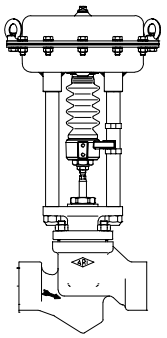
Control valve in straightway form

ARI-STEVI® 440 - ANSI
Pneumatic actuator
ARI-DP 32-33

- 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



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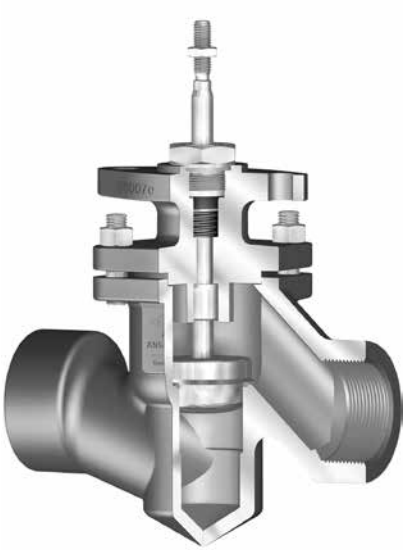

Fig. 440....90

ARI-STEVI® 440 -ANSI
Electric actuator
ARI-PREMIO 2,2-5kN
ARI-PREMIO-Plus 2G 2,2-5kN

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

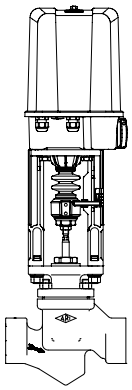

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Figure	Nominal pressure	Material	Nominal diameter
45.440....90	ANSI300	SA105	1/2" - 2"
45.441....90	on request		
Other materials and versions on request.			

Information / restriction of technical rules need to be observed!

A production permission acc. to TRB 801 No. 45 is available.

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Stem sealing

Fig. 440

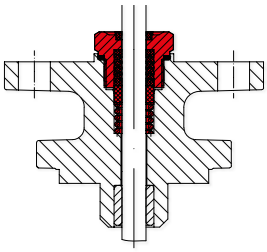
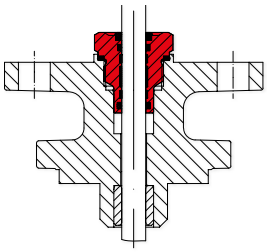
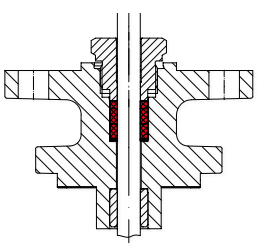
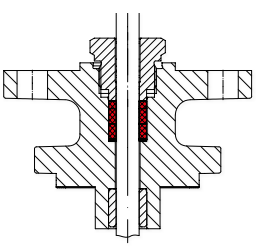
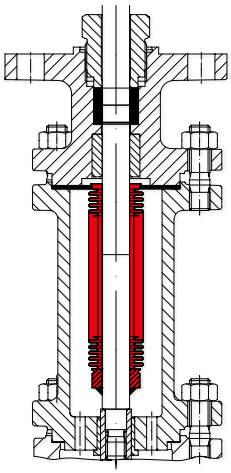
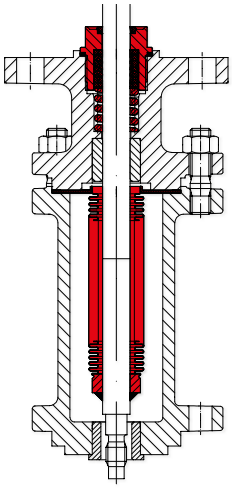
standard	optional		
			
I. PTFE-V-ring unit -10°C to 220°C	**I. EPDM-sealing** -10°C to 130°C	**II. PTFE-packing** -10°C to 250°C	**II. Pure graphite-packing** -10°C to 450°C

Fig. 441

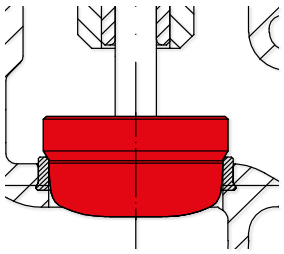
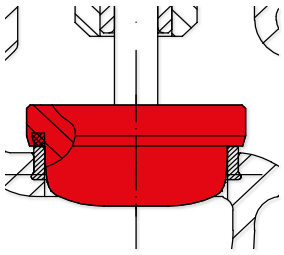
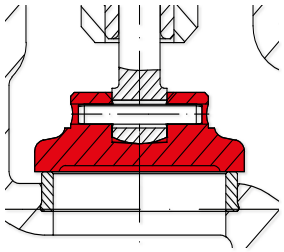
on request	
	
