

Data Sheet

Rotary Plug Valve Type 62.7

Double eccentric control valve for process engineering and industrial applications

Valve size	DN 25 to 200	NPS 1 to 8
Nominal Pressure	PN 10 to 40	Class 150 and 300
Temperature	-60 °C to +220°C	-76 °F to +428 °F

Valve body made of

- Cast/carbon steel
- Stainless cast/carbon steel
- Low temperature cast/carbon steel

Seat version

- Metal sealing
- Soft sealing

Flanged version

- DN 25 to DN 200 PN10/16/25/40, face to face dimensions acc. to EN 558 table 16, series 36
- NPS 1 to 8, Class 150/300, face to face dimensions acc. to EN 558 table 16, series 36

Standard version

For ambient air temperatures from -29°C to + 80 °C
(-20°F to 176°F)

Version for cryogenic temperature

For ambient air temperatures from -55°C to + 80 °C
(-67°F to 176°F)

The valves can be equipped with different accessories, such interface according to VDI/VDE 3845.



Fig. 1: Rotary Plug Valve Type 62.7 AT

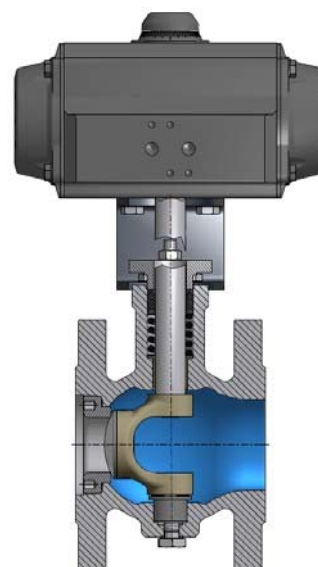


Fig. 2: Rotary Plug Valve Type 62.7 AT
Sectional Drawing

Principle of operation

The shaft/plug arrangement is eccentric (Figs.3 and 4). The double-eccentric design of the rotary plug valve is achieved in combination with the offset of the plug's pivot. The double-eccentric design allows the plug to lift off the seat immediately.

Standard direction of flow = FTO (medium opens) (Fig.5).
On request FTC (medium closes) possible.

Opening direction= Plug closes clockwise
Opening angle= 90°

The flow coefficient depends on the opening angle of the valve.

Using positioners, the natural characteristic of the rotary plug valve can be modified to achieve a linear or equal-percentage characteristic (Fig.6 and 7).

Fail-safe action

In combination with the Type AT Actuators, the control valve has two fail-safe actions, which become effective when the piston is relieved of pressure or when the supply air fails.

Control Valve CLOSED (FC) without supply air:
rotary plug valve closes when the supply air fails.

Control Valve OPEN (FO) without supply air: rotary plug valve opens if the supply air fails.

Installation

Observe the direction of flow indicated by the arrow on the valve body.

