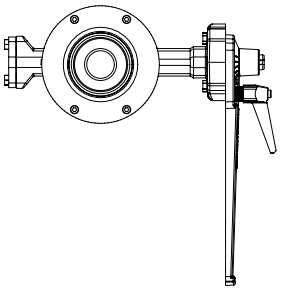
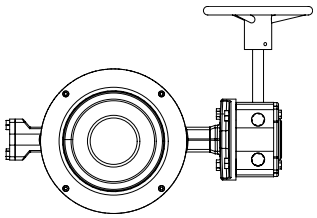
ARI-ZEDOX® - Fig. 120 - Wafer type high performance valve - Double offset

ARI-ZEDOX®
with lever



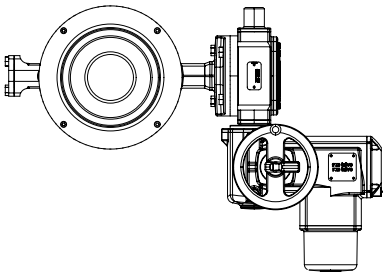
Page 4

ARI-ZEDOX®
with worm gear



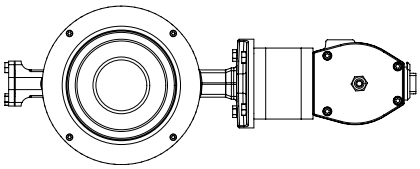
Page 5

ARI-ZEDOX®
with electric rotary actuator
Auma



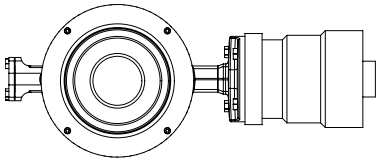
Page 6

ARI-ZEDOX®
with pneumatic actuator



Page 7

ARI-ZEDOX®
with hydraulic actuator



on request

Fig. 120 -
ARI-ZEDOX® wafer type - short pattern

Features:

- short pattern, middle pattern and long pattern
- Cast steel / stainless steel body
- Double offset construction:
  Rotary movement (90°) without wear or friction
- Metallic or PTFE sealing
- Bi-directional tightness up to differential pressure 25 bar
- Replaceable seat ring
- Firesafe acc. to ISO 10497/ BS6755 (54.120 certified)
- ATEX

högfors
A COMPANY OF THE ARI-GROUP
ARMATUREN

Wafer type high performance valve (Cast steel, Stainless steel)

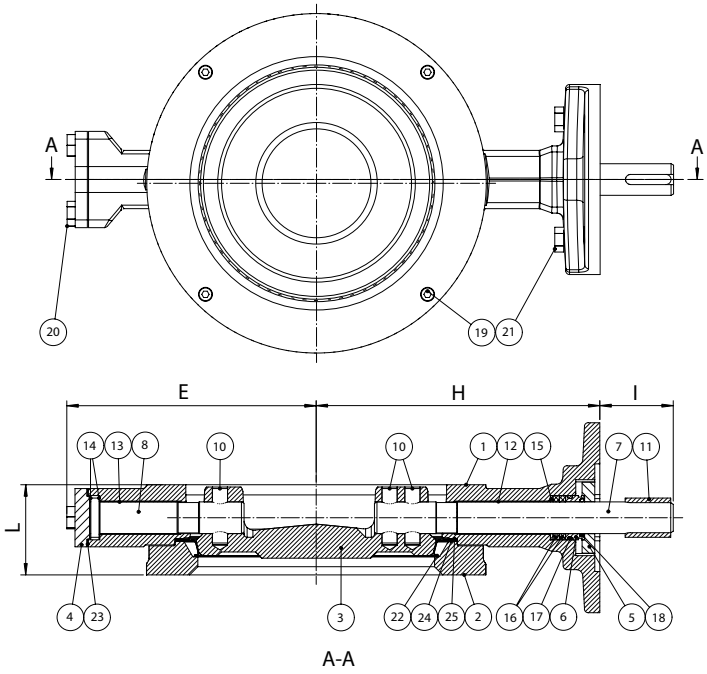


Figure	Nominal pressure	Material	Nominal diameter	Sealing elements
34.120	PN10 - PN25	1.0619+N	DN 80-600	PTFE+C (TS)
			DN 80-800	Stainless steel (CS)
35.120	PN40	1.0619+N	DN 80-200	Stainless steel (CS)
54.120	PN10 - PN25	1.4408	DN 80-600	PTFE+C (TS)
			DN 80-800	Stainless steel (CS)
55.120	PN40	1.4408	DN 80-200	Stainless steel (CS)

Face-to-face dimension acc. to ISO 5752.
EN558-1 Series 20 DIN3202 K1 (short pattern)
EN558-1 Series 25 DIN3202 K2 (middle pattern)
EN558-1 Series 16 DIN3202 K3 (long pattern)

