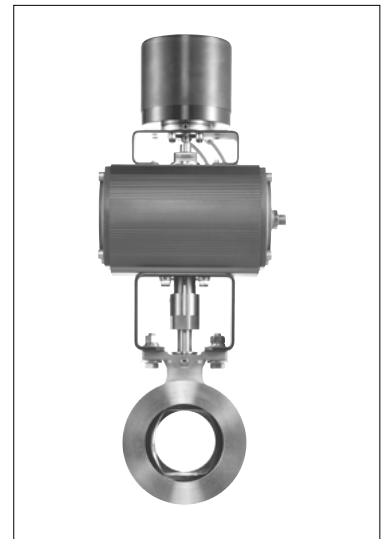


Ramén-BallSector Valve

Series KS 4020

Control valve with pneumatic part-turn actuator and top mounted positioner.

- Self-draining
- Excellent throttling characteristic
- Good resistance to abrasive flow
- Easily replacable seat ring
- Easy to automate
- Economic and easy to install
- No air consumption
- Very small flow coefficient, Cv from 0,025
- Big flow coefficient, Cv until 3440



Technical Data

Valve

Design	flangeless, wafertype (DN300 with flange)
Nominal Sizes	DN 25 up to DN 300
Nominal Pressure	up to PN 40 acc. DIN 2401, for flanges PN 10 - PN 40
Fluid Temperature	O-Rings VITON -10°C up to +170°C further details see sealing materials
Ambient Temperature	-10°C up to +60°C
Rangeability	100:1
Leakage Rate with PTFE-Seat	Leakage rate 2 acc. DIN 3230-BO
with Metal Seat	< 0,01 % of Kvs-value

Digital Positioner

Schubert & Salzer, type 8048

Set point signal	0/4 - 20 mA, 0/2 - 10 V,
Supply energy, electrical	24 VDC
Supply energy, pneumatical	3 - 6 bar
Adaption to range and zero	Self-adapting
Configuration	With PC-Software
Air delivery (at 6 bar supply pressure)	100 NI/min. 30 NI/min. (option)
Ambient temperature limits	-10 up to 75°C
Class of protection acc. DIN 40050	IP 65

