RP..X

Pressure piloted reducing/relieving proportional valves

walvoil
FLUID POWER E|MOTION

RP..X

Pressure piloted reducing/relieving proportional valves

- ☐ **External zinc-plated and corrosion-proof components**
- ☐ **Hardened parts to ensure minimal wear and long life**
- ☐ **Spool profile optimized through CFD analysis**
- ☐ **Industry common cavities**
- ☐ **Heavy duty polyurethane seals**
- ☐ **Excellent stability throughout the entire flow range**
- ☐ **Excellent dynamic response**
- ☐ **4 pressure ranges available**
- ☐ **Air bleeding system**
- ☐ **Manual override available**

DESCRIPTION:

Walvoil launches the new RP..X proportional piloted pressure reducing valve series, solenoid operated, spool-type, with relieving function.

The valve supplies the pressure depending on the electrical current input; the reduced pressure can be continuously adjusted within a preset pressure range.

OPERATION:

When current is applied to the coil, the RP..X valve manages the flow from port 2 to port 1 until the required pressure value at port 1 is reached. If this pressure exceeds the preset value due to external forces, the pilot stage opens and the flow is sent to the tank through port 3. This operation (reducing/relieving) continues until the pressure value established by the electric signal is reached. Any back pressure on port 3 is additive to the valve setting pressure.

Thanks to accurate tuning, optimization through CFD analysis and the adoption of the Walvoil proportional system, the new RP..X series ensures a reduction in pressure drops and (overall) dimensions compared to the previous valve version.

These valves are available in SAE 08, 10, 12 & 16 size and the 4 different pressure ranges available allow to obtain a precise pressure setting for the whole pressure range.

RP..X valves are used for mobile and industrial applications for system pressure reduction, where low pressure drops and high flow rates are required.

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C *(104°F)* temperature.

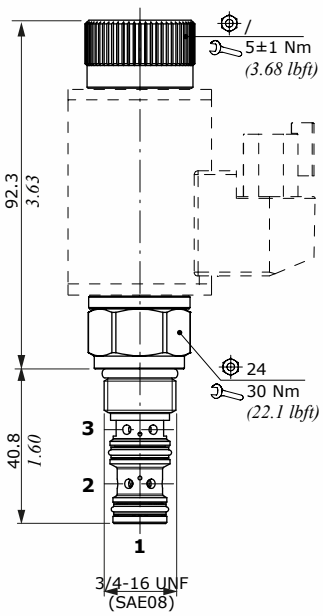
Working condition					
		RP08X	**RP10X**	**RP12X**	**RP16X**
Nominal flow		30 l/min *(7.9 US gpm)*	50 l/min *(13.2 US gpm)*	100 l/min *(26.4 US gpm)*	150 l/min *(40 US gpm)*
Max. pressure		350 bar *(5100 psi)*			
Setting ranges		5 bar *(72.5 psi)* up to 50 bar *(725 psi)*	20 bar *(290 psi)* up to 100 bar *(1450 psi)*	50 bar *(725 psi)* up to 200 bar *(2900 psi)*	80 bar *(1150 psi)* up to 350 bar *(5100 psi)*
Fluid		mineral based oil			
Viscosity		10-200 cSt			
Max level of contamination		18/16/13 ISO4406			
Fluid temperature	with NBR seals	from -20°C *(-4°F)* to 80°C *(176°F)*			
	with FPM seals	from -20°C *(-4°F)* to 100°C *(212°F)*			
Environmental temp. for working conditions		from -20°C *(-4°F)* to 60°C *(140°F)*			
Cavity		SAE 08/3	SAE 10/3	SAE 12/3	SAE 16/3
Coils type		(BH)		(BQP19)	
Power rating	(Proportional)	33 W (12/24 VDC)		22.5 W (12/24 VDC)	
Connector types		ISO4400 - Deutsch DT AMP-JPT - Flying leads		ISO4400 - Deutsch DT AMP-JPT	

Note - For different conditions, please contact Walvoil Sales Department.

