Straight through control valve for combustible gases

DIN-DVGW type approval

DN 15 - 100

CE-marking acc. to Pressure Equipment Directive

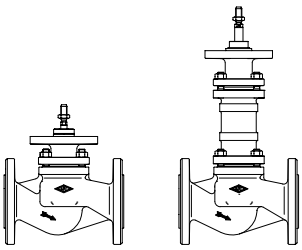
Fig. 440

Control valve
STEVI® 440 -G / 441 -G

for electric and pneumatic actuators

DIN-DVGW type approval according to DIN 3391 and DIN EN 13611

- **For control of fuel gas-supply systems**

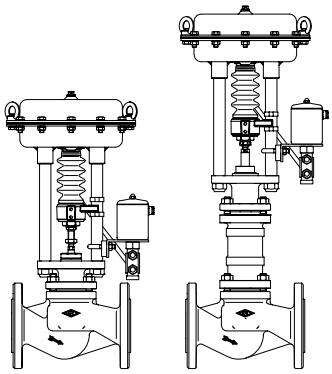


Page 2

Control- and quick-closing valve
STEVI® 440 DP-G / 441 DP-G

DIN-DVGW type approval according to DIN EN 161 and DIN 3394 part 1

- **For control of fuel gas-supply systems and emergency isolation facilities**
- **On power supply failure, the actuator closes the valve by spring force.**
- **A strainer must be installed upstream of the valve**
- **Plug/seat isolation, body/bonnet and gasket sealing corresponds to the high demands of DIN EN 161 and DIN 3394 part 1 group A**
- **Closing time on power supply failure max. 1 second**



Pneumatic actuator DP

- Actuator with rolling diaphragm
- Air supply pressure max. 6 bar
- Stem protection by bellow
- Maintenance-free O-ring sealing
- Assembly of additional devices acc. to DIN IEC 60534-6

Page 4

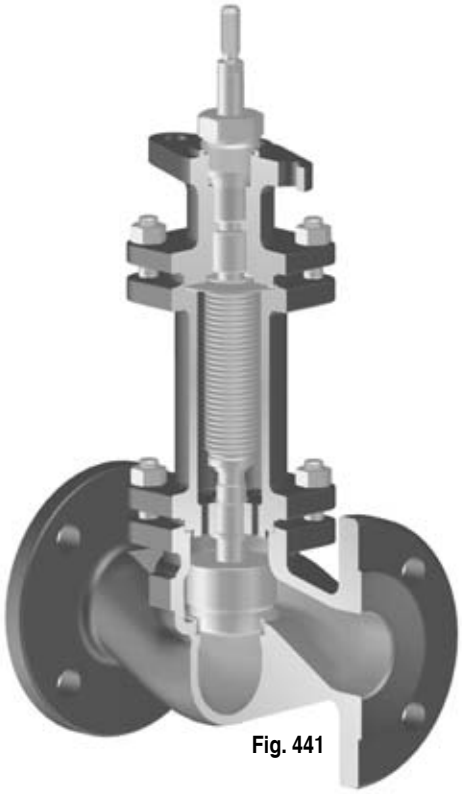


Fig. 441

Features:

- Compact design
- Precision guided stem
- Burnished stem
- Rangeability 50 : 1
- Spring-loaded PTFE-V-ring packing unit
- Two-ply bellows seal
- Travel indicator

(Material and Figure-No.
refer to technical data
or part list.)

