

# SBS

## PNEUMATIC CONTROL VALVES

# **SBS/16 – GLOBE CONTROL VALVE**

Multi-spring diaphragm control valve with body in GJL, GJS, WCB, CF8M, CF3M

**DN:** from DN 15 (1/2") to DN80 (3")  
**Connections:** DIN Flanges  
ANSI Flanges  
BW - SW  
BSPP - NPT

**Packing:** PTFE / PTFE-GR  
**Plug Seal:** PEEK  
Metallic  
Stellite

**Leakage Class:** IV (metal-metal)  
VI (soft)

**Min Fluid T:** down to -40°C      -40°F  
**Max Fluid T:** up to +350°C      +662°F  
**Max P:** up to 40 bar      580 psi  
**Characteristic:** Linear - Eq%

**Actuator Material:** Polyurethane-painted Fe-P04  
Stainless Steel S30400

**Function:** 2-Way  
3-Way Mixing  
3-Way Diverting

**Feeding Pressure:** 3÷15 psi  
6÷18 psi  
6÷30 psi  
9÷32 psi  
3÷9 psi  
9÷15 psi  
20÷40 psi

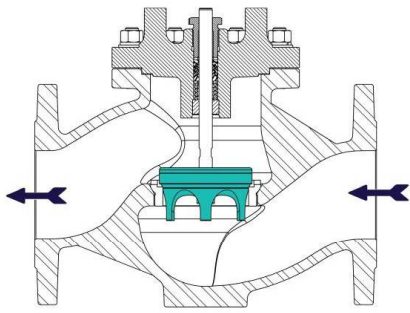
**Optionals:** Anti-cavitation trim  
Noise Reducer  
Extended Bonnet  
Bellow Seals  
Micro-Flow Plug

**Instrumentation:** I/P Converter  
Electro-pneumatic Positioner  
Digital Positioner  
Solenoid Valve  
Lock-Up Valve  
Filter-Regulator

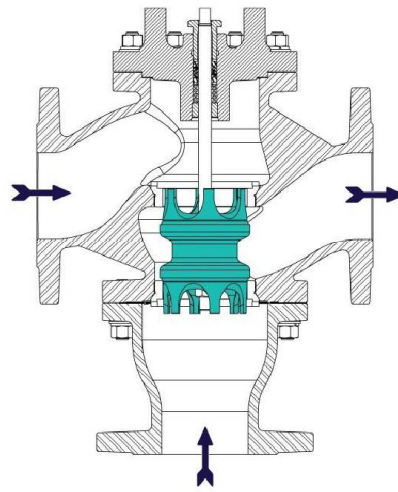
**Certification:** PED 2014/68/EU  
ATEX 2014/34/EU



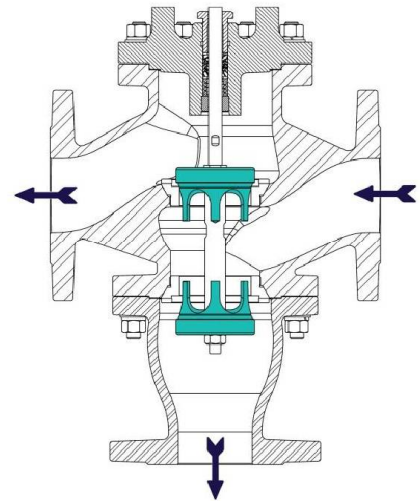
# Functions



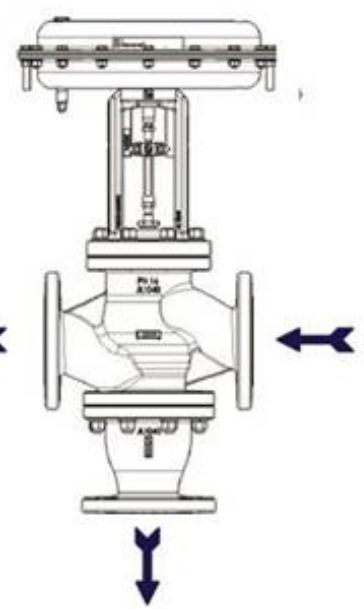
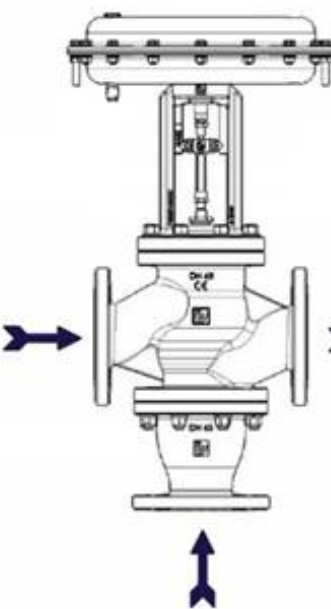
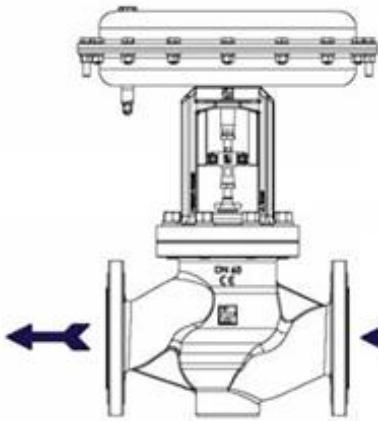
2 WAY



3 WAY – MIXING



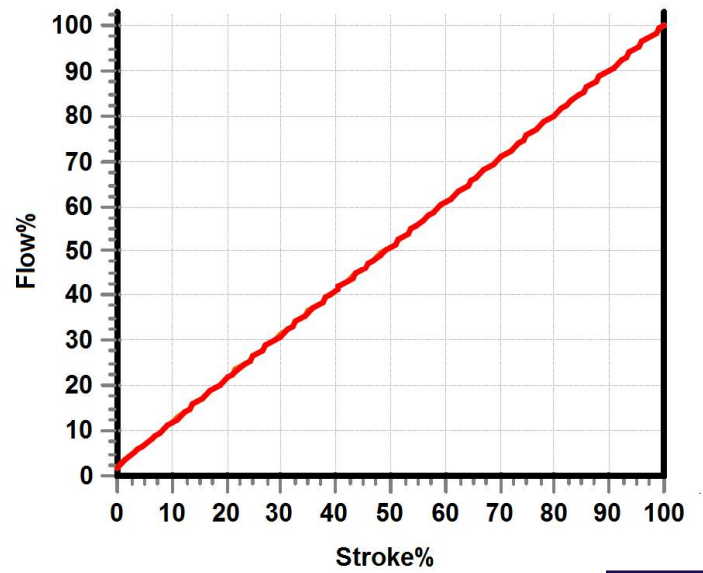
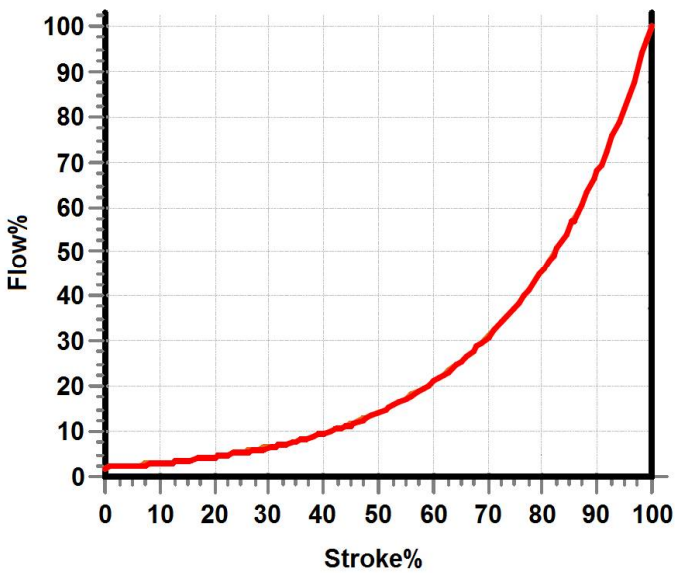
3 WAY - DIVERTING



# Flow Characteristics

EQUAL PERCENTAGE

LINEAR





# Kv / ΔP Table – SBS/16 – Body GJL250 / GJS500

DN	Seat Ø [mm]	Kv Cv				Control Signal [psi] → Control Signal [barg] → Max Control P [barg] →	Max Differential Pressure Δp							←+ ↓
		Linear		Eq%			3÷15	6÷18	6÷30	9÷32	3÷9	9÷15	20÷40	
		15	20	15	20		0,2÷1	0,42÷1,26	0,4÷2,1	0,6÷2,24	0,2÷0,6	0,6÷1,0	1,4÷2,8	
		Stroke [mm]					1	1,26	2,21	2,4	0,8	1,2	2,9	
		15	20	15	20	Serv. Ø <sub>e</sub> [mm] ↓	A	B	C	D	R	S	T	
15	3	UR	UR	UR	UR	200	16	16	16	16	16	16	-	1
		UR	UR	UR	UR	200	16	16	16	16	16	16	-	3
	6	UR	UR	UR	UR	275	16	16	16	16	16	16	-	4
		UR	UR	UR	UR	200	15	16	16	16	13	16	-	5
	15	4,3	N/A	4,5	N/A	275	16	16	16	16	16	16	-	6
		5,0	N/A	5,0	N/A	200	8	16	16	16	7	16	-	101
20	5,8	N/A	5,8	N/A	275	16	16	16	16	16	16	-	102	
	UR	UR	UR	UR	200	16	16	16	16	16	16	-	7	
20	8	UR	UR	UR	UR	275	16	16	16	16	16	16	-	8
		UR	UR	UR	UR	200	15	16	16	16	13	16	-	9
	15	6,0	N/A	4,8	N/A	275	16	16	16	16	16	16	-	10
		7,1	N/A	5,6	N/A	200	8	16	16	16	7	16	-	13
	20	8,0	N/A	7,5	N/A	275	16	16	16	16	16	16	-	14
		9,3	N/A	8,7	N/A	200	5	10	10	15	5	15	-	25
25	15	5,4	N/A	5,3	N/A	275	16	16	16	16	16	16	-	17
		6,3	N/A	6,2	N/A	200	8	16	16	16	7	16	-	21
	20	9,3	N/A	9,1	N/A	275	16	16	16	16	16	16	-	22
		10,8	N/A	10,6	N/A	200	5	10	10	15	5	15	-	26
	26	11,8	N/A	11,3	N/A	275	13	16	16	16	12	16	-	26
		13,7	N/A	13,1	N/A	360	16	16	16	16	16	16	-	27
32	20	9,6	10,2	9,5	10,5	200	8	16	16	16	7	16	-	29
		11,2	11,9	11,0	12,2	275	16	16	16	16	16	16	-	30
	26	14,5	14,9	13,5	15,4	200	5	10	10	15	5	15	-	33
		16,9	17,3	15,7	17,9	275	13	16	16	16	12	16	-	34
	31	20,0	18,9	15,2	18,9	360	16	16	16	16	16	16	-	35
		23,3	22,0	17,7	22,0	200	4	8	8	12	4	12	-	37
40	26	16,5	18,1	15,6	18,5	275	13	16	16	16	12	16	-	42
		19,2	21,1	18,1	21,5	360	16	16	16	16	16	16	-	43
	31	21,9	24,5	19,0	24,7	200	4	8	8	12	4	12	-	45
		25,5	28,5	22,1	28,7	275	10	16	16	16	10	16	-	46
	38	26,0	29,3	22,3	28,3	360	16	16	16	16	16	16	-	47
		30,2	34,1	25,9	32,9	430	15	16	16	16	15	-	-	52
50	31	22,1	25,1	19,1	25,1	200	4	8	8	12	4	12	-	53
		25,7	29,2	22,2	29,2	275	10	16	16	16	10	16	-	54
	38	27,6	33,3	23,0	32,0	360	16	16	16	16	16	16	-	55
		32,1	39,3	26,7	37,2	200	2,8	5,5	5,5	8	2,8	8	-	57
	48	38,4	42,4	34,6	44,7	275	7	14	14	16	7	16	-	58
		44,7	49,3	40,2	52,0	360	14	16	16	16	14	16	-	59
65	38	27,9	34,1	24,0	33,0	430	15	16	16	16	15	-	-	60
		32,4	39,7	27,9	38,4	200	1,6	3,2	3,2	4,5	1,6	4,5	-	61
	48	45,5	56,9	42,0	55,0	275	4	8	8	10,5	4	10,5	-	62
		52,9	66,2	48,8	64,0	360	8	16	16	16	8	16	-	63
	63	61,0	74,8	36,3	63,1	430	9,3	16	16	16	9,3	-	-	64
		70,9	87,0	42,2	73,4	200	1	2	2	2,5	1	2,5	-	75
80	48	43,2	55,5	41,6	53,5	275	2,5	5	5	6,5	2,5	6,5	-	76
		50,2	64,5	48,4	62,2	360	5	10	10	13	5	13	-	77
	63	62,2	76,6	59,9	62,2	430	5,5	11	11	16	5,5	-	-	78
		72,3	89,1	69,5	72,3	530	7,4	16	14,8	16	-	-	16	79
	78	61,9	85,8	59,6	77,9	200	1,6	3,2	3,2	4,5	1,6	4,5	-	80
		72,0	99,8	69,2	90,6	275	4	8	8	10,5	4	10,5	-	81
80	48	43,2	55,5	41,6	53,5	360	8	16	16	16	8	16	-	82
		50,2	64,5	48,4	62,2	430	9,3	16	16	16	9,3	-	-	83
	63	62,2	76,6	59,9	62,2	200	1	2	2	2,5	1	2,5	-	85
		72,3	89,1	69,5	72,3	275	2,5	5	5	6,5	2,5	6,5	-	86
	78	61,9	85,8	59,6	77,9	360	5	10	10	13	5	13	-	87
		72,0	99,8	69,2	90,6	430	5,5	11	11	16	5,5	-	-	88
80	61,9	85,8	59,6	77,9	530	7,4	16	14,8	16	-	-	16	89	
	72,0	99,8	69,2	90,6	275	1,5	3	3	4	1,5	4	-	91	
80	61,9	85,8	59,6	77,9	360	3	6	6	8,5	3	8,5	-	92	
	72,0	99,8	69,2	90,6	430	3,5	7	7	10,5	3,5	-	-	93	
80	61,9	85,8	59,6	77,9	530	4,8	14,2	9,6	13,7	-	-	16	94	
	72,0	99,8	69,2	90,6										

