

Triple offset design — Metal seal — Self-aligning sealing ring
New from ARI: up to DN 1200 — with butt-weld ends — fully lugged class 600

ZETRIX®

The ARI process valve

New from ARI:
With butt-weld ends



ZETRIX®
Manual

ZETRIX®
Electric actuator

ZETRIX®
Pneumatic actuator

ZETRIX®
Hydraulic actuator

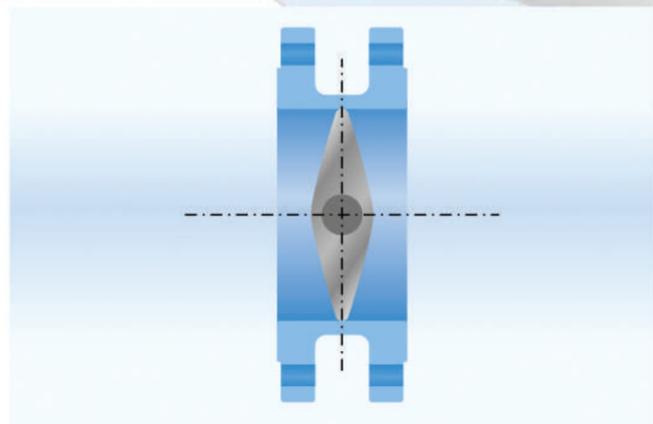
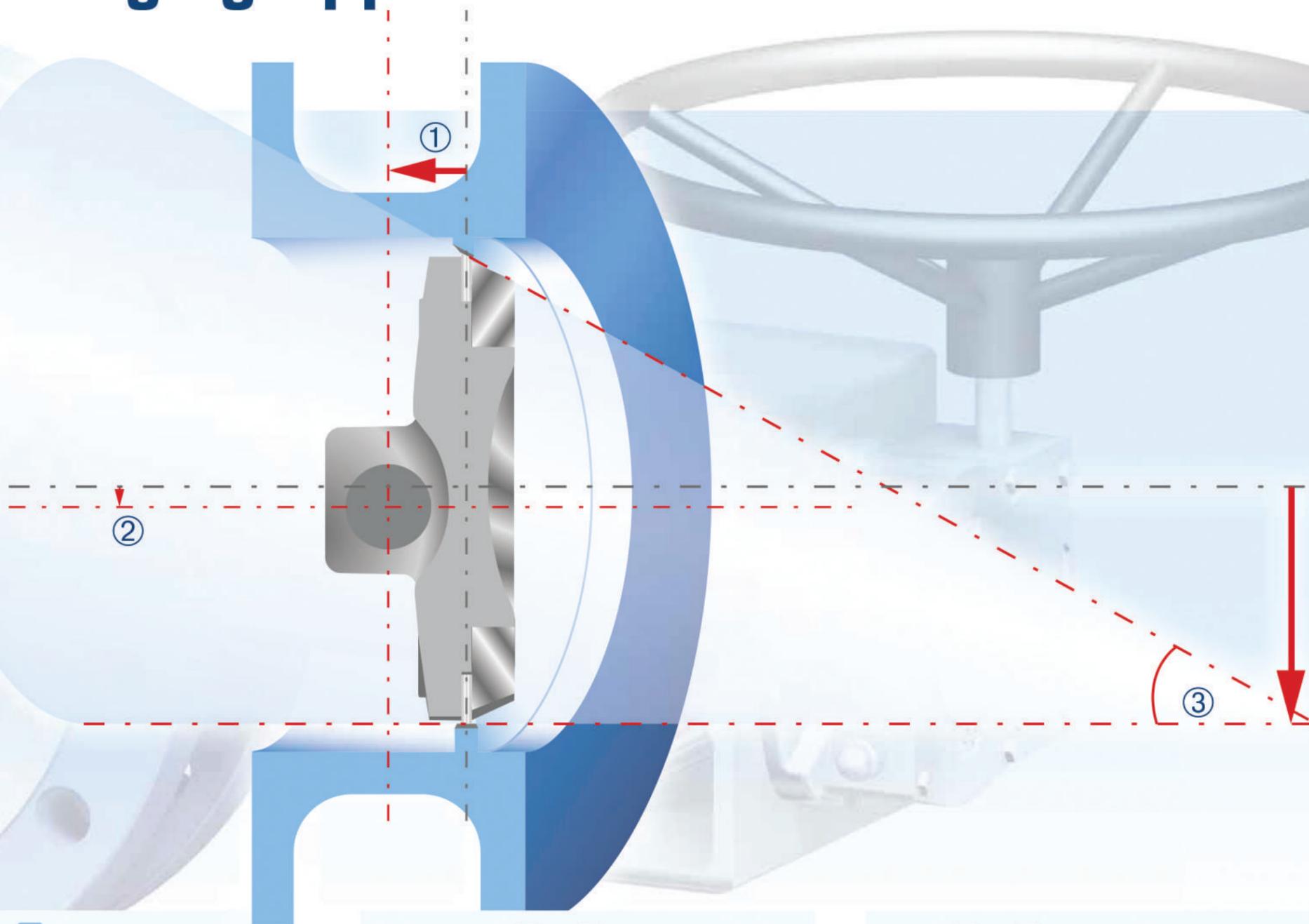
Triple offset – for challenging applications!

What is “triple offset”?

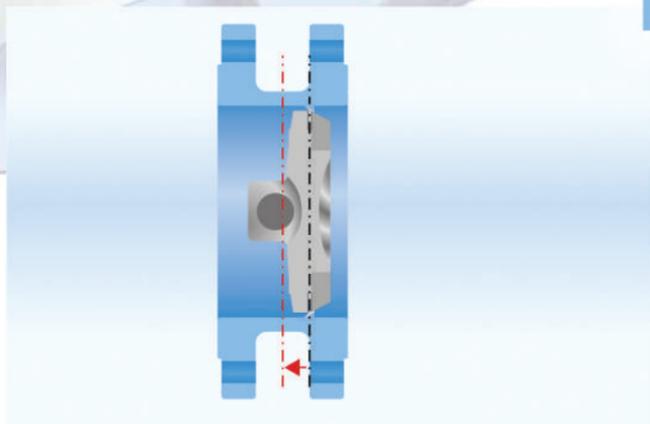
The rotating shaft of the disc is offset from the centre line of the disc seat and body seal (first offset) and the pipe's centre line (second offset). With triple offset process valves, the seat's axis of rotation is also asymmetrically apposed to the pipe axis (third offset).

Benefits for you

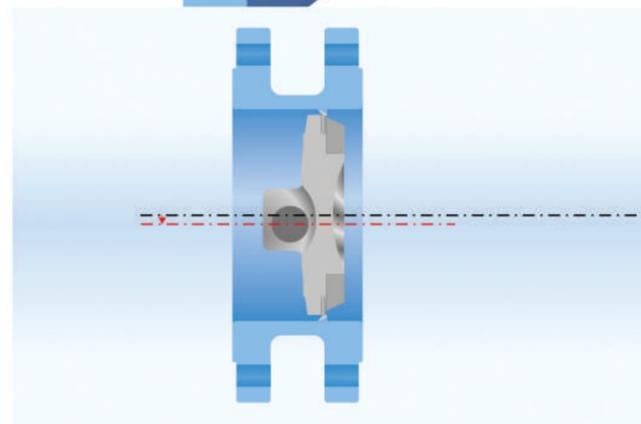
- Frictionless swivel movement.
- Permanently leak-proof due to the metal seal principle.
- Versatile applications with regard to media and temperature.