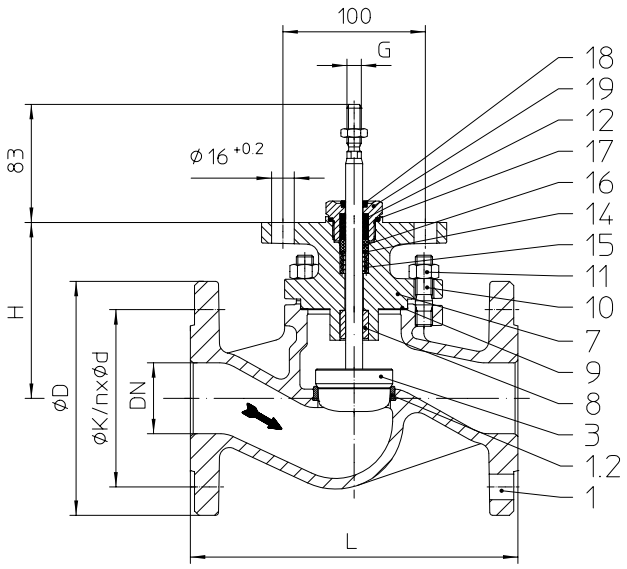


Fig. 440 -G

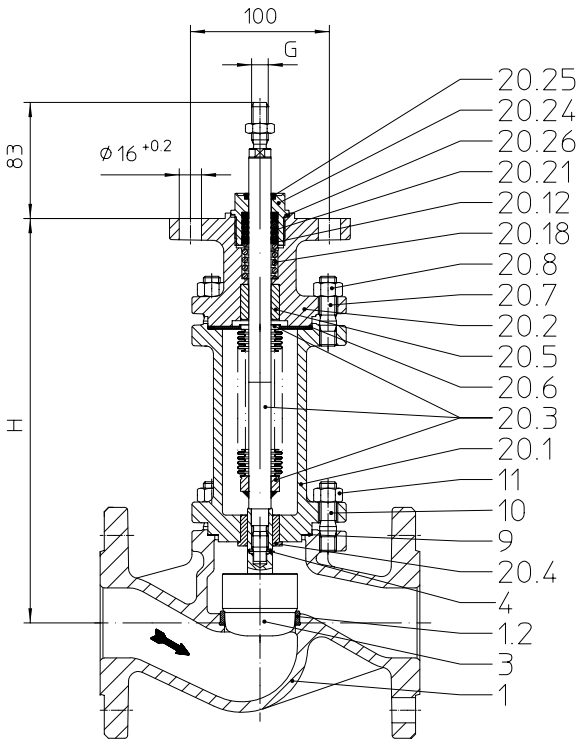


Fig. 441 -G

Heights and weights

DN			15	25	40	50	80	100
...440 -G	H	(mm)	103	111	118	124	152	171
	GGG-40.3 PN 16-25	(kg)	4	5,5	9,1	11,8	22,9	36,9
	1.0619+N / 1.4408 PN 25-40	(kg)	4,3	6,1	10	13	26	38,7
...441 -G	H	(mm)	288	296	287	289	385	401
	GGG-40.3 PN 16-25	(kg)	9	12,6	20,7	23	38,3	53
	1.0619+N / 1.4408 PN 25-40	(kg)	10	14	23	25,5	42,5	59

Other dimensions refer to page 9.

Heights and weights incl. actuator refer to corresponding data sheet.

Closing pressures and thrust

DN		15	25	40	50	80	100
Seat ∅	(mm)	21	27	41	51	81	101
Standard Kvs-values		4	10	25	40	100	160
Reduced Kvs-values		2,5	6,3	16	25	63	100
Travel	(mm)	20				30	
Max. permissible closing pressure	(bar)	16					
Required thrust at the stem	(kN)	1,3	1,5	2,8	4,1	9,4	14,2
Max. permissible thrust to the stem Fig. 440	(kN)	12				29	
Max. permissible thrust to the stem Fig. 441	(kN)	18					

Valve Fig.	DIN-DVGW registration No.
440 - G / 441 - G	NG - 4396AP3149

Technical data of the valve - Fig. 440 -G / Fig. 441 -G

Type:	Control valve **Fig. 440 -G / 441 -G** for gas
Nominal diameter:	DN 15, 25, 40, 50, 80, 100
Nominal pressure:	PN 16, PN 25, PN 40
Body material:	GGG-40.3, 1.0619+N, 1.4408
Stem sealing:	• Fig. 440 -G: PTFE-V-ring unit • Fig. 441 -G: Stainless steel bellows seal with PTFE-V-ring unit
Operative ambient temperature:	-20°C up to +60°C (1.0619+N and 1.4408) -10°C up to +60°C (GGG-40.3) (please indicate when ordering)
Mounting position:	• horizontal piping: vertical actuator • vertical piping: horizontal actuator(observe operating instruction)
Plug design:	• Parabolic plug with metal seat • Parabolic plug with PTFE soft seat (max. 200°C)