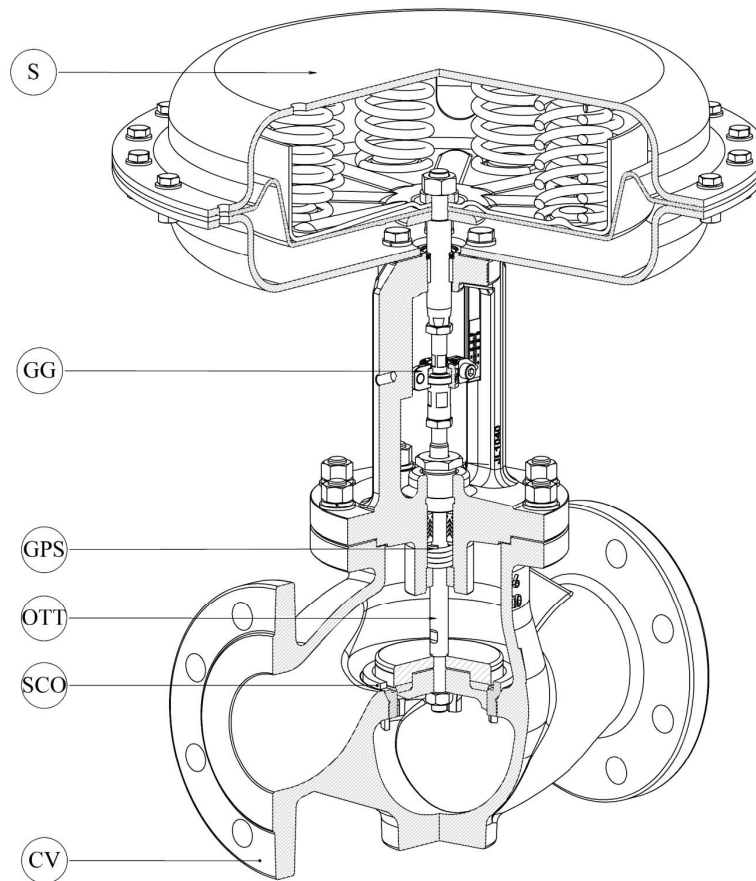


# Kv / ΔP Table – SBS/16 – Body A216 WCB / A351 CF8M

DN		Kv				Control Signal [psi] →	Max Differential Pressure Δp							← + ↓ ↑
		Cv		Control Signal [barg] →	3÷15		6÷18	6÷30	9÷32	3÷9	9÷15	20÷40		
		Linear	Eq%		0,2÷1		0,42÷1,26	0,4÷2,1	0,6÷2,24	0,2÷0,6	0,6÷1,0	1,4÷2,8		
		Stroke [mm]					Max Control P [barg] →	1	1,26	2,21	2,4	0,8	1,2	
Seat Ø [mm]	15	20	15	20	Serv. Ø <sub>e</sub> [mm] ↓	A	B	C	D	R	S	T		
15	3	UR	UR	UR	UR	200	40	40	40	40	40	40	-	1
						200	40	40	40	40	40	40	-	3
						275	40	40	40	40	40	40	-	4
	15	4,3 5,0	N/A	4,5 5,2	N/A	200	15	30	30	39	13	39	-	5
						275	35	40	40	40	32	40	-	6
						200	8	16	16	21	7	21	-	101
20	5,0 5,8	N/A	5,0 5,8	N/A	275	20	40	40	40	18	40	-	102	
					360	37	40	40	40	36	40	-	103	
					200	8	16	16	21	7	21	-	13	
20	8	UR	UR	UR	UR	200	40	40	40	40	40	40	-	7
						275	40	40	40	40	40	40	-	8
						200	15	30	30	39	13	39	-	9
	15	6,0 7,1	N/A	4,8 5,6	N/A	275	35	40	40	40	32	40	-	10
						200	8	16	16	21	7	21	-	13
						275	20	40	40	40	18	40	-	14
20	8,0 9,3	N/A	7,5 8,7	N/A	360	37	40	40	40	36	40	-	15	
					200	15	16	16	16	13	16	-	17	
					275	16	16	16	16	16	16	-	18	
25	15	5,4 6,3	N/A	5,3 6,2	N/A	200	8	16	16	21	7	21	-	21
						275	20	40	16	40	18	40	-	22
						360	37	40	40	40	36	40	-	23
	26	11,8 13,7	N/A	11,3 13,1	N/A	200	5	10	10	15	5	15	-	25
						275	13	26	26	34	12	34	-	26
						360	25	40	40	40	24	40	-	27
32	20	9,6 11,2	10,2 11,9	9,5 11,0	10,5 12,2	430	28	40	40	40	28	-	-	28
						200	8	16	16	21	7	21	-	29
						275	20	40	16	40	18	40	-	30
	26	14,5 16,9	14,9 17,3	13,5 15,7	15,4 17,9	360	37	40	40	40	36	40	-	31
						200	5	10	10	15	5	15	-	33
						275	13	26	26	34	12	34	-	34
31	20,0 23,3	18,9 22,0	15,2 17,7	18,9 22,0	360	25	40	40	40	24	40	-	35	
					430	28	40	40	40	28	-	-	36	
					200	4	8	8	12	4	12	-	37	
40	26	16,5 19,2	18,1 21,1	15,6 18,1	18,5 21,5	275	10	20	20	30	10	30	-	38
						360	21	40	40	40	20	40	-	39
						430	23	40	40	40	23	-	-	40
	31	21,9 25,5	24,5 28,5	19,0 22,1	24,7 28,7	200	4	8	8	12	4	12	-	41
						275	10	20	20	30	10	30	-	42
						360	21	40	40	40	20	40	-	43
38	26,0 30,2	29,3 34,1	22,3 25,9	28,3 32,9	430	23	40	40	40	23	-	-	44	
					200	2,8	5,5	5,5	8	2,8	8	-	45	
					275	7	14	14	20	7	20	-	46	
50	31	22,1 25,7	25,1 29,2	19,1 22,2	25,1 29,2	360	14	28	28	40	14	40	-	47
						430	15	30	30	40	15	-	-	48
						200	4	8	8	12	4	12	-	49
	38	27,6 32,1	33,3 39,3	23,0 26,7	32,0 37,2	275	7	14	14	20	7	20	-	50
						360	14	28	28	40	14	40	-	51
						430	15	30	30	40	15	-	-	52
48	38,4 44,7	42,4 49,3	34,6 40,2	44,7 52,0	200	1,6	3,2	3,2	4,5	1,6	4,5	-	53	
					275	4	8	8	10,5	4	10,5	-	54	
					360	8	16	16	21	8	21	-	55	
65	38	27,9 32,4	34,1 39,7	24,0 27,9	33,0 38,4	430	9,3	16,8	16,8	24	9,3	-	-	56
						200	200	2,8	5,5	5,5	8	2,8	-	57
						275	275	7	14	14	20	7	-	58
	48	45,5 52,9	56,9 66,2	42,0 48,8	55,0 64,0	360	360	14	28	28	40	14	-	59
						430	430	15	30	30	40	15	-	60
						200	200	1,6	3,2	3,2	4,5	1,6	-	61
63	61,0 70,9	74,8 87,0	36,3 42,2	63,1 73,4	430	9,3	16,8	16,8	24	9,3	-	-	62	
					200	1	2	2	2,5	1	2,5	-	63	
					275	2,5	5	5	6,5	2,5	6,5	-	64	
80	48	43,2 50,2	55,5 64,5	41,6 48,4	53,5 62,2	530	7,4	29,5	29,5	21	-	-	40	65
						200	200	1,6	3,2	3,2	4,5	1,6	-	66
						275	275	4	8	8	10,5	4	-	67
	63	62,2 72,3	76,6 89,1	59,9 69,5	62,2 72,3	360	360	8	16	16	21	8	-	68
						430	430	9,3	16,8	16,8	24	9,3	-	69
						200	1	2	2	2,5	1	2,5	-	70
78	61,9 72,0	85,8 99,8	59,6 69,2	77,9 90,6	430	5,5	11	11	16	5,5	-	-	71	
					530	7,4	29,5	29,5	21	-	-	40	72	
					275	1,5	3	3	4	1,5	4	-	73	
80	48	43,2 50,2	55,5 64,5	41,6 48,4	53,5 62,2	360	360	8	16	16	21	8	-	74
						430	430	9,3	16,8	16,8	24	9,3	-	75
						200	1	2	2	2,5	1	2,5	-	76
	63	62,2 72,3	76,6 89,1	59,9 69,5	62,2 72,3	430	5,5	11	11	16	5,5	-	-	77
						530	7,4	29,5	29,5	21	-	-	40	78
						275	2,5	5	5	6,5	2,5	6,5	-	79
78	61,9 72,0	85,8 99,8	59,6 69,2	77,9 90,6	430	3,5	7	7	10,5	3,5	-	-	80	
					530	4,8	14,2	9,6	13,7	-	-	29,8	81	
					200	200	1,6	3,2	3,2	4,5	1,6	-	82	



