

Description

KMC VCP-5450 Series are 3-way diverting valves designed to control hot or chilled water.

These liner flow valves are available in 2-1/2" to 6" with Cv ratings of 68 to 300. Valves with positive positioners are available.

The VCP-5450 Series feature, self-adjusting V-ring Teflon packing and stainless steel stems. Their design makes them ideal for applications that require a leak rate of <0.5%. The VCP-5450 Series meet ANSI Class 125 or 250 specifications.

Features

- ◆ Three way diverting
- ◆ Self-adjusting V-ring Teflon packing and stainless steel stems
- ◆ Leak rate of <0.5%
- ◆ Meet ANSI Class 125 or 250 specifications

Accessories/Repair Parts

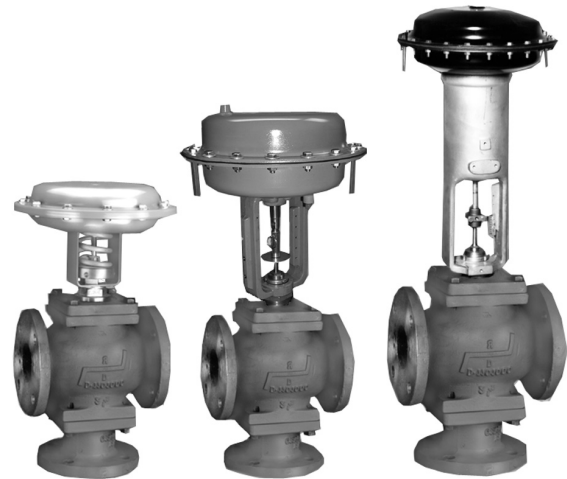
CME-1002	Positive positioner
HPO-5016	Positioner Kit (43.4 sq. in.)
HPO-5113	43.4 sq.in. silicone diaphragm
HPO-5115	43.4 sq.in. neoprene diaphragm
HPO-5119	84 sq.in. diaphragm
HPO-5118	115 sq.in. diaphragm
HPO-5038	Packing kit, 3/8" stem
HPO-5088	Packing kit, V-ring
HPO-5039	Packing kit (graphite) for 115" tops

Model

Choose the specifications that match your application. Refer to the tables and diagrams on the back page for additional information.

NOTES:

- ^a Do not use Bronze Trim if water service exceeds 100 psid, or steam inlet pressure exceeds 40 psig, or with 115 sq.in. actuator.
- ^b The 43.4 sq. in. with positioner contain an 8 to 13 psi internal spring and 5 psi feedback spring. The 84 and 115 sq. in. with positioners contain 9 to 15 psi internal springs.



VCP-54-WW-X-YY-Z

"WW" Size

- 53: 2-1/2"
- 54: 3"
- 55: 4"
- 58: 5"
- 59: 6"

"X" Flange Rating

- 1: 125# Flange w/Bronze trim (See Model NOTES: ^a)
- 2: 250# Flange w/ Stainless Steel trim
- 3: 125# Flange w/Stainless Steel trim

"YY" Actuator Size

- 27: 43.4 sq.in
- 71: 84 sq.in
- 72: 115 sq.in (graphite packing, not V-ring)

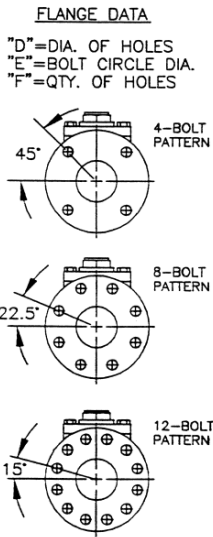
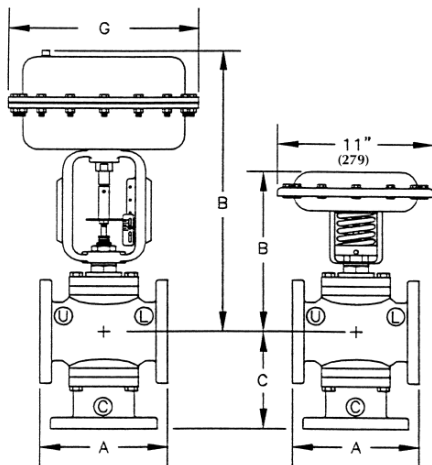
"Z" Actuator Range

- 0: Positioner (See Model NOTES: ^b)
- 1: 3 to 8 psi
- 2: 8 to 13 psi
- 7: 9 to 15 psi

Details

All dimensions in inches (mm).

