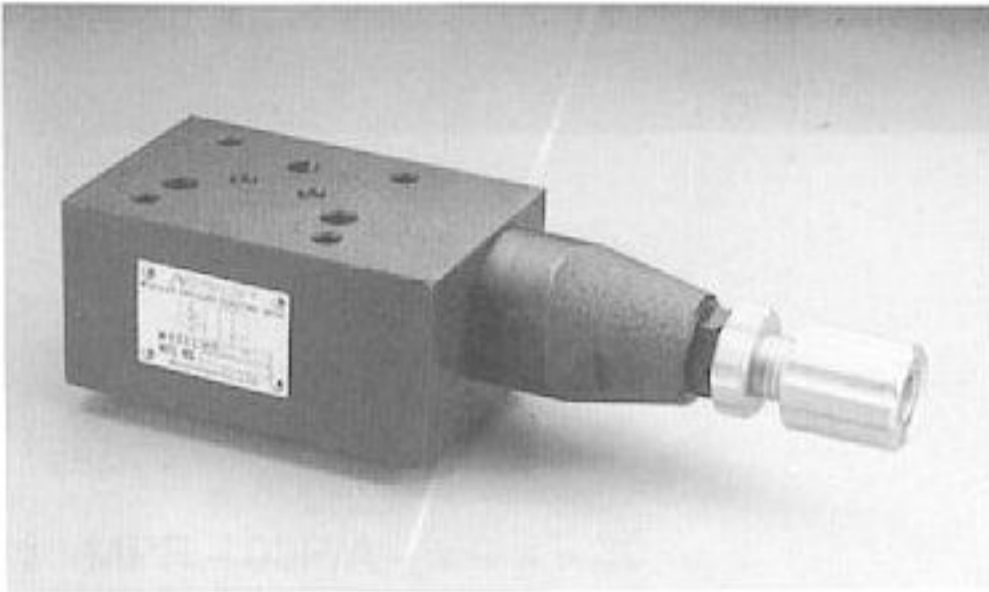
# MRF-03 SERIES

## INSTALLATION DIMENSIONS

UNIT: mm(inch)  
WEIGHT: 3.7 kgs (8.16 lbs)

MRF-03C/D- \* - \* | - \* - 30

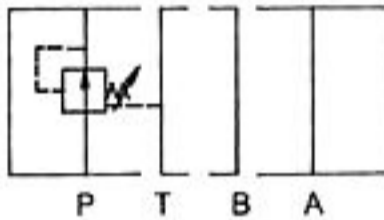




## SPECIFICATIONS

Max. operating pressure	210 Kg/cm <sup>2</sup> (3000PSI)
Max. flow capacity	70 LPM (20 GPM)