Sealing element:	
• PTFE+C (TS)	-40°C to 180°C
• Stainless steel (CS)	-40°C to 260°C
Max. differential pressure:	
34.120	• 16 bar - standard
54.120	• 25 bar - option
35.120	• 40 bar - standard
55.120	

Actuation arrangement:	
• Lever • Worm gear • Electric actuator	• Pneumatic actuator • Hydraulic actuator
Sealing leakage test:	
PTFE+C	• DIN EN 12266-1 Leakage rate A
Stainless steel	• DIN EN 12266-1 Leakage rate B - standard
	• DIN EN 12266-1 Leakage rate A - option

Options on request

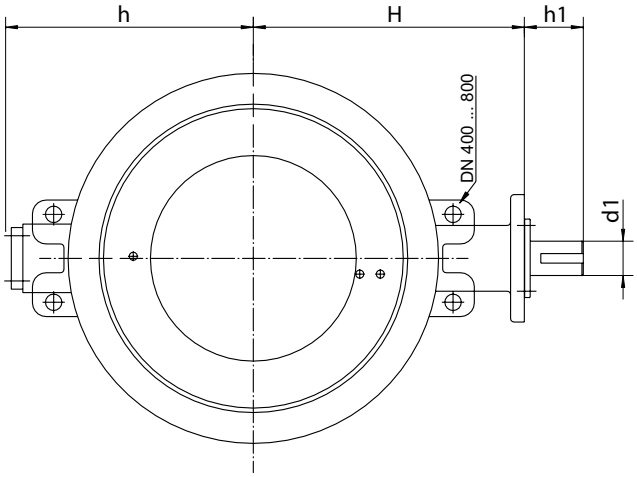
Parts

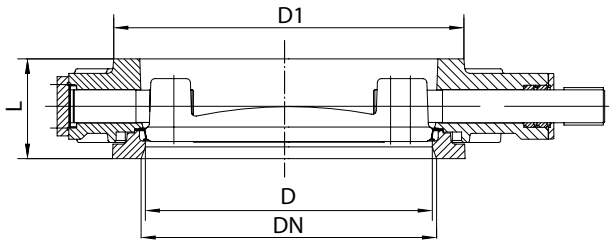
Pos.	Sp.p.	Description	Fig. 34.120 / 35.120	Fig. 54.120 / 55.120
1		Body	GP240GH+N, 1.0619+N	GX5CrNiMo19-11-2, 1.4408
2		Counter flange	P265 GH, 1.0425	X2CrNiMo17-12-2, 1.4404; GX5CrNiMo19-11-2, 1.4408 [1]
3		Disc	X4CrNiMoN27-5-2, 1.4460	
4		Subshaft cover	X2CrNiMo17-12-2, 1.4404	
5		Gland	X2CrNiMo17-12-2, 1.4404	
6		Shaft seal bushing	X2CrNiMo17-12-2, 1.4404	
7		Main shaft	X3CrNiMoN27–5-2, 1.4460 (DN80-DN300); X4CrNiMo16–5-1, 1.4418 (DN350-DN800)	
8		Subshaft	X3CrNiMoN27–5-2, 1.4460 (DN80-DN300); X4CrNiMo16–5-1, 1.4418 (DN350-DN800)	
10		Pins	X2CrNiMoN22–5-3, 1.4462	
11		Key	C45, 1.0503	
12		Stem bearing	PTFE on stainless steel net	
13		Subshaft bearing	PTFE on stainless steel net	
14		Bearing plate	PTFE on stainless steel net	
15		Back-up-ring	X2CrNiMo17-12-2, 1.4404	
16	x	Box packing	Graphite	
17 / 18	x	O-ring	FPM (not fitted in steam version)	
19		Socket screw	A4-80	
20		Hexagonal screw	A4-70	
21		Hexagonal screw	A4-70	
22	x	Seat ring	Stainless steel or PTFE+C; special material by request	
23	x	Bottom cover gasket	978-C / SIGRAFLEX HOCHDRUCK (SIGRAFLEX HOCHDRUCK for steam version)	
24 / 25	x	Shim	978-C / SIGRAFLEX HOCHDRUCK (SIGRAFLEX HOCHDRUCK for steam version)	
	└ Spare parts			

[1] The material depends on size and face-to-face-dimension

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 suitability must be verified (contact manufacturer for information, refer to Product overview).

