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SBS SERIES ELECTRICAL VALVES

FAMILY 04 CONTROL VALVES, GROUP 140#144

The SBS electrical control valves are 2- or 3-way modulating globe valves, with an axial electrical actuator.

They are equipped with a plug with linear or equipercentage typical curve and a soft or metal seal.

They are flanged in accordance with the standards EN 1092-2 – PN 16, EN 1092-1– PN 40.



TECHNICAL DATA

Valve type	2- or 3-way globe valve, unidirectional (N.C. angle way in the 3-way STD version).			
Material	EN 1561 GJL-250	EN 1563 GJS-500-7	ASTM A216 WCB	CF8M
DN	15 # 80	15 # 150	15 # 80	
Max. allowed P	16 BAR		40 BAR	
Connections	Flanged PN 16 according to EN 1092-2		Flanged PN 40 according to EN 1092-1	
Seal	PEEK – metal – stellite			
Seal class	Level A for PEEK seal Level B for metal and stellite seal (the stellite seal is recommended for $\Delta p > 10$ bar) In accordance with the standard UNI EN 12266-1			
Shutter features	equipercentage, linear			
Shutter stroke	15 mm (20 mm upon request) DN 15#80 – 30 mm DN 100#150			
Max temperature	+200°C			
Min. temperature	-10°C (in liquid phase)			
Electrical connections	Electrical connections with screw (max 2.5 mm ²)			
Power supply	24 V AC/DC (230 V AC upon request)			
Control signal	0#10 V / 4#20 mA / 2 or 3 POINTS			
Protection grade	IP66			
Activation time	15 mm stroke: 28 s - 56 s - 84 s / 20 mm stroke: 40 s - 80 s - 120 s / 30 mm stroke : 60 s - 120 s - 180 s			
Versions	normally closed, normally open, bellows for high/low temperatures (see specific sheet), emergency lever			

MATERIALS

Body material	EN 1561 GJL-250	EN 1563 GJS-500-7	ASTM A216 WCB	CF8M
Middle section	ASTM A216 WCB + Fe 430 B15#80 EN 1563 GJS-500-7 + Fe 430 B DN 100#150			CF8M + S30400
Shutter	PEEK	CF8 + S30400 + PEEK		CF8M + S31600 + PEEK
	METALLIC	CF8 + S30400		CF8M + S31600
Packing gland	PTFE+GRAPHITE-LOADED PTFE			
Body gaskets	FASIT 400			
Electric motor	PC and steel alloys			
Connecting screws	Galvanized steel			S30400

Δp and Kv valves SBS DN 15÷150 2-way electrical control

DN	Φ ff. ⁽¹⁾ [mm]	Stroke ⁽²⁾ [mm]	Kvs		CV		Motor type	Δp Valve
			Linear shutter	Equiperc. shutter	Linear shutter	Equiperc. shutter		
15	15	15	4.3	4.5	5	5.2	SUT 2000	40
	20	15	5	5	5.8	5.8	SUT 2000	40
20	20	15	8	7.5	9.3	8.7	SUT 2000	40
25	26	15	11.8	11.3	13.7	13.1	SUT 2000	28
32	31	15	20	15.2	23.3	17.7	SUT 2000	20
40	38	15	26	22.3	30.2	25.9	SUT 2000	14
50	48	15	38.4	34.6	44.7	40.2	SUT 2000	8
65	63	15	61	36,3	71,0	42,3	SUT 2000	5
80	78	15	61,9	43,16	72,1	50,3	SUT 2000	3
100	92	30	/	115	/	134	SUT 2000	2
125	115	30	/	190	/	222	SUT 2000	1,3
150	135	30	/	250	/	292	SUT 2000	0,8

