

Description

The KMC VCP-5170 Series are 2-way, normally open valves, designed to control hot or chilled water, or saturated steam.

These single-seat, equal percentage flow, valves are available in 2-1/2" to 6" sizes with Cv ratings of 65 to 360. Valves with positive positioners are available.

The VCP-5170 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 <0.1%. The VCP-5170 Series meet ANSI Class 125 or 250 specifications.

Features

- ◆ 2-way, equal percentage flow
- ◆ Self-adjusting V-ring Teflon packing and stainless steel stems
- ◆ Leak rate of <0.1%
- ◆ Meet ANSI Class 125 or 250 specifications

Accessories/Repair Parts

CMC-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. replacement diaphragm
HPO-5088	V-ring packing kit
HPO-5039	Packing kit for valves with 115" top

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 the water service exceeds 100 psid, or steam inlet pressure exceeds 40 psig, or with 115" actuator.

^b. The 43.4 sq.in. with positioner contains a 3 to 8 psi internal spring and 5 psi feedback spring. The 84 and 115 sq.in. with positioner contain a 3 to 9 psi internal spring.

Specifications and design subject to change without notice.



VCP-51-WW-X-YY-Z

"WW" Size/ CV Range

70:	2-1/2"/ 65
71:	3"/ 90
72:	4"/ 170
73:	5"/ 280
74:	6"/ 360

"X" Flange Range

- 1: 125# Flange w/Bronze trim (See Model Notes a)
- 2: 250# Flange Stainless Steel trim
- 3: 125# Flange with Stainless Steel trim
- 4: 250# Flange with Bronze trim (See Model Notes a)

"YY" Actuator Size

27:	43.4 sq.in
71:	84 sq.in
72:	115 sq.in

"Z" Actuator Range

- 0: Positioner (See Model Notes b)
- 1: 3 to 8 psi
- 2: 8 to 13 psi
- 5: 3 to 15 psi
- 6: 3 to 9 psi
- 7: 9 to 15 psi

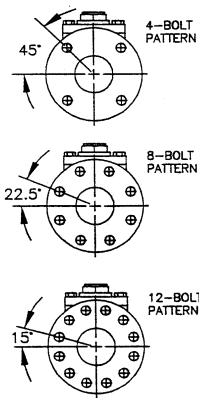
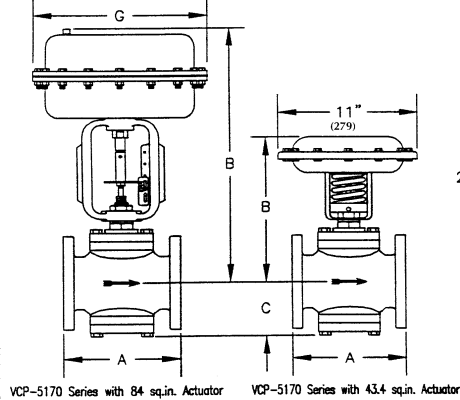
Details

All dimensions in inches (mm).

FLANGE DATA

"D"=DIA. OF HOLES.
 "C"=BOLT CIRCLE DIA.
 "F"=QTY. OF HOLES

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



Cv & CLOSE-OFF RATINGS IN PSI (kPa) **													
Size	Cv	43.4 sq. in. Actuator				84 sq. in. Actuator				115 sq. in. Actuator			
		8-13 psi Range		3-8 psi Range		9-15 & 3-15 psi Range		3-9 psi Range		9-15 & 3-15 psi Range		3-9 psi Range	
		20 psi (kPa)*	25 psi (kPa)*	20 psi (kPa)*	25 psi (kPa)*	20 psi (kPa)*	25 psi (kPa)*	20 psi (kPa)*	25 psi (kPa)*	20 psi (kPa)*	25 psi (kPa)*	20 psi (kPa)*	25 psi (kPa)*
2-1/2"	65	43 (296)	87 (600)	87 (600)	131 (903)	66 (455)	152 (1048)	169 (1165)	255 (1758)	98 (676)	215 (1482)	238 (1641)	355 (2448)
3"	90	28 (193)	58 (400)	58 (400)	89 (614)	44 (303)	103 (710)	115 (793)	174 (1200)	66 (455)	147 (1014)	163 (1124)	245 (1689)
4"	170	-	-	-	-	22 (150)	56 (386)	62 (428)	96 (662)	35 (241)	80 (552)	89 (614)	135 (931)
5"	280	-	-	-	-	13 (90)	34 (234)	38 (262)	60 (414)	20 (138)	50 (345)	55 (379)	85 (586)
6"	360	-	-	-	-	8 (55)	22 (152)	25 (172)	40 (276)	13 (90)	34 (234)	37 (255)	58 (400)

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

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)	4.88 (124)	0.75 (19)	5.50 (140)	4	12.16 (309)	65 (29)	20.88 (530)	98 (45)	32.63 (829)	137 (62)
	250	9.63 (245)		0.88 (22)	5.88 (149)	8	-	76 (34)	-	109 (49)	-	148 (67)
3"	125	10.00 (254)	5.50 (140)	0.75 (19)	6.0 (152)	4	12.79 (325)	76 (34)	21.5 (546)	109 (49)	33.25 (845)	148 (67)
	250	10.75 (273)		0.88 (22)	6.63 (168)	8	-	89 (40)	-	122 (55)	-	161 (73)
4"	125	13.00 (330)	6.38 (162)	0.75 (19)	7.50 (191)	8	-	-	22.5 (572)	157 (71)	34.25 (870)	196 (89)
	250	13.63 (346)		0.88 (22)	7.88 (200)	8	-	-	-	176 (80)	-	215 (98)
5"	125	15.75 (400)	5.75 (146)	0.88 (22)	8.50 (216)	8	-	-	23.13 (588)	176 (80)	34.88 (886)	215 (98)
	250	16.63 (422)		0.88 (22)	9.25 (235)	8	-	-	-	211 (96)	-	250 (113)
6"	125	17.75 (451)	6.50 (165)	0.88 (22)	9.50 (241)	8	-	-	23.75 (603)	218 (99)	35.50 (902)	257 (117)
	250	18.63 (473)		0.88 (22)	10.63 (278)	12	-	-	-	278 (126)	-	317 (144)

Temperature/Pressure Chart		
Medium Temperature °F (°C)	Body Ratings; 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)	-	250 (1724)

Specifications

Action	Normally open
Rangeability	50 to 1
Body Rating	See Chart
Body Type	Single seat, flanged connections, ANSI Class 125 or 250
Material	
Valves	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);
Actuators	
43.4 sq. in.	Steel top, epoxy coated, EPDM diaphragm*
84 sq. in.	Ductile iron yoke, steel diaphragm chamber and Buna-N fabric reinforced diaphragm
115 sq.in.	Aluminum yoke and steel diaphragm chamber with 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.

KMC Controls, Inc.
 19476 Industrial Drive
 New Paris, IN 46553
 574.831.5250
 www.kmccontrols.com