

Ball Sector Valve 4040



1" up to 12"

- 1" up to 12"
- High Cv-values up to 4454
- Excellent control characteristics
- Suitable for abrasive media
- Easily exchangeable seat ring
- Low maintenance
- Actuators can be easily fitted
- Efficient and easy to install



Technical Information Valve

Design	1" - 10" flangeless wafer type 12" flange connection	
Nominal sizes	1" up to 12"	
Body material	cast parts	CF8M (1.4408)
	turned parts	316 L (1.4404)
Material of the bearing shaft	1.4122	
Bearing material	high temperature plain bearing (Iglidur Z)	
Connection to the actuator	mounting kit DIN/ISO 5211	
Nominal pressure	1" - 2"	ANSI300, ANSI150, 580 psi (for flanges 145 psi - 580 psi)
	3" - 4"	ANSI150, 365 psi (for flanges 145 psi - 365 psi)
	6" - 12"	ANSI150, 235 psi (for flanges 145 psi - 235 psi)
Fluid Temperature	-40°F up to +428°F according to the sealings	
Ambient temperature	-40°F up to +176°F according to the acuator	
	special version on request	
Characteristic	almost equal percentage	
Rangeability	300:1	

Valve sizes, Cv-Values, Torques

Nominal size	Cv	hole inch	rotation angle nominal*	max. press. nominal	max. press. nominal ANSI	req. torque [lbf ft]		mounting kit DIN/ISO	
						on/off-operation	control operation	series 1	series 2
1"-50%	14.5	0.59	65°	580 psi	ANSI 300	11	18	F04/SW11	F05/SW14
1"	24.4	0.75	90°	580 psi	ANSI 300	11	18	F04/SW11	F05/SW14
1 1/2 -50%	39.4	0.98	60°	580 psi	ANSI 300	22	37	F05/SW14	F07/SW17
1 1/2 "	74.2	1.26	90°	580 psi	ANSI 300	22	37	F05/SW14	F07/SW17
2"	109	1.57	90°	580 psi	ANSI 300	22	37	F05/SW14	F07/SW17
3"	295.8	2.52	90°	365 psi	ANSI 150	44	74	F07/SW17	F10/SW22
4"	452.4	3.15	90°	365 psi	ANSI 150	66	111	F07/SW17	F10/SW22
6"	939.6	4.72	90°	235 psi	ANSI 150	111	184	F10/SW22	F12/SW27
8"	1583.4	6.1	90°	235 psi	ANSI 150	155	258	F12/SW27	F14/SW36
10"	2575.2	7.68	90°	235 psi	ANSI 150	266	443	F12/SW27	F14/SW36
12"	4454.4	9.84	90°	235 psi	ANSI 150	664	1106	F14/SW36	F16/SW46

* All Valves can be rotated 90° when actuated.

Though for valves with reduced bore holes a smaller angle of rotation is sufficient.

Valve seat combinations

Seat ring	Ball sector	Leakage	min. temp [°F]*
PTFE	stainless steel polished or hard chrome plated or lapped	5×10^{-7} of max. Cvs	-40 up to +338°F
PEEK	stainless steel polished or hard chrome plated or lapped	5×10^{-7} of max. Cvs	-40 up to +428°F
Stellit	stainless steel, hard chrome plated and lapped	Class IV-S1 acc. EN 1349 (IEC 534-4) 5×10^{-6} of max. Cvs	-40 up to +428°F
PTFE	stainless steel, hard chrome plated and lapped	Class VI acc. EN 1349 (IEC 534-4)	-40 up to +338°F
Stellit	stainless steel, hard chrome plated and lapped, seat holding ring hard chrome plated	5×10^{-6} of max. Cvs	-40 up to +428°F

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

Shaft seals (o-ring)

	min. temp [°F]	max. temp [°F]	comment
Viton (Standard)	5	392	
EPDM	-22	284	suitable for steam
NBR (P700)	-40	212	
FFKM (Perlast/Kalrez)	5	428	suitable for steam

special material on request

Actuators

Actuators for mounting according DIN/ISO5211, pilot pressure 73 - 87 psi (for less than 73 psi pilot pressure, please inform us)

Working pressure max.