III. Stainless steel-bellow with pure graphite -29°C to 450°C	**III. Stainless steel-bellow with V-ring unit** -29°C to 220°C

Pressure-temperature-ratings

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

acc. to ASME B16.5			-29°C to 38°C	50°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
SA105	ANSI300	(bar)	51,1	50,1	46,6	45,1	43,8	41,9	39,8	37,6	34,7	23

acc. to manufacturers standard			-29°C to -10°C	50°C	120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
SA105	PN40 / 1 1/2"	(bar)	30	40	40	38,1	35	32	28	25,7	23,8	22,2

Plug design standard			Guiding	Rangeability
NPS 1/2" - 2": **Parabolic plug,** **metal seat**	- Leakage class IV acc. to ANSI / FCI 70-2 - Flow characteristic: - equal percentage (glp) - linear (lin)		Stem	50 : 1
Plug design optional			**Guiding**	**Rangeability**
Parabolic plug **with PTFE-soft seal** (max. 200°C)	- Leakage class VI acc. to ANSI / FCI 70-2 - Flow characteristic: - equal percentage (glp) - linear (lin)		Stem	50 : 1
Isolation plug	DIN3230 T3 BO		Stem	--

Max. allowable differential pressure at flow							
Seat-ø	(mm)	**21**	**21**	**27**	**41**	**41**	**51**
Δ Ps	(bar)	2	2	2	2	2	2
Closing pressures on request.							

Control valve in straightway form with pneumatic actuator ARI-DP

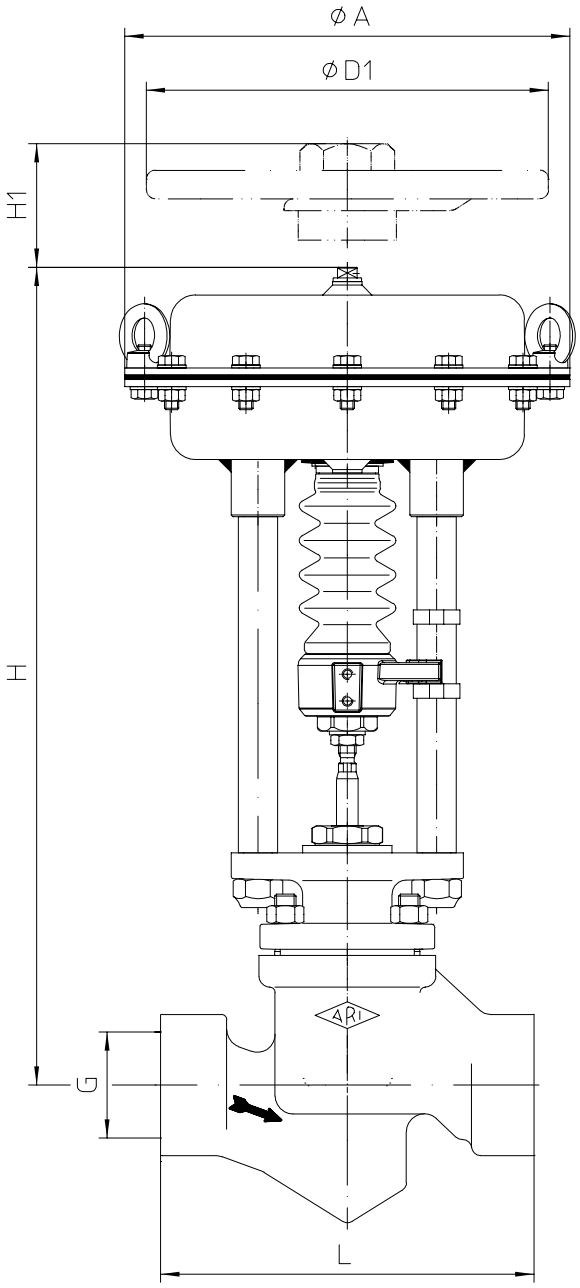


Fig. 440.....90

Actuator data			DP32	DP33
Ø A		(mm)	250	300
Effective diaphragm area		(cm^2)	250	400
Top mounted handwheel	Ø D1	(mm)	225	300
	H1	(mm)	270	284
	Weight	(kg)	5	
Technical data for actuator refer to data sheet ARI-DP.				

