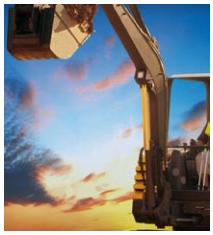
NEW

MD10M

Shockless pressure relief valve cartridges

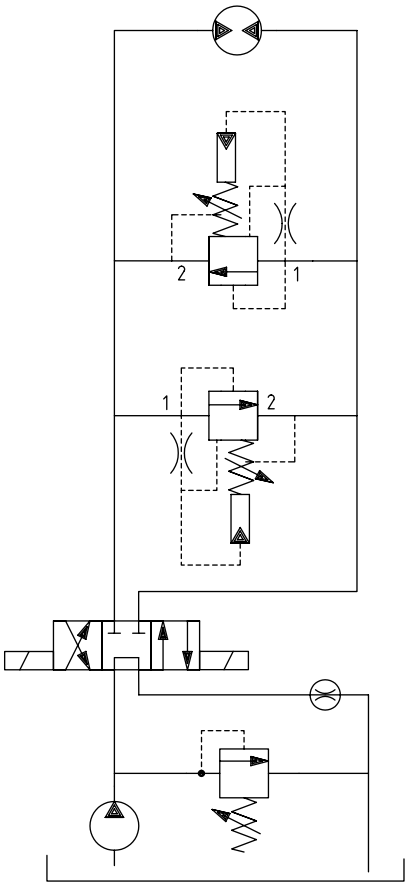

A simple and flexible solution for dampening pressure peaks in hydraulic systems


walvoil
HYDRAULIC CONTROL SYSTEMS

MD10M Shockless pressure relief valve cartridge

PATENT PENDING

- ☐ **Cushioned relief valve for dampening pressure peaks in low leakage hydraulic systems**
- ☐ **Improved performances**
- ☐ **Reduced dimensions**
- ☐ **Several adjustable settings available**
- ☐ **Various reaction times**
- ☐ **Extremely reduced leakage**
- ☐ **SAE10 cavity**



Assembly diagram

Walvoil is pleased to present the new shock-less pressure relief valve cartridge **MD10M** for the control of pressure peaks in hydraulic systems. The new **MD10M** can be used in many applications: earth moving machines and industrial vehicles.

Working conditions

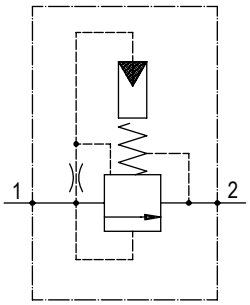
This catalogue shows technical specifications and diagrams measured with mineral oil of 46 cSt viscosity at 40° *(104°F)* temperature.

Nominal flow rating		up to 60 l/min *(15.8 US gpm)*
Operating pressure (max.)		350 bar *(5100 psi)*
Setting range and pressure ratio	Setting range	Pressure ratio (Rp)
	130÷200 bar *(1900÷2900 psi)*	1,9
	180÷240 bar *(2610÷3480 psi)*	2,2
	220÷290 bar *(3190÷4200 psi)*	2,4
	170÷270 bar (2465÷*3915 psi)*	2,5
	220÷320 bar *(3190÷4640 psi)*	2,8
Reaction time		0,2÷0,7 sec
Tolerance reaction time		± 0,05 sec
Oil leakage with oil 46 cSt at 40°C		<5cc/min at 80% of pressure setting
Fluid		mineral based oil
Viscosity	*min.*	10 cSt
	max.	200 cSt
Max level of contamination		-/18/14 ISO4406
Fluid temperature	*BUNA N*	from -25°C *(-13°F)* to 90°C *(194°F)*
	VITON	from -20°C *(-4°F)* to 200°C *(392°F)*
Ambient temperature		from -20°C *(-4°F)* to 60°C *(140°F)*
Cavity		SAE 10/2
Weight		0,20 kg *(0.44 lb)*

NOTE - For different conditions please contact our customer service.