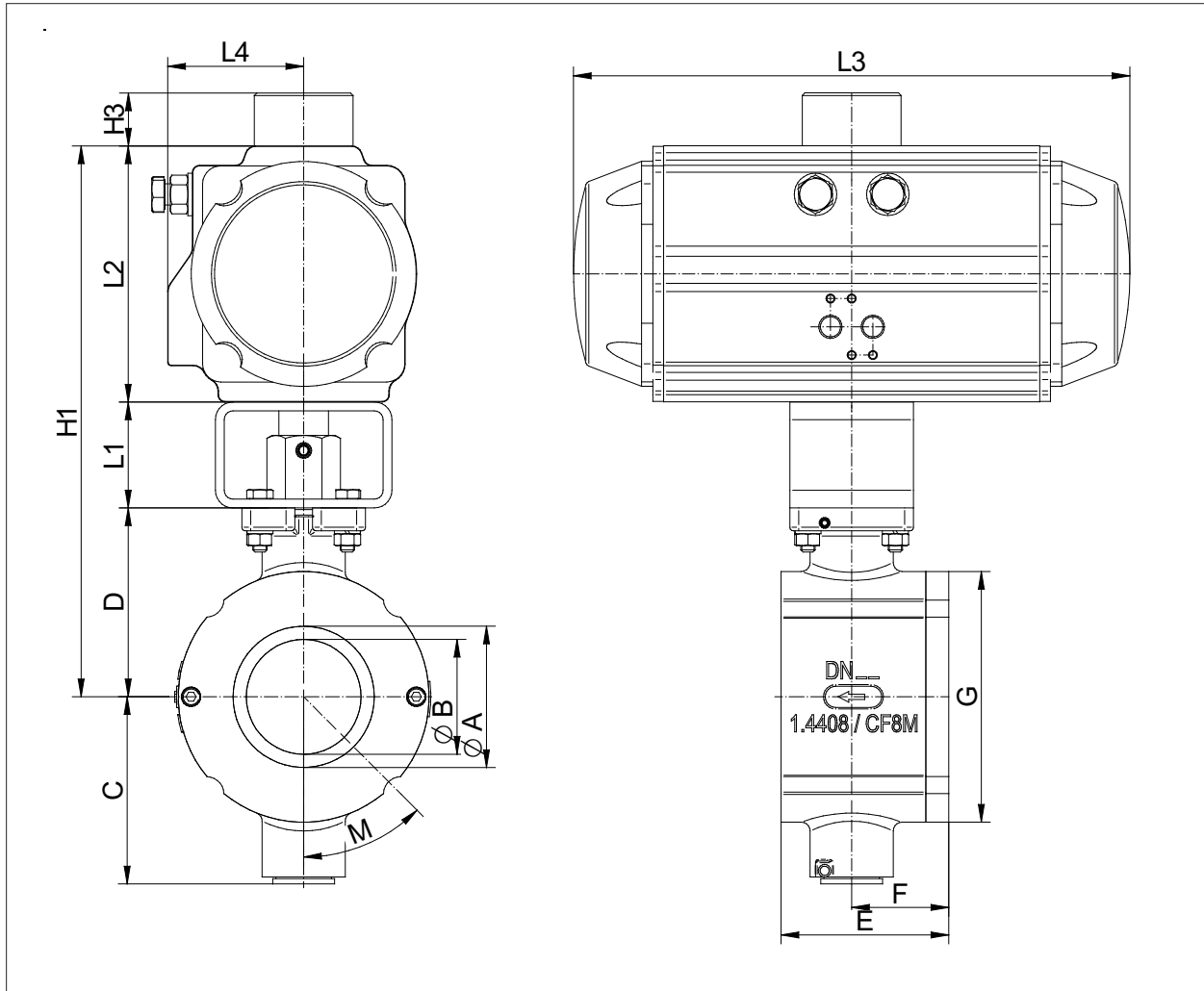
Nominal size	maximum differential pressure (delta p)									
	seat ring PTFE			seat ring PEEK				seat ring Stellit		
	up to 176°F	248°F	338°F	up to 176°F	248°F	338°F	428°F	up to 176°F	338°F	428°F
1" - 2"	365	230	85	580	580	365	230	580	580	365
3" - 4"	230	175	75	365	365	230	145	365	365	230
6" - 12"	230	175	60	230	230	175	115	230	230	175

