

## with high exact valve actuator

### Electrically operated control valve with a high-precision control actuator for Ball Sector Valves.

- high-precision actuator with high-efficient gear box
- Developed to use as a basis weight valve
- Input signal with step signal or analogue 4-20mA (standard)
- Feedback with analogues signal 4-20 mA
- Emergency manual operation
- Unaffected by contaminated media
- Seat ring facile convertible
- Low-maintenance

### Technical Information Valve

Design	flangeless wafer type	
Nominal sizes	DN 80 up to DN 250	
Body material	cast parts	1.4408 (CF8M)
	turned parts	1.4404 (316L)
Bearing material	high temperature plain bearing	
Cutting site to the actuator	mounting kit DIN/ISO 5211	
Nominal pressure	DN25 - DN50	PN40 (for flanges PN 10 - PN 40), ANSI300, ANSI150
	DN 80 - DN100	PN25 (for flanges PN 10 - PN 25), ANSI150
	DN 150 - DN 250	PN16 (for flanges PN 10 - PN 16), ANSI150
Fluid Temperature	-60°C up to +220°C	depending on the sealings
Ambient temperature	-40°C up to +80°C	depending on the actuator
	special version on request	
Characteristic	almost equal percentage	
Rangeability	300:1	



**Sealing tested according to TA-Luft as defined in DIN EN ISO 15848-1 and VDI 2440**

### Technical Information Actuator

Actuator	S1500		Papyrus		
	analogue	bus system	analogue	step / direction	bus system
Set point signal	4 - 20 mA / 0 - 10 V / 3-Point	Modbus 485	4 - 20 mA	24V, 400 Hz max.	CAN / Profibus
Burden			470 Ohm	1500 Ohm	
Supply energy, electrical	24 VDC [±10%]		100...230 VAC [±10%], 50-60 Hz [±10%]		
Actuator	Step motor with gearbox		servo motor with planetary gear		
Turning angle detection	Integrated in the actuator		15 Bit absolute turning angle transmitter		
Control	In the actuator		In a control cabinet		
Resolution at the spherical sector	1500 steps / 90°		8192 steps / 90°		
Adjusting range	0 - 90°				
Limit stops	Mechanical limit stops inside of the actuator		control system; no mechanical strokes		
Stroking time	4 s up to 15 min		ca. 2 s up to 5 min.	max. 400 Hz	ca. 2 s up to 5 min.
Feed back	4 - 20 mA		4 - 20 mA, load resistor: 1kΩ max.		
Ambient temperature limit, actuator	-40°C up to +80°C		-10°C up to +60°C		
Ambient temperature limit, control cabinet	-		0°C up to +40°C		
Protection class acc. DIN 40050	IP 67		IP 65		

# Ball Sector Valve 4032

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## Valve sizes, Kvs-Values, Torques

DN	Kvs	hole mm	rotation angle nominal	max. press. nominal DIN	max. press. nominal ANSI
25	21	19	90°	PN40	ANSI 300
40	64	32	90°	PN40	ANSI 300
50	94	40	90°	PN40	ANSI 300
80	255	64	90°	PN25	ANSI 150
100	390	80	90°	PN25	ANSI 150
150	810	120	90°	PN16	ANSI 150
200	1365	155	90°	PN16	ANSI 150
250	2220	195	90°	PN16	ANSI 150

## Valve seat combinations

Seat ring	Ball sector	Leakage	min. temp [°C]*
PTFE	stainless steel polished or hard chrome plated or lapped	5x10 <sup>-7</sup> of max. Kvs	-40 up to +170°C
PEEK	stainless steel polished or hard chrome plated or lapped	5x10 <sup>-7</sup> of max. Kvs	-40 up to +220°C
Stellit	stainless steel, hard chrome plated and lapped	Class IV-S1 acc. EN 1349 (IEC 534-4) 5x10 <sup>-6</sup> of max. Kvs	-40 up to +220°C
PTFE	stainless steel, hard chrome plated and lapped	Class VI acc. EN 1349 (IEC 534-4)	-40 up to +170°C
Stellit	stainless steel, hard chrome plated and lapped, seat holding ring hard chrome plated	5x10 <sup>-6</sup> of max. Kvs	-40 up to +220°C

\* Please note the restrictions of the o-ring material!

