

# 21SH SERIES

## Pneumatic valves, Coaxial valves

- 21SH** are pneumatically actuated coaxial shuttle valves that come with:
- optimized internal flow path for high flow rate with reduced pressure drop
  - compact design
  - corrosion resistant body
  - freely selectable mounting position
  - design suitable for low vacuum operation (150 mmHg)
  - unidirectional flow path



### TECHNICAL DATA

PIPES	G 1/4 ÷ 2 (Threaded), DN65 ÷ DN100 (Flanged)	
FLOW DIRECTION	above seat	
CONTROL TYPE	single acting normally open, normally closed and double acting	
FLUID TEMPERATURE	FKM -20°C + 150°C	EPDM -20°C + 130°C
AMBIENT TEMPERATURE	-20°C + 80°C	
VISCOSITY	max 500 cSt	
PILOT FLUID	air, inert gases	
PILOT FLUID TEMPERATURE	MAX + 80°C	

### MATERIALS

VALVE BODY	stainless steel AISI 316
MAIN SEAL	PTFE
STEM PACKING	PTFE, PTFE + GRAPHITE
ACTUATOR HOUSING	stainless steel AISI 304
ACTUATOR GASKETS	FKM

#### ■ CE

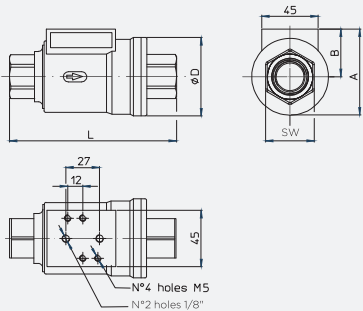
- 2014/68/EU (PED)  
up to 1" - art. 4.3  
above 1" up to 2" - cat. I module A  
above 2" - cat. I module A (use only with gases of Group 2 or liquids)

- 2014/34/EU (ATEX) Available on request.  
Refer to next pages for the complete marking

■ Please check the compatibility of the fluids in contact with the materials at RFQ stage.

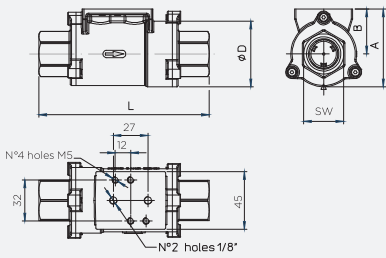
Process Valves & Components ■ Pneumatic valves ■ Coaxial valves ■ **21SH SERIES**

**21SH1**



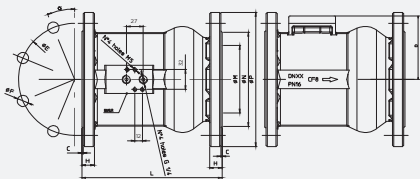
DN	PIPE	DIMENSIONS [mm]					WEIGHT kg
		A	B	Ø D	L	SW	
DN10	3/8"	56	33	46	98	22	0,8
DN15	1/2"	61	35	52	112	26,5	1,0
DN20	3/4"	72	40	64	135	32	1,5
DN25	1"	78	43	69	143	41	1,9
DN32	1 1/4"	94	51	86	165	50	3,1
DN40	1 1/2"	104	56	96	180	56	3,8
DN50	2"	116	62	108	207	70	5,7

**21SH2**



DN	PIPE	DIMENSIONS [mm]					WEIGHT kg
		A	B	Ø D	L	SW	
DN8	1/4"	49,5	31	37	98	22	0,5
DN10	3/8"	49,5	31	37	98	22	0,5
DN15	1/2"	53,3	32	42,5	112	26	0,7
DN20	3/4"	63,5	37,5	52	135	32	1,1
DN25	1"	70	40	60	143	40	1,5
DN32	1 1/4"	85,5	48	75	165	49	2,3
DN40	1 1/2"	95	53	84	180	53	2,8
DN50	2"	109	60	97	207	68	4,4

