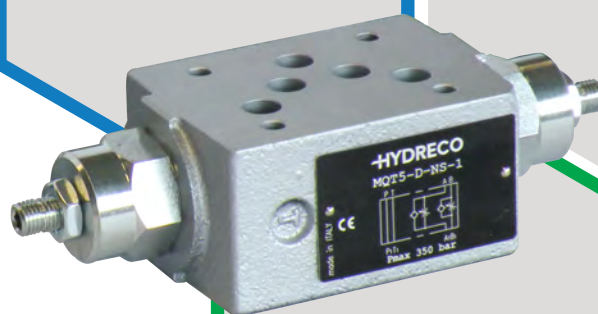


STACK VALVES

ISO 4401-05 VALVES
(CETOP 05)

MQT5 - Flow restrictor valve
MCH5 - Pilot operated check valve
MPR5 - Pilot operated pressure relief valve
MPZ5 - Pilot operated pressure reducing valve



INTRODUCTION

We offer a complete range of stack valves with porting pattern compliant to ISO 4401-05 standards.

Our range includes throttle valves, non-return valves, pressure relief valves and pressure reducing valves.

These valves are supplied with a zinc-nickel plating making them the perfect choice for mobile and environmental applications that require better protection.

Salt spray resistance is up to 600 h (test according to UNI EN ISO 9227 and UNI EN ISO 10289 tests and standards).

FLUIDS

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 V).

For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department.

Using fluids at temperatures higher than 80 °C causes a faster degradation of seals as well as the fluid physical and chemical properties. From a safety standpoint, temperatures above 55 °C (130 °F) are not recommended.

OPERATING PARAMETERS

MAXIMUM OPERATING PRESSURE	P - A - B ports	350 bar	5076 psi
	T port	210 bar	3046 psi
MAX FLOW	see specific table		
MOUNTING SURFACE	ISO 4401-05-04-0-05 NFPA D05		

RANGE TEMPERATURES	ambient	-20 to +60 °C	-4 to +140 °F
	fluid	-20 to +80 °C	-4 to +176 °F
FLUID VISCOSITY	range	10-400 cSt	60-1900 SUS
	recommended	25 cSt	120 SUS
FLUID CONTAMINATION	ISO 4406:1999 class 20/18/15		

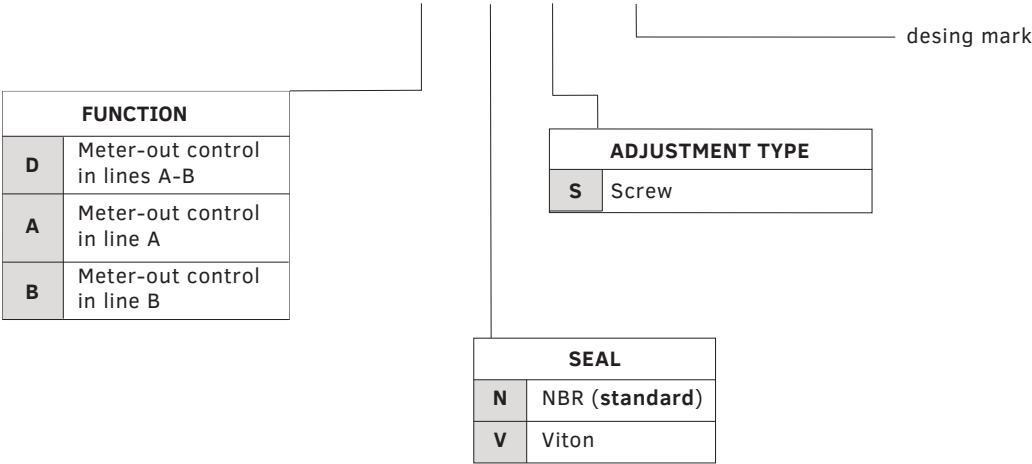
SUMMARY

MQT5 Flow restrictor valve	pag. 3
MCH5 Pilot operated check valve	pag. 5
MPR5 Pilot operated pressure relief valve	pag. 7
MPZ5 Pilot operated pressure reducing valve	pag. 9

MQT5 - FLOW RESTRICTOR VALVE

This is a flow restrictor valve with built check valve for reverse free flow. It is supplied with socket hex adjustment screw and locking nut. Rotate anticlockwise to increase the flow rate.

