

# Ball Sector Valve 4032

## with high-precision control-actuator

### Control valve with high-precision electric actuator for ball sector valves

- High-precision actuator
- Suitable for abrasive media (e.g. chalk milk and paper materials)
- Developed for use as a basis weight valve
- Actuation via step signal or analogue 4-20 mA (standard)
- Feedback via analogue signal 4-20 mA
- Easily replaceable seat ring
- Low maintenance
- Manual override



### Technical Information Valve

Body design	flangeless wafertype		
Nominal sizes	1" up to 10"		
Body material	cast parts	CF8M (1.4408)	
	turned parts	316 L (1.4404)	
Bearing material	high temperature plain bearing		
Cutting site to the actuator	mounting kit DIN/ISO 5211		
Nominal pressure	1" - 2"	ANSI150, ANSI3000, 580 psi (for flanges 145 psi - 580 psi)	
	2 1/2" - 4"	ANSI150, ANSI300, 365 psi (for flanges 145 psi - 365 psi)	
	5" - 10"	ANSI150, 235 psi (for flanges 145 psi - 235 psi)	
Fluid Temperature	-40°F up to +428°F	depending on the sealings	
Ambient temperature	-40°F up to +176°F	depending on the acuator	
	special version on request		
Vacuum	up to 1,48 mercury (Hg)		
Characteristic	almost equal percentage		
Rangeability	300:1		
Classification DIN EN ISO15848-1	ISO FE-BH-CC3-SSA0-t(-40°C/+220°C)-PN40-ISO 15848-1		
Leakage rate	Seat ring: PTFE / PEEK	Seat ring: PTFE / PEEK	Seat ring: Stellite
	Ball sector: Polished stainless steel	Ball sector: Hard chrome-plated stainless steel	Ball sector: Stainless steel hard chrome-plated and lapped
% of Kvs IEC 60534-4	< 0,00001	< 0,00005	< 0,0005
	IV-S1	IV-S1	IV-S1

### Technical Information Actuator

Actuator	S1500		S2000		S4000	Papyros
Actuator colour	blue				red	-
Design			KS2			KS1
Set point	analogue*	Bus System	analogue*	Bus System	Step signal	analogue
Set point signal	4 - 20 mA / 0 - 10 V / 3-point	Modbus 485	4 - 20 mA / 0 - 10 V / 3-point	Modbus 485	Step point control 24V	4 - 20 mA
Pulse duration					40ms	-
Burden						470 Ohm
Supply energy, electrical			24 V DC [±10%]			100...230 V AC [±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 (included in the delivery)
Resolution at the spherical sector	1300 steps / 90°		1600 steps / 90°		4000 steps / 90°	8192 steps / 90°
Reverse hysteresis			0,1°			-
Adjusting range					0 - 90°	
Limit stops			Mechanical limit stops inside of the actuator			control system; no mechanical strokes
Feed back			4 - 20 mA			4 - 20 mA, load resistor: 1kΩ max.
Ambient temperature limit, actuator			-40°F up to +176°F			15°F up to 140°F
Ambient temperature limit, control cabinet			-			32°F up to +104°F
Protection class acc. DIN 40050			IP 67			IP 65

\*Resolution of the control signal at least 12 bits, with 14 bits for the S4000 actuator

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## Working pressure max.

Nominal size	zulässiger Differenzdruck (delta p)									
	seat ring PTFE			seat ring PEEK				seat ring Stellite		
	up to 176°F psi	248°F psi	338°F psi	up to 176°F psi	248°F psi	338°F psi	428°F psi	up to 176°F psi	338°F psi	428°F psi
1" - 2"	365	230	85	580	580	365	230	580	580	365
3" - 4"	230	175	75	365	365	230	145	365	365	230
5" - 6"	230	175	60	230	230	175	115	230	230	175
8" - 10"	230	175	60	230	230	175	115	230	230	175

Actuators for mounting according DIN/ISO5211, pilot pressure 5 - 6 bar  
(for less than 5 bar pilot pressure, please inform us)

## Temperature limits

Seating	Sealing seatring									
	Viton		EPDM		NBR		FFKM		PFA-Silicon	
	Tmin [°F]	Tmax [°F]	Tmin [°F]	Tmax [°F]	Tmin [°F]	Tmax [°F]	Tmin [°F]	Tmax [°F]	Tmin [°F]	Tmax [°F]
PTFE	5	338	-40	284	-22	212	5	338	-49	338
PEEK	5	392	-40	284	-22	212	5	428	-49	428
Stellite	5	392	-40	284	-22	212	5	428	-49	428

