CONTINENTAL HYDRAULICS

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F03MSV-ND*

FLOW CONTROL VALVE, NON-COMPENSATED WITH CHECK

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F03MSV-ND*

FLOW CONTROL VALVE, NON-COMPENSATED WITH CHECK

DESCRIPTION

This modular stack valve is a non-compensated flow control valve with a check valve for reverse free flow.

OPERATIONS

This valve increases its orifice value from fully closed to fully open with counter-clockwise rotation.

Meter-in or meter-out configuration is determined by the orientation of the body to mounting surface.

Available with flow control function on line A, B, or both A + B.

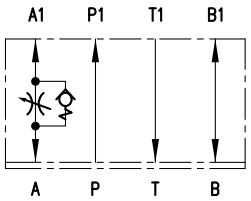
TYPICAL PERFORMANCE SPECIFICATIONS

MAXIMUM OPERATING PRESSURE		5000 psi	350 bar
CRACKING PRESSURE		7 psi	0.5 bar
MAXIMUM FLOW RATE	Controlled Lines	13 gpm	50 l/min
	Free Lines	20 gpm	75 l/min
MINIMUM FLOW RATE	Controlled Lines with ΔP = 145 psi	≤ 0.015 gpm	≤ 0.06 l/min
MOUNTING SURFACE		NFPA D03 ISO 4401-03-02-0-05	
WEIGHT		2.87 lbs	1.3 kg

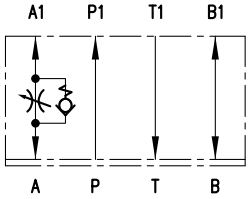
AVAILABLE VERSIONS

F03MSV-NDA

METER-OUT

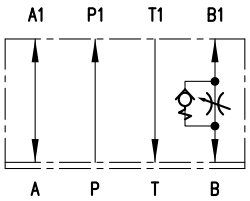


METER-IN

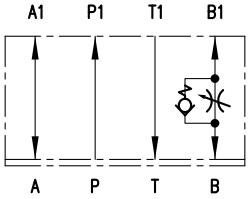


F03MSV-NDB

METER-OUT

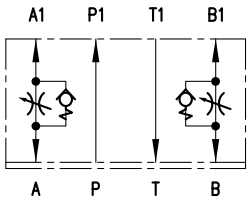


METER-IN

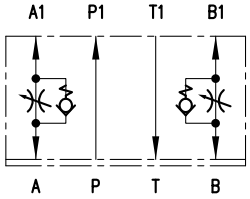


F03MSV-NDC

METER-OUT



METER-IN



IDENTIFICATION CODE

F03MSV-ND ☐ - ☐ **C** - ☐ — DESIGN LETTER

CONTROL PORT	
A	Port A
B	Port B
C	Port A and B

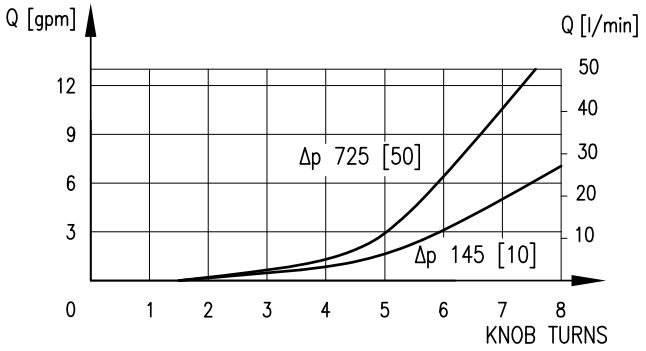
SEAL	
A	Buna (STD)
G	Viton

BODY MATERIAL	
C	Cast Iron

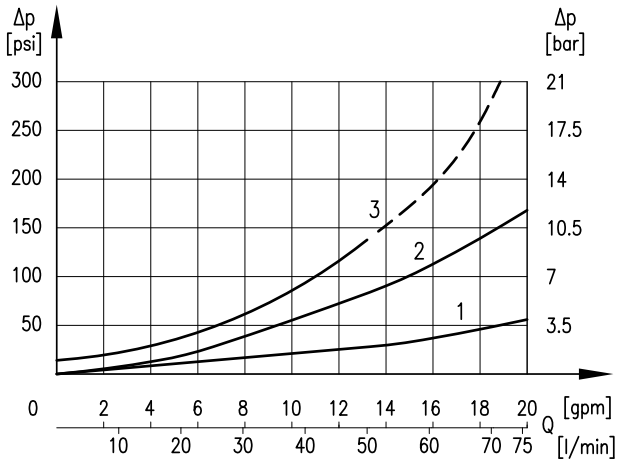
TYPICAL ORDERING CODE:
F03MSV-NDA-AC-D

PERFORMANCE CURVES

CONTROLLED PORT ADJUSTMENT



PRESSURE DROPS Δp - Q



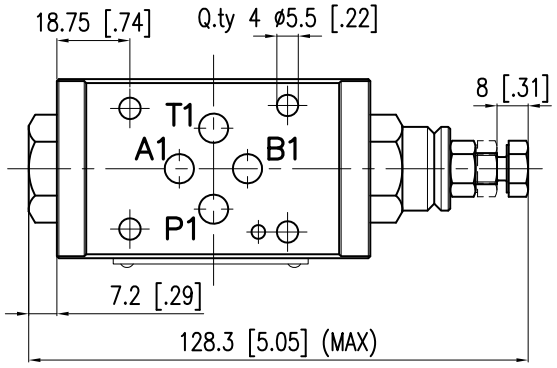
CURVE	FLOW PATH
1	P port, T port
2	A port or B port w/o flow control
3	Reverse free flow thru check

NOTE:
Values obtained with oil viscosity of 36 cSt at 122°F (50°C).