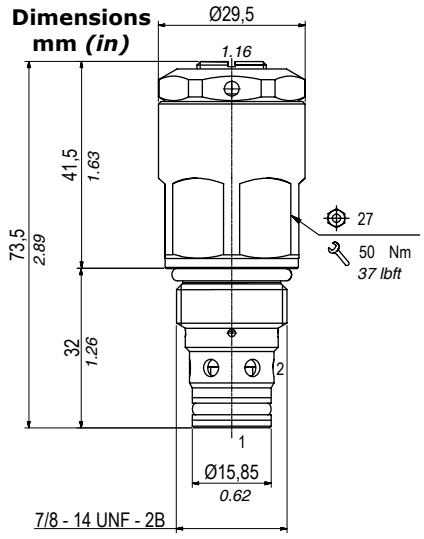
MD10M - Dimensions, hydraulic circuit and assembly diagram

Hydraulic circuit



Cavity 10/2 see pag.4

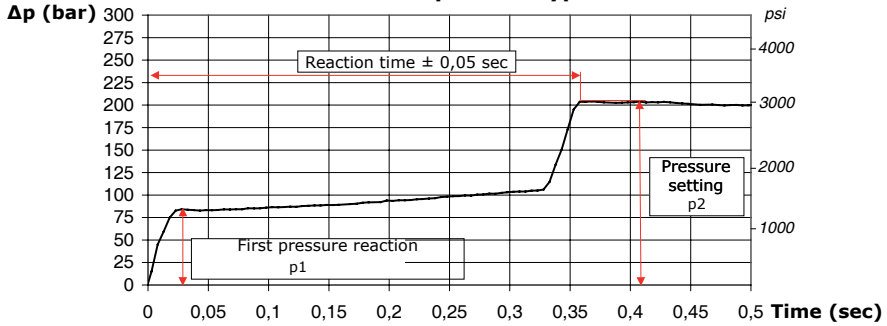
Dimensions mm *(in)*



NEW

MD10M - Performance data

Performance curve example with typical dimensions

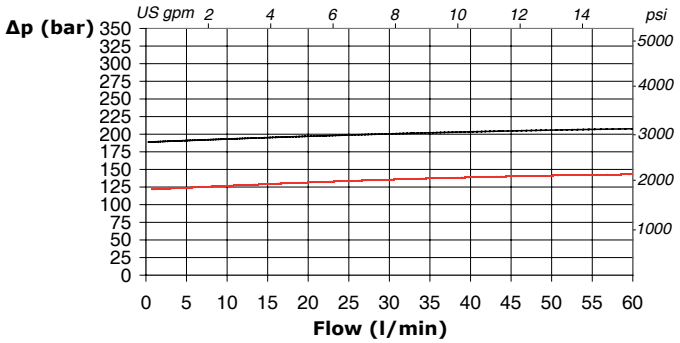


Pressure ratio: $Rp = \frac{p2}{p1}$

First pressure reaction: $p1 = \frac{p2}{Rp}$

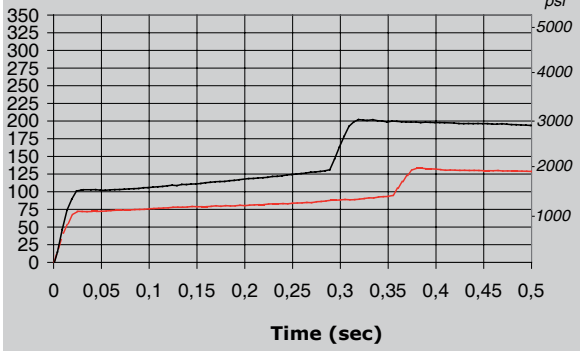
MD10M/□11B - Performance data

Typical pressure drop vs.flow characteristics
at max. and min. setting



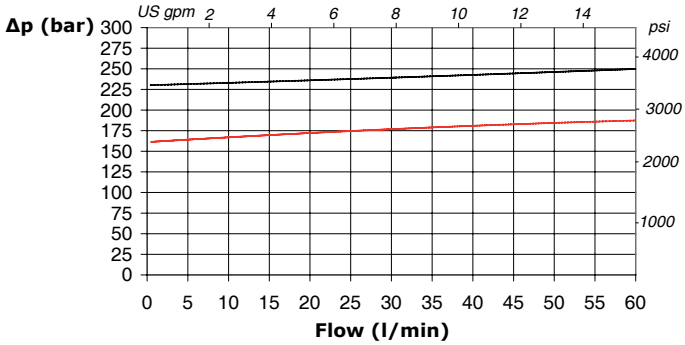
Legenda
- Min. setting
- Max. setting

Performance curve
at maximum and minimum setting at Q=60l/min



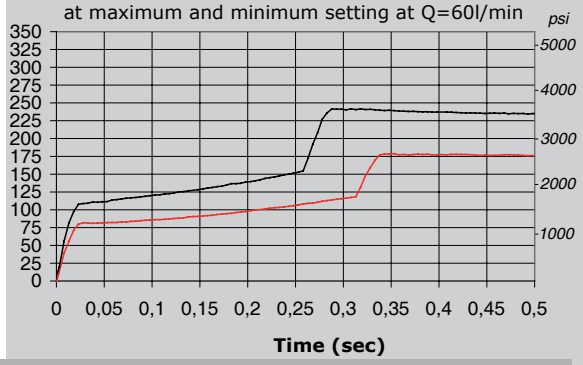
MD10M/□12B - Performance data

Typical pressure drop vs.flow characteristics