## Shaft seals (o-ring)

	min. temp [°C]	max. temp [°C]	comment
Viton (Standard)	-15	200	
EPDM	-30	140	suitable for steam
NBR (P700)	-40	100	
FFKM (Perlast/Kalrez)	-15	220	suitable for steam

special material on request

## Working pressure max.

Nominal size	zulässiger Differenzdruck (delta p)									
	seat ring PTFE			seat ring PEEK				seat ring Stellit		
DN	up to 80°C bar	120°C bar	170°C bar	up to 80°C bar	120°C bar	170°C bar	220°C bar	up to 80°C bar	170°C bar	220°C bar
25-50	25	16	6	40	40	25	16	40	40	25
80-100	16	12	5	25	25	16	10	25	25	16
150-250	16	12	4	16	16	12	8	16	16	12

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## Ordering Number System

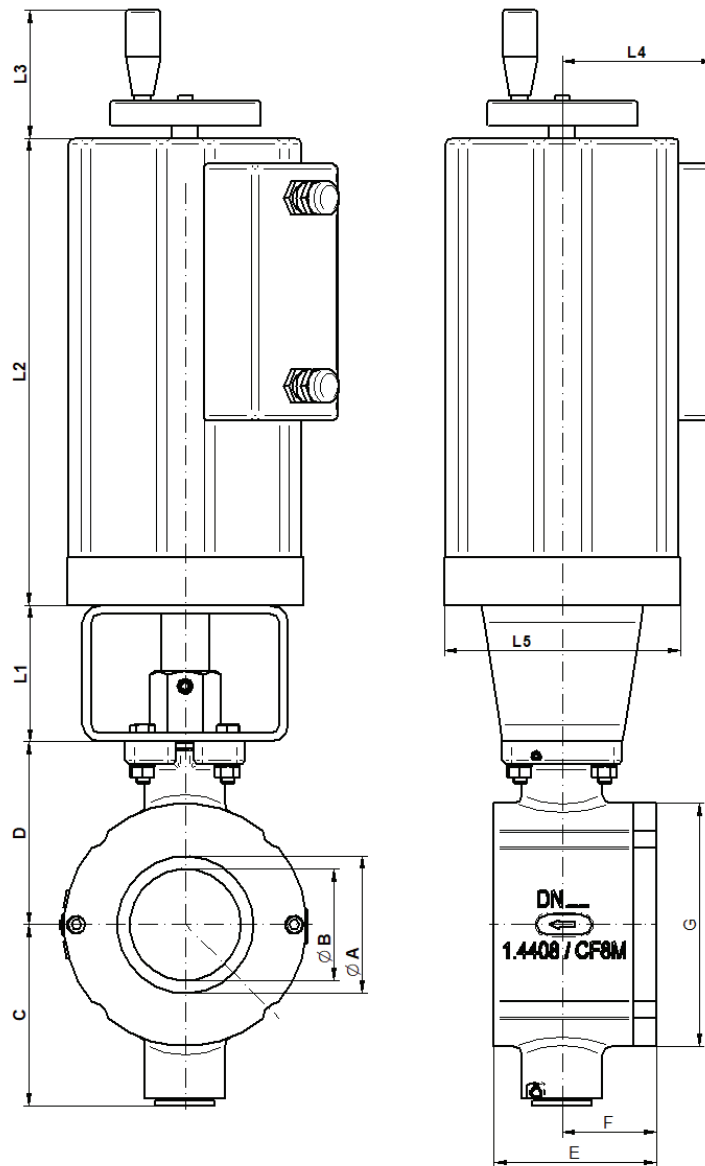
Ordering Number:

Nominal Size	4032/																			Z	...
e.g. DN 25 = 025		xxx																			
Item																					
Actuator																					A
seal kit (repair kit without seat ring)																					D
repair kit complete (with seat ring)																					R
partial repair kit (seat ring, o-ring, part 15 and 16)																					T
Valve																					V
Design																					
connection flange mounting for flange DIN EN 1092-1, PN10-PN40																					1
connection flange mounting for flange ASME B 16.5, ANSI 150																					E
connection flange mounting for flange ASME B 16.5, ANSI 300																					F
Body Material																					
stainless steel 1.4408(CF8M) resp. 1.4404(AISI 316L)																					1
Seat-material combination																					
seat ring: PTFE, ball sector: stainless steel, polished																					1
seat ring: stellite; ball sector: stainless steel, hard chromed																					B
seat ring: stellite; ball sector: stainless steel, hard chromed and lapped; holding ring: hard chromed																					C
seat ring: PTFE, ball sector: stainless steel, hard-chromed and lapped																					E
Sealing-material combination																					
all seals (part 13-16) from VITON, medium temperature: -15°C to +200°C																					1
all seals (part 13-16) from FFKM (Perlast/Kalrez), medium temperature: -15°C to +220°C																					A
all seals (part 13-16) from EPDM, medium temperature: -30°C to +140°C																					D
all seals (part 13-16) from NBR(P700), medium temperature: -40°C to +100°C																					N
Actuator																					
without mounting kit, without actuator																					0
high-resolution electrical control actuator „Papyros“, torque 200Nm, configured for step direction activation, position feedback 4-20 mA																					A
high resolution electrical control actuator „Papyros“, full load 400 Nm																					C
high resolution electrical control actuator S1500																					D
Control area																					
at valve lower part only not selected																					-
8192 steps/90°																					0
4-20 mA																					1
activation via Profibus																					P
activation via Modbus																					M
Supply voltage																					
variable AC/DC power supply 110-240V																					-
24V DC																					3
Kvs-value																					
100%																					-
red. to 6,3%																					3
red. to 63%																					A
red. to 40%																					K
cabel, control																					
activation inside control box, 10m connection cable between actuator and control box																					-
activation inside control box, 23m connection cable between actuator and control box																					A
Special version																					
see following positions																					S
test valve (nonstandard file)																					V