MQT5 - - S - 1



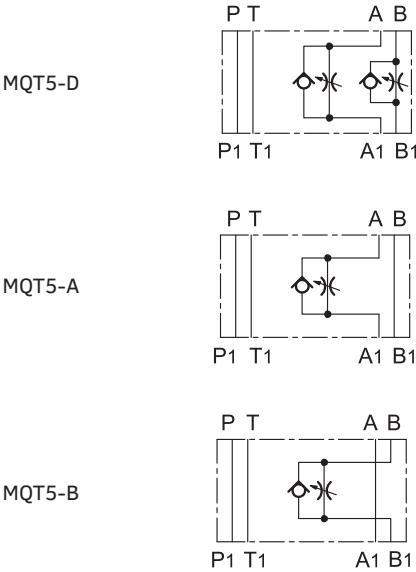
CODE EXAMPLE:

MQT5-D-NS-1

OPERATING PARAMETERS

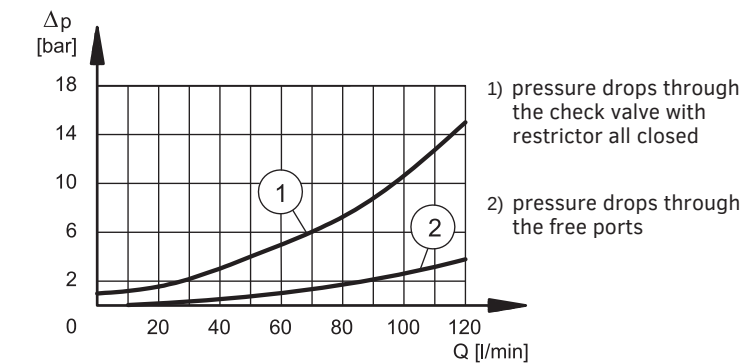
MAXIMUM OPERATING PRESSURE	P - A - B ports	350 bar	5076 psi
MAXIMUM FLOW RATE		120 l/min	31.7 gpm
CRACKING PRESSURE		0.5 bar	7.25 psi
MASS MQT5-A/B		2.3 kg	5.07 lb
MASS MQT5-D		2.5 kg	5.51 lb

HYDRAULIC SYMBOLS

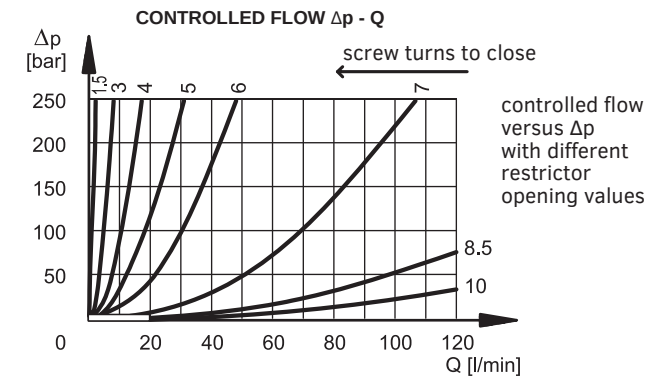


Flow characteristic curves obtained with mineral oil with viscosity of 36 cSt (170 sus) at 50 °C (122 °F)