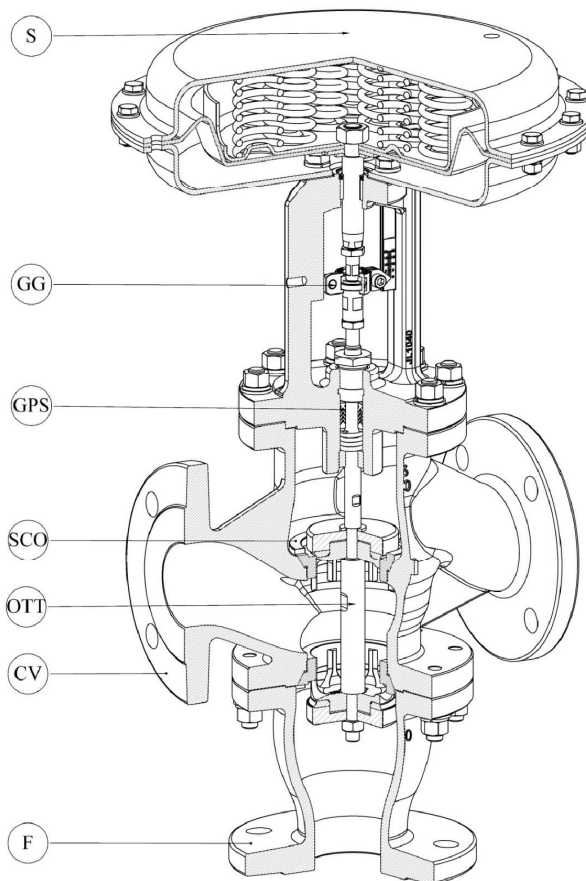
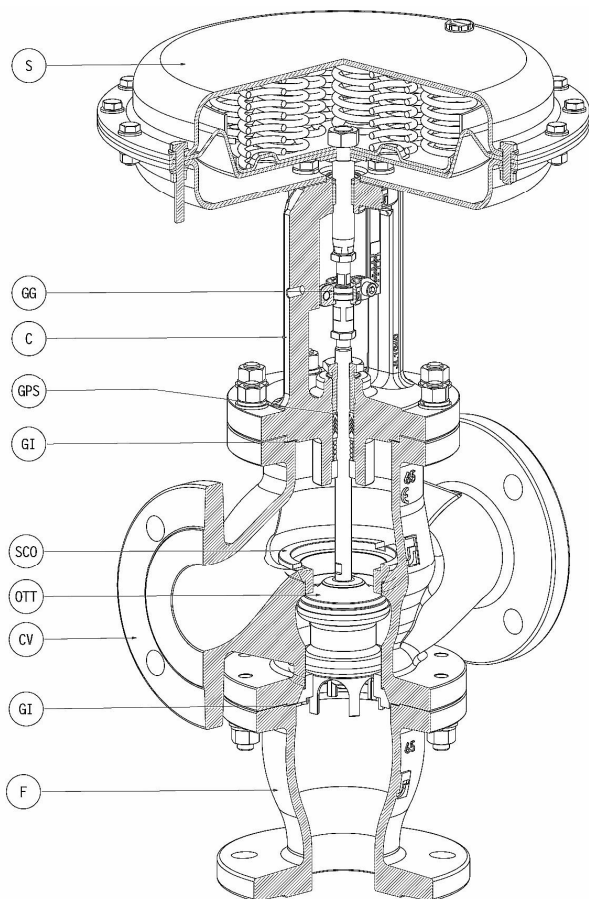
# Materials – SBS/16 – 2-Way



		MATERIAL							
		GJL 250	GJS 500	WCB	CF8M				
S	ACTUATOR	S1	Upper Cover		Painted Steel	S30400 Painted Steel*			
		M	Membrane				Fabric-Rubber NBR		
		PPM	Spring Plate				Fe-P04 (actuator d.200-275-360-430) Anodised Aluminium (actuator d.530)		
		S2	Spring				Harmonic Steel		
		S3	Lower Cover				Painted Steel	S30400 Painted Steel*	
		S4	Actuator Gasket				Expanded Graphite		
		BA	Gasket				NBR		
		BG	Self-Lubricating Bushing				Bronze		
		S6	Washer				Zn-Plated Steel	AISI 304	
		D	Junction Flange				A105	AISI 304	
		ST	Actuator Stem				S30400		
		C	Yoke				GJL 250	WCB A351 CF8M	
		GG	JUNCTION	G	Coupler				A351 CF8
G1	Spacer Washer				S30400				
G2	Adjusting Screw				S30400				
G4	Indicator				Aluminium				
G5	Lower Adjusting Screw				S30400				
GPS	PACKING	O1	Plug Stem		S30400	S31600			
		P1	Spacer Washer				AISI 304		
		PV	Packing Nut				Zn-Plated Steel AISI 304*		
		PPS	Packing				PTFE + PTFE/GRAPHITE + FPM		
		PM	Packing Spring				Harmonic Steel		
OTT	PLUG PEEK-METALLIC	PI	Upper Plug		S30400	S31600			
		IK	Ketron Insert				KETRON PEEK 1000		
		IO	Metallic Insert				S30400	S31600	
		OD	Lower Stem				S30400	S31600	
		O2	Guide				A305 (CF8 1.4308)	A351 CF8M	
		O3	Self-Locking Nut				AISI 304	AISI 316	
		CV	Body				GJL250	GJL500 WCB A351 CF8M	
BODY		G1	Gasket				FASIT400/Reinforced Graphite		
		SCO	Conic Seat				S30400	S31600	
		P	Extension				Painted Steel AISI 304*		
		SF	Bellows				S30400 / S31600		
		F	Bottom Flange				GJL250	GJL500 WCB CF8M	
		GSM	Spiral Seal				Graphite + AISI 316		
		Screws		Zn-Plated Steel				AISI 304*	
				AISI 304*				AISI 304	



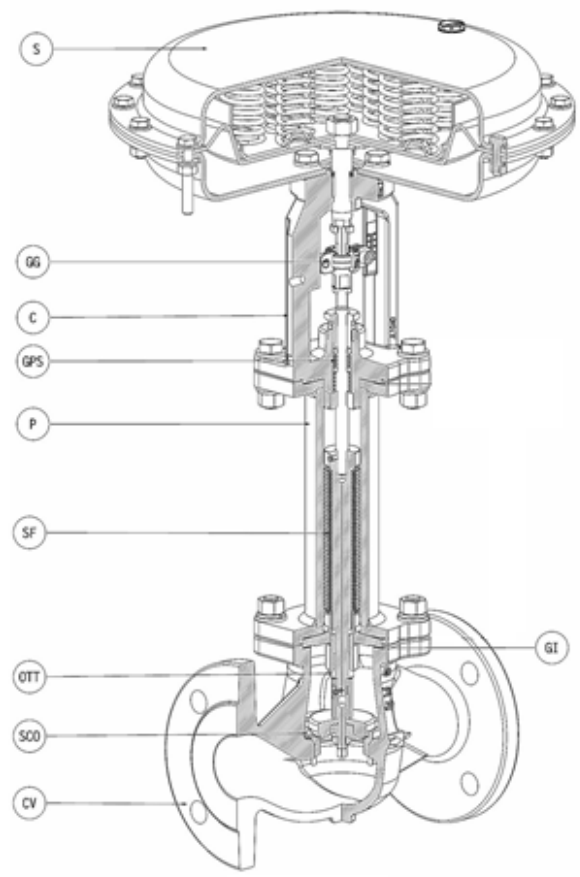
# Materials – SBS/16 – 3-Way



		MATERIAL						
		GJL 250	GJS 500	WCB	CF8M			
S	ACTUATOR	S1	Upper Cover		Painted Steel	S30400 Painted Steel*		
		M	Membrane		Fabric-Rubber NBR			
		PPM	Spring Plate		Fe-P04 (actuator d.200-275-360-430) Anodised Aluminium (actuator d.530)			
		S2	Spring		Harmonic Steel			
		S3	Lower Cover		Painted Steel	S30400 Painted Steel*		
		S4	Actuator Gasket		Expanded Graphite			
		BA	Gasket		NBR			
		BG	Self-Lubricating Bushing		Bronze			
		S6	Washer		Zn-Plated Steel	AISI 304		
		D	Junction Flange		A105			
		ST	Actuator Stem		S30400			
		C	Yoke		GJL 250	WCB	A351 CF8M	
		GG	JUNCTION	G	Coupler		A351 CF8	
G1	Spacer Washer			S30400				
G2	Adjusting Screw			S30400				
G4	Indicator			Aluminium				
G5	Lower Adjusting Screw			S30400				
GPS	PACKING	O1	Plug Stem		S30400	S31600		
		P1	Spacer Washer		AISI 304			
		PV	Packing Nut		Zn-Plated Steel AISI 304*			
		PPS	Packing		PTFE + PTFE/GRAPHITE + FPM			
		PM	Packing Spring		Harmonic Steel			
OTT	PLUG PEEK-METALLIC	PI	Upper Plug		S30400	S31600		
		IK	Ketron Insert		KETRON PEEK 1000			
		IO	Metallic Insert		S30400	S31600		
		OD	Lower Stem		S30400	S31600		
		O2	Guide		A305 (CF8 1.4308)			
		O3	Self-Locking Nut		AISI 304	AISI 316		
		CV	Body		GJL250	GJL500	WCB	A351 CF8M
BODY		GI	Gasket		FASIT400/Reinforced Graphite			
		SCO	Conic Seat		S30400	S31600		
		P	Extension		Painted Steel AISI 304*			
		SF	Bellows		S30400 / S31600			
		F	Bottom Flange		GJL250	GJL500	WCB	CF8M
		GSM	Spiral Seal		Graphite + AISI 316			
		Screws		Zn-Plated Steel		AISI 304*		
						AISI 304		



# Materials – SBS/16 – 2-Way w/ Bellows

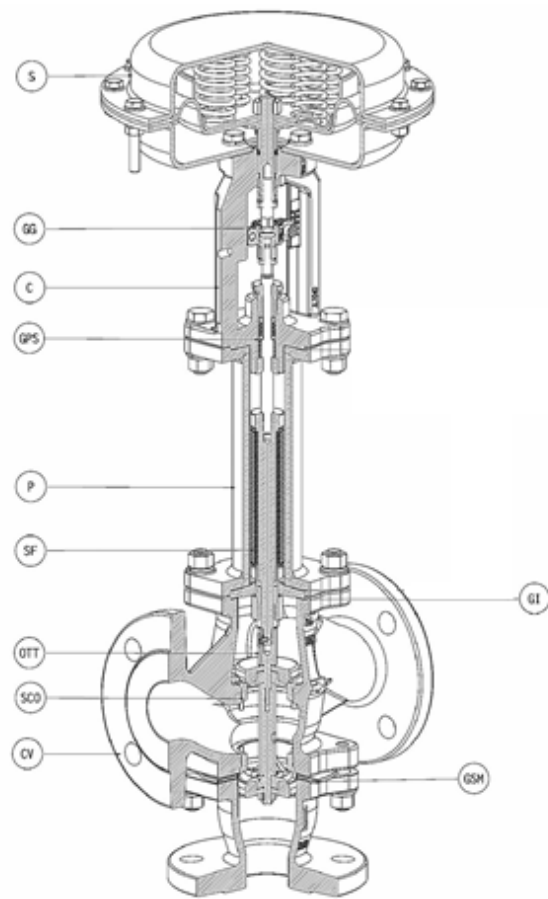
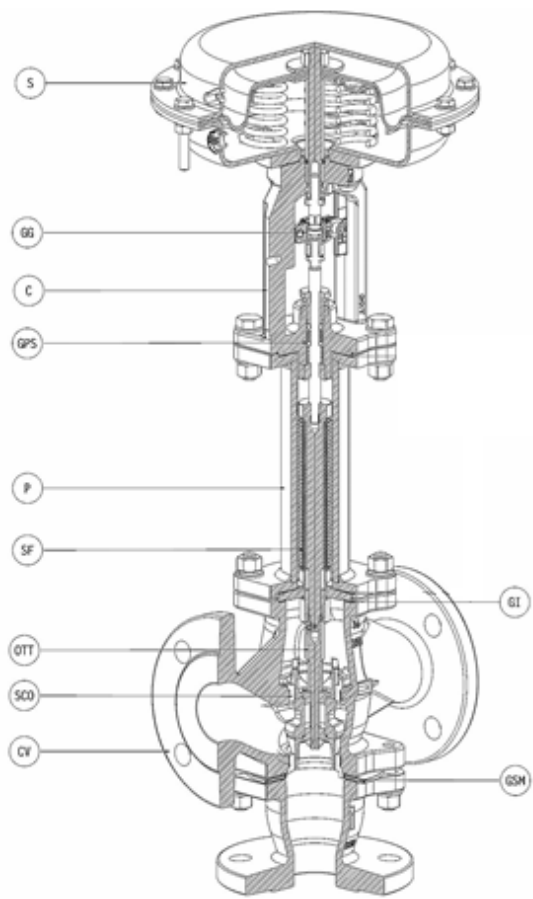