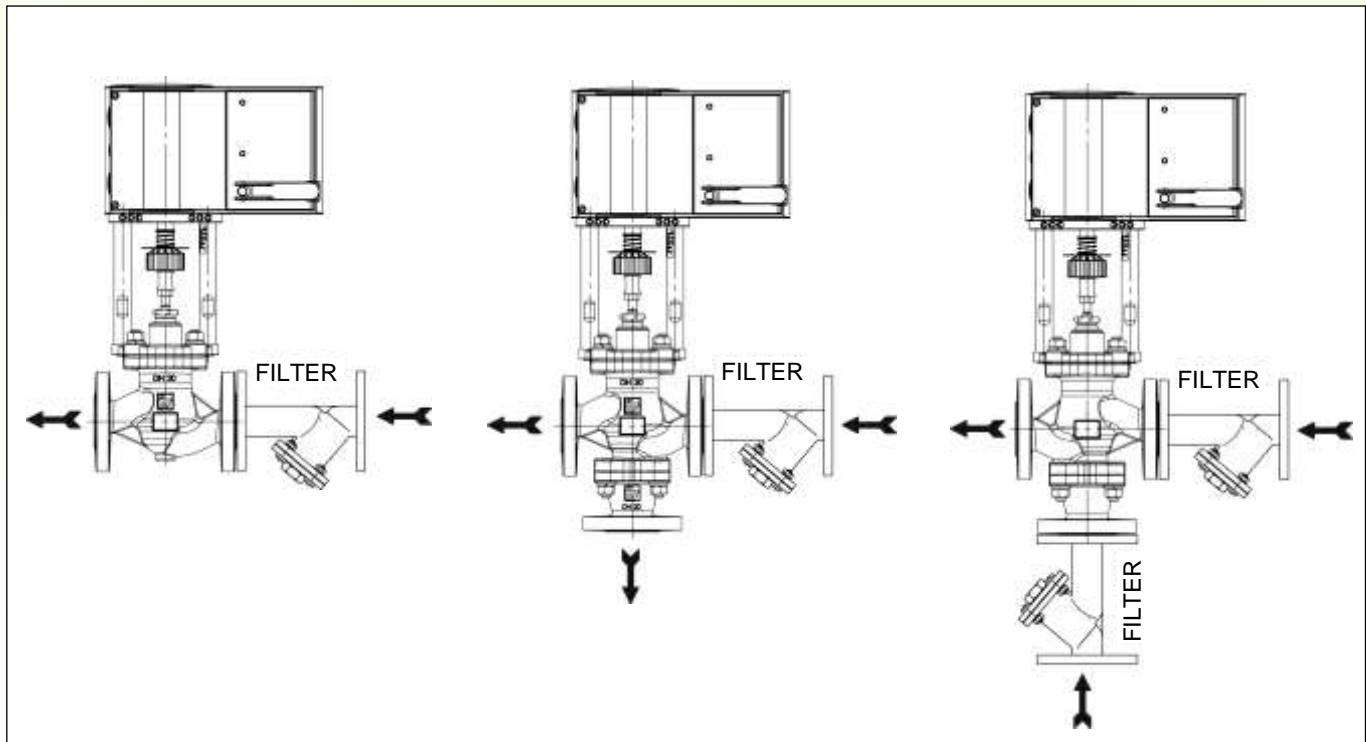
⁽¹⁾ For valves with reduced bore please contact our technical department

⁽²⁾ On request we can supply 20 mm stroke valves

The Kv has been calculated using the FLOWSimulation fluid dynamics program in accordance with the UNI EN 1267:2001 standard and refers to a 2-way valve