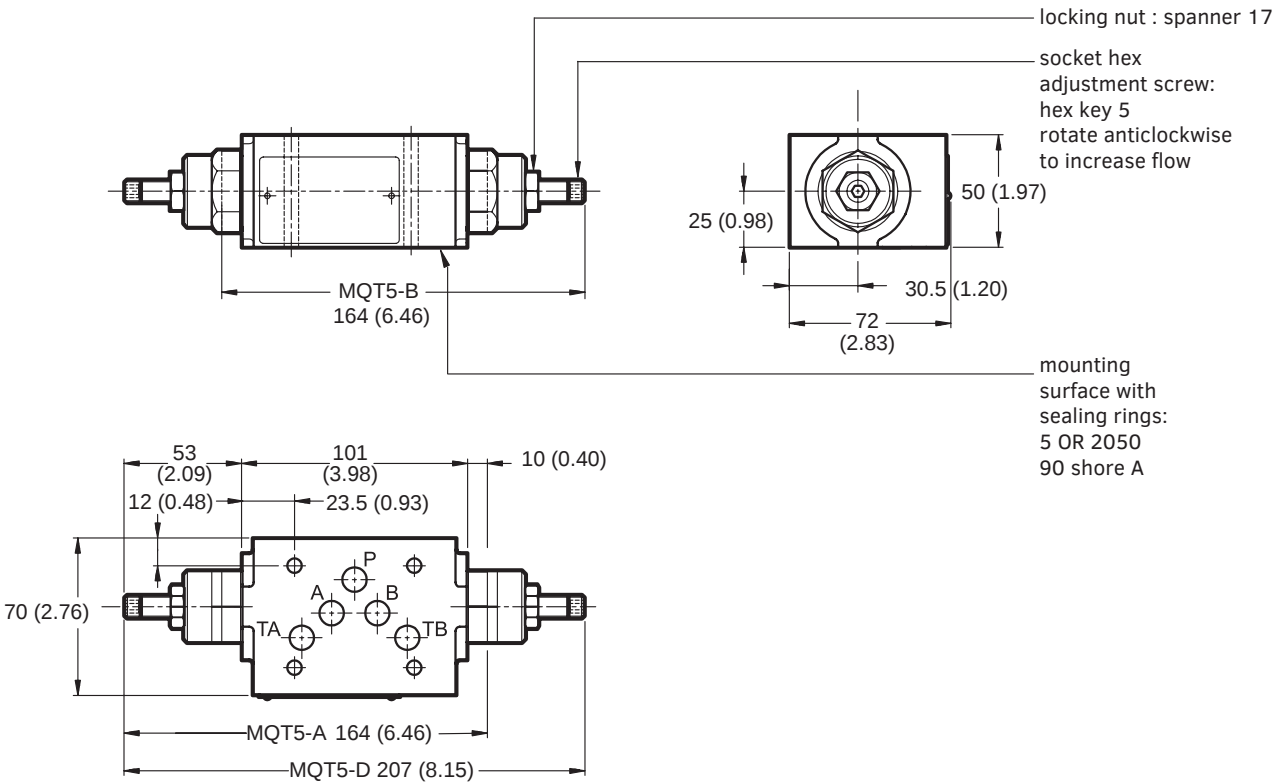
PRESSURE DROPS Δp - Q



PERFORMANCE CURVES - STANDARD OPERATION



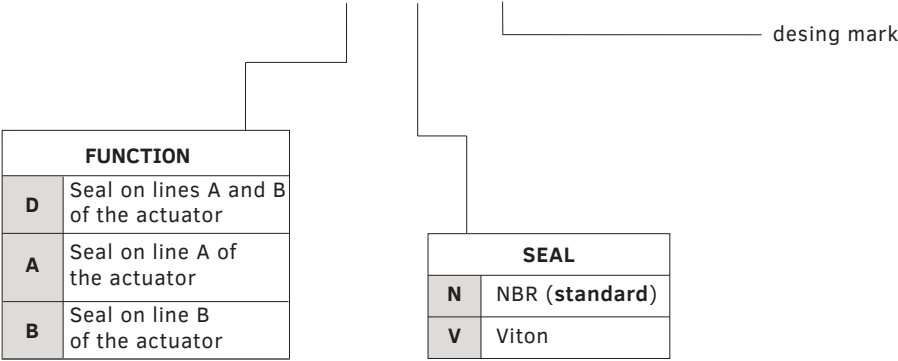
MQT5 - INSTALLATION DATA mm [inch]



MCH5 - PILOT OPERATED CHECK VALVE

This is a pilot operated check valve (spring closing and cone on edge seals) with a built-in flow control feature. The mounting surface is according to the ISO 4401-05 standard. The pre-opening of the valve causes the decompression of the cylinder chamber, leading to a smooth motion.

MCH5 - - - 1



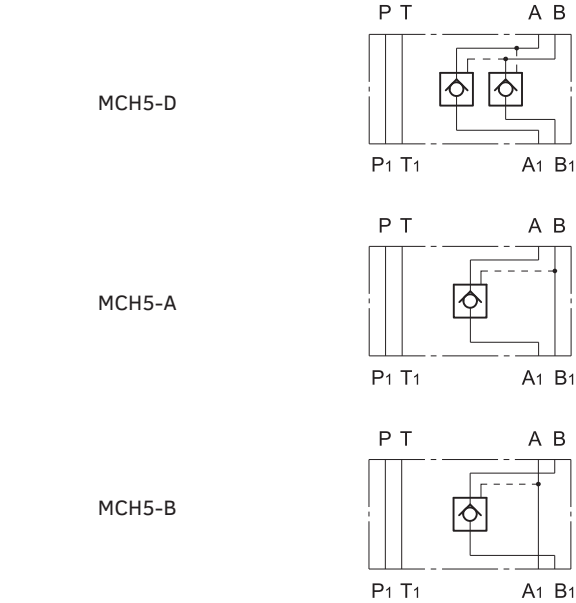
CODE EXAMPLE :