## SYMBOLS



MPR-03P<sup>1</sup>



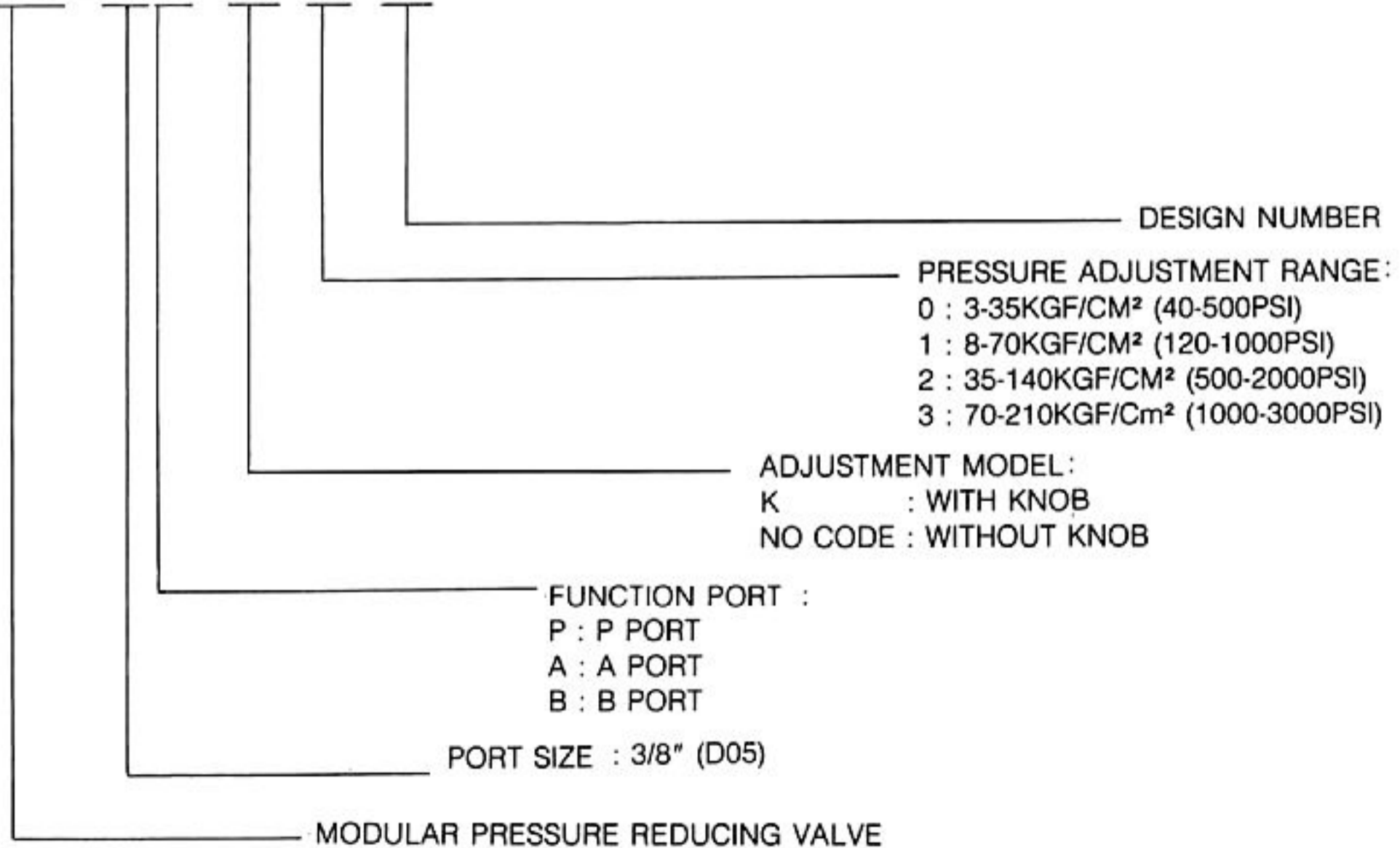
MPR-03A



MPR-03B

## HOW TO ORDER

**MPR - 03P - K - 0 - 30**



# MPR-03 SERIES

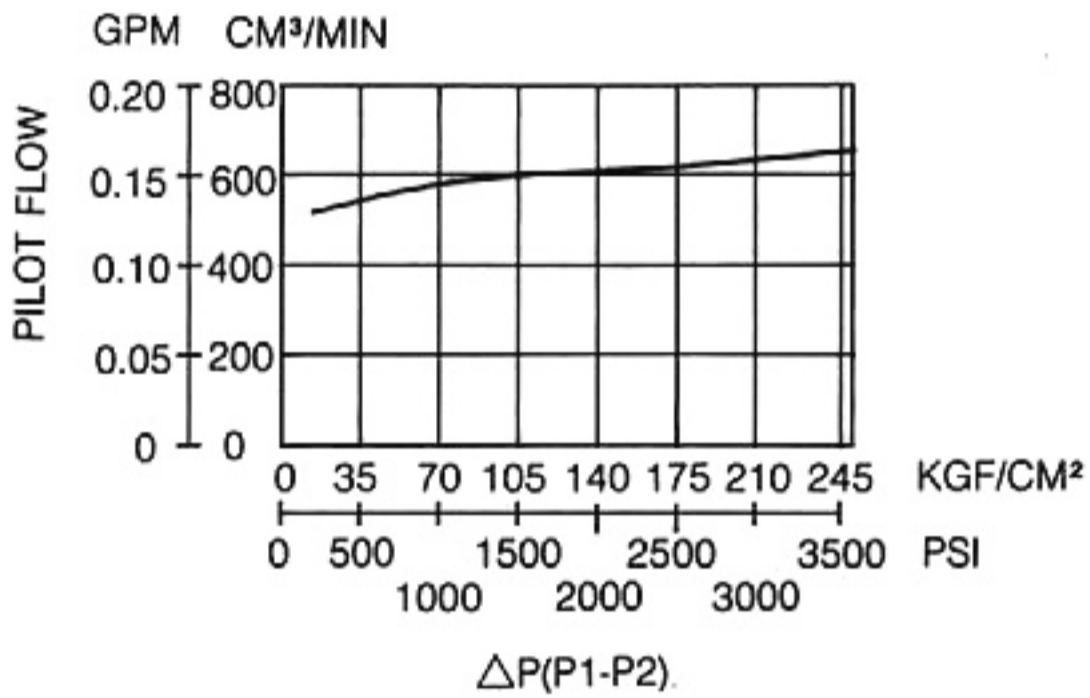
## PERFORMANCE CURVES

### TEST CONDITIONS

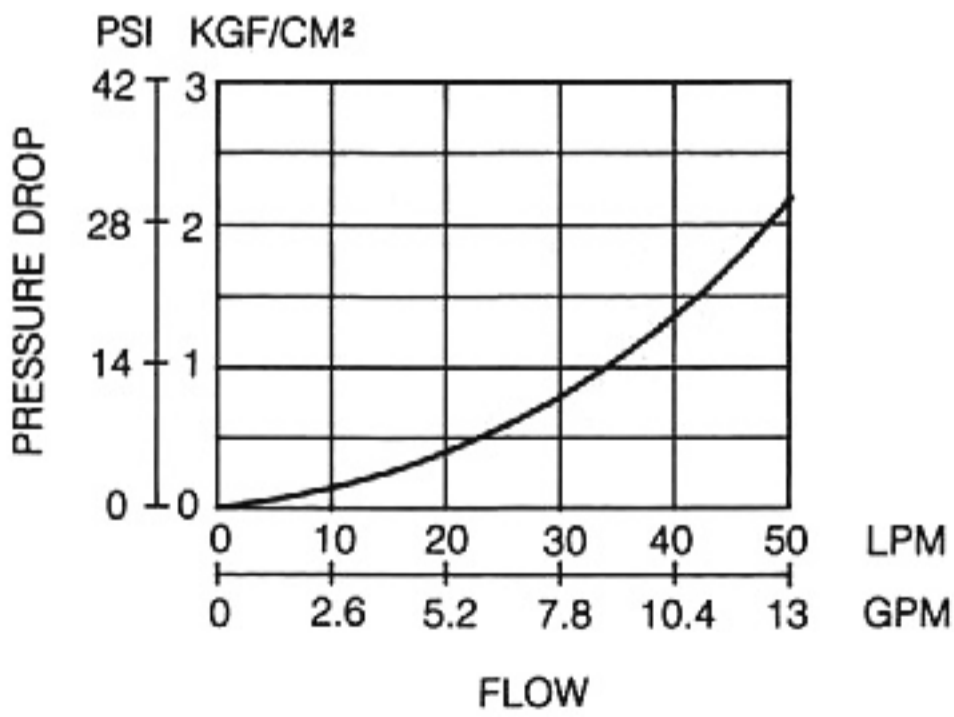
Viscosity: 35 CST

Temperature: 50°C

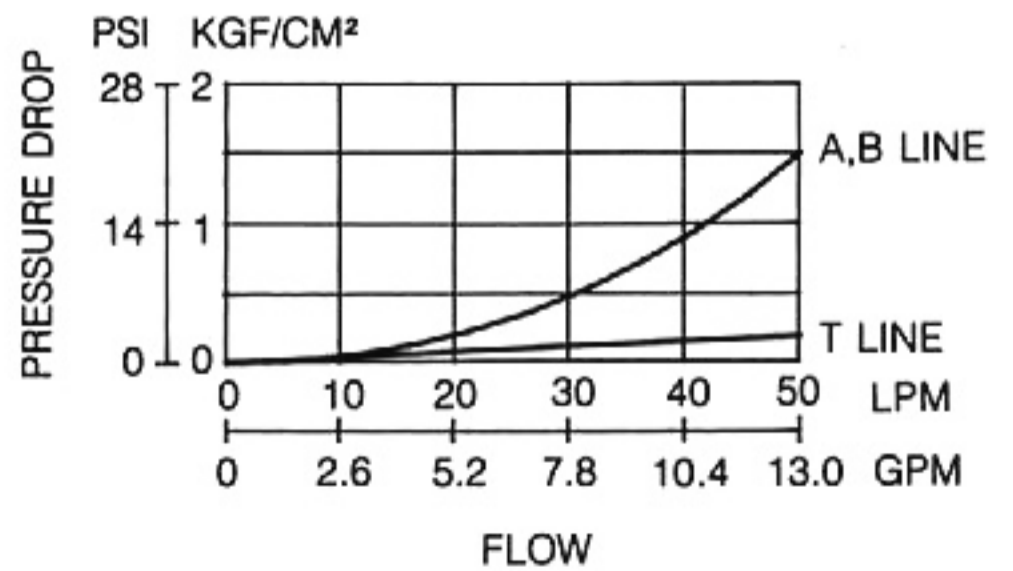
### PILOT FLOW CHART



### PRESSURE DROP AT SPOOL FULLY OPENED (P-LINE)



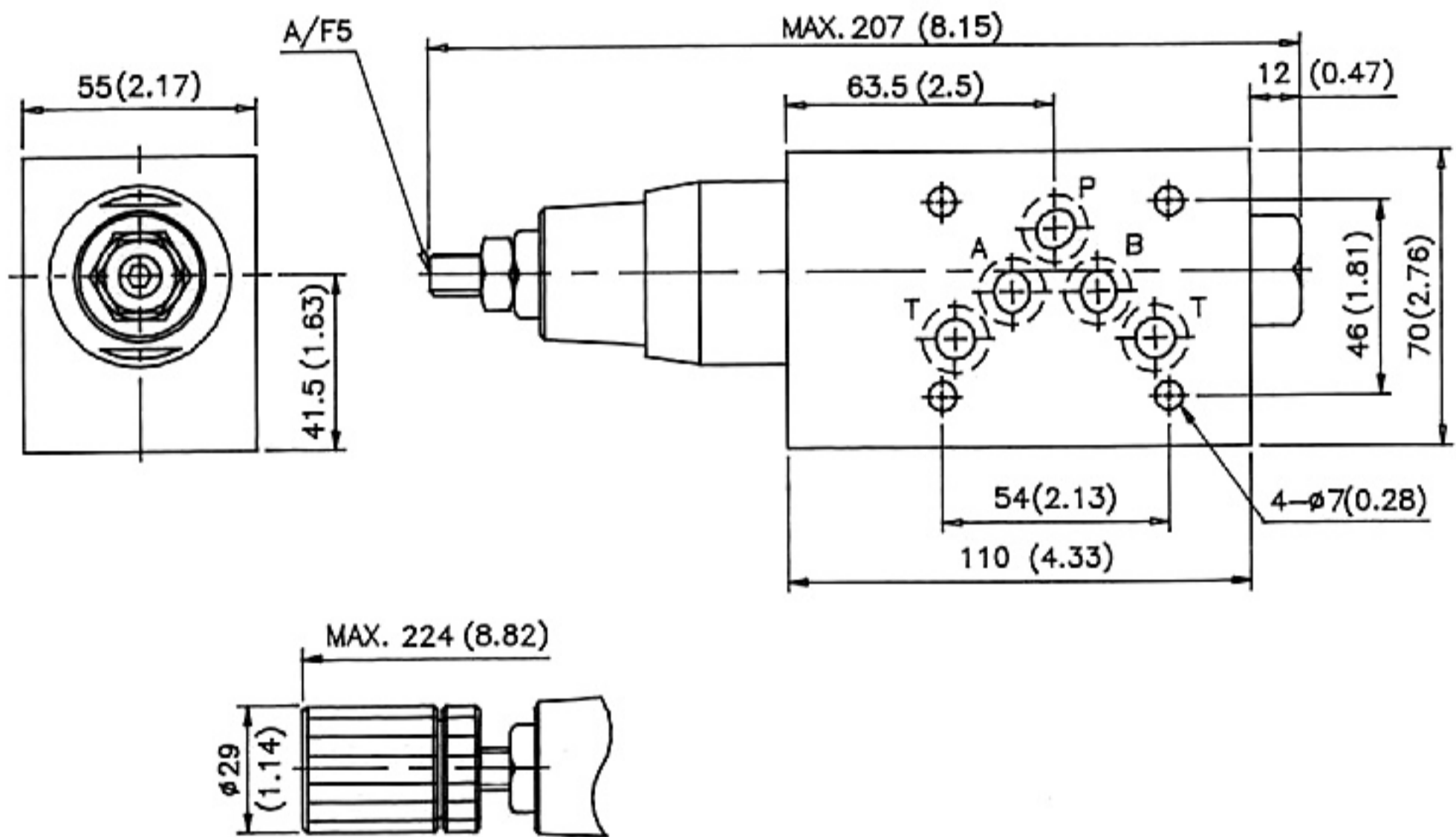
### PRESSURE DROP



INSTALLATION DIMENSIONS

UNIT: mm(inch)  
WEIGHT: 3.4 kgs (7.5 lbs)

MPR-03P/A - \* - \* - 30

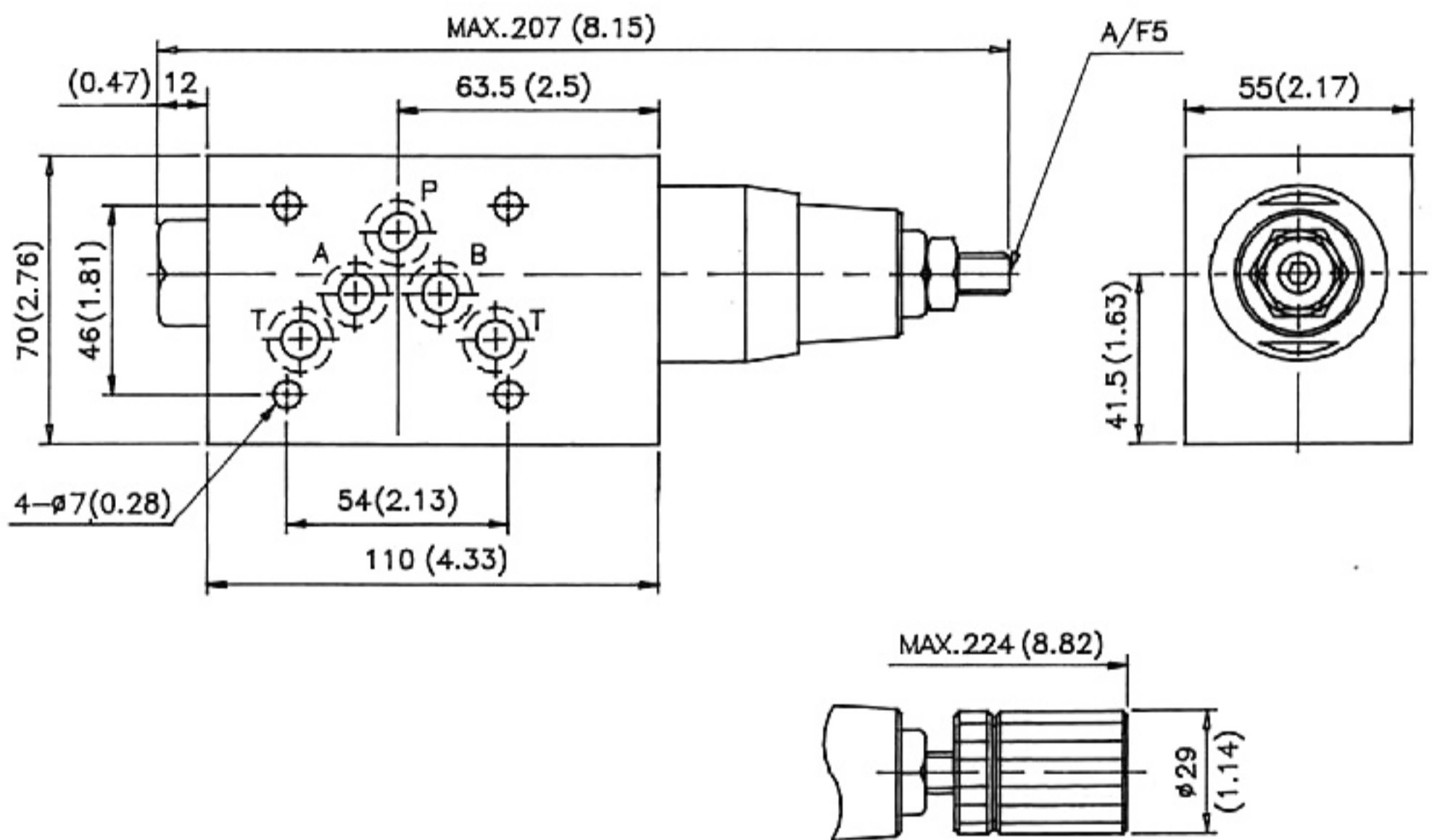


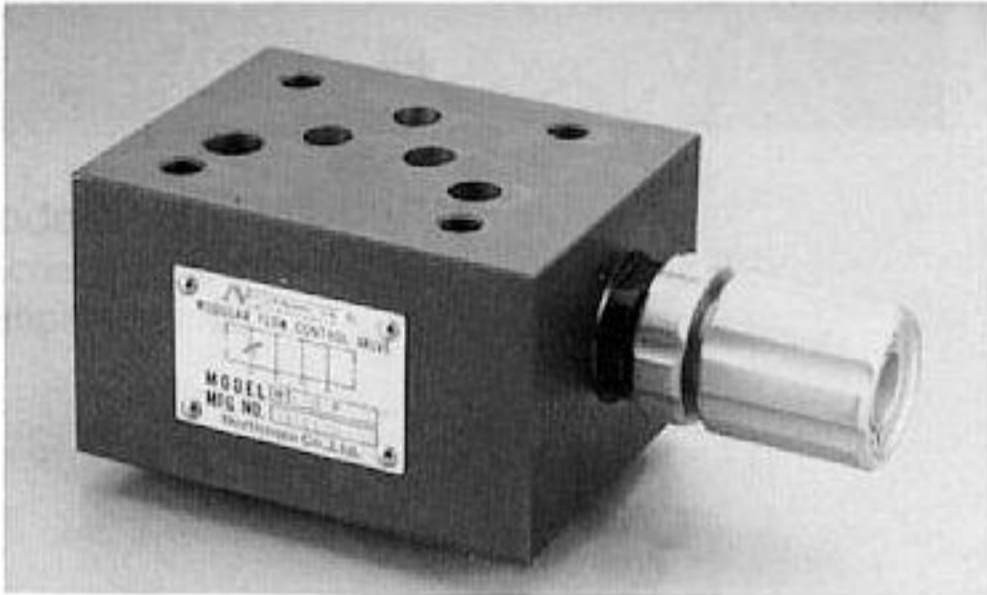
# MPR-03 SERIES

## INSTALLATION DIMENSIONS

UNIT: mm (inch)  
WEIGHT: 3.4 kgs (7.50 lbs)

MPR-03B - \* - \* - 30

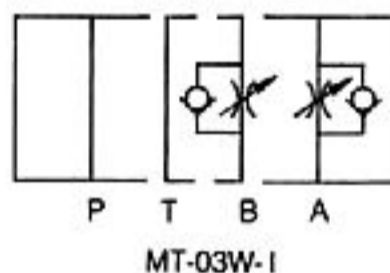
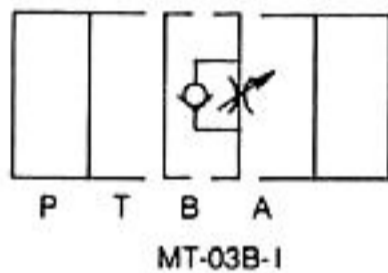
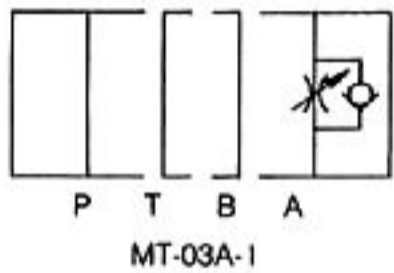
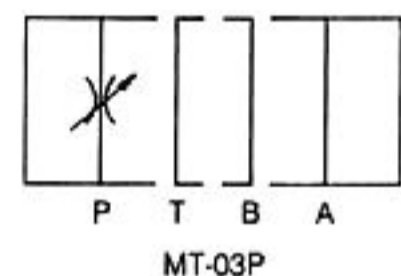
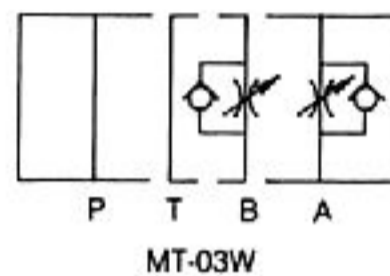
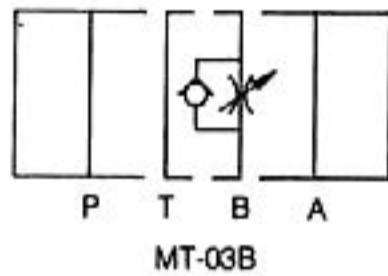
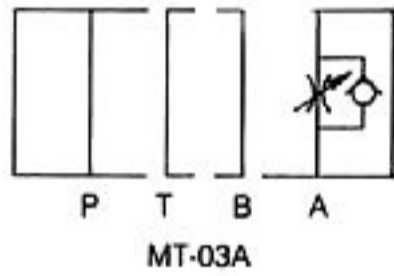




## SPECIFICATIONS

Max. operating pressure	210 Kg/cm <sup>2</sup> (3000PSI)
Max. flow capacity	70 LPM (20 GPM)

## SYMBOLS



## HOW TO ORDER

**MT - 03W - K - I - 30**

DESIGN NUMBER

CONTROLLED MODEL :  
I : METER IN  
NO CODE: METER OUT

ADJUSTMENT MODEL :  
K : WITH KNOB  
NO CODE: WITHOUT KNOB

FUNCTION PORT :  
P : P PORT  
T : T PORT  
A : A PORT  
B : B PORT  
W : A&B PORT

PORT SIZE : 3/8" (D05)

