

21I21 SERIES

Pneumatic Valves, Angle seat valves

- 21I21** are pneumatically actuated angle seat valves that come with:
- optimized body design for high flow rate
 - optimized body design that reduces water hammer effects (below seat versions)
 - corrosion resistant, stainless steel body and actuator housing
 - optical position indicator
 - self adjusting stem packing for long service life
 - 360° adjustable actuator
 - wide range of process connections



TECHNICAL DATA

PIPES	Threaded	Welded	Tri-Clamp	Flanged
	G 3/8 ÷ 3	DN15 ÷ DN80	DN15 ÷ DN80	DN15 ÷ DN100
ACTUATOR SIZE	Ø 40 ÷ 125 mm			
FLOW DIRECTION	below seat or above seat			
CONTROL TYPE	single acting normally open, normally closed and double acting			
FLUID TEMPERATURE	-10°C +180°C			
AMBIENT TEMPERATURE	-10°C +80°C			
VISCOSITY	max 600 cSt			
PILOT FLUID	air, inert gases			
PILOT FLUID TEMPERATURE	max +80°C			

MATERIALS

VALVE BODY	stainless steel AISI 316 or AISI 304
MAIN SEAL	PTFE
STEM PACKING	PTFE, PTFE+CARBON, PEEK
ACTUATOR HOUSING	stainless steel AISI 304 up to Ø 90 mm, aluminum for Ø 125 mm
ACTUATOR GASKETS	FKM

CE

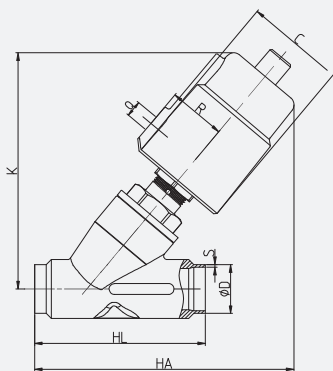
- 2014/68/EU (PED)
up to 1" - art. 4.3
above 1" up to 2" - cat. I module A
above 2" - cat. I module A (use only with gases of Group 2 or liquids)

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

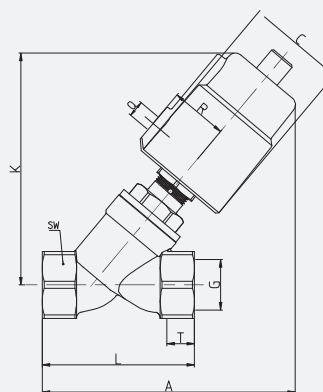
Special version with materials in contact with process fluid compliant with **EC Reg. 1935/2004** available on request

- Please check the compatibility of the fluids in contact with the materials at RFQ stage.
- For pilot valve please refer to accessories Section of Chapter 2.

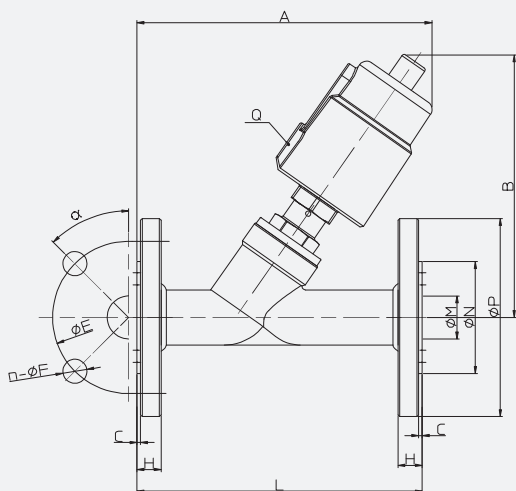
WELDED CONNECTIONS



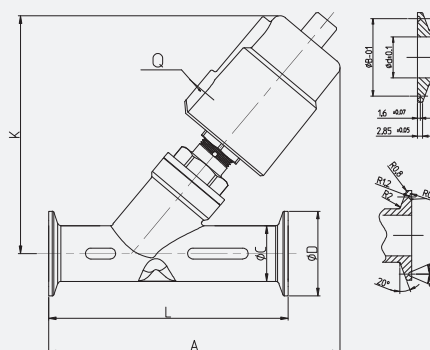
THREADED CONNECTIONS



FLANGED CONNECTIONS



TRI-CLAMP CONNECTIONS



- Welded connections in accordance with DIN 11850-2 or DIN 11850-3.
- Threaded connections in accordance with ISO 228/1 or EN 10226.
- Flanges in accordance with DIN 2576 (PN16) or ASME B16.5 (class ANSI 150).
- Tri-Clamp connections in accordance with ISO 2852.