MCH5-D-N-1

OPERATING PARAMETERS

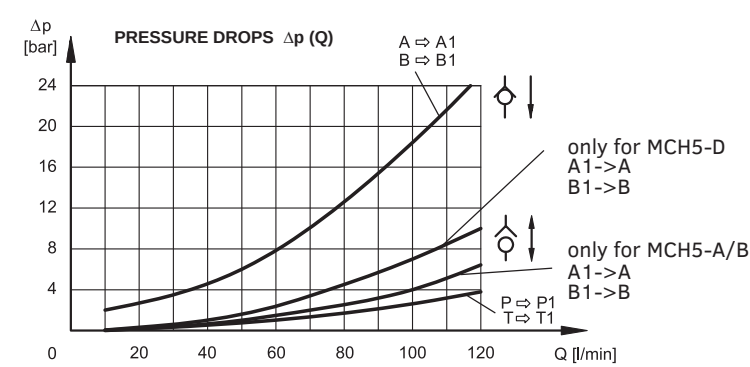
MAXIMUM OPERATING PRESSURE	P - A - B ports	350 bar	5076 psi
MAXIMUM FLOW RATE		120 l/min	31.7 gpm
CHECK VALVE CRACKING PRESSURE		2 bar	29.0 psi
DECOMPRESSION RATIO		14.9:1	
PILOTING RATIO		2.3:1	
MASS MCH5-D		2.2 kg	4.85 lb
MASS MCH5-A/B		1.9 kg	4.19 lb

HYDRAULIC SYMBOLS

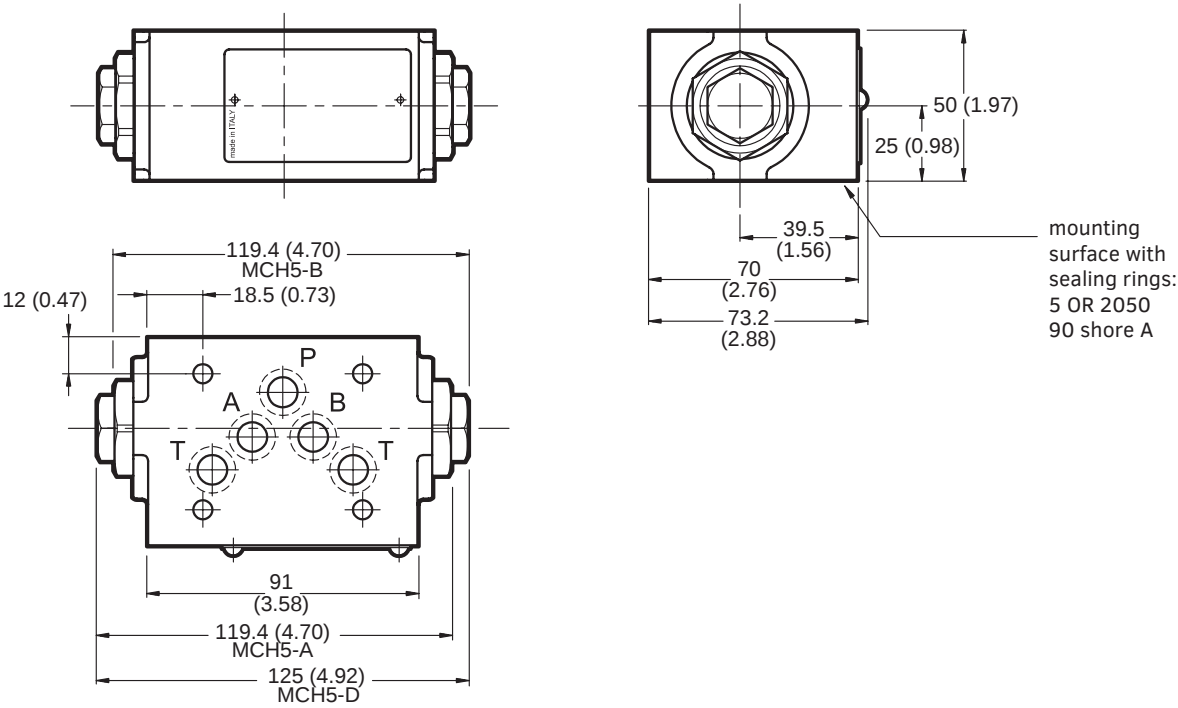


Flow characteristic curves obtained with mineral oil with viscosity of 36 cSt (170 sus) at 50 °C (122 °F)