Guiding:	Stem guiding
Flow characteristic:	Equal percentage or linear
Rangeability:	50 : 1
Flow direction:	flow-to-open
Shut off classes:	• Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4 • Soft seat - Leakage class VI acc. to DIN EN 1349 or IEC 60534-4
Approvals:	DIN-DVGW type test approval DIN 3391 and DIN EN 13611
Application:	combustible gases acc. to DVGW page G260/1
Actuator:	pneumatic: DP32-34 (refer to data sheet Fig. 440/441) electric: ARI-PREMIO 2,2 kN - 12 kN (refer to data sheet Fig. 440/441), Auma SAR 07.1 - 10.1 The electrical equipment must be according to DIN 3391.
Corrosion protection option:	only for storage and transport customized painting

(Material and Figure-No.
refer to technical data
or part list.)

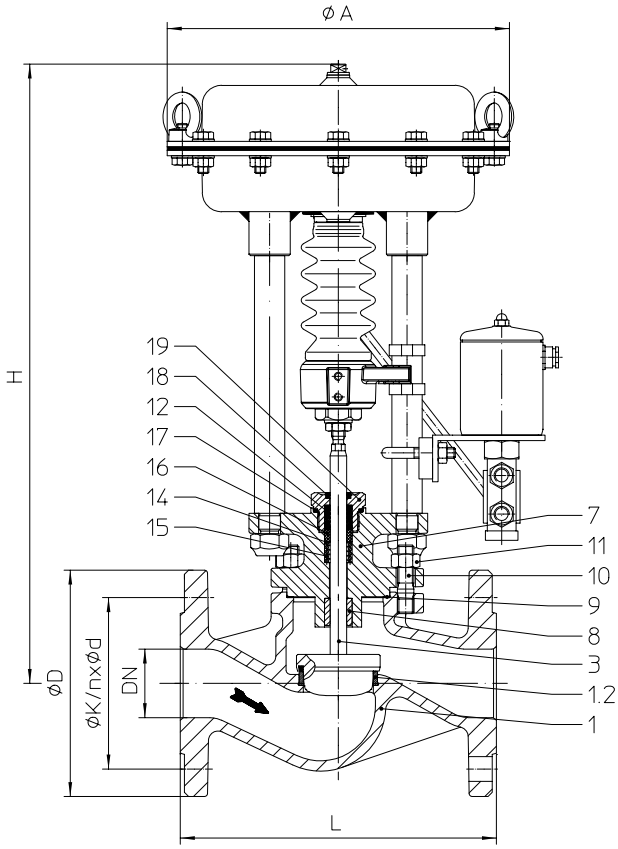


Fig. 440 DP-G

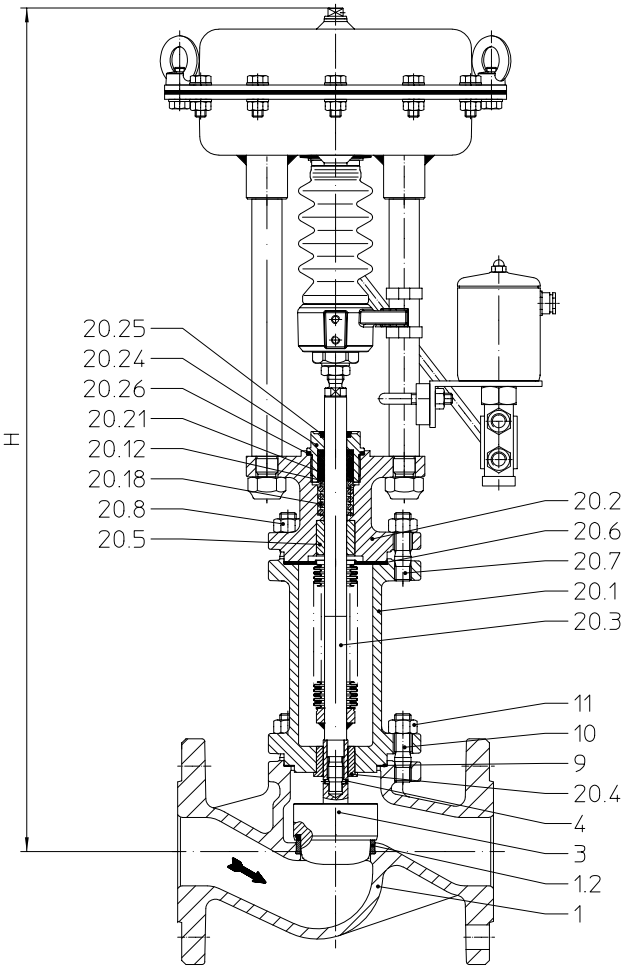


Fig. 441 DP-G

A strainer must be installed upstream of the valve (mesh width 0,25 mm) !
(Further information refer to page 6.)

Heights and weights

DN			15	25	40	50	80	100
∅ A		(mm)	250					
...440 DP32 - G	H	(mm)	442	450	457	463	580	499
	PN 25-40	(kg)	13 / 13,4	14,5 / 15,5	18,1 / 19,8	20,8 / 22,5	31,9 / 35,9	46 / 49
...441 DP32 - G	H	(mm)	627	635	626	628	713	729
	PN 25-40	(kg)	17 / 19	18 / 23	23 / 32	25 / 34,5	39,5 / 51,5	55 / 68
∅ A		(mm)	300					
...440 DP33 - G	H	(mm)	497	505	512	518	546	565
	PN 25-40	(kg)	19 / 19,4	20,5 / 21,5	24,1 / 25,8	26,8 / 28,5	37,9 / 41,9	52 / 55