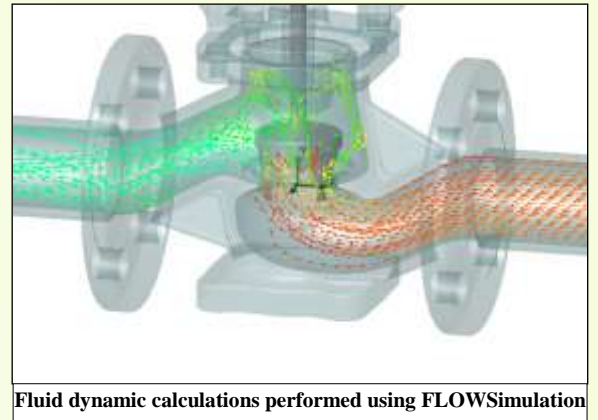
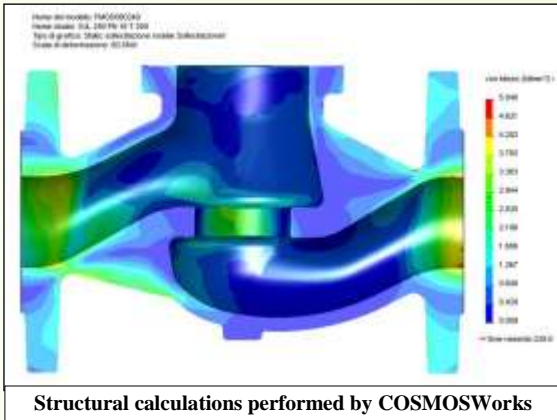
Δp max for Cast iron versions =16 bar

Installation diagrams of the electrically controlled SBS valves

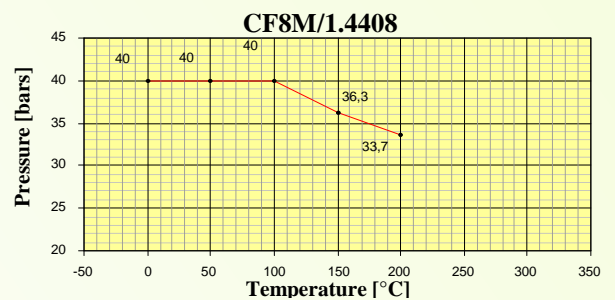
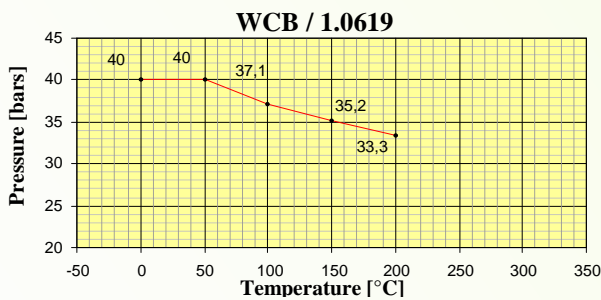
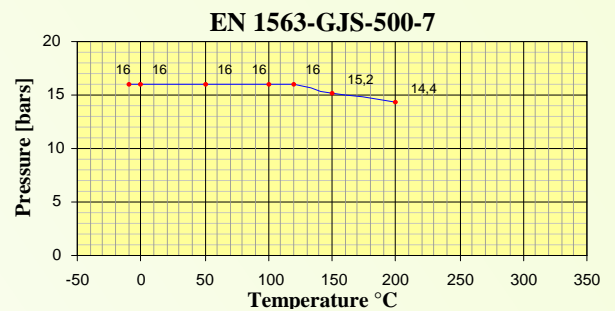
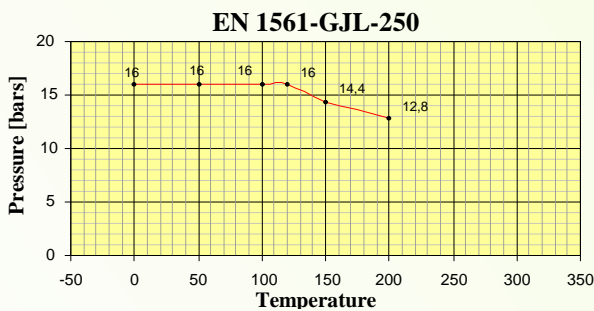


It is important that you install a filter on the valve inlets to prevent any slugs or impurities from damaging the valve seat or shutter, prejudicing proper operation.