WELDED CONNECTIONS

DN	ACTUATOR [mm]	HA [mm]	K [mm]	HL [mm]	ØD [mm]		S [mm]		C [mm]	R [mm]	Q
					DIN11850-2	DIN11850-3	DIN11850-2	DIN11850-3			
DN15	40	118	112	70	19	20	1,5	2	50,5	27	1/8
DN15	50	128	125	70	19	20	1,5	2	60	33	1/8
DN20	50	135	132	82	23	24	1,5	2	60	33	1/8
DN25	50	150	136	100	29	30	1,5	2	60	33	1/8
DN25	63	175	162	100	29	30	1,5	2	75	41	1/8
DN32	63	186	174	125	35	36	1,5	2	75	41	1/8
DN32	90	232	223	125	35	36	1,5	2	106	55	1/8
DN40	63	190	175	130	41	42	1,5	2	75	41	1/8
DN40	90	235	223	130	41	42	1,5	2	106	55	1/8
DN50	63	206	183	155	53	54	1,5	2	75	41	1/8
DN50	90	250	232	155	53	54	1,5	2	106	55	1/8
DN50	125	307	300	155	53	54	1,5	2	170	85	1/4
DN65 SQC	90	320	280	270	70		2		106	55	1/8
DN65 SQC	125	360	330	270	70		2		170	85	1/4
DN80 SQC	125	360	355	284	85		2		170	85	1/4

FLANGED CONNECTIONS

DN	ACTUATOR [mm]	A [mm]	B [mm]	L [mm]	C [mm]		H [mm]		ØM [mm]	ØN [mm]		ØP [mm]		ØE [mm]		N-ØF [mm]		α		Q
					DIN	ANSI	DIN	ANSI		DIN	ANSI	DIN	ANSI	DIN	ANSI	DIN	ANSI	DIN	ANSI	
DN15	40	135	125	130	2	1,5	14	14	16	45	35	95	90	65	60,5	4-14	4-15,8	45°	45°	1/8
DN15	50	145	140	130	2	1,5	14	14	16	45	35	95	90	65	60,5	4-14	4-15,8	45°	45°	1/8
DN20	50	165	140	150	2	1,5	14	14,5	19	56	43	105	98,5	75	69,85	4-14	4-15,8	45°	45°	1/8
DN25	50	170	145	160	2	1,5	14	16	26	65	50,8	115	110	85	79,25	4-14	4-15,8	45°	45°	1/8
DN25	63	190	175	160	2	1,5	14	16	26	65	50,8	115	110	85	79,25	4-14	4-15,8	45°	45°	1/8
DN32	63	190	188	180	2	1,5	16	17,5	31	78	63,5	140	117	100	88,9	4-18	4-15,8	45°	45°	1/8
DN32	90	230	235	180	2	1,5	16	17,5	31	78	63,5	140	117	100	88,9	4-18	4-15,8	45°	45°	1/8
DN40	63	206	190	200	3	1,5	16	19,5	38	84	73	150	127	110	98,55	4-18	4-15,8	45°	45°	1/8
DN40	90	250	240	200	3	1,5	16	19,5	38	84	73	150	127	110	98,55	4-18	4-15,8	45°	45°	1/8
DN50	63	235	195	230	3	1,5	16	20,5	49	100	92	165	150	125	120,65	4-18	4-19,0	45°	45°	1/8
DN50	90	277	245	230	3	1,5	16	20,5	49	100	92	165	150	125	120,65	4-18	4-19,0	45°	45°	1/8
DN50	125	330	310	230	3	1,5	16	20,5	49	100	92	165	150	125	120,65	4-18	4-19,0	45°	45°	1/4
DN65 SQC	90	330	280	290	3	1,5	18	24	66	120	105	185	178	145	139,7	4-18	4-19,0	45°	45°	1/8
DN65 SQC	125	375	330	290	3	1,5	18	24	66	120	105	185	178	145	139,7	4-18	4-19,0	45°	45°	1/4
DN80 SQC	125	380	355	310	3	1,5	20	25,5	78	135	127	200	190,5	160	152,4	8-18	4-19,0	22,5°	45°	1/4
DN100	125	420	395	350	3	1,5	20	25,5	96	155	157	215	229	180	190,5	8-18	8-19,0	22,5°	22,5°	1/4