other positioners on demand

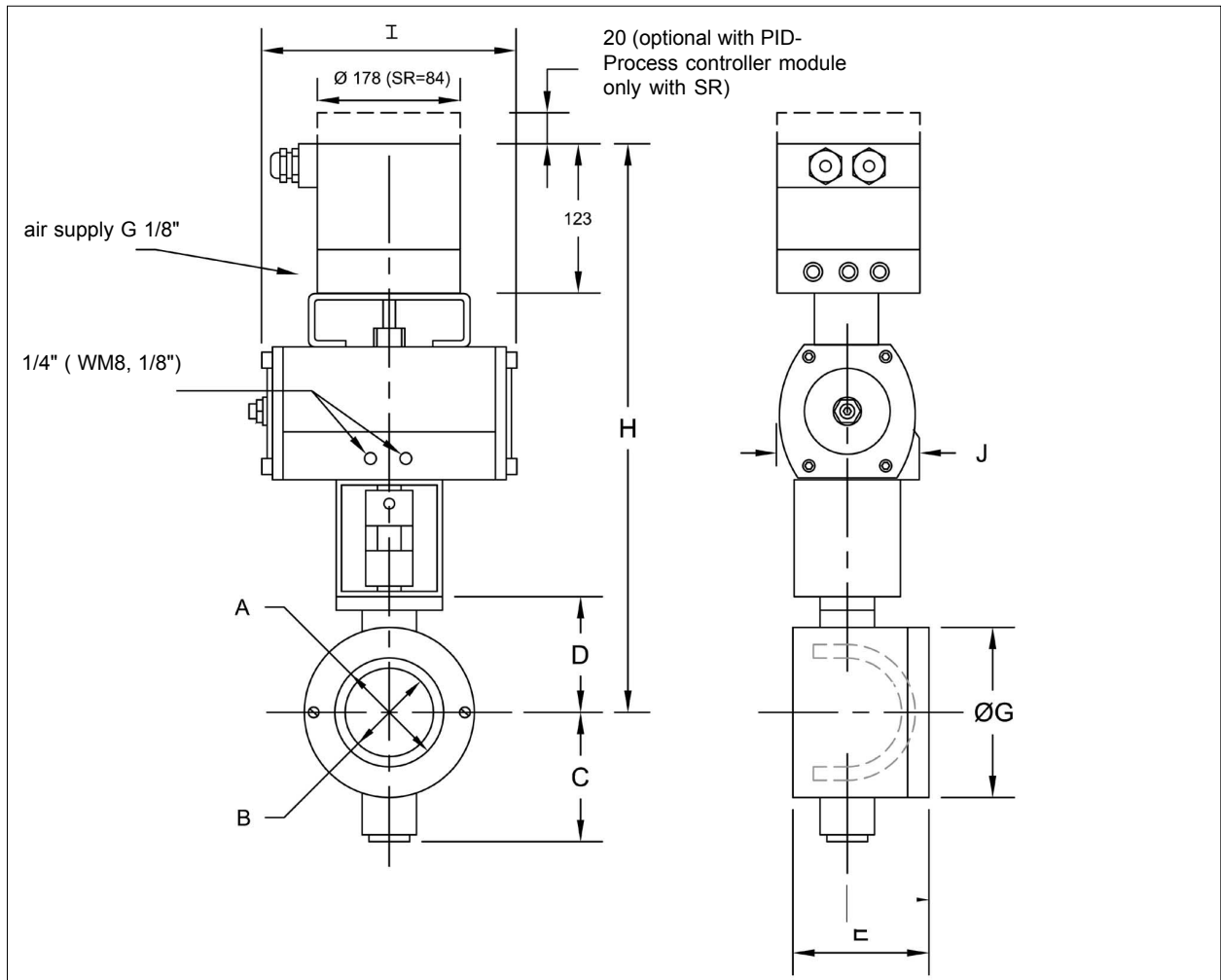


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Ramén-BallSector Valve 4020

Dimensions and weights



DN	Actuator	B	C	D	E	F	G	H	I	J	Weight kg	
											DA	SR
25	WM8DA/SR	19(15)	35	80	50	25	70	418	162	96	8	9
40	WM12DA/SR	32	95	95	71	38	94	442	195	108	11	12
50	WM12DA/SR	40	95	95	71	38	94	442	195	108	11	12
80	WM20DA/SR	64	107	104	95	55	140	514	218	130	18	19
100	WM20DA/SR	80	118	115	112	62	160	524	218	130	20	21
150	WM35DA/SR	120	167	162	170	95	220	598	265	156	42	44
200	WM55DA/SR	155	188	183	210	120	274	671	312	190	66	69
250	WM70DA/SR	195	233	228	270	150	330	751	340	190	95	98

Dimensions in mm

Measures and weights for pneumatic part-turn actuator fabr. Wire Matic and double acting positioner type 8048 fabr. Schubert & Salzer.

Ramén-BallSector Valve 4020

Materials (Material combination 1)

Material Combination	MAK 1	MAK 1A	MAK 1B	MAK 1C	MAK 1E
Body, Ball Sector	1.4408*	1.4408* hard-chrome plated	1.4408* hard-chrome plated	1.4408* hard-chrome plated	1.4408* hard-chrome plated
Fixing Ring (For Seat Ring)	1.4436 or 1.4408	1.4436 or 1.4409	1.4436 or 1.4410	1.4436 or 1.4411 hard-chrome plated	1.4436 or 1.4411 hard-chrome plated
Bearing Shaft	1.4460	1.4460	1.4460	1.4460	1.4460
Bearings	Rulon	Rulon	Rulon	Rulon	Rulon
Seat Ring	PTFE	PTFE	1.4436 stellited	1.4436 stellited	1.4436 stellited, extended
O-Rings	VITON	VITON	VITON	VITON	VITON
O-Ring Sealings For Bearing Shafts	maintenance-free	maintenance-free	maintenance-free	maintenance-free	maintenance-free

* DN25: 1.4436

Nominal sizes, Kvs-values, torques

DN Typ KS	Kvs	Orifice Dia. mm	Rotation Angle nominal (3)	max. Pressure Number	Req. Torque [Nm] (4)		Mounting kit DIN/ISO 5211
					On/Off- Operation	Control Operation	
25/0,3	0,25	Anm. (1)	72°	PN40	15	25	F05/SW14
25/0,7	0,6	Anm. (1)	72°	PN40	15	25	F05/SW14
25/1,3	1,1	Anm. (1)	72°	PN40	15	25	F05/SW14
25/2,5	2,1	Anm. (1)	72°	PN40	15	25	F05/SW14
25/5	5	Anm. (2)	60°	PN40	15	25	F05/SW14
25/10	7,5	Anm. (2)	90°	PN40	15	25	F05/SW14
25/15	12,5	15	65°	PN40	15	25	F05/SW14
25/20	21	19	90°	PN40	15	25	F05/SW14
40/25	34	25	60°	PN40	30	50	F05/SW14
40/32	64	32	70°	PN40	30	50	F05/SW14
50	94	40	90°	PN40	30	50	F05/SW14
80	255	64	90°	PN25	60	100	F07/SW17
100	390	80	90°	PN25	90	150	F07/SW17
150	810	120	90°	PN16	150	250	F10/SW22
200	1365	155	90°	PN16	210	350	F12/SW27
250	2220	195	90°	PN16	360	600	F12/SW27
300	3840	250	90°	PN10	900	1500	F14/SW36

