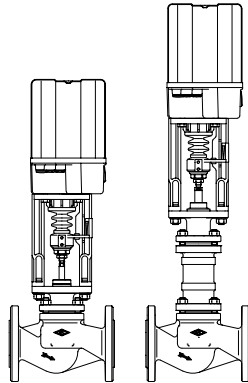


Straight through control valve

DN 15 - 100

STEVI® 440 / 441 Electric actuator ARI-PREMIO

- Enclosure IP 65
- 2 torque switches
- 1 travel switch
- Handwheel
- Additional devices available, e.g. potentiometer



Page 2

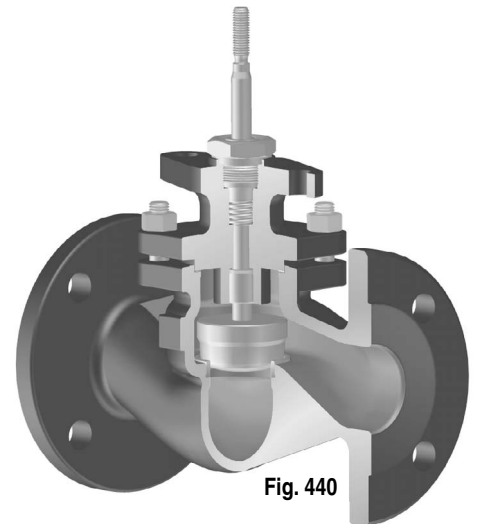
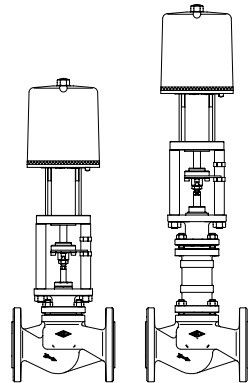


Fig. 440

STEVI® 440 / 441 Electric actuator FR with safety reset

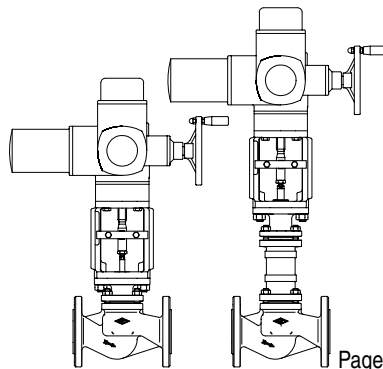
- Type approval acc. to DIN 32730 for Fig. 440 with FR 2.1
- CE-marking from DN15
- Optional direction for safety reset, OPEN or CLOSE, as required
- Enclosure IP 54
- 1 travel switch for OPEN and CLOSE
- Additional devices available, e.g. potentiometer



Page 4

STEVI® 440 / 441 Electric actuator AUMA SAR

- Electric multiturn actuator capable of high closing pressures
- Enclosure IP 67
- 2 torque switches
- 2 limit switches
- Handwheel
- Overheating protection for motor as standard
- Additional devices available, e.g. potentiometer
- Explosion proof version available



Page 6

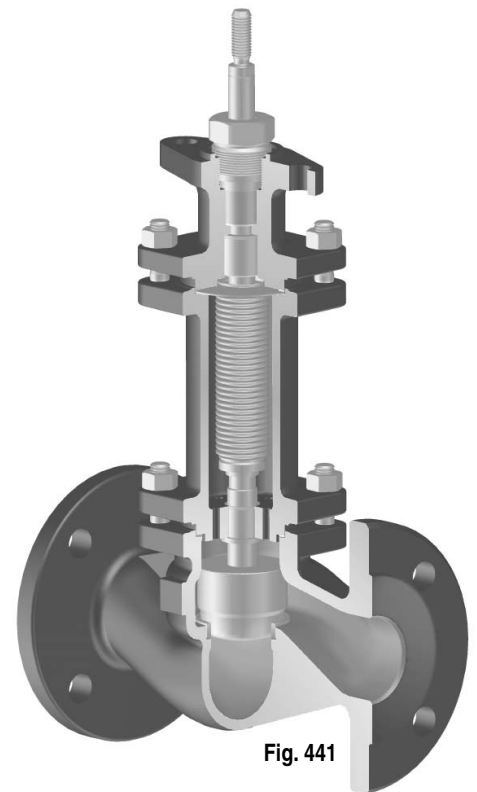
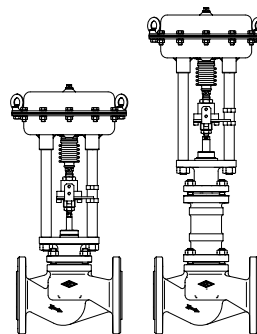


Fig. 441

STEVI® 440 / 441 Pneumatic actuator DP

- Reversible pneumatic actuator
- 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 8

Features:

- Compact design
- Precision guided stem
- Burnished stem
- Tapered seat joint
- 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.)