MODULAR PRESSURE REDUCING VALVE

# MT-03 SERIES

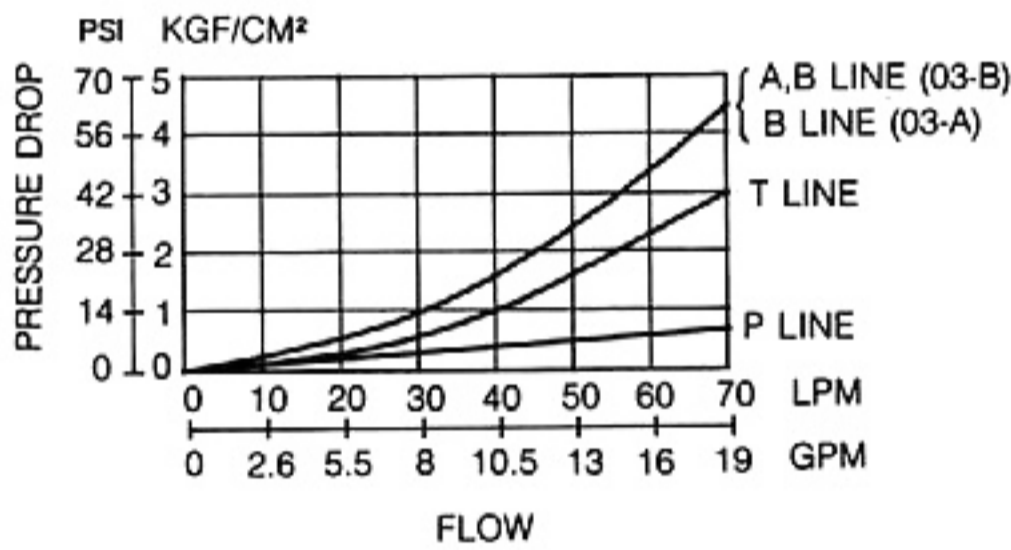
## PERFORMANCE CURVES

Models with MT-03W/A/B

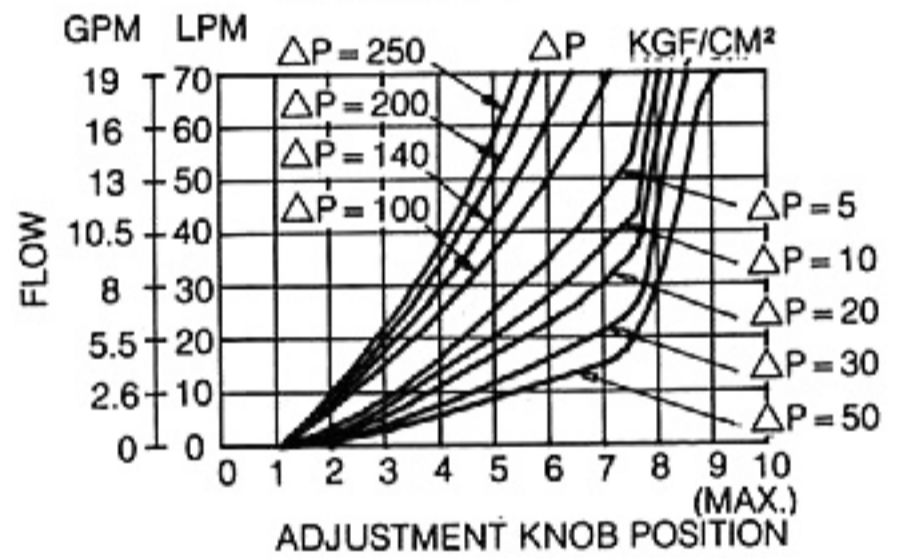
Viscosity: 35 CST

Temperature: 50°C

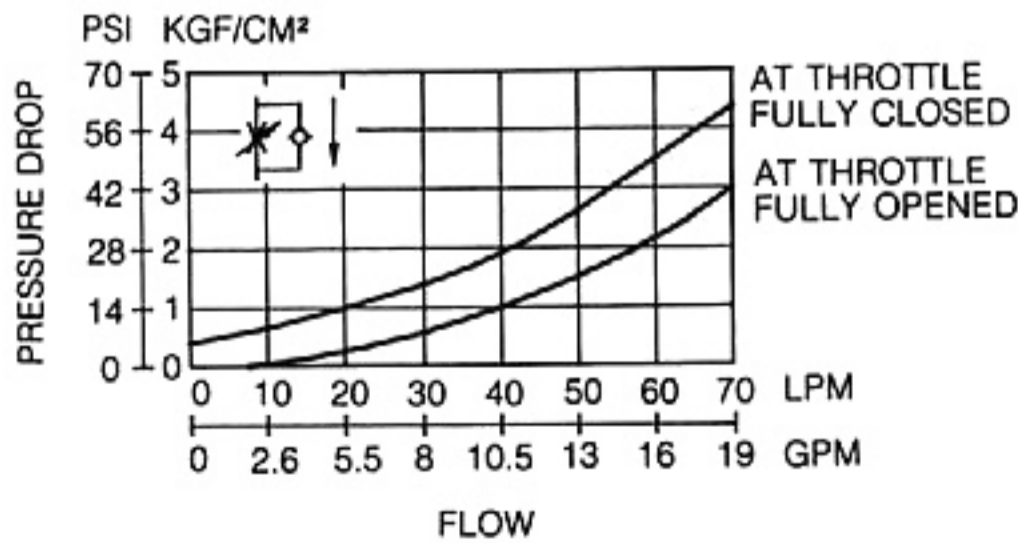
**PRESSURE DROP**



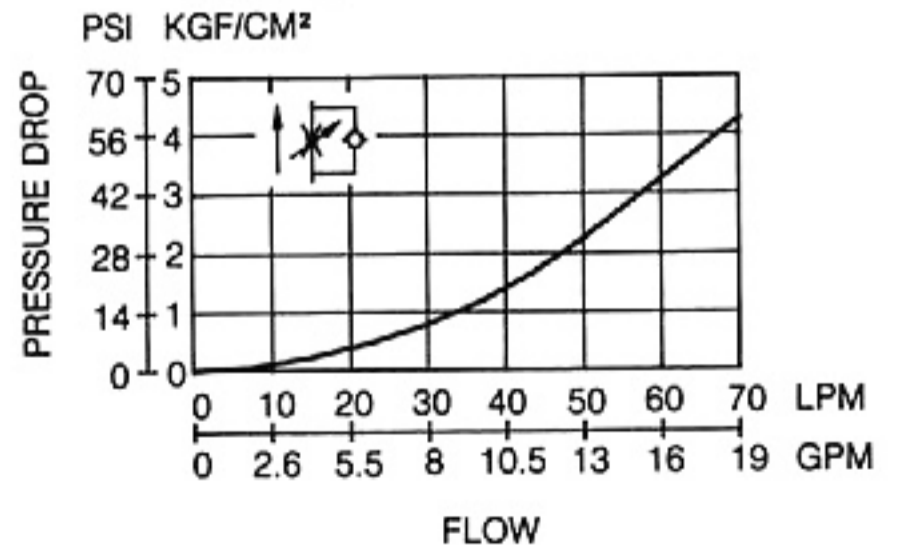
**METERED FLOW VS. DIAL POSITION**



**PRESSURE DROP FOR FREE FLOW**



**PRESSURE DROP AT THROTTLE FULLY OPENED**

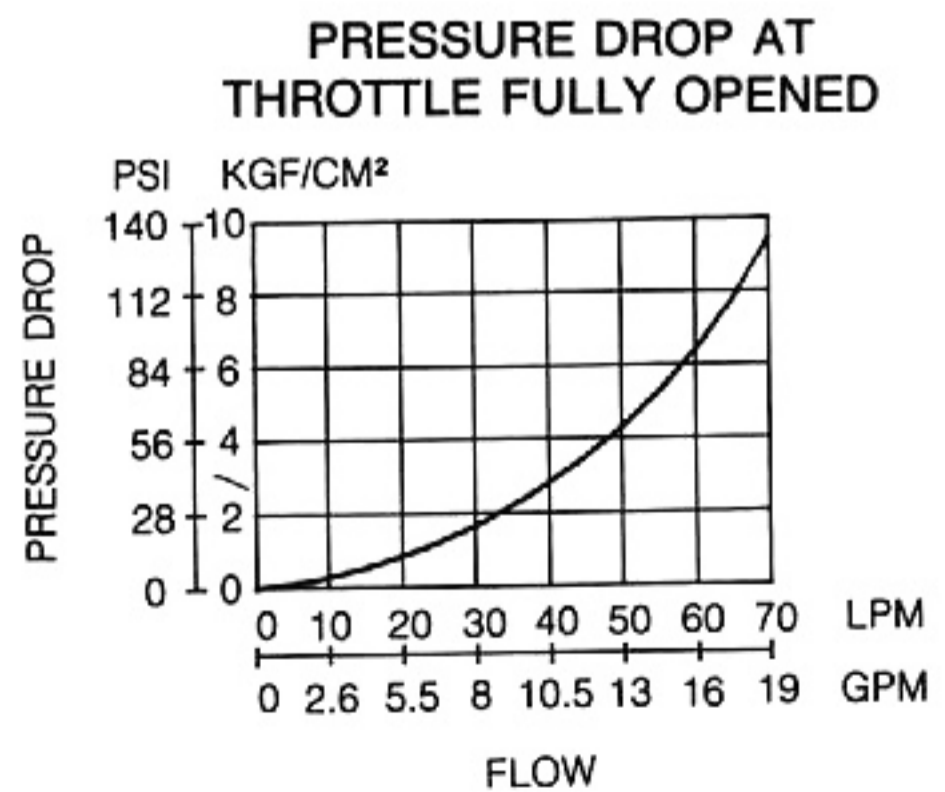
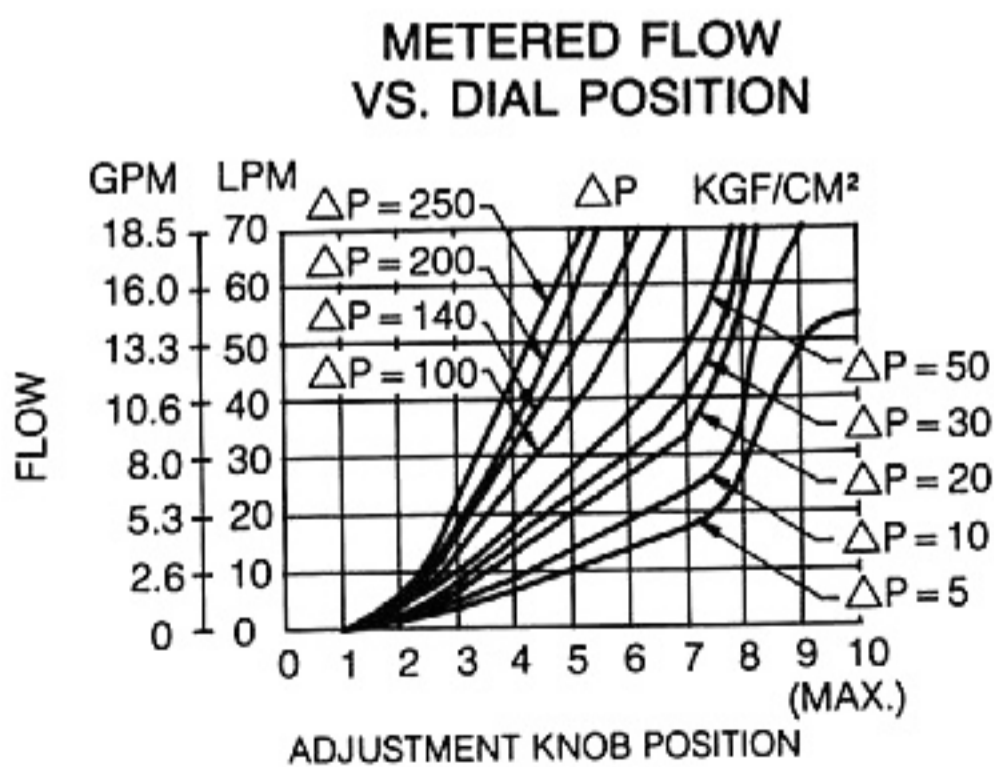
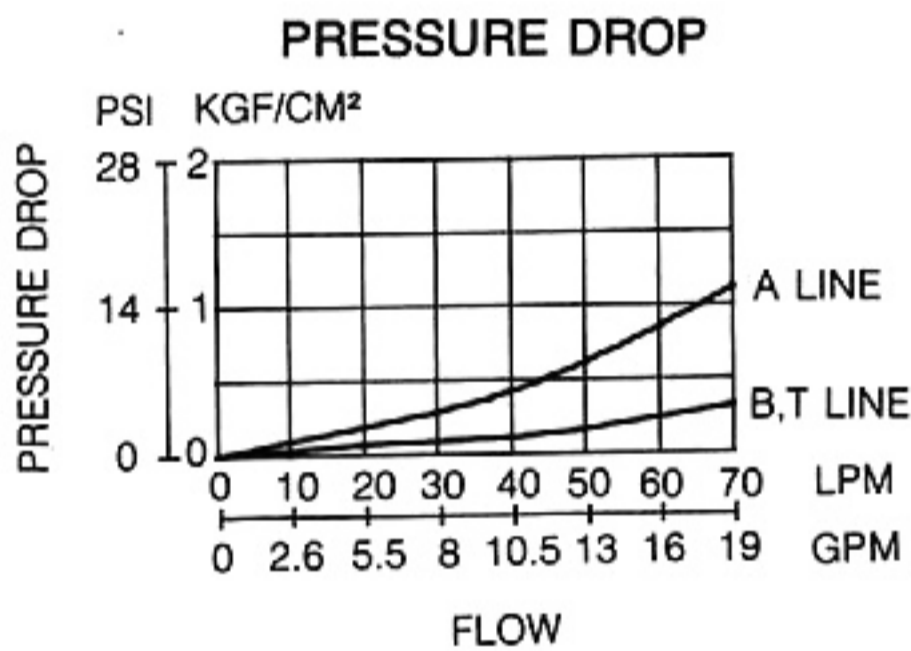


## PERFORMANCE CURVES

Models with MT-03P/T

Viscosity: 35 CST

Temperature: 50°C

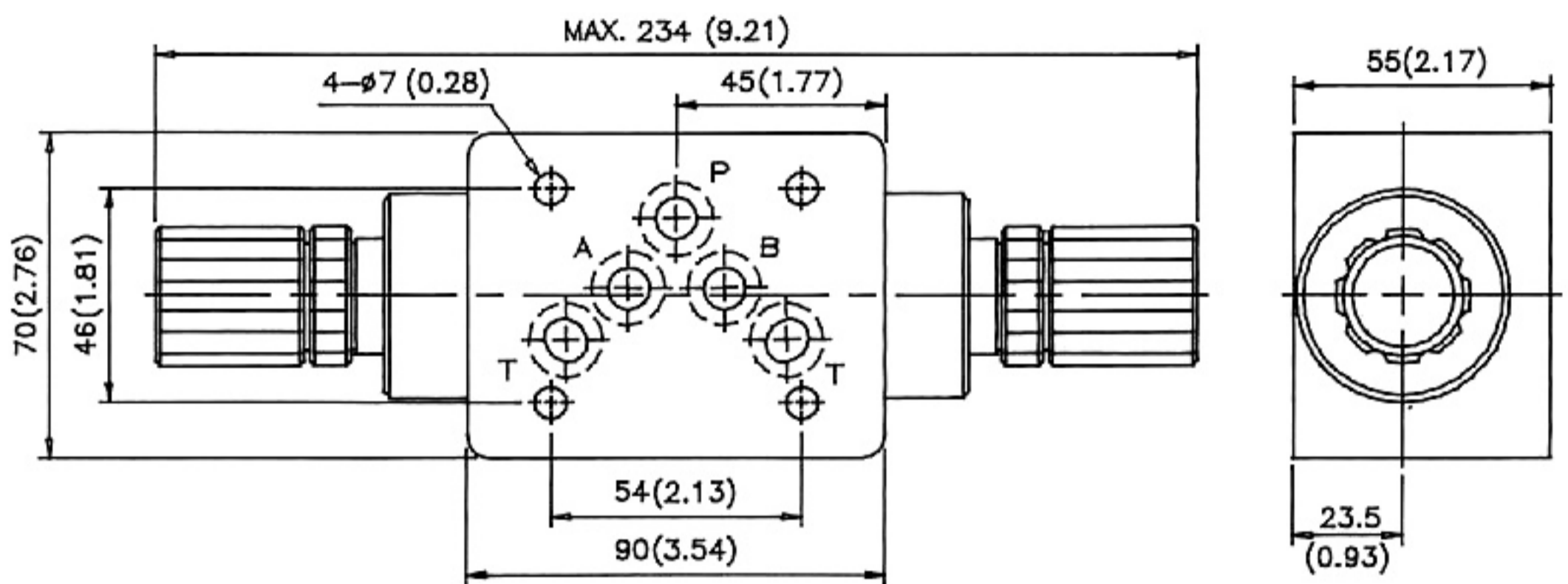


# MT-03 SERIES

## INSTALLATION DIMENSIONS

UNIT: mm(inch)  
WEIGHT: 2.8 kgs (6.171 lbs)

