

Applications:


The ESBE 3 and 4-Way rotary valves type G and F are designed for mixing or diverting applications on heating and cooling systems. The valves are capable of controlling and distributing water or non-corrosive liquids on closed looped systems to different zones by either manual operation or automatically via electronic motor actuator and controller.

Features:

- The F and G series of valves are a rotary design allowing for flexibility in field piping layout.
- Double mixing function for 4-Way valve, reducing the risk of condensation within heat source
- Valve position face plate is printed on both sides and can be rotated allowing a choice of valve mounting positions
- Easily adaptable with ESBE electronic motor actuator 60 Series (up to 2" NPT) or Series 90
- Suitable fluid of 100% water or glycol mixture (maximum 50% glycol) for heating or cooling closed loop systems.

**Ordering
Information:**
3-Way Valve

Code No.	Reference	Connection	Cv*
065B8953	3 G 40	1-1/2" NPT	35
065B8954	3 G 50	2" NPT	50
065B8960	3 G 65-50	2-1/2" ANSI Flanged	75
065B8961	3 F 65	2-1/2" ANSI Flanged	115
065B8962	3 F 80	3" ANSI Flanged	175
065B8963	3 F 100	4" ANSI Flanged	265
065B8964	3 F 125	5" ANSI Flanged	365
065B8965	3 F 150	6" ANSI Flanged	490

4-Way Valve

Code No.	Reference	Connection	Cv*
065B8979	4 G 40	1-1/2" NPT	35
065B8980	4 G 50	2" NPT	50
065B6150	4 F 50	2" DIN Flanged	75
065B6165	4 F 65	2-1/2" DIN Flanged	115
065B6180	4 F 80	3" DIN Flanged	175
065B6200	4 F 100	4" DIN Flanged	265
065B6225	4 F 125	5" DIN Flanged	365
065B6250	4 F 150	6" DIN Flanged	490

Note:

ESBE "F" Series (2" - 6") 4-Way mixing valves require DIN weld flanges and gaskets. See page 2 for ordering information.

*Cv = Flow rate allowed by the valve in GPM with a pressure drop of one psi.

**Ordering
Information (Cont.):**
DIN Flanges and Gaskets

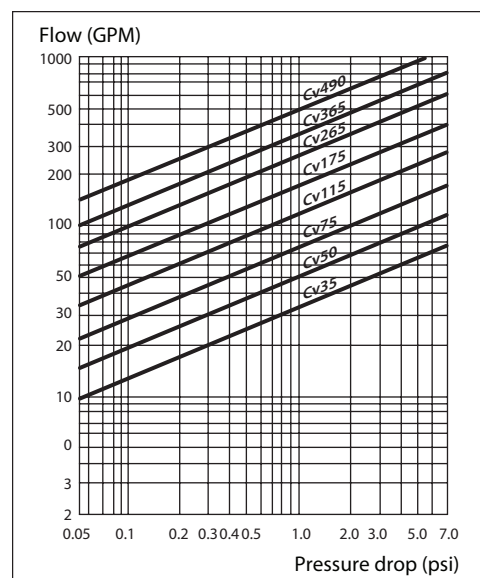
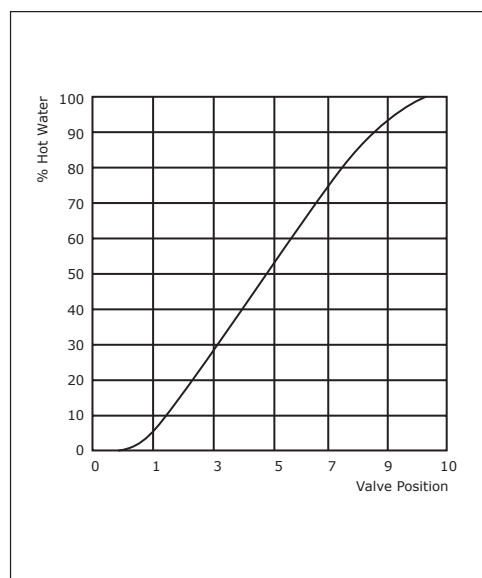
Code No.	Size	Description
065F8950	2"	DIN Weld Flange (Four Flanges Required per 4-Way Valve)
082F8961	2-1/2"	
082F8962	3"	
082F8963	4"	
082F8964	5"	
082F8965	6"	
065F8951	2"	Gasket for DIN Flange (Four Flanges Required per 4-Way Valve)
082F8966	2-1/2"	
082F8967	3"	
082F8968	4"	
082F8969	5"	
082F8970	6"	