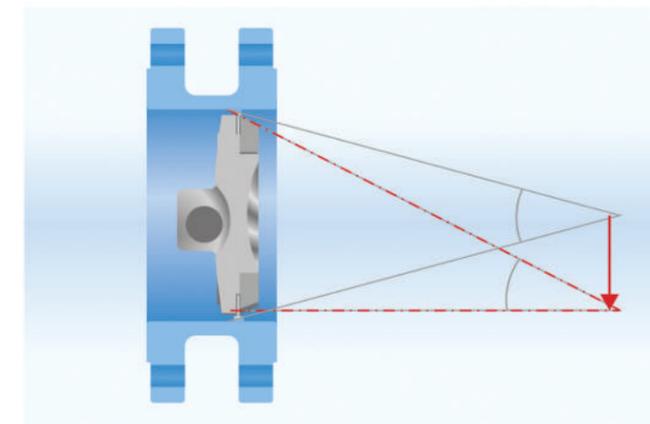
Centric disc design –
The pivot point is centrally disposed to both the seat and the pipe.



① First offset –
The rotating shaft of the disc is offset from the centre line of the disc seat and body seal.



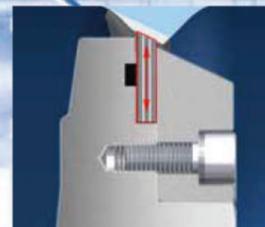
② Second offset –
The pivot point is also displaced from the pipe's centre line.



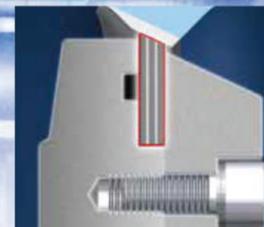
③ Third offset –
The seat's axis of rotation is also asymmetrically apposed to the pipe axis.



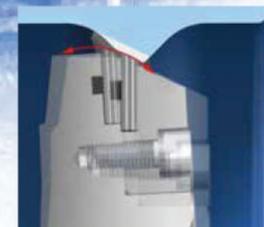
Maximum closing force with minimum effort because the contact angles are optimised with our special geometry optimisation software.



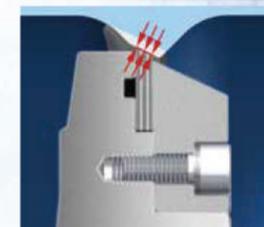
Self-aligning sealing ring facilitates thermal compensation and ensures tightness regardless of temperature variations.



Lamellar structure made of stainless steel and graphite lends additional elasticity to the sealing ring. Double sealing mechanism in the form of a special, spiral-wound gasket made from a heat-resistant elastic material.



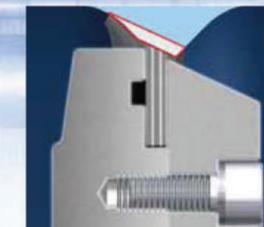
Triple offset design guarantees a frictionless rotary movement of the sealing ring into the seat.



The ZETRIX® process valve seals according to the area seating principle; the required contact pressure is applied via the actuator, which can be switched off as a function of the torque.



The ZETRIX® process valve is extremely versatile. It can be used as a pipe-end valve on both sides (accident prevention regulations must be observed). The bracket for mounting the actuator is defined according to ISO 5211. The extended bonnet allows insulation thicknesses in line with industrial standards.



Optimal durability because even the standard version has a stellited seat.

Reliably tight – even in harsh industrial environments

- Due to the triple offset disc design (maximum closing force with minimum effort).
- Due to the “smart” sealing ring (uniform closing force, the ring is self-aligning and free-floating on the sealing surface).

- Due to a wide range of additional safety options.
- Due to the stellited seat (Stellite No. 21).
- Due to the metal seal principle.

Design

- Body acc. to EN 12516, ASME B16.34 and API 609.
- Tight metal shut-off.
- Triple offset sealing geometry.
- Flexible, self-aligning, lamellar metal sealing ring (floating).

- Optimised characteristic permits shut-off and control function.
- Extended bonnet suitable for pipe insulation from -60°C to +427°C.
- Easy to automate due to the actuator interface incl. position indicator acc. to ISO 5211.

Safety

- Tightness conforming to leakage rate A in accordance with EN 12266, API 598 and API 6D (bidirectional).
- Bearing protectors.
- Blow-out protected stem.
- Retaining ring and thrust bearing bolts locked.
- Pressure-temperature profile acc. to EN 1092, ASME B16.34.
- Approvals: Firesafe, TA-Luft / ISO 15848-1, SIL, ATEX.

Durability

- Long and maintenance free service life due to the stellited seat.
- Rotary movement without wear or friction (seat and sealing ring) due to the optimised contact angles.
- Hardened stainless steel bearings.

ARI-ZETRIX® - Fig. 016 - Double flanged process valve with metallic sealing - Triple offset
 ARI-ZETRIX® - Fig. 018 - Fully lugged process valve with metallic sealing - Triple offset
 ARI-ZETRIX® - Fig. 019 - Butt weld ended process valve with metallic sealing - Triple offset

ARI-ZETRIX®
with worm gear

- Self-locking
- With variable adjustment

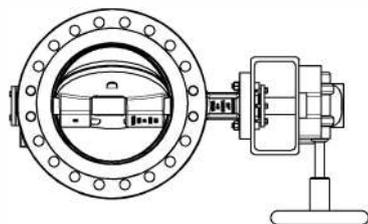


Fig. 016 -
ARI-ZETRIX® double flange

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ARI-ZETRIX®
with electric rotary actuator
Auma or Schiebel

- For temporary service S2-15 min.
(or control: Auma S4 25%,
Schiebel S4 40%)
- 400V 50Hz (optional: 230V 50Hz)
- Enclosure IP 67

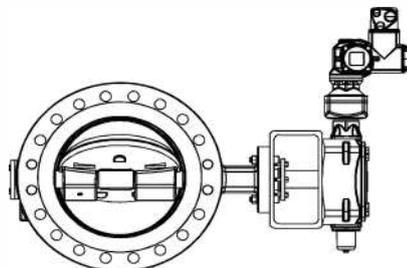


Fig. 018 -
ARI-ZETRIX® threaded flanged

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ARI-ZETRIX®
with pneumatic actuator

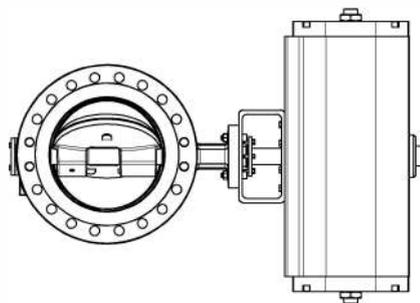
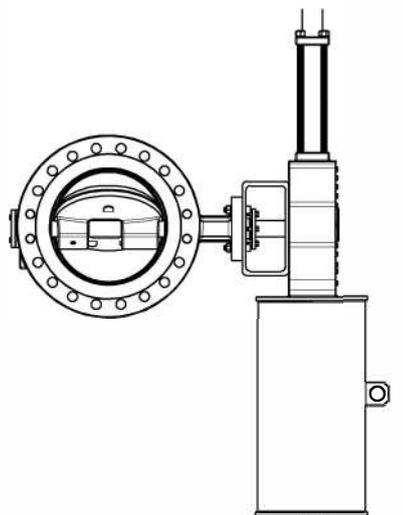


Fig. 019 -
ARI-ZETRIX® butt weld ends

on request

ARI-ZETRIX®
with hydraulic actuator



Features:

