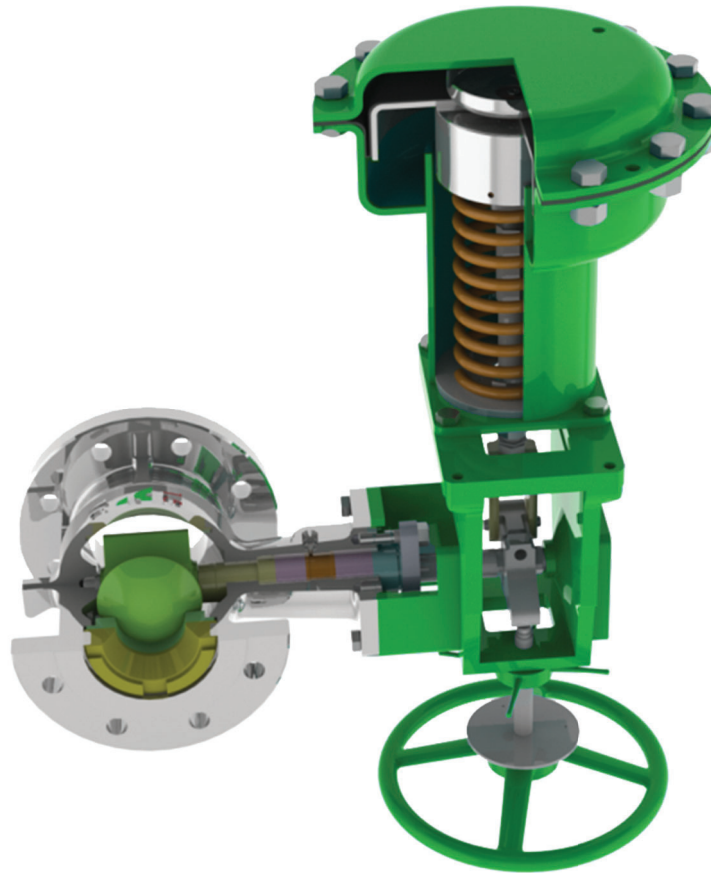


VTX70 Rotary Eccentric Plug Control Valve



FEATURES

- ▶ Offers same high control performance of a Globe Valve, but with a higher Cv
- ▶ High Rangeability of 100:1
- ▶ Plug with Stabilizer Wing reduces fluid induced torque and turbulence to provide stable operation
- ▶ No friction between Plug and Seat provides excellent resolution and controllability
- ▶ Rotary action improves prevention of media from being pulled through packing
- ▶ Minimum Deadband and Hysteresis
- ▶ Space and cost saving design
- ▶ Complies with NACE MR0103/MR0175
- ▶ Optional Alloy Construction and Slurry Design available
- ▶ Ideal for various industries including O&G, Chem/Petrochem, Desalination, and Food & Beverage
- ▶ Full Integral Bonnet and Bolted Packing Box
- ▶ Metal and Soft Seat options to Class IV and V
- ▶ Retained Seat Ring with Threaded Retainer
- ▶ Keyway used for Plug/Stem Attachment for easy replacement and servicing

*Equipment should be installed, operated, serviced, and maintained only by qualified personnel.
No responsibility is assumed by Schneider Electric for any consequences arising from the use of this material.*