TS = **T**eflon seal and **S**tainless steel disc
CS = **C**hromed seal and **S**tainless steel disc





DN			80	100	125	150	200	250	300	350	400	450	500	600	700	800
Face-to-face dimension acc. to ISO 5752 EN558-1 Series 20 DIN3202 K1 (short pattern), EN558-1 Series 25 DIN3202 K2 (middle pattern), EN558-1 Series 16 DIN3202 K3 (long pattern)																
L (short pattern)		(mm)	46	52	56	56	60	68	78	78	102	114	127	154	165	190
L (middle pattern)		(mm)	49	56	64	70	71	76	83	92	-	-	-	-	-	-
L (long pattern; not available in 1.4408)		(mm)	64	64	70	76	89	114	114	127	140	152	152	178	229	241
Dimensions																
D1		(mm)	138	158	188	212	268	320	370	430	482	530	585	685	785	885
D		(mm)	72	89	113	137	187	238	286	337	386	437	483	582	682	775
h		(mm)	114	131	143	160	200	232	275	303	333	358	388	448	498	566
H		(mm)	144	168	179	199	224	269	308	335	380	408	458	530	602	650
h1		(mm)	45	52	52	58	58	63	69	75	86	86	103	119	119	125
d1		(mm)	15	20	20	25	25	30	35	40	50	50	60	70	70	90
Flange ISO 5211			F07	F07	F07	F10	F12	F12	F14	F14	F16	F16	F16	F25	F30	F30
Weights for wafer type high performance valve																
1.0619+N	Fig. 34./35.120	short pattern	(kg)	6,5	8	9,8	14,9	25	30	40,5	52	86,5	117	160	280	318	454
		middle pattern		6,8	8,4	10,9	17,1	27,3	32,2	42	58	-	-	-	-	-	-
		long pattern		8	9,3	11,8	18,1	31,6	42,9	52,6	73,4	105,9	136,1	176,1	298,6	379,3	503,7
1.4408	Fig. 54./55.120	short pattern	(kg)	6,5	8	9,8	14,9	25	30	40,5	52	86,5	117	160	280	318	454
		middle pattern		6,8	8,4	10,9	17,1	27,3	32,2	42	58	-	-	-	-	-	-

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

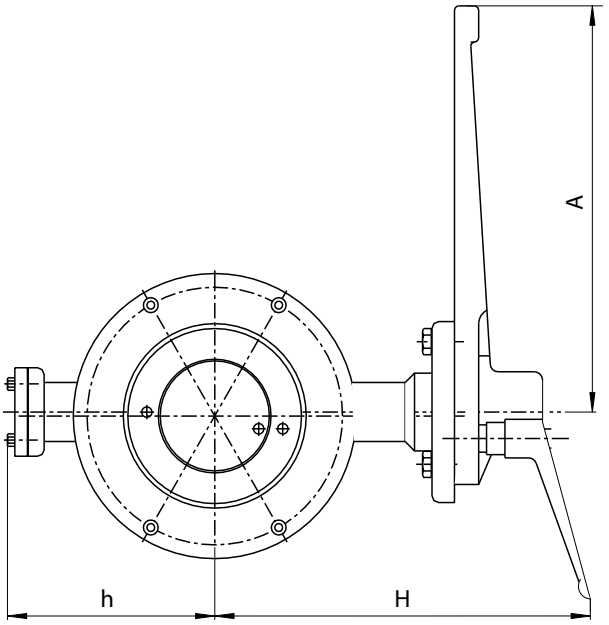
acc. to Högfors standard	PN		-40 °C	0 °C	50 °C	100 °C	150 °C	200 °C	250 °C	260 °C
1.0619+N	25	(bar)	25	25	25	23,4	22,2	21	19,2	18,8
1.0619+N	40	(bar)	40	40	40	37,4	35,5	33,6	30,7	30,1

acc. to Högfors standard	PN		-40 °C	0 °C	50 °C	100 °C	150 °C	200 °C	250 °C	260 °C
1.4408	25	(bar)	25	25	25	23,8	21,4	18,9	17,5	17,2
1.4408	40	(bar)	40	40	40	38,1	34,2	30,2	28,0	27,6

DN				80	100	125	150	200	250	300	350	400	450	500	600	700	800
Operation torque (bi-directional flow)																	
PN25	sealing PTFE+C	Torque*	(Nm)	70	100	140	190	320	550	850	1300	1800	2400	3400	5500	-	-
	sealing stainless steel		(Nm)	90	130	180	240	400	700	1100	1600	2200	3000	4200	6800	10000	13000
PN40	sealing stainless steel		(Nm)	135	180	250	285	505	-	-	-	-	-	-	-	-	-

* for steam duty use the next size up

ZEDOX® wafer type high performance valve with lever



Parts			
Pos.	**Sp.**	**Description**	**Fig. 34./35./54./55.120**
50	x	Lever	
		└ Spare parts	

DN		**80**	**100**	**125**	**150**
Dimensions					
H (to middle of valve)	(mm)	223	246	260	289
h	(mm)	114	131	143	160
A	(mm)	300	300	300	420

