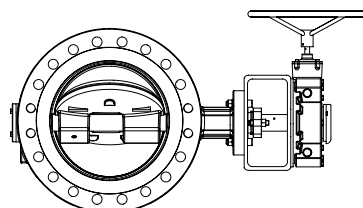


ARI-ZETRIX® - Fig. 018 - Fully lugged process valve with metallic sealing - Triple offset
ARI-ZETRIX® - Fig. 019 - Butt weld ended process valve with metallic sealing - Triple offset

ARI-ZETRIX®

with worm gear

- Self-locking
- With variable adjustment



Gear alignment A (standard)



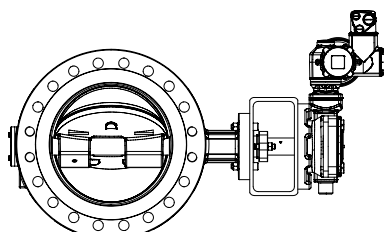
Fig. 018 -
ARI-ZETRIX® threaded flanged

Page 6

ARI-ZETRIX®

with electric rotary actuator Auma or PS Automation

- For temporary service S2-15 min.
(or control: Auma S4 25%,
PS Automation PSQ AMS)
- 400 V 50 Hz (optional: 230 V 50 Hz)
- Enclosure IP67



Actuator alignment A (standard)

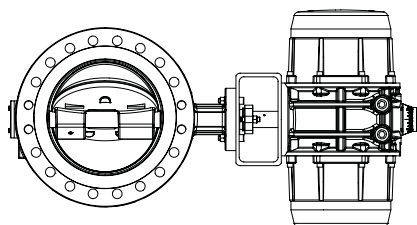


Fig. 019 -
ARI-ZETRIX® butt weld ends

Page 7

ARI-ZETRIX®

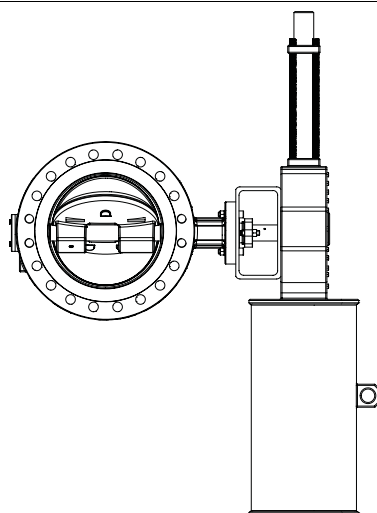
with pneumatic actuator



on request

ARI-ZETRIX®

with hydraulic actuator



on request

Features:

- Threaded flange and butt weld ends 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)
- Vacuum-tight
- Firesafe acc. to ISO 10479 / API 607
- ATEX
- SIL
- NACE (optional)
- Packing acc. to EN ISO 15848-1/ TA-Luft (optional)

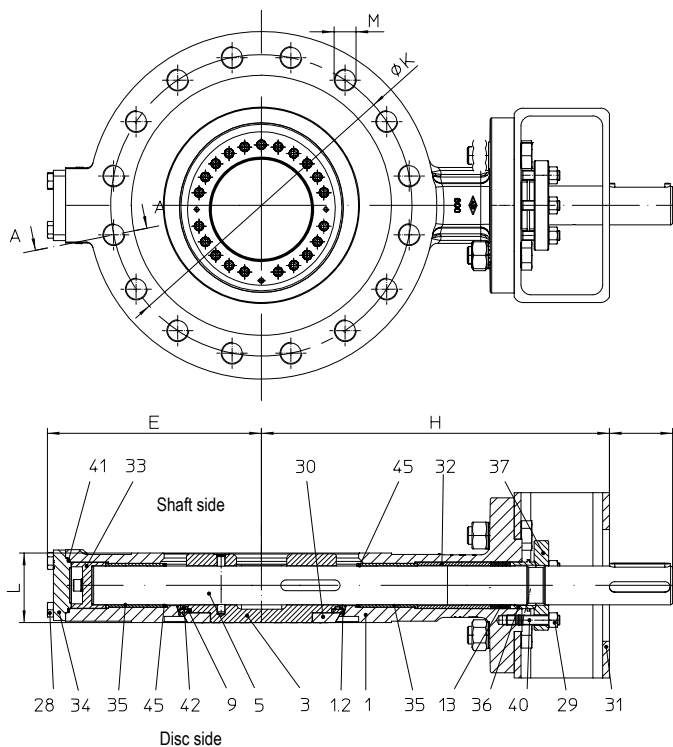
Threaded flange process valve - Triple offset (Cast steel, Stainless steel)