		MATERIAL							
		GJL 250	GJS 500	WCB	CF8M				
S	ACTUATOR	S1	Upper Cover		Painted Steel	S30400 Painted Steel*			
		M	Membrane				Fabric-Rubber NBR		
		PPM	Spring Plate				Fe-P04 (actuator d.200-275-360-430) Anodised Aluminium (actuator d.530)		
		S2	Spring				Harmonic Steel		
		S3	Lower Cover				Painted Steel	S30400 Painted Steel*	
		S4	Actuator Gasket				Expanded Graphite		
		BA	Gasket				NBR		
		BG	Self-Lubricating Bushing				Bronze		
		S6	Washer				Zn-Plated Steel	AISI 304	
		D	Junction Flange				A105	AISI 304	
		ST	Actuator Stem				S30400		
		C	Yoke				GJL 250	WCB A351 CF8M	
		GG	JUNCTION	G	Coupler				A351 CF8
G1	Spacer Washer				S30400				
G2	Adjusting Screw				S30400				
G4	Indicator				Aluminium				
G5	Lower Adjusting Screw				S30400				
GPS	PACKING	O1	Plug Stem		S30400	S31600			
		P1	Spacer Washer				AISI 304		
		PV	Packing Nut				Zn-Plated Steel AISI 304*		
		PPS	Packing				PTFE + PTFE/GRAPHITE + FPM		
		PM	Packing Spring				Harmonic Steel		
OTT	PLUG PEEK-METALLIC	PI	Upper Plug		S30400	S31600			
		IK	Ketron Insert				KETRON PEEK 1000		
		IO	Metallic Insert				S30400	S31600	
		OD	Lower Stem				S30400	S31600	
		O2	Guide				A305 (CF8 1.4308)	A351 CF8M	
		O3	Self-Locking Nut				AISI 304	AISI 316	
		CV	Body				GJL250	GJL500 WCB A351 CF8M	
BODY		G1	Gasket				FASIT400/Reinforced Graphite		
		SCO	Conic Seat				S30400	S31600	
		P	Extension				Painted Steel AISI 304*		
		SF	Bellows				S30400 / S31600		
		F	Bottom Flange				GJL250	GJL500 WCB CF8M	
		GSM	Spiral Seal				Graphite + AISI 316		
		Screws		Zn-Plated Steel				AISI 304*	
				AISI 304*				AISI 304	





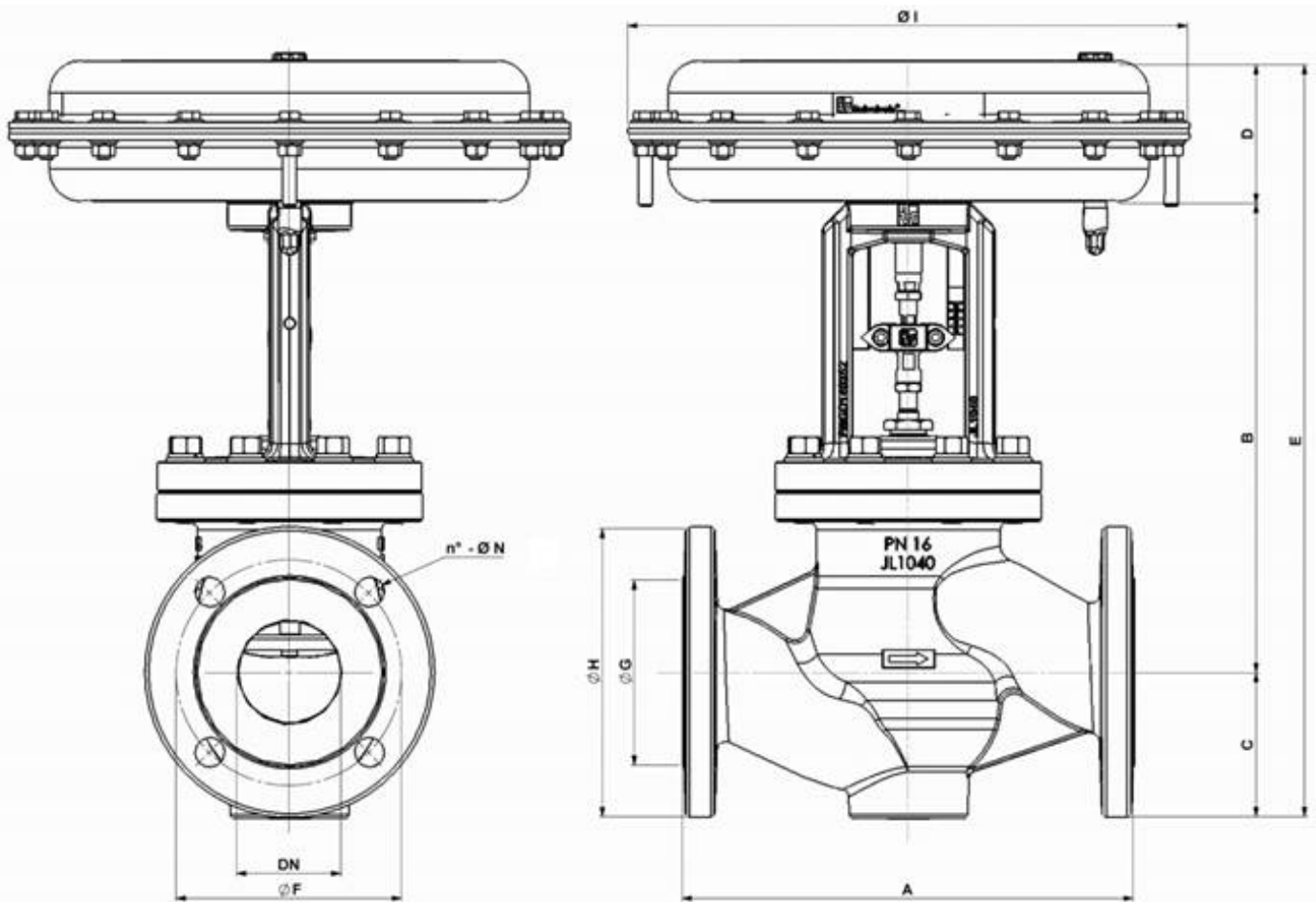
# Materials – SBS/16 – 3-Way w/ Bellows



		MATERIAL								
		GJL 250	GJS 500	WCB	CF8M					
S	ACTUATOR	S1	Upper Cover		Painted Steel	S30400 Painted Steel*				
		M	Membrane				Fabric-Rubber NBR			
		PPM	Spring Plate				Fe-P04 (actuator d.200-275-360-430) Anodised Aluminium (actuator d.530)			
		S2	Spring				Harmonic Steel			
		S3	Lower Cover				Painted Steel	S30400 Painted Steel*		
		S4	Actuator Gasket				Expanded Graphite			
		BA	Gasket				NBR			
		BG	Self-Lubricating Bushing				Bronze			
		S6	Washer				Zn-Plated Steel	AISI 304		
		D	Junction Flange				A105	AISI 304		
		ST	Actuator Stem				S30400			
		C	Yoke				GJL 250	WCB A351 CF8M		
		GG	JUNCTION	G	Coupler				A351 CF8	
G1	Spacer Washer				S30400					
G2	Adjusting Screw				S30400					
G4	Indicator				Aluminium					
G5	Lower Adjusting Screw				S30400					
GPS	PACKING	O1	Plug Stem		S30400	S31600				
		P1	Spacer Washer				AISI 304			
		PV	Packing Nut				Zn-Plated Steel AISI 304*			
		PPS	Packing				PTFE + PTFE/GRAPHITE + FPM			
		PM	Packing Spring				Harmonic Steel			
OTT	PLUG PEEK-METALLIC	PI	Upper Plug		S30400	S31600				
		IK	Ketron Insert				KETRON PEEK 1000			
		IO	Metallic Insert				S30400	S31600		
		OD	Lower Stem				S30400	S31600		
		O2	Guide				A305 (CF8 1.4308)	A351 CF8M		
		O3	Self-Locking Nut				AISI 304	AISI 316		
BODY		CV	Body				GJL250	GJL500	WCB	A351 CF8M
		G1	Gasket				FASIT400/Reinforced Graphite			
		SCO	Conic Seat				S30400	S31600		
		P	Extension				Painted Steel		AISI 304*	
		SF	Bellows				S30400 / S31600			
		F	Bottom Flange				GJL250	GJL500	WCB	CF8M
		GSM	Spiral Seal				Graphite + AISI 316			
		Screws				Zn-Plated Steel				AISI 304*