Heights and weights

NPS				1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Fig. 440....90	DP32	H	(mm)	445	445	458	463	463	469
		ANSI300	(kg)	13	13,2	14,3	17,5	18,4	23,5
	DP33	H	(mm)	500	500	513	518	518	524
		ANSI300	(kg)	19	19,2	20,3	23,5	24,4	29,5

Other dimensions refer to page 8.

max. permissible closing pressures on flow-to-open P2 = 0.
Observe pressure-temperature-limits, refer to page 2.

NPS							1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Parabolic plug	Kvs-value					(m^3/h)	**3,3**	**5,4**	**8,4**	**12,8**	**20**	**28,4**
	max. diff. pressure [1]					(bar)	40	40	40	30	30	20
Seat-ø						(mm)	21	21	27	41	41	51
Travel						(mm)	20					
DP32 250 cm² **Spring closes on air failure**  (extended through spring)	Spring range (bar)	0,4 - 1,2	Air supply pressure min. (bar) [2]	1,4	I.	(bar)	18,6	18,6	10,7	3,9	3,9	2,2
					II.	(bar)	15,4	15,4	8,7	3	3	1,6
		0,8 - 2,4		2,7	I.	(bar)	44,9	44,9	26,8	11	11	6,8
					II.	(bar)	41,7	41,7	24,8	10,2	10,2	6,3
		1,5 - 2,9		3,2	I.	(bar)	51,1	51,1	51,1	23,5	23,5	15
					II.	(bar)	51,1	51,1	51,1	22,7	22,7	14,4
		2,0 - 3,8		4,1	I.	(bar)				32,5	32,5	20,8
					II.	(bar)				31,6	31,6	20,2
DP33 400 cm² **Spring closes on air failure**  (extended through spring)		0,2 - 1,0		1,2	I.	(bar)	13,3 c)	13,3 c)	7,4 c)	2,4 c)	2,4 c)	1,2 c)
					II.	(bar)	10,1 c)	10,1 c)	5,4 c)	1,6 c)	1,6 c)	
		0,4 - 1,2		1,4	I.	(bar)	34,2 c)	34,2 c)	20,2 c)	8,1 c)	8,1 c)	4,9 c)
					II.	(bar)	31 c)	31 c)	18,3 c)	7,3 c)	7,3 c)	4,4 c)
		0,8 - 2,4		2,7	I.	(bar)	51,1 a)	51,1 a)	45,9 a)	19,5 a)	19,5 a)	12,3 a)
					II.	(bar)	51,1 a)	51,1 a)	44 a)	18,6 a)	18,6 a)	11,8 a)
		1,7 - 2,7		3,1	I.	(bar)			51,1 a)	40 a)	40 a)	29 a)
					II.	(bar)			51,1 a)	40 a)	40 a)	28,4 a)
		2,3 - 3,7		4,5	I.	(bar)						40,1
					II.	(bar)						39,5

NPS						1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Parabolic plug	Kvs-value			(m^3/h)	**3,3**	**5,4**	**8,4**	**12,8**	**20**	**28,4**
	max. diff. pressure [1]			(bar)	40	40	40	30	30	20
Seat-ø				(mm)	21	21	27	41	41	51
Travel				(mm)	20					
DP32 250 cm² **Spring opens on air failure**  (retracted through spring)	Air supply pressure min. (bar) [2]	1,4	I.	(bar)	18,6	18,6	10,7	3,9	3,9	2,2
			II.	(bar)	15,4	15,4	8,7	3	3	1,6
		2	I.	(bar)	51,1	51,1	34,9	14,6	14,6	9,2
			II.	(bar)	51,1	51,1	32,9	13,7	13,7	8,6
		3	I.	(bar)			51,1	32,5	32,5	20,8
			II.	(bar)			51,1	31,6	31,6	20,2
		4	I.	(bar)				40	40	32,4
			II.	(bar)				40	40	31,8
		5	I.	(bar)						44
			II.	(bar)						43,5
		6	I.	(bar)						51,1
			II.	(bar)						51,1
DP33 400 cm² **Spring opens on air failure**  (retracted through spring)		1,4	I.	(bar)	34,2 d)	34,2 d)	20,2 d)	8,1 d)	8,1 d)	4,9 d)
			II.	(bar)	31 d)	31 d)	18,3 d)	7,3 d)	7,3 d)	4,4 d)
		2	I.	(bar)	51,1 d)	51,1 d)	51,1 d)	25,2 d)	25,2 d)	16 d)
			II.	(bar)	51,1 d)	51,1 d)	51,1 d)	24,3 d)	24,3 d)	15,5 d)
		3	I.	(bar)				40 d)	40 d)	34,6 d)
			II.	(bar)				40 d)	40 d)	34 d)
		4	I.	(bar)						51,1 c)
			II.	(bar)						51,1 c)