Figure	Nominal pressure	Material	Nominal diameter	Disc	Stem
36.018	PN 63	1.0619+N	DN 80-350	1.0619+N	1.4021+QT
37.018	PN 100	1.0619+N	DN 80-350	1.0619+N	1.4021+QT
56.018	PN 63	1.4408	DN 80-350	1.4408	1.4542
57.018	PN 100	1.4408	DN 80-350	1.4408	1.4542

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

Sealing element (Pos.9):	
• Graphite / 1.4462	-60 °C to 400 °C
• Graphite / 1.4845	400 °C to 450 °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 8)

Parts					
Pos.	Sp.p.	Description	Fig. 36./37.018	Fig. 56./57.018	
1		Body	1.0619+N	1.4408	
1.2		Seat	Stellit 21		
3		Disc	1.0619+N	1.4408	
5		Stem	1.4021+QT ≥ 400 °C: 1.4980	1.4542 - max. 300 °C (1.4980 - max. 400 °C)	
9	x	Lamellar seal ring	Graphite / 1.4462 ≥ 400 °C: Graphite / 1.4845		
13	x	Packing unit	Graphite		
28		Hexagon screw	A4-70 / ≥ 400 °C: SA193-B8M2		
29		Hexagon nut	A4-70 / ≥ 400 °C: SA193-BM		
30		Retaining ring	< DN 450: 1.4021+QT ≥ DN 450: 1.4301	< DN 450: 1.4980 ≥ DN 450: 1.4301	
31		Console	< DN 600: 1.0576 (galvanized) ≥ DN 600: 1.0050 (galvanized)		
32		Distance bush	1.4301		
33		Axial bearing	1.4021+QT (hardened)	1.4301 (hardened)	
34		Bottom flange	1.0425 (hardened)	1.4301 (hardened)	
35		Bushing	< DN 400: 1.4021+QT (hardened) ≥ DN 400: 1.4301 (hardened)	1.4301 (hardened)	
36		Bushing	1.4301		
37		Packing box flange	1.4301		
40		Stud	A4-70 / ≥400 °C: SA193-B8M2		
41	x	Spiral wounded gasket	Graphite / 1.4541		
42	x	Spiral wounded gasket	Graphite / 2.4819		
45		Packing ring	Graphite webbing		
	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	71	76	89	114	114	127	143	--	--

Dimensions												
PN 63	H	(mm)	286	326	361	397	430	530	558	651	716	--
	E	(mm)	187	218	219	277	277	373	362	455	441	--
	I	(mm)	46	55	65	65	80	110	110	130	130	--
PN 100	H	(mm)	286	326	361	397	430	530	558	651	716	--
	E	(mm)	187	218	219	277	277	373	362	455	441	--
	I	(mm)	46	55	65	65	80	110	110	130	130	--