## Kvs-Values

Size	Cvs-value reduced to					
	100%	63%	40%	25%	16%	6,3%
1"	29	14.7	9.2	6.2	4.2	1.7
1 1/2"	80.9	46.6	29			
2"	126	75.4	47.6			
2 1/2"	220.4					
3"	347					
4"	451					
5"	874					
6"	936					
8"	1578					
10"	2567					

## Operating time for 90° / starting current

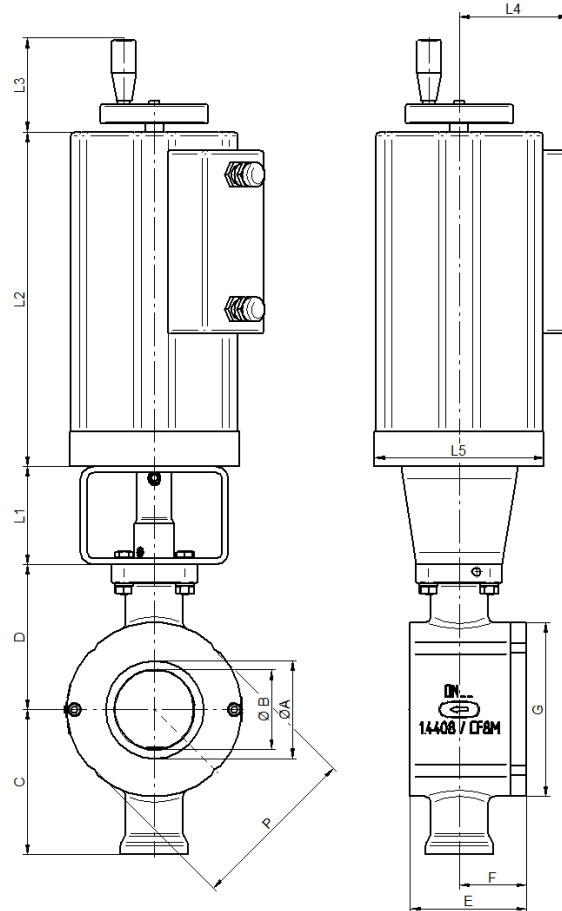
DN	Operating time 90°			Starting current	
	S1500	S2000	S4000		
1" - 2"	30s (4s - 15min)			225s (0,4°/s)	5A
2 1/2" - 4"	30s (4s - 15min)			225s (0,4°/s)	7A
5" - 6"	30s (4s - 15min)			225s (0,4°/s)	10A
8" - 10"	30s (4s - 15min)			225s (0,4°/s)	13A

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## Dimensions KS2 with actuator S1500, S2000 and S4000



DN	A	B	C	D	E	F	L1	L2	L3	L4	L5	Weight (lbs)
1"	0,98	0,79	3,35	3,35	1,97	1,02	2,36	8,35	2,95	3,54	5,43	22,49
1 1/2"	1,61	1,26	3,62	3,62	2,28	1,22	2,36	8,35	2,95	3,54	5,43	24,25
2"	2,09	1,57	3,74	3,74	2,8	1,5	2,36	8,35	2,95	3,54	5,43	25,35
2 1/2"	2,56	1,97	4,55	4,55	3,35	1,93	3,15	10,75	2,95	3,66	5,43	35,27
3"	3,15	2,56	4,67	4,67	3,74	2,17	3,15	10,75	2,95	3,66	5,43	38,14
4"	3,94	3,15	5,1	5,1	4,41	2,44	3,15	10,75	2,95	3,66	5,43	46,08
5"	3,94	4,92	6,99	6,99	5,83	3,35	3,15	12,09	2,95	3,66	6,89	68,12
6"	5,91	4,72	7,36	7,36	6,69	3,74	3,15	12,09	2,95	3,66	6,89	76,72
8"	7,87	6,1	8,5	8,5	8,27	4,72	3,15	13,03	2,95	3,66	6,89	140,42
10"	9,84	7,68	9,53	9,53	10,63	5,71	3,15	13,03	2,95	3,66	6,89	202,83