- Double flange and threaded flange design
- Cast steel / stainless steel body, one-piece
- Triple offset construction:
Rotary movement (90°) without wear or friction
- Metallic sealing
- Stellite seat (Stellite® 21)
- Continuous stem, hardened bearings
with graphite protector ring
- Blow-out protected stem (optional: acc. to API 609)
- Firesafe acc. to ISO 10479 / API 607
- ATEX
- SIL
- Packing acc. to EN ISO 15848-1/ TA-Luft (optional)

on request

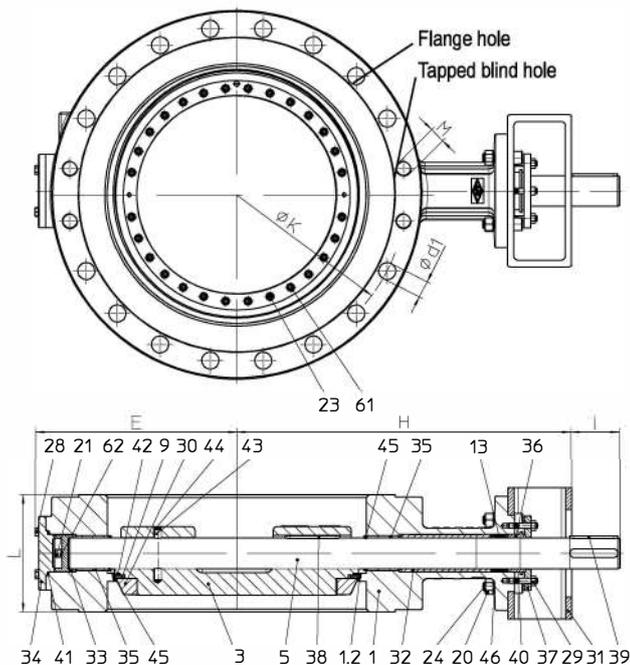
Double flanged process valve - Triple offset (Cast steel, Stainless steel)


Figure	Nominal pressure	Material	Nominal diameter	Disc	Stem
30.016	PN6	1.0619+N	DN 80-1200	1.0619+N	1.4021+QT
31.016	PN10	1.0619+N	DN 80-1200	1.0619+N	1.4021+QT
32.016	PN16	1.0619+N	DN 80-1200	1.0619+N	1.4021+QT
34.016	PN25	1.0619+N	DN 80-1200	1.0619+N	1.4021+QT
35.016	PN40	1.0619+N	DN 80-1200	1.0619+N	1.4021+QT
50.016	PN6	1.4408	DN 80-1200	1.4408	1.4542
51.016	PN10	1.4408	DN 80-1200	1.4408	1.4542
52.016	PN16	1.4408	DN 80-1200	1.4408	1.4542
54.016	PN25	1.4408	DN 80-1200	1.4408	1.4542
55.016	PN40	1.4408	DN 80-1200	1.4408	1.4542

Face-to-face dimension series 13 acc. to DIN EN 558 / ISO 5752 / API 609 (short pattern)

Sealing element:	
• Graphite / X2CrNiMoN22-5-3, 1.4462	-60°C to 400°C
Max. differential pressure:	
• = Nominal pressure	

Actuation arrangement:	
• Worm gear	• Pneumatic actuator
• Electric actuator	• Hydraulic actuator
Test:	
Sealing leakage test:	• DIN EN 12266-1 Leakage rate A

Options on request (refer to page 11)

Parts					
Pos.	Sp.p.	Description	Fig. 30. / 31. / 32. / 34. / 35.016	Fig. 50. / 51. / 52. / 54. / 55.016	
1		Body	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408	
1.2		Seat	Stellit 21		
3		Disc	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408	
5		Stem	X20Cr13+QT, 1.4021+QT	X5CrNiCuNb16-4, 1.4542 - max. 300°C (1.4980 - max. 400°C on request)	
9	x	Lamellar seal ring	Graphite / X2CrNiMoN22-5-3, 1.4462		
13	x	Packing unit	Graphite		
20		Hexagon nut	8 - A2B		
21		Cheese head screw	A4-70		
23		Cheese head screw	A4-70		
24		Cheese head screw	8.8-A2B		
28		Hexagon screw	A2-70		
29		Hexagon nut	A2		
30		Retaining ring	P265 GH, 1.0425 (nickel plated)	X5CrNi18-10, 1.4301	
31		Console	S355J2H, 1.0576 (galvanized)		
32		Distance bush	X5CrNi18-10, 1.4301		
33		Axial bearing	X20Cr13+QT, 1.4021+QT (hardened)	X5CrNi18-10, 1.4301 (hardened)	
34		Bottom flange	P250 GH, 1.0460	X5CrNi18-10, 1.4301	
35		Bushing	X20Cr13+QT, 1.4021+QT (hardened)	X5CrNi18-10, 1.4301 (hardened)	
36		Bushing	X5CrNi18-10, 1.4301		
37		Packing box flange	X5CrNi18-10, 1.4301		
38 / 39		Parallel key	A4		
40		Stud	A4-70		
41	x	Spiral wounded gasket	Graphite / X6CrNiTi18-10, 1.4541		
42	x	Spiral wounded gasket	Graphite / Hastelloy C276, 2.4819		
43		Parallel pin	A4-70		
44		Retaining ring	X39CrMo17-1+QT, 1.4122+QT		
45		Bearing protector	Graphite webbing		
46		Spring ring	FST-A2B		
61 / 62		Lock washer pair	A4		
L Spare parts					

Information / restriction of technical rules need to be observed!

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).

DN		80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	
Face-to-face dimension series 13 acc. to DIN EN 558 / ISO 5752 / API 609 Cat. B (short pattern)																			
L	(mm)	114	127	140	140	152	165	178	190	216	222	229	267	292	318	330	410	470	
Dimensions																			
PN6 / PN10	H	(mm)	292	288	344	344	371	498	552	588	662	661	712	763	839	940	1043	1051	1190
	E	(mm)	127	150	184	185	204	239	267	305	337	380	392	460	539	616	666	728	867
	I	(mm)	45	45	55	55	55	55	65	65	80	80	110	110	110	120	120	120	162
PN16	H	(mm)	292	288	344	344	371	498	552	588	662	661	712	763	838	941	1043	1064	1244
	E	(mm)	127	150	184	185	204	239	267	305	337	380	392	460	538	618	671	732	875
	I	(mm)	45	45	55	55	55	55	65	65	80	80	110	110	120	120	120	165	200
PN25	H	(mm)	292	288	344	344	371	498	552	588	662	661	712	763	838	896	998	1064	1244
	E	(mm)	127	150	184	185	204	239	267	305	337	380	392	460	538	618	673	732	875
	I	(mm)	45	45	55	55	55	55	65	65	80	80	110	110	120	165	165	165	200
PN40	H	(mm)	292	288	344	344	400	575	601	636	661	681	762	819	868	997	1093	1155	1284
	E	(mm)	127	150	184	185	215	251	285	317	361	406	416	496	575	649	713	793	949
	I	(mm)	45	45	55	55	65	80	80	110	110	110	130	130	165	200	200	200	280