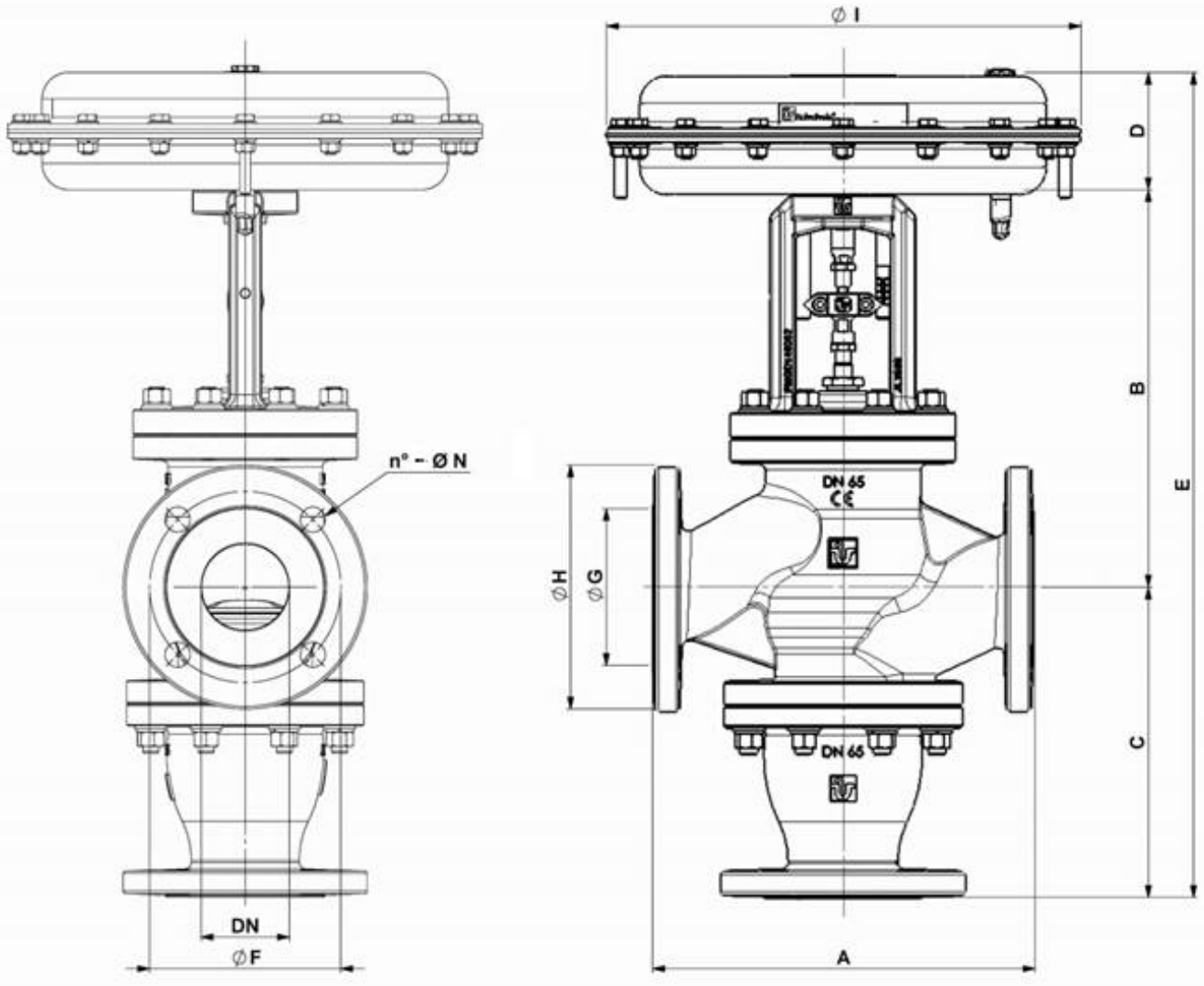
# Dimensions – SBS/16 – 2-Way



DN	A	B		C	D				E								Ø F	Ø G	Ø H	Ø I	Ø N	n° holes
		N.C.	N.O.		200	275 360	430	530	Ø servocomando													
									200		275 360		430		530							
15	130	228	238	48	77	89	123	205	353	363	364	374					65	45	95	Depending on required $\Delta P$ (200-275-360-430-530)	14	4
20	150	228	238	53					358	368	369	379					75	58	105			
25	160	228	238	58					363	373	374	384					85	65	115			
32	180	251	261	70					398	408	410	420	444	454	526	536	100	76	140			
40	200	249	259	75					401	411	412	422	447	457	529	539	110	84	150			
50	230	247	257	83					407	417	418	428	453	463	535	545	125	99	165			
65	290	302	312	93					468	478	484	494	517	527	599	609	145	118	185			
80	310	299	309	100					476	486	488	498	522	532	604	614	160	132	200		8	



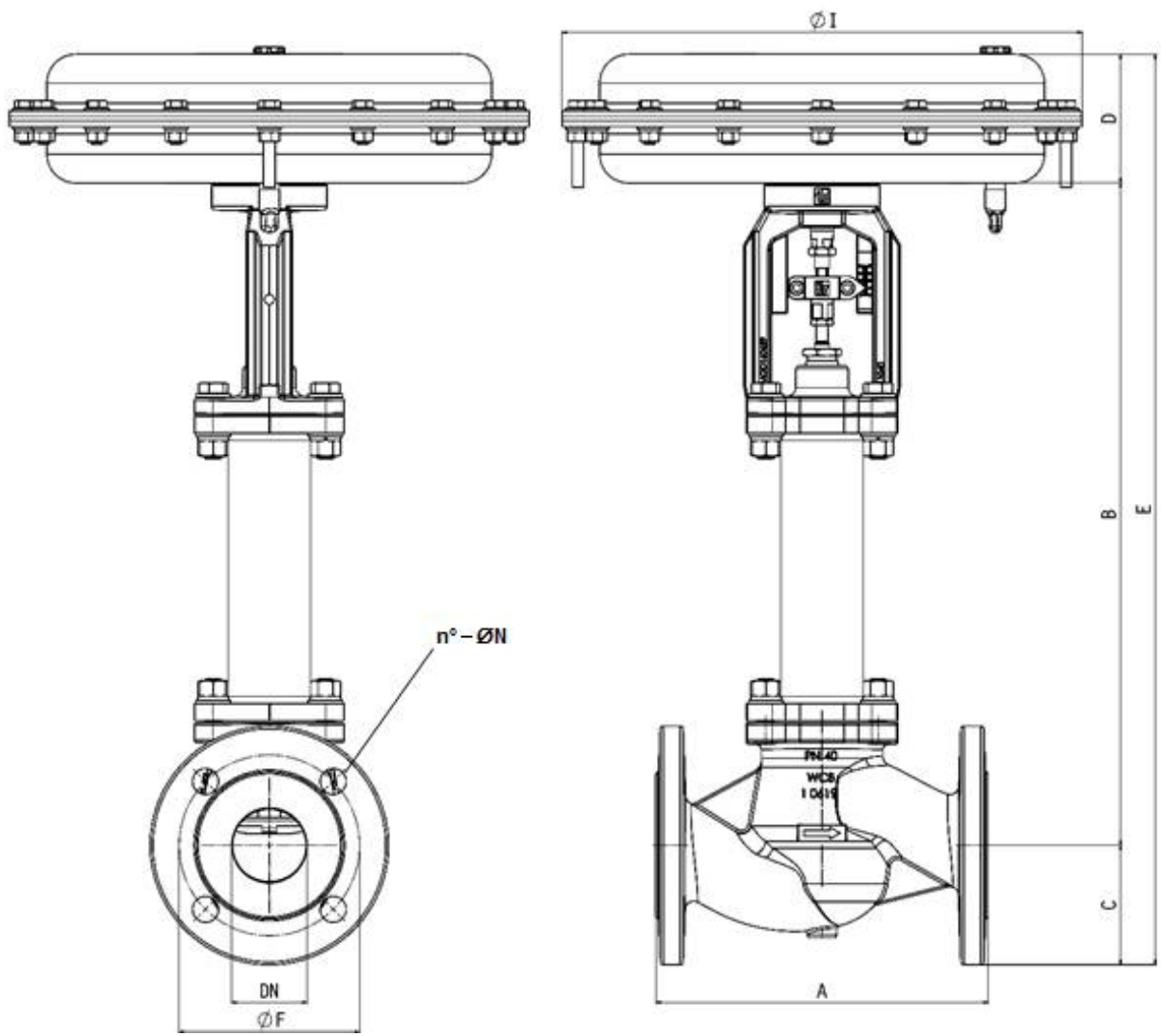
# Dimensions – SBS/16 – 3-Way



	DN	A	B		C	D				E				Ø F	Ø G	Ø H	Ø I	Ø N	n° holes				
			N.C	N.O.		Ø Actuator				200	275 360	430	530										
						200		275 360												430		530	
						N.C	N.O.	N.C	N.O.											N.C	N.O.	N.C	N.O.
NORM. CLOSED (MIX.) NORM. OPEN (DIVERT.)	15	130	225	235	111	77	89	123	250	413	423	424	434	/	/	/	/	65	45	95	Depending on required Δp (200-275-360-430-530)	14	4
	20	150	225	235	111					413	423	424	434	/	/	/	/	75	58	105			
	25	160	225	235	125					427	437	439	449	/	/	/	/	85	65	115			
	32	180	248	258	143					468	478	480	490	514	524	526	536	100	76	140			
	40	200	246	256	144					466	476	478	488	512	522	529	539	110	84	150			
	50	230	244	254	161					482	492	493	503	528	538	535	545	125	99	165			
	65	290	301	311	236					614	624	626	636	660	670	599	609	145	118	185			
	80	310	299	309	238					614	624	626	636	660	670	604	614	160	132	200			



# Dimensions – SBS/16 – 2-Way w/ Bellows

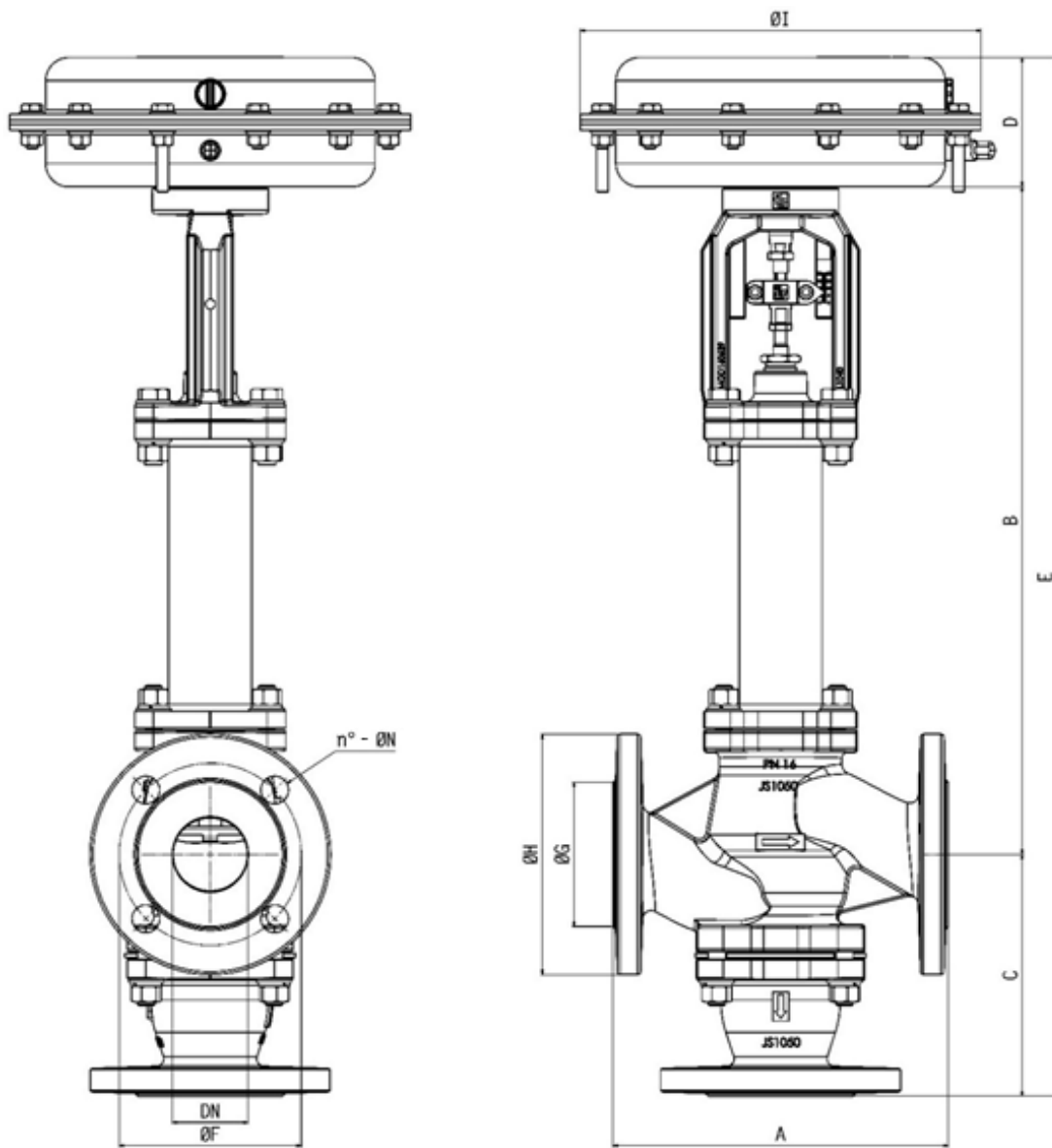


DN	A	B		C	D				E								Ø F	Ø G	Ø H	Ø I	Ø N	n° holes
		N.C.	N.O.		200	275 360	430	530	Ø Actuator													
									200		275 360		430		530							
		N.C.	N.O.		N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.								
15	130	443	453	48	77	89	123	205	568	578	580	590	/	/	/	/	65	45	95	Depending on required ΔP (200-275-360-430-530)	14	4
20	150	443	453	53					573	583	585	595	/	/	/	/	75	58	105			
25	160	442	452	58					577	587	589	599	/	/	/	/	85	65	115			
32	180	462	472	70					609	619	621	631	655	665	737	747	100	76	140			
40	200	460	470	75					612	622	624	634	658	668	740	750	110	84	150			
50	230	458	468	83					618	628	630	640	664	674	746	756	125	99	165			
65	290	490	500	93					660	670	672	682	706	716	788	798	145	118	185			
80	310	489	499	100					666	676	678	682	712	722	794	804	160	132	200		8	