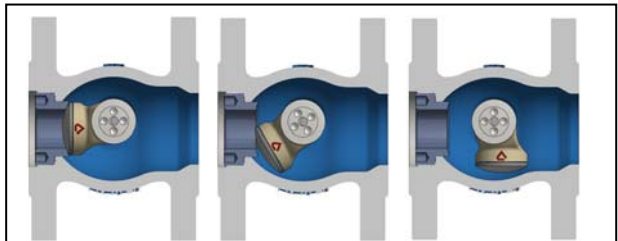


Fig.3 Plug movement with double-eccentric arrangement

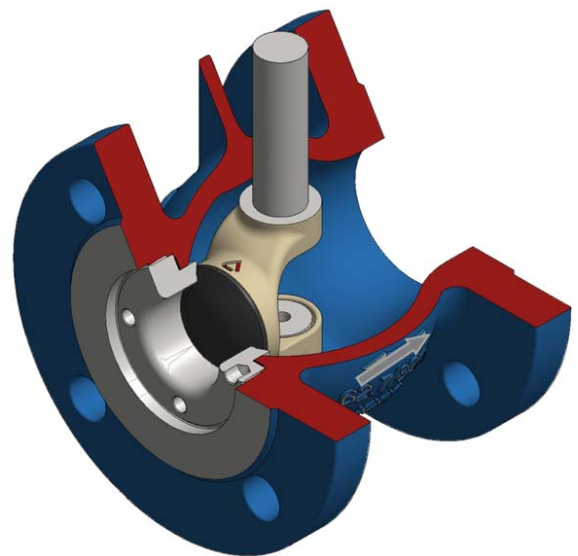


Fig.4 Double-eccentric principle



Fig. 5 Flow Direction

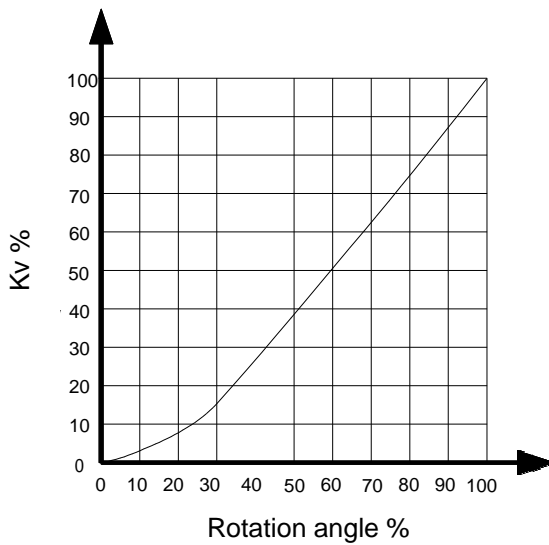


Fig. 6: Natural characteristic

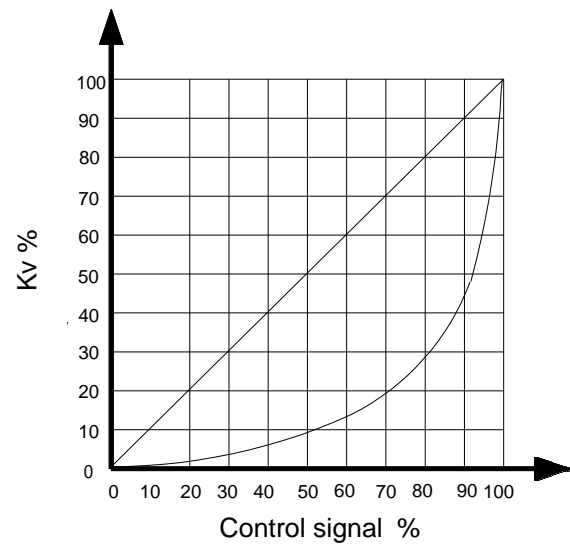


Fig. 7: Equal-percentage and linear characteristic

Table1- Technical data - valve

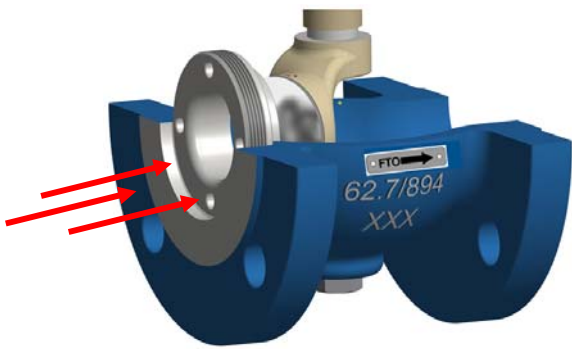
-Type	62.7	
Valve size	DN 25 to 200	NPS 1 to 8
Style	Flange	Flange
Flange pressure rating	PN 10 / 16 / 25 / 40	CL 150 / 300
Overall length	EN 558 series 36	EN 558 series 36
Flange bore/form	DIN EN 1092 B1	ASME B16.5
Standard flow Direction	 <p>Flow to open (FTO)</p>	
Characteristic	natural/equal percentage / linear / on/off	
Rangeability	up to 200 : 1	
Temperature range	medium: -60°C to +220°C / -76 °F to 428 °F	
Opening angle	90°	

Table 2 - Materials

Body	1.0619 / A216WCC	1.4408 / A351CF8M	1.5638 / A352LC3
Shaft	1.4404		
Plug	1.4408		
Disc back bar	1.4404		
Seat ring	1.4404 or soft seat		
Bushing	Polymer / Iglidur „X“		
Bonnet	1.4404		
Spring loaded packing	PTFE V ring packing - TA-Luft		

Table 3 - K_{vs} and C_{vs} flow coefficient
Table3a - Seat with metal sealing - FTC (leakage according DIN EN 60534-4, KI IV G1)

DN [mm] / NPS [in]		25/1	40/1 ^{1/2}	50/2	80/3	100/4	150/6	200/8
Seat factor 100%	K_{vs} [m ³ /h]	14	33	58	194	276	474	721
	C_{vs} [gpm]	16	38	67	224	319	548	834
	Seat Ø [mm]	18	26	36	60	76	105	135
Seat factor 40%	K_{vs} [m ³ /h]	8	12	21	65	92	165	235
	C_{vs} [gpm]	9,2	14	24	75	106	191	272
	Seat Ø [mm]	14	18,5	25,5	44	53	73	88

Table3b - Seat with metal sealing - FTO (leakage according DIN EN 60534-4, KI IV G1)

DN [mm] / NPS [in]		25/1	40/1 ^{1/2}	50/2	80/3	100/4	150/6	200/8
Seat factor 100%	K_{vs} [m ³ /h]	16	36	80	243	386	703	968
	C_{vs} [gpm]	18	42	92	281	446	813	1119
	Seat Ø [mm]	18	26	36	60	76	105	135
Seat factor 40%	K_{vs} [m ³ /h]	10	17	32	104	148	265	348
	C_{vs} [gpm]	12	20	37	120	171	306	402
	Seat Ø [mm]	14	18,5	25,5	44	53	73	88