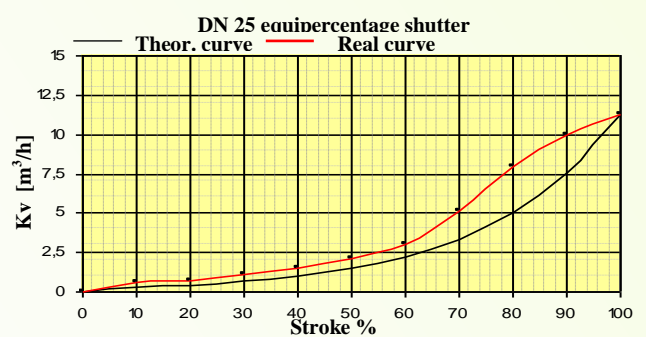
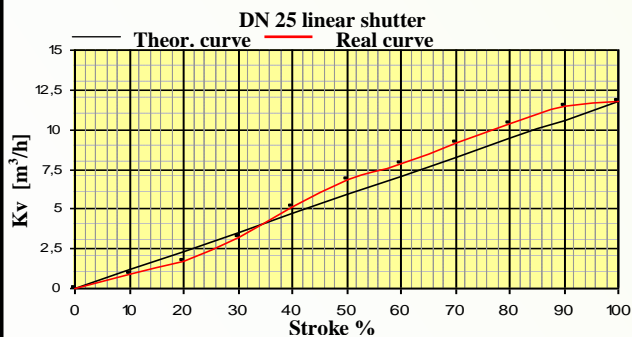
Examples of design calculations



Pressure/temperature ratios for SBS cast iron, WCB, CF8M bodies

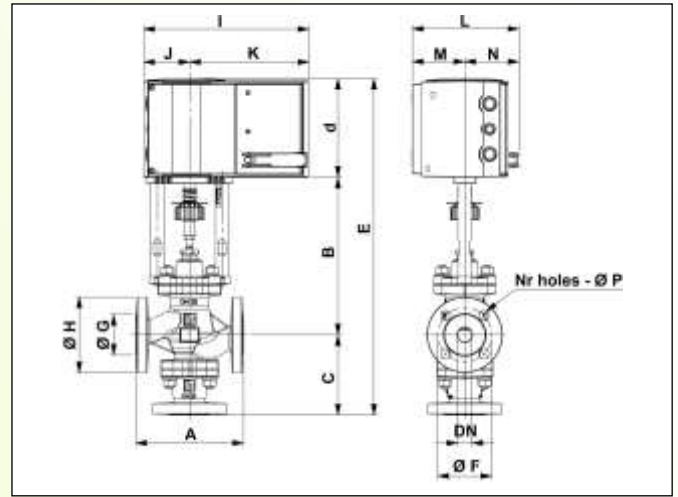
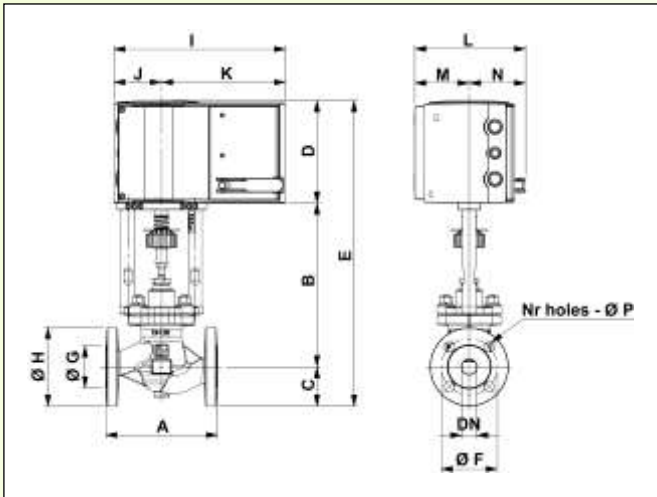


Instance curves and flow rates of the Linear and Equipercantage shutters of the SBS for 2-way valves stroke 15 mm