KEY COMPONENTS OF THE ROTARY ECCENTRIC PLUG VALVE

Figure 1. Key Components

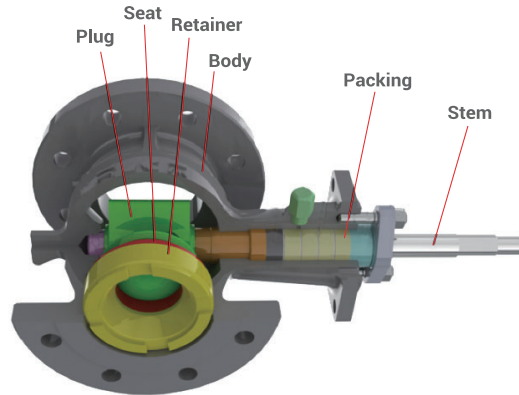


Table 1. Key Components

Type	Rotary Eccentric Plug Valve
Body Size	1" - 12" (DN25 - DN300) Wafer, 1" - 14" (DN25 - DN350) Flanged
Plug Characteristics	Eccentrically Rotating, Self-Aligning, Modified Equal Percentage
Seat	Lock in Place
Pressure Classes	Class 150 - 600
Body Connections (a)	RF Flanged, Wafer
Face-to-Face Dimensions	ANSI B16.5, RF Flanged

a. DIN and PN flanges are also available. Contact Global Customer Support for more information.

Table 2. Component Material

Name	Material
Bushing	316 SS/Stellite®, 304 SS/Stellite®, 440B-HT
Plug	17-4 PH, 304 SS, 316 SS, 304 SS/Stellite®, 316 SS Stellite®, 316L, 304L
Seat	17-4 PH, 304 SS, 316 SS, 304 SS/Stellite®, 316 SS Stellite®, 316L, 304L, PTFE
Retainer	17-4 PH, 304 SS, 316 SS, 304 SS/Stellite®, 316 SS Stellite®, 316L, 304L
Body	LCC, CF8M, CF8, CF3M, CF3
Guide	304 SS/Stellite®, 316 SS Stellite®
Packing	PTFE 8000-PHB, Graphite
Stem	17-4 PH, 304 SS, 316 SS, 304L, 316L

NOTES:

1. Rangeability is 100:1.
2. Seat Leakage
 - a. Metal seat within 0.01% Cv to ANSI/FCI 70-2 Class IV.
 - b. Soft seat to ANSI/FCI 70-2 Class VI.
3. For flashing or cavitating service, we recommend Hardfaced 316 SS or Stellite® trim.
4. Soft seat pressure drops are limited by temperature.
5. Optional materials are available; contact Global Customer Support.
6. Pressure boundary parts are provided to ASTM standards.
7. Valve internal material are supplied to ASTM/JIS/DIN/GB equivalent.
8. Compliance to NACE is available to MR0103 or MR01-75/ISO 15156.

FLOW CHARACTERISTICS

Figure 2. Cv vs Stroke Curve

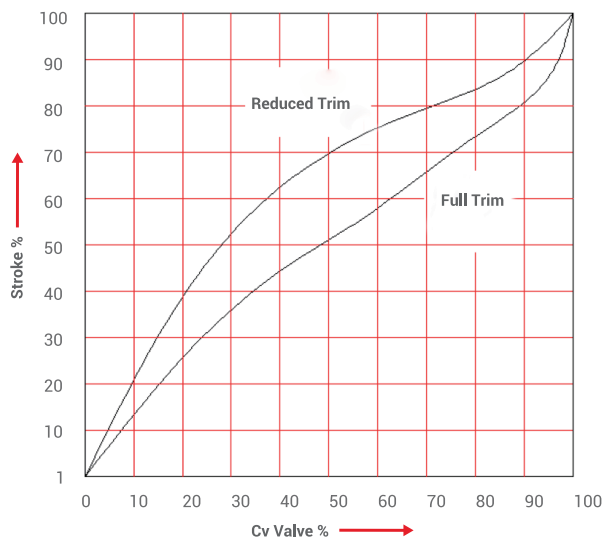
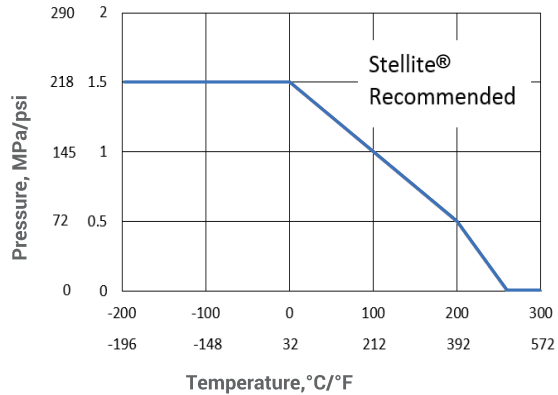
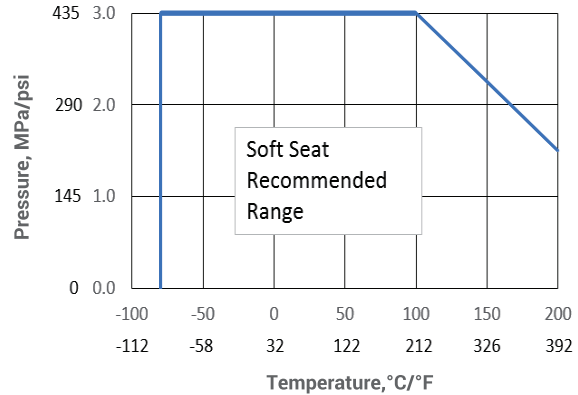


