

Maxifluss Rotary Plug Valve VETEC-Type 72.3 MN DVGW and 72.4 MN DVGW

Control and quick acting shut-off valve for gaseous media

Application

Control valves for regulation- and control systems subject to safety requirements for gas supply.

For neutral gases according to DVGW work sheet G 260/1

Valve size	DN 25 to DN 200	NPS 1 to 8
Nominal Pressure	PN 10 to 40	Class 150/300
Temperature	-20 to 150°C	-4 to 302 °F

DIN-DVGW type tested



Control and quick acting shut-off valve type 72.3 and type 72.4 with:

- Single acting VETEC-diaphragm actuator type MN with mounted solenoid valve (3/2 way) designed for quick venting, DVGW type tested acc. to DIN EN 161
- TA-Luft packing
- Valve body made of: Cast/carbon steel
Stainless cast/carbon steel

The valves can be equipped with different accessories, such as positioners, solenoid valves and other accessories according to VDI/VDE 3845. The equipment must be approved for operation in hazardous areas.

Versions

Standard version for ambient temperatures from -20 °C to 60 °C and medium temperatures -20 °C to 150 °C
Maximum operating pressure 16 bar, minimum set pressure 2.5 bar and maximum set pressure 3 bar.

Type 72.3 MN × flanged version

- DN 25 to 200 PN 10/16/25/40, face-to-face dimensions acc. EN 558-1 table 12 series 1
- DN 1" to 8" Class 150/300, face-to-face dimensions acc. to EN 558-2 table 12 series 37/38
- With single acting VETEC-diaphragm actuator type MN

Type 72.4 MN × Sandwich-style body (no flanges)

- DN 25 to DN 200 PN10/16/25/40 face-to-face dimensions acc. EN 558-1 table 16 series 36
- DN 1" to 8" Class 150/300, face-to-face dimensions acc. EN 558-2 table 16 series 36
- With single acting VETEC-diaphragm actuator type MN

Further versions

- Noise-reducing features (Type 1.5/2.5)
- Special materials for body and trim
- Flange version with tongue/groove according to EN 1092-1 / RTJ
- Sieve insert



Bild 1 – Maxifluss Rotary Plug Valve VETEC-Type 72.3 MN DVGW

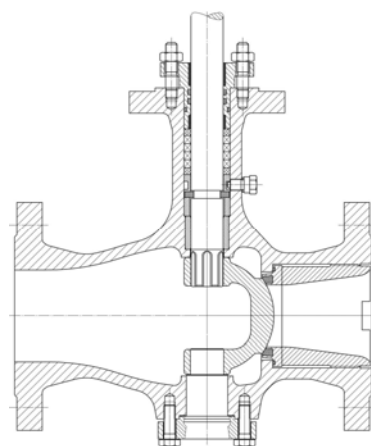


Bild 2 – Maxifluss Rotary Plug Valve VETEC-Type 72.3 MN DVGW

Principle of operation

The shaft/plug arrangement is eccentric (Figs. 3 and 4). The double-eccentric design of the Maxifluss rotary plug valve is achieved in combination with the offset of the plug's pivot. When turning the plug shaft from closed position in opening direction, the double-eccentric design allows the plug to lift off the seat smoothly without initial breakaway torque. The valve is not opened suddenly and shows a stable control response even with small opening angles. The rotary plug valve can be used for both directions of flow.

The rotary plug valve can be used for both directions of flow. For gases and vapors, the direction of flow is FTC (medium closes).

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

Using positioners (cam disks), the natural characteristic of the Maxifluss rotary plug valve can be modified to achieve a linear or equal-percentage characteristic (Figs. 5 and 6).

Fail-safe action

In combination with the Type R/M/AT/S Rotary 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.

Valve CLOSED without supply air: Maxifluss rotary plug valve is closed when the supply air fails.

Valve OPEN without supply air: Maxifluss rotary plug valve is opened when the supply air fails.

DIN-DVGW Certification Mark

The units have been type tested by the Technical Inspection Agency (TÜV) and received from the German Association of Gas and Water Compartment (DVGW) the certification mark, specified in table 1.