at max. and min. setting



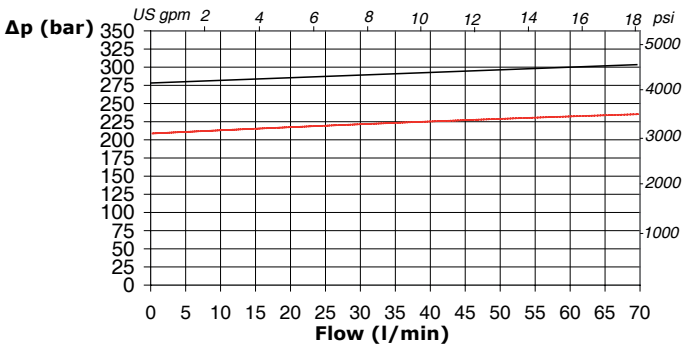
Legenda
- Min. setting
- Max. setting

Performance curve
at maximum and minimum setting at Q=60l/min



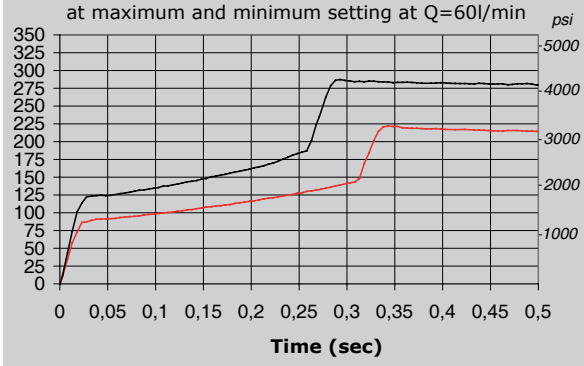
MD10M/□13B - Performance data

Typical pressure drop vs.flow characteristics
at max. and min. setting



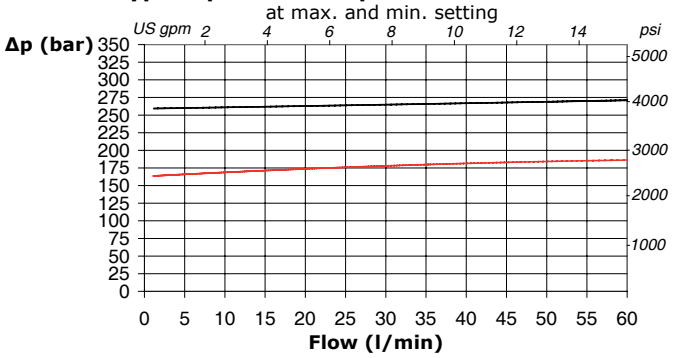
Legenda
- Min. setting
- Max. setting

Performance curve
at maximum and minimum setting at Q=60l/min



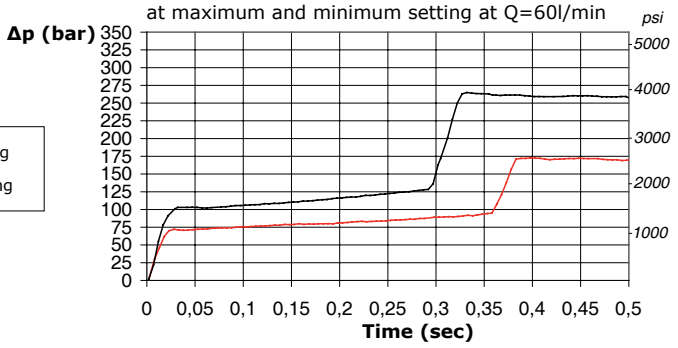
MD10M/□21B - Performance data

Typical pressure drop vs.flow characteristics
at max. and min. setting



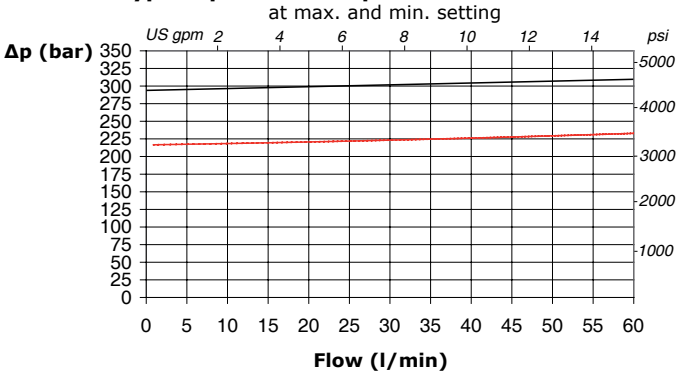
Legenda
- Min. setting
- Max. setting

Performance curve
at maximum and minimum setting at Q=60l/min



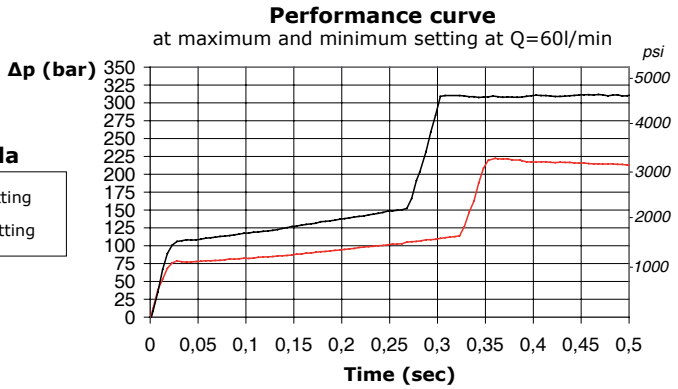
