CONTINENTAL HYDRAULICS

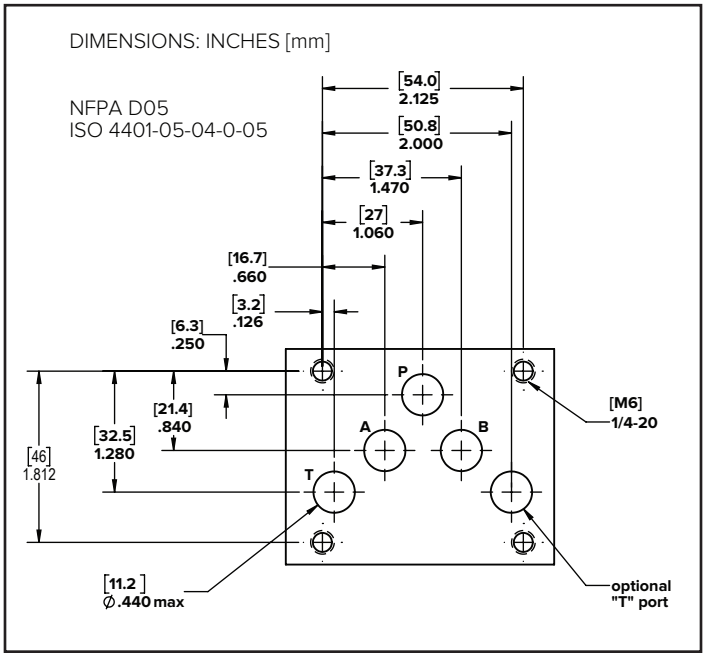
P05MSV-CC/CA/CB

PILOT OPERATED COUNTERBALANCE VALVE

MODULAR VERSION
NFPA D05 ISO 4401-05

P max **3000 PSI 210 bar**
Q max **30 GPM 114 l/min**

MOUNTING INTERFACE



OPERATING PRINCIPLE

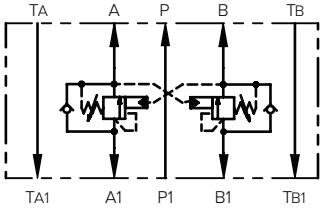
- The P05MSV-C counterbalance valves with pilot assist are designed to control an overrunning load or hold a load in position by maintaining a back pressure on the outlet of the cylinder. An integral check valve allows for free flow in the reverse direction. Valve conforms to NFPA D05/ISO 4401-05 standard for valve mounting interface.
- This valve can also be used as a brake valve in hydraulic motor circuits for a controlled deceleration.
- Counterbalance valves should be set at least 130% of maximum pressure due to load.
- Backpressure adds to the valve setting by (1.0 + pilot ratio) times the backpressure.
- Reverse flow will open the check at about 25 psi [1.7 bar].
- 3.75 turns of adjustment CCW from Min. to Max. pressure setting.

PERFORMANCES (measured with mineral oil of viscosity 36cSt at 120°F [50°C])

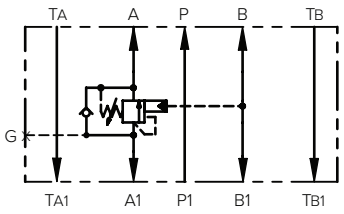
Maximum operating pressure	PSI [bar]	3000 [210]
Max Flow rate	GPM [l/min]	30 [114]
Max valve leakage at reseat	5 drops per min	
Pressure adjustment range: Code 150 Code 300	400-1500 PSI [28-105 bar] 1000-2500 PSI [70-175 bar]	
Pilot ratio: Code 150 Code 300	3:1 4.5:1	
Check Valve cracking pressure	25 PSI [1.7 bar]	
Adjustment Range:	No. of CCW turns from Min. to Max. settting	3.75
Reseat	>85% of setting	
Ambient temperature range	F° [C°]	-4 to 140 [-20 to +60]
Fluid temperature range	F° [C°]	-4 to 176 [-20 to +80]
Fluid viscosity range	cST	100 - 400
Fluid contamination degree	According to ISO 4406: 1999 Class 19/17/14	
Recommended viscosity	cST	25
Mass: P03MSV-CC P03MSV-CA, CB	Lbs [kg]	3.21 [1.46] 2.28 [1.03]