DN		80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200		
Standard-flange dimensions / Hexagon screw (Quantity, Thread, Length) per side																				
PN6	Flange hole	ØK	(mm)	150	170	200	225	280	335	395	445	495	550	600	705	810	920	1020	1120	1340
		n x Ød1	(mm)	–	–	4x18	4x18	4x18	8x18	8x22	8x22	12x22	16x22	16x22	16x26	20x26	20x30	20x30	24x30	28x33
		Number of threads (M)	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Screw	Thread ^{1) 2)}	(mm)	M16	M16	M16	M16	M16	M20	M20	M20	M20	M20	M24	M24	M27	M27	M27	M27	M30
		Number ¹⁾	(n)	–	–	4	4	4	8	8	12	12	16	16	16	20	20	20	20	20
		Length ¹⁾	(mm)	–	–	90	90	90	100	100	100	100	110	110	120	*	*	*	*	*
	Number ²⁾	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	Length ²⁾	(mm)	40	40	40	50	50	50	50	50	50	60	60	70	*	*	*	*	*	
PN10	Flange hole	ØK	(mm)	160	180	210	240	295	350	400	460	515	565	620	725	840	950	1050	1160	1380
		n x Ød1	(mm)	4x18	4x18	4x18	4x22	4x22	8x22	8x22	12x22	12x26	16x26	16x26	16x30	20x30	20x33	24x33	24x36	28x39
		Number of threads (M)	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Screw	Thread ^{1) 2)}	(mm)	M16	M16	M16	M20	M20	M20	M20	M24	M24	M24	M24	M27	M27	M30	M30	M33	M36
		Number ¹⁾	(n)	4	4	4	4	4	8	8	12	12	16	16	16	20	20	24	24	28
		Length ¹⁾	(mm)	80	80	90	90	90	100	100	100	100	110	110	120	*	*	*	*	*
	Number ²⁾	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	Length ²⁾	(mm)	40	40	40	50	50	50	50	50	50	60	60	70	*	*	*	*	*	
PN16	Flange hole	ØK	(mm)	160	180	210	240	295	355	410	470	525	585	650	770	840	950	1050	1170	1390
		n x Ød1	(mm)	4x18	4x18	4x18	4x22	8x22	8x26	8x26	12x26	12x30	16x30	16x33	16x36	20x36	20x39	24x39	24x42	28x48
		Number of threads (M)	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Screw	Thread ^{1) 2)}	(mm)	M16	M16	M16	M20	M20	M24	M24	M24	M27	M27	M30	M33	M33	M36	M36	M39	M45
		Number ¹⁾	(n)	4	4	4	4	8	8	8	12	12	16	16	16	20	20	24	24	28
		Length ¹⁾	(mm)	80	80	90	90	90	100	100	110	110	120	130	150	*	*	*	*	*
	Number ²⁾	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	Length ²⁾	(mm)	40	40	40	50	50	60	60	60	70	80	90	*	*	*	*	*	*	
PN25	Flange hole	ØK	(mm)	160	190	220	250	310	370	430	490	550	600	660	770	875	990	1090	1210	1420
		n x Ød1	(mm)	4x18	4x22	4x26	4x26	8x26	8x30	12x30	12x33	12x36	16x36	16x36	16x39	20x42	20x48	24x48	24x56	28x56
		Number of threads (M)	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Screw	Thread ^{1) 2)}	(mm)	M16	M20	M24	M24	M24	M27	M27	M30	M33	M33	M33	M36	M39	M45	M45	M52	M52
		Number ¹⁾	(n)	4	4	4	4	8	8	12	12	12	16	16	16	20	20	24	24	28
		Length ¹⁾	(mm)	90	95	95	95	100	110	110	120	130	130	140	180	*	*	*	*	*
	Number ²⁾	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	Length ²⁾	(mm)	50	50	60	60	60	60	60	70	80	80	90	100	*	*	*	*	*	
PN40	Flange hole	ØK	(mm)	160	190	220	250	320	385	450	510	585	610	670	795	900	1030	1140	1250	1460
		n x Ød1	(mm)	4x18	4x22	4x26	4x26	8x30	8x33	12x33	12x36	12x39	16x39	16x42	16x48	20x48	20x56	24x56	24x56	28x62
		Number of threads (M)	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Screw	Thread ^{1) 2)}	(mm)	M16	M20	M24	M24	M27	M30	M30	M33	M36	M36	M39	M45	M45	M52	M52	M52	M56
		Number ¹⁾	(n)	4	4	4	4	8	8	12	12	12	16	16	16	20	20	24	24	28
		Length ¹⁾	(mm)	90	95	95	95	105	120	130	140	150	160	170	200	*	*	*	*	*
	Number ²⁾	(n)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	Length ²⁾	(mm)	50	50	60	60	70	70	80	80	90	100	100	120	*	*	*	*	*	

¹⁾ Hexagon screws / studs for flange holes²⁾ Hexagon screws for tapped blind hole³⁾ to be determined by the customer

DN	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
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Weights for double flanged process valve (series 13)																				
1.0619+N	PN6/10	Fig. 30./31.016	(kg)	33	44	65	65	80	98	131	175	236	281	454	530	718	949	1169	1692	2430
	PN16	Fig. 32.016	(kg)	33	44	65	65	80	98	131	175	236	281	454	530	779	1039	1250	1889	2958
	PN25	Fig. 34.016	(kg)	33	44	65	65	80	98	131	175	236	281	454	530	875	1192	1517	2110	3277
	PN40	Fig. 35.016	(kg)	33	44	65	65	90	105	182	260	345	365	523	832	1181	1668	2033	2853	4241
1.4408	PN6/10	Fig. 50./51.016	(kg)	35	46	68	68	84	103	136	180	242	309	460	537	725	958	1181	1709	2454
	PN16	Fig. 52.016	(kg)	35	46	68	68	84	103	136	180	242	309	460	537	786	1049	1262	1907	2987
	PN25	Fig. 54.016	(kg)	35	46	68	68	84	103	136	180	242	309	460	537	883	1204	1532	2131	3309
	PN40	Fig. 55.016	(kg)	35	46	68	68	96	110	187	265	352	402	529	841	1192	1684	2053	2881	4283

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

acc. to manuf. standard	PN		-60°C to <-10°C	-10°C to 50 °C	120 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400°C
1.0619+N	6	(bar)	auf Anfrage	6	5,38	5,2	5	4,5	4,1	3,8	3,5
1.0619+N	10	(bar)	auf Anfrage	10	9,2	8,8	8,3	7,6	6,9	6,4	5,9
1.0619+N	16	(bar)	12	16	15,3	14	13	11	10,2	9,5	
1.0619+N	25	(bar)	18,7	25	23,9	22	20	17,2	16	14,8	
1.0619+N	40	(bar)	30	40	38,1	35	32	28	25,7	23,8	

acc. to DIN EN 1092-1	PN		-60°C to <-10°C	-10°C to 100°C	150°C	200°C	250°C	300°C	350°C	400°C
1.4408	6	(bar)	auf Anfrage	6	5,4	5	4,7	4,4	4,2	4,1
1.4408	10	(bar)	auf Anfrage	10	9	8,4	7,9	7,4	7,1	6,8
1.4408	16	(bar)	16	16	14,5	13,4	12,7	11,8	11,4	10,9
1.4408	25	(bar)	25	25	22,7	21	19,8	18,5	17,8	17,1
1.4408	40	(bar)	40	40	36,3	33,7	31,8	29,7	28,5	27,4

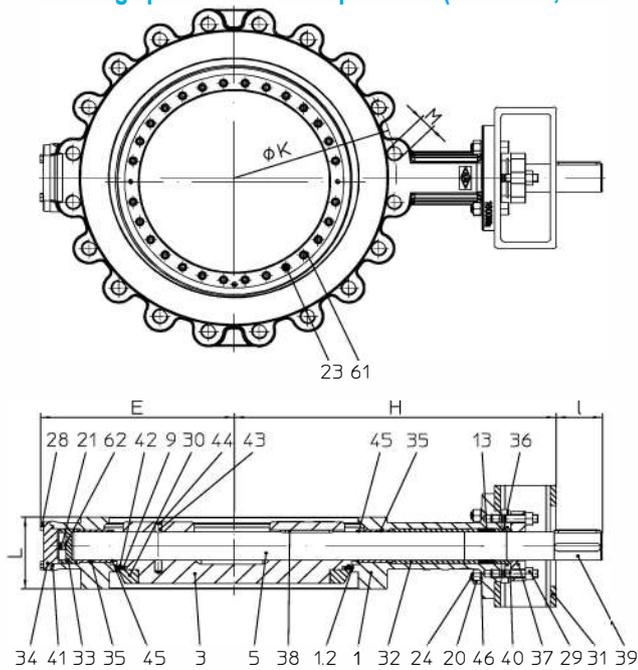
Threaded flange process valve - Triple offset (Cast steel, Stainless steel)


Figure	Nominal pressure	Material	Nominal diameter	Disc	Stem
30.018	PN 6	on request			
31.018	PN10	1.0619+N	DN 80-600	1.0619+N	1.4021+QT
32.018	PN16	1.0619+N	DN 80-600	1.0619+N	1.4021+QT
34.018	PN25	1.0619+N	DN 80-600	1.0619+N	1.4021+QT
35.018	PN40	1.0619+N	DN 80-600	1.0619+N	1.4021+QT
50.018	PN 6	on request			
51.018	PN10	1.4408	DN 80-600	1.4408	1.4542
52.018	PN16	1.4408	DN 80-600	1.4408	1.4542
54.018	PN25	1.4408	DN 80-600	1.4408	1.4542
55.018	PN40	1.4408	DN 80-600	1.4408	1.4542