...441 DP33 - G	H	(mm)	682	690	681	683	779	795
	PN 25-40	(kg)	23 / 25	24 / 29	29 / 38	31,5 / 40,5	45,5 / 57,5	61 / 74
∅ A		(mm)	405					
...440 DP34 - G	H	(mm)					681	680
	PN 25-40	(kg)					67,9 / 71,9	82 / 85
...441 DP34 - G	H	(mm)					914	930
	PN 25-40	(kg)					75,5 / 87,5	91 / 104
Other dimensions refer to page 9								

max. permissible closing pressures on flow-to-open $P_2 = 0$

Spring closes on air failure

DN					15	25	40	50	80	100
Seat ∅ (mm)					21	27	41	51	81	101
Standard Kvs-values					4	10	25	40	100	160
Reduced Kvs-values					2,5	6,3	16	25	63	100
Travel (mm)					20				30	
Actuator DP 32 Control valve **2401103.0801 2401103.0807**	Control signal (bar)	0,4 - 1,2	Air supply pressure min. (bar)	1,4	15,4	8,6	2,9	1,5		
		0,8 - 2,4		2,7	40	24,9	10	6,2		
Actuator DP 33 Control valve **2401550.1300 2401550.1301**		0,4 - 1,2		1,4	32,1 c)	18,8 c)	7,4 c)	4,4 c)	1,1	0,5
		0,8 - 2,4		2,7	40	40	18,9	12	4,1	2,5
		1,5 - 3,0		3,3					8,6	5,4
		1,7 - 2,7		3,1			40	28,9		
		2,3 - 3,7		4,2			40	40		
		2,0 - 4,0		4,5					13,1	8,3
Actuator DP 34 Control valve **2402450.1300 2402450.1301**		0,4 - 1,2		1,4					4,2 b)	2,5 b)
		0,8 - 2,4		2,7					10,3 c)	6,4 c)
		2,1 - 3,0		3,3					29,9	19,1
		2,4 - 3,6		4,2					34,5	22

Air supply pressure max. to actuator a) 2,5 bar b) 3,5 bar c) 4,5 bar

Valve Fig.	DIN-DVGW registration No.
440 DP ... - G	CE - 0085 BM 0068
441 DP ... - G	CE - 0085 BM 0069