HYDRAULIC SYMBOLS

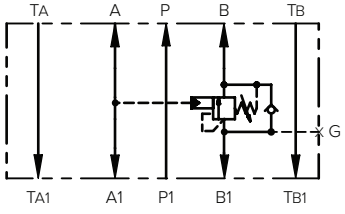
P05MSV-CC



P05MSV-CA



P05MSV-CB



1 • IDENTIFICATION CODE

P05MSV - C ___ - ___ - ___ ___ A - D

VALVE TYPE
PRESSURE CONTROL

VALVE SERIES	
CODE	NFPA SIZE
05	D05 INTERFACE

VALVE FUNCTION		
CODE	FUNCTION	AVAIL WITH PORTS
C	COUNTERBALANCE	A, B, A & B

CONTROL PORT	
CODE	PORT
A	A
B	B
C	A & B

PRESSURE ADJUSTMENT RANGE			
CODE	PSI	BAR	PILOT RATIO
150	400-1500	28-105	3:1
300	1000-2500	70-175	4.5:1

SEAL MATERIAL	
CODE	DESC.
A	BUNA-N
G	VITON

MECHANICAL	
CODE	DESCRIPTION
OMIT	STD W/ SOC HEAD ADJ.

MATERIAL SELECTION	
CODE	DESCRIPTION
A	ALUMINUM

DESIGN LETTER

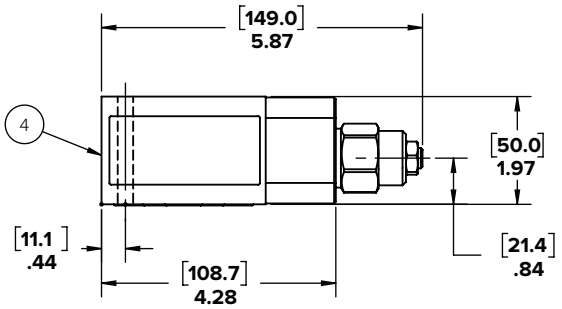
2 • HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals (code A). 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 176°F [80°C] causes a faster degradation of the fluid and of the seals characteristics.

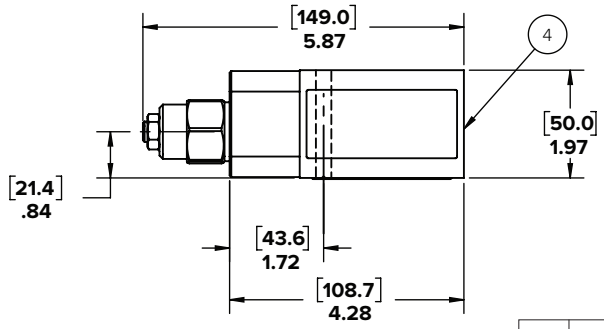
The fluid must be preserved in its physical and chemical characteristics.

3 • OVERALL AND MOUNTING DIMENSIONS

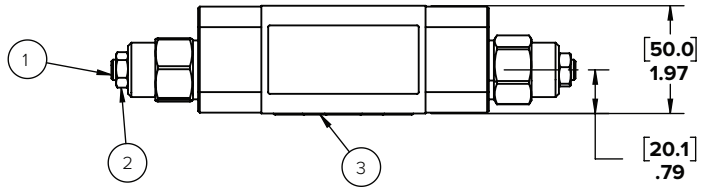
DIMENSIONS IN INCHES [mm]

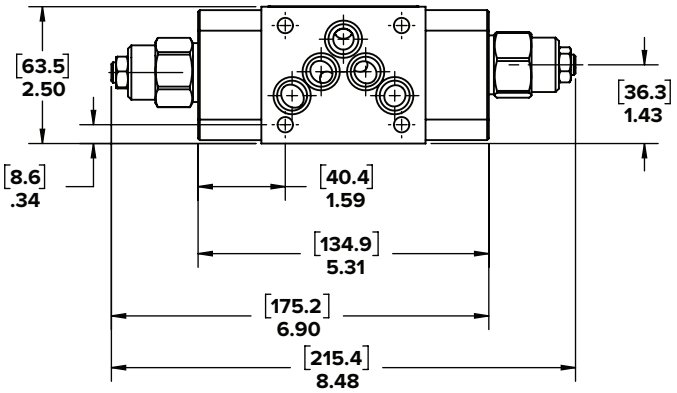


P05MSV-CA



P05MSV-CB





P05MSV-CC

1	Countersunk hex adjustment screw: 5/32” [4 mm] allen wrench Rotate counterclockwise to increase pressure
2	Locking nut: 9/16” wrench
3	Qty. 5 O-rings - size AS568-014 (.489 ID x .070 CS) 90 Shore
4	1/4 NPTF Gauge Port

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