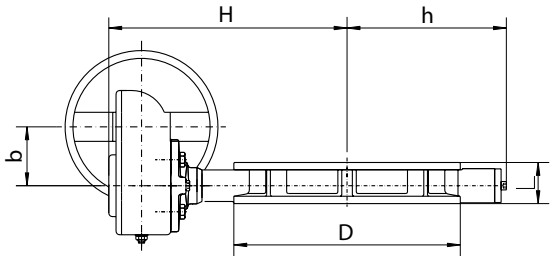
Weights with lever							
1.0619+N	Fig. 34./35.120	short pattern	(kg)	7,6	9,1	10,9	16,9
		middle pattern	(kg)	7,9	9,5	12	19,1
		long pattern	(kg)	9,1	10,4	12,9	20,1
1.4408	Fig. 54./55.120	short pattern	(kg)	7,6	9,1	10,9	16,9
		middle pattern	(kg)	7,9	9,5	12	19,1

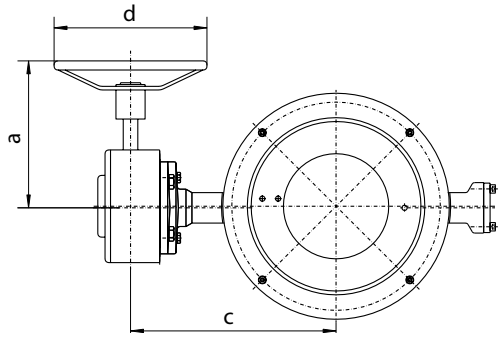
Lever not available for PN40

ZEDOX® wafer type high performance valve with worm gear

Opening and closing of the valves with the handwheel.

The position of the disc can be seen on a position indicator on top of the gear.





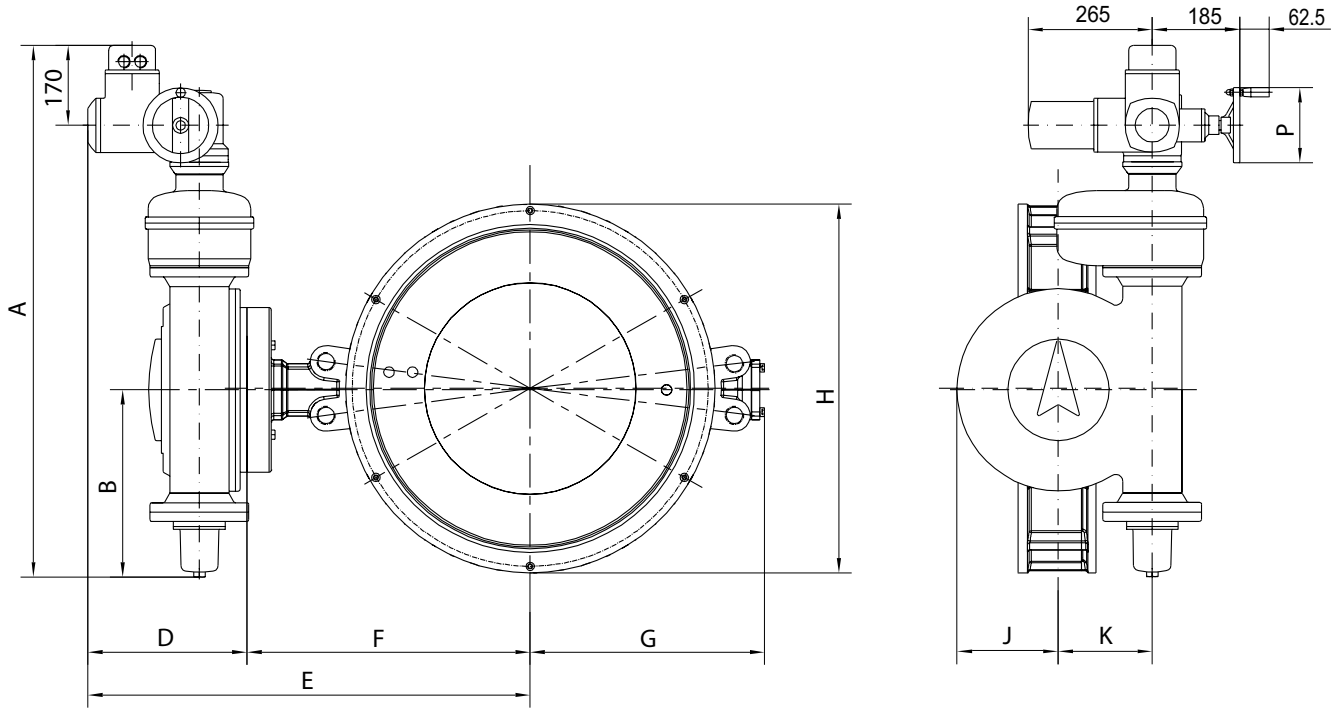
Parts			
Pos.	**Sp.**	**Description**	**Fig. 34./35./54./55.120**
500	x	Worm gear	
		└ Spare parts	