THREADED CONNECTIONS

DN	ACTUATOR [mm]	PIPE	A [mm]	K [mm]	L [mm]	T [mm]	C [mm]	R [mm]	Q	CH
DN10	40	3/8	124	112	68	12	50,5	27	1/8	27
DN10	50	3/8	135	125	68	12	60	33	1/8	27
DN15	40	1/2	124	112	68	15	50,5	27	1/8	27
DN15	50	1/2	135	125	68	15	60	33	1/8	27
DN20	50	3/4	140	132	75	16	60	33	1/8	32
DN25	50	1	150	136	90	17	60	33	1/8	40
DN25	63	1	172	162	90	17	75	41	1/8	40
DN32	63	1 1/4	190	174	116	21	75	41	1/8	50
DN32	90	1 1/4	235	223	116	21	106	55	1/8	50
DN40	63	1 1/2	190	175	116	21	75	41	1/8	56
DN40	90	1 1/2	235	223	116	21	106	55	1/8	56
DN50	63	2	205	183	138	22	75	41	1/8	69
DN50	90	2	250	232	138	22	106	55	1/8	69
DN50	125	2	305	300	138	22	170	85	1/4	69
DN65 SQC	90	2 1/2	275	280	178	26	106	55	1/8	85
DN65 SQC	125	2 1/2	320	330	178	26	170	85	1/4	85
DN80 SQC	125	3	340	355	210	27	170	85	1/4	100

TRI-CLAMP CONNECTIONS

DN	ACTUATOR [mm]	A [mm]	K [mm]	L [mm]	ØC [mm]	Ød [mm]	ØD [mm]	B [mm]	Q
DN15	40	130	115	80	19	15	34	27,5	1/8"
DN15	50	140	126	80	19	15	34	27,5	1/8"
DN20	50	158	148	130	25	19	50,5	43,5	1/8"
DN25	50	165	140	130	32	27	50,5	43,5	1/8"
DN25	63	188	166	130	32	27	50,5	43,5	1/8"
DN32	63	200	174	146	37	31	50,5	43,5	1/8"
DN32	90	245	223	146	37	31	50,5	43,5	1/8"
DN40	63	210	175	160	40	33	64	56,5	1/8"
DN40	90	255	223	160	40	33	64	56,5	1/8"
DN50	63	221	185	175	53	45	64	56,5	1/8"
DN50	90	265	235	175	53	45	64	56,5	1/8"
DN50	125	325	296	175	53	45	64	56,5	1/4"
DN65 SQC	90	325	280	278	75	66	91	83,5	1/8"
DN65 SQC	125	360	330	278	75	66	91	83,5	1/4"
DN80 SQC	125	360	352	290	89	78	106	97	1/4"
DN65 SQC	90	2 1/2	275	280	178	26	106	55	1/8
DN65 SQC	125	2 1/2	320	330	178	26	170	85	1/4
DN80 SQC	125	3	340	355	210	27	170	85	1/4

2/2 NC - ABOVE SEAT

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE
		Ø [mm]	[m ³ /h]	[l/min]	Ø [mm]	MIN	MAX	MIN	MAX	PS	
DN10	3/8"	13	3,9	65,0	40	3,0	4,5	0	16,0	16	21I21CSIATTO101**
					50	3,0	3,5	0	16,0	16	21I21DSIATTO101**
DN15	1/2"	13	4,3	71,7	40	3,0	4,5	0	16,0	16	21I21CSIATTO151**
					50	3,0	3,5	0	16,0	16	21I21DSIATTO151**
DN20	3/4"	18	7,6	126,7	50	3,0	4,0	0	16,0	16	21I21DSIATTO201**
DN25	1"	24	15,8	263,3	50	3,0	4,5	0	16,0	16	21I21DSIATTO251**
					63	3,0	3,5	0	16,0	16	21I21ESIATTO251**
DN32	1 1/4"	31	26	433,3	63	3,0	5,5	0	16,0	16	21I21ESIATTO321**
					90	2,0	3,5	0	16,0	16	21I21FSIATTO321**
DN40	1 1/2"	35	32	533,3	63	3,0	6,5	0	16,0	16	21I21ESIATTO401**
					90	3,0	4,0	0	16,0	16	21I21FSIATTO401**
DN50	2"	45	52	866,7	63	3,0	7,0	0	9,0	16	21I21ESIATTO501**
					90	3,0	4,5	0	16,0	16	21I21FSIATTO501**
					125	3,0	4,0	0	16,0	16	21I21GAIATTO501**
DN65	2 1/2"	61	83,2	1386,7	90	3,0	6,0	0	10,0	16	21I21FSIATTO651**
					125	3,0	4,0	0	16,0	16	21I21GAIATTO651**
DN80	3"	80	119	1983,3	125	3,0	7,0	0	12,0	16	21I21GAIATTO801**