Ordering Number System

Ordering Number:												M				Z	...			
Nominal Size	4040/																			
e.g. nominal size 1" = 025	xxx																			
Article																				
valve	V																			
repair-kit	R																			
seat kit	D																			
Connection																				
flangeless design according DIN EN 1092-1	1																			
flangeless design according ASME B 16.5, ANSI 150	E																			
flangeless design according ASME B 16.5, ANSI 300	F																			
Body material																				
stainless steel CF8M (1.4408)	1																			
Material combination																				
seat ring: PTFE; ball sector: CF8M polished	1																			
seat ring: PTFE; ball sector: CF8M, hard chrome plated	A																			
seat ring: Stellite; ball sector: CF8M, hard chrome plated and lapped	B																			
seat ring: PTFE; ball sector: CF8M, hard chrome plated and lapped	E																			
seat ring: TECAPEEK; ball sector: CF8M, hard chrome plated	P																			
Seal combination																				
all seals (part 13-16) from VITON, medium temperature: 5°F to +392°F	1																			
all seals (part 13-16) from FFKM (Perlast/Kalrez), medium temperature: 5°F to +428°F	A																			
all seals (part 13-16) from EPDM, medium temperature: -22°F to +284°F	D																			
all seals (part 13-16) from NBR(P700), medium temperature: -40°F to +212°F	N																			
Actuator																				
without mounting kit, without actuator	0																			
without actuator, with standard mounting kit according DIN/ISO 5211	1																			
pneumatic quarter-turn actuator (Air Torque) with mounting kit according DIN/ISO 5211	T																			
hand lever	H																			
Safety position:																				
without	0																			
single acting, spring to close	1																			
double acting, without safety position	2																			
single acting, spring to open	3																			
Positioner																				
without	-																			
without positioner, with mounting kit according VDI/VDE 3845 for positioners	0																			
i/p-positioner SIPART PS2	2																			
i/p-positioner PMV Typ EP5	8																			
digital positioner Schubert & Salzer Type 8049, 4-wire	L																			
digital positioner Schubert & Salzer Type 8049, 2-wire	R																			
Additional specifications for the positioner																				
without	-																			
positioner single acting	1																			
positioner double acting	2																			
positioner single acting with gauge	3																			
positioner double acting with gauge	4																			
Positioner settings																				
standard	-																			
double acting 20 - 4 mA (20mA closed, 4mA open)	1																			
single acting 20 - 4 mA (inverse function, safety position at 20mA)	2																			
Cv-value																				
100%	-																			
50%	1																			

Ball Sector Valve 4040

Dimensions with pneumatic actuator
(designed for a pilot pressure of 73 - 87 psi)