I. **Fig. 440: PTFE-V-ring unit / EPDM-sealing**
II. **Fig. 440: PTFE- / pure graphite-packing**

[1] max. differential pressure drop

[2] Air supply pressure max. to actuator: 6 bar Restriction: a) 5 bar b) 4,5 bar c) 4 bar d) 3,5 bar e) 3 bar

Control valve in straightway form with electric actuator ARI-PREMIO

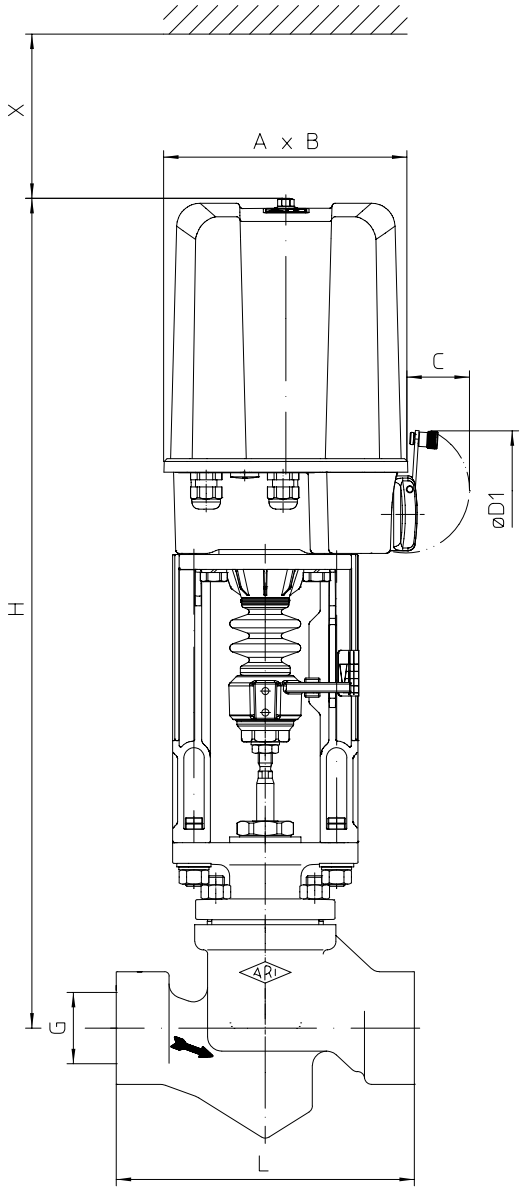


Fig. 440.....90

Actuator data		2,2 - 5 kN
A	(mm)	171
B	(mm)	156
C	(mm)	50
Ø D1	(mm)	90
X	(mm)	150
Further technical data of the actuator: refer to data sheet ARI-PREMIO/PREMIO-Plus 2G		

Heights and weights

NPS				1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Fig. 440....90	**2,2 kN**	H	(mm)	559	559	572	577	577	583
		ANSI300	(kg)	13	13,9	15,9	23,5	23,5	31,5
	5 kN	H	(mm)	559	559	572	577	577	583
		ANSI300	(kg)	14,1	15	17	24,6	24,6	32,6

Other dimensions refer to page 8.

ARI-STEVI® 440 - ANSI (NPS 1/2" - 2")

Closing pressures: Electric actuator ARI-PREMIO / PREMIO-Plus 2G

NPS				1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Parabolic plug	Kvs-value		(m^3/h)	**3,3**	**5,4**	**8,4**	**12,8**	**20**	**28,4**
	max. diff. pressure [1]		(bar)	40	40	40	30	30	20
Seat-ø			(mm)	21	21	27	41	41	51
Travel			(mm)	20					
2,2 kN	Closing pressure	I.	(bar)	51,1	51,1	30,8	12,8	12,8	8
		II.	(bar)	48,1	48,1	28,8	11,9	11,9	7,4
	Operating time		(s)	53					
	Operating speed [2]		(mm/s)	0,38					
5 kN	Closing pressure	I.	(bar)	--	--	51,1	33,2	33,2	21,3
		II.	(bar)	51,1	51,1	51,1	32,3	32,3	20,7
	Operating time		(s)	53					
	Operating speed		(mm/s)	0,38					
Further operating speeds: refer to data sheet ARI-PREMIO/PREMIO-Plus 2G									

$$\text{Operating time [s]} = \frac{\text{Travel [mm]}}{\text{Operating speed [mm/s]}}$$

I. **Fig. 440: PTFE-V-ring unit / EPDM-sealing**
II. **Fig. 440: PTFE- / pure graphite-packing**

[1] max. differential pressure drop
[2] Based on a frequency of 50Hz the control speed and power consumption of the synchronous motors PREMIO 2,2kN are 20% higher at frequency of 60 Hz.