**21SH4**



FLANGE SIZE DIN 2543	PIPE	DIMENSIONS [mm]									α	WEIGHT kg
		C	D	Ø E	Ø F	H	L	Ø M	Ø N	Ø P		
DN65	2 1/2"	2	85	145	4-Ø18	20	192	66	120	180	45°	10,0
DN80	3"	2	92	160	8-Ø18	22	212	75	135	195	22,5°	13,3
DN100	4"	2	102	180	8-Ø18	22	227	94	155	215	22,5°	16,3

## SH1 - NC

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE	DRAWING REFERENCE
		Ø [mm]	[m3/h]	[l/min]	MIN	MAX	MIN	MAX	PS		
DN10	3/8"	10	1,26	21	3	5	0	16	16	21SH11AV010**	1
DN15	1/2"	15	2,58	43	4	5	0	16	16	21SH11AV015**	1
DN20	3/4"	20	5,34	89	4	5	0	16	16	21SH11AV020**	1
DN25	1"	25	12,36	206	3	5	0	16	16	21SH11AV025**	1
DN32	1 1/4"	32	16,44	274	3	5	0	16	16	21SH11AV032**	1
DN40	1 1/2"	40	20,04	334	3	5	0	16	16	21SH11AV040**	1
DN50	2"	50	26,64	444	5	6	0	16	16	21SH11AV050**	1

## SH1 - NO

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE	DRAWING REFERENCE
		Ø [mm]	[m3/h]	[l/min]	MIN	MAX	MIN	MAX	PS		
DN10	3/8"	10	1,26	21	5	8	0	16	16	21SH10AV010**	1
DN15	1/2"	15	2,58	43	5	8	0	16	16	21SH10AV015**	1
DN20	3/4"	20	5,34	89	5	8	0	16	16	21SH10AV020**	1
DN25	1"	25	12,36	206	5	8	0	16	16	21SH10AV025**	1
DN32	1 1/4"	32	16,44	274	5	8	0	16	16	21SH10AV032**	1
DN40	1 1/2"	40	20,04	334	5	8	0	16	16	21SH10AV040**	1
DN50	2"	50	26,64	444	5	8	0	16	16	21SH10AV050**	1

## SH1 - DOUBLE ACTING

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE	DRAWING REFERENCE
		Ø [mm]	[m3/h]	[l/min]	MIN	MAX	MIN	MAX	PS		
DN10	3/8"	10	1,26	21	3	5	0	16	16	21SH1*AV010**	1
DN15	1/2"	15	2,58	43	4	5	0	16	16	21SH1*AV015**	1
DN20	3/4"	20	5,34	89	4	5	0	16	16	21SH1*AV020**	1
DN25	1"	25	12,36	206	3	7	0	16	16	21SH1*AV025**	1
DN32	1 1/4"	32	16,44	274	3	7	0	16	16	21SH1*AV032**	1
DN40	1 1/2"	40	20,04	334	3	7	0	16	16	21SH1*AV040**	1
DN50	2"	50	26,64	444	5	7	0	16	16	21SH1*AV050**	1

## SH2 - NC

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE	DRAWING REFERENCE
		Ø [mm]	[m3/h]	[l/min]	MIN	MAX	MIN	MAX	PS		
DN8	1/4"	10	1,2	20	3,5	5	0	16	16	21SH21AV008**	2
DN10	3/8"	10	1,26	21	3,5	5	0	16	16	21SH21AV010**	2
DN15	1/2"	15	2,58	43	3,5	5	0	16	16	21SH21AV015**	2
DN20	3/4"	20	5,34	89	3,5	5	0	16	16	21SH21AV020**	2
DN25	1"	25	12,36	206	3,5	5	0	16	16	21SH21AV025**	2
DN32	1 1/4"	32	16,44	274	3,5	5	0	16	16	21SH21AV032**	2
DN40	1 1/2"	40	20,04	334	3,5	5	0	16	16	21SH21AV040**	2
DN50	2"	50	26,64	444	5	6	0	16	16	21SH21AV050**	2

■ \* replace with "2" for double acting with spring version or with "3" for double acting version.  
 ■ \*\* replace with process connections digits, please refer to codification table.