Face-to-face dimension series 16 acc. to DIN EN 558 / ISO 5752

Sealing element:	
• Graphite / X2CrNiMoN22-5-3, 1.4462	-60°C to 400°C
Max. differential pressure:	
• = Nominal pressure	

Actuation arrangement:	
• Worm gear	• Pneumatic actuator
• Electric actuator	• Hydraulic actuator
Test:	
Sealing leakage test:	• DIN EN 12266-1 Leakage rate A

Options on request (refer to page 11)

Parts					
Pos.	Sp.p.	Description	Fig. 31. / 32. / 34. / 35.018	Fig. 51. / 52. / 54. / 55.018	
1		Body	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408	
1.2		Seat	Stellit 21		
3		Disc	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408	
5		Stem	X20Cr13+QT, 1.4021+QT	X5CrNiCuNb16-4, 1.4542 - max. 300°C (1.4980 - max. 400°C on request)	
9	x	Lamellar seal ring	Graphite / X2CrNiMoN22-5-3, 1.4462		
13	x	Packing unit	Graphite		
20		Hexagon nut	8 - A2B		
21		Cheese head screw	A4-70		
23		Cheese head screw	A4-70		
24		Cheese head screw	8.8-A2B		
28		Hexagon screw	A2-70		
29		Hexagon nut	A2		
30		Retaining ring	P265 GH, 1.0425 (nickel plated)	X5CrNi18-10, 1.4301	
31		Console	S355J2H, 1.0576 (galvanized)		
32		Distance bush	X5CrNi18-10, 1.4301		
33		Axial bearing	X20Cr13+QT, 1.4021+QT (hardened)	X5CrNi18-10, 1.4301 (hardened)	
34		Bottom flange	P250 GH, 1.0460	X5CrNi18-10, 1.4301	
35		Bushing	X20Cr13+QT, 1.4021+QT (hardened)	X5CrNi18-10, 1.4301 (hardened)	
36		Bushing	X5CrNi18-10, 1.4301		
37		Packing box flange	X5CrNi18-10, 1.4301		
38 / 39		Parallel key	A4		
40		Stud	A4-70		
41	x	Spiral wounded gasket (≥ DN 250)	Graphite / X6CrNiTi18-10, 1.4541		
42	x	Spiral wounded gasket	Graphite / Hastelloy C276, 2.4819		
43		Parallel pin	A4-70		
44		Retaining ring	X39CrMo17-1+QT, 1.4122+QT		
45		Bearing Protector	Graphite webbing		
46		Spring ring	FST-A2B		
61 / 62		Lock washer pair	A4		
L Spare parts					

Information / restriction of technical rules need to be observed!

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).

DN	80	100	125	150	200	250	300	350	400	450	500	600
----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Face-to-face dimension series 16 acc. to DIN EN 558 / ISO 5752													
L	(mm)	64	64	--	76	89	114	114	127	140	152	152	178

Dimensions														
PN10 / PN16 / PN25	H	(mm)	292	288	--	344	371	498	552	588	662	661	712	763
	E	(mm)	131	154	--	188	211	240	268	306	338	380	393	460
	I	(mm)	45	45	--	55	55	55	65	65	80	80	110	110
PN40	H	(mm)	292	288	--	344	400	575	601	636	661	681	762	819
	E	(mm)	131	154	--	188	226	252	285	317	361	406	417	496
	I	(mm)	45	45	--	55	65	80	80	110	110	110	130	130

Standard-flange dimensions / Threads (Dimensions, Quantity, Screw depth) per side

PN10	Flange hole	ØK	(mm)	160	180	--	240	295	350	400	460	515	565	620	725
		Number of threads	(n)	8	8	--	8	8	12	12	16	16	20	20	20
	Thread	Thread ¹⁾²⁾	(mm)	M16	M16	--	M20	M20	M20	M20	M20	M24	M24	M24	M27
		Number ¹⁾	(n)	8	8	--	8	8	12	8	12	16	16	16	16
		Number ²⁾	(n)	--	--	--	--	--	--	4	4	--	4	4	4
	Screw depth ²⁾	(mm)	--	--	--	--	--	--	24	30	--	30	30	30	
PN16	Flange hole	ØK	(mm)	160	180	--	240	295	355	410	470	525	585	650	770
		Number of threads	(n)	8	8	--	8	12	12	12	16	16	20	20	20
	Thread	Thread ¹⁾²⁾	(mm)	M16	M16	--	M20	M20	M24	M24	M24	M27	M27	M30	M33
		Number ¹⁾	(n)	8	8	--	8	12	12	12	12	16	16	16	16
		Number ²⁾	(n)	--	--	--	--	--	--	--	4	--	4	4	4
	Screw depth ²⁾	(mm)	--	--	--	--	--	--	--	30	--	30	30	30	
PN25	Flange hole	ØK	(mm)	160	190	--	250	310	370	430	490	550	600	660	770
		Number of threads	(n)	8	8	--	8	12	12	16	16	16	20	20	20
	Thread	Thread ¹⁾²⁾	(mm)	M16	M20	--	M24	M24	M27	M27	M30	M33	M33	M33	M36
		Number ¹⁾	(n)	8	8	--	8	8	12	12	12	16	16	16	16
		Number ²⁾	(n)	--	--	--	--	4	--	4	4	--	4	4	4
	Screw depth ²⁾	(mm)	--	--	--	--	18	--	24	30	--	33	30	30	
PN40	Flange hole	ØK	(mm)	160	190	--	250	320	385	450	510	585	610	670	795
		Number of threads	(n)	8	8	--	8	12	12	16	16	16	20	20	20
	Thread	Thread ¹⁾²⁾	(mm)	M16	M20	--	M24	M27	M30	M30	M33	M36	M36	M39	M45
		Number ¹⁾	(n)	8	8	--	8	8	12	12	12	12	16	16	16
		Number ²⁾	(n)	--	--	--	--	4	--	4	4	4	4	4	4
	Screw depth ²⁾	(mm)	--	--	--	--	18	--	21	28	33	33	30	35	

¹⁾ Tapped through hole ²⁾ Tapped blind hole

Weights for threaded flanged process valve

1.0619+N	PN10/16/25	Fig. 31./32./34.018	(kg)	24	29	--	45	64	74	121	152	192	221	416	446
	PN40	Fig. 35.018	(kg)	24	29	--	45	64	82	148	246	317	355	494	778
1.4408	PN10/16/25	Fig. 51./52./54.018	(kg)	26	31	--	47	68	78	128	158	198	244	422	458
	PN40	Fig. 55.018	(kg)	26	31	--	47	69	86	152	250	324	393	450	787

Pressure-temperature-ratings

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

acc. to manuf. standard	PN		-60°C bis <-10°C	-10°C bis 50 °C	120 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400 °C
1.0619+N	6	(bar)	on request	6	5,38	5,2	5	4,5	4,1	3,8	3,5
1.0619+N	10	(bar)	on request	10	9,2	8,8	8,3	7,6	6,9	6,4	5,9
1.0619+N	16	(bar)	12	16		15,3	14	13	11	10,2	9,5
1.0619+N	25	(bar)	18,7	25		23,9	22	20	17,2	16	14,8
1.0619+N	40	(bar)	30	40		38,1	35	32	28	25,7	23,8

acc. to DIN EN 1092-1	PN		-60°C bis <-10°C	-10°C bis 100°C	150°C	200°C	250°C	300°C	350°C	400°C
1.4408	6	(bar)	on request	6	5,4	5	4,7	4,4	4,2	4,1
1.4408	10	(bar)	on request	10	9	8,4	7,9	7,4	7,1	6,8
1.4408	16	(bar)	16	16	14,5	13,4	12,7	11,8	11,4	10,9
1.4408	25	(bar)	25	25	22,7	21	19,8	18,5	17,8	17,1
1.4408	40	(bar)	40	40	36,3	33,7	31,8	29,7	28,5	27,4

