

Maintenance-free shut-off valves

with bellows



Type ZYLB



Type ZYSB

flanged
or with butt weld ends

PN 25/40
DN 15-300

Fields of Application

- In heat transfer plants, industrial plants, building services and shipbuilding
- For thermal oils, water, steam, gas and other non-aggressive fluids
- Other fluids on request.

Operating Data

- Maximum permissible pressure: 40 bar up to DN 150
25 bar from DN 200
- Maximum permissible temperature 450 °C
- Selection as per pressure-temperature ratings (see overleaf)

Materials

- Flanged valve
DN 15-300 cast steel GP 240 GH+N 1.0619+N
- Valve with butt weld ends
DN 15-300 cast steel GP 240 GH+N 1.0619+N

Design

- Straight-way Y-valve
- Throttling valve plug up to DN 100, replaceable shut-off valve plug from DN 125
- Non-rotating stem with non-rising handwheel
- Stem sealing with double walled bellows and back-up gland packing
- Fully encapsulated bonnet gasket
- Position indicator
- Locking device and travel stop
- Materials without nonferrous heavy metals
- External coating: high-temperature coating aluminium grey

The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 97/23/EC (PED) for fluids in Groups 1 and 2.

Standard Variants

- Throttling plug from DN 125
- Pilot plug from DN 125
- Studs/hex. nuts in A4-70 (low temp.)
- Other flange designs
- Position switch
- 3.1 B certification

References

- NORI® 40 strainer type FSL/FSS, see type series booklet 7127.1
- Flow characteristics 7160.4
- Operating instructions 0570.82

Purchase order data

- | | |
|-------------------------|-------------------------------|
| 1 Type | 6 Fluid |
| 2 PN | 7 Operating temperature |
| 3 DN | 8 Pipe connection |
| 4 Operating pressure | 9 Variants |
| 5 Differential pressure | 10 Type series booklet number |



Pressure-Temperature Ratings

Nominal pressure PN	Material	Permissible operating pressures in bar at temperatures in °C ¹⁾						
		120	200	250	300	350	400	450
25	GP 240 GH+N ²⁾	25	22	20	17	16	13	8
40		40	35	32	28	24	21	13

¹⁾ The valves can be used down to -10 °C

²⁾ previously: GS-C 25 N

Operating pressures to EN 1092/1 are also permissible

Installation

Shut-off valves must be installed in the line so as to ensure that the fluid enters the valve beneath the disc and flows out above the disc. They can also be installed in lines with alternating flow.

As soon as the max. permissible differential pressures for shut-off indicated for DN 125 to 300 are exceeded, pilot plugs are required. In this case, the installation must ensure that the pressure to be sealed off is applied above the plug.

The pilot plug serves as a bypass and only fulfills its purpose if a back pressure forms after it is opened, to prevent the max. permissible differential pressures for shut-off (see rating) from being exceeded.

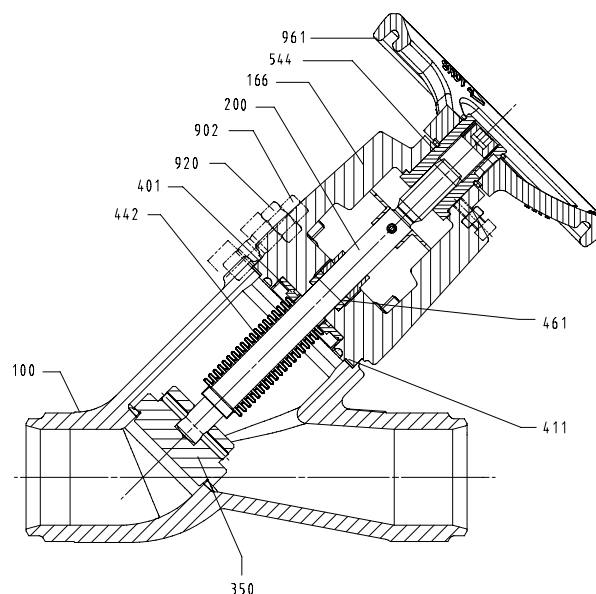
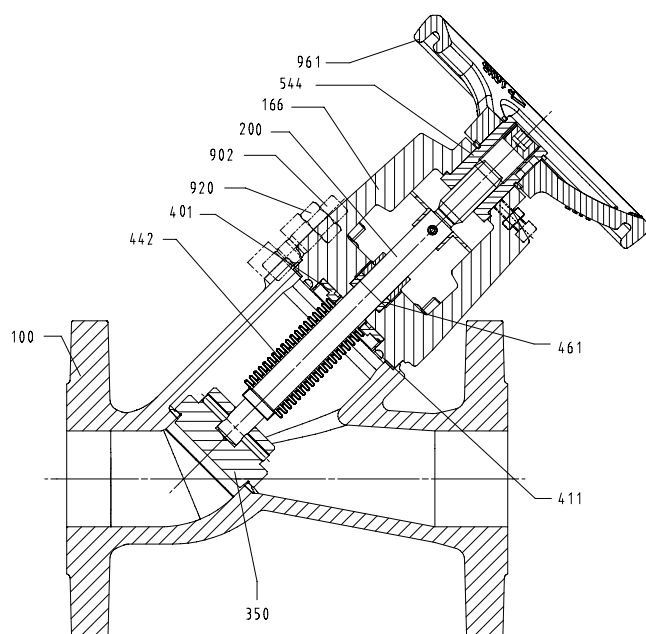
Max. permissible differential pressure for shut-off (standard plug)