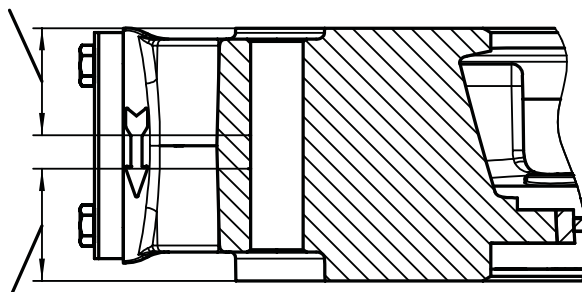
Standard-flange dimensions / Threads (Dimensions, Quantity, Screw depth) per side															
PN 63	Flange hole	ØK	(mm)	170	200	240	280	345	400	460	525	585	--	--	--
		Total number of threads (M)	(n)	8	8	8	8	12	12	16	16	16	--	--	--
		Thread ^{1) 2)}	(mm)	M20	M24	M27	M30	M33	M33	M33	M36	M39	--	--	--
	Screw / threaded bolt	Number ¹⁾	(n)	8	8	8	8	8	8	12	12	12	--	--	--
		Thread depth ¹⁾	(mm)	32	33	35	38	37	45	51	58	63	--	--	--
		Number ²⁾	(n)	--	--	--	--	4	4	4	4	4	--	--	--
		Thread depth ²⁾	(mm)	--	--	--	--	24	34	24	25	30	--	--	--
		PN 100	Flange hole	ØK	(mm)	180	210	250	290	360	430	500	560	620	--
Total number of threads (M)	(n)			8	8	8	12	12	12	16	16	16	--	--	--
Thread ^{1) 2)}	(mm)			M24	M27	M30	M30	M33	M36	M39	M45	M45	--	--	--
Screw / threaded bolt	Number ¹⁾		(n)	8	8	8	8	8	8	12	12	12	--	--	--
	Thread depth ¹⁾		(mm)	32	33	35	38	37	48	51	54	63	--	--	--
	Number ²⁾		(n)	--	--	--	4	4	4	4	4	4	--	--	--
	Thread depth ²⁾		(mm)	--	--	--	21	27	34	23	24	30	--	--	--

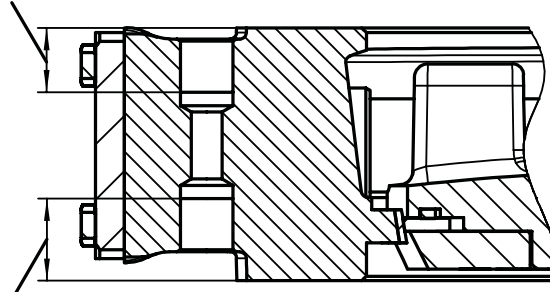
¹⁾ Tapped through hole ²⁾ Tapped blind hole

Caution: Thread sizes ≥ M30 are not tapped all the way through

Thread pitch acc. to DIN 13-1

Thread depth is measured from flange face

Thread depth
shaft side

Thread depth
disc side

Thread depth
shaft side

Thread depth
disc side

Weights for threaded flanged process valve												
1.0619+N	PN 63	Fig. 36.018	(kg)	33	42	67	79	111	229	263	433	--
	PN 100	Fig. 37.018	(kg)	33	42	67	79	111	229	263	433	--
1.4408	PN 63	Fig. 56.018	(kg)	on request								
	PN 100	Fig. 57.018	(kg)									

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	100 °C	150 °C	200 °C	250 °C	300 °C	350 °C	400 °C	450 °C
1.0619+N	63	(bar)	on request	63	59	56	53	48	44	41	38	23,2
1.0619+N	100	(bar)		100	93	88	83	76	69	64	60	32,8
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	63	(bar)	on request	63	57,3	53,1	50,1	46,8	45	43,2		
1.4408	100	(bar)		100	90,9	84,2	79,5	74,2	71,4	68,5		

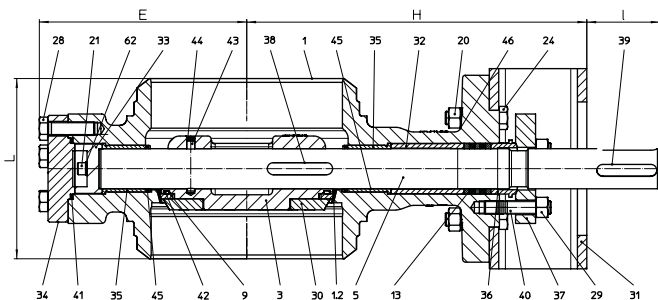
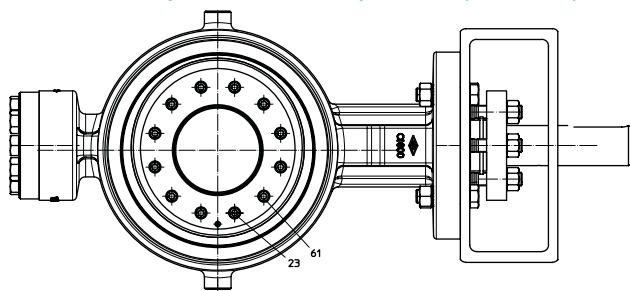
Butt weld ended process valve - Triple offset (Cast steel)