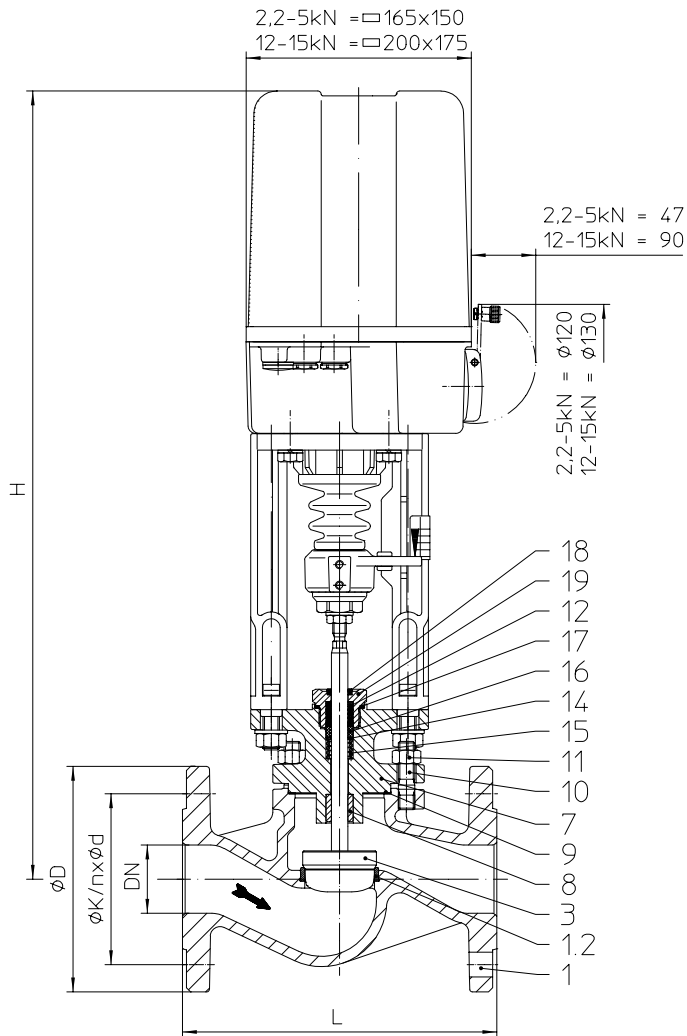


Fig. 440

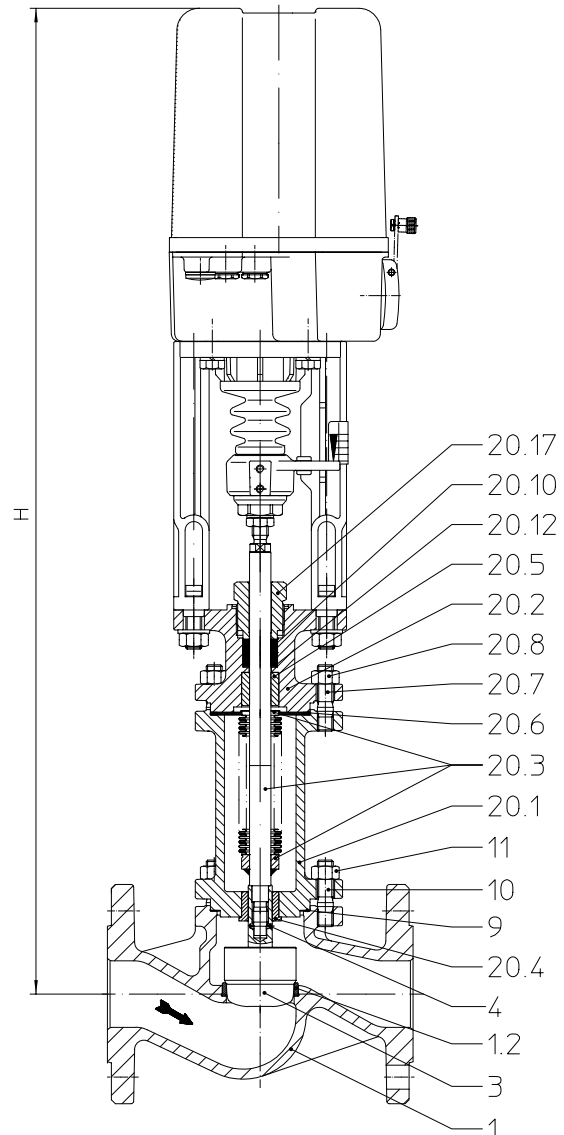


Fig. 441

Heights and weights

DN		15	20	25	32	40	50	65	80	100	
...440	H (mm)	556	556	564	564	571	577	590	605	624	
	2,2 kN	PN16 / PN25-40	9 / 9,8	9,7 / 10,6	10,6 / 11,9	12,2 / 13,7	14,1 / 16,2	17 / 18,9	22,1 / 26,1	27,8 / 32,3	38 / 45
	5 kN		(kg)	10,1 / 10,9	10,8 / 11,7	11,7 / 13	13,3 / 14,8	15,2 / 17,3	18,1 / 20	23,2 / 27,2	28,9 / 33,4
	H (mm)					721	727	740	755	774	
	12 kN	PN16 / PN25-40					19,2 / 21,3	22,1 / 24	27,2 / 31,2	32,9 / 37,4	43 / 50
15 kN	(kg)										
...441	H (mm)	741	741	749	749	740	742	826	838	854	
	2,2 kN	PN16 / PN25-40	13,4 / 15,4	13,4 / 16,9	14,4 / 19,4	16,9 / 22,4	19,4 / 28,4	21,9 / 30,9	24,9 / 37,9	35,9 / 47,9	51 / 64
	5 kN		(kg)	14,5 / 16,5	14,5 / 18	15,5 / 20,5	18 / 23,5	20,5 / 29,5	23 / 32	26 / 39	37 / 49
	H (mm)					890	892	976	988	1004	
	12 kN	PN16 / PN25-40					24,5 / 33,5	27 / 36	30 / 43	41 / 53	57 / 70
15 kN	(kg)										

Other dimensions refer to page 13.

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

(Observe pressure-temperature-limits on page 13. Plug design acc. to „Selection STEVI®“, refer to techn. annex.)

DN		15	20	25	32	40	50	65	80	100	
Seat-Ø	(mm)	21	21	27	31	41	51	66	81	101	
Standard Kvs-values		4	6,3	10	16	25	40	63	100	160	
Reduced Kvs-values ³⁾		2,5	4; 2,5	6,3	10	16	25	40	63	100	
Travel	(mm)	20							30		
Actuator ¹⁾ ARI-PREMIO 2,2 kN	Closing pressure (bar)	I.	40	40	30,8	23,1	12,8	8	4,3	2,7	1,5
		II.	40	40	28,8	21,6	11,9	7,4	3,9	2,3	1,3
		III.	30,7	30,7	27,1	20,4	10,6	6,5	3,6	2,2	1,2
	Operating time ²⁾ (Operating speed 0,38 mm/s)	(s)	53							79	
Actuator ¹⁾ ARI-PREMIO 5 kN	Closing pressure (bar)	I.			40	40	33,2	21,3	12,3	8	4,9
		II.			40	40	32,3	20,7	11,9	7,6	4,7
		III.	40	40	40	40	31	19,8	11,6	7,5	4,6
	Operating time ²⁾ (Operating speed 0,38 mm/s)	(s)	53							79	
Actuator ¹⁾ ARI-PREMIO 12 kN	Closing pressure (bar)	I.					40	40	32,3	21,2	13,5
		II.					40	40	31,8	20,9	13,3
		III.					40	40	31,6	20,7	13,2
	Operating time ²⁾ (Operating speed 0,79 mm/s)	(s)					25		38		
Actuator ¹⁾ ARI-PREMIO 15 kN	Closing pressure (bar)	I.						40	26,9	17,2	
		II.						40	26,6	17	
		III.						40	26,4	16,9	
	Operating time ²⁾ (Operating speed 0,38 mm/s)	(s)							79		
I. Fig. 440: PTFE-V-ring unit;		II. Fig. 440: PTFE- / pure graphite-packing;					III. Fig. 441: Bellows seal				

1) Motor voltage: 230V 50Hz
Other voltages: 24V 50/60Hz; 115V 50/60Hz; 230V 60Hz

Technical data for actuator refer to data sheet ARI-PREMIO.

2) Indicated operating times with 50 Hz.

3) Other Kvs-value-reductions are possible with Fig. 445 / 446 (Stainless steel body with screwed seat ring).

4) Max. permissible closing pressures refer to separate data sheet.