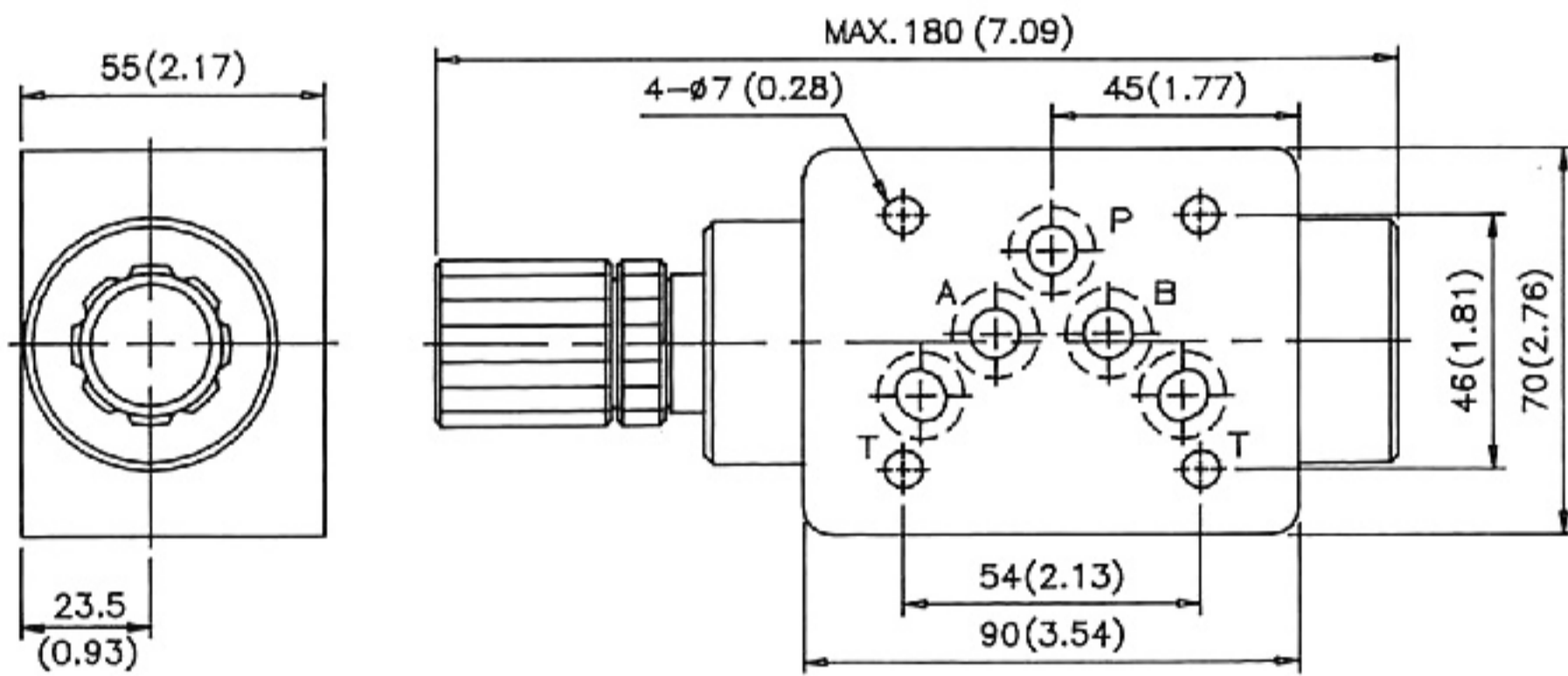
MT-03W - \* - \* - 30



**INSTALLATION DIMENSIONS**

UNIT: mm (inch)  
WEIGHT: 2.4 kgs(5.29lbs)

MT-03A - \* - \* - 30

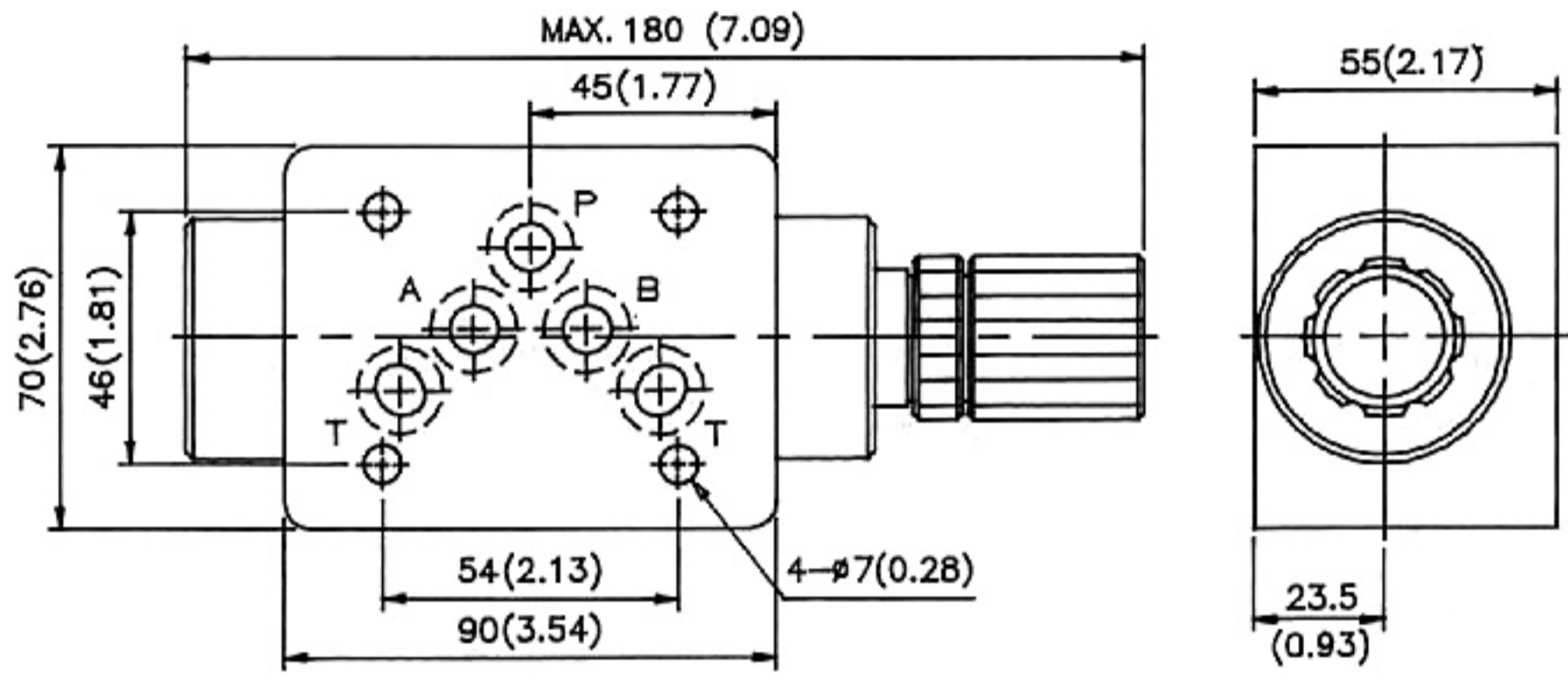


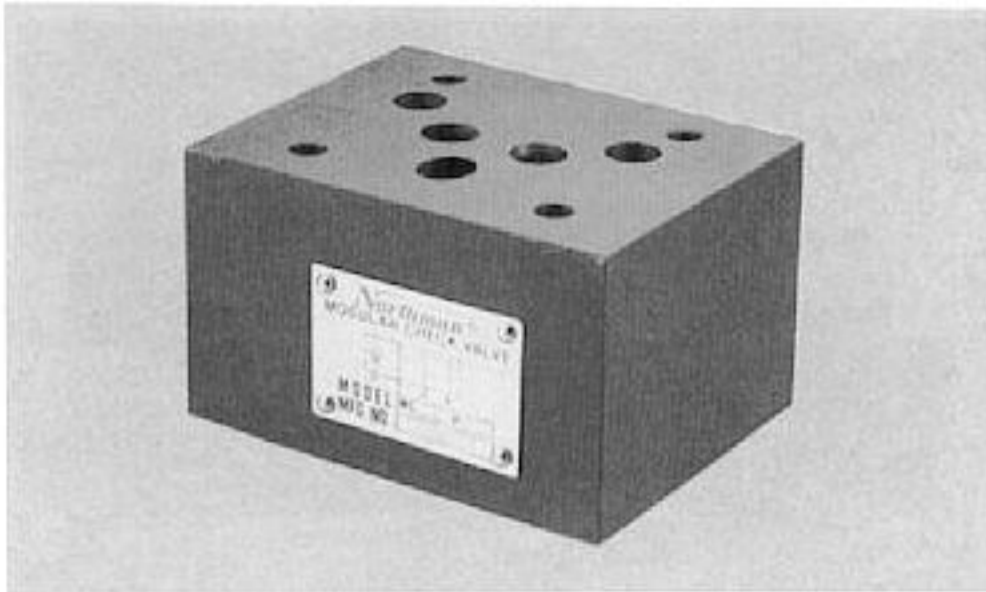
# MT-03 SERIES

## INSTALLATION DIMENSIONS

UNIT: mm (inch)  
WEIGHT: 2.4kgs(5.29lbs)

MT-03B-\*\*-\*\*-30

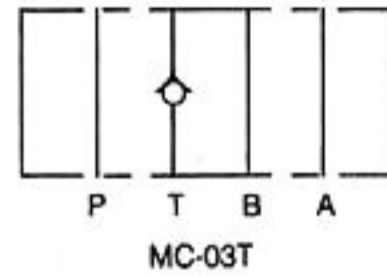
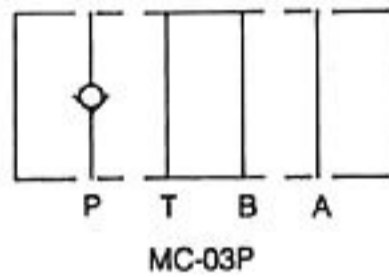




## SPECIFICATIONS

Max. operating pressure	210 Kg/cm <sup>2</sup> (3000PSI)
Max. flow capacity	70 LPM (20 GPM)

## SYMBOLS



## HOW TO ORDER

**MC - 03P - 05 - 30**

DESIGN NUMBER

CRACKING PRESSURE:  
05 : 0.5KGF/CM<sup>2</sup> (7PSI)  
50 : 3.5KGF/CM<sup>2</sup> (50PSI)

FUNCTION PORT :  
P : P PORT  
T : T PORT

PORT SIZE : 3/8" (D05)