For all graphs refer to the curves and flow of the shutters Linear and equal percentage, see the Guide to selection, use and maintenance (website and / or CD)

Dimensions



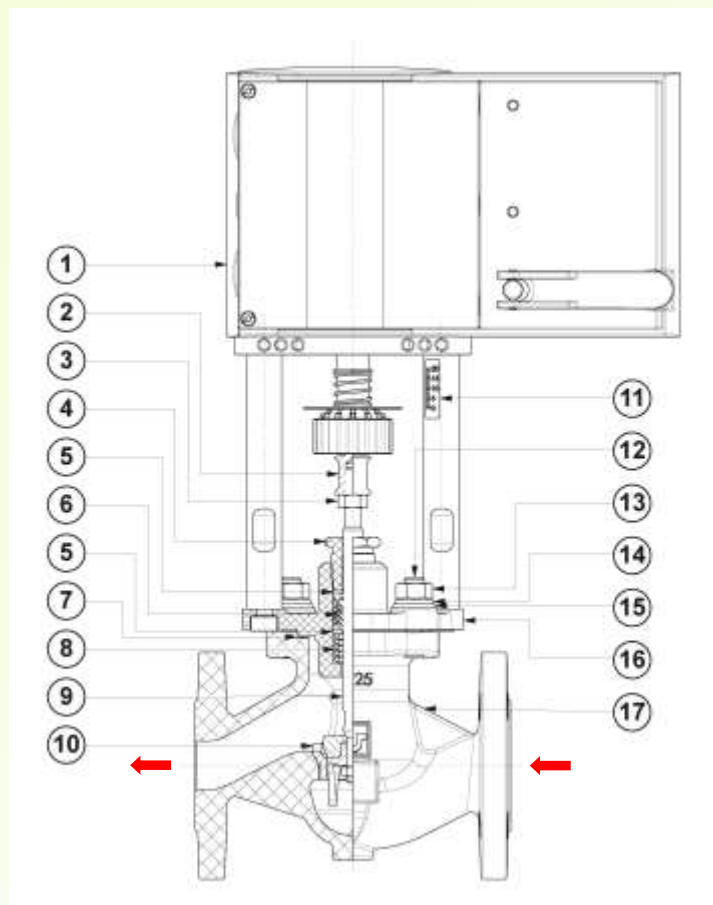
DN	A	B	C (2-way)	C (3-way)	D	E (2-way)	E (3-way)	Ø F	Ø G	Ø H	I	J	K	L	M	N	Ø P		No. of holes	
																	PN 16	PN 40	PN 16	PN 40
15	130	219	48	111	137	404	467	65	45	95	230	64	166	148	73	75	14	14	4	4
20	150	219	53	111	137	409	467	75	58	105	230	64	166	148	73	75	14	14	4	4
25	160	219	58	124	137	414	480	85	65	115	230	64	166	148	73	75	14	14	4	4
32	180	240	70	144	137	447	521	100	76	140	230	64	166	148	73	75	19	18	4	4
40	200	237	75	144	137	449	518	110	84	150	230	64	166	148	73	75	19	18	4	4
50	230	237	83	160	137	457	534	125	99	165	230	64	166	148	73	75	19	18	4	4
65	290	289	93	236	137	519	662	145	118	185	230	64	166	148	73	75	19	18	4	8
80	310	288	100	238	137	525	663	160	132	200	230	64	166	148	73	75	19	18	8	8
100	350	360	193	265	137	690	762	180	158	220	230	64	166	148	73	75	18	18	8	8
125	400	383	216	318	137	736	838	210	188	250	230	64	166	148	73	75	18	18	8	8
150	480	408	245	382	137	790	927	240	212	285	230	64	166	148	73	75	22	18	8	8

Dimensions are in mm

2-way SBS electrical valve components

No.	DESCRIPTION
1	Axial electric motor
2	Valve/Motor joint
3	Hexagon nut
4	Packing gland screw
5	Distance ring washer
6	Packing gland
7	Body gasket
8	Packing gland spring
9	Shutter
10	Seat
11	Stroke graduated label
12	Stud-bolt
13	Hexagon nut
14	Spring washer
15	Flat washer
16	Intermediate body with closing flange
17	Valve body