2/2 NC - BELOW SEAT

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE
		Ø [mm]	[m ³ /h]	[l/min]	Ø [mm]	MIN	MAX	MIN	MAX	PS	
DN10	3/8"	13	3,9	65,0	40	4,0	8,0	0	13,0	16	21I21CSIATTO102**
					50	4,5	8,0	0	14,0	16	21I21DSIATTO102**
DN15	1/2"	13	4,3	71,7	40	4,0	8,0	0	13,0	16	21I21CSIATTO152**
					50	4,5	8,0	0	14,0	16	21I21DSIATTO152**
DN20	3/4"	18	7,6	126,7	50	4,5	8,0	0	14,0	16	21I21DSIATTO202**
DN25	1"	24	15,8	263,3	50	4,5	8,0	0	8,0	16	21I21DSIATTO252**
					63	5,0	8,0	0	13,0	16	21I21ESIATTO252**
DN32	1 1/4"	31	26	433,3	63	5,0	8,0	0	6,0	16	21I21ESIATTO322**
					90	6,0	8,0	0	16,0	16	21I21FSIATTO322**
DN40	1 1/2"	35	32	533,3	63	5,0	8,0	0	5,0	16	21I21ESIATTO402**
					90	6,0	8,0	0	16,0	16	21I21FSIATTO402**
DN50	2"	45	52	866,7	63	5,0	8,0	0	2,0	16	21I21ESIATTO502**
					90	6,0	8,0	0	10,0	16	21I21FSIATTO502**
					125	5,5	8,0	0	16,0	16	21I21GAIATTO502**
DN65	2 1/2"	61	83,2	1386,7	90	6,0	8,0	0	5,0	16	21I21FSIATTO652**
					125	5,5	8,0	0	9,0	16	21I21GAIATTO652**
DN80	3"	80	119	1983,3	125	5,5	8,0	0	5,0	16	21I21GAIATTO802**
DN100	4"	90	132	2200,0	125	5,5	8,0	0	2,5	16	21I21GAIATTO1002**

■ ** replace with process connections digits, please refer to codification table.

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE
		Ø [mm]	[m ³ /h]	[l/min]		Ø [mm]	MIN	MAX	MIN	MAX	
DN10	3/8"	13	3,9	65,0	40	3,0	8,0	0	16,0	16	21I21CSOATT0101**
					50	3,0	8,0	0	16,0	16	21I21DSOATT0101**
DN15	1/2"	13	4,3	71,7	40	3,0	8,0	0	16,0	16	21I21CSOATT0151**
					50	3,0	8,0	0	16,0	16	21I21DSOATT0151**
DN20	3/4"	18	7,6	126,7	50	3,0	8,0	0	12,0	16	21I21DSOATT0201**
DN25	1"	24	15,8	263,3	50	3,0	8,0	0	3,0	16	21I21DSOATT0251**
					63	4,5	8,0	0	16,0	16	21I21ESOATT0251**
DN32	1 1/4"	31	26	433,3	63	4,5	8,0	0	14,0	16	21I21ESOATT0321**
DN40	1 1/2"	35	32	533,3	63	4,5	8,0	0	14,0	16	21I21ESOATT0401**
DN50	2"	45	52	866,7	63	4,5	8,0	0	6,0	16	21I21GAOATT0501**