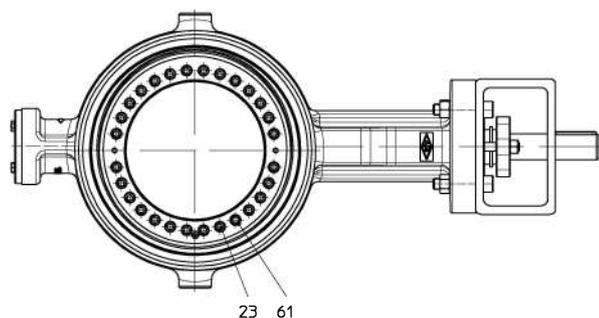
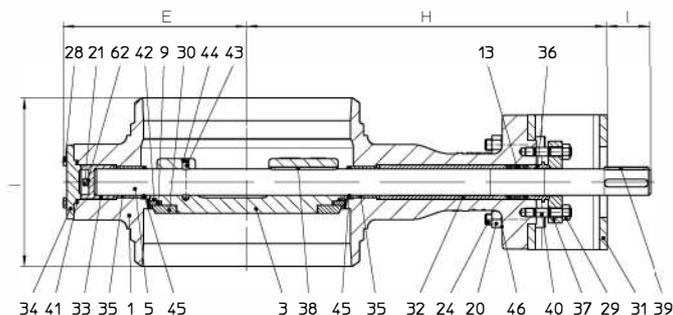
Butt weld ended process valve - Triple offset (Cast steel) Triple offset


Figure	Nominal pressure	Material	Nominal diameter	Disc	Stem
34.019	PN 6 - PN25	1.0619+N	DN 80-600	1.0619+N	1.4021+QT
35.019	PN40	1.0619+N	DN 80-600	1.0619+N	1.4021+QT

Face-to-face dimension series 14 acc. to DIN EN 558 / ISO 5752



Sealing element:	
• Graphite / X2CrNiMoN22-5-3, 1.4462	-60°C to 400°C
Max. differential pressure:	
• = Nominal pressure	

Actuation arrangement:	
• Worm gear	• Pneumatic actuator
• Electric actuator	• Hydraulic actuator
Test:	
Sealing leakage test:	• DIN EN 12266-1 Leakage rate A

Options on request (refer to page 13)

Parts			
Pos.	Sp.p.	Description	Fig. 34/35.019
1		Body	GP240GH+N, 1.0619+N
1.2		Seat	Stellit 21
3		Disc	GP240GH+N, 1.0619+N
5		Stem	X20Cr13+QT, 1.4021+QT
9	x	Lamellar seal ring	Graphite / X2CrNiMoN22-5-3, 1.4462
13	x	Packing unit	Graphit
20		Hexagon nut	8 - A2B
21		Cheese head screw	A4-70
23		Cheese head screw	A4-70
24		Cheese head screw	8.8-A2B
28		Hexagon screw	A2-70
29		Hexagon nut	A2
30		Retaining ring	P265 GH, 1.0425 (nickel plated)
31		Console	S355J2H, 1.0576 (galvanized)
32		Distance bush	X5CrNi18-10, 1.4301
33		Axial bearing	X20Cr13+QT, 1.4021+QT (hardened)
34		Bottom flange	P250 GH, 1.0460
35		Bushing	X20Cr13+QT, 1.4021+QT (hardened)
36		Bushing	X5CrNi18-10, 1.4301
37		Packing box flange	X5CrNi18-10, 1.4301
38 / 39		Parallel key	A4
40		Stud	A4-70
41	x	Spiral wounded gasket	Graphite / X6CrNiTi18-10, 1.4541
42	x	Spiral wounded gasket	Graphite / Hastelloy C276, 2.4819
43		Parallel pin	A4-70
44		Retaining ring	X39CrMo17-1+QT, 1.4122+QT
45		Bearing Protector	Graphite webbing
46		Spring ring	FST-A2B
61 / 62		Lock washer pair	A4
L Spare parts			

Information / restriction of technical rules need to be observed!

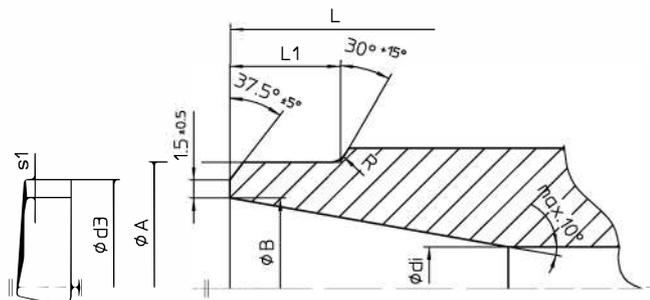
The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

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

DN		80	100	125	150	200	250	300	350	400	450	500	600	
Face-to-face dimension series 14 acc. to DIN EN 558 / ISO 5752														
L	(mm)	180	190	200	210	230	250	270	290	310	330	350	390	
Dimensions														
PN 6 - PN25	H	(mm)	292	288	344	344	371	498	552	588	662	661	712	763
	E	(mm)	131	154	188	188	211	240	268	306	338	380	393	460
	I	(mm)	45	45	55	55	55	55	65	65	80	80	110	110
PN40	H	(mm)	292	288	344	344	400	575	601	636	661	681	762	819
	E	(mm)	131	154	188	188	226	252	285	317	361	406	417	496
	I	(mm)	45	45	55	55	65	80	80	110	110	110	130	130
Butt weld ends according to EN12627														
ØA	(mm)	91	117	144	172	223	278	329	362	413	464	516	619	
ØB	(mm)	80,9	104,3	130,7	157,1	204,9	257	307,9	338	384,4	437	486	585	
Ødi	(mm)	76	104,3	128	152	200	250	296	331	380	437	480	581	
L1 (similar)	(mm)	12	14	18	20	20	25	33	45	45	33	40	40	
Ød3	(mm)	88,9	114,3	139,7	168,3	219,1	273	323,9	355,6	406,4	457	508	610	
s1	(mm)	4	5	4,5	5,6	7,1	8	8	8,8	11	10	11	12,5	
s1 max.	(mm)	10	9	7	14	13	16	18	16	17	11,5	18	19	

- DIN EN 12627 / similar Fig. 4 (ARI-Standard)
- ASME B16.25
- Joint preparation acc. to - DIN EN ISO 9692-1 / DIN 2559-2
- Customer specific tube wall thickness acc. to ISO 4200
- Shoed ends (on request)
- Further, customer-specific dimensions on request

Edge shaping DIN EN ISO 5817

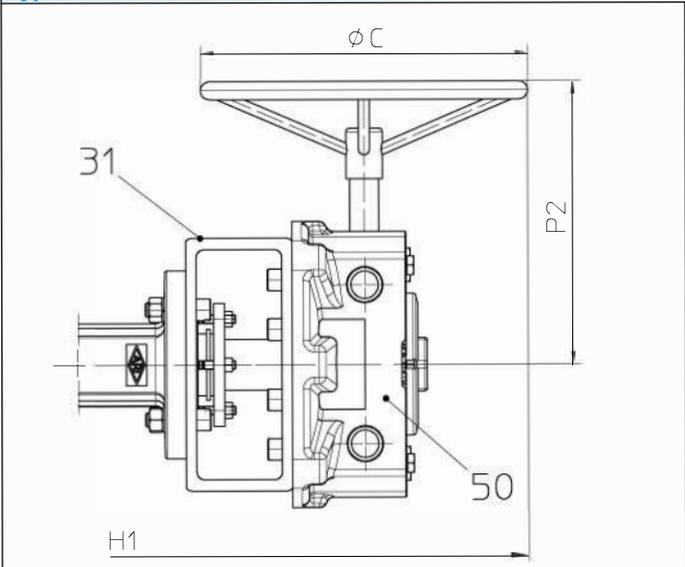


Based on our experience we recommend electric welding process for connecting valves or strainers with tubes or with each other. Lime based electrodes with an appropriate composite material should be used as filler material for welding. Gas welding should be avoided. Due to the different material composition and material thickness of valves and tubes, gas welding is more susceptible to produce faults than electric welding (hardness cracks, coarse-grained structure).