Figure 3. Trim/Material vs Pressure/Temperature Ratings

Pressure/Temperature Recommendation for Stellite®



Pressure/Temperature Soft Seat Limits



Rated Cv for Valve Sizes 1" (DN25) to 12" (DN300)

Table 3. Rated Cv

Body Size	1" (DN25)	1 1/2" (DN40)	2" (DN50)	3" (DN80)	4" (DN100)	6" (DN150)	8" (DN200)	10" (DN250)	12" (DN300)	14" (DN350)
Cv	Cv Full Trim	14	30	50	150	250	600	1000	1400	2600
	40% Cv	5.6	12	20	60	100	240	400	560	1040
	60% Cv	8.4	18	30	90	150	360	600	840	1560

Typical Values of Valve Style Modified F_D , Liquid Pressure Recovery Factor F_L , and Pressure Differential Ratio Factor X_T at Full Rated Travel

Table 4. Valve Sizing Indices

Valve Type	Trim Type	Flow Direction (a)	F_L	X_T	F_D	K_c
Rotary	Eccentric Spherical Plug	Open	0.85	0.61	0.42	0.60
		Close	0.68	0.40	0.42	0.35

a. Flow tends to open or close the valve, for example, push the closure device (plug, ball, or disc) away from or towards the seat.

DIMENSIONS AND WEIGHTS

Table 5. Wafer Body Outline Dimensions Metric (see Figures 4 and 5)

Valve Size inch/(mm)	Body Rating	Actuator	K mm	A mm	B mm	P mm	H mm	L mm	M mm	Weight (kg)
1" (25)	Class 150, Class 300	VR1	102	195	40	208	220	130	128	15
1.5" (40)	Class 150, Class 300	VR1	114	201	45	208	220	130	128	16
2" (50)	Class 150, Class 300, Class 600	VR1	124	205	49	208	220	130	128	17
3" (80)	Class 150, Class 300, Class 600	VR2	165	310	65	315	420	220	220	55
4" (100)	Class 150, Class 300, Class 600	VR2	194	315	110	315	420	270	200	66
6" (150)	Class 150, Class 300, Class 600	VR3	229	420	150	315	585 (505)	330	360	100
		ASP5D-V	229	420	150	630	1384	107	355	190
8" (200)	Class 150, Class 300, Class 600	VR3	243	449	180	315	585 (500)	330	360	125
		ASP5D-V	243	449	180	630	1384	132	355	215
10" (250)	Class 150, Class 300	VR3	297	510	220	315	575 (495)	335	360	165
		ASP5D-V	297	510	220	630	1384	162	355	260
12" (300)	Class 150, Class 300	VR3	338	530	260	315	570	340	360	180
		ASP5D-V	338	530	260	630	1384	185	355	280

Note:

Face dimension of (H) when the spring of 0.08-0.16 Mpa.