Control valve in straightway form

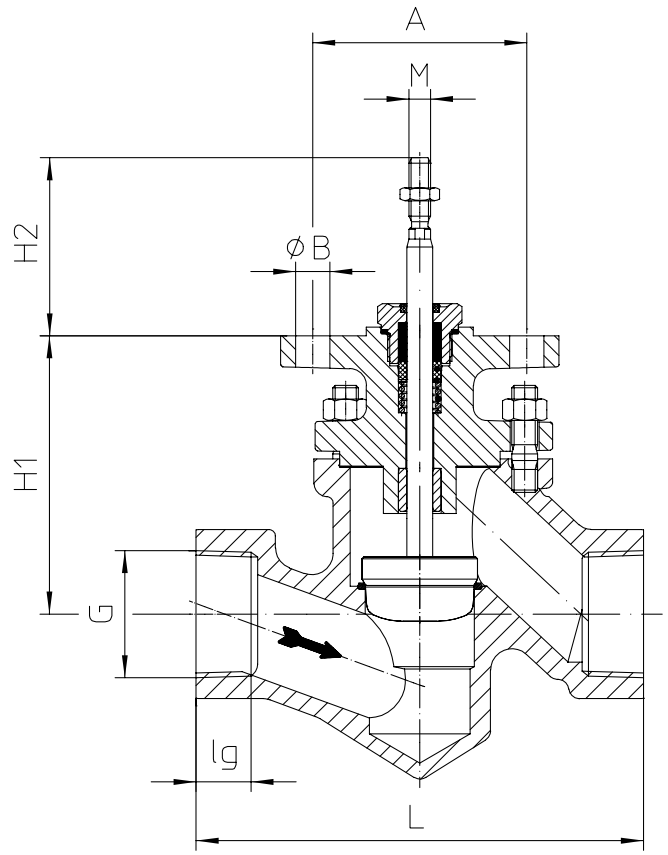
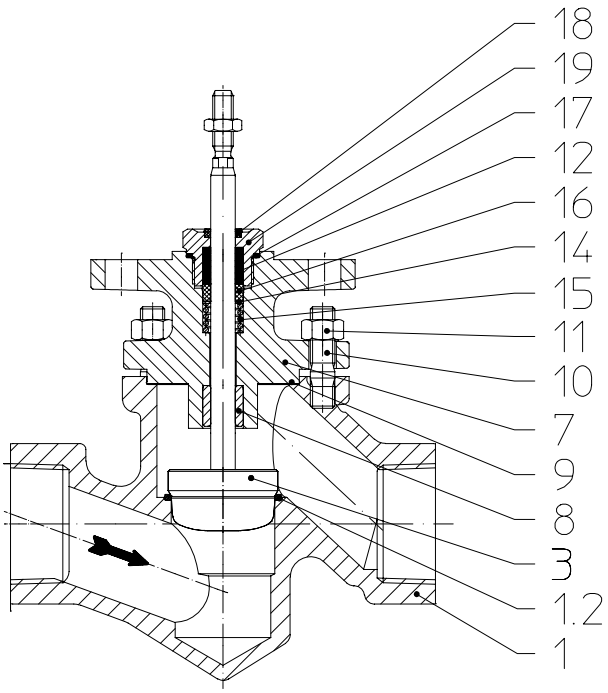
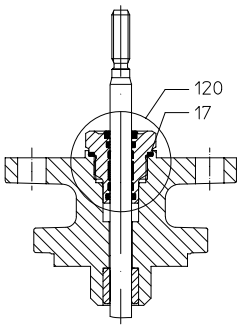


Fig. 440....90
NPS 1/2" - 2"
(e.g. DP32-33; PREMIO 2,2-5kN)