MODULAR CHECK VALVE

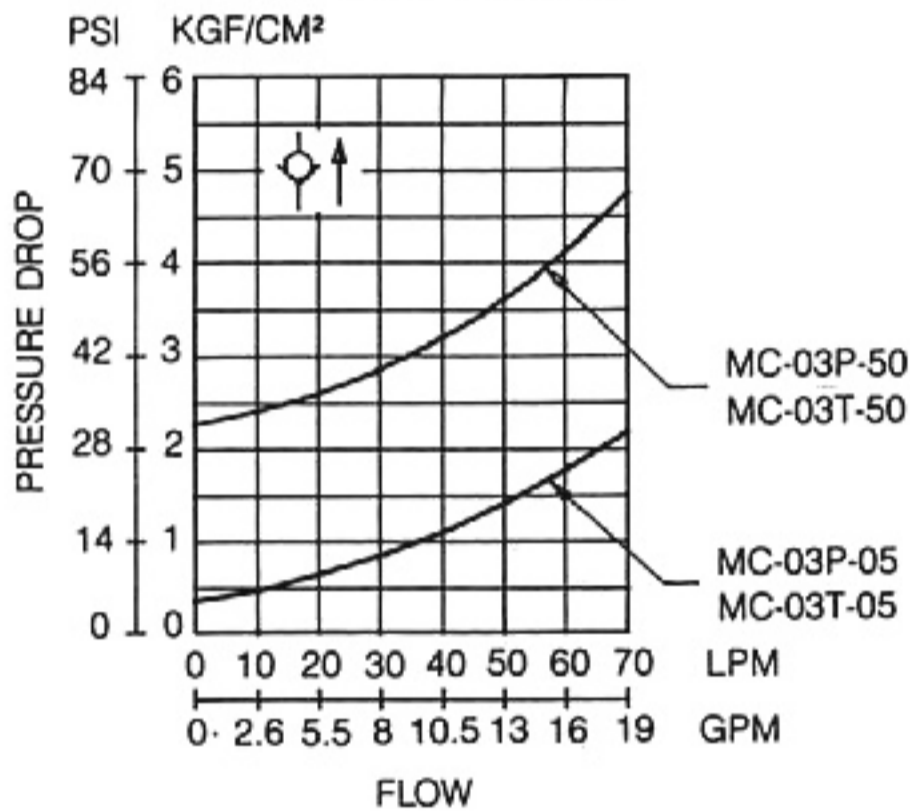
# MC-03 SERIES

## PERFORMANCE CURVES

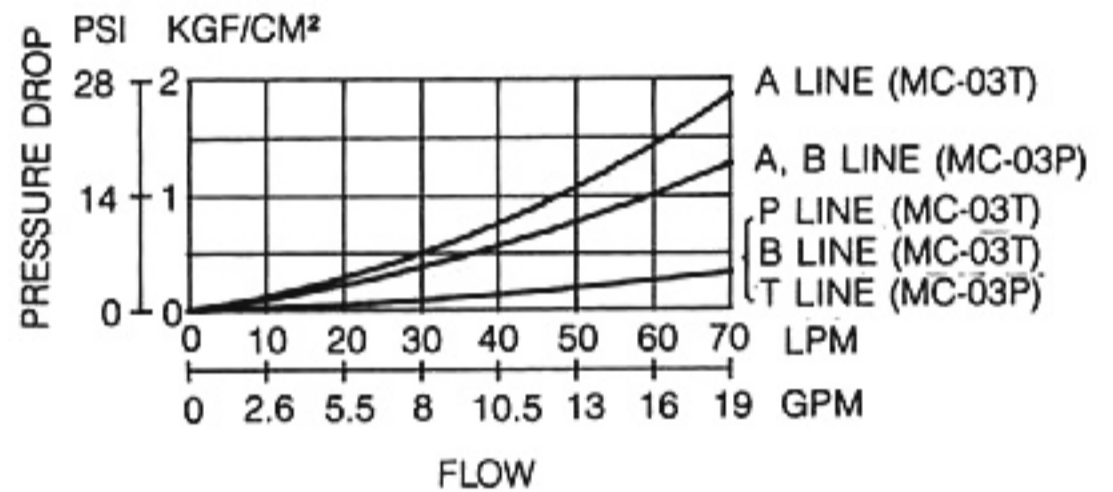
### TEST CONDITIONS

Viscosity: 35 CST  
 Temperature: 50°C

### PRESSURE DROP FOR FREE FLOW



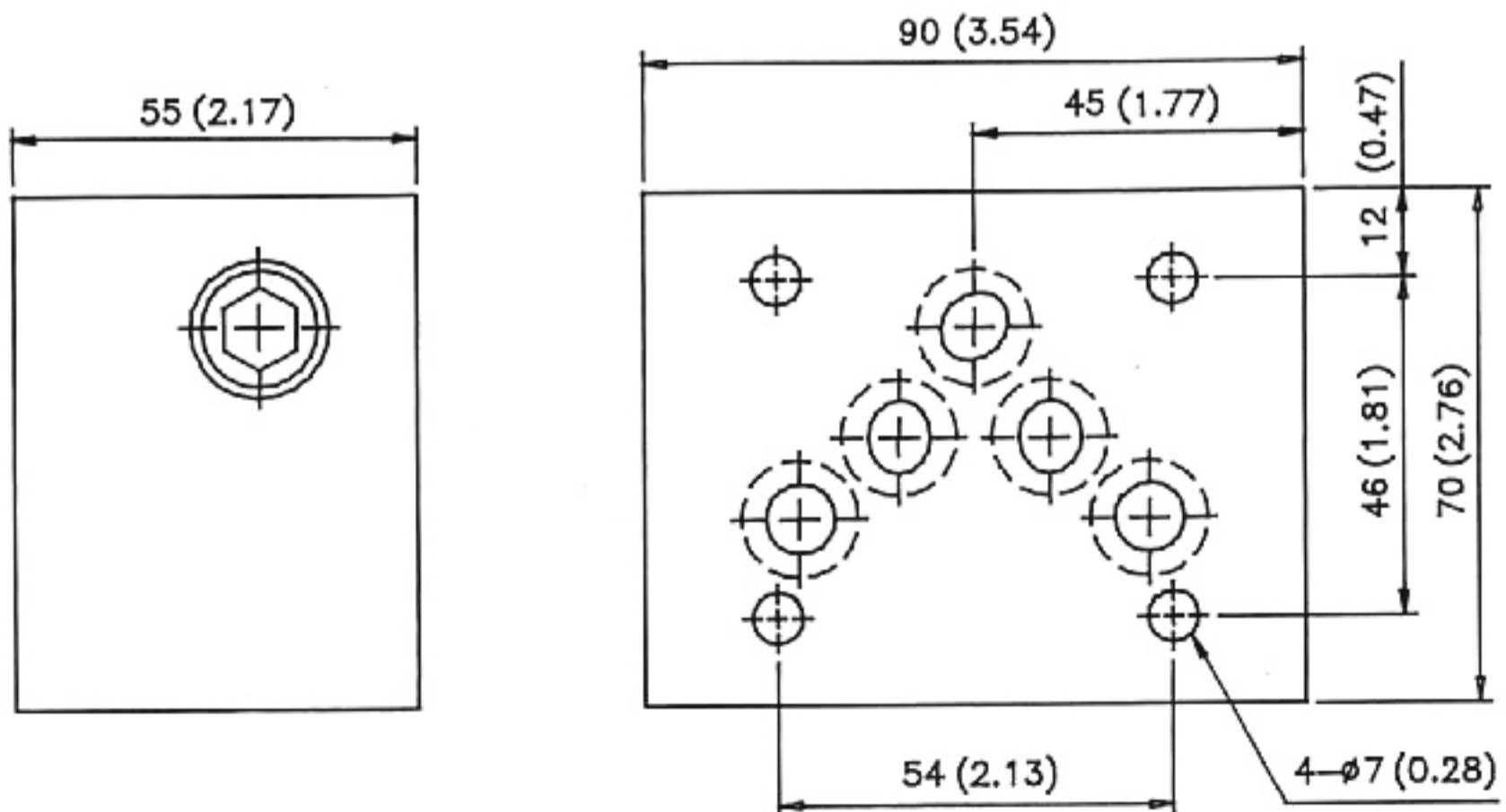
### PRESSURE DROP

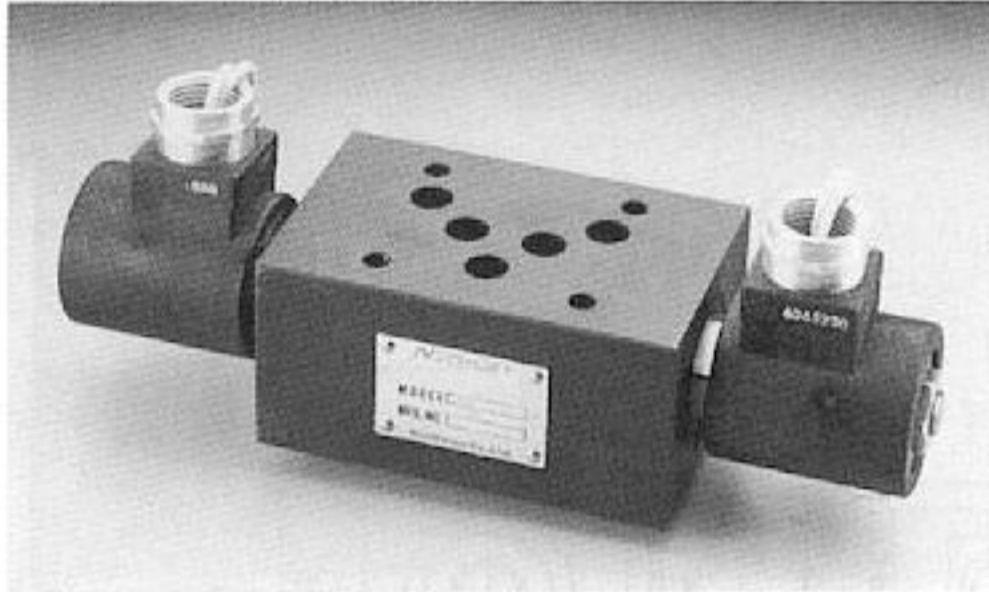


## INSTALLATION DIMENSIONS

UNIT: mm(inch)  
 WEIGHT: 2.3kgs(5.07lbs)

MC-03\* - \*\* - 30

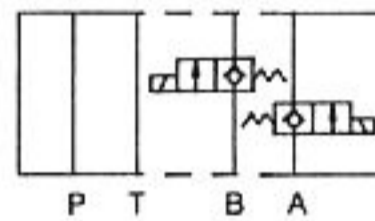




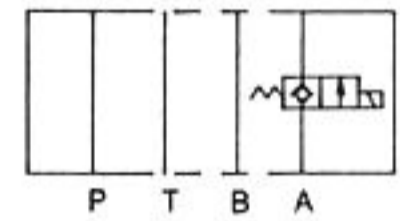
## SPECIFICATIONS

Max. operating pressure	210 Kg/cm <sup>2</sup> (3000PSI)
Max. flow capacity	30 LPM (8 GPM)

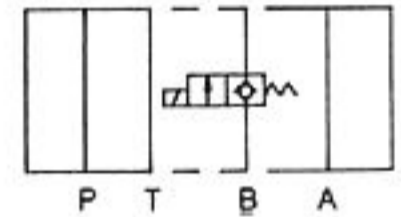
## SYMBOLS



MSC-03W-\*\*\*\*-NC-\*\*



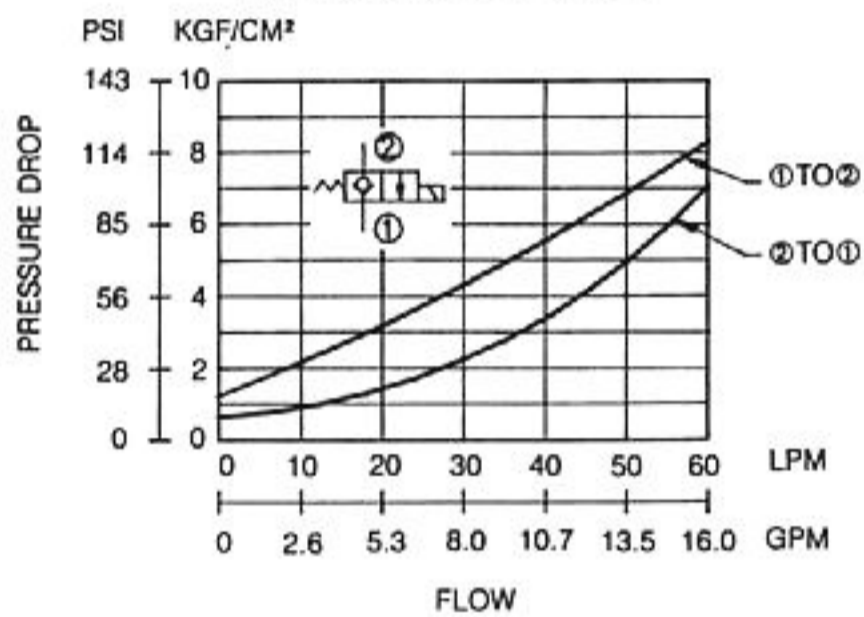
MSC-03A-\*\*\*\*-NC-\*\*



MSC-03B-\*\*\*\*-NC-\*\*

## PERFORMANCE CURVES

### PRESSURE DROP



## HOW TO ORDER

**MSC - 03W - 230AP - NC - 10**

OPTION :

10: WITHOUT MANUAL OVERRIDE OPTION

20: WITH MANUAL OVERRIDE OPTION

CONTROLLED MODEL  
NC: NORMALLY CLOSED

WIRING:

AP: 1/2" CONDUIT FOR AC COIL

DL: LEADWIRES FOR DC COIL

AG: DIN CONNECTOR FOR AC COIL

DG: DIN CONNECTOR FOR DC COIL

COIL VOLTAGE:

12: 12VDC

24: 24VDC

115: 115VAC

230: 230VAC

FUNCTION PORT :

W: A & B PORT

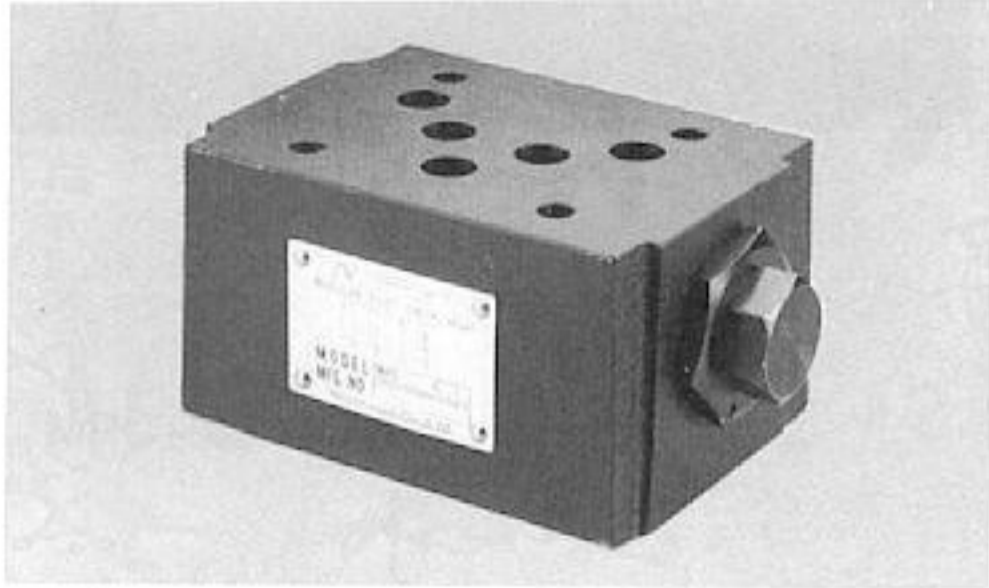
A: A PORT

B: B PORT

PORT SIZE: 3/8" (D05)

MODULAR SOLENOID CHECK VALVE

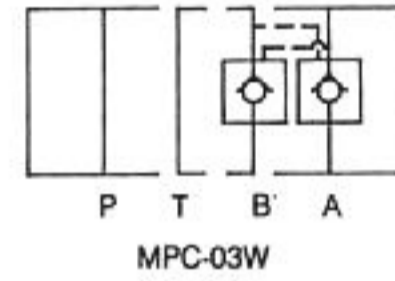
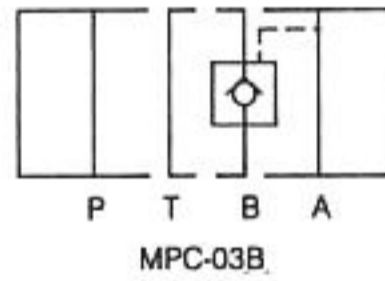
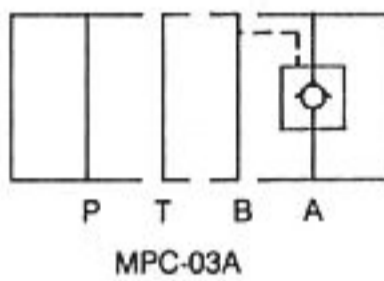




## SPECIFICATIONS

Max. operating pressure	210 Kgf/cm <sup>2</sup> (3000PSI)
Max. flow capacity	70 LPM (20 GPM)

## SYMBOLS



## HOW TO ORDER

**MPC-03W-30**

DESIGN NUMBER

FUNCTION PORT :  
A : A PORT  
B : B PORT  
W : A&B PORT

PORT SIZE : 3/8" (D05)