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

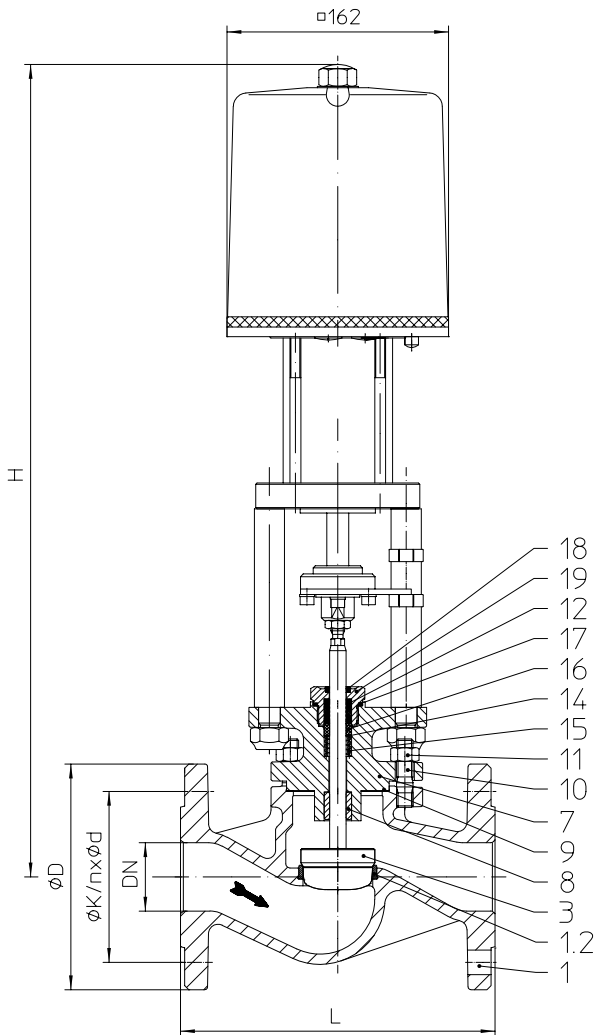


Fig. 440

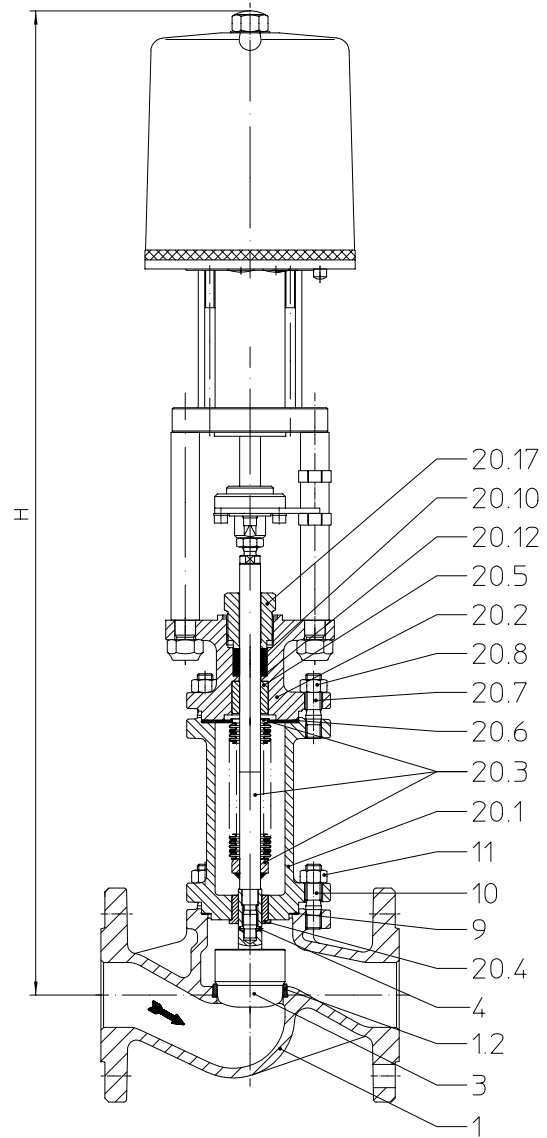


Fig. 441

Heights and weights

DN			15	20	25	32	40	50	65	80	100
...440 / ...440-D	H	FR 2.1 (mm)	573	573	581	581	588	594	607	622	641
		FR 2.2 (mm)	591	591	599	599	606	612	625	640	659
...440	FR 2.1 / 2.2	PN 6-16 (kg)	12,3	13	13,9	15,5	17,4	20,3	25,4	31,1	41
		PN 25-40 (kg)	13,1	13,9	15,2	17	19,5	22,2	29,4	35,6	48
...440-D	FR 2.1 / 2.2	PN 6-16 (kg)					18,4	22,3	28,4	35,1	46
		PN 25-40 (kg)					20,5	24,2	32,4	39,6	53
...441 / ...441-D	H	FR 2.1 (mm)	758	758	766	766	757	759	843	855	871
		FR 2.2 (mm)	776	776	784	784	775	777	861	873	889
...441	FR 2.1 / 2.2	PN 6-16 (kg)	16,7	16,7	17,7	20,2	22,7	25,2	28,2	39,2	55
		PN 25-40 (kg)	18,7	20,2	22,7	25,7	31,7	34,2	41,2	51,2	68
...441-D	FR 2.1 / 2.2	PN 6-16 (kg)					23,7	27,2	31,2	43,2	60
		PN 25-40 (kg)					32,7	36,2	44,2	55,2	73

Other dimensions refer to page 13.

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

(Observe pressure-temperature-limits on page 13. Plug design acc. to „Selection STEVI®“, refer to techn. annex.)

Fig. 440 / 441 with parabolic plug											
DN	15	20	25	32	40	50	65	80	100		
Seat- \varnothing (mm)	21	21	27	31	41	51	66	81	101		
Standard Kvs-values	4	6,3	10	16	25	40	63	100	160		
Reduced Kvs-values ³⁾	2,5	4; 2,5	6,3	10	16	25	40	63	100		
Travel (mm)	20						30				
Actuator ¹⁾ FR 2.1 1 kN	Closing pressure (bar)	I.	18	18	10,3	7,4	3,6	2			
		II.	16	16	9,0	6,5	3,2	1,7			
		III.	9	9	7,4	5,2	1,9	0,9			
	Operating time ²⁾ (s)	69									
	Operating time on voltage failure (s)	5,5									
Actuator ¹⁾ FR 2.2 2,2 kN	Closing pressure (bar)	I.	40	40	30,8	23,1	12,8	8	4,3	2,7	1,5
		II.	40	40	28,8	21,6	11,9	7,4	3,9	2,3	1,3
		III.	30,7	30,7	27,1	20,4	10,6	6,5	3,6	2,2	1,2
	Operating time ²⁾ (s)	69						103			
	Operating time on voltage failure (s)	5,5						8,5			
I. Fig. 440: PTFE-V-ring unit;			II. Fig. 440: PTFE- / pure graphite-packing;				III. Fig. 441: Bellows seal				

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

(Observe pressure-temperature-limits on page 13. Plug design acc. to „Selection STEVI®“, refer to techn. annex.)

Fig. 440 / 441 with pressure balanced plug (design refer to page 14)												
DN			25	32	40	50	65	80	100			
Seat- \varnothing (mm)			27	31	41	51	66	81	101			
Standard Kvs-values			10	16	25	40	63	100	160			
Reduced Kvs-values			6,3	10	16	25	40	63	100			
Travel (mm)			20		20		30					
Actuator ¹⁾ FR 2.1 1 kN	Closing pressure (bar)	I.			20	20	20	16	16	16	12	
		II.					20	16	16			
		III.					16	15	2			
	Operating time ²⁾ (s)							69		103		
	Operating time on voltage failure (s)							5,5		8,5		
Actuator ¹⁾ FR 2.2 2,2 kN	Closing pressure (bar)	I.					40	40	40	40		
		II.					40	40	40	40		
		III.					40	40	40	40	40	
	Operating time ²⁾ (s)							69		103		
	Operating time on voltage failure (s)							5,5		8,5		
I. Fig. 440: PTFE-V-ring unit;			II. Fig. 440: PTFE- / pure graphite-packing;				III. Fig. 441: Bellows seal					

Control valve „Typ 440 - FR 2.1“ acc. to DIN 32730 for cast iron, nodular iron and cast steel.

¹⁾ Motor voltage: 230V 50Hz
Other voltages: 24V 50/60Hz; 230V 60Hz
Technical data for actuator refer to data sheet FR 2.1.

²⁾ Indicated operating times with 50 Hz.

³⁾ Other Kvs-value-reductions are possible with Fig. 445 / 446 (stainless steel body with screwed seat ring).
Max. permissible closing pressures refer to separate data sheet.