→ Flow direction

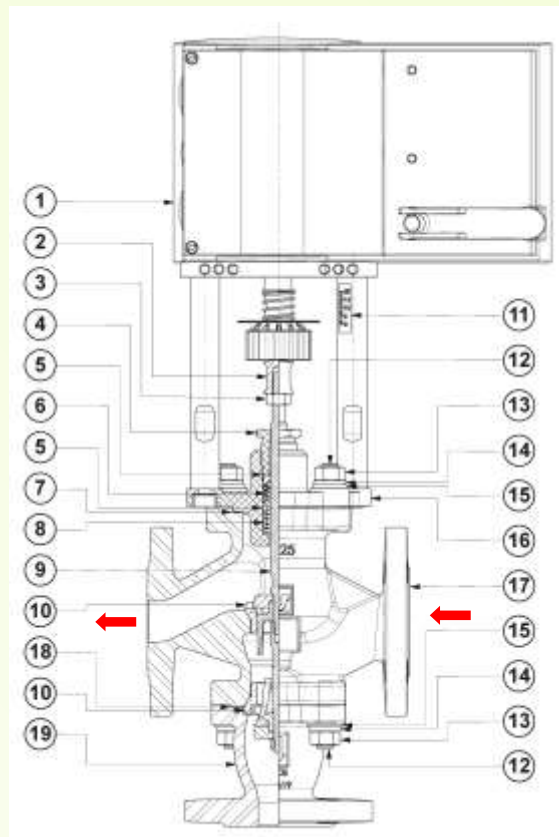


3-way deviation/mixer electrical valve components

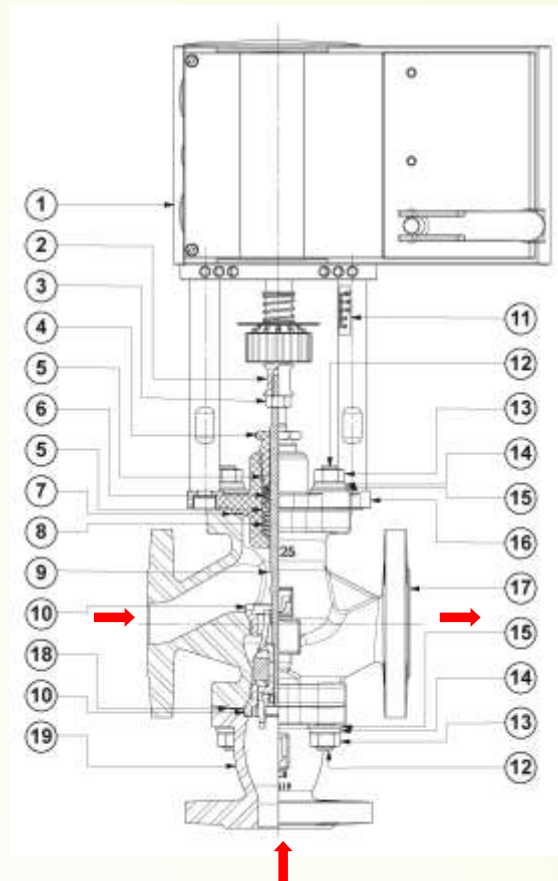
No.	DESCRIPTION
1	Axial electric motor
2	Valve/Motor joint
3	Hexagon nut
4	Packing gland screw
5	Distance ring washer
6	Packing gland
7	Body gasket
8	Packing gland spring
9	Shutter
10	Seat
11	Stroke graduated label
12	Stud-bolt
13	Hexagon nut
14	Spring washer
15	Flat washer
16	Intermediate body with closing flange
17	Valve body
18	Bottom base gasket
19	Bottom base

→ Flow direction

Deviator



Mixer



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