DN		**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**	**700**	**800**
Dimensions															
D	(mm)	138	158	188	212	268	320	370	430	482	530	585	685	785	885
h	(mm)	114	131	143	160	200	232	275	303	333	358	388	448	498	565
H	(mm)	207	231	242	287	312	357	401	428	506	534	578	689	761	809
a	(mm)	217	217	217	247	247	282	285	285	387	387	382	500	500	545
b	(mm)	52	52	52	71	71	71	86	86	130	130	53	182	182	182
c	(mm)	173	197	208	240	265	310	350	377	435	463	522	589	661	709
d	(mm)	200	200	200	200	200	300	400	400	500	500	500	500	500	500
Type of gear		AB210 -10N	AB210 -10N	AB210 -10N	AB550N	AB550N	AB550N	AB880N	AB880N	AB2000N	AB2000N	AB2000N	AB680N-PR4	AB680N-PR4	AB680N-PR6

Weights with manual gear Rotork*																
1.0619+N	Fig. 34./35.120	short pattern	(kg)	11	12,5	14,5	24,6	34,8	39,8	57,8	69,3	115	146	189	350	388	525
		middle pattern	(kg)	11,3	12,9	15,6	26,8	37,1	42	59,3	75,3	-	-	-	-	-	-
		long pattern	(kg)	12,5	13,8	16,5	27,8	41,4	52,7	69,9	90,7	134,4	165,1	205,1	368,6	449,3	571,7
1.4408	Fig. 54./55.120	short pattern	(kg)	11	12,5	14,5	24,6	34,8	39,8	57,8	69,3	115	146	189	350	388	525
		middle pattern	(kg)	11,3	12,9	15,6	26,8	37,1	42	59,3	75,3	-	-	-	-	-	-

*weight of hand wheel is not included

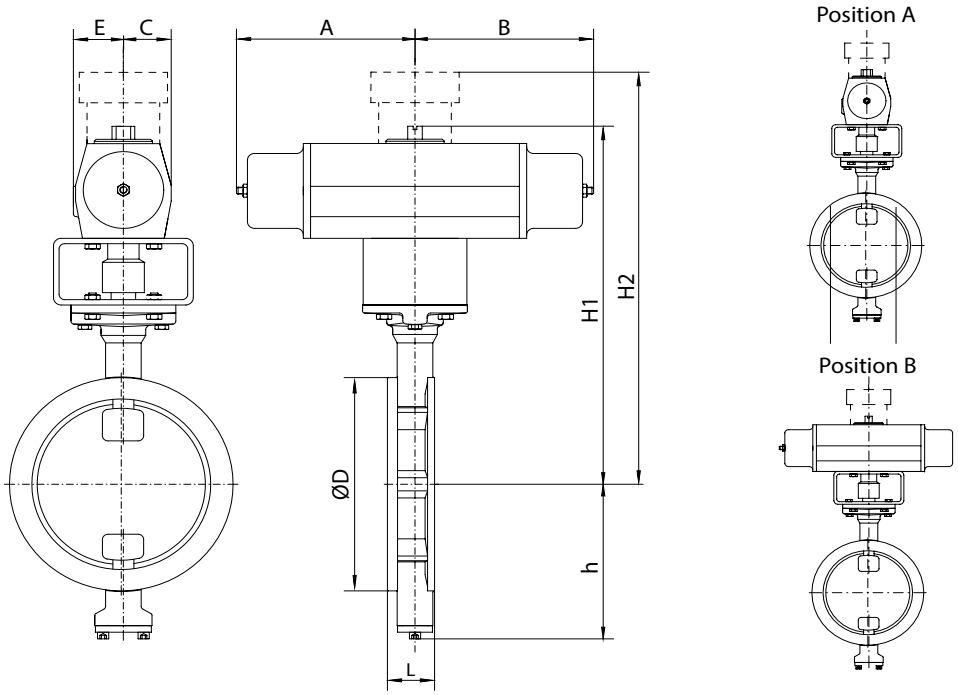
ZEDOX® Wafer type high performance valve with electric rotary actuator Auma