2/2 NO - ABOVE SEAT

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE
		Ø [mm]	[m ³ /h]	[l/min]		Ø [mm]	MIN	MAX	MIN	MAX	
DN10	3/8"	13	3,9	65,0	40	3,0	5,0	0	16,0	16	21I21CSOATT0102**
					50	3,0	4,0	0	16,0	16	21I21DSOATT0102**
DN15	1/2"	13	4,3	71,7	40	3,0	5,0	0	16,0	16	21I21CSOATT0152**
					50	3,0	4,0	0	16,0	16	21I21DSOATT0152**
DN20	3/4"	18	7,6	126,7	50	3,0	6,0	0	16,0	16	21I21DSOATT0202**
DN25	1"	24	15,8	263,3	50	3,0	6,0	0	13,0	16	21I21DSOATT0252**
					63	3,0	5,0	0	16,0	16	21I21ESOATT0252**
DN32	1 1/4"	31	26	433,3	63	3,0	6,0	0	13,0	16	21I21ESOATT0322**
DN40	1 1/2"	35	32	533,3	63	3,0	6,0	0	7,0	16	21I21ESOATT0402**
					90	3,0	3,5	0	16,0	16	21I21FSOATT0402**
DN50	2"	45	52	866,7	63	3,0	6,0	0	5,0	16	21I21ESOATT0502**
					90	3,0	6,0	0	12,0	16	21I21FSOATT0502**
DN65	2 1/2"	61	83,2	1386,7	90	3,0	5,0	0	7,5	16	21I21FSOATT0652**
					125	3,0	7,0	0	14,0	16	21I21GAOATT0652**
DN80	3"	80	119	1983,3	125	3,0	7,0	0	12,0	16	21I21GAOATT0802**

2/2 NO - BELOW SEAT

2/2 DE - ABOVE SEAT

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE
		Ø [mm]	[m ³ /h]	[l/min]	Ø [mm]	MIN	MAX	MIN	MAX	PS	
DN10	3/8"	13	3,9	65,0	40	3,0	4,5	0	16,0	16	21I2ICS3ATTO101**
					50	3,0	3,5	0	16,0	16	21I2IDS3ATTO101**
DN15	1/2"	13	4,3	71,7	40	3,0	4,5	0	16,0	16	21I2ICS3ATTO151**
					50	3,0	3,5	0	16,0	16	21I2IDS3ATTO151**
DN20	3/4"	18	7,6	126,7	50	3,0	4,0	0	16,0	16	21I2IDS3ATTO201**
DN25	1"	24	15,8	263,3	50	3,0	4,5	0	16,0	16	21I2IDS3ATTO251**
					63	3,0	3,5	0	16,0	16	21I2IES3ATTO251**
DN32	1 1/4"	31	26	433,3	63	3,0	5,5	0	16,0	16	21I2IES3ATTO321**
					90	3,0	4,0	0	16,0	16	21I2IFS3ATTO321**
DN40	1 1/2"	35	32	533,3	63	3,0	6,5	0	16,0	16	21I2IES3ATTO401**
					90	3,0	4,0	0	16,0	16	21I2IFS3ATTO401**
DN50	2"	45	52	866,7	63	3,0	7,0	0	10,0	16	21I2IES3ATTO501**
					90	3,0	4,5	0	16,0	16	21I2IFS3ATTO501**
					125	3,0	4,0	0	16,0	16	21I2IGA3ATTO501**
DN65	2 1/2"	61	83,2	1386,7	90	3,0	6,0	0	10,0	16	21I2IFS3ATTO651**
					125	3,0	4,0	0	16,0	16	21I2IGA3ATTO651**
DN80	3"	80	119	1983,3	125	3,0	7,0	0	12,0	16	21I2IGA3ATTO801**

2/2 DE - BELOW SEAT

SIZE	PIPE	ORIFICE SIZE	Kv	Kv	ACTUATOR	ACTUATOR PILOT PRESSURE [bar]		DIFFERENTIAL PRESSURE [bar]		MAX ALLOWABLE PRESSURE [bar]	CODE
		Ø [mm]	[m ³ /h]	[l/min]	Ø [mm]	MIN	MAX	MIN	MAX	PS	
DN10	3/8"	13	3,9	65,0	40	3,0	4,0	0	16,0	16	21I2ICS3ATTO102**
					50	3,0	4,0	0	16,0	16	21I2IDS3ATTO102**
DN15	1/2"	13	4,3	71,7	40	3,0	4,0	0	16,0	16	21I2ICS3ATTO152**
					50	3,0	4,0	0	16,0	16	21I2IDS3ATTO152**
DN20	3/4"	18	7,6	126,7	50	3,0	4,0	0	16,0	16	21I2IDS3ATTO202**
DN25	1"	24	15,8	263,3	50	3,0	6,5	0	16,0	16	21I2IDS3ATTO252**
					63	3,0	5,5	0	16,0	16	21I2IES3ATTO252**
DN32	1 1/4"	31	26	433,3	63	3,0	7,0	0	16,0	16	21I2IES3ATTO322**
					90	3,0	4,5	0	16,0	16	21I2IFS3ATTO322**
DN40	1 1/2"	35	32	533,3	63	3,0	7,5	0	12,0	16	21I2IES3ATTO402**
					90	3,0	5,0	0	16,0	16	21I2IFS3ATTO402**
DN50	2"	45	52	866,7	63	3,0	7,5	0	4,0	16	21I2IES3ATTO502**
					90	3,0	6,0	0	16,0	16	21I2IFS3ATTO502**
					125	3,0	4,0	0	16,0	16	21I2IGA3ATTO502**
DN65	2 1/2"	61	83,2	1386,7	90	3,0	7,5	0	10,0	16	21I2IFS3ATTO652**
					125	3,0	6,0	0	16,0	16	21I2IGA3ATTO652**
DN80	3"	80	119	1983,3	125	3,0	7,0	0	10,0	16	21I2IGA3ATTO802**
DN100	4"	90	132	2200,0	125	3,0	7,5	0	8,0	16	21I2IGA3ATTO1002**