Figure	Nominal pressure	Material	Nominal diameter	Disc	Stem
36.019	PN 63	1.0619+N	DN 80-300	1.0619+N	1.4021+QT
37.019	PN 100	1.0619+N	DN 80-300	1.0619+N	1.4021+QT

Face-to-face dimension series 14 acc. to DIN EN 12982

Sealing element (Pos.9):

• Graphite / 1.4462	-60 °C to 400 °C
• Graphite / 1.4845	400 °C to 450 °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 8)

Parts			
Pos.	Sp.p.	Description	Fig. 36/37.019
1		Body	1.0619+N
1.2		Seat	Stellit 21
3		Disc	1.0619+N
5		Stem	1.4021+QT / ≥ 400 °C: 1.4980
9	x	Lamellar seal ring	Graphite / 1.4462 / ≥ 400 °C: Graphite / 1.4845
13	x	Packing unit	Graphite
28		Hexagon screw	A2-70 / ≥ 400 °C: SA193-B8M2
29		Hexagon nut	A4-70 / ≥ 400 °C: SA193-8M
30		Retaining ring	1.0425 (galvanized)
31		Console	1.0576 (galvanized)
32		Distance bush	1.4301
33		Axial bearing	1.4021+QT (hardened)
34		Bottom flange	1.0425 (hardened)
35		Bushing	1.4021+QT (hardened)
36		Bushing	1.4301
37		Packing box flange	<DN 600 PN 6-40 und DN 700-800, PN 6-10: 1.4408 / ≥DN 600 (außer DN 700-800, PN 6-10): 1.4301
40		Stud	A4-70 / ≥400 °C: SA193-B8M2
41	x	Spiral wound gasket	Graphite / 1.4541
42	x	Spiral wound gasket	Graphite / 2.4819
45		Packing ring	Graphite webbing
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.

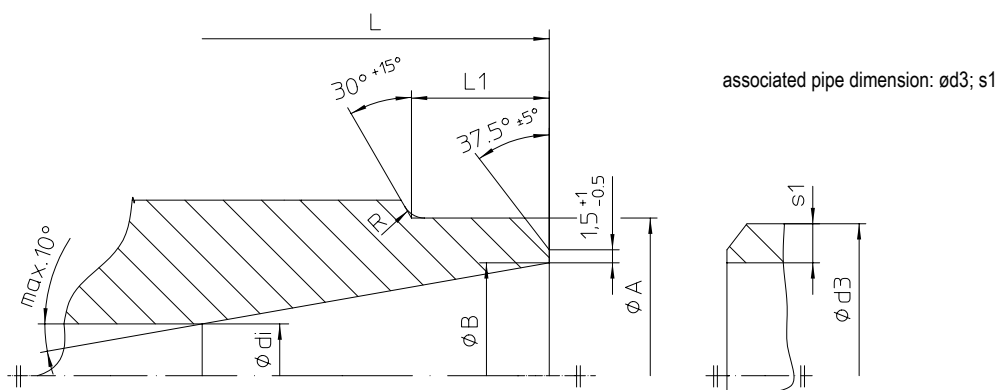
Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview).



DN			80	100	125	150	200	250	300	350	400	450	500	600
Face-to-face dimension series 14 acc. to DIN 12982														
L		(mm)	180	190	200	210	230	250	270	--	--	--	--	--
Dimensions														
PN 63	H	(mm)	296	269	346	331	430	498	510	--	--	--	--	--
	E	(mm)	141	169	197	212	270	337	311	--	--	--	--	--
	I	(mm)	55	55	65	65	80	110	110	--	--	--	--	--
PN 100	H	(mm)	296	269	346	331	430	498	510	--	--	--	--	--
	E	(mm)	141	169	197	212	270	337	311	--	--	--	--	--
	I	(mm)	55	55	65	65	80	110	110	--	--	--	--	--
Butt weld ends according to EN12627														
ØA		(mm)	91	117	144	172	223	278	329	--	--	--	--	--
Ødi		(mm)	78	102	125	150	196	244	286,9	--	--	--	--	--
L1 (similar Figure 4)		(mm)	12	14	18	20	20	25	33	--	--	--	--	--
Ød3		(mm)	88,9	114,3	139,7	168,3	219,1	273	323,9	--	--	--	--	--
PN63	ØB	(mm)	81,7	106,3	130,7	157,1	204,9	255,4	301,9	--	--	--	--	--
	s1	(mm)	3,6	4	4,5	5,6	7,1	8,8	11	--	--	--	--	--
PN100	ØB	(mm)	80,9	104,3	130,7	157,1	204,9	257	307,9	--	--	--	--	--
	s1	(mm)	4	5	4,5	5,6	7,1	8	8	--	--	--	--	--