DN		80	100	125	150	200	250	300	350	400	450	500	600	700	800
Face-to-face dimension acc. to ISO 5752 EN558-1 Series 20 DIN3202 K1 (short pattern), EN558-1 Series 25 DIN3202 K2 (middle pattern), EN558-1 Series 16 DIN3202 K3 (long pattern)															
L (short pattern)	(mm)	46	52	56	56	60	68	78	78	102	114	127	154	165	190
L (middle pattern)	(mm)	49	56	64	70	71	76	83	92	-	-	-	-	-	-
L (long pattern; not available in 1.4408)	(mm)	64	64	70	76	89	114	114	127	140	152	152	178	229	241
Dimensions															
A	(mm)	444	444	444	444	500	510	689	689	689	700	700	990	1131	1131
B	(mm)	96	96	96	96	127	132	182	182	182	187	187	337	398	398
D	(mm)	269	269	269	277	282	284	312	312	312	322	322	313	338	338
E	(mm)	413	437	448	476	506	553	620	647	692	730	780	843	940	988
F	(mm)	144	168	179	199	224	269	308	335	380	408	458	530	602	650
G	(mm)	114	131	143	160	200	232	275	303	333	358	388	448	498	566
H	(mm)	138	158	188	212	268	320	370	430	482	530	585	685	785	885
J	(mm)	52	52	52	63	75	88	105	105	105	125	125	173	215	215
K	(mm)	40	40	40	50	63	80	100	100	100	125	125	160	200	200
P	(mm)	140	140	140	140	160	160	160	160	160	200	200	160	160	160
Type of actuator		SA07.2-GS50.3 - F07	SA07.2-GS50.3 - F07	SA07.2-GS50.3 - F07	SA07.2-GS50.3 - F10	SA07.6-GS63.3 - F12	SA07.6-GS80.3 - F12	SA07.6-GS100.3/VZ4.3 - F14	SA07.6-GS100.3/VZ4.3 - F14	SA07.6-GS100.3/VZ4.3 - F16	SA10.2-GS125.3/VZ4.3 - F16	SA10.2-GS125.3/VZ4.3 - F16	SA07.6-GS160.3/GZ160.3 - F25	SA07.6-GS200.3/GZ200.3 - F30	SA07.6-GS200.3/GZ200.3 - F30

Weights with electric actuator																	
1.0619+N	Fig. 34./35.120	short pattern	(kg)	34	35	37	42	58	66	97	109	143	188	231	413	529	665
		middle pattern	(kg)	34,3	35,4	38,1	44,2	60,3	68,2	98,5	115	-	-	-	-	-	-
		long pattern	(kg)	35,5	36,3	39	45,2	64,6	78,9	109,1	130,4	162,4	207,1	247,1	431,6	590,3	714,7
1.4408	Fig. 54./55.120	short pattern	(kg)	34	35	37	42	58	66	97	109	143	188	231	413	529	665
		middle pattern	(kg)	34,3	35,4	38,1	44,2	60,3	68,2	98,5	115	-	-	-	-	-	-

ZEDOX® Wafer type high performance valve with pneumatic actuator



DN		80	80 (PN40)	100	125	150	200	250	300	350	400**	450**	500**
Face-to-face dimension acc. to ISO 5752 EN558-1 Series 20 DIN3202 K1 (short pattern), EN558-1 Series 25 DIN3202 K2 (middle pattern), EN558-1 Series 16 DIN3202 K3 (long pattern)													
L (short pattern)	(mm)	46	46	52	56	56	60	68	78	78	102	114	127
L (middle pattern)	(mm)	49	49	56	64	70	71	76	83	92	-	-	-
L (long pattern; not available in 1.4408)	(mm)	64	64	64	70	76	89	114	114	127	140	152	152
Dimensions													
D	(mm)	138	138	158	188	212	268	320	370	430	482	530	585
E	(mm)	75	75	75	75	75	110	110	110	110	110	190	190
C	(mm)	69	69	69	69	69	110	110	110	110	110	190	190
h	(mm)	114	114	131	143	160	200	232	276	303	333	358	388
H1	(mm)	389	389	413	424	474	612	647	901	975	1045	1038	1088
A	(mm)	90	285	285	285	285	145	510	510	510	510	850	850
B	(mm)	285	285	285	285	285	510	510	510	510	510	850	850
Type of actuator*		RC250-SR	RC260-SR	RC260-SR	RC260-SR	RC260-SR	RC270-SR	RC280-SR	RC88-SR	RC88-SR	RC88-SR	RCG100	RCG100