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

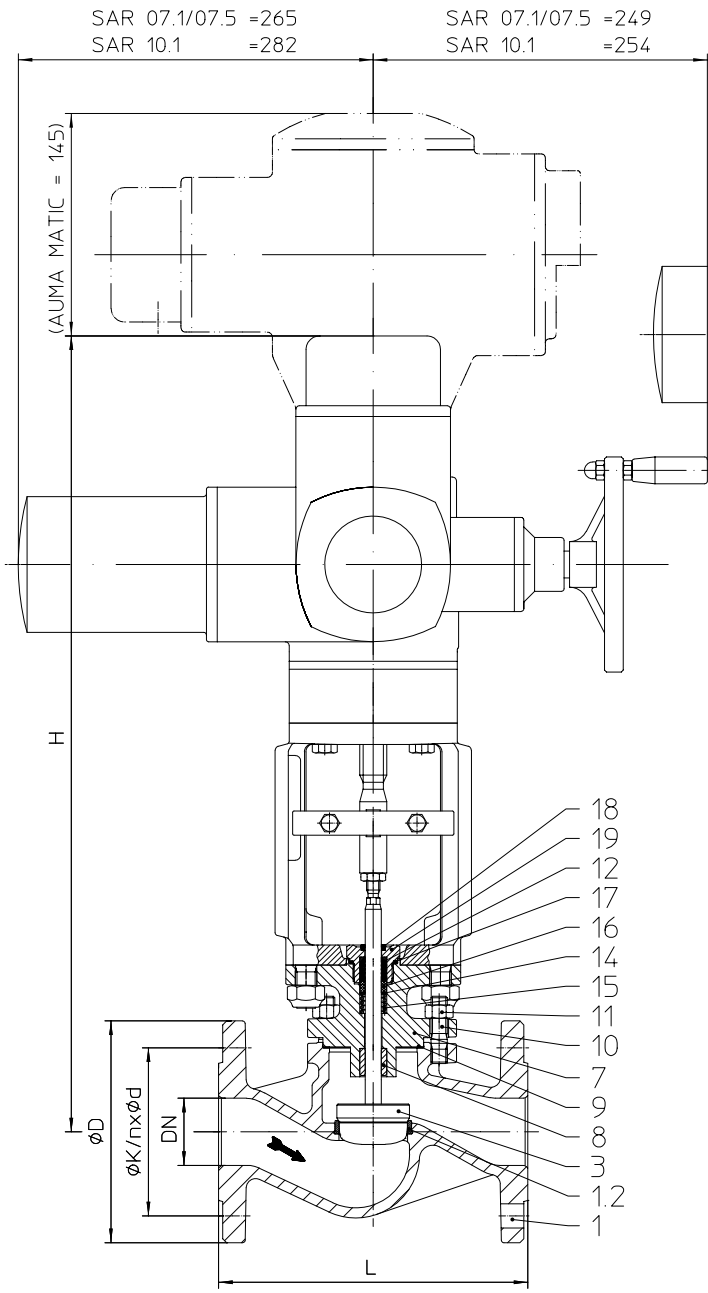


Fig. 440

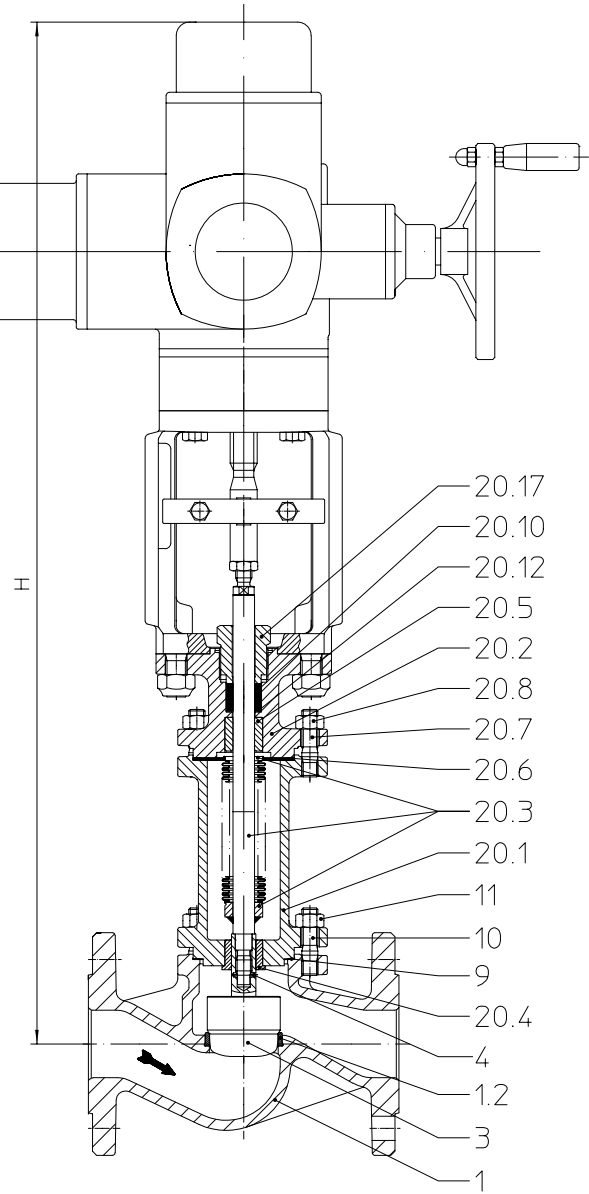


Fig. 441

Heights and weights

DN		40	50	65	80	100
...440	H (mm)	611	617	630	645	664
	SAR 07.1	PN16/PN25-40 (kg)	35 / 37,1	37,9 / 39,8	44,5 / 48,5	50,2 / 54,7
	SAR 07.5					
	H (mm)			642	657	676
SAR 10.1	PN16/PN25-40 (kg)			49 / 53	54,7 / 59,2	65 / 72
...441	H (mm)	780	782	866	878	894
	SAR 07.1	PN16/PN25-40 (kg)	40,3 / 49,3	44,3 / 53,3	47,3 / 60,3	58,3 / 70,3
	SAR 07.5					

Other dimensions refer to page 13.

(For version with AUMA SAR Ex other heights.)

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

(Observe pressure-temperature-limits on page 13. Plug design acc. to „Selection STEVI®“, refer to techn. annex.)

Fig. 440					40	50	65	80	100
DN									
Seat-Ø	(mm)			41	51	66	81	101	
Standard Kvs-values				25	40	63	100	160	
Reduced Kvs-values ³⁾				16	25	40	63	100	
Travel	(mm)			20			30		
Actuator ¹⁾ AUMA SAR 07.1 Output drive Form A TR 20 x 4	Closing pressure (bar)	I./II.	shut off	40	40	40	29,7	19	
			controlling	40	36,5	21,4	14	8,8	
	Torque	(Nm)		15	20	30	30	30	
	Operating time ²⁾	(s)		54			56		
	Output drive	(rpm)		5,6			8		
Actuator ¹⁾ AUMA SAR 07.5 Output drive Form A TR 26 x 5	Closing pressure (bar)	I./II.	shut off		40	40	40	26,9	
			controlling		40	30,5	20	12,8	
	Torque	(Nm)			30	40	60	60	
	Operating time ²⁾	(s)			43	64			
	Output drive	(rpm)			5,6	5,6			
Actuator ¹⁾ AUMA SAR 10.1 Output drive Form A TR 26 x 5	Closing pressure (bar)	I./II.	shut off			40	40	31,6	
			controlling			40	40	26,9	
	Torque	(Nm)				60	70	70	
	Operating time ²⁾	(s)				64			
	Output drive	(rpm)				5,6			
I. Fig. 440: PTFE-V-ring unit;				II. Fig. 440: PTFE- / pure graphite-packing					