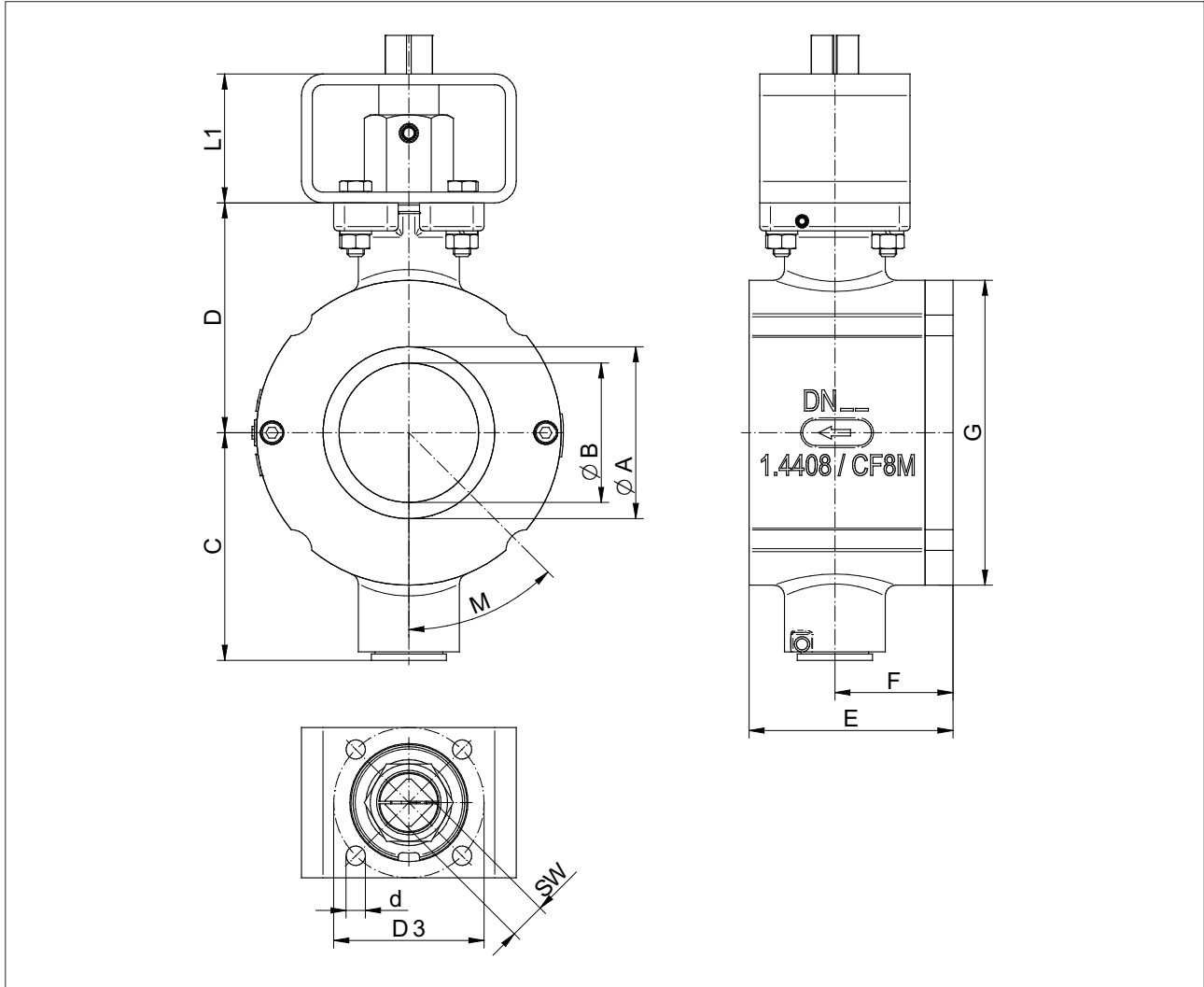


Size	A	B	C	D	E	F	G	L1	single acting					double acting				
									L2	L3	L4	H1	weight (lbs)	L2	L3	L4	H1	weight (lbs)
1"	0.98	0.79 (0.59)	2.87	2.91	1.95	1.02	2.87	2.36	4.02	8.29	2.05	9.29	12.2	3.35	6.24	1.85	8.62	8.9
1 1/2"	1.61	1.26 (0.98)	3.11	3.15	2.3	1.22	3.7	2.36	4.53	9.74	2.24	10.04	16.8	4.02	8.29	2.05	9.53	13.3
2"	2.09	1.57	3.23	3.27	2.8	1.5	4.41	2.36	4.53	9.74	2.24	10.16	19	4.02	8.29	2.05	9.65	15.5
3"	3.15	2.56	4.17	4.21	3.75	2.17	5.59	2.36	5.71	12.4	3.03	12.28	39.1	4.53	9.74	2.24	11.1	26.1
4"	3.94	3.15	4.61	4.65	4.4	2.44	6.85	2.36	6.18	13.58	3.23	13.19	52.7	5	10.57	2.64	12.01	37.3
6"	5.91	4.72	6.1	6.14	6.7	3.74	8.66	3.15	6.97	16.08	3.6	16.26	90.9	6.18	13.58	3.23	15.47	74.1
8"	7.87	6.1	7.24	7.28	8.25	4.72	11.02	3.15	8.68	19.17	4.13	19.11	162.1	6.97	16.08	3.6	17.4	125.5
10"	9.84	7.68	8.98	9.02	10.65	5.71	13.31	3.15	9.65	21.38	4.41	21.81	243.4	7.72	17.22	3.9	19.88	189.4

Dimensions for 12" and for motorized versions on request.

Dimension in inch

Dimensions without actuator (with mountig kit ISO 5211)



Size	A	B	C	D	E	F	G	L1	d	D3	SW	DIN/ISO 5211	weight (lbs)
1"	0.98	0.79 (0.59)	2.87	2.91	1.97	1.02	2.87	2.36	0.26	1.97	0.55	F 05	5.3
1 1/2"	1.61	1.26 (0.98)	3.11	3.15	2.28	1.22	3.7	2.36	0.26	1.97	0.55	F 05	7.3
2"	2.09	1.57	3.23	3.27	2.8	1.5	4.41	2.36	0.26	1.97	0.55	F 05	9.5
3"	3.15	2.56	4.17	4.21	3.74	2.17	5.59	2.36	0.35	2.76	0.67	F 07	17.7
4"	3.94	3.15	4.61	4.65	4.41	2.44	6.85	2.36	0.35	2.76	0.67	F 07	25.4
6"	5.91	4.72	6.1	6.14	6.69	3.74	8.66	3.15	0.43	4.02	0.87	F 10	51.6
8"	7.87	6.1	7.24	7.28	8.27	4.72	11.02	3.15	0.53	4.92	1.06	F 12	93.7
10"	9.84	7.68	8.98	9.02	10.63	5.71	13.31	3.15	0.53	4.92	1.06	F 12	145.8

Dimensions for 12" on request.

Dimension in inch