Figure 4. Wafer Bodies With VR Actuator

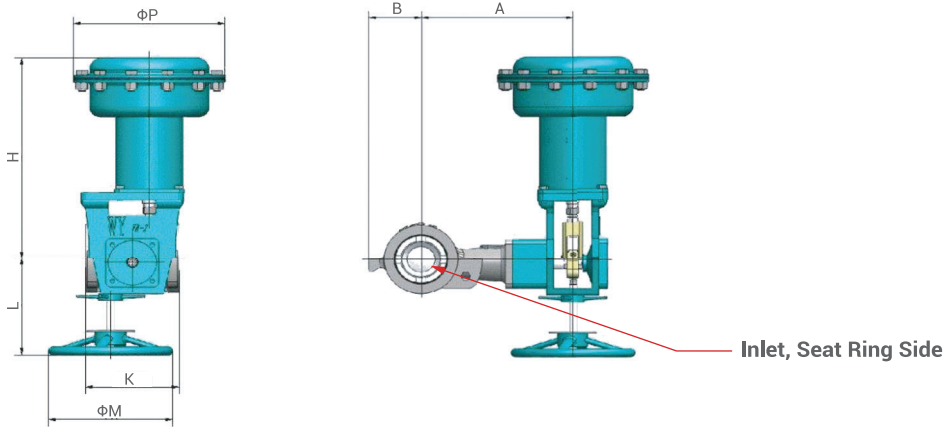


Figure 5. Wafer Bodies With ASP5D-V Actuator

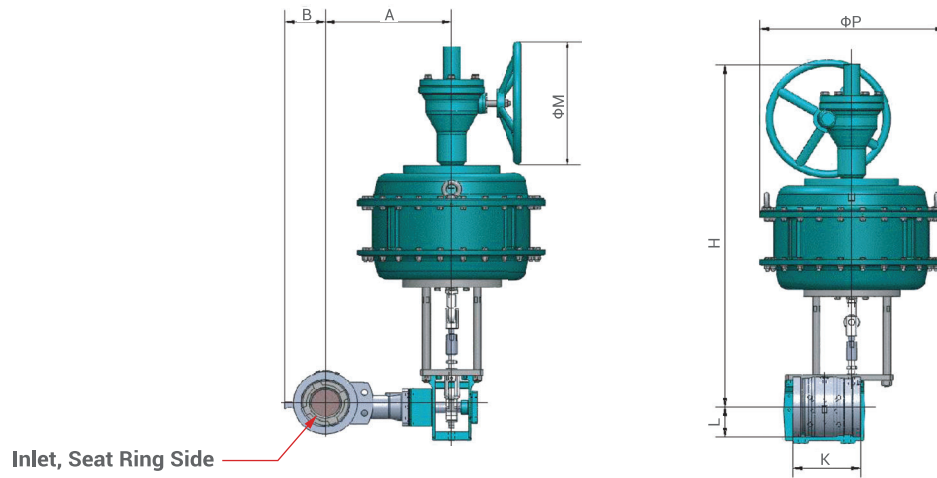


Table 6. Wafer Body Outline Dimensions Imperial (see Figures 4 and 5)

Valve Size inch/(mm)	Body Rating	Actuator	K inch	A inch	B inch	P inch	H inch	L inch	M inch	Weight (lb.)
1" (25)	Class 150, Class 300	VR1	4.0	7.68	1.6	8.2	8.7	5.1	5.0	33
1.5" (40)	Class 150, Class 300	VR1	4.5	7.91	1.8	8.2	8.7	5.1	5.0	35
2" (50)	Class 150, Class 300, Class 600	VR1	4.9	8.07	1.9	8.2	8.7	5.1	5.0	37
3" (80)	Class 150, Class 300, Class 600	VR2	6.5	12.20	2.6	12.4	16.5	8.7	8.7	121
4" (100)	Class 150, Class 300, Class 600	VR2	7.6	12.4	4.3	12.4	16.5	10.6	7.9	145
6" (150)	Class 150, Class 300, Class 600	VR3	9.0	16.54	5.9	12.4	23.0 (19.9)	13.0	14.2	220
		ASP5D-V	9.0	16.54	5.9	24.8	54.5	4.2	14.0	418
8" (200)	Class 150, Class 300, Class 600	VR3	9.6	17.68	7.1	12.4	23.0 (19.9)	13.0	14.2	275
		ASP5D-V	9.6	17.68	7.1	24.8	54.4	5.2	14.0	473
10" (250)	Class 150, Class 300	VR3	11.7	20.08	8.7	12.4	22.6 (19.5)	14.0	14.2	363
		ASP5D-V	11.7	20.08	8.7	24.8	54.5	14.2	14.0	572
12" (300)	Class 150, Class 300	VR3	13.3	20.87	10.2	12.4	22.4	13.4	14.2	396
		ASP5D-V	13.3	20.87	10.2	24.8	54.5	7.3	14.2	616