Table 3c - Soft seat - FTC (Leakage according DIN EN 60534-4, KI VI G1)

DN [mm] / NPS [in]		25/1	40/1 ^{1/2}	50/2	80/3	100/4	150/6	200/8
Seat factor 100%	K_{vs} [m ³ /h]	11	28	68	177	318	466	678
	C_{vs} [gpm]	13	32	79	205	368	539	784
	Seat Ø [mm]	14	23	35	55	70	95	125
Seat factor 40%	K_{vs} [m ³ /h]	8	12	21	65	92	165	235
	C_{vs} [gpm]	9,2	14	24	75	106	191	272
	Seat Ø [mm]	10	18,5	25,5	44	53	73	88

Table 4 - Dimensions

Table 4a - DIN face-to-face-dimensions

DN [mm]		25	40	50	80	100	150	200
PN 10	Length [mm]	102	114	124	165	194	229	243
PN 16								
PN 25								
PN 40								

Table 4b - ANSI face-to-face-dimensions

NPS [in]		1	1 ^{1/2}	2	3	4	6	8
Class 150 Class 300	Length [in]	4,02	4,49	4,88	6,50	7,64	9,02	9,57

Table 4c - Height H1

DN [mm] / NPS [in]		25/1	40/1 ^{1/2}	50/2	80/3	100/4	150/6	200/8
Height H1	[mm]	72	96	102	141	149	205	220
	[in]	2,83	3,78	4,02	5,55	5,87	8,07	8,66

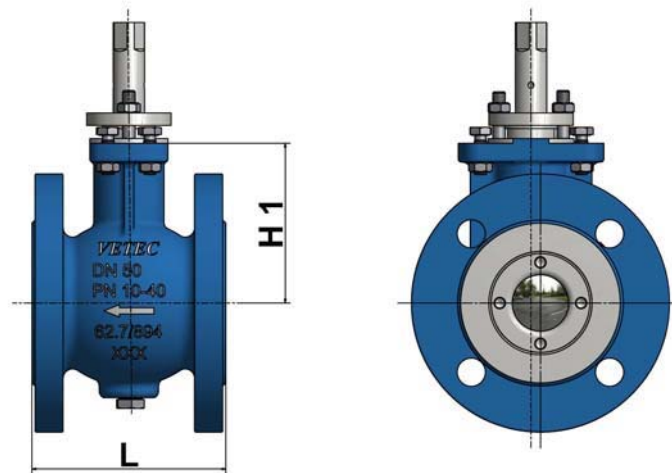


Table 5 - Weight

Valve without actuator and accessories

DN [mm] / NPS [in]		25/1	40/1 ^{1/2}	50/2	80/3	100/4	150/6	200/8
Weight	[kg]	5	7	9	19	26	46	67
	[lbs]	11,04	15,45	19,87	41,88	57,30	101,38	147,67

Table 6 – Differential pressure

Table 6a – Max. differential pressure for actuator [bar]

DN / AT	60-4	100-4	150-4	220-4	300-4	450-4	600-4	900-4	1200-4	2000-4
25	16									
40		16								
50			16							
80				11,5	16					
100					8	14	16			
150						5	7	10	16	
200							3,5	5	8	16

Table 6b – Max. differential pressure for actuator [psi]

NPS / AT	60-4	100-4	150-4	220-4	300-4	450-4	600-4	900-4	1200-4	2000-4
1	232									
1 ^{1/2}		232								
2			232							
3				167	232					
4					116	203	232			
6						72	101	145	232	
8							51	72	116	232

Order specifications

Type	Acc. to table 1
Valve size	DN / NPS.
Nominal pressure	PN / CL
Body material	Acc. table 2
Seat version	Metal or soft sealing
Characteristic	Natural/equal percentage / linear / on/off
Kvs/Cv	Acc. to table 3
Direction of flow	FTC or FTO
Actuator	Type AT
Mounting	A / B / C / D
Fail-safe action	fail-close (FC) or fail-open (FO)
Max. differential pressure for actuator	Acc. to table 6
Supply air	4. bar
Bench range	... bar or mA
Accessories	positioner, limit switch, solenoid valve etc.
Others	test certificates customer inspection / technical documentation etc.

VETEC Ventiltechnik GmbH Siemensstraße 12 · 67346 Speyer
Telefon: 06232 6412-0 · Fax: 06232 42479 · E-mail: vetec@vetec.de ·
Internet: www.vetec.de
Sitz der Gesellschaft: 67346 Speyer · Registergericht: Amtsgericht
Ludwigshafen
HRB 51677 · USt-IdNr.: DE149689913 · Geschäftsführer: Uwe Vogel