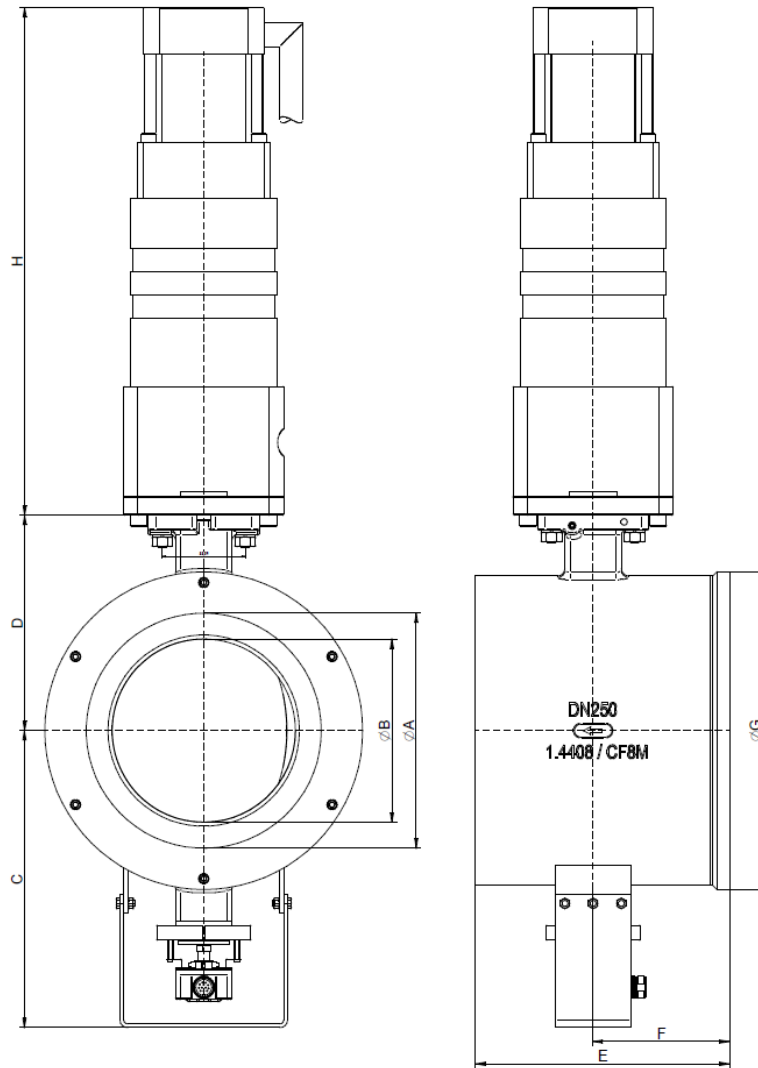
DN	PN					ANSI 150				ANSI 300			
	PN	G	P	M	Amount	G	P	M	Amount	G	P	M	Amount
1"	PN40	2,95	2,87	1,77	4	2,95	2,66	1,77	4	3,11	2,87	1,77	4
1 1/2"	PN40	3,78	3,7	1,77	4	3,78	3,43	1,77	4	3,9	3,7	1,77	4
2"	PN40	4,41	4,17	1,77	4	4,41	4,17	1,77	4	4,41	0	0	0
2 1/2"	PN25	5,08	0	0	0	5,08	4,92	1,77	4	5,08	0	0	0
3"	PN25	5,59	0	0	0	5,59	5,43	1,77	4	5,91	0	0	0
4"	PN25	6,85	6,46	0,89	8	6,93	0	0	0	7,17	0	0	0
5"	PN16	7,87	7,64	0,89	8	7,87	7,64	1,77	8	---	---	---	---
6"	PN16	8,66	0	0	0	8,66	0	0	0	---	---	---	---
8"	PN16	11,02	0	0	0	11,02	0	0	0	---	---	---	---
10"	PN16	13,31	12,95	0,89	8	13,31	0	0	0	---	---	---	---

Dimensions in inch

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## Dimensions of type KS1 with Papyros actuator



DN	Ø A	Ø B	C	D	E	F	Ø G	H
4	100	80	210	118	112	62	174	485
6	150	120	248	156	170	96	220	485

\*Dimensions in inch

Text and pictures are not binding. We reserve the right, to alter the equipment.