MODULAR CHECK VALVE

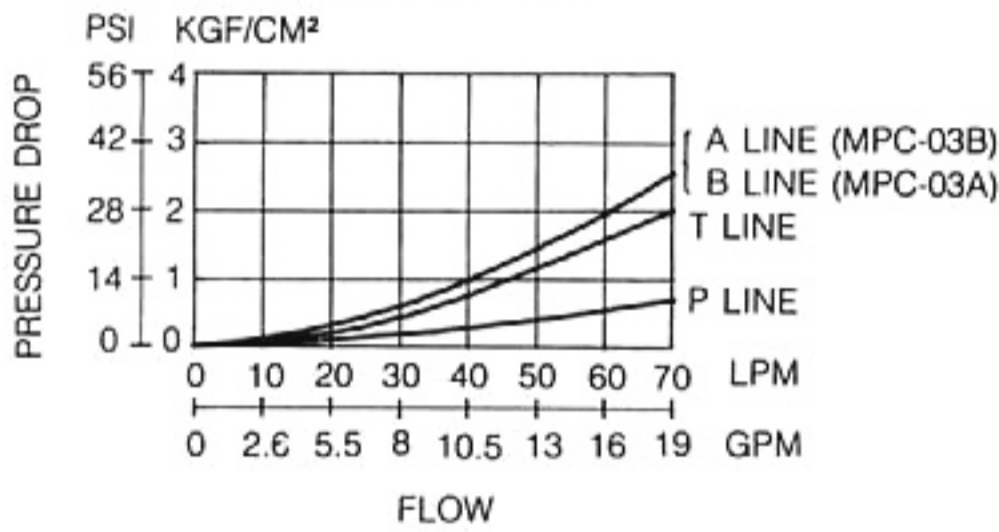
# MPC-03 SERIES

## PERFORMANCE CURVES

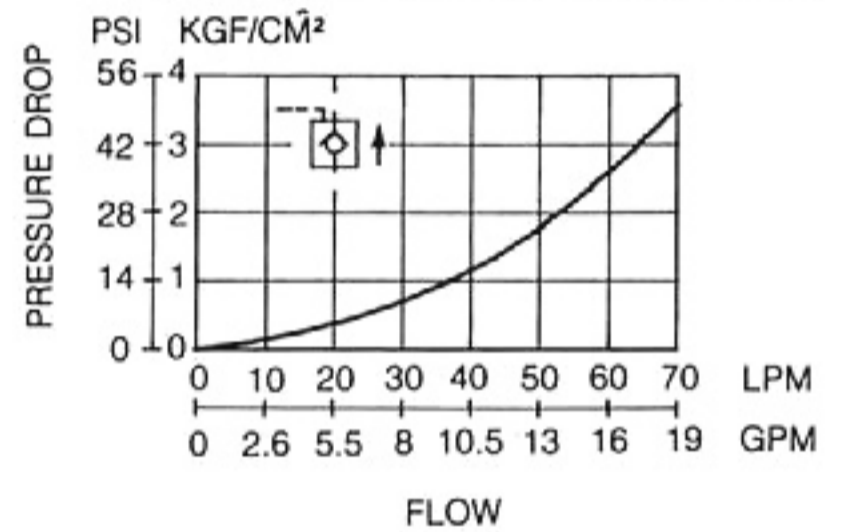
### TEST CONDITIONS

Viscosity: 35 CST  
 Temperature: 50°C

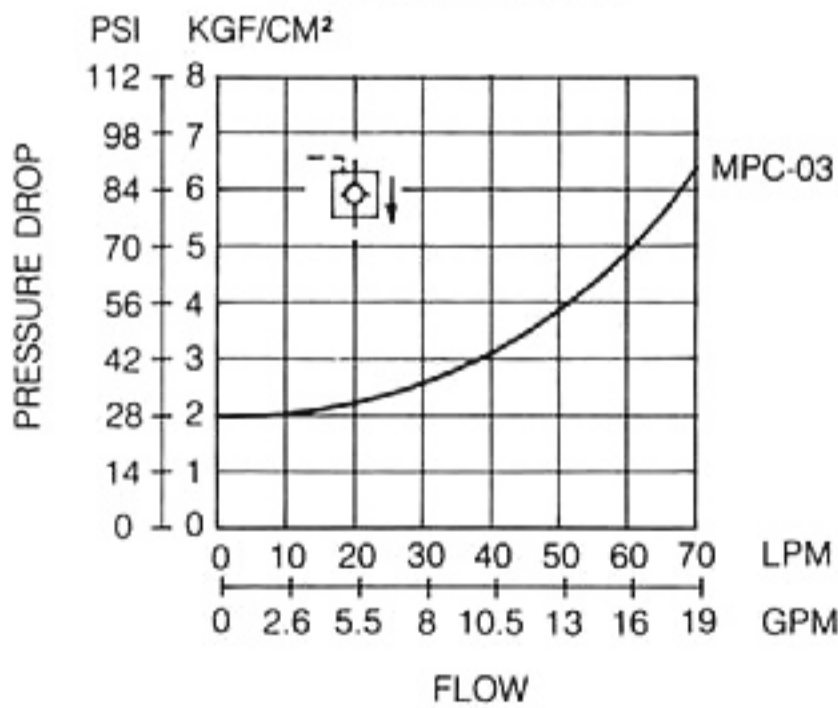
**PRESSURE DROP**



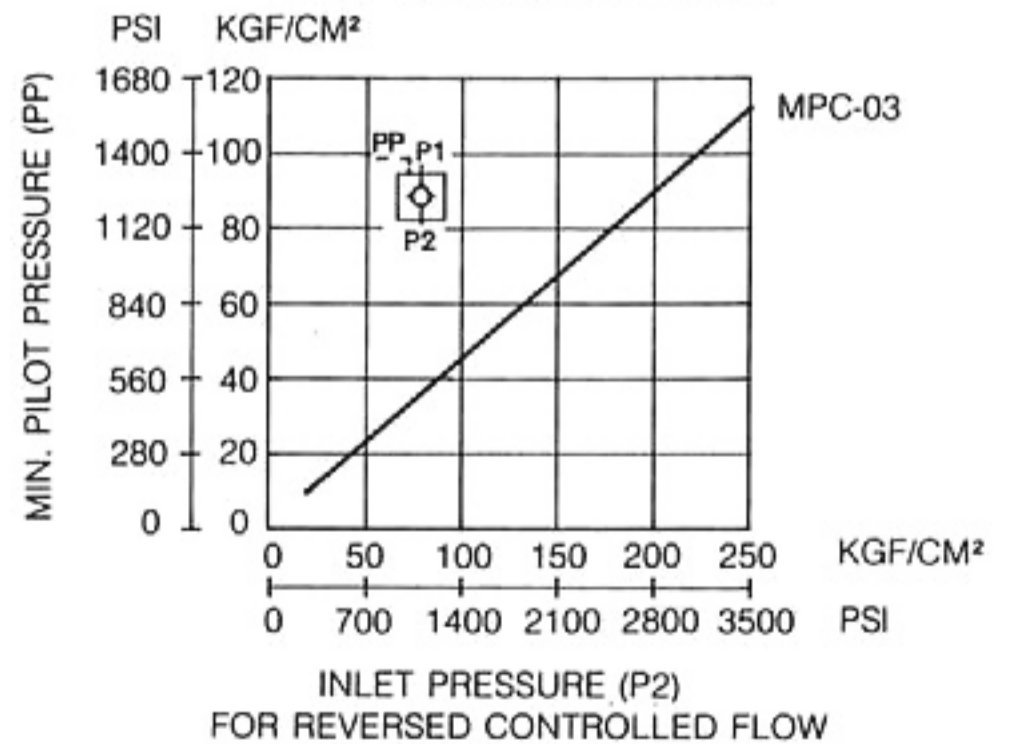
**PRESSURE DROP FOR REVERSED CONTROLLED FLOW**



**PRESSURE DROP FOR FREE FLOW**



**MIN. PILOT PRESSURE**

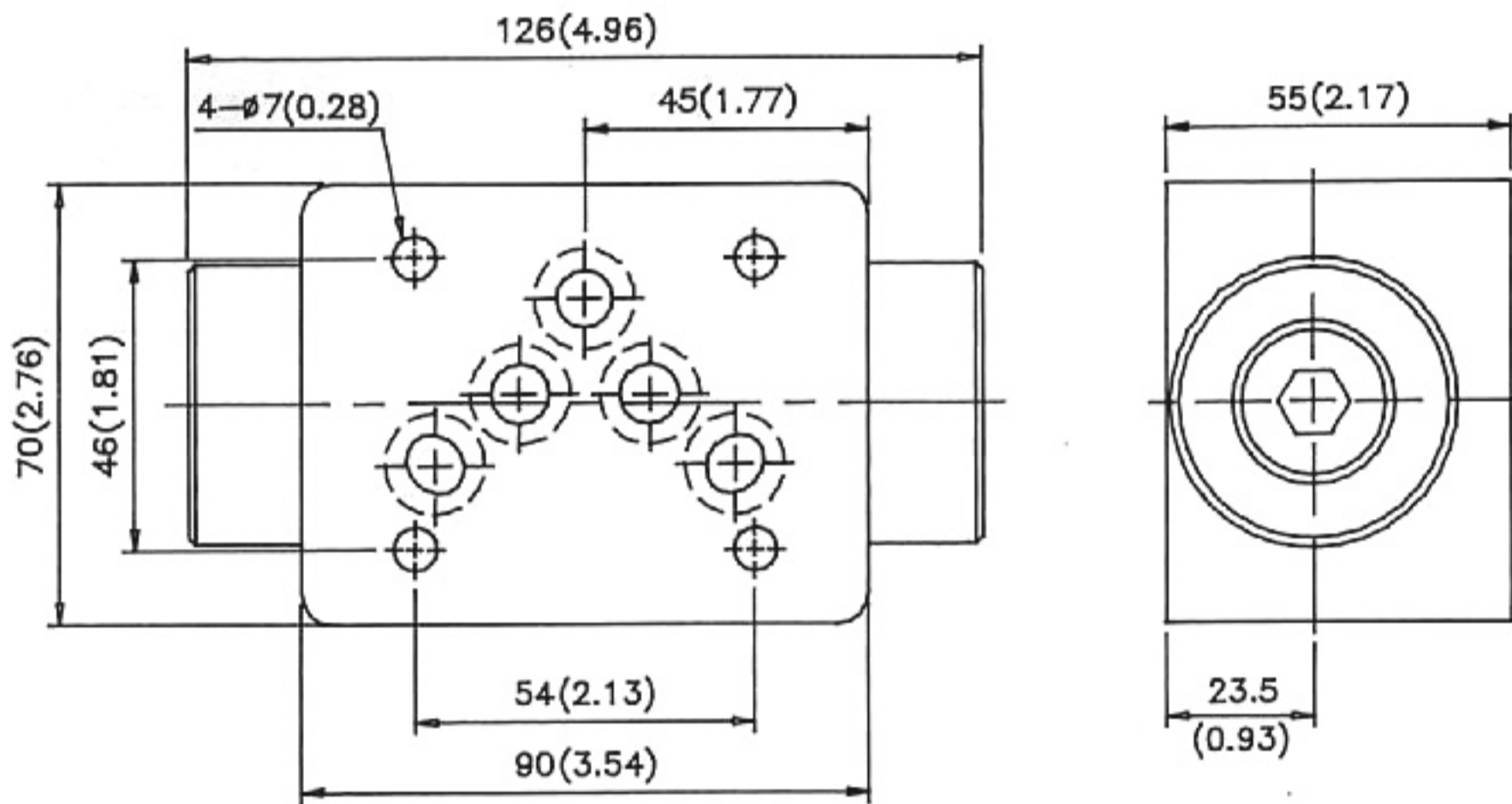


INSTALLATION DIMENSIONS

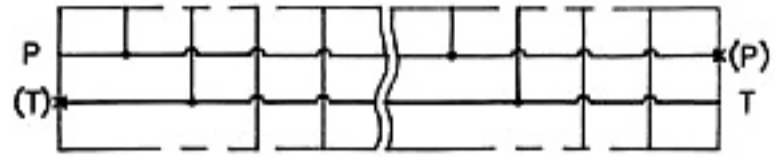
UNIT: mm(inch)

WEIGHT: 3.4 kgs (7.5lbs)

MPC-03 \* - 30



## SYMBOLS



## HOW TO ORDER

M02 - 1E - 1

THREAD :

- 1 : PT
- 2 : NPT

NUMBER OF STATIONS

PORT SIZE :

- 02 : 1/4" (D03)
- 03 : 3/8" (D05)

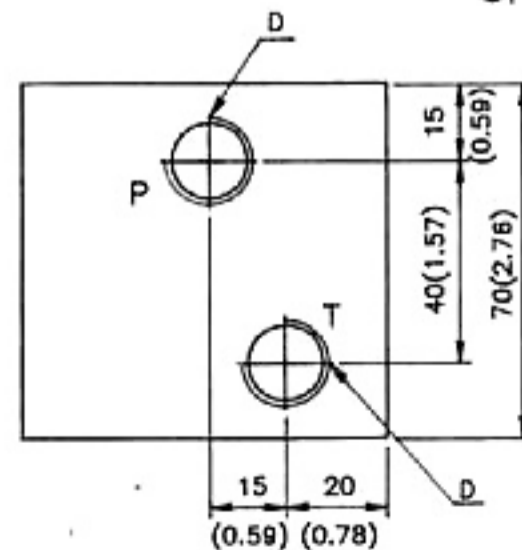
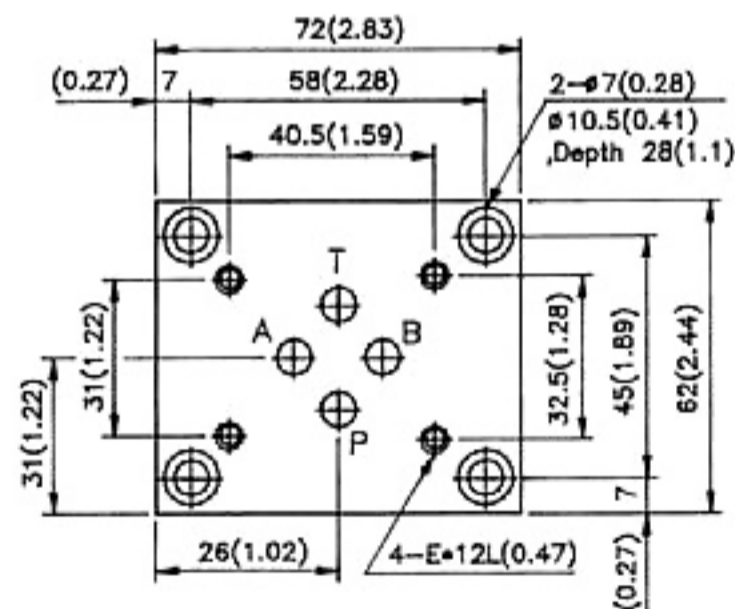
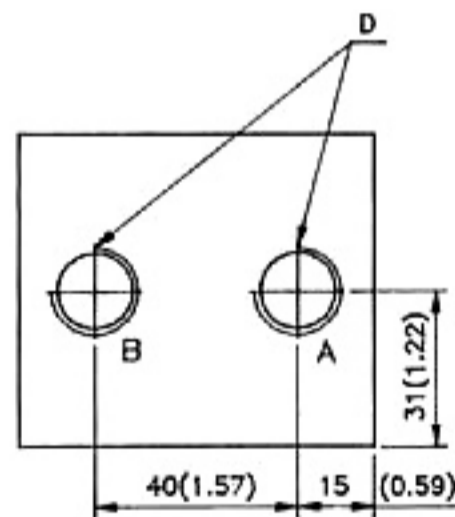
MULTI-STATION MANIFOLD BLOCKS