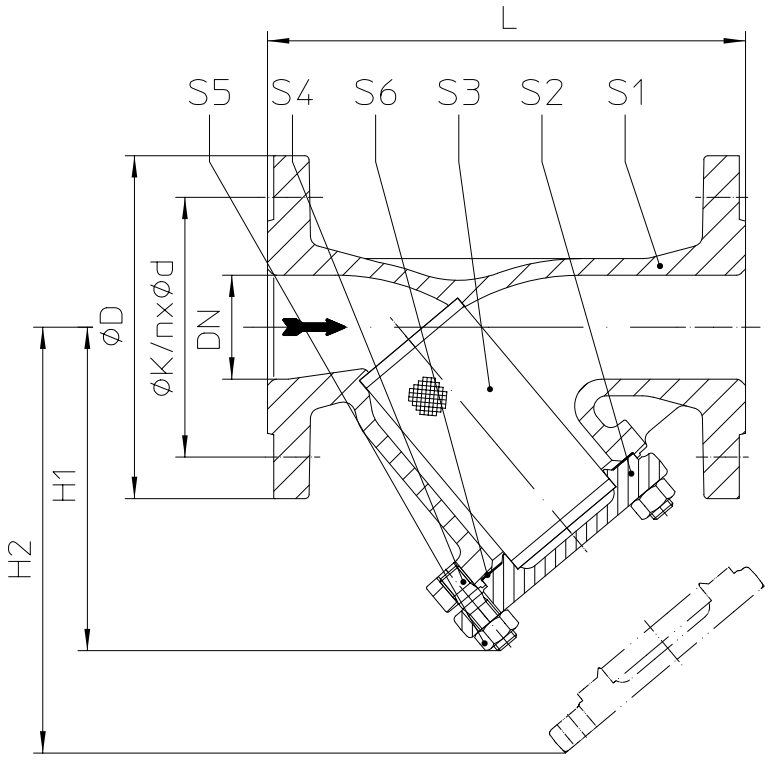
A positioner can be fitted acc. to DIN IEC 60534 part 6 (Namur) (refer to page 7)

Technical data of the valve - Fig. 440 DP-G / Fig. 441 DP-G

Type:	Pneumatic Control - and fast closing valve **Fig. 440 DP-G / 441 DP-G** for gas
Nominal diameter:	DN 15, 25, 40, 50, 80, 100
Nominal pressure:	PN 25, PN 40
Body material:	GGG-40.3, 1.0619+N, 1.4408
Stem sealing:	• BR 440 DP-G: PTFE-V-ring unit • BR 441 DP-G: Stainless steel bellows seal with PTFE-V-ring unit
Operative ambient temperature:	-20°C up to +60°C (1.0619+N and 1.4408) -10°C up to +60°C (GGG-40.3) (please indicate when ordering)
Mounting position:	• horizontal piping: vertical actuator • vertical piping: horizontal actuator(observe operating instruction)
Plug design:	• Parabolic plug with PTFE soft seat (max. 200°C)
Guiding:	• Stem guiding

Flow characteristic:	Equal percentage or linear
Rangeability:	50 : 1
Closing time:	max. 1 second
Flow direction:	flow-to-open
Shut off class and stem sealing:	in correspondence to the high demands of DIN EN 161 and DIN 3394 part 1 class A
Approvals:	DIN-DVGW type approval according to DIN EN 161 and DIN 3394 part 1 class A
Application:	combustible gases acc. to DVGW page G260/1
Control:	3/2 way-solenoid valve actuated directly (Technical data on page 7)
Corrosion protection option:	only for storage and transport customized painting
Strainer:	upstream, mesh width 0,25 mm (dimensions on page 6)

Technical data for actuator refer to corresponding actuator data sheets.