- DIN EN 12627 Figure 4
- 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 acc. to DIN EN ISO 5817



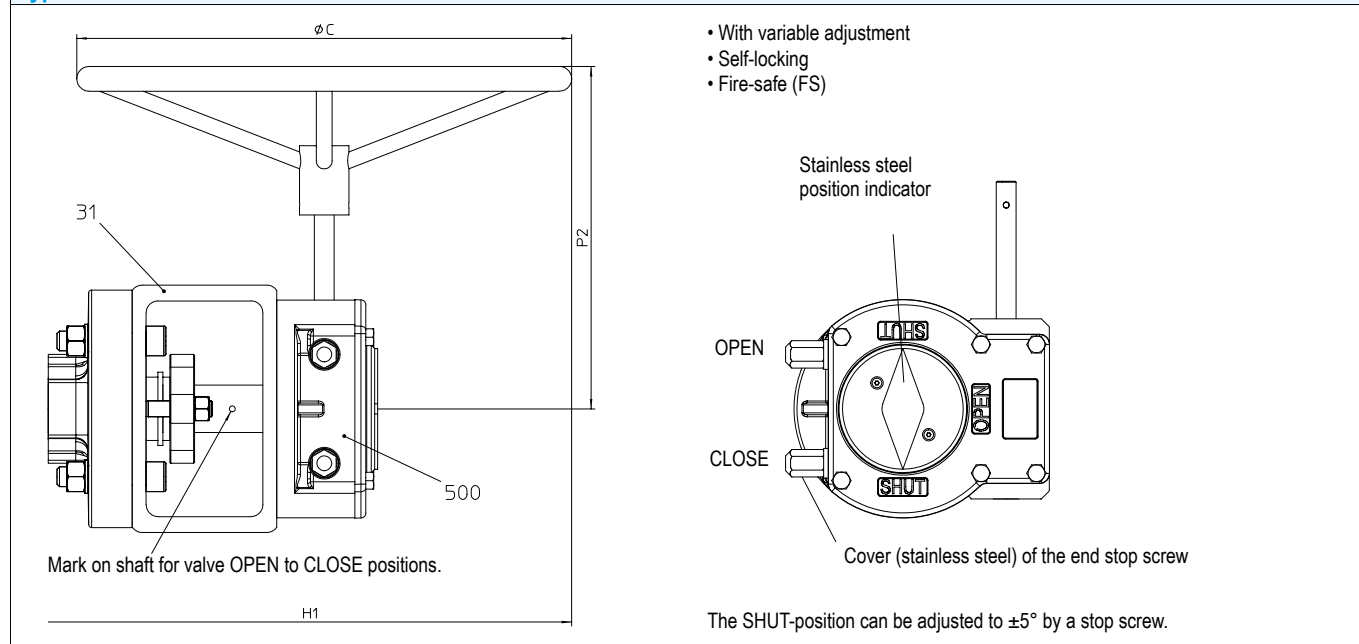
Our welded valve products are manufactured using the following materials: 1.0619+N

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 63	Fig. 36.019	(kg)	33	42	67	79	111	229	263	433	--	--	--
	PN 100	Fig. 37.019	(kg)	33	42	67	79	111	229	263	433	--	--	--
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	450 °C		
1.0619+N	63	(bar)	on request	63	59	56	53	48	44	41	38	21		
1.0619+N	100	(bar)		100	93	88	83	76	69	64	60	33		