Note:
Overall height dimensions of (H) when the spring of 11.6-23.2 psig.

Table 7. Flange Body Outline Dimensions Metric (see Figures 6 and 7)

Valve Size inch/(mm)	Body Rating	Actuator	K mm	A mm	B mm	P mm	H mm	L mm	M mm	Weight (kg)
1" (25)	Class 150, Class 300	VR1	127	195	70	208	220	130	128	16
1.5" (40)	Class 150, Class 300	VR1	165	201	85	208	220	130	128	18
2" (50)	Class 150, Class 300, Class 600	VR1	165	205	90	208	220	130	128	20
3" (80)	Class 150, Class 300	VR2	194	310	108	315	420	220	220	60
	Class 600	VR2	229	310	108	315	420	220	220	60
4" (100)	Class 150, Class 300	VR2	194	315	138	315	420	270	200	73
	Class 600	VR2	229	315	138	315	420	270	200	73
6" (150)	Class 150, Class 300	VR3	229	420	173	315	585 (505)	330	360	110
		ASP5D-V	229	420	173	630	1384	173	355	200
	Class 600	VR3	267	420	173	315	585 (505)	330	360	110
		ASP5D-V	267	420	173	630	1384	173	355	200
8" (200)	Class 150, Class 300, Class 600	VR3	297	449	210	315	585 (500)	330	360	140
		ASP5D-V	297	449	210	630	1384	208	355	230
10" (250)	Class 150, Class 300	VR3	330	510	225	315	575 (495)	335	360	187
		ASP5D-V	330	510	225	630	1384	225	355	282
12" (300)	Class 150, Class 300	VR3	338	530	260	315	570 (490)	340	360	212
		ASP5D-V	338	530	260	630	1384	260	355	310
14" (350)	Class 150, Class 300, Class 600	ASP5D-V	535	571	260	630	1384	291	355	360

Note:
Face dimension of (H) when the spring of 0.08-0.16 Mpa.