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

(Observe pressure-temperature-limits on page 13. Plug design acc. to „Selection STEVI®“, refer to techn. annex.⁴)

Fig. 441					40	50	65	80	100
DN									
Seat-Ø	(mm)			41	51	66	81	101	
Standard Kvs-values				25	40	63	100	160	
Reduced Kvs-values ³⁾				16	25	40	63	100	
Travel	(mm)			20			30		
Actuator ¹⁾ AUMA SAR 07.1 Output drive Form A TR 20 x 4	Closing pressure (bar)	III.	shut off	40	40	40	29,5	18,9	
			controlling	40	35,7	21,1	13,8	8,7	
	Torque	(Nm)		15	20	30	30	30	
	Operating time ²⁾	(s)		54			56		
	Output drive	(rpm)		5,6			8		
Actuator ¹⁾ AUMA SAR 07.5 Output drive Form A TR 26 x 5	Closing pressure (bar)	I./II.	shut off		40	40	30,8	19,7	
			controlling		40	30,2	19,8	12,6	
	Torque	(Nm)			30	45	45	45	
	Operating time ²⁾	(s)			43	64			
	Output drive	(rpm)			5,6	5,6			
III. Fig. 441: Bellows seal									

1) Motor voltage: 400V 50Hz 3~
(Other voltages on request)

Technical data for actuator refer to price list.

2) Indicated operating times with 50 Hz.

3) Other Kvs-value-reductions are possible with Fig. 445 / 446 (Stainless steel body with screwed seat ring).

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

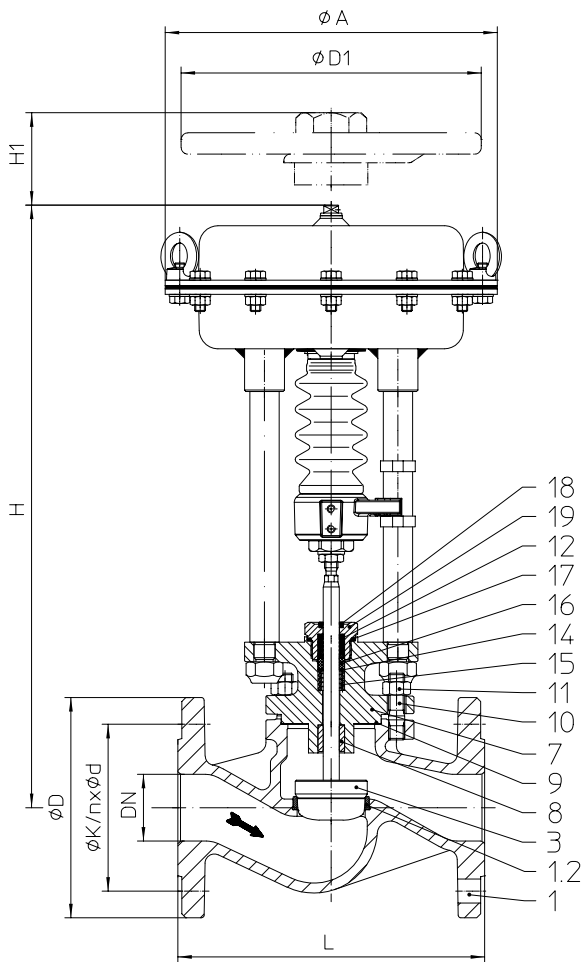


Fig. 440

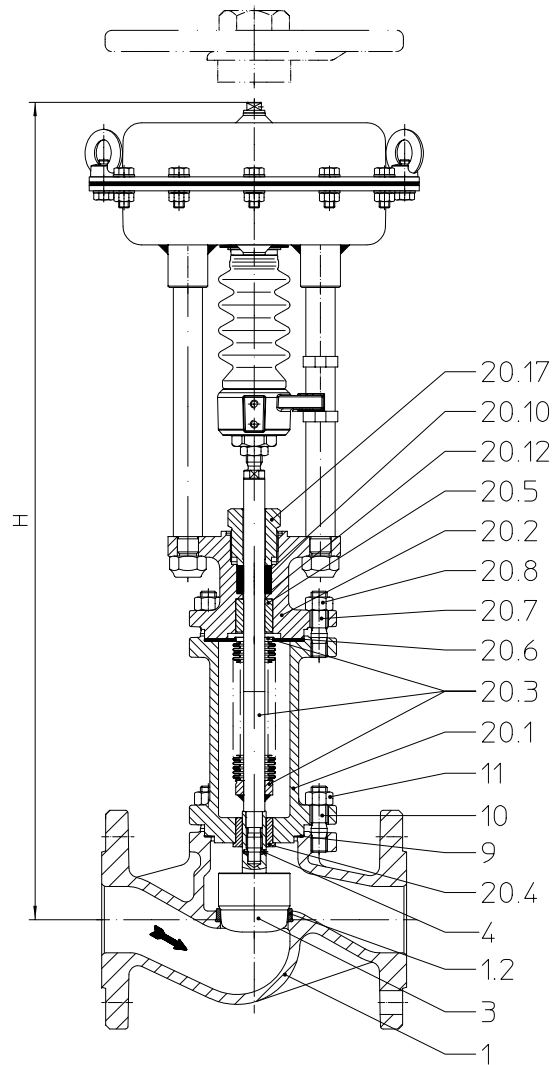


Fig. 441

Heights and weights

DN		15	20	25	32	40	50	65	80	100	
DP 32	∅ A (mm)	250									
	...440 H (mm)	442	442	450	450	457	463	476	491	510	
	PN16 / PN25-40 (kg)	12,6 / 13,4	13,3 / 14,2	14,2 / 15,5	15,8 / 17,3	17,7 / 19,8	20,6 / 22,5	25,7 / 29,7	31,4 / 35,9	42 / 49	
	...441 H (mm)	627	627	635	635	626	628	712	724	740	
	PN16 / PN25-40 (kg)	17 / 19	17 / 20,5	18 / 23	20,5 / 26	23 / 32	25,5 / 34,5	28,5 / 41,5	39,5 / 51,5	55 / 68	
DP 33	∅ A (mm)	300									
	...440 H (mm)	497	497	505	505	512	518	531	546	565	
	PN16 / PN25-40 (kg)	18,6 / 19,4	19,3 / 20,2	20,2 / 21,5	21,8 / 23,3	23,7 / 25,8	26,6 / 28,5	31,7 / 35,7	37,4 / 41,9	48 / 55	
	...441 H (mm)	682	682	690	690	681	683	767	779	795	
	PN16 / PN25-40 (kg)	23 / 25	23 / 26,5	24 / 29	26,5 / 32	29 / 38	31,5 / 40,5	34,5 / 47,5	45,5 / 57,5	61 / 74	
DP 34	∅ A (mm)	405									
	...440 H (mm)							666	681	680	
	PN16 / PN25-40 (kg)							61,7 / 65,7	67,4 / 71,9	78 / 85	
	...441 H (mm)							902	914	930	
	PN16 / PN25-40 (kg)							64,5 / 77,5	75,5 / 87,5	91 / 104	

Other dimensions refer to page 13.

Top mounted handwheel

Actuator-type		DP 32	DP 33	DP 34
∅ D1 (mm)		225	300	400
H1 (mm)		270	284	442
Weight (kg)		5	8	17

Technical data for actuator refer to data sheet DP32-34T.

max. permissible closing pressures on flow-to-open $P_2 = 0$
Spring closes on air failure (Observe pressure-temperature-limits on page 13. Plug design acc. to „Selection STEVI®“, refer to techn. annex.)