ZETRIX® process valve with worm gear

Typ: Rotork AB



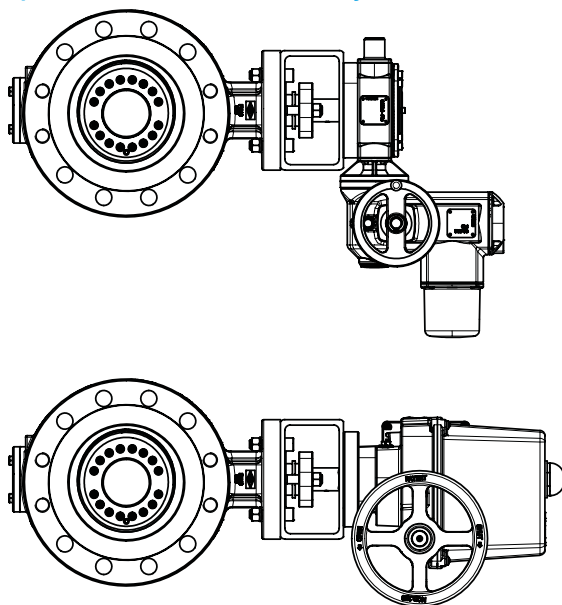
Parts			
Pos.	Sp.p.	Description	Fig. 36./ 37.018; 36./ 37.019
31		Console	<DN600: 1.0576 (galvanized) DN600: 1.0050 (galvanized)
500		Worm gear	
L Spare parts			

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

Dimensions														
PN 100	H1 (to middle of valve)	Fig. 018	(mm)	485,6	857,5	699	805	894	991	1019	1166	--	--	--
		Fig. 019	(mm)	496	531	684	739	894	959	971	--	--	--	--
	P2		(mm)	217	277	285	305	235	418	417	470	--	--	--
	ØC		(mm)	150	250	400	500	600	500	500	500	--	--	--
	Type of gear			AB215LB FS*	AB550 FS	AB880 FS	AB880 FS	AB1250 FS	AB1950 PR4 FS	AB1950 PR4 FS	AB3000L B/PR6 FS	--	--	--

Weights														
1.0619+N	PN 63	Fig. 36.018 with gear	(kg)	40	52	81	107	136	273	307	497	--	--	--
	PN 100	Fig. 37.018 with gear	(kg)	40	52	92	107	136	273	307	497	--	--	--
1.0619+N	PN 63	Fig. 36.019 with gear	(kg)	33	43	73	86	105	205	221	--	--	--	--
	PN 100	Fig. 37.019 with gear	(kg)	33	43	73	86	109	207	226	--	--	--	--

ZETRIX® process valve with electric rotary actuator



Type: Auma (further actuator types on request)

- for temporary service S2-15 min.
(or control: Auma S4 25%)
- Enclosure IP67
- Temperature guard in the motor
- Heating

Voltages:

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

Accessories:

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

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

Type: PS Automation PSQ AMS

- Operating modes: S2-30 min, S4 50%ED25°C
- Enclosure IP67
- with integrated positioner

Voltages:

- 3Ph 400 V 50 Hz, 1Ph 230 VAC, 24 VAC/DC
- Other voltages on request

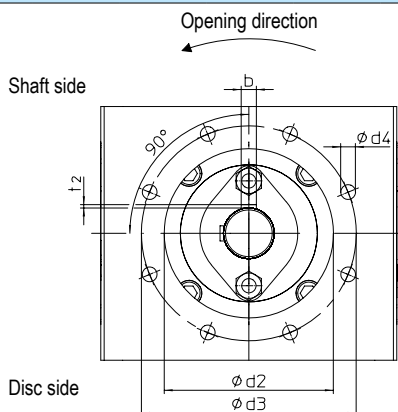
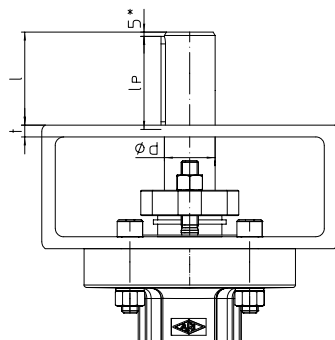
Accessories:

- Two limit switches (2WE)
- Power failure protection / fail-safe via Supercapacitor (PSCP)
- Fieldbus
- Local control (PSC.2)

(For more options, see the actuator data sheets)

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

Connection with 2 parallel keys 90° rotated EN ISO 5211 (Standard)



Number of holes $\varnothing d4$ depending on ISO-F-flange (See table below)

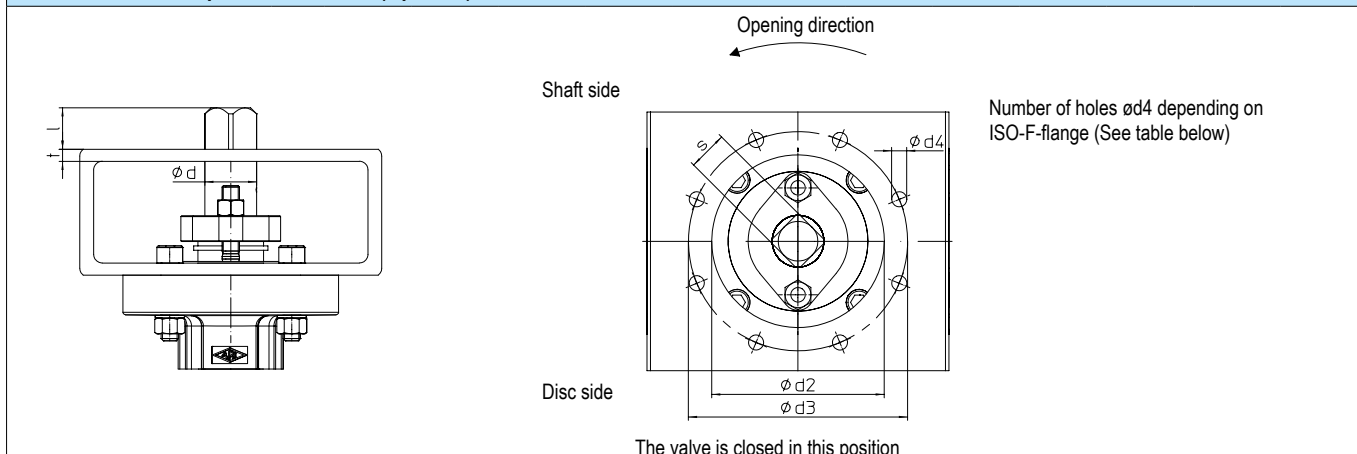
* For DN80 the dimension is 4 mm

The valve is closed in this position

PN 63-100

DN		80	100	125	150	200	250	300	350	400	450	500	600
Connection EN ISO 5211		F12		F14		F16	F25		F30	--	--	--	--
Ø d (stem diameter)	(mm)	22	28	36		45	60		70	--	--	--	--
n x Ø d4 (hole-Ø)	(mm)	4 x 14		4 x 18		4 x 22	8 x 18		8 x 22	--	--	--	--
Ø d2 (inside-Ø)	(mm)	85		100		130	200		230	--	--	--	--
Ø d3 (screw-hole circle)	(mm)	125		140		165	254		298	--	--	--	--
l (bare stem length)	(mm)	46	55	65		80	22		130	--	--	--	--
lp (parallel key length)	(mm)	45		56		80	90		125	--	--	--	--
b (parallel key width)	(mm)	8		10		14	18		20	--	--	--	--
t2 (parallel key depth)	(mm)	4		5		5,5	7		7,5	--	--	--	--
t (console wall thickness)	(mm)	8					14			--	--	--	--

Connection with 4 square EN ISO 5211 (Optional)



PN 63-100													
DN		80	100	125	150	200	250	300	350	400	450	500	600
Connection EN ISO 5211		F12		F14		F16	F25		F30	--	--	--	--
Ø d (stem diameter)	(mm)	22	28	36		45	60		70	--	--	--	--
n x Ø d4 (hole-Ø)	(mm)	4 x 14		4 x 18		4 x 22	8 x 18		8 x 22	--	--	--	--
Ø d2 (inside-Ø)	(mm)	85		100		130	200		230	--	--	--	--
Ø d3 (screw-hole circle)	(mm)	125		140		165	254		298	--	--	--	--
l (bare stem length)	(mm)	19	24	29		38	48		57	--	--	--	--
s (width across flats)	(mm)	17	22	27		36	46		55	--	--	--	--
t (console wall thickness)	(mm)	8					14			--	--	--	--