# Dimensions – SBS/16 – 3-Way w/ Bellows



	DN	A	B		C	D				E								Ø F	Ø G	Ø H	Ø I	Ø N	n° holes
			N.C.	N.O.		200	275 360	430	530	Ø Actuator													
										200		275 360		430		530							
			N.C.	N.O.		N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.						
NORM. CLOSED (MIX.) NORM. OPEN (DIVERT.)	15	130	443	453	116	77	89	123	205	636	646	648	658	/	/	/	/	65	45	95	Depending on required ΔP (200-275-360-430-530)	14	4
	20	150	443	453	116					636	646	648	658	/	/	/	/	75	58	105			
	25	160	442	452	130					649	659	661	671	/	/	/	/	85	65	115			
	32	180	462	472	147					686	696	698	708	732	742	814	824	100	76	140			
	40	200	460	470	149					686	696	698	708	732	742	814	824	110	84	150			
	50	230	458	468	166					701	711	713	723	747	757	829	839	125	99	165			
	65	290	490	500	241					808	818	820	830	854	864	936	846	145	118	185			
	80	310	489	499	243					809	819	821	831	855	865	937	947	160	132	200			



# **SBS/18 – GLOBE CONTROL VALVE**

Multi-spring diaphragm control valve with body in GJS, WCB, CF3M

**DN:** from DN 100 (4") to DN250 (10")

**Connections:** DIN Flanges  
ANSI Flanges  
BW - SW  
BSPP - NPT

**Packing:** PTFE / PTFE-GR

**Plug Seal:** PEEK  
Metallic  
Stellite

**Leakage Class:** IV (metal-metal)  
VI (soft)

**Min Fluid T:** down to -40°C      -40°F

**Max Fluid T:** up to +350°C      +662°F

**Max P:** up to 40 bar      580 psi

**Characteristic:** Linear - Eq%

**Actuator Material:** Epoxy-Painted FE P04

**Function:** 2-Way  
3-Way Mixing  
3-Way Diverting

**Feeding Pressure:** 3÷15 psi  
6÷18 psi  
6÷30 psi  
9÷32 psi  
20÷40 psi

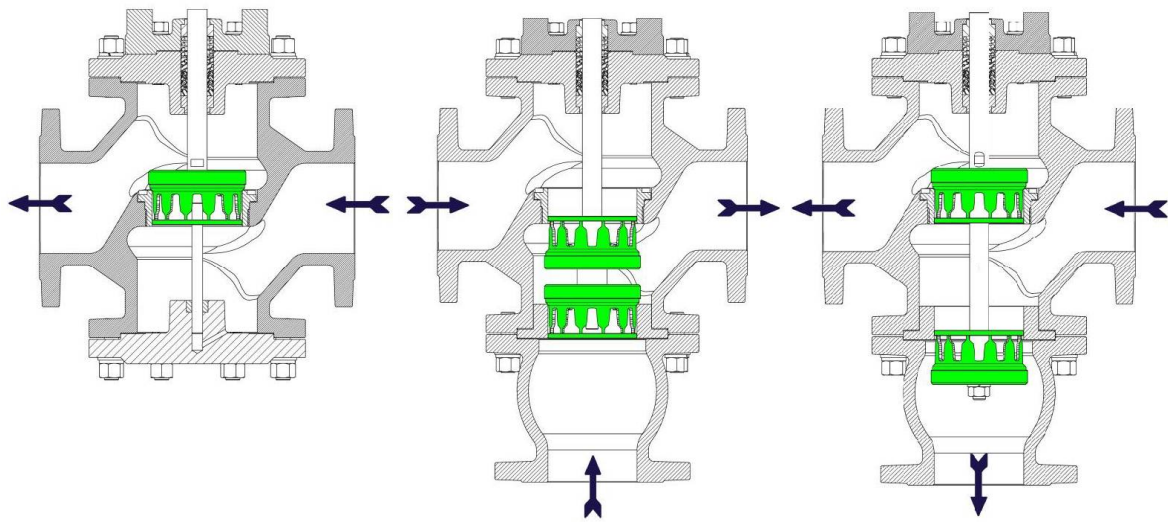
**Optionals:** Anti-cavitation trim  
Noise Reducer  
Extended Bonnet  
Bellow Seals

**Instrumentation:** I/P Converter  
Electro-pneumatic Positioner  
Digital Positioner  
Solenoid Valve  
Lock-Up Valve  
Filter-Regulator

**Certification:** PED 2014/68/EU  
ATEX 2014/34/EU



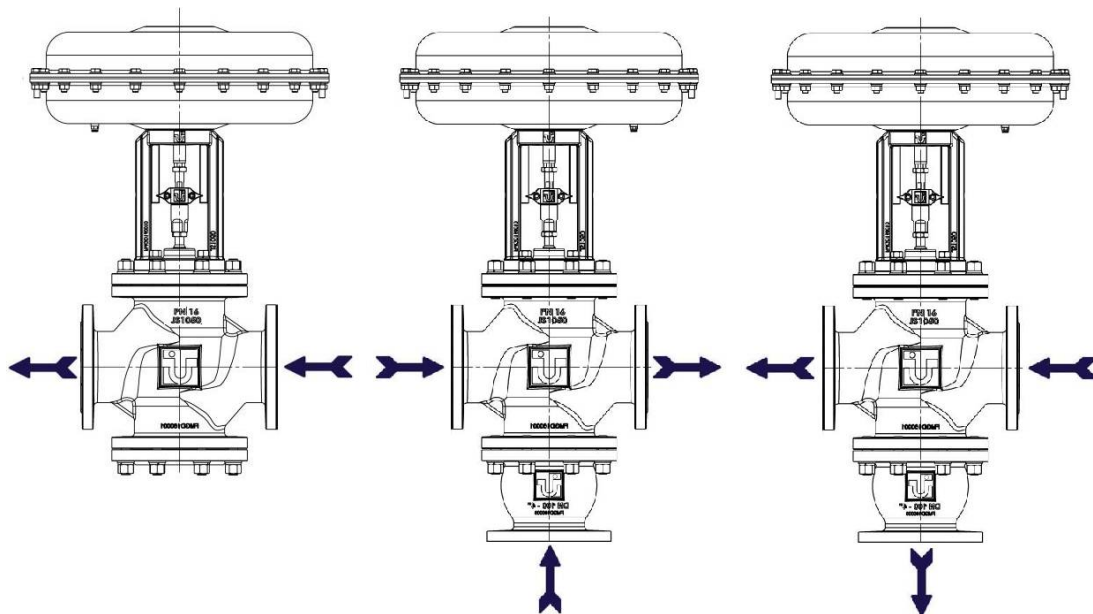
# Functions



2 WAY

3 WAY - MIXING

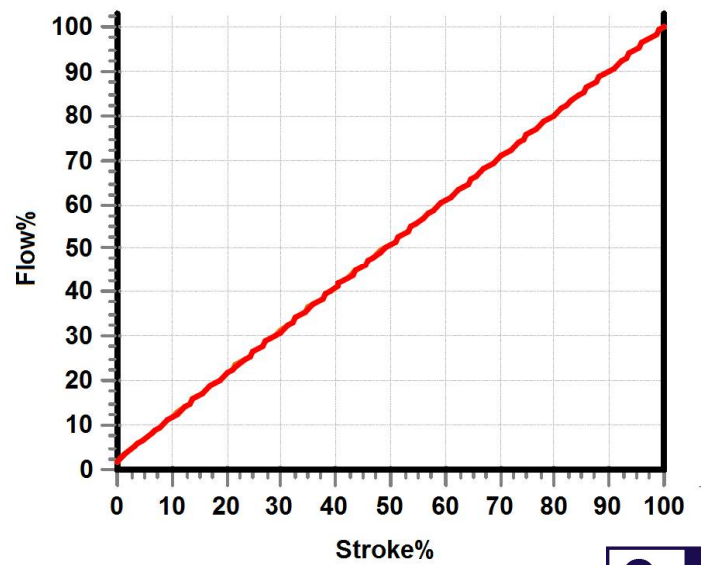
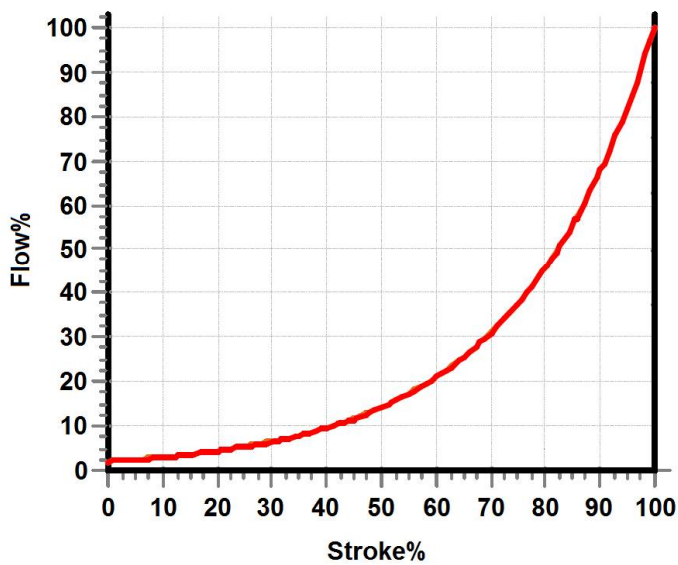
3 WAY - DIVERTING



