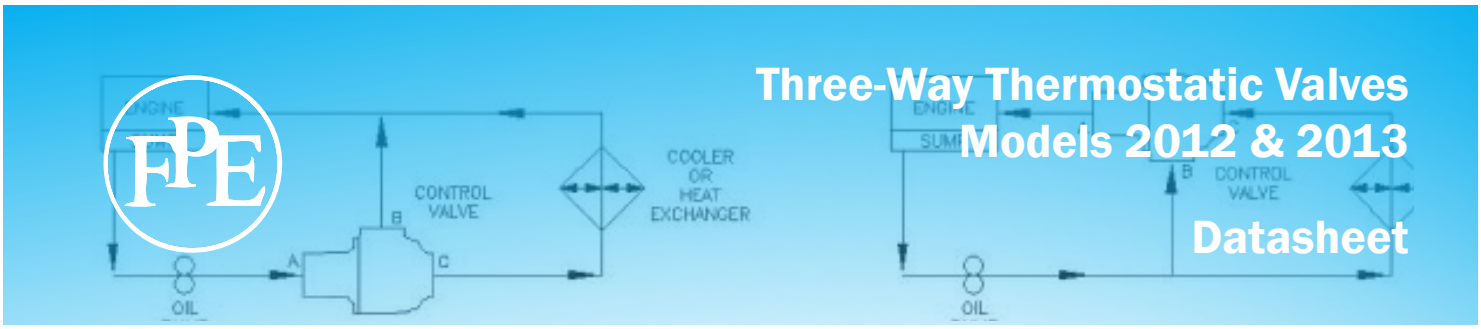


Three-Way Thermostatic Valves
Models 2012 & 2013
Datasheet

Including:

2012-1	1 1/2" NPT
2012	2" NPT
2012J24	1 1/2" SAE O-ring
2012J32	2" SAE O-ring
2012M	2" NPT with Manual Override
F2012	2" Flange
F2012M	2" Flange with Manual Override

With bulkhead mounting provisions

2013-1	1 1/2" NPT
2013	2" NPT
2013J24	1 1/2" SAE O-ring
2013J32	2" SAE O-ring
2013M	2" NPT with Manual Override

Features and Benefits

- Optional mounting rails
- Wide range of temperatures
- Self-contained
- Replaceable element
- Non-adjustable
- Rugged construction
- Tamper-proof
- Operate in any position
- Extra heavy casting

Compact, reliable temperature control

Fluid Power Energy (FPE) thermostatic valves use the principle of expanding wax, which in the semi-liquid state undergoes large expansion rates within a relatively narrow temperature range. The self-contained element activates a stainless steel sleeve, which directs flow. All FPE thermostatic valves are factory set at predetermined temperatures: no further adjustments are necessary. A wide range of temperatures are available for water and oil temperature control applications.

When used in a diverting application, on start-up the total fluid flow is routed back to the main system. As fluid temperature rises to the control range, some fluid is diverted to the cooling system. As fluid temperature continues to increase, more flow is diverted. When the thermostat is in a fully stroked condition, all fluid flow is directed to the cooling system. FPE thermostatic valves may also be used in a mixing application.

In a mixing application, hot fluid enters the "B" port and colder fluid enters the "C" port. The flows mix and the thermostat adjusts to reach the desired temperature, exiting the "A" port.

Standard FPE thermostatic valve housings are made from aluminum and grey iron castings, however, ductile iron, bronze, steel and stainless steel housings are available.

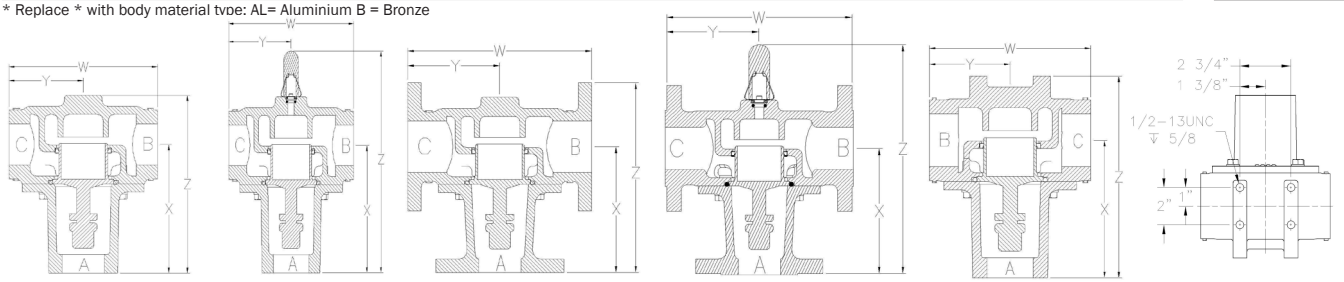
Optional features: High over temperature element, plated element, manual override.