Options

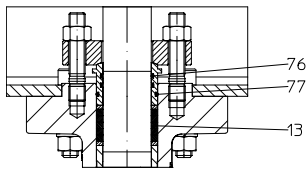
- Design acc. to EN ISO 15848-1
- Design acc. to EN ISO 15848-1 / TA-Luft with additional secondary sealing (O-rings)
- Threaded joint, f. ex. 1/4" with screw connection on the stem extension and/or on the bottom flange (e.g. Test-, buffer-, flushing port)
- Full metal sealing ring for special applications (on request)
- Blow-out protected stem acc. to API 609
- Sealing against toxic media (on request)
- Design acc. to NACE MR 0103 (on request)

Option:

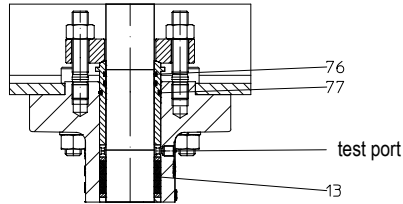
Design acc. to EN ISO 15848-1 / TA-Luft (standard against liquid emissions)

-EN ISO 15848-1 / TA-Luft with additional secondary sealing (special design with O-Rings)

-EN ISO 15848-1 / TA-Luft with additional secondary sealing and test port (special design with O-Rings and test port)



Graphite EN ISO 15848-1 with O-Rings



Graphite EN ISO 15848-1 with O-Rings and test port

- For critical media (f.ex. Thermal oil, steams...)
- „Double“ security due to secondary sealing (Pos. 76/77)
- Leakage monitoring due to test port (Information required when ordering)

O-Rings

Pos.	Material	Temperature range ¹⁾	Applications (Examples)
76 / 77	Tetrafluoroethylene / propylene (FEPM)	-15 °C to +300 °C	Thermal oil / Hydrocarbons, ammonia, sour gas, amine, Methanol
	Special compound (XTR-F)	-15 °C to +350 °C	Thermal oil, most aggressive media (strong acids/bases)
	Fluorocarbon - rubber (FKM)	-60 °C to +230 °C	Cryogenic applications, concentrated acids, hydrocarbons
	Ethylene-Propylene-Diene-Rubber (EPDM)	-60 °C to +200 °C	cryogenic applications, ammonia

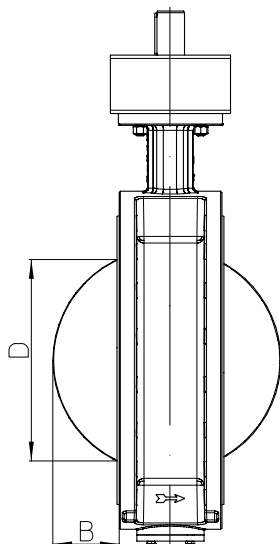
¹⁾ May be lower by other components

For the correct design of the O-rings, the operating conditions must be stated before ordering.

Kvs-value / Zeta-value (Fig. 018)														
DN			80	100	125	150	200	250	300	350	400	450	500	600
PN 63	Kvs-Wert	(m³/h)	Siehe PN100										7432	11220
	Zeta-Wert	--											1,81	1,65
PN 100	Kvs-Wert	(m³/h)	63	103	221	287	804	1052	1614	2417	3081	4715	6013	8040
	Zeta-Wert	--	16,5	15,07	7,99	9,83	3,96	5,64	4,97	4,11	4,31	2,95	2,76	3,21

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)	8,6	22,3	28,9	37,2	60,9	72,5	89,1	105,7	--	--	--	--
D	(mm)	43,4	75,2	94,8	114,8	171,5	207,5	245,4	284,1	--	--	--	--

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)	--	--	--	--	--	--	7,1	--	--	--	--	--
D	(mm)	--	--	--	--	--	--	83,3	--	--	--	--	--





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