Installation

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

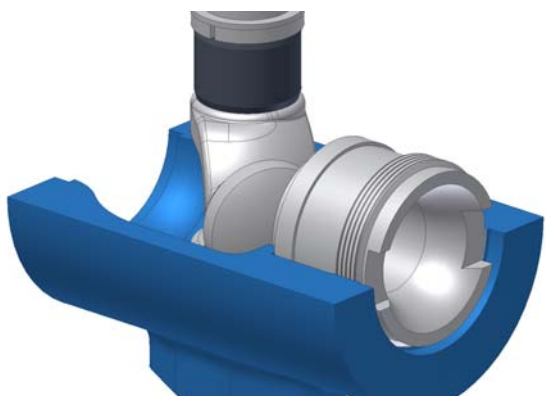


Fig. 3 - Plug movement with double-eccentric arrangement

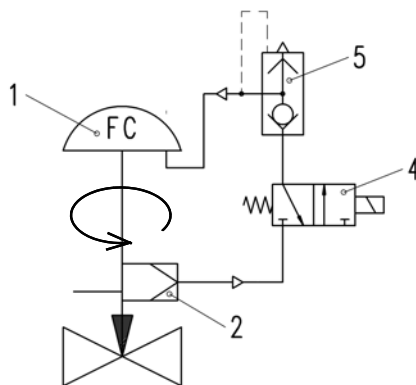


Fig. 4 - Version: solenoid valve with quick venting and positioner – fail safe action: valve closed. The spring keeps the valve closed.

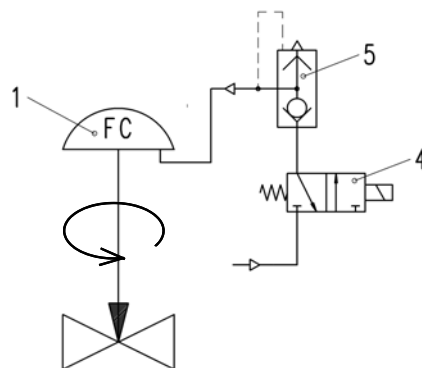


Fig. 5 – Version: solenoid valve with quick venting – fail safe action: valve closed. The spring keeps the valve closed.