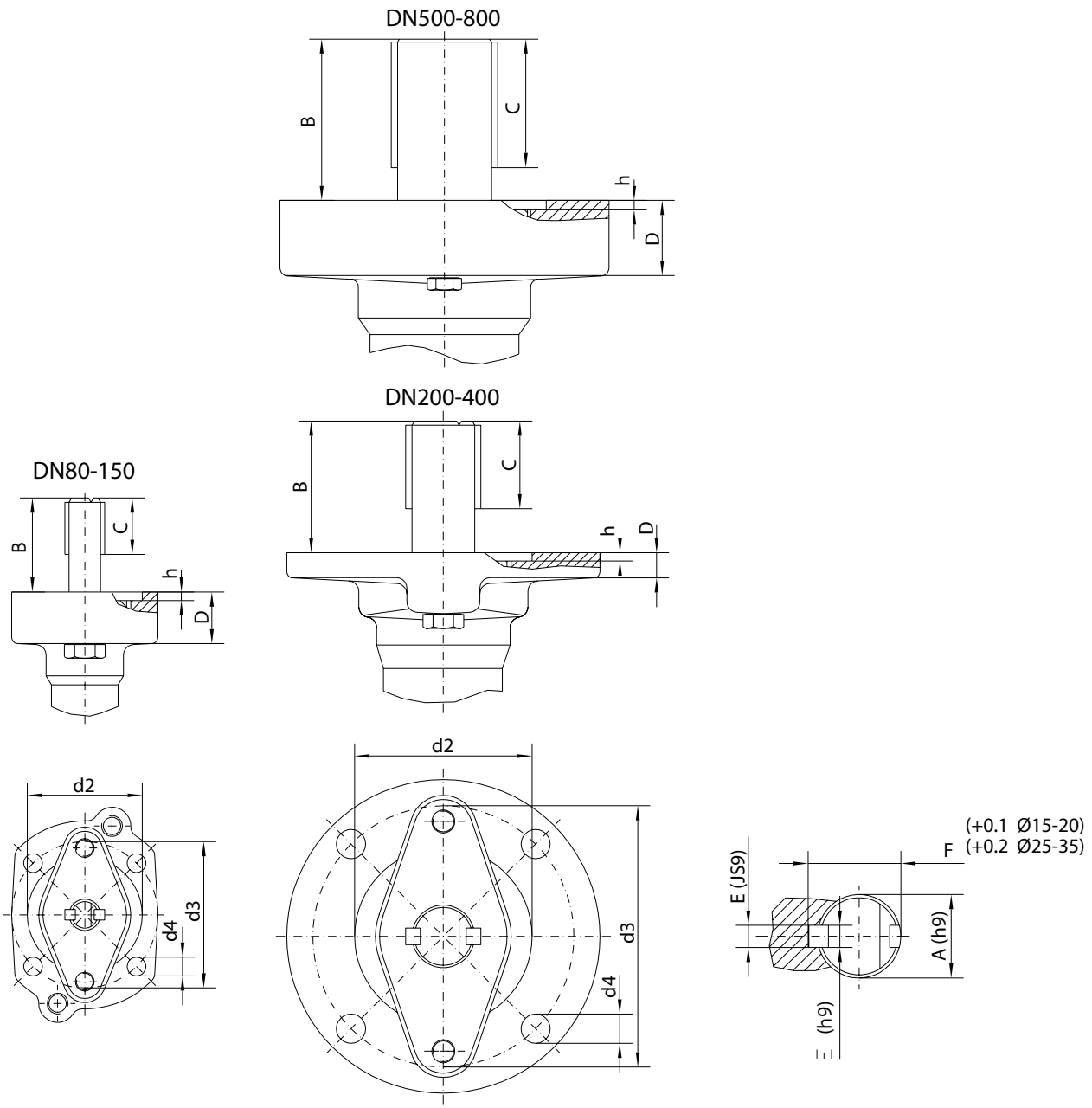
Weights with pneumatic actuator													
1.0619+N	Fig. 34./35.120	short pattern	(kg)	22,9	29	30,5	33,3	38,4	78	106	184,5	196	235,5	632	675
		middle pattern	(kg)	23,2	29,3	30,9	34,4	40,6	80,3	108,2	186	202	-	-	-
		long pattern	(kg)	24,4	30,5	31,8	35,3	41,6	84,6	118,9	196,6	217,4	254,9	651,1	691,1
1.4408	Fig. 54./55.120	short pattern	(kg)	22,9	29	30,5	33,3	38,4	78	106	184,5	196	235,5	632	675
		middle pattern	(kg)	23,2	29,3	30,9	34,4	40,6	80,3	108,2	186	202	-	-	-