PERFORMANCE CURVES

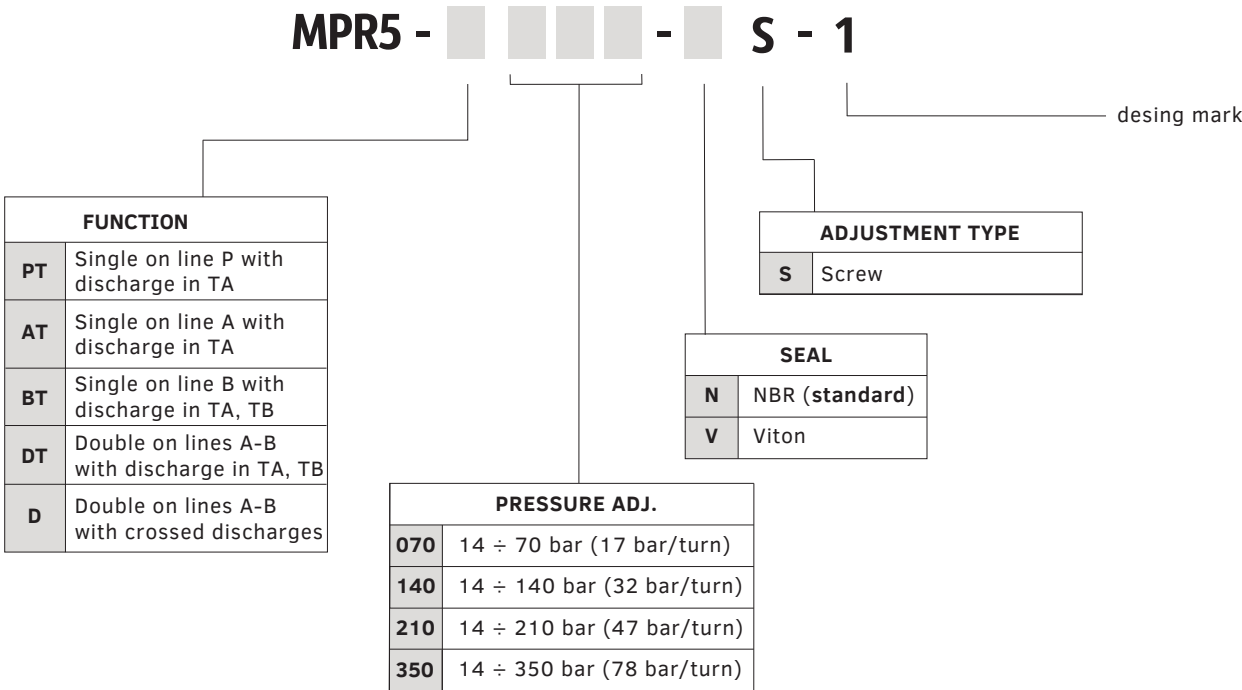


MCH5 - INSTALLATION DATA mm [inch]



MPR5 - PILOT OPERATED PRESSURE RELIEF VALVE

The MPR5 valve is a pilot operated pressure relief valve, with mounting surface according to ISO 4401-05 standards. Versions are available for single adjustment on one control line, or dual on two control lines. Four different pressure adjustment ranges are available. This valve operates as a hydraulic circuit pressure limiting device. It is supplied with an hex head adjustment screw and locking nut.



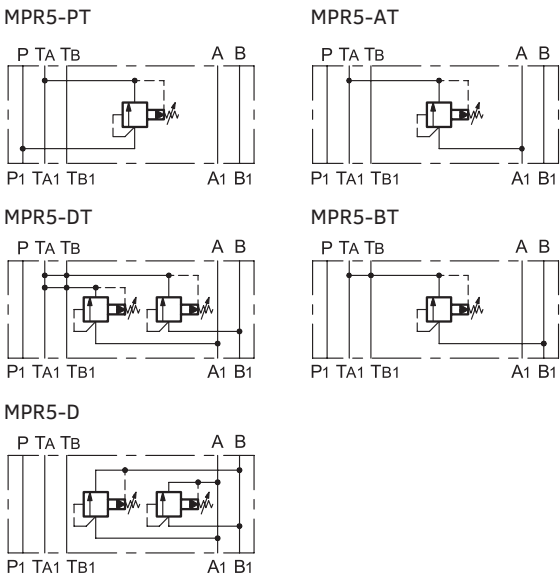
CODE EXAMPLE :