Replacement Parts

Code No.	Description	Valve Sizes	Valve Type
065B0003	Gasket Set	1-1/2" – 2-1/2"	3 & 4-Way
065B0004		3" – 6"	
082F8979	Complete Interior	1-1/2"	3-Way
082F8980		2"	
082F8981		2-1/2"	
082F8982		3"	
082F8983		4"	
082F8984		5"	
082F8985		6"	
082F8986	Complete Interior	1-1/2"	4-Way
082F8987		2"	
082F8988		2-1/2"	
082F8989		3"	
082F8990		4" - 5"	
082F8991		6"	

**Technical
Specifications:**

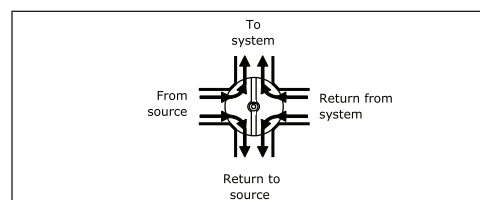
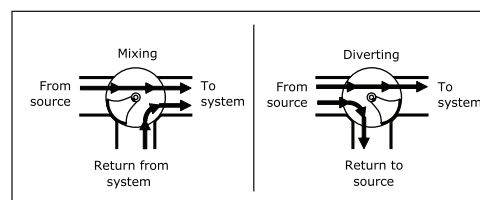
Max. operating pressure	90 psi (6 bar)		
Max. operating temperature	230°F (110°C)		
Min. operating temperature	14°F (-10°C)		
Max. differential pressure	1-1/2" – 2": 8 psi (50kPa) 2-1/2" – 6": 5 psi (30kPa)		
Required motor torque (Recommendation for typical application)	Valve size max. 2" – 45 in lb (5Nm) Valve size max. 4" – 85 in lb (10Nm) Valve size max. 6" – 130 in lb (15Nm) (Recommended exercise function for valve body)		
Allowable fluid	Water (maximum 50% glycol) in a closed loop hydronic system.		
Connections	Type G: Female NPT Type F: 3-Way ANSI Flange 4-Way DIN Flange		
Max. Leakage in % of Flow		Mixing	Diverting
	Type G	1.0	0.5
	Type F	1.5	


**Piping
Arrangement:**
3-Way Valves

- Ideal valves for mixing and diverting applications
- Reduces risk of low temperature water returning to boiler