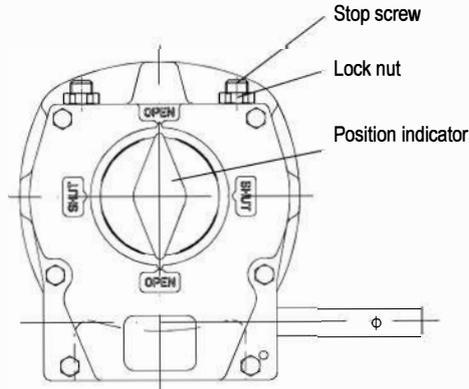
DN		80	100	125	150	200	250	300	350	400	450	500	600	
Weights for butt weld ended process valve														
1.0619+N	PN 6 - PN25 Fig. 34.019	(kg)	22	26	36	38	52	67	92	110	161	195	356	420
	PN40 Fig. 35.019	(kg)	22	26	36	38	59	78	113	165	208	256	371	577

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

acc. to manuf. standard	PN		-60°C to <-10°C	-10°C to 50 °C	120 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400°C
1.0619+N	PN 6 - PN25	(bar)	18,7	25	23,9	22	20	17,2	16	14,8	
1.0619+N	40	(bar)	30	40	38,1	35	32	28	25,7	23,8	

ZETRIX® process valve with worm gear
Type: AB


- With variable adjustment
- Self-locking
- Fire-safe (FS)


 The SHUT-position can be adjusted to $\pm 5^\circ$ by a stop screw.

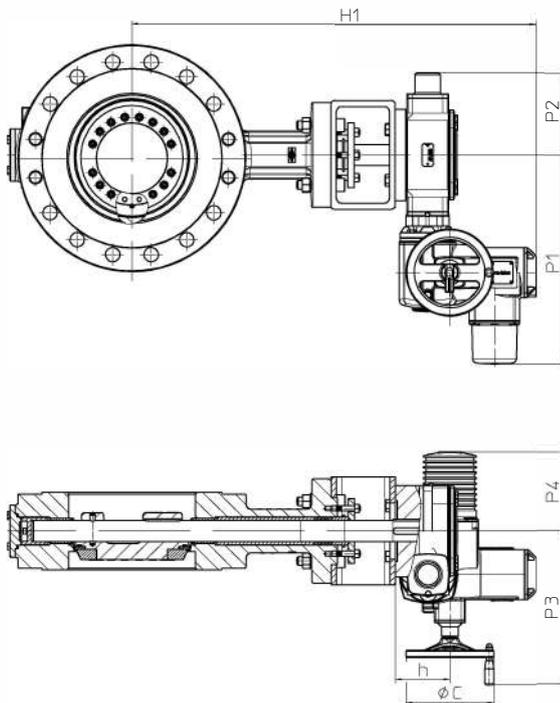
Parts			
Pos.	Ers.	Description	Fig. 30./31./ 32./ 34./ 35.016; 50./51./ 52./ 54./ 55.016 ; 30./31./ 32./ 34./ 35.018; 50./51./ 52./ 54./ 55.018 ; 30./31./ 32./ 34./ 35.019
31		Console	S355J2H, 1.0576 (zinc coated)
50		Worm gear	
└ Spare parts			

DN	80	100	125	150	200	250	300	350	400	450	500	600	700-1200
----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----------

Dimensions															
PN6 / PN10 / PN16 / PN25	H1 (to middle of valve)	(mm)	395	395	585	585	612	739	844	980	1110	1109	1017	1068	on request
	P2	(mm)	217	217	297	297	297	297	305	305	346	346	417	417	
	ØC	(mm)	150	150	400	400	400	400	500	500	500	500	500	500	
	Type of gear		AB210 FS	AB215 FS	AB550 FS	AB550 FS	AB550 FS	AB550 FS	AB880 FS	AB880 FS	AB1250 FS	AB1250 FS	AB1950 PR4 FS	AB1950 PR4 FS	

PN40	H1 (to middle of valve)	(mm)	395	395	585	585	692	973	1049	941	966	986	1121	1128	on request
	P2	(mm)	217	217	297	297	305	346	346	417	417	417	470	470	
	ØC	(mm)	150	150	400	400	500	500	500	500	500	500	500	500	
	Type of gear		AB210 FS	AB215 FS	AB550 FS	AB550 FS	AB880 FS	AB1250 FS	AB1250 FS	AB1950 PR4 FS	AB1950 PR4 FS	AB1950 PR4 FS	AB6800 PR4 FS	AB6800 PR6 FS	

Weights																
1.0619+N	PN6/10/16/25	Fig. 30./31./32./34.016 with gear	(kg)	37	48	73	73	88	106	146	190	263	303	495	575	on request
	PN40	Fig. 35.016 mit Getriebe	(kg)	37	48	73	73	105	120	209	301	390	441	607	916	
	PN6/10/16/25	Fig. 30./31./32./34.018 with gear	(kg)	28	33	–	53	72	74	136	167	219	249	457	491	
	PN40	Fig. 35.018 with gear	(kg)	28	33	–	53	79	82	175	287	362	412	578	862	
	PN25	Fig. 34.019 with gear	(kg)	26	30	44	46	60	75	102	120	174	208	393	457	
	PN40	Fig. 35.019 with gear	(kg)	26	30	44	46	69	91	126	178	245	293	446	652	
1.4408	PN6/10/16/25	Fig. 50./51./52./54.016 with gear	(kg)	39	50	76	76	92	111	151	195	269	309	501	582	
	PN40	Fig. 55.016 with gear	(kg)	39	50	76	76	111	125	214	306	397	458	613	925	
	PN6/10/16/25	Fig. 50./51./52./54.018 with gear	(kg)	30	35	–	55	76	78	166	173	225	265	463	503	
	PN40	Fig. 55.018 with gear	(kg)	30	35	–	55	84	86	179	291	369	443	534	871	

ZETRIX® process valve with electric rotary actuator


Actuator allocation on request

Type: Auma or Schiebel (further actuator types on request)

- for temporary service S2-15 min.
(or control: Auma S4 25%, Schiebel S4 40%)
- Enclosure IP 67
- Temperature guard in the motor
- Heating

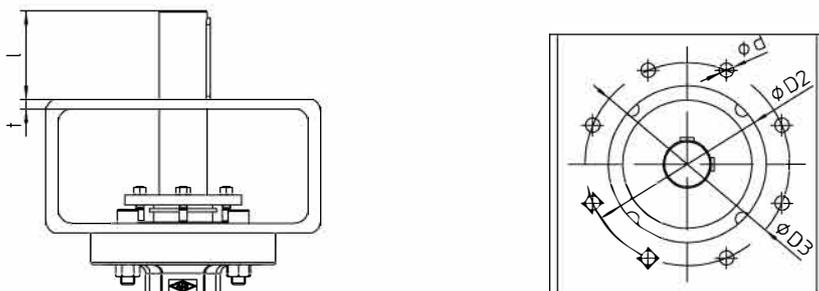
Voltages:

- 400V 50Hz (230V 50Hz)
- Other voltages on request

Accessories:

- Travel switch
- Potentiometer
- Auma Matic
- Valve positioner 0-10V / 4-20mA
- Position-transmitter

For connection refer to terminal connection in the operating instructions of the actuator!