MPR5-PT070-NS-1

OPERATING PARAMETERS

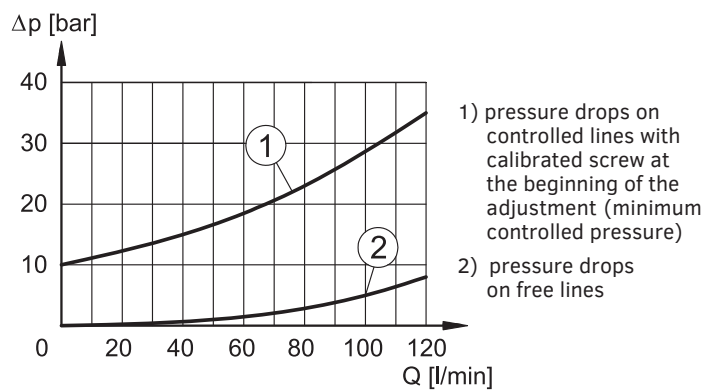
MAXIMUM OPERATING PRESSURE	350 bar	5076 psi
MINIMUM CONTROLLED PRESSURE	see Δp diagram	
MAXIMUM FLOW RATE	120 l/min	31.7 gpm
MASS MPR5-PT/AT/BT	2.8 kg	6.17 lb
MASS MPR5-D/DT	3.0 kg	6.61 lb

HYDRAULIC SYMBOLS

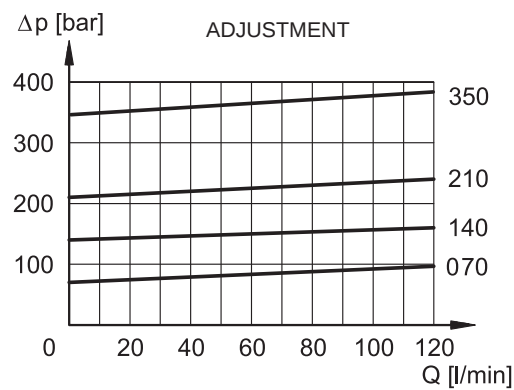


Flow characteristic curves obtained with mineral oil with viscosity of 36 cSt (170 sus) at 50 °C (122 °F).