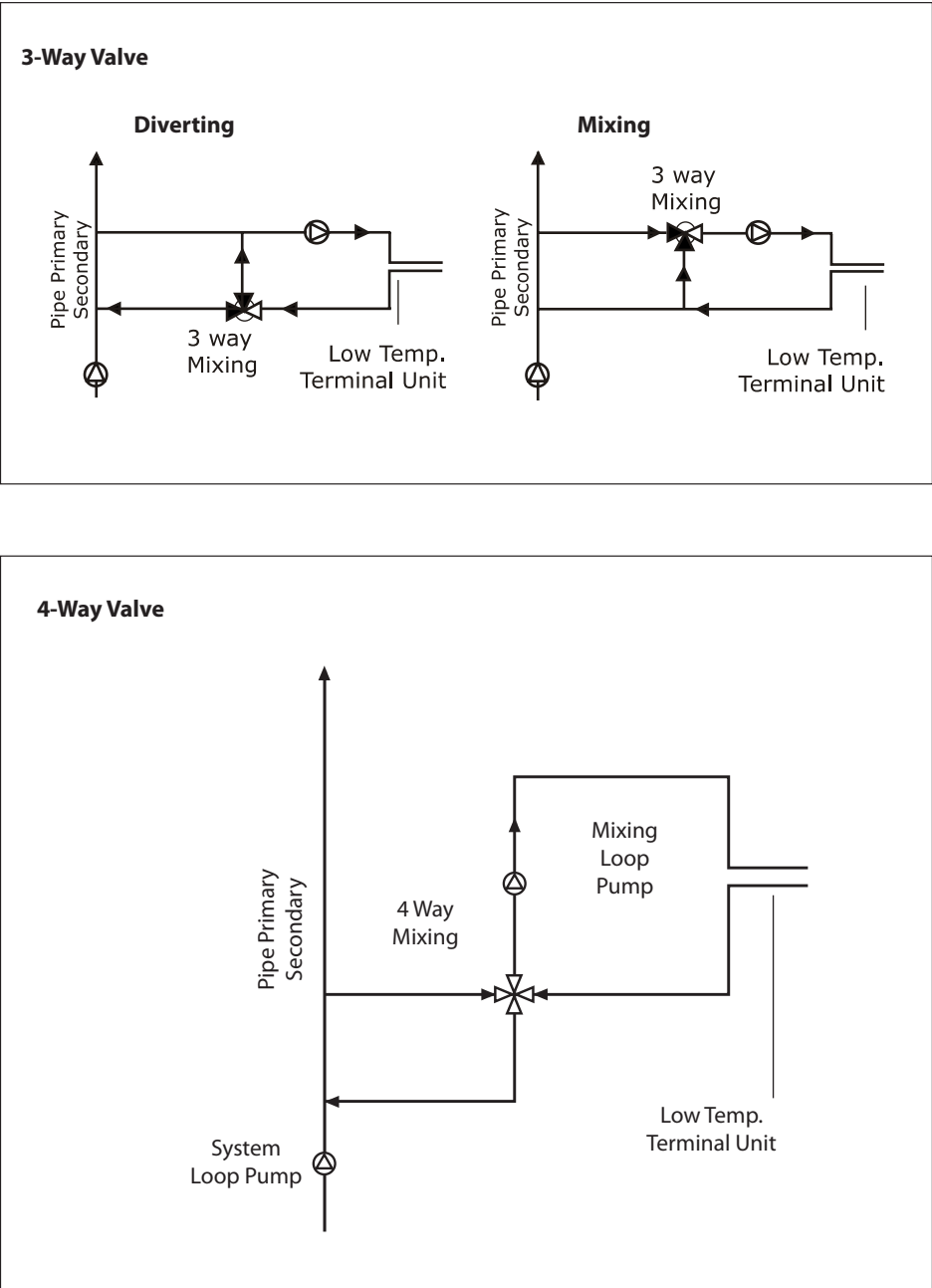
4-Way Valves

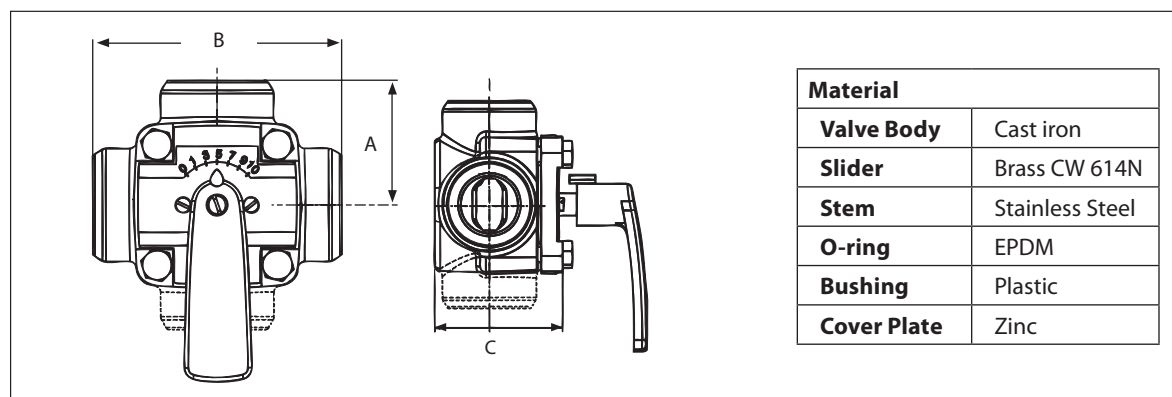
- Double mixing function, providing proportional mixing from source to system and system to source
- Reduces risk of low temperature water returning to boiler.