DN	125	150	200	250	300
Δp bar	33	21	14	9	6

For valves with throttling plugs detailed information on the operating mode is required for optimum selection.

ZYLB

ZYSB

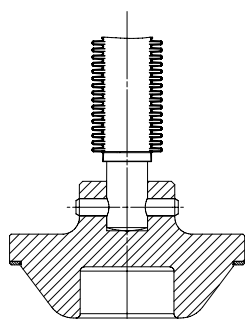


Materials

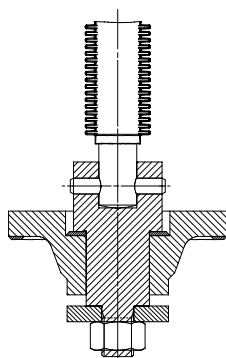
Part No.	Description	Material	Comments
100	Body	GP 240 GH+N 1.0619+N	with stainless steel hard faced plating (1.4370)
166	Yoke	GP 240 GH+N 1.0619+N	
440 *)	Bellows set	consisting of:	
166	Yoke	GP 240 GH+N 1.0619+N	
200	Stem	X 20 Cr 13 1.4021	
442	Bellows	X 6 CrNiMoTi 17 12-2 1.4571	
401	Weld ring	X 20 Cr 13 1.0421	
350 *)	Valve plug	X 20 Cr 13 1.4021	DN 15-150
		C22 1.0402	DN 200-300, with stainless steel hard faced plating (1.4370)
411 *)	Joint ring	CrNi steel / graphite	
461 *)	Gland packing	Pure graphite	
544 *)	Threaded bush	Coated steel	
902	Stud	21 CrMoV 5-7 1.7709	olive-chromated
920	Hex. nut	25 CrMo 4 1.7218	olive-chromated
961	Handwheel	GJS-400-15 JS1030	