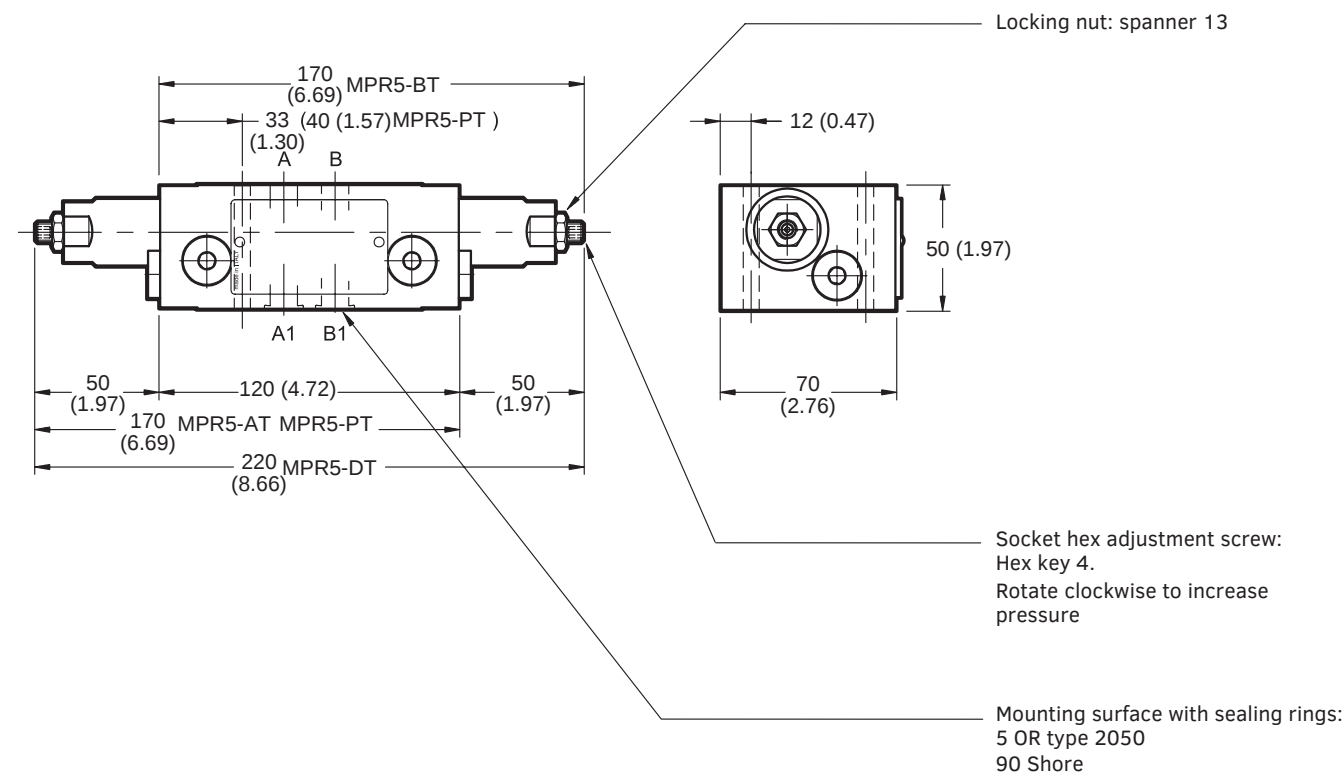
PRESSURE DROPS Δp - Q



PERFORMANCE CURVES - STANDARD OPERATION

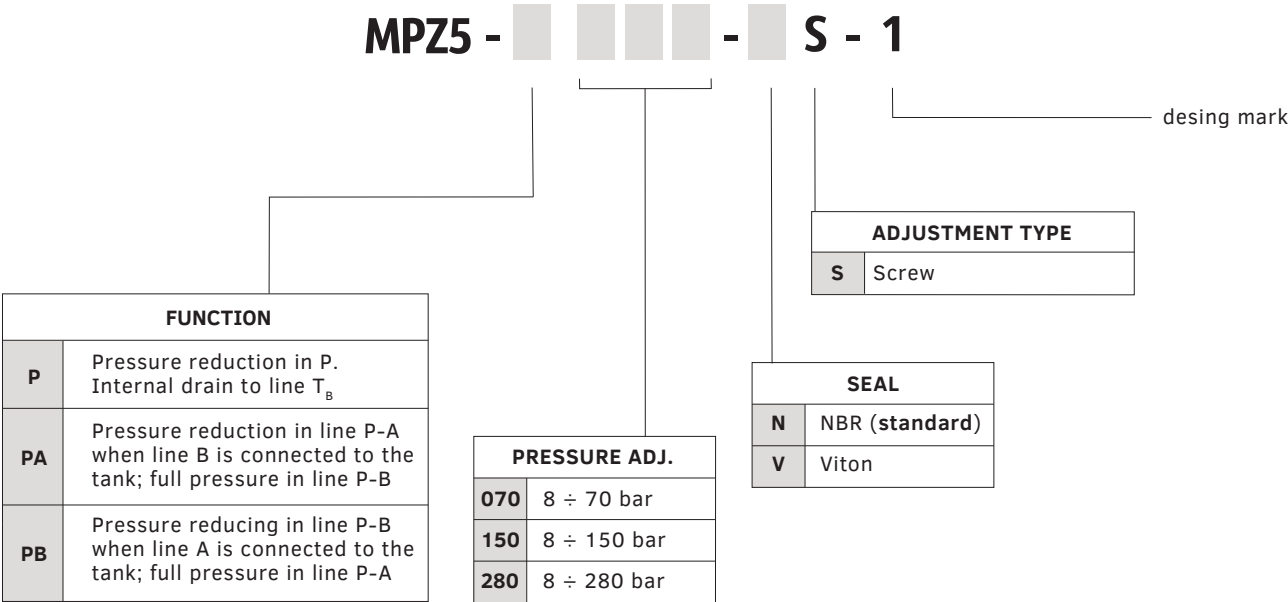


MPR5 - INSTALLATION DATA mm [inch]



MPZ5 - PILOT OPERATED PRESSURE REDUCING VALVE

The MPZ5 valve is a pilot operated pressure reducing valve. It reduces pressure on secondary circuit branches, assuring stability of the controlled pressure and even changing the flow that passes through the valve. It is supplied with a hex socket adjustment screw, locking nut and a travel limiting device for maximum adjustment.



CODE EXAMPLE :

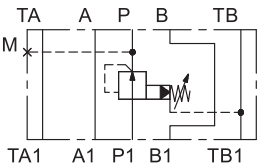
MPZ5-P070-NS-1

OPERATING PARAMETERS

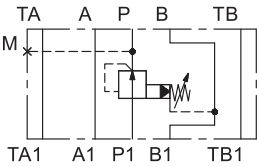
MAXIMUM OPERATING PRESSURE	P - A - B ports	350 bar	5076 psi
MAXIMUM FLOW RATE IN THE CONTROLLED LINES		80 l/min	21.1 gpm
MAXIMUM FLOW RATE IN THE FREE LINES		100 l/min	26.4 gpm
DRAINAGE FLOW RATE		≤ 0.80	0.21 gpm
MASS		2.7 kg	5.95 lb