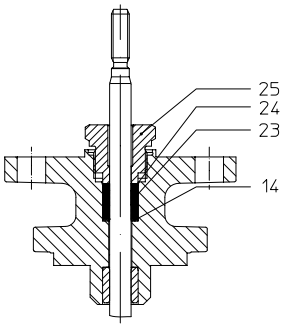
NPS		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Dimensions							
M	(mm)	M10					
H1	(mm)	103		111		118	124
H2	(mm)	83					
A	(mm)	100					
n x ØB	(mm)	2 x 16					
Face-to-face dimension							
L	(mm)	117	117	139	186	186	209
Screwed sockets BSP acc. to DIN ISO 228 / NPT acc. to ASME/ANSI B1.20.1							
G	BSP acc. to DIN ISO 228	(mm)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	NPT acc. to ASME/ANSI B1.20.1	(mm)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
lg		(mm)	15	16,3	19,1	21,4	21,4	25,7
ø d		(mm)	21,7	27,1	33,8	42,5	48,7	61,1
l		(mm)	10	13	13	13	13	16
Weights							
Fig. 440....90		(kg)	7,6	8,5	10,5	18,1	18,1	26,1
max. permissible thrust							
Fig. 440....90		(kN)	12,7					



I. PTFE-V-ring unit



I. EPDM-sealing

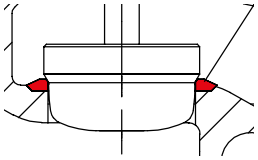


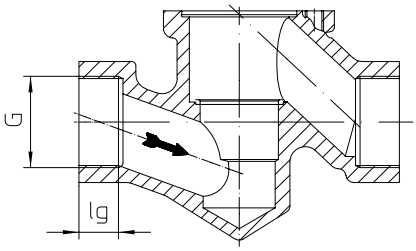
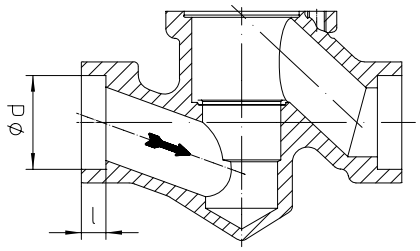
II. PTFE- / pure graphite-packing

Pos.	Sp.p.	Description	Fig. 35.440....90
1		Body	SA105
1.2		Seat ring	E347-16
3	x	Plug	SA276Gr.420 [1]
7		Mounting bonnet	SA216WCB
8		Giude bushing	SA276Gr.420 [1] (hardened)
9	x	Gasket	Pure graphite (CrNi laminated with graphite)
10		Stud	SA193B7
11		Hexagon nuts	SA194 2H
12	Set: refer to Pos. 100	V-ring unit	PTFE
14		Washer	SA240Gr.304
15		Compression spring	AISI301 / A313Gr.301
16		Bush	PTFE (strengthened)
17		Gasket	Soft iron / Copper
18		Scraper	PTFE (strengthened)
19	x	Screw joint	AISI303
23/24	x	Packing ring	PTFE or Pure graphite
25	x	Screw joint	AISI303

Stem sealings Fig. 440			
23	x	Packing ring	PTFE
23	x	Packing ring	Pure graphite
100	x	V-ring unit set	Set aus: Pos. 12, 14, 15, 16, 17, 18
120	x	EPDM-sealing	EPDM / X8CrNiS18-9, 1.4305 (when spare part, also necessary: Pos. 17)
	└ Spare parts		

[1] Heat treatment acc. to EN

Body design
standard

• with welded seat

standard	optional
	
• Screwed sockets (BSP acc. to DIN ISO 228 or NPT acc. to ASME/ANSI B1.20.1)	• Socket weld ends

myValve® - Your Valve Sizing-Program.

myValve® is a powerful software tool that not only helps you size your system components; it also gives you instant access to all other data about the selected product, such as order information, spare parts drawings, operating instructions, data sheets, etc., whenever you need it.

Contents:

Module ARI-control valves STEVI-calculation

- Sizing (calculation of flow quantity Kv, volume flow Q, pressure drop Δp, sound level and selecting the valve.)

Media:

Integrated media-databank (more than 160 media) with conditions:

- Vapours / gases
- Steam (saturated and superheated)
- Liquids

Special features:

- Project administration of the calculation and product data incl. spare part drawings concerning to project and tag number.
- Direct output or calculation and product data in PDF format.
- Product data could be taken for a direct order.
- SI- and ANSI-units with direct conversion to another databank.
- Settings with over pressure or absolute pressure.
- All ARI valves are integrated in a databank.
- Direct access concerning to the product on data sheets, operating instructions, pressure-temperature-diagram and spare part drawings
- Operation in company networks possible (no complex installations on individually PC's necessary).
- Extensive catalogue extending over several product groups.

System Requirements:

Windows operating systems, Linux, etc.