*) Recommended spare parts

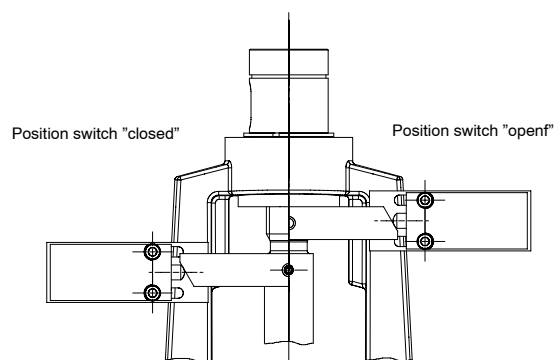
Variants



Throttle cone
from DN 125 onwards



Pressure relief cone
from DN 125 onwards

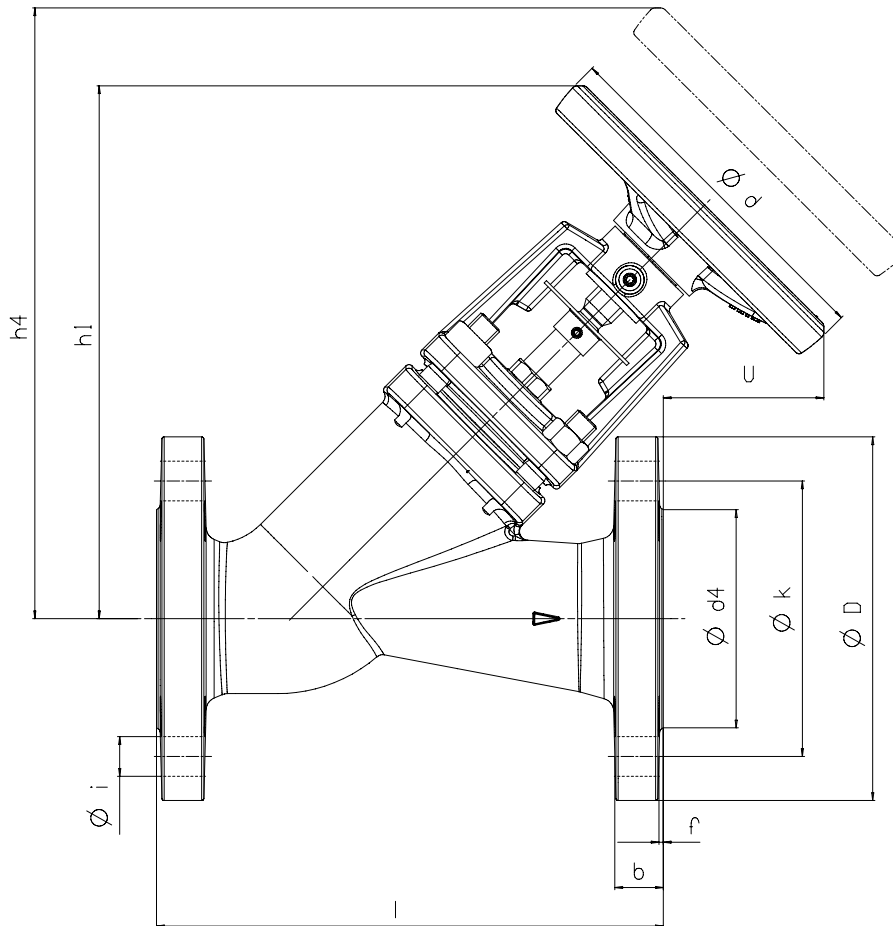


Position switch

Dimensions, type ZYLB

Face-to-face length - to EN 558-1/1 (was: DIN 3202/ F 1)
 - ISO 5752/1
 Flange: - Mating dimensions to DIN 2501,
 ISO 2084, BS 4504
 Raised face type C DIN 2526

Other flange designs:
 e.g. grooved both ends type N, tongue type F DIN 2512,
 recessed (female face) type R 13, spigot (male face) type V 13
 DIN 2513, raised face types D or E DIN 2526
 Flanges to EN 1092-1
 Other flange designs on request