HYDRAULIC SYMBOLS

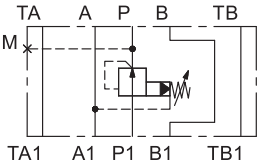
MPZ5-P



MPZ5-PA

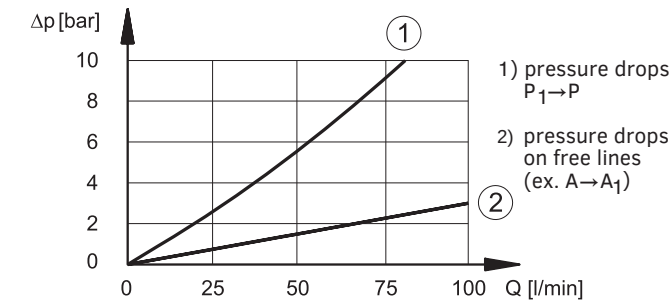


MPZ5-PB

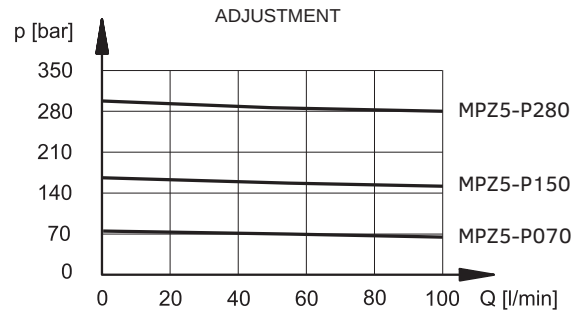


Flow characteristic curves obtained with mineral oil with viscosity of 36 cSt (170 sus) at 50 °C (122 °F) and 24V DC valve: the Δp values are measured between P and T (full loop) valve ports.

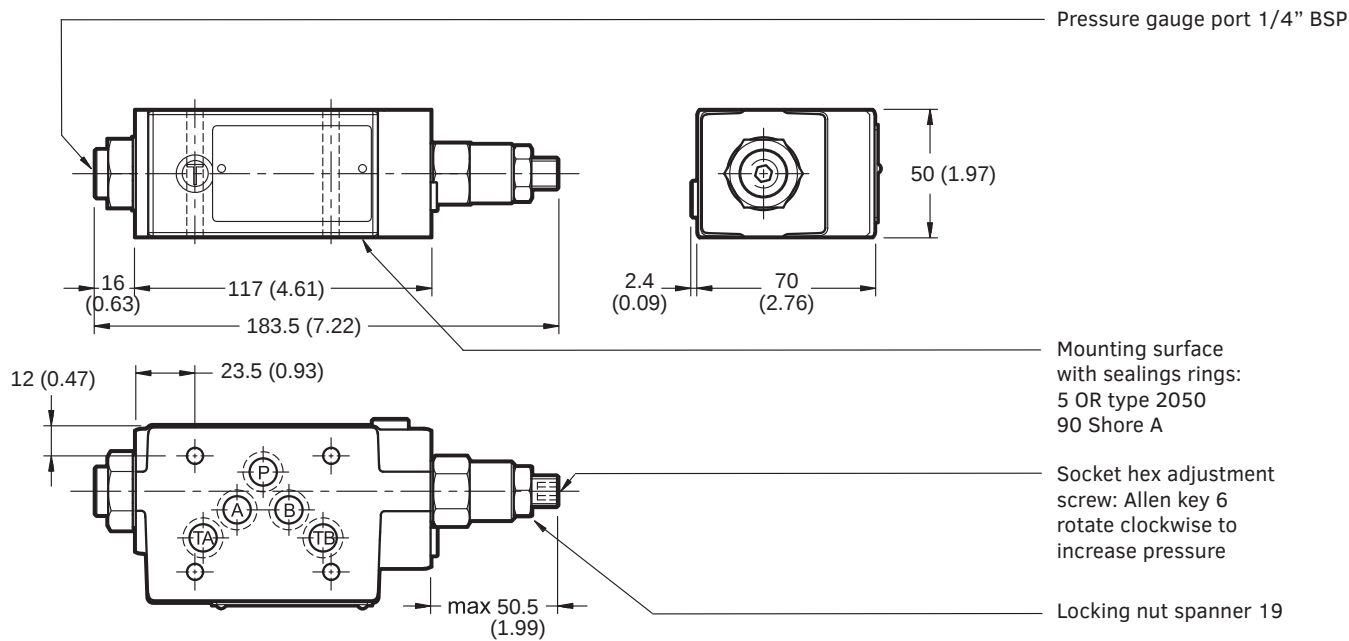
PRESSURE DROPS Δp - Q



PERFORMANCE CURVES - STANDARD OPERATION



MPZ5 - INSTALLATION DATA mm [inch]



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APAC

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