## INSTALLATION DIMENSIONS

UNIT: mm (inch)

WEIGHT: 2.1 kgs (4.62 lbs)

M02 - 1E - \*



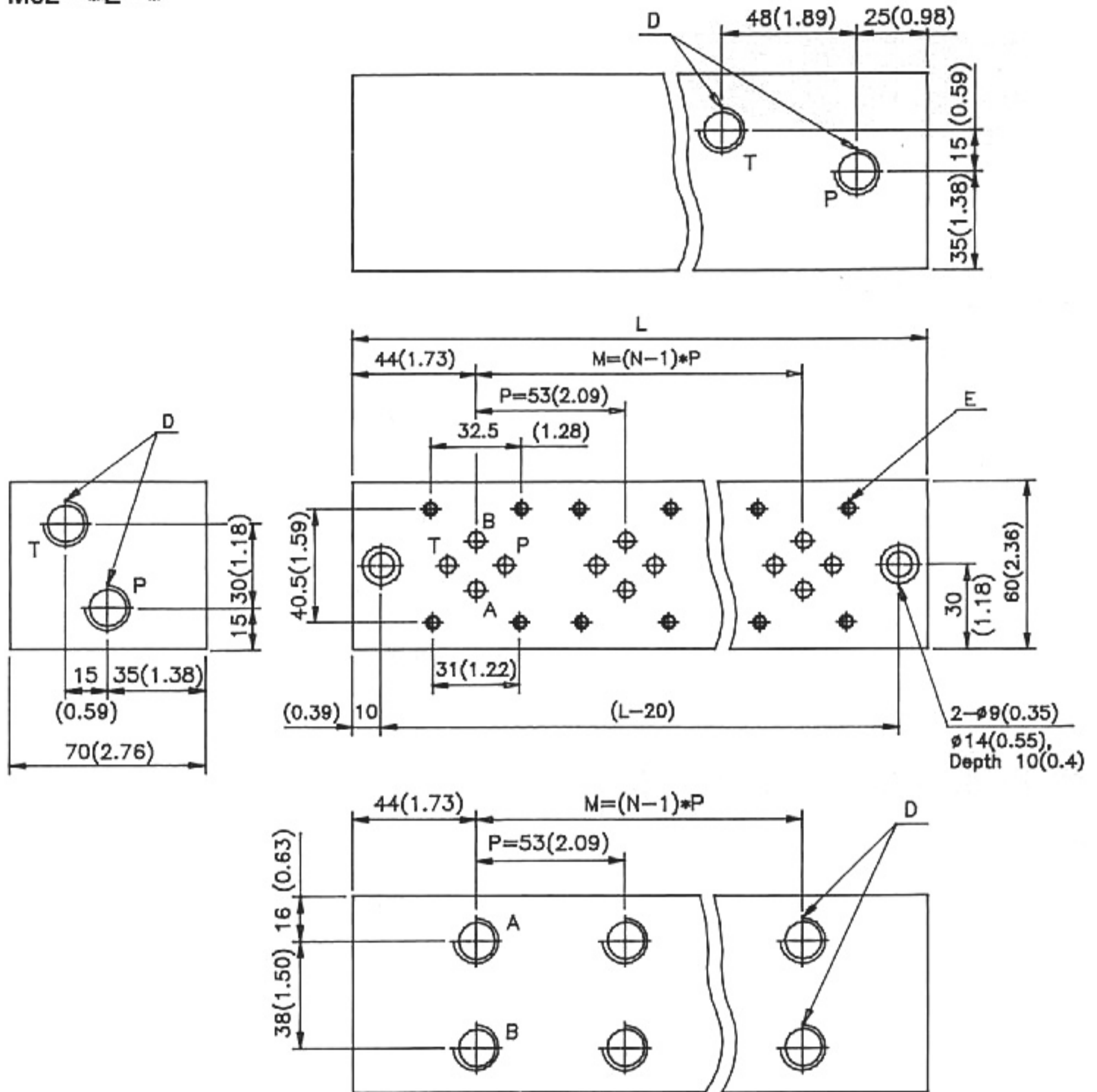
MODEL	D	E
M02-1E-	1	PT3/8" M5×0.8P
	2	NPT3/8" #10-24UNC

# M02 SERIES MAINFOLD

## INSTALLATION DIMENSIONS

UNIT: mm(inch)

M02 - \*E - \*



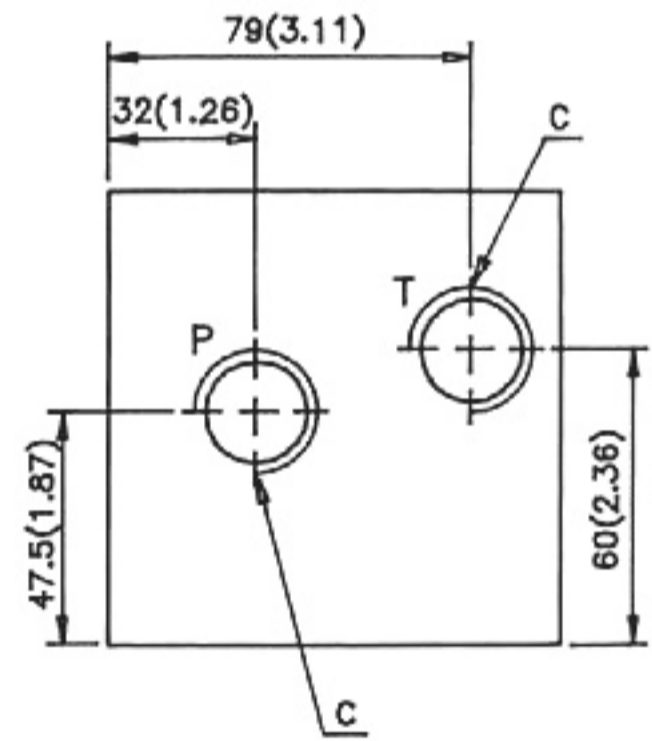
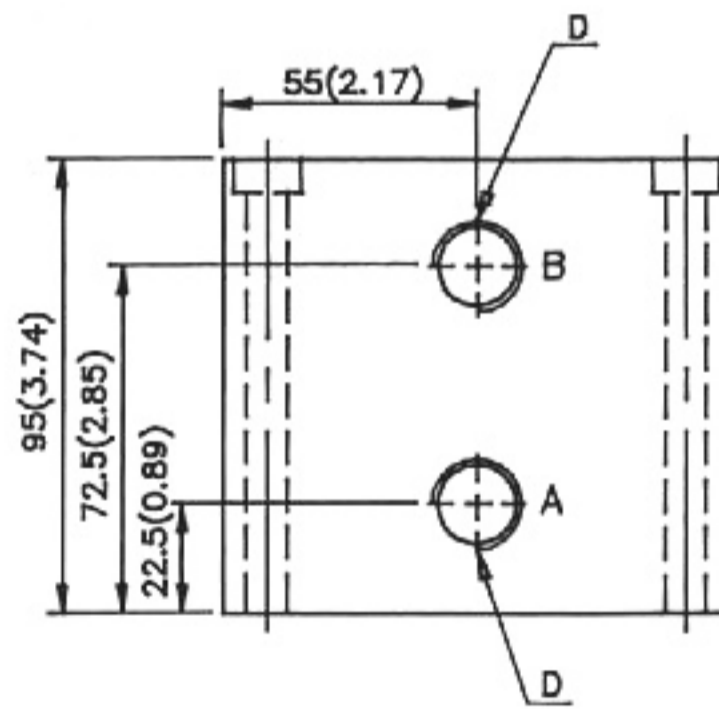
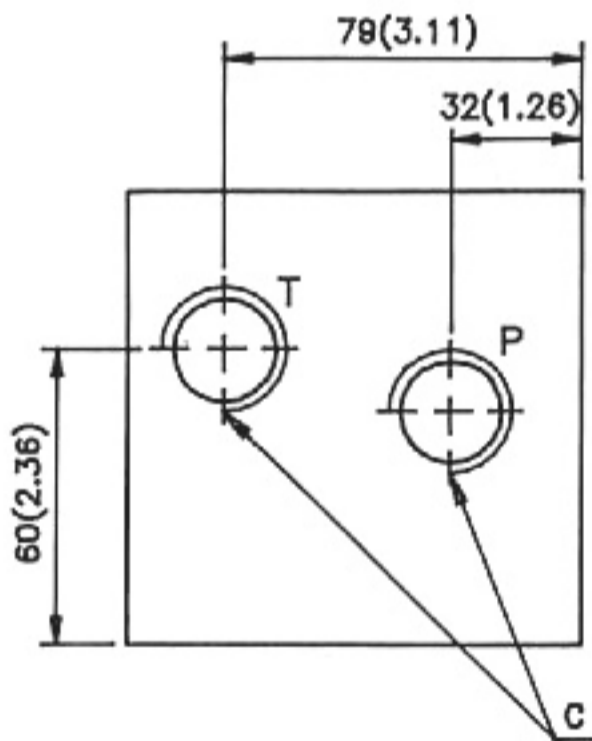
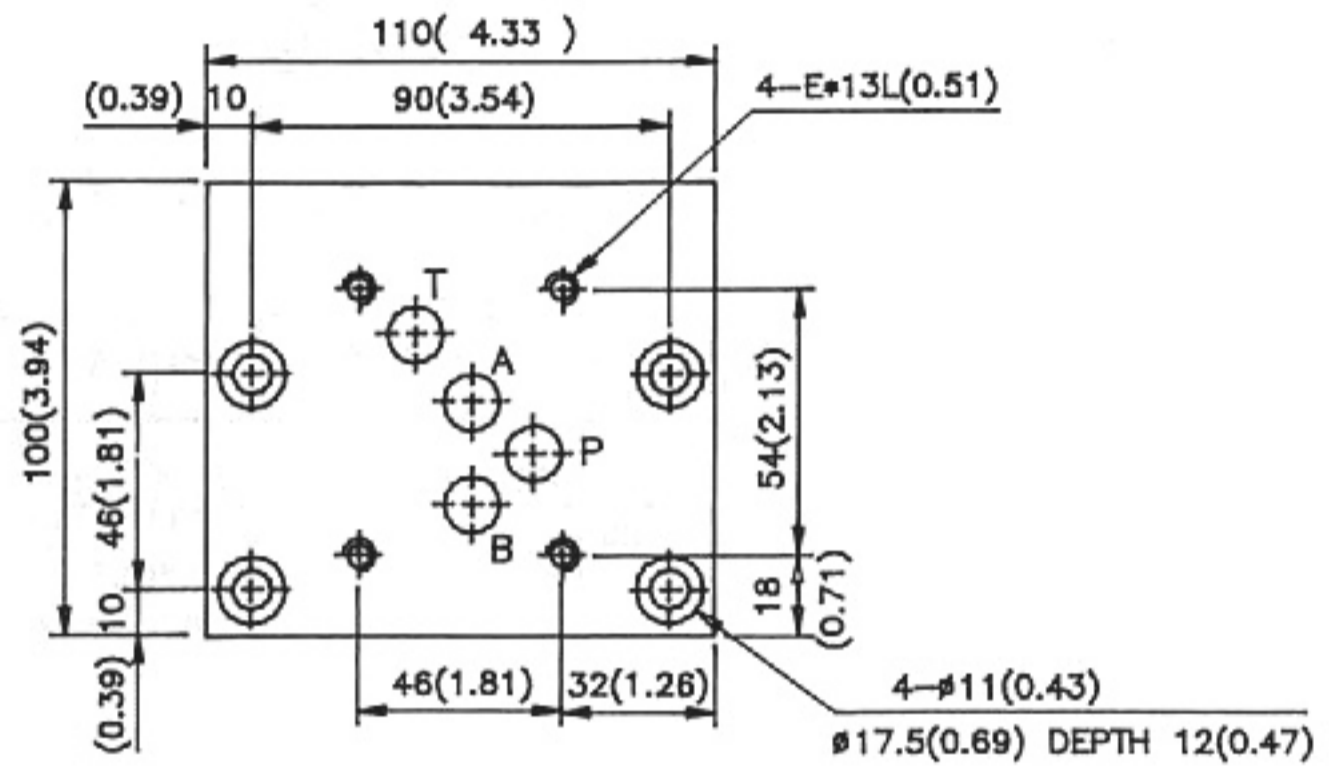
MODEL	D	E	N	M	L	WEIGHT:kgs(Lbs)	
M02-2E-	1	PT3/8*	M5×0.8P	2	53	141	4.6
	2	NPT3/8*	#10-24UNC		(2.09)	(5.55)	(10.1)
M02-3E-	1	PT3/8*	M5×0.8P	3	106	194	6.3
	2	NPT3/8*	#10-24UNC		(4.17)	(7.64)	(13.9)
M02-4E-	1	PT3/8*	M5×0.8P	4	159	247	8.1
	2	NPT3/8*	#10-24UNC		(6.26)	(9.72)	(17.8)
M02-5E-	1	PT3/8*	M5×0.8P	5	212	300	10.0
	2	NPT3/8*	#10-24UNC		(8.35)	(11.81)	(22.0)
M02-6E-	1	PT3/8*	M5×0.8P	6	265	353	11.8
	2	NPT3/8*	#10-24UNC		(10.43)	(13.90)	(26.0)
M02-7E-	1	PT3/8*	M5×0.8P	7	318	406	13.6
	2	NPT3/8*	#10-24UNC		(12.52)	(15.96)	(30.0)

\*INDICATING WEIGHT FOR STEEL BLOCK MATERIAL

## INSTALLATION DIMENSIONS

UNIT: mm(inch)  
WEIGHT: 6.4 kgs (14.08 lbs)