DN		15	20	25	32	40	50	65	80	100			
Seat- \varnothing (mm)		21	21	27	31	41	51	66	81	101			
Standard Kvs-values		4	6,3	10	16	25	40	63	100	160			
Reduced Kvs-values ¹⁾		2,5	4; 2,5	6,3	10	16	25	40	63	100			
Travel (mm)		20						30					
Actuator DP 32	0,2-1,0	Air supply pressure min. (bar)	1,2	I.	5,5	5,5	2,6	1,6					
				II.	2,3	2,3							
				III.									
	0,4-1,2		1,4	I.	18,6	18,6	10,7	7,8	3,9	2,2			
				II.	15,4	15,4	8,7	6,2	3	1,6			
				III.	8,6	8,6	7,1	5	1,7				
	0,8-2,4		2,7	I.	40	40	26,8	20,1	11	6,8	3,7	2,2	1,2
				II.	40	40	24,8	18,6	10,2	6,3	3,2	1,9	1
				III.	26,4	26,4	23,2	17,3	8,9	5,4	2,9	1,7	
	1,5-2,5		2,8	I.			40	40	23,5	15			
				II.			40	40	22,7	14,4			
				III.	40	40	40	38,9	21,4	13,6			
2,0-3,3	3,6	I.					32,5	20,8					
		II.					31,6	20,2					
		III.				40	30,3	19,4					
Actuator DP 33	0,2-1,0	Air supply pressure min. (bar)	1,2	I.	13,3 ^{c)}	13,3 ^{c)}	7,4 ^{c)}	5,2 ^{c)}	2,4 ^{c)}	1,2 ^{c)}			
				II.	10,1 ^{c)}	10,1 ^{c)}	5,4 ^{c)}	3,7 ^{c)}	1,5 ^{c)}				
				III.	5 ^{a)}	5 ^{a)}	3,8 ^{a)}	2,5 ^{a)}					
	0,4-1,2		1,4	I.	34,2 ^{c)}	34,2 ^{c)}	20,2 ^{c)}	15,1 ^{c)}	8,1 ^{c)}	4,9 ^{c)}	2,5	1,4	
				II.	31 ^{c)}	31 ^{c)}	18,3 ^{c)}	13,6 ^{c)}	7,3 ^{c)}	4,4 ^{c)}	2,1	1,1	
				III.	19,1 ^{a)}	19,1 ^{a)}	16,6 ^{a)}	12,3 ^{a)}	5,9 ^{a)}	3,5 ^{a)}	1,8 ^{a)}		
	0,8-2,4		2,7	I.	40 ^{a)}	40 ^{a)}	40 ^{a)}	34,7 ^{a)}	19,5 ^{a)}	12,3 ^{a)}	7	4,4	2,6
				II.	40 ^{a)}	40 ^{a)}	40 ^{a)}	33,2 ^{a)}	18,6 ^{a)}	11,8 ^{a)}	6,5	4,1	2,4
				III.	40	40	40	31,9	17,3	10,9	6,2	3,9	2,3
	1,5-3,0		3,3	I.							14,8	9,6	6
				II.							14,3	9,3	5,8
				III.							14	9,1	5,7
1,7-2,7	3,1	I.				40 ^{a)}	40 ^{a)}	29 ^{a)}					
		II.				40 ^{a)}	40 ^{a)}	28,4 ^{a)}					
		III.				40	40	27,6					
2,0-4,0	4,5	I.							20,3	13,3	8,4		
		II.							19,9	12,9	8,2		
		III.							19,6	12,8	8,1		
2,3-3,7	4,5	I.						40					
		II.						39,5					
		III.						38,6					
Actuator DP 34	0,2-1,0	Air supply pressure min. (bar)	1,2	I.					2,5 ^{b)}	1,5 ^{b)}			
				II.					2,1 ^{b)}	1,2 ^{b)}			
				III.					1,8 ^{e)}	1 ^{e)}			
	0,4-1,2		1,4	I.						7 ^{b)}	4,4 ^{b)}	2,7 ^{b)}	
				II.						6,6 ^{b)}	4,1 ^{b)}	2,5 ^{b)}	
				III.						6,3 ^{d)}	3,9 ^{d)}	2,3 ^{d)}	
	0,8-2,4		2,7	I.						16	10,4	6,5	
				II.						15,5	10,1	6,3	
				III.						15,2 ^{b)}	9,9 ^{b)}	6,2 ^{b)}	
	2,1-3,0		3,3	I.						40	29,7	19	
				II.						40	29,4	18,8	
				III.						40 ^{a)}	29,2 ^{a)}	18,7 ^{a)}	
2,4-3,6	4,5	I.							34,2	21,9			
		II.							33,9	21,7			
		III.											

I. Fig. 440: PTFE-V-ring unit;
II. Fig. 440: PTFE- / pure graphite-packing;
III. Fig. 441: Bellows seal

Air supply pressure max. of pneumatic actuators DP: 6 bar

Air supply pressure max. limit of control valve: a) 5 bar b) 4,5 bar c) 4 bar d) 3,5 bar e) 3 bar

¹⁾ Other Kvs-value-reductions are possible with series 445 / 446 (Stainless steel body with screwed seat ring).

Max. permissible operating pressures refer to separate data sheet.