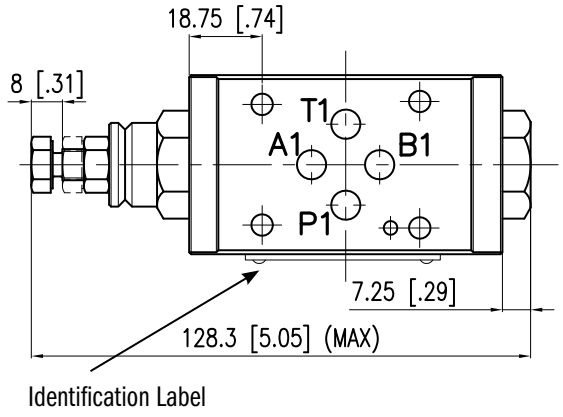
DIMENSIONS

Dimensions in mm [IN]

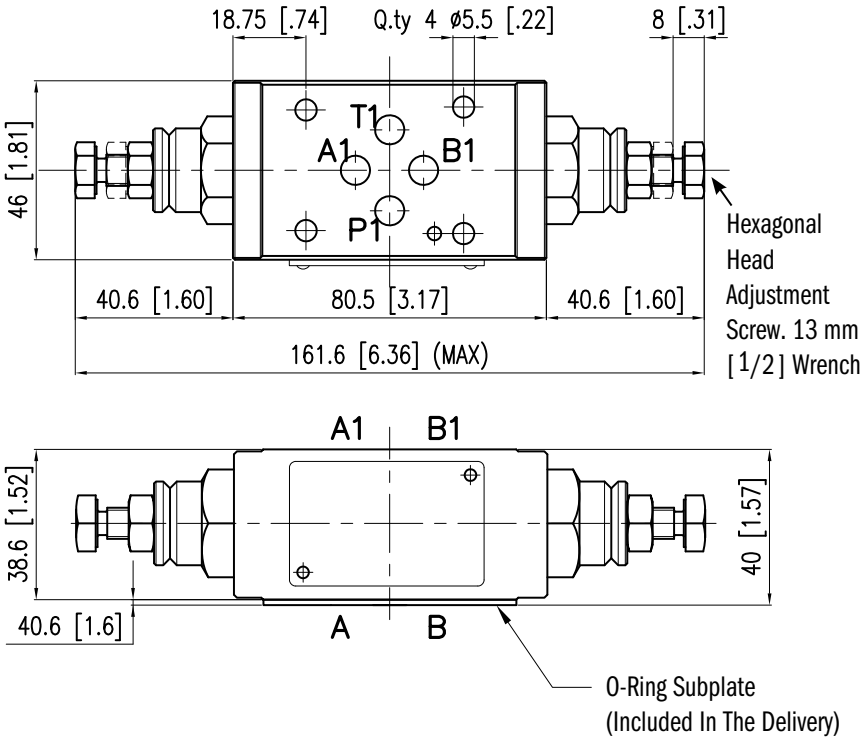
F03MSV-NDA



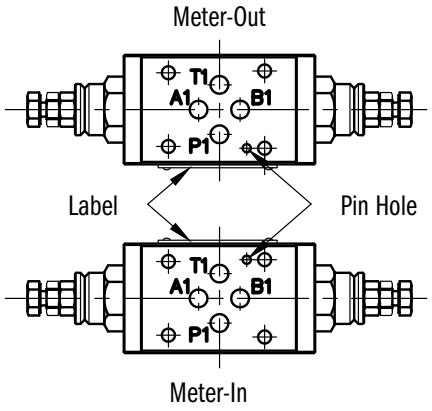
F03MSV-NDB



F03MSV-NDC



MOUNTING - TOP VIEW



NOTE:
Remove directional control valve locator pin when configuring for meter-in.

APPLICATION DATA

FLUIDS

All pressure drops shown on these data pages are based on 170 SUS fluid viscosity and 0.87 specific gravity. For any other specific gravity (G1) the pressure drop (ΔP) will be approx. ΔP1 = ΔP (G1/G). See the chart for other viscosities.

FLUID VISCOSITIES	Cst	10	14.5	32	36	43	54	65	76	86	108	216	324	400
	SUS	60	75	150	170	200	250	300	350	400	500	1000	1500	1900
MULTIPIER		0.77	0.81	0.97	1.00	1.04	1.10	1.15	1.20	1.24	1.31	1.56	1.72	1.83

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code G). For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department.

Using fluids at temperatures higher than 180 °F causes the accelerated degradation of seals as well as degradation of the fluids physical and chemical properties.

From a safety standpoint, temperatures above 130 degrees F are not recommended.

RANGE TEMPERATURES:	Ambient	- 4 to +130 °F	-20 to +54 °C
	Fluid	- 4 to +180 °F	-20 to +82 °C
FLUID VISCOSITY	Range	60 - 1900 SUS	10 - 400 cSt
	Recommended	120 SUS	25 cSt
FLUID CONTAMINATION		ISO 4406:1999 Class 20/18/15	

SEAL KIT

BUNA SEAL KIT	1013661
VITON SEAL KIT	1013662

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Rugged, durable, high-performance, efficient—the reason Continental Hydraulics' products are used in some of the most challenging applications across the globe. With a commitment to quality customer support and innovative engineering, Continental's pumps, valves, power units, mobile and custom products deliver what the markets demand. Continental has been serving the food production, brick and block, wood products, automotive and machine tool industries since 1962. Learn how our products survive some of the most harsh environments.

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