- (1) Torque figures are approximative and apply for valves with seat ring of PTFE, controlling cold and clean water in half open position and with 1bar pressure drop.
- (2) Ball sector has a triangular milled track, equal percentage.
- (3) Ball sector has a hole with triangular opening.
- (4) All valves can be turned 90°. It is sufficient for valves with reduced boring a small rotating angle for closing.

Admissible Differential Pressures

Nominal size	maximum working pressure	maximum differential pressure (Δp)				
		Seat ring PTFE			Seat ring W1.4436, hard faced	
DN	0-170°C bar	0-80°C bar	120°C bar	150°C bar	0-80°C bar	170° (200°) C bar
25-50	40	25	6	1	25	25
80-100	25	16	6	1	16	16
150-250	16	16	6	1	16	12
300	10	10	6	1	10	8

Above values are a guideline only for Open/Close-operation and normal control of clean, not abrasive water. For other applications it is required an extra safety factor (1 bar = 100 kPa = 0,1 MPa)

Ramén-BallSector Valve 4020

Ordering Number System

Ordering Number:

4020/										Z	
Nominal Size											
e.g. DN 25 = 025											
Article											
Valve											
Lower Part											
Repairkit											
Reduced Rate of Flow											
without Reduction											
DN25/0,03, Kvs=0,025											
DN25/0,3, Kvs=0,25											
DN25/0,7, Kvs=0,6											
DN25/1,3, Kvs=1,1											
DN25/2,5, Kvs=2,1											
DN25/5, Kvs=5											
DN25/10, Kvs=7,5											
DN25/15, Kvs=12,5											
DN40/25, Kvs=34											
Body Material											
Stainless Steel 1.4408 or 1.4436, PN16											
Stainless Steel 1.4408 or 1.4436, PN16+CE (for applications acc. category 1 DGRL)											
Material Combination											
MAK 1: Seat Ring: PTFE, O-Ring: Viton											
MAK 1A: Seat Ring: PTFE, O-Ring: Viton, Ball Sector hard chrome plated											
MAK 1B: Seat Ring: 1.4436, armoured, O-Ring: Viton, Ball Sector hard chrome plated											
MAK 1C: Seat Ring: 1.4436, armoured, O-Ring: Viton, Ball Sector hard chrome plated, Fixing Ring hard chrome plated											
MAK 1E: Seat Ring: 1.4436, armoured+extended, O-Ring: Viton, Ball Sector hard chrome plated, Fixing Ring hard chrome plated											
MAK 1(KVF): Seat Ring:PTFE, O-Ring: KALREZ/VITOFLO/VITON											
Mounting Kit (Valve/Actuator)											
Standard											
without Mounting Kit, with short Journal of a Shaft											
without Mounting Kit, with long Journal of a Shaft											
Mounting Kit acc. DIN/ISO 5211											
Actuator											
Wire Matic Part-Turn Actuator (standard)											
Ramén Part-Turn Actuator											
Hand Lever											
Electrical Motor Actuator (please indicate the details)											
Function Actuator											
single acting											
double acting											
Positioner											
digital positioner, Prod. of SSCS, Type 8048, IP 65, double acting											
digital positioner, Prod. of SSCS, Type 8048, IP 65, single acting											
i/p-positioner, digital, Prod. of Siemens, PS2, double acting, IP65											
p/p-positioner without gauges, Prod. of Eckardt, Type SRP 981, double acting											
i/p-positioner without gauges, Prod. of Eckardt, Type SRI 986, double acting											
i/p-positioner, digital, Prod. of ABB, Type: TZID-C, double acting, IP65											
p/p-positioner, Prod. of FMV, Type P5, double acting											
i/p-positioner, Prod. of FMV, Type EP5, double acting											
i/p-positioner, Prod. of FMV, Type 2020, double acting											

Further options: adjustment of the positioner, in add. adjustment of the signal, accessories, special versions, please indicate the details

Ordering example: 4020/050V011-W2ZD
Ramén BallSector Valve, Type 4020, product line KS, DN50, material combination 1, part-turn actuator double acting, Type WM12DA, digital i/p-positioner double acting, Type 8048, signal 4-20 mA