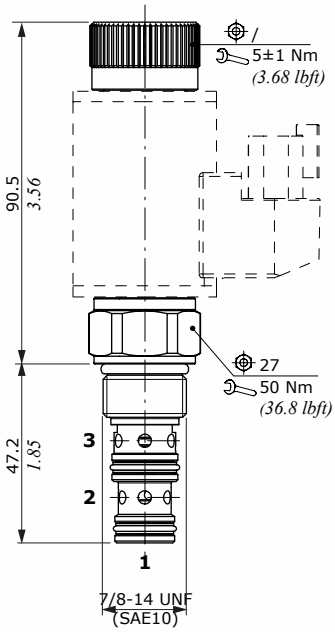
NEW

Dimensions and hydraulic circuits

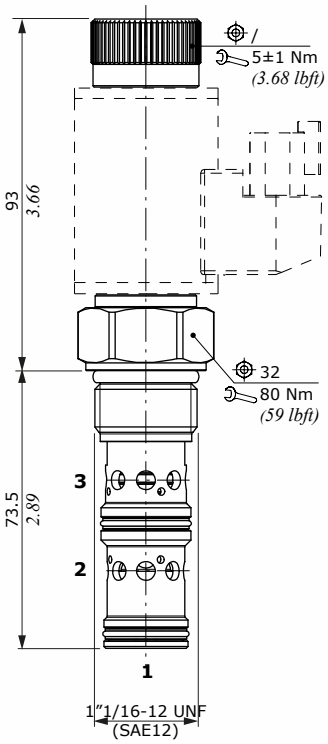
RP08X valve



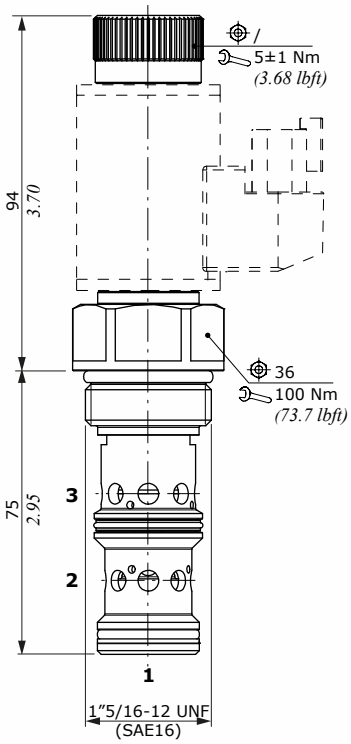
RP10X valve

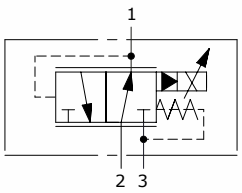


RP12X valve



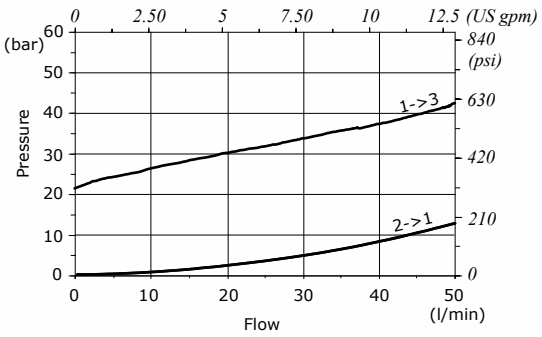
RP16X valve



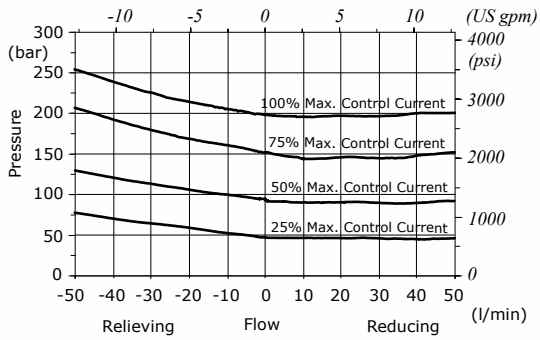


Performance data

RP10X
Pressure drop vs. flow



Reducing/relieving pressure
vs. flow rate on port 1 (range 2)