Actuator flange connection EN ISO 5211

PN6 / PN10

DN	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	
Connection EN ISO 5211	F10		F12			F14		F16		F25			F30		F35			
Stem with 2 parallel keys 90°	(mm)	22	28	36			42		48	50	60	70	80		98	110	130	
Ø d (Hole-Ø)	(mm)	11		13			17		21		17			21		33		
Ø D2 (Inside-Ø)	(mm)	70		85			100		130		200			230		260		
Ø D3 (Screw-hole circle)	(mm)	102		125			140		165		254			298		356		
l	(mm)	45		55			65		80		110			120		165		
t	(mm)				8						12		14				22	

PN16

DN	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200		
Connection EN ISO 5211	F10		F12			F14		F16		F25			F30		F35			F40	
Stem with 2 parallel keys 90°	(mm)	22	28	36			42		48	50	60	70	98	110	120	130	160		
Ø d (Hole-Ø)	(mm)	11		13			17		21		17			21		33		39	
Ø D2 (Inside-Ø)	(mm)	70		85			100		130		200			230		260		300	
Ø D3 (Screw-hole circle)	(mm)	102		125			140		165		254			298		356		406	
l	(mm)	45		55			65		80		110			120		165		200	
t	(mm)				8						12		14				22		27

PN25

DN	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200		
Connection EN ISO 5211	F10		F12			F14		F16		F25			F30	F35			F40		
Stem with 2 parallel keys 90°	(mm)	22	28	36			42		48	50	60	70	98	110	120	130	160		
Ø d (Hole-Ø)	(mm)	11		13			17		21		17			21		33		39	
Ø D2 (Inside-Ø)	(mm)	70		85			100		130		200			230		260		300	
Ø D3 (Screw-hole circle)	(mm)	102		125			140		165		254			298		356		406	
l	(mm)	45		55			65		80		110			120		165		200	
t	(mm)				8						12		14				22		27

PN40

DN	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	
Connection EN ISO 5211	F10		F12		F14	F16		F25			F30		F35	F40			F48	
Stem with 2 parallel keys 90°	(mm)	22	28	36	42		48		60			70	80	110	120	145	160	190
Ø d (Hole-Ø)	(mm)	11		13	17	21		17			21		33			39		
Ø D2 (Inside-Ø)	(mm)	70		85	100	130		200			230		260		300		370	
Ø D3 (Screw-hole circle)	(mm)	102		125	140	165		254			298		356		406		483	
l	(mm)	45		55	65	80		110			130		165		200		280	
t	(mm)				8			12		14				22		27		37

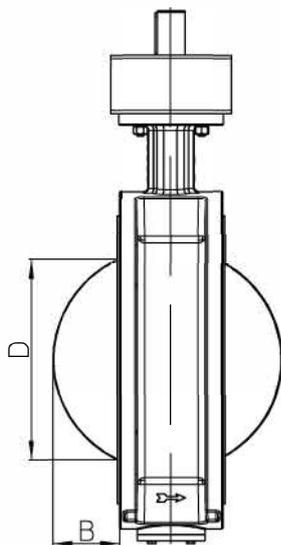
4-square connection on request.

Kvs-value / Zeta-value (Fig. 016, 018, 019)																			
DN			80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
PN6/10	Kvs-value	(m ³ /h)	100	190	345	515	1245	2110	3195	4230	5650	8165	9260	13520	27800	39569	45914	57885	80980
	Zeta-value	–	6,54	4,42	3,28	3,05	1,65	1,40	1,27	1,34	1,28	0,98	1,16	1,13	0,47	0,42	0,49	0,47	0,50
PN16/25	Kvs-value	(m ³ /h)	100	190	345	515	1245	2110	3195	4230	5650	8165	9260	13520	25350	34408	39850	49495	69740
	Zeta-value	–	6,54	4,42	3,28	3,05	1,65	1,40	1,27	1,34	1,28	0,98	1,16	1,13	0,59	0,55	0,65	0,65	0,68
PN40	Kvs-value	(m ³ /h)	100	190	345	515	1020	1940	2915	3765	5090	7312	8235	12445	23240	29920	37208	44422	62025
	Zeta-value	–	6,54	4,42	3,28	3,05	2,46	1,66	1,52	1,69	1,58	1,23	1,47	1,34	0,71	0,73	0,75	0,81	0,86

Difference between disc outside-diameter and face-to-face for double flange design																			
DN			80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
B	(mm)	–	–	–	–	28,5	43,5	57,5	77	87,4	113	132,5	165,5	208	245	283	285	351	
D	(mm)	–	–	–	–	123,3	169,3	209,6	261,3	301,6	373	411	503	614	715	797	854	1034	

Difference between disc outside-diameter and face-to-face for threaded flange design														
DN			80	100	125	150	200	250	300	350	400	450	500	600
B	(mm)	9	21	–	38	60	69	89	105	127	148	171	213	
D	(mm)	43	73,5	–	118	168,5	204	247,5	292,5	342,5	403	444	542	

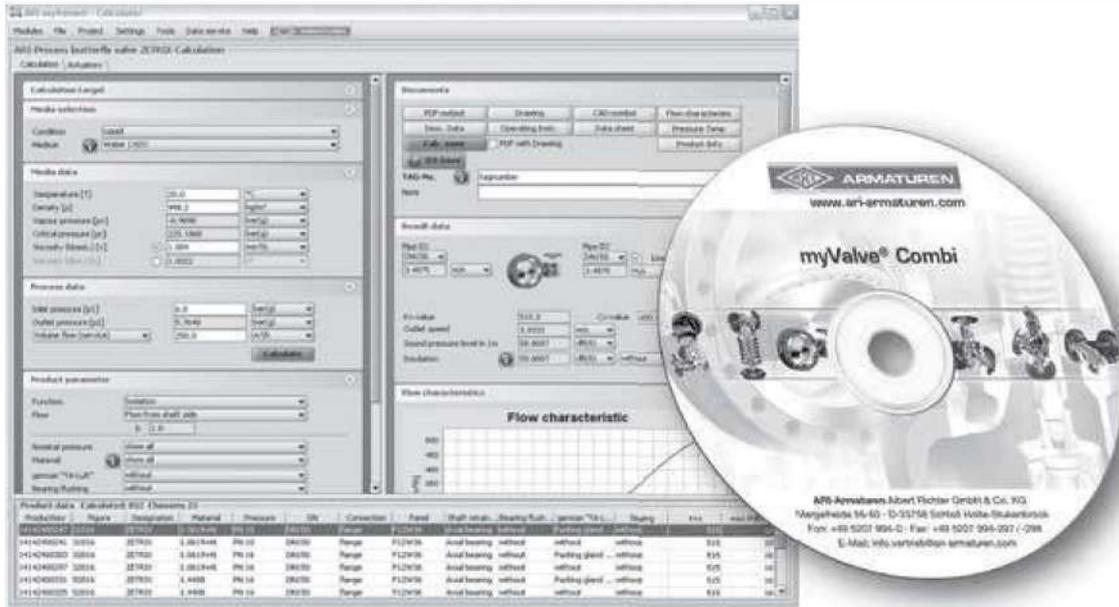
Difference between disc outside-diameter and face-to-face for butt weld ends design														
DN			80	100	125	150	200	250	300	350	400	450	500	600
B	(mm)	–	–	–	–	–	–	9	23	37	59	69	99	
D	(mm)	–	–	–	–	–	–	87	161	215	292	327	424	


Options

- Design acc. to EN ISO 15848-1/ TA-Luft (add. secondary sealing possible with O-rings)
- Threaded joint, f. ex. 1/4" with screw connection on the stem extension and/or on the bottom flange (e.g. Test-, buffer-, flushing port)
- Full metal sealing ring of 1.4571 for special applications
- Blow-out protected stem acc. to API 609
- Toxic sealing (on request)
- Heating jacket (on request)

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-process valve ZETRIX-calculation

- Sizing of flow quantity Kv, volume flow Q, pressure drop p, sound level; Selecting the valve size with given capacity; Selection of the actuator.
- Calculation of torque for actuators in flow from shaft side and flow from disc side, as well as dynamic torque curves to show the maximum value and the opening angle at which it is reached.

Media:
Integrated media-data bank (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 of 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 data bank.
- Settings with over pressure or absolute pressure.
- All ARI valves are integrated in a data bank.
- 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.