Figure 6. Flange Bodies With VR Actuator

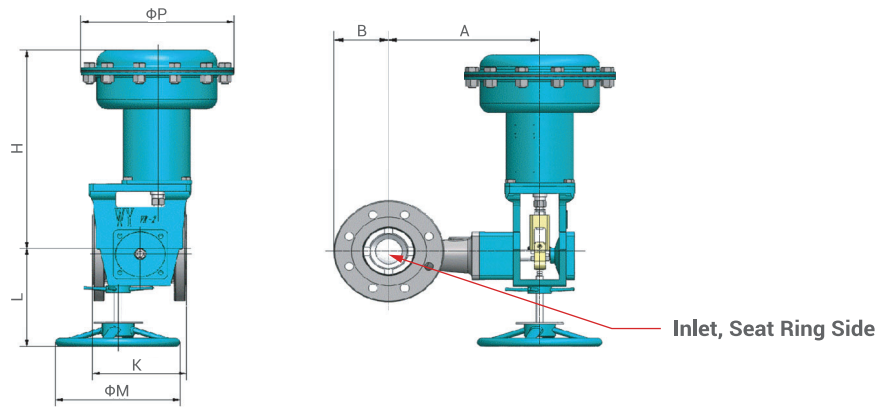


Figure 7. Flange Bodies With ASP5D-V Actuator

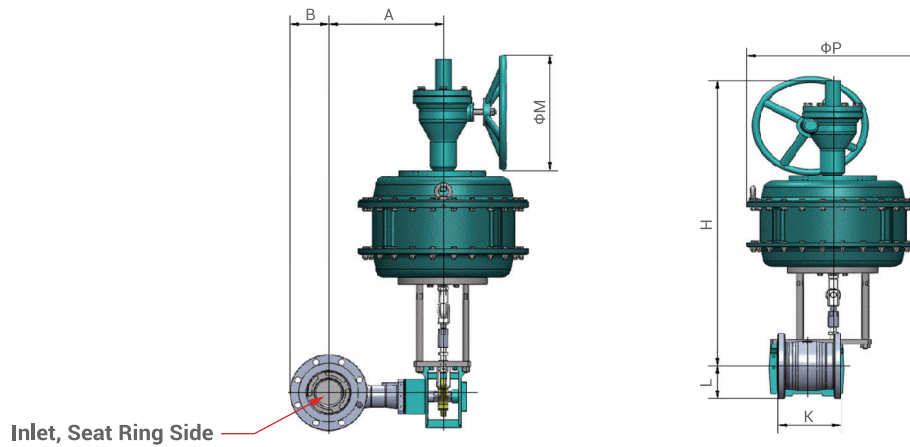


Table 8. Flange Body Outline Dimensions Imperial (see Figures 6 and 7)

Valve Size inch/(mm)	Body Rating	Actuator	K inch	A inch	B inch	P inch	H inch	L inch	M inch	Weight (lbs.)
1" (25)	Class 150, Class 300	VR1	5.00	7.7	2.8	8.2	8.7	5.1	5.0	35
1.5" (40)	Class 150, Class 300	VR1	6.50	7.9	3.3	8.2	8.7	5.1	5.0	40
2" (50)	Class 150, Class 300, Class 600	VR1	6.50	8.1	3.5	8.2	8.7	5.1	5.0	44
3" (80)	Class 150, Class 300	VR2	7.64	12.2	4.3	12.4	16.5	8.7	8.7	132
	Class 600	VR2	9.02	12.2	4.3	12.4	16.5	8.7	8.7	132
4" (100)	Class 150, Class 300	VR2	7.64	12.4	5.4	12.4	16.5	10.6	7.9	161
	Class 600	VR2	9.02	12.4	5.4	12.4	16.5	10.6	7.9	161
6" (150)	Class 150, Class 300	VR3	9.02	16.5	6.8	12.4	23.0 (19.9)	13.0	14.2	242
		ASP5D-V	9.02	16.5	6.8	24.8	54.5	6.8	14.0	440
	Class 600	VR3	10.50	16.5	6.8	12.4	23.0 (19.9)	13.0	14.2	242
		ASP5D-V	10.50	16.5	6.8	24.8	54.5	6.8	14.0	440
8" (200)	Class 150, Class 300, Class 600	VR3	11.69	17.7	8.3	12.4	23.0 (19.7)	13.0	14.2	308
		ASP5D-V	11.69	17.7	8.3	24.8	54.5	8.2	14.0	506
10" (250)	Class 150, Class 300	VR3	13.00	20.1	8.9	12.4	22.6 (19.5)	13.2	14.2	411
		ASP5D-V	13.00	20.1	8.9	24.8	54.5	8.9	14.0	620
12" (300)	Class 150, Class 300	VR3	13.31	20.9	10.2	12.4	22.4 (19.3)	13.4	14.2	466
		ASP5D-V	13.31	20.9	10.6	24.8	54.5	10.2	14.0	682
14" (350)	Class 150, Class 300, Class 600	ASP5D-V	21.06	22.5	10.2	24.8	54.5	11.5	14.0	792

Note:

Overall height dimensions of (H) when the spring of 11.6-23.2 psig.

NOTES





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