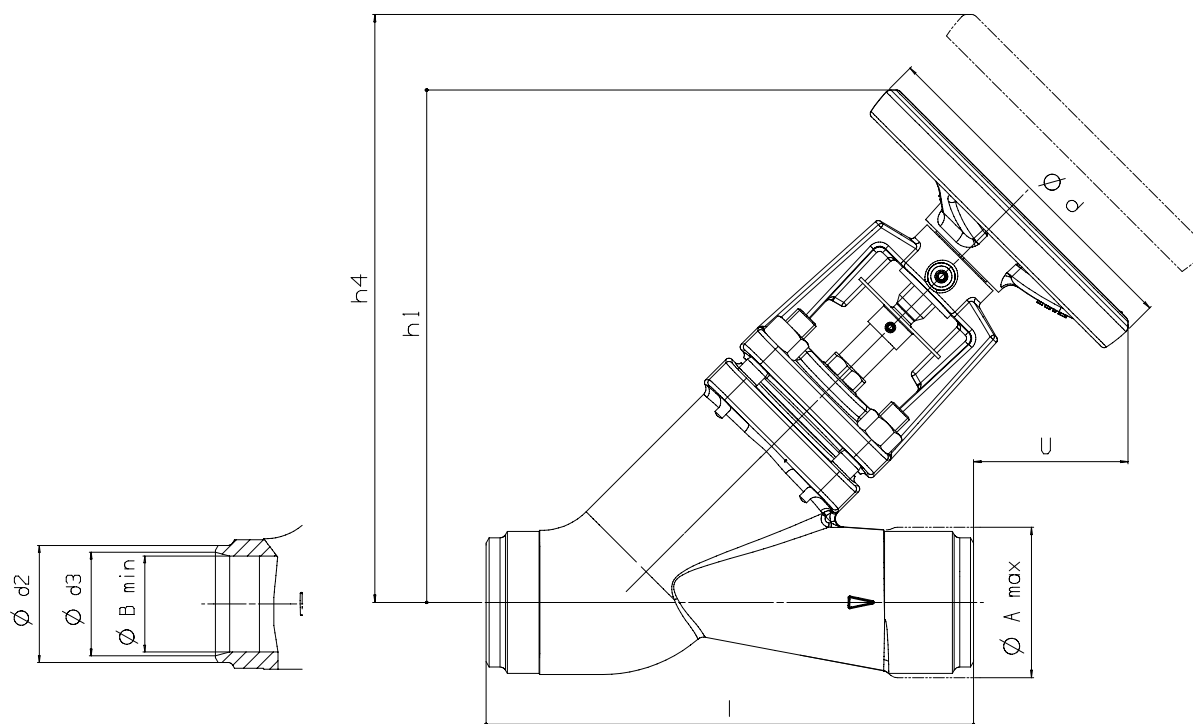


Dimensions in mm

Nominal pressure	Nominal diameter	Face-to-face length	Flange	Bolt circle	Number of bolt holes	Bolt hole	Raised face	Flange thickness	Centre-to-top height open	Vertical clearance for removal	Overhang	Handwheel	Weight
PN	DN	l	øD	øk	z	øi	ød ₄ x f	b	h 1	h 4	U	ø d	approx. kg
40	15	130	95	65	4	14	46 x 2	16	187	229	69	125	4.9
	20	150	105	75	4	14	56 x 2	18	181	220	59	125	5.4
	25	160	115	85	4	14	65 x 2	18	195	244	70	125	6.4
	32	180	140	100	4	18	76 x 2	20	195	244	55	125	8.1
	40	200	150	110	4	18	84 x 2	20	240	313	83	160	11.8
	50	230	165	125	4	18	99 x 2	22	242	316	73	160	14.6
	65	290	185	145	8	18	118 x 2	24	314	420	104	200	25.8
	80	310	200	160	8	18	132 x 2	26	317	425	92	200	28.5
	100	350	235	190	8	22	156 x 2	28	363	488	103	250	43.0
	125	400	270	220	8	26	184 x 2	30	420	569	100	315	63.2
	150	480	300	250	8	26	211 x 2	34	446	622	66	315	85.9
25	200	600	360	310	12	26	274 x 3	30	553	765	93	400	147.1
	250	730	425	370	12	30	330 x 3	32	639	907	94	500	221.1
	300	850	485	430	16	30	389 x 4	34	692	1003	77	500	320.0

Dimensions, type ZYSB

Face-to-face length - EN 12982/64 (was DIN 3202-S2)
 Butt weld ends - DIN 3239-Type 2
 Groove type - DIN 2559/22