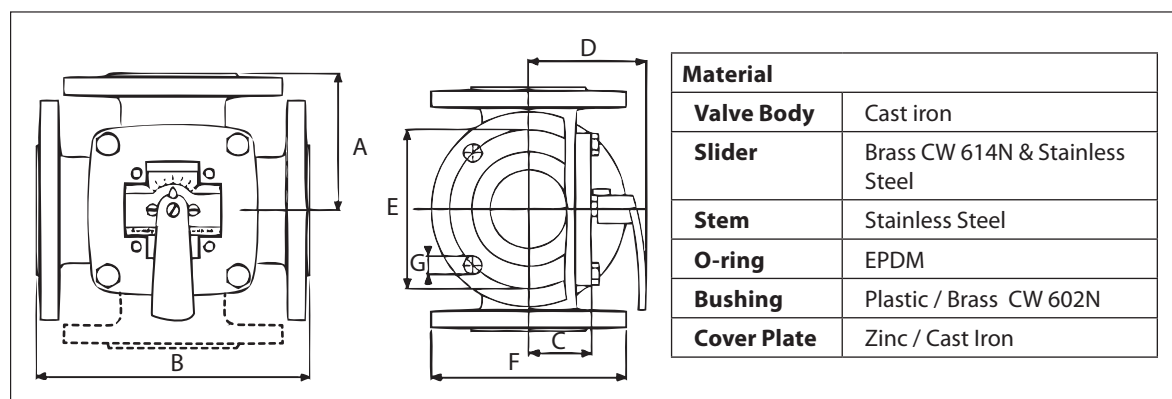


Typical Installation



Dimensions:

Type G

	Size	A	B	C	Weight (lbs)
3-Way	1-1/2"	2.4 (61.0)	4.8 (121.9)	3.0 (76.2)	5.5 (2.5)
	2"	3.1 (78.7)	6.2 (157.5)	3.7 (94.0)	9.0 (4.1)
4-Way	1-1/2"	2.4 (61.0)	4.8 (121.9)	3.0 (76.2)	7.3 (3.3)
	2"	3.1 (78.7)	6.2 (157.5)	3.7 (94.0)	10.4 (4.7)


Type F

	Size	Reference	A	B	C	D	E	F	G	Weight
3-Way	2-1/2"	3 F65-50	3.9 (100)	7.9 (200)	2.0 (52)	3.7 (95)	5.1 (130)	6.3 (160)	4 x 3/4"	32.0 (14.5)
	2-1/2"	3 F65	3.9 (100)	7.9 (200)	2.0 (52)	3.7 (95)	5.1 (130)	6.3 (160)	4 x 3/4"	32.0 (14.5)
	3"	3 F180	4.7 (120)	9.4 (240)	2.5 (63)	4.2 (106)	5.9 (150)	7.5 (190)	4 x 3/4"	37.0 (16.8)
	4"	3 F100	5.2 (132.5)	10.4 (265)	2.9 (73)	4.6 (116)	6.7 (170)	8.3 (210)	8 x 3/4"	60.0 (27.2)
	5"	3 F125	5.9 (150)	11.8 (300)	3.1 (80)	4.8 (123)	7.9 (200)	9.4 (240)	8 x 3/4"	72.0 (32.7)
	6"	3 F150	6.9 (175)	13.8 (350)	3.5 (88)	5.1 (130)	8.9 (225)	10.4 (265)	8 x 3/4"	90.0 (40.8)
4-Way	2"	4 F50	3.8 (97.5)	7.7 (195)	2.0 (50)	3.6 (92)	4.3 (110)	5.5 (140)	4 x .6"	24.3 (11.0)
	2-1/2"	4 F65	3.9 (100)	7.9 (200)	2.0 (50)	3.6 (92)	5.1 (130)	6.3 (160)	4 x .6"	26.9 (12.2)
	3"	4 F80	4.7 (120)	9.4 (240)	2.6 (65)	4.3 (108)	5.9 (150)	7.5 (190)	4 x .7"	44.1 (20.0)
	4"	4 F100	5.2 (132.5)	10.4 (265)	3.2 (81)	4.9 (124)	6.7 (170)	8.3 (210)	4 x .7"	55.1 (25.0)
	5"	4 F125	5.9 (150)	11.8 (300)	3.2 (81)	4.9 (124)	7.9 (200)	9.4 (240)	8 x .7"	77.2 (35.0)
	6"	4 F150	6.9 (175)	13.8 (350)	3.5 (89)	5.2 (131)	8.9 (225)	10.4 (265)	8 x .7"	99.2 (45.0)

**Technical Specifications:**

The 3 or 4-Way rotary valve shall be made of a cast iron material with the connection either being NPT threaded or flanged. The valve should be capable of being utilized in heating or cooling closed loop applications. The valve position shall have a face plate with printing on

both sides to provide a choice of valve mounting positions. The valve should be capable of assembly with an ESBE series 60 or 90 electric motor actuator.

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