* at air pressure 6 bar

** Δ P max = 16 bar

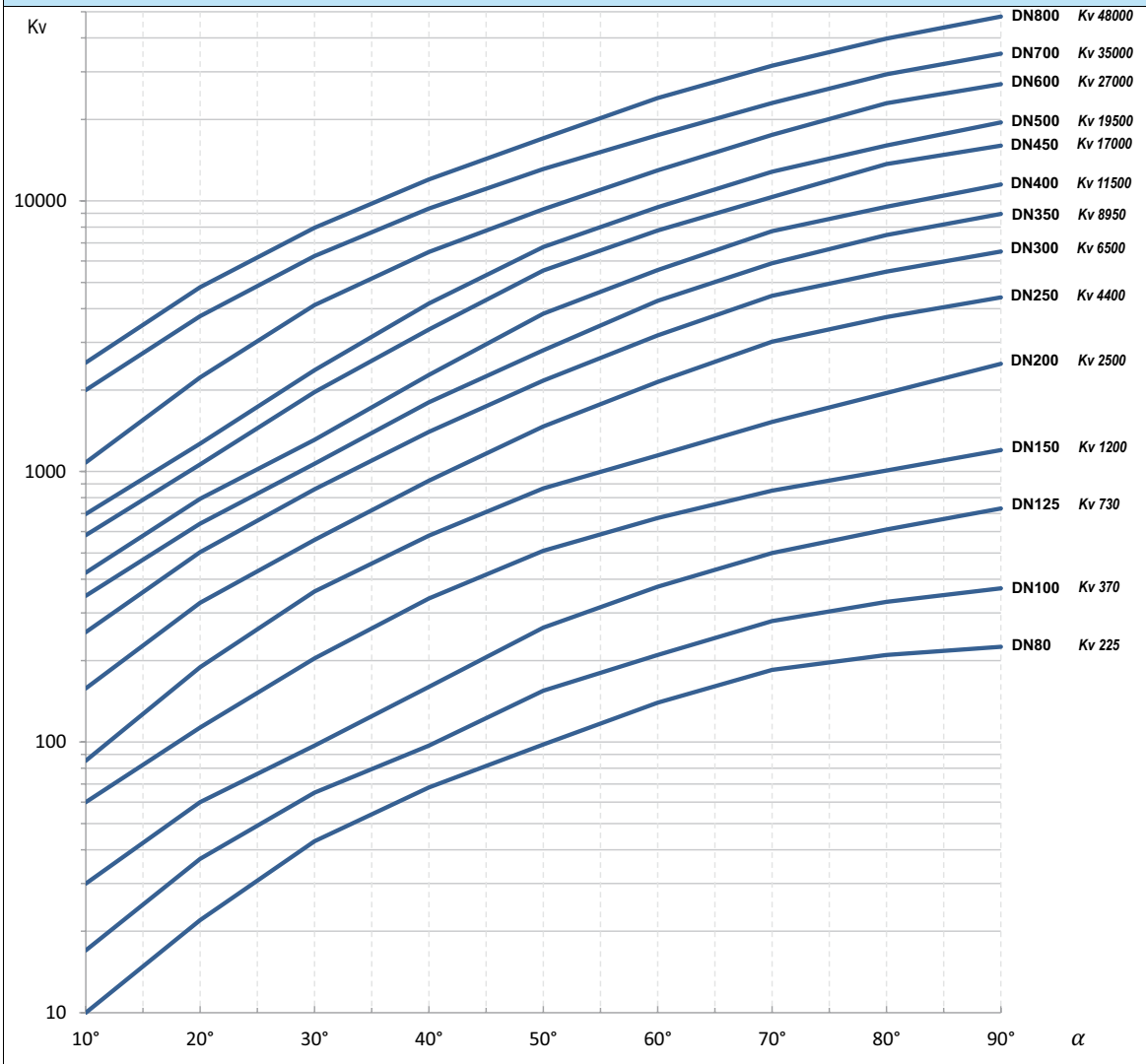
actuator bigger than DN500 on request

Actuator flange connection



DN		80	100	125	150	200	250	300	350	400	450	500	600	700	800
Connection EN ISO 5211		F07			F10	F12		F14		F16			F25	F30	
d2	(mm)	55			70	85		100		130			200	230	
d3	(mm)	70			102	125		140		165			254	298	
h	(mm)	4											6		
n x d4	(mm)	4x9			4x11	4x14		4x18		4x22			8x18	8x22	
A	(mm)	15	20	20	25	25	30	35	40	50	50	60	70	70	90
B	(mm)	45	52	52	58	58	63	69	75	86	83	103	119	119	125
C	(mm)	27	34	34	38	38	42	47	52	62	62	82	92	92	127
D	(mm)	24	24	24	27	12	15	15	20	17	38	48	48	52	55
E	(mm)	5	6	6	8	8	8	10	12	14	14	18	20	20	25
F	(mm)	17,3	22,8	22,8	28,3	28,3	33,3	38,3	43,3	53,3	53,3	64,4	74,9	74,9	95,4

Kv-value



WATER:

Volume flow: $Q = K_v \sqrt{\frac{\Delta p}{\rho}}$

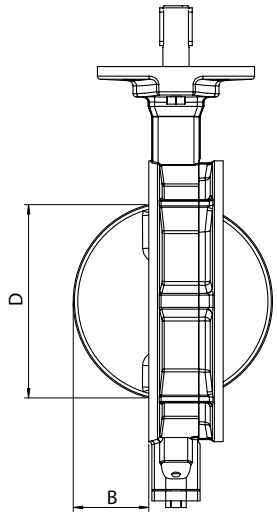
Flow velocity: $V = 354 \frac{Q}{DN^2}$

Kv = KV valvue - Capacity factor
DN = nominal valve size, mm
α = disc opening angle
Δp = pressure difference, bar

ρ = density of liquid, kg/dm³
V = flow velocity, m/s
Q = volume flow, m³/h

Difference between disc outside-diameter and face-to-face

DN		80	100	125	150	200	250	300	350	400	450	500	600	700	800
B	(mm)	20	27	38	50	73	97	110	138	150	172	192	219	260	300
D	(mm)	66	83	108	134	185	236	280	333	378	429	475	567	665	759



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-high performance valve ZEDOX-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.

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 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 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.