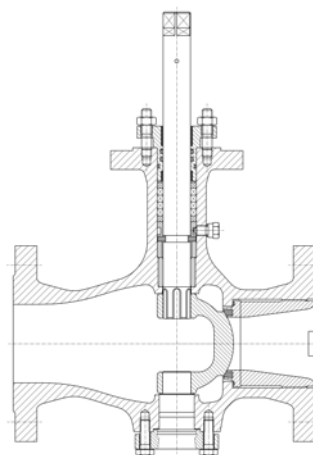


Fig. 6- Soft sealing, FTC – medium closes

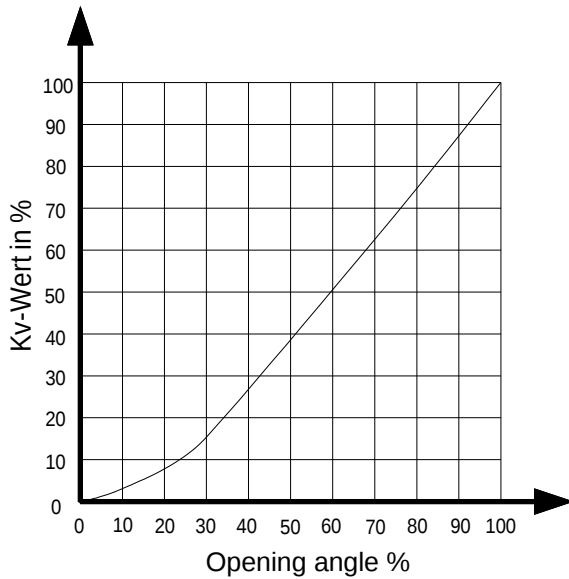


Fig. 7 Inherent characteristic

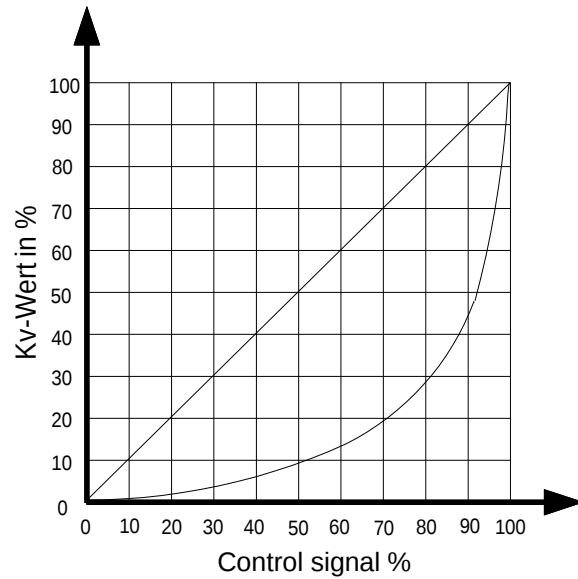


Fig. 8 Linear and equal percentage characteristic

Table 1: Technical Data

Table 1a: VETEC Valves Type 72.3/4

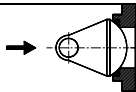
DIN-DVGW- certification mark	CE-0085AQ0388	
Maxifluss-type	72.3	72.4
Style	flange	sandwich
Nominal size	DN 25 to 200 NPS 1 to 8	
Flange pressure rating	PN 10 to 40 Class 150/300	
Max. operating pressure	16 bar	16 bar
Overall length	EN558-1/2 series 1/37/38	EN558-1/2 series 36
Flange bore/form	DIN EN 1591-1 / ASME B16.5 / DIN 2500	
Seat ring	soft sealing, direction of flow from behind FTC 	
Characteristic	equal-percentage or linear (cam disk/ signal curve in the positioner)	
Rangeability	up to 200 : 1	
Actuating time for safety function	< 1 s	
Opening angle	75°	
leakage class	soft sealing: VI-G1	
Temperature range		
Medium	-20 bis 150°C	
Ambient	-20 bis 60°C	

Table 1b: VETEC Actuator Type MN

Valve	DN/NPS	25/1“	40/1/2“	50/2“	80/3“	100/4“	150/6“	200/8“
Fail safe action - CLOSED		MN200/40	MN300/40		MN300/52		MN300/52v	
min supply air		2,5 bar						
max. supply air		3,0 bar						

Table 2 Materials
Table 2a: VETEC Valves Type 72.3/4

Body	1.0619 / A216WCC	1.4408 / A351CF8M
Shaft	1.4571	
Plug	1.4571/ Stellite 6	
Trunnion bearing	1.4571/stellited	
Sitzring	1.4571/PTFE	
Seat holder	1.4571	
PTFE ring on seat	PTFE	
O-Ring on seat	FPM 80 VR1	
Bearing bushing	Artificial Carbon	
Stuffing box	1.4571/PTFE	
O-ring	FPM 80 VR1	
Screw plug	1.4571	
Screw plug seal	1.4571	
Trunnion bearing seal	Graphite/Stainless steel	
Packing	PTFE/Graphite	

Table 2b: VETEC Actuator Type MN

Body	GAISi10MG
Cover cap	GAISi10MG
Control rod	1.4021
Pressure spring	50CrV4
Diaphragm	A25-546-0.5

Characteristics for the flow calculation

Table 3: Kvs- and Cv-value, FTC

Nominal Size	DN/NPS	25 / 1"	40 / 1 1/2"	50 / 2"	80 / 3"	100 / 4"	150 / 6"	200 / 8"
100 % Kvs	Kvs	12	26	68	180	290	320	410
	Cv	14	30	79	208	335	370	474
	Seat-D	16	23	35	54	70	86	106
60 % Kvs (Reduction 01)	Kvs	11	21	43	156	242	185	291
	Cv	13	24	50	180	280	214	336
	Seat-D	15	21	29,5	52	65	73	92
60 % Kvs (Reduction 02)	Kvs	10	17	37	105	200		
	Cv	12	20	43	121	231		
	Seat-D	14	19	27,5	46	60		

Table 4: Dimensions [mm] and weight [kg]