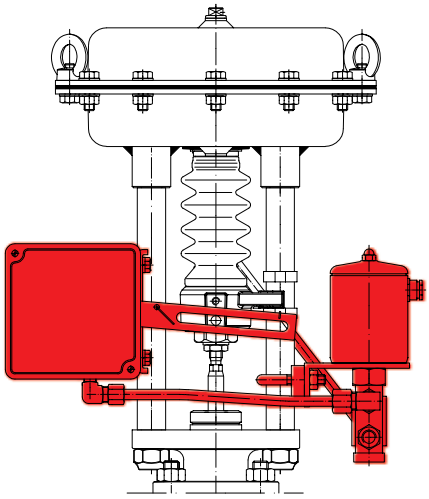
DN	H1	H2
15	90	135
25	115	180
40	150	235
50	160	250
80	215	330
100	235	365
Other dimensions refer to page 9		

Technical data and versions for ARI-Strainer refer to corresponding data sheet.

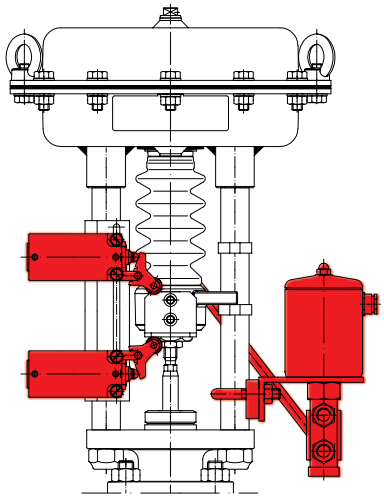
Solenoid valves

Type	2401103.0801 / 0807		2401550.1300 / 1301		2402450.1300 / 1301	
Nominal diameter	DN 5		DN 8		DN 12	
Thread connection	G 1/4		G 1/4		G 3/8	
Magnet coil No.	0801	0807	1300	1301	1300	1301
Standard voltages	24V DC	230V 50Hz 24V 50Hz	24V DC	230V 50Hz 24V 50Hz	24V DC	230V 50Hz 24V 50Hz
Power input	16 W	18 W	20 W	24 W	20 W	24 W
Duty cycle	ED 100 %					
Electric connection	Appliance socket DIN 43650		Screwed cable gland Pg 13,5			
Enclosure	acc. to DIN 40050 IP65					
Design acc. to VDE 0508					Explosion proof version and other voltages on request.	

Accessories



Pneumatic or electro pneumatic positioner



Electric limit switch

- Mechanical travel limiter
- Throttle valve for prolonged opening time
- Air set

BR 440 / BR 441 with DVGW type test approval

Figure		PN 16 - 22.440 / 22.441 PN 25 - 23.440 / 23.441	PN 25 - 34.440 / 34.441 PN 40 - 35.440 / 35.441	PN 40 - 55.440 / 55.441
Pos.	**Description**	**Material, Material-No.**		
1	Body	GGG-40.3, 0.7043	1.0619+N, 1.0619.01	GX5CrNiMo19-11-2, 1.4408
1.2	Seat ring	X20Cr13+QT, 1.4021+QT	X20Cr13+QT, 1.4021+QT [1)]	--
3	Plug *	X20Cr13+QT, 1.4021+QT		X6CrNiMoTi17-12-2, 1.4571
4	Straight pin*	X12CrNi17-7, 1.4310		A4 - 70
7	Mounting bonnet	GGG-40.3, 0.7043	1.0619+N, 1.0619.01	GX5CrNiMo19-11-2, 1.4408
8	Guide bushing	X20Cr13+QT, 1.4021+QT (hardened)		X6CrNiMoTi17-12-2, 1.4571
9	Gasket *	CrNi laminated both sides with pure graphite		
10	Studs	25CrMo4, 1.7218		A4 - 70
11	Hexagon nuts	C35E, 1.1181		A4
12	V-ring unit*	PTFE		
14	Washer *	X5CrNi18-10, 1.4301		
15	Spring *	X12CrNi17-7, 1.4310		
16	Bushing *	Reinforced PTFE		
17	Gasket *	Soft iron/ Copper		
18	Scraper *	Reinforced PTFE		
19	Screw joint *	X8CrNiS18-9, 1.4305		
20.1	Bellows housing	GGG-40.3, 0.7043	1.0619+N, 1.0619.01	GX5CrNiMo19-11-2, 1.4408
20.2	Mounting bonnet	GGG-40.3, 0.7043	1.0619+N, 1.0619.01	GX5CrNiMo19-11-2, 1.4408
20.3	Stem-/ Bellows unit *	X20Cr13+QT, 1.4021+QT / X6CrNiTi18-10, 1.4541		X6CrNiMoTi17-12-2, 1.4571
20.4	Guide bushing	X20Cr13+QT, 1.4021+QT (hardened)		X6CrNiMoTi17-12-2, 1.4571
20.5	Guide bushing	X20Cr13+QT, 1.4021+QT (hardened)		X6CrNiMoTi17-12-2, 1.4571
20.6	Gasket *	CrNi laminated both sides with pure graphite		
20.7	Studs	25CrMo4, 1.7218		A4 - 70
20.8	Hexagon nuts	C35E, 1.1181		A4
20.12	Washer *	X5CrNi18-10, 1.4301		
20.18	Stem	X12CrNi17-7, 1.4310		
20.21	V-ring unit*	PTFE		
20.24	Screw joint	X8CrNiS18-9, 1.4305		
20.25	Scraper *	Reinforced PTFE		
20.26	Gasket *	Soft iron/ Copper		