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

Spring opens on air failure			(Observe pressure-temperature-limits on page 13. Plug design acc. to „Selection STEVI®“, refer to techn. annex.)											
DN			15	20	25	32	40	50	65	80	100			
Seat-Ø	(mm)		21	21	27	31	41	51	66	81	101			
Standard Kvs-values			4	6,3	10	16	25	40	63	100	160			
Reduced Kvs-values ¹⁾			2,5	4; 2,5	6,3	10	16	25	40	63	100			
Travel	(mm)		20						30					
Actuator DP 32	Air supply pressure min. (bar)	1,4	I.	18,6	18,6	10,7	7,8	3,9	2,2					
			II.	15,4	15,4	8,7	6,2	3	1,6					
			III.	8,6	8,6	7,1	5	1,7						
		2	I.	40	40	34,9	26,3	14,6	9,2	5	3,1	1,8		
			II.	40	40	32,9	24,8	13,7	8,6	4,6	2,8	1,6		
			III.	35,2	35,2	31,3	23,5	12,4	7,7	4,3	2,6	1,5		
		3	I.			40	40	32,5	20,8	12	7,8	4,8		
			II.			40	40	31,6	20,2	11,6	7,5	4,6		
			III.	40	40	40	40	30,3	19,4	11,3	7,3	4,5		
		4	I.					40	32,4	19	12,4	7,8		
			II.					40	31,8	18,6	12,1	7,6		
			III.					40	31	18,3	11,9	7,5		
		5	I.						40	26	17	10,8		
			II.						40	25,6	16,7	10,6		
			III.						40	25,3	16,5	10,5		
		6	I.							33	21,7	13,8		
			II.							32,6	21,4	13,6		
			III.							32,3	21,2	13,5		
		Actuator DP 33	Air supply pressure min. (bar)	1,4	I.	34,2 ^{d)}	34,2 ^{d)}	20,2 ^{d)}	15,1 ^{d)}	8,1 ^{d)}	4,9 ^{d)}	2,5 ^{d)}	1,4 ^{d)}	
					II.	31 ^{d)}	31 ^{d)}	18,3 ^{d)}	13,6 ^{d)}	7,3 ^{d)}	4,4 ^{d)}	2,1 ^{d)}	1,1 ^{d)}	
					III.	19,1 ^{d)}	19,1 ^{d)}	16,6 ^{d)}	12,3 ^{d)}	5,9 ^{d)}	3,5 ^{d)}	1,8 ^{d)}		
				2	I.	40 ^{d)}	40 ^{d)}	40 ^{d)}	40 ^{d)}	25,2 ^{d)}	16 ^{d)}	9,2 ^{d)}	5,9 ^{d)}	3,6 ^{d)}
					II.	40 ^{d)}	40 ^{d)}	40 ^{d)}	40 ^{d)}	24,3 ^{d)}	15,5 ^{d)}	8,7 ^{d)}	5,6 ^{d)}	3,4 ^{d)}
					III.	40 ^{d)}	40 ^{d)}	40 ^{d)}	40 ^{d)}	23 ^{d)}	14,6 ^{d)}	8,4 ^{d)}	5,4 ^{d)}	3,3 ^{d)}
3	I.							40 ^{d)}	34,6 ^{d)}	20,3 ^{d)}	13,3 ^{d)}	8,4 ^{d)}		
	II.							40 ^{d)}	34 ^{d)}	19,9 ^{d)}	12,9 ^{d)}	8,2 ^{d)}		
	III.							40 ^{d)}	33,1 ^{d)}	19,6 ^{d)}	12,8 ^{d)}	8,1 ^{d)}		
4	I.								40 ^{c)}	31,4	20,6	13,1		
	II.								40 ^{c)}	31	20,3	12,9		
	III.								40 ^{a)}	30,7 ^{a)}	20,1 ^{a)}	12,8 ^{a)}		
5	I.									40	28	17,9		
	II.									40	27,7	17,7		
	III.									40 ^{a)}	27,5 ^{a)}	17,6 ^{a)}		
6	I.										35,4	22,7		
	II.										35,1	22,5		
Actuator DP 34	Air supply pressure min. (bar)			1,4	I.						7 ^{b)}	4,4 ^{b)}	2,7 ^{b)}	
					II.						6,6 ^{b)}	4,1 ^{b)}	2,5 ^{b)}	
					III.						6,3 ^{e)}	3,9 ^{e)}	2,3 ^{e)}	
				2	I.							20,5 ^{b)}	13,3 ^{b)}	8,4 ^{b)}
					II.							20 ^{b)}	13 ^{b)}	8,2 ^{b)}
					III.							19,7 ^{e)}	12,9 ^{e)}	8,1 ^{e)}
				3	I.							40 ^{b)}	28,2 ^{b)}	18 ^{b)}
		II.								40 ^{b)}	27,9 ^{b)}	17,8 ^{b)}		
		III.								40 ^{e)}	27,7 ^{e)}	17,7 ^{e)}		
		4	I.								40 ^{b)}	27,6 ^{b)}		
			II.								40 ^{b)}	27,5 ^{b)}		
		I. Fig. 440: PTFE-V-ring unit;			II. Fig. 440: PTFE- / pure graphite-packing;				III. Fig. 441: Bellows seal					
Air supply pressure max. of pneumatic actuators DP:			6 bar											
Air supply pressure max. limit of control valve:			a) 5 bar			b) 4,5 bar		c) 4 bar		d) 3,5 bar		e) 3 bar		

¹⁾ Other Kvs-value-reductions are possible with series 445 / 446 (Stainless steel body with screwed seat ring).
 Max. permissible operating pressures refer to separate data sheet.

Figure	PN16 - 12.440 / 12.441	PN16 - 22.440 / 22.441 PN25 - 23.440 / 23.441	PN25 - 34.440 / 34.441 PN40 - 35.440 / 35.441	PN40 - 55.440 / 55.441	
Pos.	Description	Material, Material.No.			
1	Body	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
1.2	Seat ring	X20Cr13+QT, 1.4021+QT	X20Cr13+QT, 1.4021+QT	X20Cr13+QT, 1.4021+QT ⁵⁾	--
3	Plug*	X20Cr13+QT, 1.4021+QT			X6CrNiMoTi17-12-2, 1.4571
4	Straight pin*	X10CrNi18-8, 1.4310			A4 - 70
7	Mounting bonnet	EN-JL1040, EN-GJL-250	EN-JS1049, EN-GJS-400-18U-LT	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
8	Guiding bush	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 *	X10CrNi18-8, 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	EN-JS1049, EN-GJS-400-18U-LT		GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
20.2	Mounting bonnet	EN-JS1049, EN-GJS-400-18U-LT		GP240GH+N, 1.0619+N	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
20.10	Packing ring *	Pure graphite			
20.12	Washer *	X5CrNi18-10, 1.4301			
20.17	Screw joint *	X8CrNiS18-9, 1.4305			
23	Packing ring *	PTFE or pure graphite			
25	Screw joint *	X8CrNiS18-9, 1.4305			
* Spare parts					⁵⁾ from DN 65 1.4551

Please indicate when ordering:

- | | |
|---------------------|----------------------------------|
| 1. Figure-No. | 6. Kvs-value |
| 2. Nominal diameter | 7. Flow characteristic |
| 3. Nominal pressure | 8. Stem sealing |
| 4. Body material | 9. Actuator |
| 5. Plug design | 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-V-ring unit; actuator ARI-PREMIO 5 kN.

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

Technical data of the valve

Type:	Control valve Fig. 440-441		Guiding:	Parabolic plug: Stem guiding V-port plug: Stem and port guiding	
Nominal diameter:	DN 15-100		Flow characteristic:	Equal percentage or linear	
Nominal pressure:	PN 16, PN 25, PN 40		Rangeability:	<ul style="list-style-type: none"> • 50 : 1 on parabolic plug • 30 : 1 on V-port plug 	
Stem sealing: (refer to page 14)	Fig. 440 <ul style="list-style-type: none"> • PTFE-V-ring unit -10°C up to +220°C • PTFE-packing -10°C up to +250°C • Pure graphite-packing -10°C up to +450°C Fig. 441 <ul style="list-style-type: none"> • Stainless steel bellows seal with safety stuffing box -60°C up to +450°C 		Shut off class:	<ul style="list-style-type: none"> • 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 	
Body material:	EN-JL1040 PN16 Fig. 12.440 / 12.441 EN-JS1049 PN16 Fig. 22.440 / 22.441 EN-JS1049 PN25 Fig. 23.440 / 23.441 1.0619+N PN25 Fig. 34.440 / 34.441 1.0619+N PN40 Fig. 35.440 / 35.441 1.4408 PN40 Fig. 55.440 / 55.441 Other materials and versions on request		Selection of possible applications:	Fig. 440 <ul style="list-style-type: none"> • Cooling water • Cooling brine • Warm water • Hot water • Steam • Gas Fig. 441 <ul style="list-style-type: none"> • Refrigerant • Cooling water • Warm water • Hot water • Thermal oil • Steam • Gas - other applications on request -	
Plug design: (refer to page 14)	Standard: <ul style="list-style-type: none"> • parabolic plug, metal seat Special design: <ul style="list-style-type: none"> • Parabolic plug with PTFE soft seat (max. 200°C) • V-port plug, metal seat • Parabolic pressure balanced plug, metal seat, Material of piston seal: PTFE with stainless steel spring (max. 200°C) 				

Technical data for actuator refer to corresponding actuator data sheets.