Table 4 a: VETEC Valves Type 72.3/ MN DVGW

Dimension	Designation	25/1"	40/1 1/2"	50/2"	80/3"	100/4"	150/6"	200/8"
L	EN 558-1 R1, PN 10...40	160	200	230	310	350	480	600
	EN 558-2 R37, Class 150 (RF)	184	222	254	298	352	451	543
	EN 558-2 R38, Class 300 (RF)	197	235	267	317	368	473	568
A		30	30	30	39	39	39	39
B		83	103	113	143	173	210	233
C		192	220	230	280	300	377	392
E		57,5	81	88	115	130	156	188
K		404	458	459	564	566	568	570
N		58	65	64	87	85	83	81
P		266	378	378	378	378	378	378
R		358	372	372	372	372	372	372
Gewicht								
Weight valve app. [kg]		8	15	20	40	50	100	160

Table 4 b: VETEC Valves Type 72.4/ MN DVGW

Dimension	Designation	25/1"	40/1/2"	50/2"	80/3"	100/4"	150/6"	200/8"
L	EN 558-1 R36, PN 10...40	102	114	124	165	194	229	243
	EN 558-2 R36, Class 150 /300 (RF)							
A		30	30	30	39	39	39	39
B		58	71	81	104	115	148	165
C		192	220	230	280	300	377	392
E		57,5	81	88	115	130	156	188
K		404	458	459	564	566	568	570
N		58	65	64	87	85	83	81
P		266	378	378	378	378	378	378
R		358	372	372	372	372	372	372
Gewicht								
Weight valve app. [kg]		5	8	10	20	30	60	80

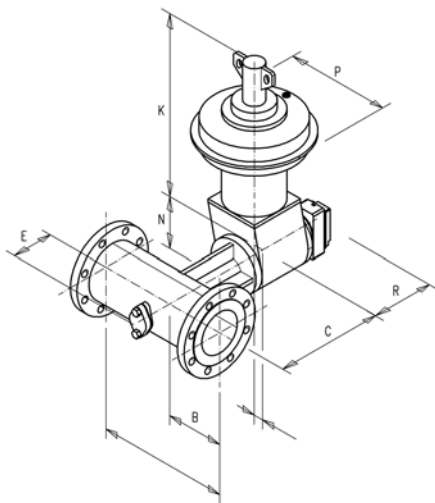


Fig. 9 Type 72.3 MN DVGW

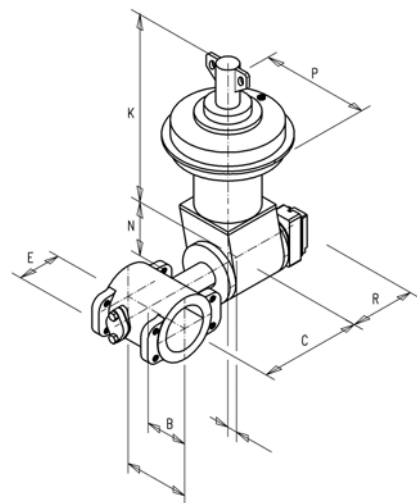


Fig. 10 Type 72.4 MN DVGW

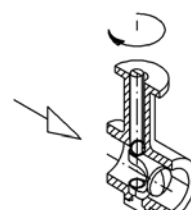
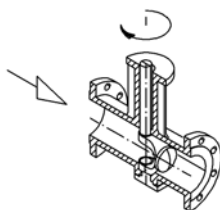


Table 4 c: Connections and weights [kg] for VETEC Actuators Type MN

Actuator / valve DN/NPS	25/1“	40/1/2“	50/2“	80/3“	100/4“	150/6“	200/8“
Fail safe action - CLOSED	MN200/40	MN300/40		MN300/52		MN300/52v	
Flange connection actuator – valve VETEC-Standard	VF10	VF12		VF12		VF16	
Weight							
Weight actuator including bracket [kg]	20	37		65		65	

Order specifications:

Type	According table 1
Valve size	DIN/ANSI
Nominal pressure	PN/Class
Body material	According table 1b
Seat version	For valves type DVGW, always soft sealing
Characteristic	Equal percentage / linear
Kvs/Cv	According table 1a
Direction of flow	For valves type DVGW always FTC (medium closes)
Actuator	Type MN, acc. Table 2
Fail-safe action	Fail-close
Max. differential pressure for	For valves type DVGW always max.16 bar
Supply air	For valves type DVGW always max.3 bar
Others	Accessories, special equipment, sieve insert, certificates, approvals etc.