* Spare parts

[1)] from DN 65 1.4551

Strainer

Figure		PN 25 - 23.050	PN 40 - 35.050	PN 40 - 55.059
Pos.	**Description**	**Material, Material-No.**		
S1	Body	GGG-40.3, 0.7043	1.0619+N, 1.0619.01	GX5CrNiMo19-11-2, 1.4408
S2	Bonnet	GGG-40.3, 0.7043	C22.8, 1.0460	X6CrNiMoTi17-12-2, 1.4571
S3	Screen *	X5CrNi18-10, 1.4301		X6CrNiMoTi17-12-2, 1.4571
S4	Stud	25CrMo4, 1.7218	25CrMo4, 1.7218 / A4-70	A4-70
S5	Hexagon nut	C35E, 1.1181	C35E, 1.1181 / A4	A4
S6	Gasket *	CrNi laminated both sides with pure graphite		

* Spare parts

Valve dimensions

Face to face dimension FTF series 1 according to DIN EN 558-1 (DIN 3202-1 series F1)

DN		15	25	40	50	80	100
L	(mm)	130	160	200	230	310	350

Flange dimensions

Flanges acc. to DIN EN 1092-1 (Flangeholes/-thickness tolerances acc. to DIN 2533/2544/2545)

DN			15	25	40	50	80	100
PN 16	∅ D	(mm)	95	115	150	165	200	220
	∅ K	(mm)	65	85	110	125	160	180
	n x ∅ d1	(mm)	4 x 14	4 x 14	4 x 18	4 x 18	8 x 18	8 x 18
PN 25	∅ D	(mm)	95	115	150	165	200	235
	∅ K	(mm)	65	85	110	125	160	190
	n x ∅ d1	(mm)	4 x 14	4 x 14	4 x 18	4 x 18	8 x 18	8 x 22
PN 40	∅ D	(mm)	95	115	150	165	200	235
	∅ K	(mm)	65	85	110	125	160	190
	n x ∅ d1	(mm)	4 x 14	4 x 14	4 x 18	4 x 18	8 x 18	8 x 22

A production allowance acc. to TRB 801 No. 45 exists.

Please indicate when ordering:

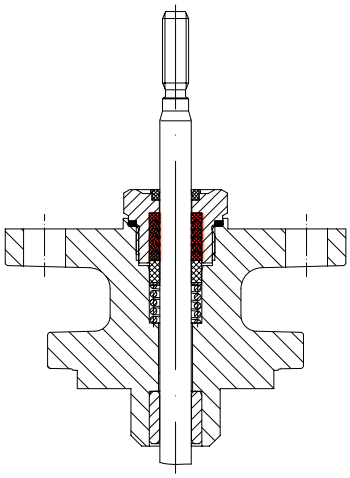
1. Figure-No.
2. Nominal diameter (DN)
3. Nominal pressure (PN)
4. Body material
5. Plug design
6. Kvs-value
7. Flow characteristic
8. Stem sealing
9. Actuator
10. Special design / accessories

Example:

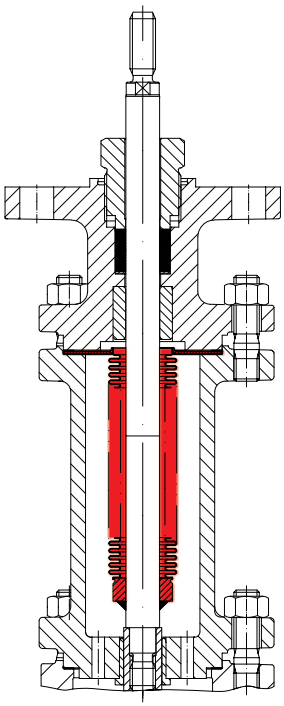
Figure 35.440; nominal diameter DN 100; nominal pressure PN 40; body material 1.0619+N; parabolic plug; kvs 160; equal percentage; stem sealing PTFE-packing; ambient temperature +20°C; actuator DP 33, spring closes on air failure; control signal 1,4-2,9 bar.

Dimensions in mm
Weight in kg
Pressures in barg (gauge)
1 bar ≙ 10^5 Pa ≙ 0,1 MPa
Kvs in m^3/h
1Kvs ≙ 0,85 Cv

Stem sealings

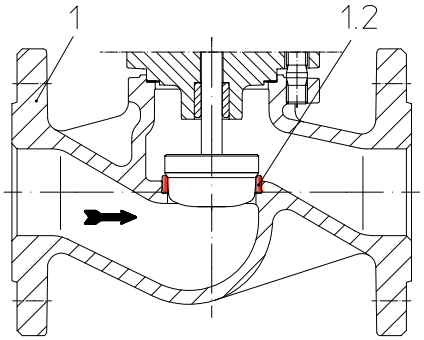


Spring-loaded PTFE-V-ring unit

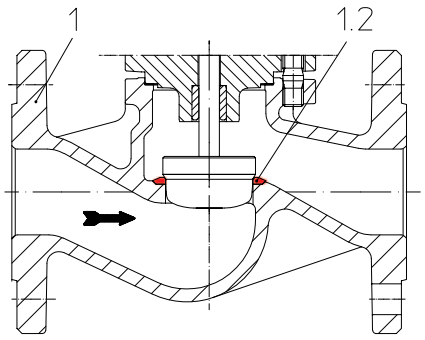


Bellows seal with safety stuffing box

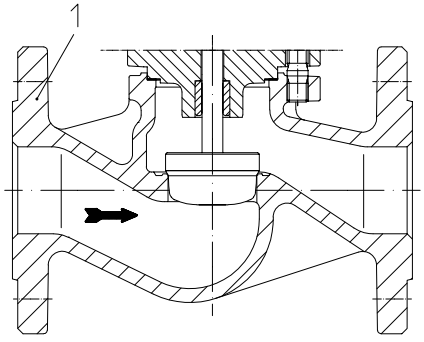
Body designs



Body with pressed seat ring
(GG-25, GGG-40.3)

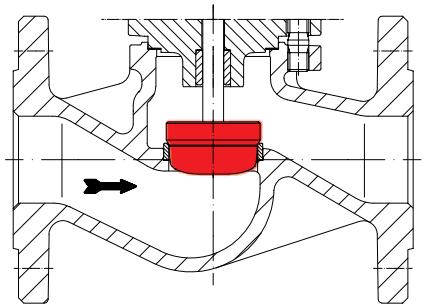


Body with welded seat
(1.0619+N)

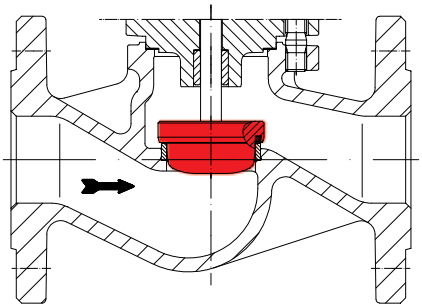


Body with machined seat
(1.4408)

Plug designs



Parabolic plug (Fig. 440-G / 441-G)



Parabolic plug with PTFE soft seat (Fig. 440 DP-G / 441 DP-G)

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