## SH2 - NO

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE	DRAWING REFERENCE
		Ø [mm]	[m3/h]	[l/min]	MIN	MAX	MIN	MAX	PS		
DN8	1/4"	10	1,2	20	5	8	0	16	16	21SH20AV008**	2
DN10	3/8"	10	1,26	21	5	8	0	16	16	21SH20AV010**	2
DN15	1/2"	15	2,58	43	5	8	0	16	16	21SH20AV015**	2
DN20	3/4"	20	5,34	89	5	8	0	16	16	21SH20AV020**	2
DN25	1"	25	12,36	206	5	8	0	16	16	21SH20AV025**	2
DN32	1 1/4"	32	16,44	274	5	8	0	16	16	21SH20AV032**	2
DN40	1 1/2"	40	20,04	334	5	8	0	16	16	21SH20AV040**	2
DN50	2"	50	26,64	444	6	8	0	16	16	21SH20AV050**	2

## SH2 - DOUBLE ACTING

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE	DRAWING REFERENCE
		Ø [mm]	[m3/h]	[l/min]	MIN	MAX	MIN	MAX	PS		
DN8	1/4"	10	1,2	20	3,5	5	0	16	16	21SH2*AV008**	2
DN10	3/8"	10	1,26	21	3,5	5	0	16	16	21SH2*AV010**	2
DN15	1/2"	15	2,58	43	3,5	5	0	16	16	21SH2*AV015**	2
DN20	3/4"	20	5,34	89	3,5	5	0	16	16	21SH2*AV020**	2
DN25	1"	25	12,36	206	3,5	5	0	16	16	21SH2*AV025**	2
DN32	1 1/4"	32	16,44	274	3,5	5	0	16	16	21SH2*AV032**	2
DN40	1 1/2"	40	20,04	334	3,5	5	0	16	16	21SH2*AV040**	2
DN50	2"	50	26,64	444	5	6	0	16	16	21SH2*AV050**	2

## SH4

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE	DRAWING REFERENCE
		Ø [mm]	[m3/h]	[l/min]	MIN	MAX	MIN	MAX	PS		
DN65	2 1/2"	66	104,28	1738	3	5	0	12	16	21SH43BE065FL	3
DN80	3"	75	151,5	2525	3	5	0	12	16	21SH43BE080FL	3
DN100	4"	94	216	3600	3	5	0	12	16	21SH43BE100FL	3

■ SH4 Series available only with E = EPDM sealing

I	II	III	IV	V	VI	VII	VIII	-	IX	CODIFICATION
2	1	SH1	1	A	V	010	BP			
<div><div><div><b>I. NUMBERS OF WAYS</b> 2 - 2-way</div><div><b>II. NUMBERS OF ELEMENTS</b> 1 - 1-elements</div><div><b>III. SERIES</b> SH1 - threaded body SH2 - bolted body SH4 - flanged version</div><div><b>IV. PILOT FUNCTION</b> 0 - NO 1 - NC 2 - Double Acting with spring 3 - Double Acting</div></div><div><div><b>V. BODY MATERIAL</b> A - AISI 316 B - AISI 304</div><div><b>VI. SEALING MATERIAL</b> V - FKM E - EPDM</div><div><b>VII. NOMINAL DIAMETER</b> SH1 SERIES 008 - DN8 SH1 OR SH2 SERIES 010 - DN10 015 - DN15 020 - DN20 025 - DN25</div></div><div><div>032 - DN32 040 - DN40 050 - DN50 SH4 SERIES 065 - DN65 080 - DN80 100 - DN100</div><div><b>VIII. PROCESS CONNECTIONS</b> BP - BSP BT - BSPT FL - FLANGED</div><div><b>IX. OPTIONS</b> A - ATEX Version</div></div></div>										



## According to Directive 2014/34/EU ATEX

II 2G Ex h IIC T6...T3 Gb  
II 2D Ex h IIC T80°C...T180°C Db  
(-10 °C ≤ Tamb ≤ 80°C)