** replace with process connections digits, please refer to codification table.



I. NUMBER OF WAYS

2 - 2 - way

II. NUMBER OF ELEMENTS

1 - 1 element

III. SERIES

IZ1 - ASV IZ1 Series

IV. ACTUATOR

- CS - 40 mm
- DS - 50 mm
- ES - 63 mm
- FS - 90 mm
- GA - 125 mm

V. PILOT FUNCTION

- 0 - NO
- 1 - NC
- 3 - Double Acting

VI. BODY MATERIAL

- A - AISI 316
- B - AISI 304

VII. SEAT SEALING MATERIAL

T - PTFE

VIII. STEM PACKING MATERIAL

- T - PTFE
- P - PEEK*

IX. NOMINAL DIAMETER

- 010
- 015
- 020
- 025
- 032
- 040
- 050
- 065
- 080

100 (available only for flanged versions)

X. FLOW DIRECTION

- 1 - Above Seat
- 2 - Below Seat

XI. PROCESS CONNECTIONS

- BP - BSP
- BT - BSPT
- CL - Tri- Clamp ISO 2852
- FA - Flange ASME B16.5
- FL - Flange DIN 2576
- W2 - Welded DIN 11850-2
- W3 - Welded DIN 11850-3

XII. OPTIONS

- A - ATEX Version
- P - Electrical Position Indicator
- S - Stroke Limiter

CODIFICATION

* Available on request

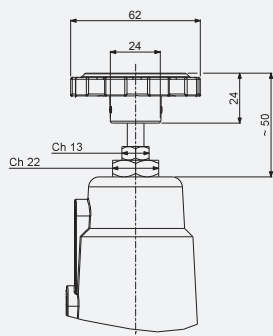
OPTION	VALVE TYPE	ACTUATOR SIZE					NOTES
		40 mm	50 mm	63 mm	90 mm	125 mm	
A	2/2 NC, NO, DE	X	X	X	X	X	
P	2/2 NC, NO, DE	X	X	X	X	X	Available also as stand alone part, please refer to accessories chapter
S	2/2 NC, NO, DE		X	X	X		Available only pre-assembled on the valve

OPTIONS AVAILABILITY

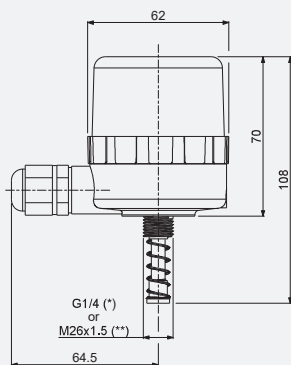


According to Directive 2014/34/EU ATEX

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



The **Stroke Limiter** is a device that can be installed on all pneumatic angle seat valve. Its function is to influence the plug's position by limiting the stroke of the valve and consequently by adjusting the flow rate. In case of lack of pilot pressure or due to other breakdowns, it acts as a manual emergency override.



The **Electrical Position Indicator** is an accessory to be assembled on pneumatic angle seat valves series 21IZ1 / 21IZ3. This device, mounted directly on the valve's actuator, allows to monitor the relative opening and closing status through a local visual control (LEDs) or remotely via electrical signal. It can be supplied individually as an accessory or already preassembled on the valve.

(*) Pipe connection G 1/4 for actuators 40, 50, 63, 90 mm
 (**) Pipe connection M26x1,5 for actuators 125 mm