Specification

Model Number	Body Material (*)	Nominal Pipe Size	Principal Dimensions Units - inches (mm)				Max. width in other plane	Flange Drilling			No. of elements	Approx. shipping weight	Notes for numbered end notes
			"X"	"Y"	"W"	"Z"		No. of holes	Dia. of holes	Bolt circle			
*2012-1	A, B, D, S, SS	1 1/2" NPT	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/8 (212.73)	5 3/4 (146.05)	N/A	N/A	N/A	1	A&D=22#, B=28#, S & SS=25#	
*2012	A, B, D, S, SS	2" NPT	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/8 (212.73)	5 3/4 (146.05)	N/A	N/A	N/A	1	A&D=22#, B=28#, S & SS=25#	
*2012J24	A, B, D, S, SS	SAE 24 1 1/2"	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/8 (212.73)	5 3/4 (146.05)	N/A	N/A	N/A	1	A&D=22#, B=28#, S & SS=25#	
*2012J32	A, B, D, S, SS	SAE 32 2"	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/8 (212.73)	5 3/4 (146.05)	N/A	N/A	N/A	1	A&D=22#, B=28#, S & SS=25#	
*2012M	A, B, D, S, SS	2" NPT	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/8 (212.73)	5 3/4 (146.05)	N/A	N/A	N/A	1	A&D=22#, B=28#, S & SS=25#	Manual override
*F2012	A, B, D	2" 125# FF flange	6 (152.40)	4 7/16 (112.71)	8 7/8 (225.43)	9 (228.60)	6 (152.40)	4	3/4 (19.05)	4 3/4 (120.65)	1	A=24#, B=26#, D=20#	
	S, SS	2" 150# RF flange	6 (152.40)	4 7/16 (112.71)	8 7/8 (225.43)	9 (228.60)	6 (152.40)	4	3/4 (19.05)	4 3/4 (120.65)	1	S & SS=24#	
*F2012M	A, B, D	2" 125# FF flange	6 (152.40)	4 7/16 (112.71)	8 7/8 (225.43)	11 (279.40)	6 (152.40)	4	3/4 (19.05)	4 3/4 (120.65)	1	A=24#, B=26#, D=20#	Manual override
	S, SS	2" 150# RF flange	6 (152.40)	4 7/16 (112.71)	8 7/8 (225.43)	11 (279.40)	6 (152.40)	4	3/4 (19.05)	5 (127.00)	1	S & SS=24#	Manual override
*F2012X	S, SS	2" 300# RF flange	6 (152.40)	4 7/16 (112.71)	8 7/8 (225.43)	9 7/16 (239.71)	6 1/2 (165.10)	8	3/4 (19.05)	N/A	1	S & SS=24#	
*2013-1	A, B, D, S, SS	1 1/2" NPT	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/4 (222.25)	6 1/2 (165.10)	N/A	N/A	N/A	1	A+D=25#, B=30#, S & S=27#	Mounting ribs
*2013	A, B, D, S, SS	2" NPT	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/4 (222.25)	6 1/2 (165.10)	N/A	N/A	N/A	1	A+D=25#, B=30#, S & S=27#	Mounting ribs
*2013J24	A, B, D, S, SS	SAE 24 1 1/2"	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/4 (222.25)	6 1/2 (165.10)	N/A	N/A	N/A	1	A+D=25#, B=30#, S & S=27#	Mounting ribs
*2013J32	A, B, D, S, SS	SAE 32 2"	6 (152.40)	3 1/2 (88.90)	7 (177.80)	8 3/4 (222.25)	6 1/2 (165.10)	N/A	N/A	N/A	1	A+D=25#, B=30#, S & S=27#	Mounting ribs

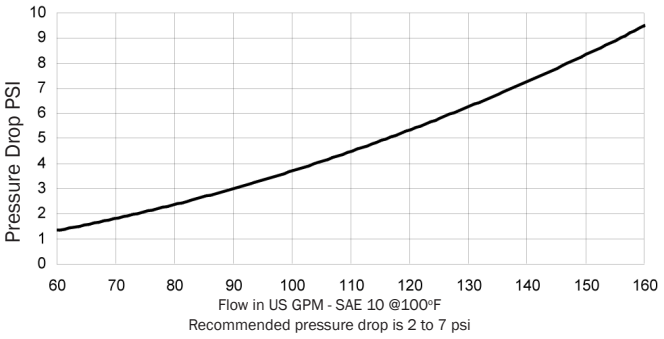
Pressure Ratings	
Material	PSI
A, B	150
D	250
S, SS	500
SF, SSF	275
SF, SSFX	720

* Replace * with body material type: AL= Aluminium B = Bronze

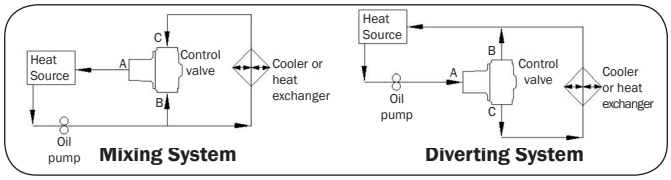


*2012, *2012J *2012M *F2012 *F2012M *2013, *2013J *2013 Mounting Holes

Flow vs. Pressure Drop



Recommended pressure drop is 2 to 7 psi



Spare Parts

Part Number	Description
*2012	Valve Body (*See table for material)
*2013	Valve body w/mounting holes
*2020	Valve cover (**See table for material)
2071	Lip seal
2050-Temp	Thermostat (Temp to follow dash)
1604	Hex bolt
1605	Lock washer
1570**	O-ring (Standard material is Buna-N)
1590	Nameplate
FPE Model 2000*	**Replacement kit (includes the following:)**
1570**	O-ring (Standard material is Buna-N)
2071	Lip seal
2050-Temp	Thermostat (Temp to follow dash)

(For Viton* (V) or Neoprene (E) O-ring material, replace ** with V or E)
Viton® is a registered trademark of Dupont Dow Elastomers

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