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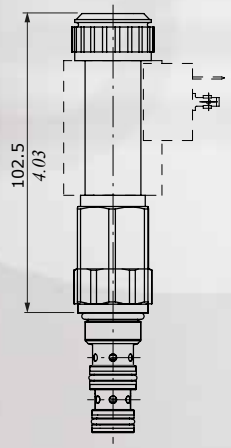
Valves comparison

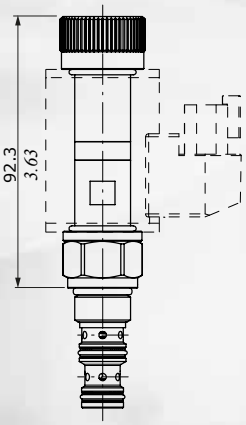
RP08X - OLD

P= 350 bar *(5100 psi)*



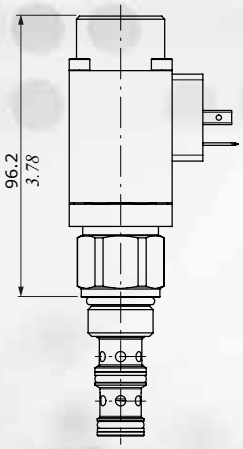
RP08X - NEW

P= 350 bar *(5100 psi)*



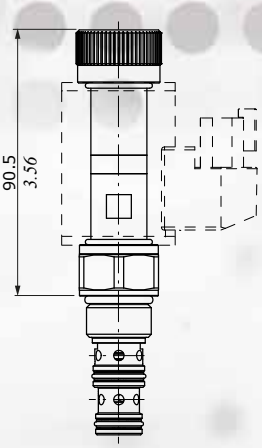
RP10W - OLD

P= 350 bar *(5100 psi)*



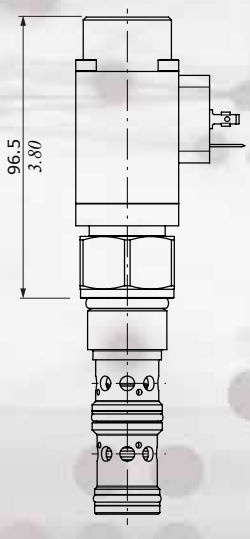
RP10X - NEW

P= 350 bar *(5100 psi)*



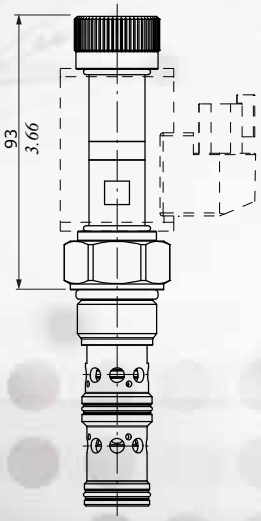
RP12W - OLD

P= 350 bar *(5100 psi)*



RP12X - NEW

P= 350 bar *(5100 psi)*



RP16W - OLD

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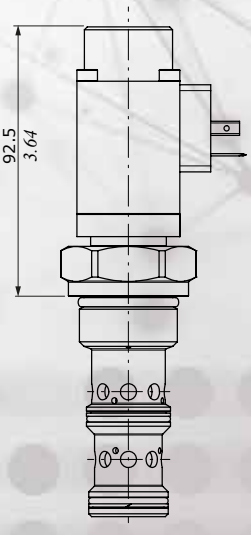
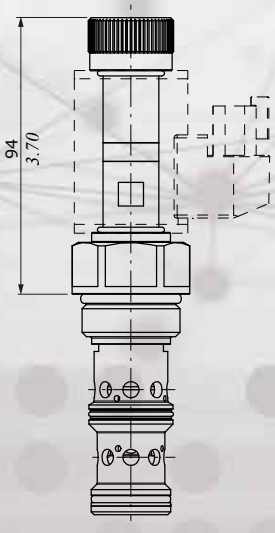


RP16X - NEW

P= 350 bar *(5100 psi)*



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