Pressure-temperature-ratings

Observe regulations.

acc. to DIN EN 1092-2		Temperature								
Material	PN	-60°C up to <-10°C*	-10°C up to 120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
EN-JL1040	16	---	16 bar	14,4 bar	12,8 bar	11,2 bar	9,6 bar	---	---	---
EN-JS1049	16	on request	16 bar	15,5 bar	14,7 bar	13,9 bar	12,8 bar	11,2 bar	---	---
	25	on request	25 bar	24,3 bar	23 bar	21,8 bar	20 bar	17,5 bar	---	---

acc. to DIN EN 1092-1		Temperature									
Material	PN	-60°C up to <-10°C*	-10°C up to 50°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
1.0619+N	25	18,7 bar	25 bar	23,3 bar	21,7 bar	19,4 bar	17,8 bar	16,1 bar	15 bar	14,4 bar	13,9 bar
	40	30 bar	40 bar	37,3 bar	34,7 bar	30,2 bar	28,4 bar	25,8 bar	24 bar	23,1 bar	22,2 bar
1.4408	40	40 bar	40 bar	37,3 bar	33,8 bar	31,1 bar	29,3 bar	27,6 bar	26,7 bar	25,6 bar	---

Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart.

* Valve with extended bonnet, studs and nuts made of A4-70 (at temperatures below -10°C)

ARI-Valves of EN-JL1040 are not allowed in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (acc. to TRB 801 No. 45 EN-JL1040 is not allowed.)

Valve dimensions

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

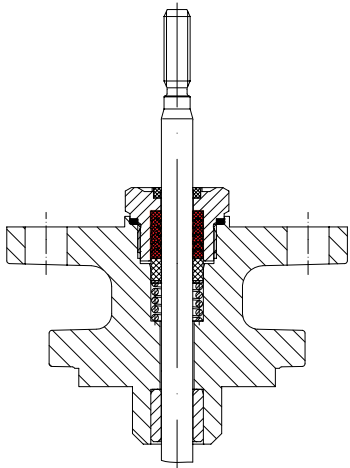
DN		15	20	25	32	40	50	65	80	100
L	(mm)	130	150	160	180	200	230	290	310	350

Flange dimensions

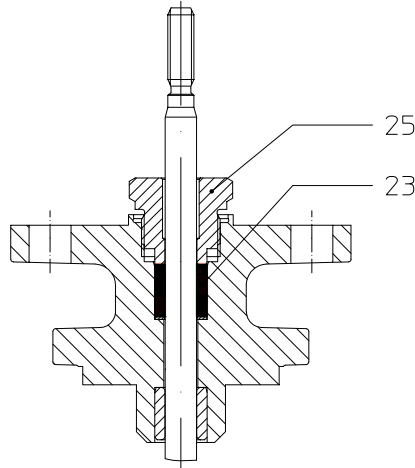
Flanges acc. to DIN EN 1092-1/-2 (Flangeholes/-thickness tolerances acc. to DIN 2533/2544/2545)

DN		15	20	25	32	40	50	65	80	100
PN 16	∅ D (mm)	95	105	115	140	150	165	185	200	220
	∅ K (mm)	65	75	85	100	110	125	145	160	180
	n x ∅ d1 (mm)	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18
PN 25	∅ D (mm)	95	105	115	140	150	165	185	200	235
	∅ K (mm)	65	75	85	100	110	125	145	160	190
	n x ∅ d1 (mm)	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 22
PN 40	∅ D (mm)	95	105	115	140	150	165	185	200	235
	∅ K (mm)	65	75	85	100	110	125	145	160	190
	n x ∅ d1 (mm)	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 22

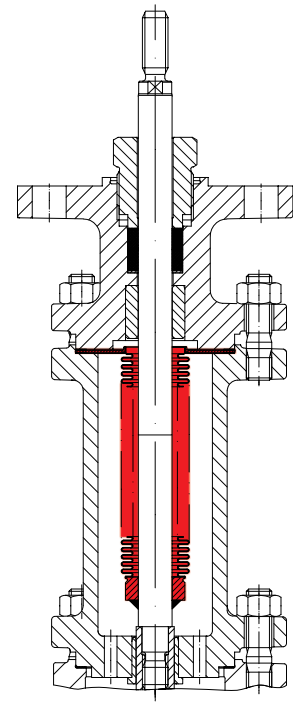
Stem sealings



Spring-loaded PTFE-V-ring unit

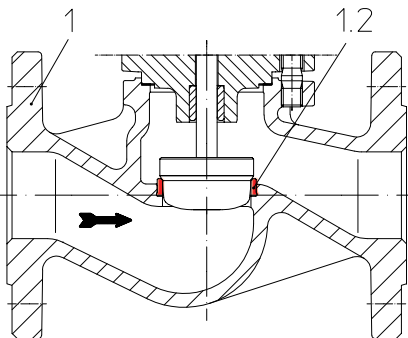


PTFE-/ Pure graphite-packing

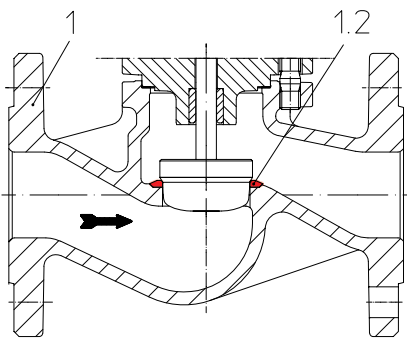


Bellows seal with safety stuffing box

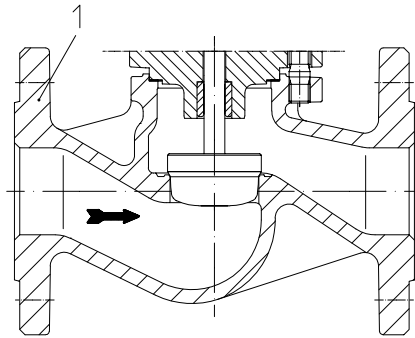
Body designs



Body with pressed seat ring
 (EN-JL1040, EN-JS1049)

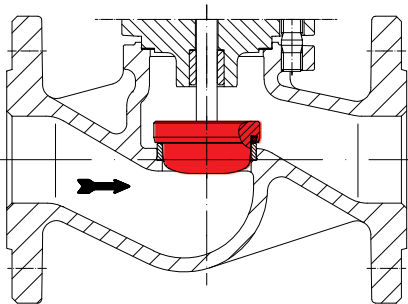


Body with welded seat
 (1.0619+N)

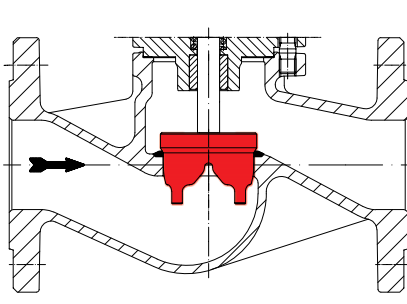


Body with machined seat
 (1.4408)

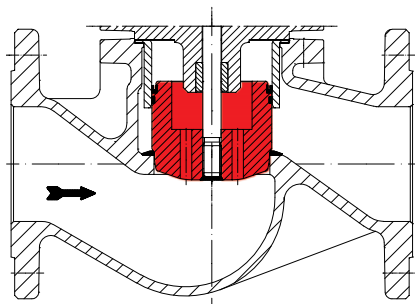
Plug designs



Parabolic plug with PTFE soft seat and
 stem guiding



V-port plug with stem and
 port guiding



Parabolic pressure balanced plug



Technology for the Future.
GERMAN QUALITY VALVES