## Flow Characteristics

EQUAL PERCENTAGE

LINEAR

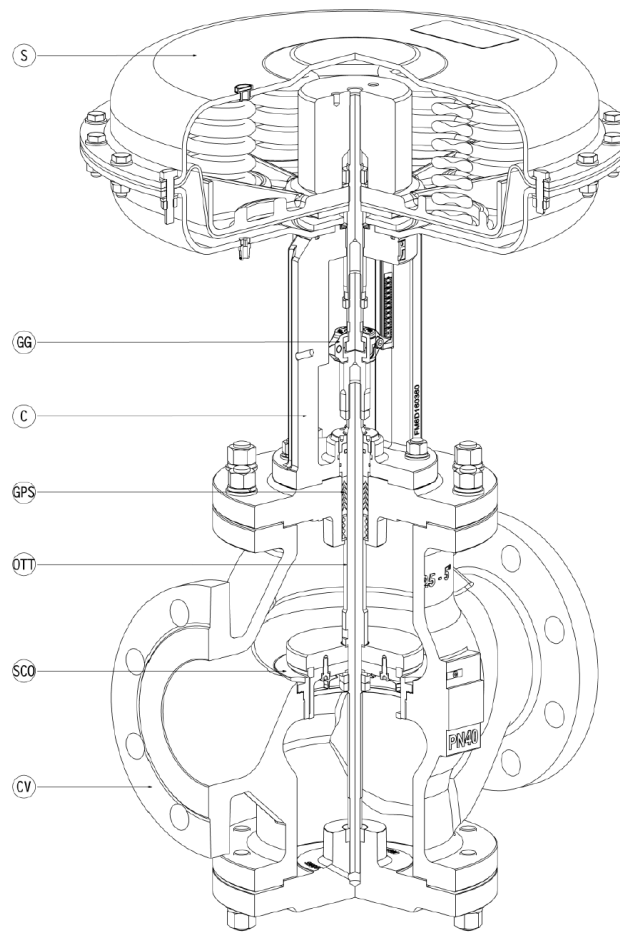


**Kv / ΔP Table – SBS/16 – Body GJS500 / WCB / CF3M**

		Kv Cv				Control Signal [psi] →	Max Differential Pressure Δp					
		Linear		Eq%			Control Signal [barg] →	3÷15	6÷18	6÷30	9÷32	20÷40
		Stroke [mm]				Max Control P [barg] →		1	1,26	2,21	2,4	2,9
DN	Seat Ø [mm]	30	60	30	60		Serv. Ø <sub>e</sub> [mm] ↓	X	Y	Z	K	J
100	63					530	7,4	14,8	14,8	21	40	1
	78						4,8	9,6	9,6	13,7	29,8	2
	100	125 143	155 177				2,9	5,9	5,9	6,6	18,1	3
125	78					530	4,8	9,6	9,6	13,7	29,8	4
	100						2,9	5,9	5,9	6,6	18,1	5
	125	215 246	235 268				1,9	3,8	3,8	4,2	11,6	6
150	100					530	2,9	5,9	5,9	6,6	18,1	7
	125						1,9	3,8	3,8	4,2	11,6	8
	150	280 321	335 383				1,3	2,6	2,6	2,9	8,1	9
200	125					530	1,9	3,8	3,8	4,2	11,6	10
	150						1,3	2,6	2,6	2,9	8,1	11
	200						0,7	2,6	1,5	1,6	4,5	12
250	150					530	1,3	2,6	2,6	2,9	8,1	13
	200						0,7	1,5	1,5	1,6	4,5	14
	250						0,5	0,9	0,9	1,1	2,9	15



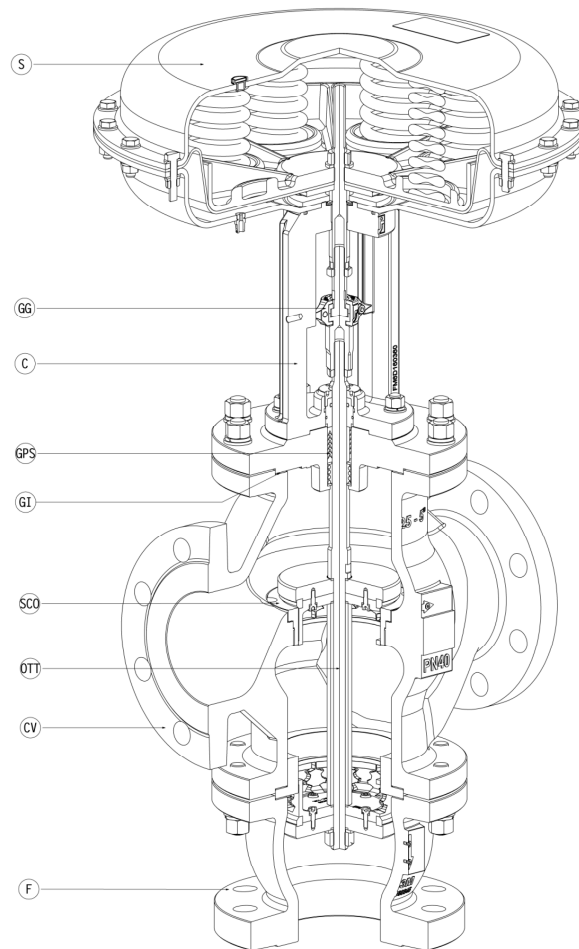
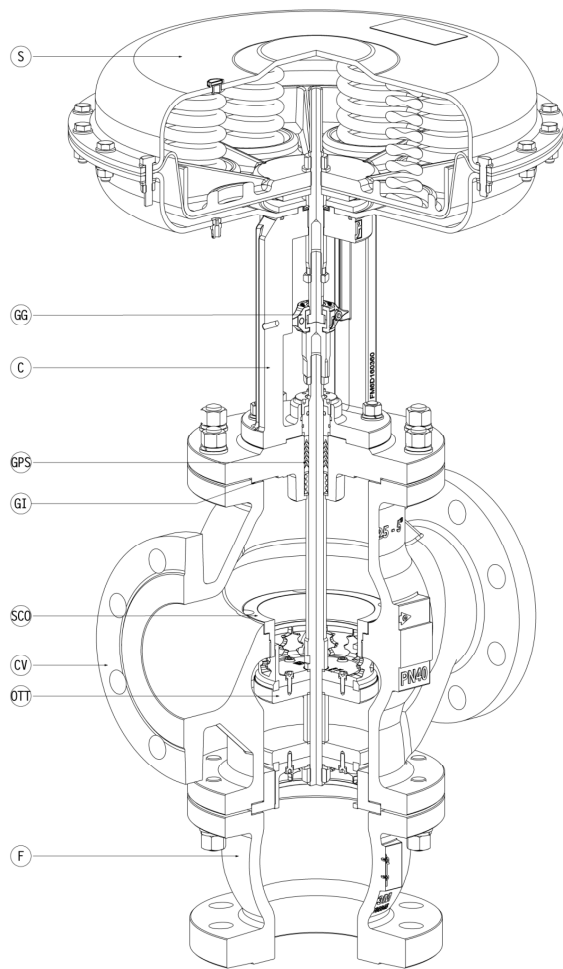




		Valve-Body Material				
		GJS 500	WCB	CF3M		
S	ACTUATOR	1.1	Upper Cover	Painted Steel		
		1.2	Spring	Harmonic Steel		
		1.3	Lower Cover	Painted Steel		
		1.4	Gasket	NBR		
		1.5	Self-Lubricating Bushing	Polymer		
		1.6	Guiding Bushing	Brass		
		1.7	Diaphragm Counter-Disc	Zn-Plated Steel		
		1.8	End Stroke	ERTALON PA 6-G		
		1.9	Junction Flange	Zn-Plated Steel		
		1.10	Actuator Gasket	VITON		
		1.11	Actuator Stem	S31600L		
		M	Membrane	Fabric-Rubber NBR		
		PPM	Spring Plate	Aluminium (d.530)		
		RA	Air Port	Technopolymer		
C	Yoke	GJS 500	WCB	CF3M		
GG	JUNCTION	2.1	Coupler	A351 CF3M		
		2.2	Spacer Washer	S31600L		
		2.3	Lower Adjusting Screw	S31600L		
		2.5	Adjusting Screw	S31600L		
		D	Nut M16	AISI 304	AISI 316	
GPS	PACKING	3.1	Guiding Bushing	Anti-Corrosion Bronze		
		3.2	Spring	Harmonic Stainless Steel		
		3.3	Spacer Washer	S31600L		
		3.4	Packing	PTFE / Graphite		
		3.5	Packing Screw	S31600L		
		3.6	OR 536	VITON		
		3.7	OR 3150	VITON		
OTT	PLUG	ST	Stem	S31600L		
		GU	Guide	A351 CF3M		
		IK	Ketron Insert	KETRON PEEK 1000		
		PI	Insert Holder	S31600L		
		DO	Spacer Washer	S31600L		
		OG	Metallic Insert	S31600L		
		DA	Self-Locking Nut	S31600L		
Body		CI	Intermediate Body	-	-	-
		GI	Gasket	FLEXIGRAF FGS3		
		SCO	Conic Seat	A351 CF3M		
		CV	Body	GJS 500	WCB	A351 CF3M
		F	Bottom Flange	-	-	-
		-	Screws	Zn-Plated Steel		S31600L



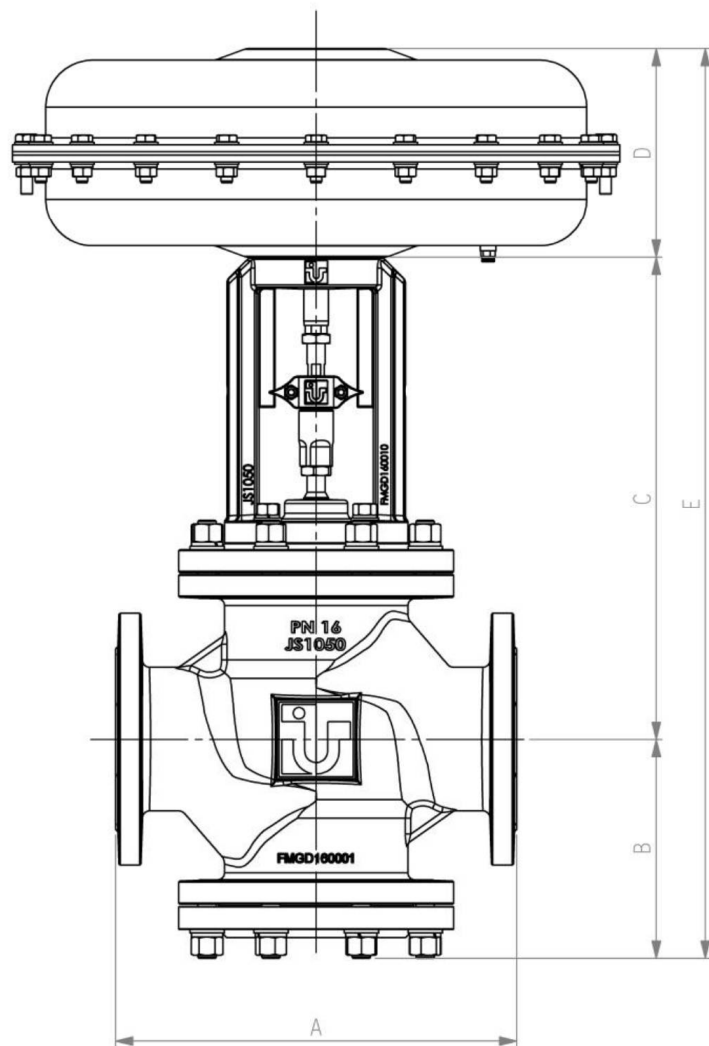
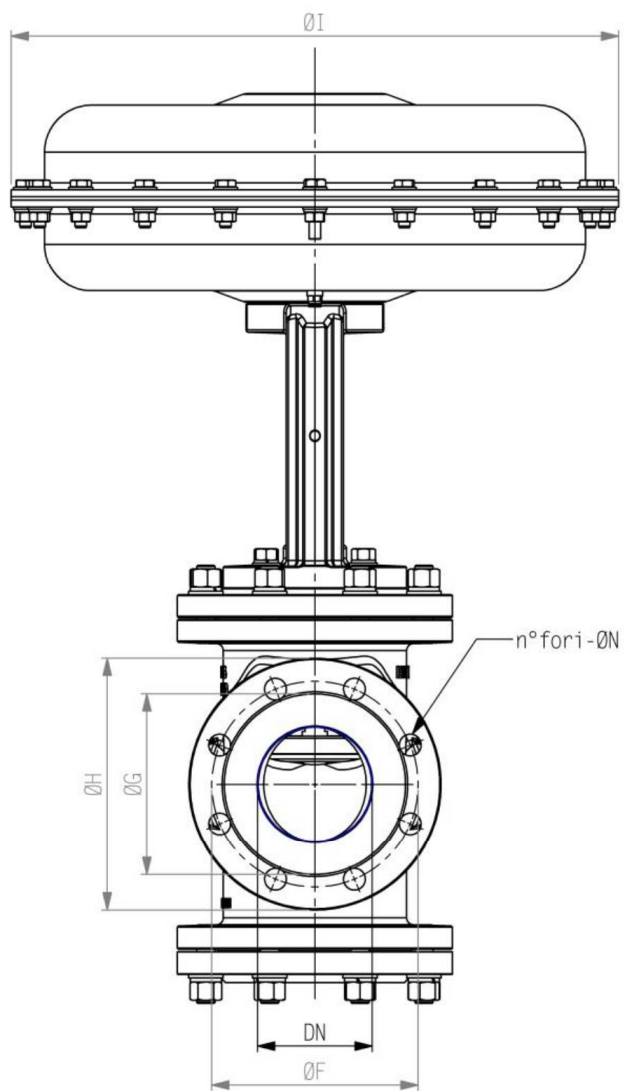
# Materials – SBS/18 – 3-Way