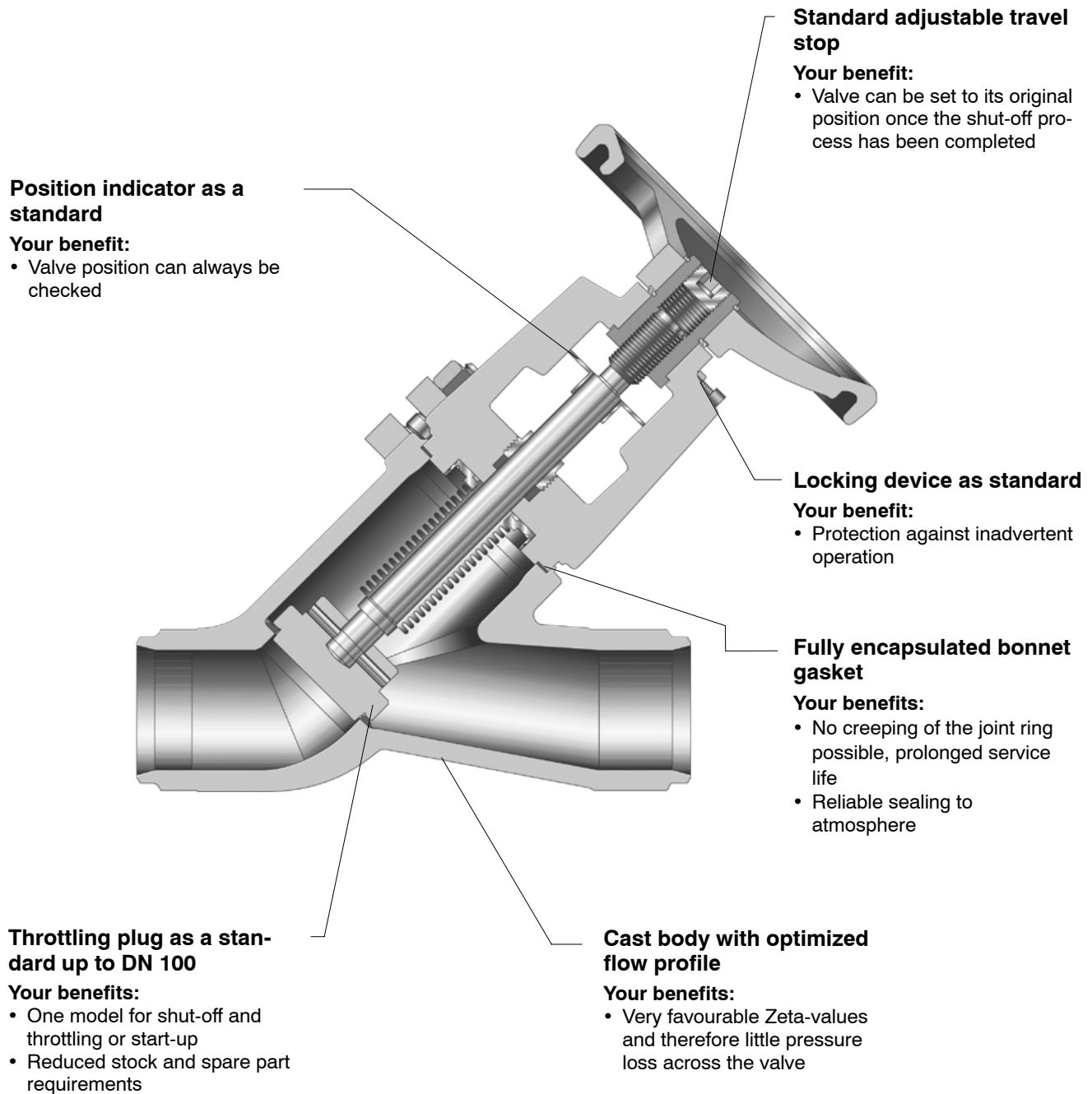


Dimensions in mm

Nominal pressure	Nominal diameter	Overall length	unmachined butt weld ends		Butt weld ends to DIN 3239 T1 Groove type DIN 2559/22			Centre-to-top height open	Vertical clearance for removal	Overhang	Handwheel	Weight
PN	DN	l	øA _{max.}	øB _{min.}	ød ₂	ød ₃ *)	Associated pipe dimensions	h 1	h 4	U	ø d	approx. kg
40	15	130	31.0	15.0	22.0	17.0	21.3 x 2.0	187	229	69	125	3.4
	20	150	38.0	20.0	28.0	22.0	26.9 x 2.3	181	220	59	125	3.6
	25	160	44.0	25.0	34.0	28.5	33.7 x 2.6	195	244	70	125	4.0
	32	180	51.0	32.0	43.0	37.0	42.4 x 2.6	195	244	55	125	4.3
	40	200	61.0	40.0	49.0	43.0	48.3 x 2.6	240	313	83	160	6.8
	50	230	71.0	50.0	61.0	54.0	60.3 x 3.2	242	316	73	160	8.5
	65	290	88.0	65.0	77.0	69.0	76.1 x 3.6	314	420	104	200	18.3
	80	310	104.0	80.0	90.0	82.0	88.9 x 3.2	317	425	92	200	19.4
	100	350	131.0	100.0	115.0	104.0	114.3 x 5.0	363	488	103	250	31.4
	125	400	155.0	125.0	142.0	130.5	139.7 x 4.5	420	569	100	315	46.7
	150	480	184.0	150.0	170.0	156.5	168.3 x 5.6	446	622	66	315	65.3
25	200	600	249.0	200.0	222.0	204.5	219.1 x 7.1	553	765	93	400	121.7
	250	730	305.0	250.0	276.0	256.5	273.0 x 8.0	639	907	94	500	185.7
	300	850	356.0	300.0	325.0	306.5	323.9 x 8.0	692	1003	77	500	271.4

*) ød₃ = d_p as per DIN 3239

Product features – to our customers' benefit (1)



Product features - to our customers' benefit (2)

Stem with burnished shank

Your benefit:

- Long service life of gland packing

Olive-chromated screws and nuts

Your benefits:

- Corrosion resistant
- service-friendly

Valve seat made of wear and corrosion resistant materials

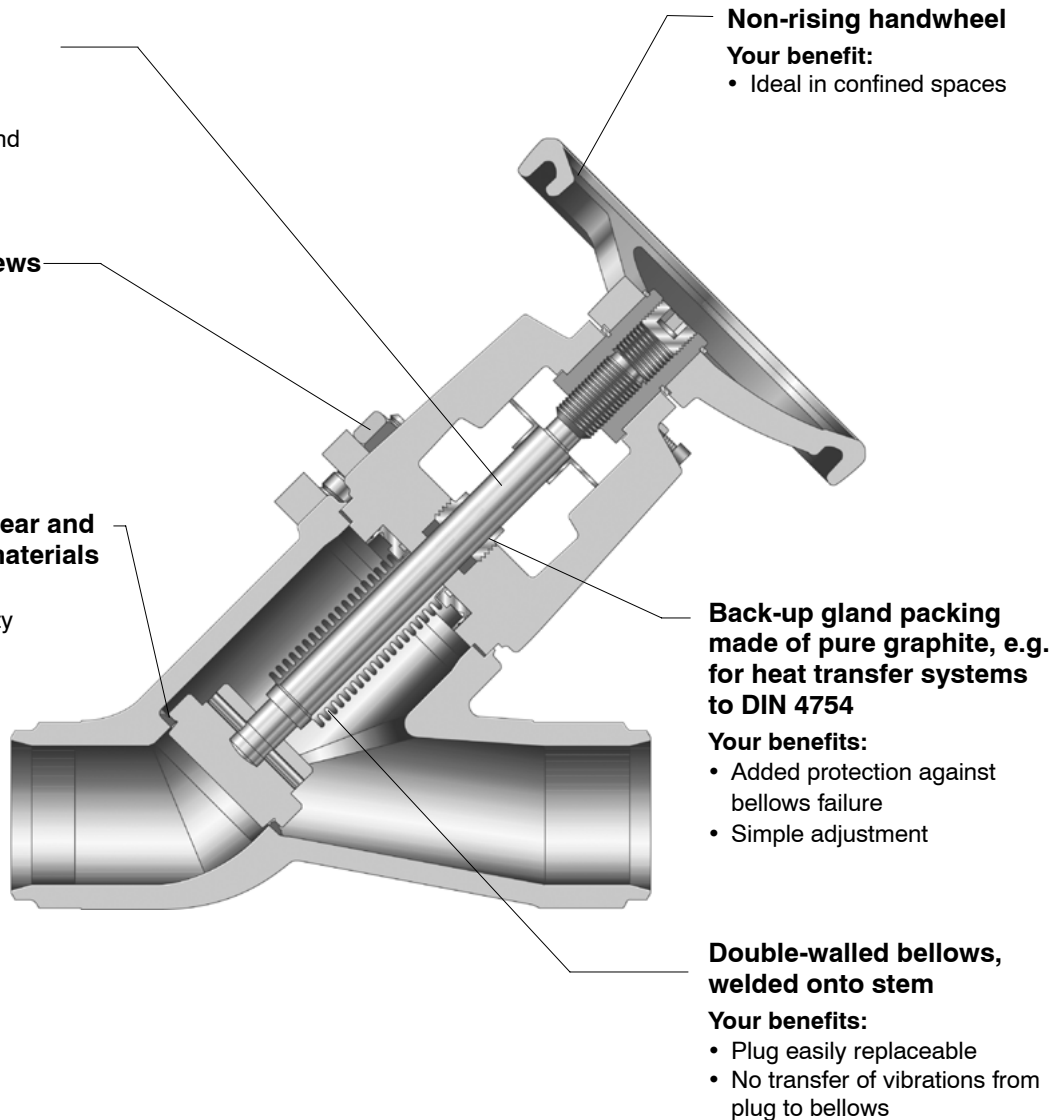
Your benefits:

- High functional reliability
- Long service life

Non-rising handwheel

Your benefit:

- Ideal in confined spaces



Back-up gland packing made of pure graphite, e.g. for heat transfer systems to DIN 4754

Your benefits:

- Added protection against bellows failure
- Simple adjustment

Double-walled bellows, welded onto stem

Your benefits:

- Plug easily replaceable
- No transfer of vibrations from plug to bellows