"G" = 13.812 (351 mm) on the 84 sq.in. Actuator
 "G" = 16.75 (425 mm) on the 115 sq.in. Actuator



Cv & CLOSE-OFF RATINGS IN PSI (kPa)					
Size	Cv U/L	43.4 sq. in. Actuator			
		Lower Port (L)		Upper Port (U)	
		8-13 psi Range	3-8 psi Range	8-13 psi Range	3-8 psi Range
2-1/2"	68/75	20 psi (kPa)*	20 psi (kPa)*	0 psi (kPa)*	0 psi (kPa)*
3"	85/95	100	100	100	100
4"	154/165	100	100	100	94 (648)

Cv & CLOSE-OFF RATINGS IN PSI (kPa)					
Size	Cv U/L	84 sq. in. Actuator		115 sq. in. Actuator	
		9-15 psi Range			
		Lower Port (L)	Upper Port (U)	Lower Port (L)	Upper Port (U)
2-1/2"	68/75	20 psi (kPa)*	0 psi (kPa)*	20 psi (kPa)*	0 psi (kPa)*
3"	85/95	125 (862)	125 (862)	—	—
4"	160/180	125 (862)	125 (862)	—	—
5"	195/220	125 (862)	125 (862)	—	—
6"	270/300	—	—	125 (862)	125 (862)

* Pressure applied to actuator ** Not to exceed body rating

Temperature/Pressure Chart		
Medium Temperature °F (°C)	Body Rating; psi (kPa)	
	125 # Flange	250 # Flange
32° (0) to 150° (66)	175 (1207)	400 (2758)
175° (79)	170 (1172)	385 (2654)
200° (93)	165 (1138)	370 (2551)
225° (107)	157 (1082)	355 (2448)
250° (121)	150 (1034)	340 (2344)
350° (177)	125 (862)	280 (1931)
400° (204)	125 (862)	250 (1724)

VCP-5450 Series with 84 sq.in. Actuator VCP-5450 Series with 43.4 sq.in. Actuator

PRODUCT INFORMATION													
SIZE	FLANGE	VALVE DIMENSIONS in inches (mm)						43.3 sq.in. Actuator		84 sq. in. Actuator		115 sq. in. Actuator	
		A	C	D	E	F Qty. of Holes	B	Weight lbs. (kg)	B	Weight lbs. (kg)	B	Weight lbs. (kg)	
2-1/2"	125	9.00 (229)	7.13 (181)	0.75 (19)	5.50 (140)	4	11.91 (303)	73 (33)	20.63 (524)	106 (48)	—	—	
	250	9.63 (245)	7.38 (187)	0.88 (22)	5.88 (149)	8	—	87 (39)	—	120 (54)	—	—	
3"	125	10.00 (254)	8.00 (203)	0.75 (19)	6.0 (152)	4	12.66 (322)	89 (40)	21.38 (543)	122 (55)	—	—	
	250	10.75 (273)	8.31 (57)	0.88 (22)	6.63 (168)	8	—	108 (41)	—	141 (64)	—	—	
4"	125	13.00 (330)	9.88 (251)	0.75 (19)	7.50 (191)	8	13.54 (344)	152 (69)	22.25 (565)	185 (84)	—	—	
	250	13.63 (346)	10.19 (258)	0.88 (22)	7.86 (200)	—	—	178 (81)	—	211 (96)	—	—	
5"	125	12 (305)	10.5 (266)	0.88 (22)	8.50 (216)	8	—	—	22.88 (581)	199 (90)	—	—	
	250	12.88 (327)	10.94 (278)	—	9.25 (235)	—	—	—	—	260 (118)	—	—	
6"	125	14.13 (358)	11.13 (282)	0.88 (22)	9.50 (241)	8	—	—	—	—	35.50 (902)	287 (130)	
	250	14.5 (368)	11.5 (292)	—	10.63 (270)	12	—	—	—	—	—	368 (167)	

Specifications

- Action/Flow** 3-way diverting
 Stem up w/o air From port "C" to port "L"
 Stem down w/air From port "C" to port "U"
- Rangeability** 50 to 1
- Body Rating** See Chart
- Body Type** 3-way, flanged connections, ANSI 125 or 250
- Material**
 Valve Iron body, 316 Stainless Steel stem; Bronze or 316 Stainless Steel trim and V-ring type self adjusting Teflon packing (except 115 sq.in. with graphite packing);
 43.4 sq.in. actuator Steel top, epoxy coated, EPDM diaphragm*
 84 sq.in. actuator Ductile iron yoke, steel diaphragm chamber and Buna-N fabric reinforced diaphragm
 115 sq.in. actuator Aluminum yoke and steel diaphragm chamber w/Buna-N fabric reinforced diaphragm

- *Consult factory for silicone diaphragm
- Connections** 1/4" FPT
- Control Input** 25 psi (172 kPa) maximum
- Actuator Size** 43.4, 84 and 115 sq.in. pneumatic, direct action
- Temperature Limits**
 Medium** 43.3 sq.in. w/neoprene 32° to 250° F (0° to 121° C)
 43.3 sq.in. w/silicone 32° to 400° F (0° to 204° C)
 Ambient 35° to 175° F (1.7° to 79° C)
 Shipping -40° to 180° F (-40° to 82° C)
- ** See Temperature/Pressure chart above for body pressure rating versus medium temperature.

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