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## Dimensions with actuator S1500



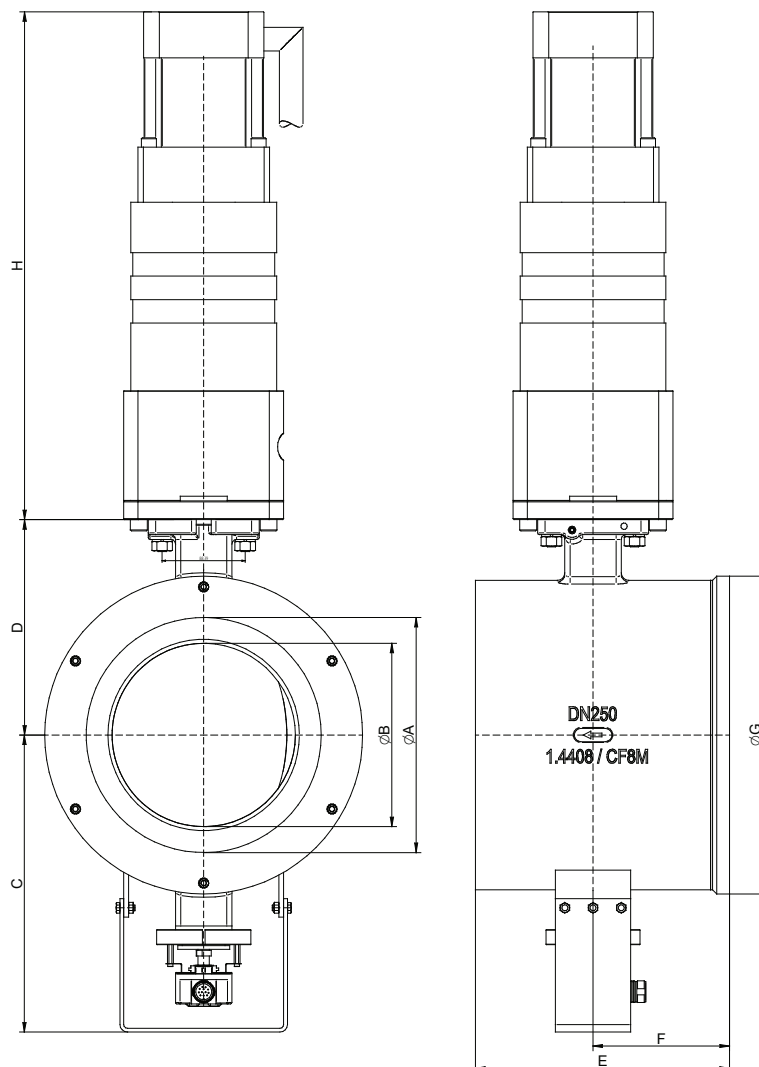
DN	A	B	C	D	E	F	L1	L2	L3	L4	L5	Weight valve with actuator (kg)
25	25	20	73	74	50	26	60	212	75	90	138	7,5
40	41	32	79	80	58	31	60	212	75	90	138	8,4
50	53	40	82	83	71	38	60	212	75	90	138	9,4
80	80	65	106	107	95	55	80	273	75	93	138	15,7
100	100	80	117	118	112	62	80	273	75	93	138	19,2
150	150	120	155	156	170	95	80	307	75	93	175	36,7
200	200	155	184	185	210	120	80	331	75	93	175	59,4

Dimensions in mm

# Ball Sector Valve 4032

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## Dimensions



DN	Ø A	Ø B	C	D	E	F	Ø G	H
80	80	65	191	107	95	55	142	485
100	100	80	210	118	112	62	174	485
150	150	120	248	156	170	96	220	485
200	200	155	284	185	210	120	280	485
250	250	195	316	229	2770	145	338	540

Dimensions in mm