M03-1E-\*



MODEL	C	D	E
M03-1E-	1 PT3/4"	PT1/2"	M6×1P
	2 NPT3/4"	NPT1/2"	1/4-20UNC

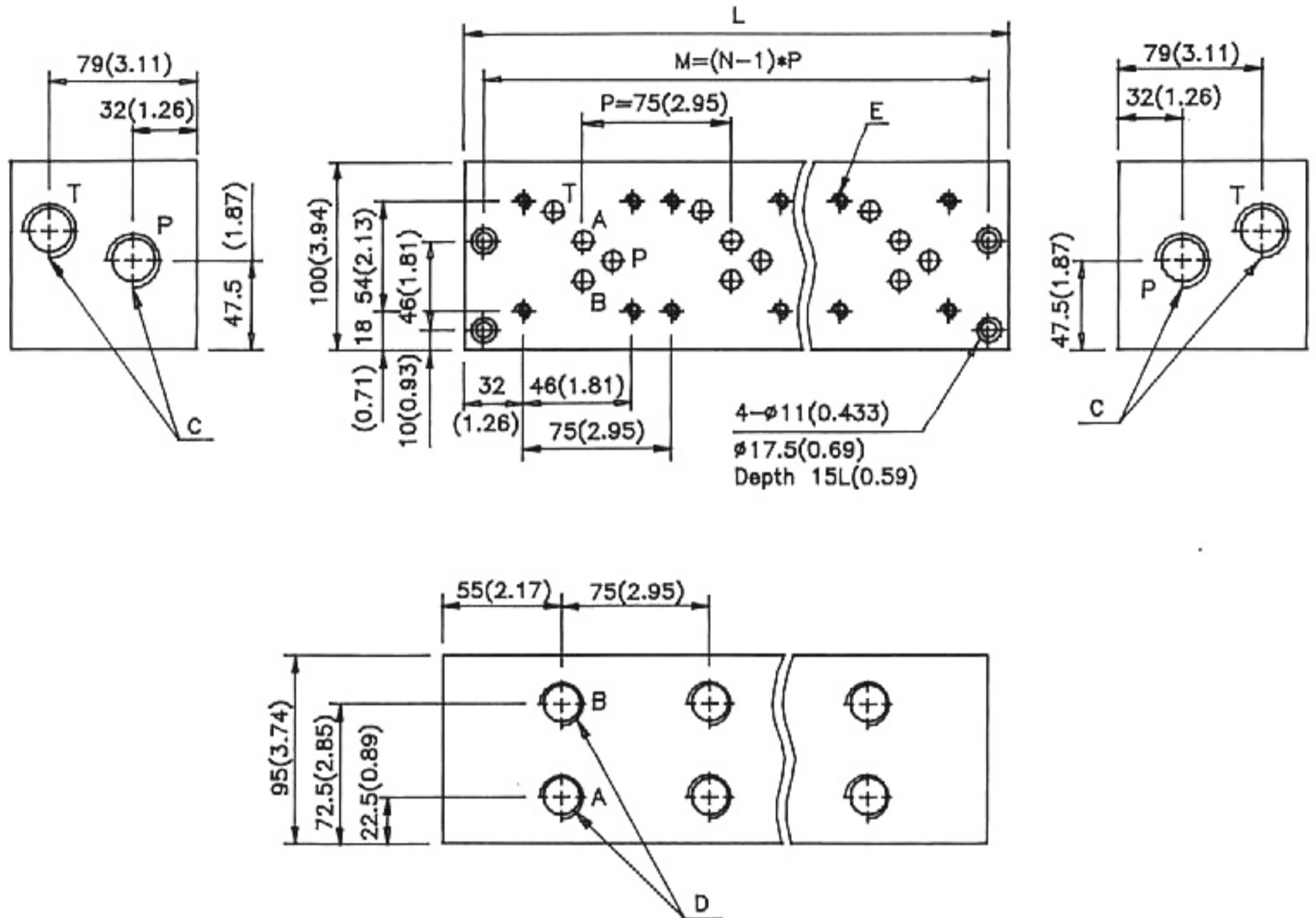
\* INDICATING WEIGHT FOR STEEL BLOCK MATERIAL

# M03 SERIES MAINFOLD

## INSTALLATION DIMENSIONS

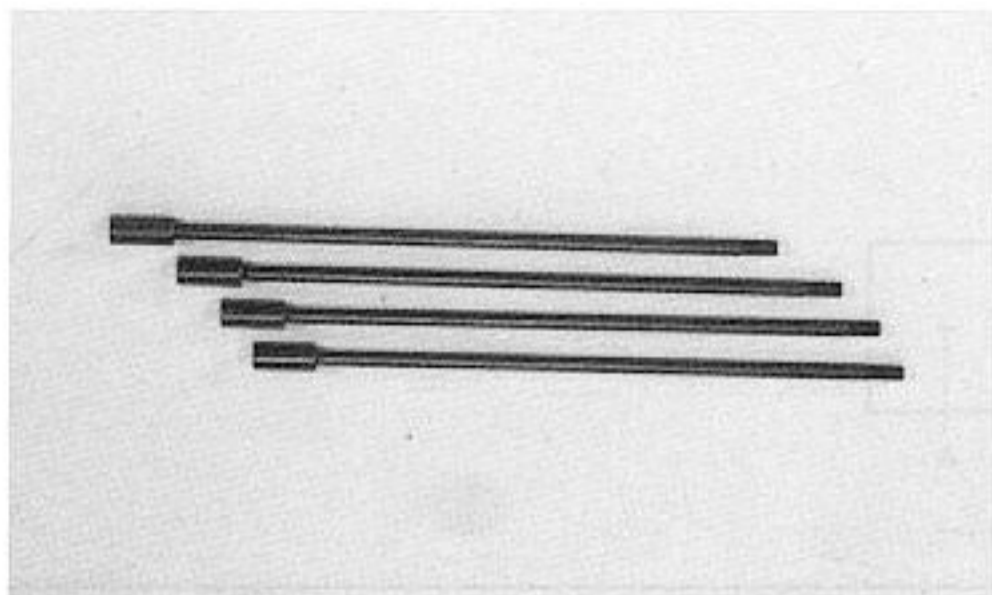
UNIT: mm(inch)

M03 - \*E - \*



MODEL		C	D	E	N	M	L	WEIGHT:kgs(Lbs)
M03-2E-	1	PT3/4"	PT1/2"	M6 × 1P	2	165 (6.50)	185 (7.28)	13.8 (20.3)
	2	NPT3/4"	NPT1/2"	1/4-20UNC				
M03-3E-	1	PT3/4"	PT1/2"	M6 × 1P	3	240 (9.45)	260 (10.24)	19.5 (42.9)
	2	NPT3/4"	NPT1/2"	1/4-20UNC				
M03-4E-	1	PT3/4"	PT1/2"	M6 × 1P	4	315 (12.40)	335 (13.19)	25.0 (55.0)
	2	NPT3/4"	NPT1/2"	1/4-20UNC				
M03-5E-	1	PT3/4"	PT1/2"	M6 × 1P	5	390 (15.35)	410 (16.14)	31.0 (68.2)
	2	NPT3/4"	NPT1/2"	1/4-20UNC				

\*INDICATING WEIGHT FOR STEEL BLOCK MATERIAL



## HOW TO ORDER

**MBK - 02 - 1 - 1**

THREAD:  
1. METER SIZE  
2. INCH SIZE

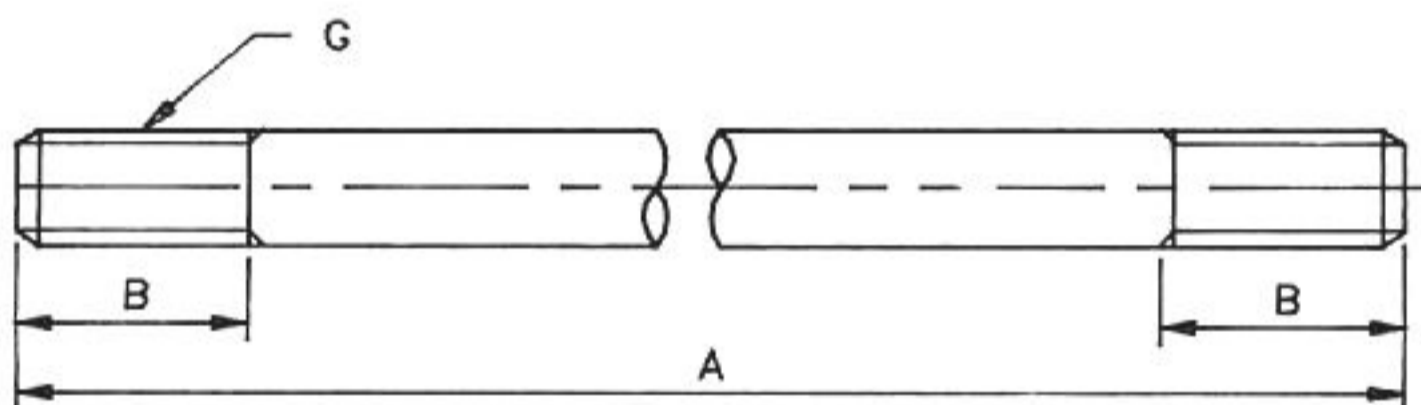
NUMBER OF VALVE

VALVE NOMINAL SIZE:  
02 : 1/4" (D03)  
03 : 3/8" (D05)

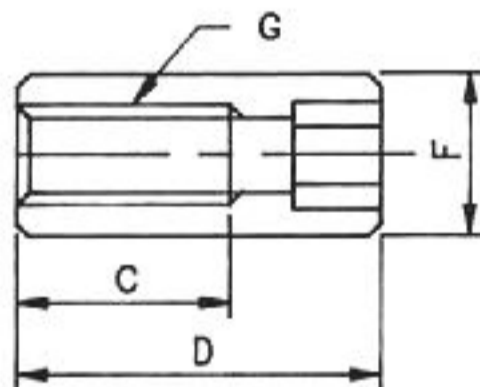
MOUNTING BOLT KITS

## INSTALLATION DIMENSIONS

UNIT: mm(inch)



STAGE	SIZE	A (LENGTH)
1	02	94 (3.70)
	03	106 (4.17)
2	02	134 (5.27)
	03	161 (6.34)
3	02	174 (6.85)
	03	216 (8.50)
4	02	214 (8.42)
	03	271 (10.67)

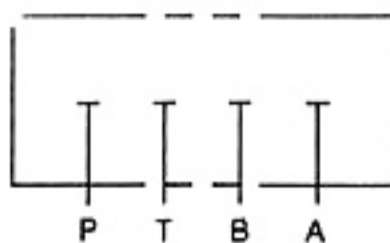


MODEL	E	F	G	B	C	D
MBK-02-※-1	4(0.16)	8.5(0.33)	M5×0.8P	9(0.35)	9(0.35)	15(0.59)
MBK-02-※-2	4(0.16)	8.5(0.33)	#10-24UNC	9(0.35)	9(0.35)	15(0.59)
MBK-03-※-1	5(0.20)	10(0.39)	M6×1P	12(0.47)	13(0.47)	22(0.87)
MBK-03-※-2	5(0.20)	10(0.39)	1/4-20UNC	12(0.47)	13(0.47)	22(0.87)

REMARK: PER SET WITH FOUR PIECES.

# MODULAR SYSTEM END PLATES

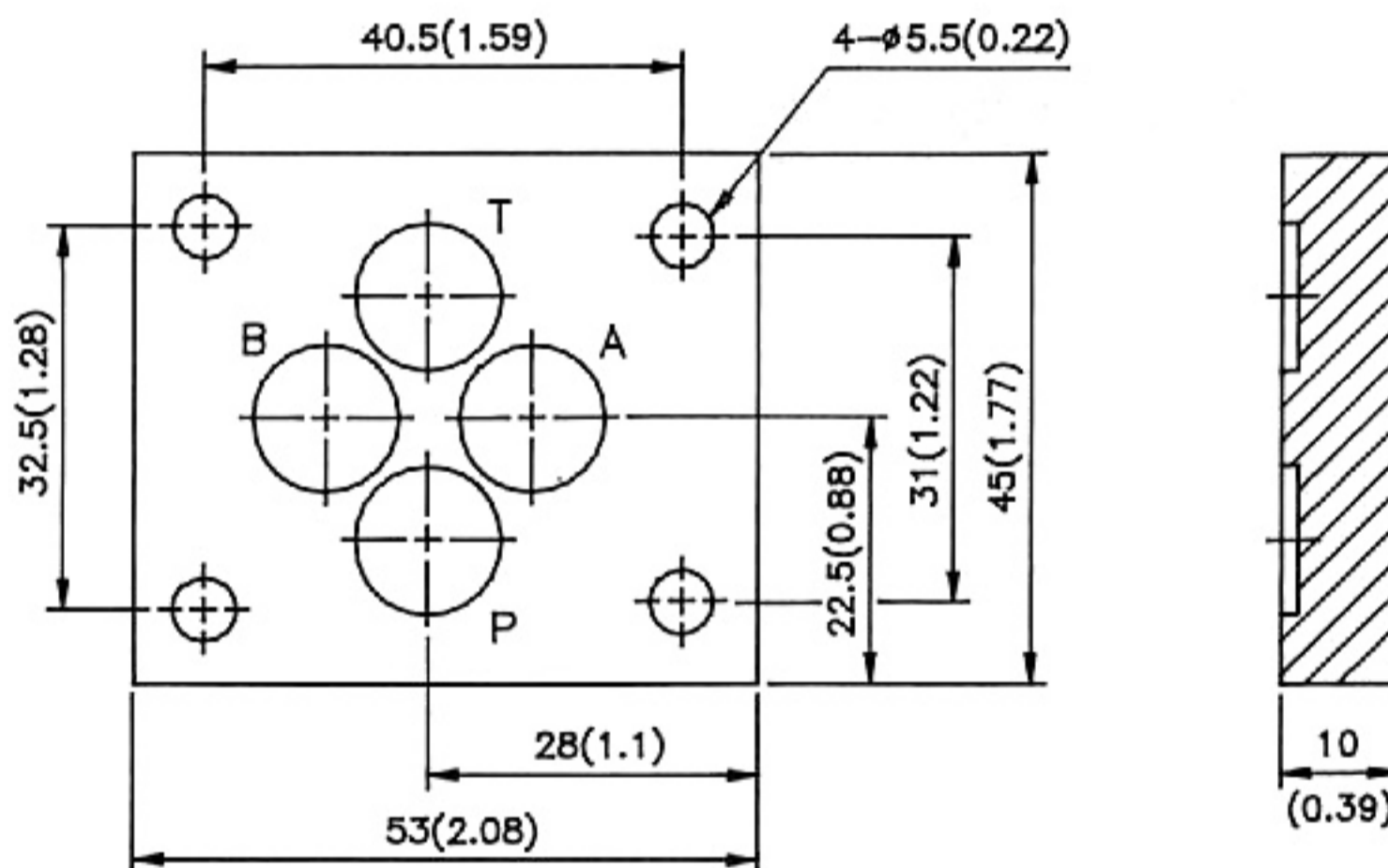
## SYMBOLS



## INSTALLATION DIMENSIONS

UNIT: mm(inch)

### M02 END PLATES



### M03 END PLATES