		Valve-Body Material			
		GJS 500	WCB	CF3M	
S	ACTUATOR	1.1	Upper Cover		
		1.2	Spring		
		1.3	Lower Cover		
		1.4	Gasket		
		1.5	Self-Lubricating Bushing		
		1.6	Guiding Bushing		
		1.7	Diaphragm Counter-Disc		
		1.8	End Stroke		
		1.9	Junction Flange		
		1.10	Actuator Gasket		
		1.11	Actuator Stem		
M	Membrane				
PPM	Spring Plate				
RA	Air Port				
C	Yoke				
GG	JUNCTION	2.1	Coupler		
		2.2	Spacer Washer		
		2.3	Lower Adjusting Screw		
		2.5	Adjusting Screw		
		D	Nut M16	AISI 304	AISI 316
GPS	PACKING	3.1	Guiding Bushing		
		3.2	Spring		
		3.3	Spacer Washer		
		3.4	Packing		
		3.5	Packing Screw		
		3.6	OR 536		
		3.7	OR 3150		
OTT	PLUG	ST	Stem		
		GU	Guide		
		IK	Ketron Insert		
		PI	Insert Holder		
		DO	Spacer Washer		
		OG	Metallic Insert		
		DA	Self-Locking Nut		
Body	CI	Intermediate Body			
	GI	Gasket			
	SCO	Conic Seat			
	CV	Body			
	F	Bottom Flange			
	-	Screws			
		Painted Steel			
		Harmonic Steel			
		Painted Steel			
		NBR			
		Polymer			
		Brass			
		Zn-Plated Steel			
		ERTALON PA 6-G			
		Zn-Plated Steel			
		VITON			
		S31600L			
		Fabric-Rubber NBR			
		Aluminium (d.530)			
		Technopolymer			
		GJS 500	WCB	CF3M	
		A351 CF3M			
		S31600L			
		S31600L			
		S31600L			
		Anti-Corrosion Bronze			
		Harmonic Stainless Steel			
		S31600L			
		PTFE / Graphite			
		S31600L			
		VITON			
		VITON			
		S31600L			
		A351 CF3M			
		KETRON PEEK 1000			
		S31600L			
		S31600L			
		S31600L			
		S31600L			
		-	-	-	
		FLEXIGRAF FGS3			
		A351 CF3M			
		GJS 500	WCB	A351 CF3M	
		-	-	-	
		Zn-Plated Steel		S31600L	



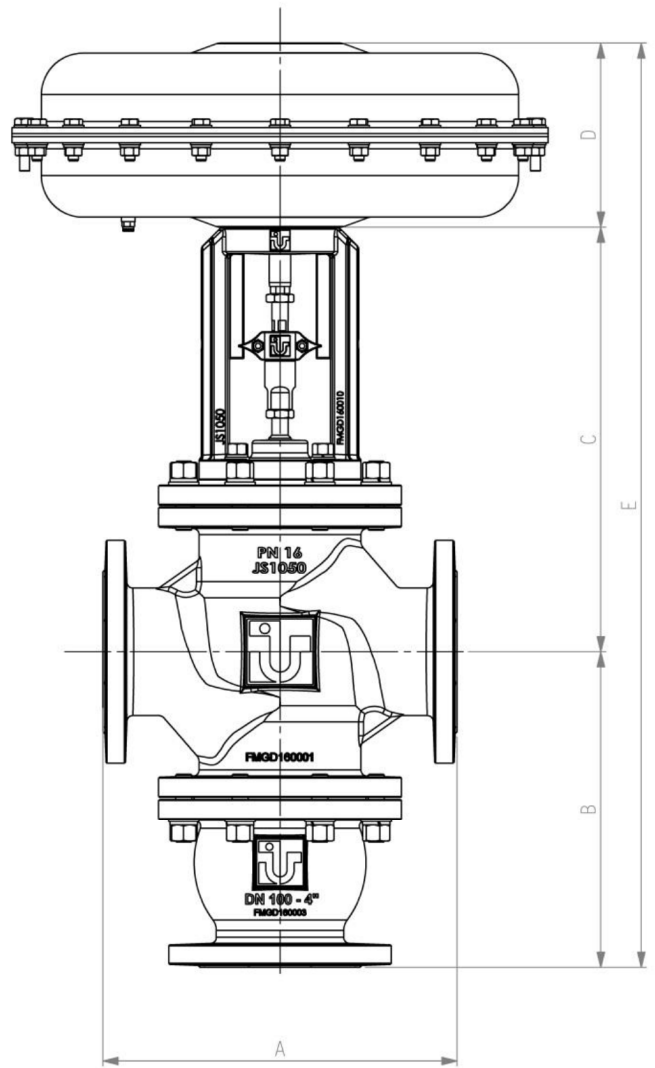
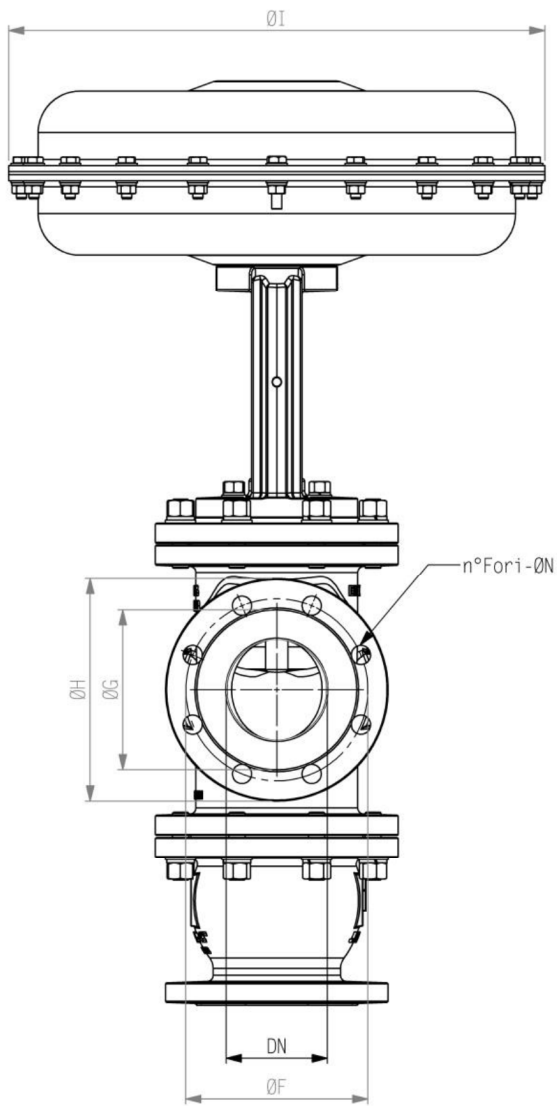
# Dimensions – SBS/18 – 2-Way



DN	A		B	C	D		E		F		G	H		I	N		Nr. holes			
	PN16	PN40			Actuator				PN16	PN40		PN16	PN40		PN16	PN40	PN16	PN40	PN16	PN40
					530	530 s.60	530	530 s.60												
100	350	196	420	173	323	789	939	180	190	162	220	235	530	19	22	8				
125	400	232	459			864	1014	210	220	188	250	270		19	26	8				
150	480	271	493			937	1087	240	250	212	285	300		23	26	8				
200	600	240	561			974	1124	295	320	268	340	375		22	30	12				



# Dimensions – SBS/18 – 3-Way



DN	A		B	C	D		E		F		G	H		I	N		Nr. holes			
	PN16	PN40			Actuator				PN16	PN40		PN16	PN40		PN16	PN40	PN16	PN40	PN16	PN40
					530	530 s.60	530	530 s.60												
100	350	312	420	173	323	905	1055	180	190	162	220	235	530	19	22	8				
125	400	353	459			985	1135	210	220	188	250	270		19	26	8				
150	480	408	493			1075	1225	240	250	212	285	300		23	26	8				
200	600	477	561			1211	1361	295	320	268	340	375		22	30	12				







**DOUBLE ACTUATOR  
STROKE 60**



**SAFETY BELLOWS**



**STAINLESS-STEEL BODY  
AND ACTUATOR**



**HANDWHEEL**



**INSTRUMENTATION**



**PNEUMATICS**

## Pressure-Temperature Rating:

PRESSURE-TEMPERATURE RATING										
Maximum Working Pressure Depending on Temperature										
PN	Material	Name	Temperature (°C)							
			-10	50	100	150	200	250	300	350
16	GJL - 250	cast-iron	16	16	16	16	12,8	11,2	9,6	-
	GJS - 500	spher. cast-iron	16	16	16	16	14,7	13,9	12,8	11,2
	A216 WCB	carbon steel	16	15,8	14,6	14,3	13,8	13,2	12,2	11,7
	AISI 316	stainless steel	16	15,2	13,3	12,2	11,3	10,5	10	9,6
25	A216 WCB	carbon steel	25	24,7	22,9	22,3	21,6	20,6	19,1	18,2
	AISI 316	stainless steel	25	23,7	20,8	19	17,6	16,5	15,6	15
40	A216 WCB	carbon steel	40	39,5	36,6	35,7	34,6	32,9	30,6	29,2
	AISI 316	stainless steel	40	38	33,3	30,4	28,2	26,3	25	24
63	A216 WCB	carbon steel	63	62,2	57,7	56,2	54,5	51,9	48,1	45,9
	AISI 316	stainless steel	63	59,8	52,5	47,9	44,3	41,5	39,3	37,9
100	A216 WCB	carbon steel	100	98,8	91,5	89,2	86,5	82,3	76,4	72,9
	AISI 316	stainless steel	100	95	83,3	76	70,4	65,9	62,4	60,1

ANSI	Material	Name	Temperature (°C)							
			-10	50	100	150	200	250	300	350
150	A216 WCB	carbon steel	20	19	17,9	15,9	13,8	11,8	9,9	8,5
	AISI 316	stainless steel	20	19,2	16,2	14,8	13,4	11,7	9,6	8,6
300	A216 WCB	carbon steel	50	50	46,4	45,2	43,8	41,7	38,7	37
	AISI 316	stainless steel	50	48,1	42,2	38,5	35,7	33,4	31,6	30,5
600	A216 WCB	carbon steel	110	100	92,7	90,4	87,8	83,4	77,4	73,9
	AISI 316	stainless steel	110	96,2	84,4	77	71,3	66,8	63,2	60,9



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