MD10M/□22B - Performance data

Typical pressure drop vs.flow characteristics
at max. and min. setting

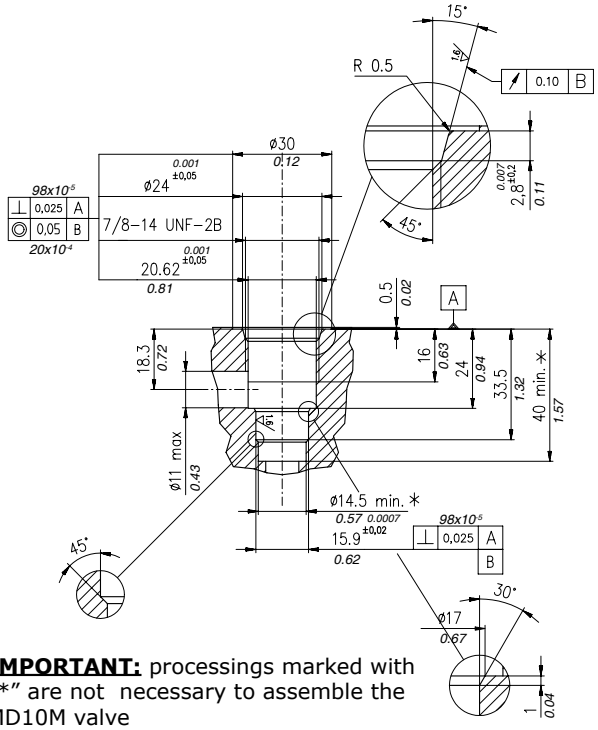


Legenda
- Min. setting
- Max. setting

Performance curve
at maximum and minimum setting at Q=60l/min



Cavity 10/2



IMPORTANT: processings marked with "*" are not necessary to assemble the MD10M valve

Description composition

MD10M/□ - □ - □ - □

Reaction time

2) 0,2
3) 0,3
4) 0,4
5) 0,5
6) 0,6
7) 0,7

Setting range (bar-*psi*) and pressure ratio

11) 130÷200 *(1900÷2900)* Rp=1,9
12) 180÷240 *(2610÷3480)* Rp=2,2
13) 220÷290 *(3190÷4200)* Rp=2,4
21) 170÷270 *(2465÷3915)* Rp=2,5
22) 220÷290 *(3190÷4640)* Rp=2,8

Seals

B) Buna
V) Viton

In the purchase order please specify:
- pressure (p2) and flow setting

Supplied valves are set at the requested pressure and sealed