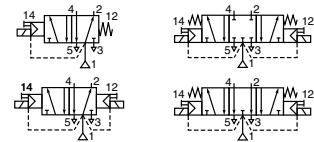




SOLENOID VALVES

pilot operated, spool type
single/dual solenoid (mono/bistable function, W1/W3)
stainless steel body, 1/4 - 1/2



5/2

5/3

Series

551-553

FEATURES

- The monostable spool valves have TÜV-EXIDA certified IEC 61508 Functional Safety data and can be used up to SIL 4 (551/TÜV)-SIL 3 (553/EXIDA)
- The 5/2 and 5/3 solenoid operated spool valves have threaded port connections
- All the exhaust ports of this spool valve are connectable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- Can be externally piloted (external air pilot supply) to convert valve to zero minimum operation by flipping a gasket
- The solenoid valves satisfy all relevant EC Directives

GENERAL

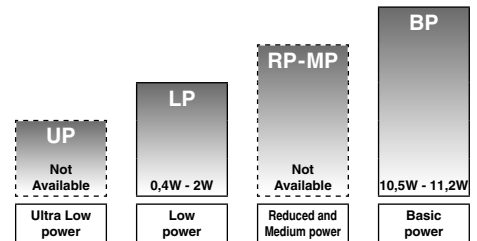
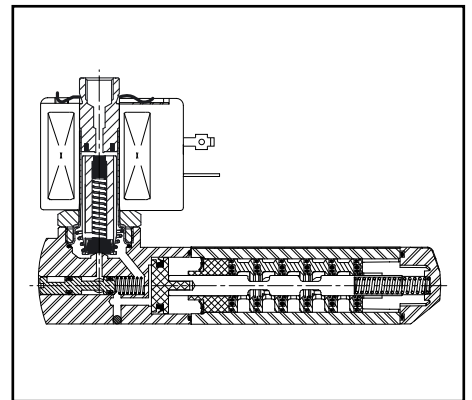
Differential pressure (*) 2 - 10 bar [1 bar = 100 kPa]
Flow (Qv at 6 bar) 1/4 = 860 l/min (5/2) ; 760 l/min (5/3) (ANR)
1/2 = 3000 l/min

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	551 : -40°C to +80°C	VMQ (silicone) + PUR (polyurethane)
	553 : -40°C to +60°C	

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body	Stainless steel, AISI 316L
End cover (spring)	Stainless steel
Spool valve internal parts	Stainless steel, POM
Pilot end-cover	Stainless steel
Core tube	Stainless steel
Core and plugnut	Stainless steel
Core spring	Stainless steel
Sealings & discs	NBR
Top disc	FPM
Disc holder	POM
Cartridge (Low power)	Welded, packless AISI 430
Seat	Stainless steel
Seat insert	POM
Shading coil	Silver
Rider ring (Low power)	PTFE



POWER LEVELS - cold electrical holding values (watt)

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)		power level	prefix optional solenoids										basic catalogue number
							min. ⁽²⁾	max. (PS)		NEMA 7 & 9	ATEX / IECEx				IP65		
								air (*)	~		=	~/=	EF	LPKF		NF	
5/2 - Solenoid air pilot operated - spring return (monostable)																	
1/4	6	0,75	12,5	0 / 2	10	10	BP	-	-	●	-	●	●	-	-	●	◇551A421 ⁽¹⁾
1/4	6	0,75	12,5	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	-	◇551G421 ⁽¹⁾
1/4	6	0,75	12,5	0 / 2	10	10	LP	-	●	●	-	●	○	○	○	-	◇551A321 ⁽¹⁾
1/4	6	0,75	12,5	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	-	◇551G321 ⁽¹⁾
1/2	13	2,49	41,5	0 / 2	10	10	BP	-	-	●	-	●	●	-	-	●	◇553A421 ⁽¹⁾
1/2	13	2,49	41,5	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	-	◇553G421 ⁽¹⁾
1/2	13	2,49	41,5	0 / 2	10	10	LP	-	●	●	-	●	○	○	○	-	◇553A321 ⁽¹⁾
1/2	13	2,49	41,5	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	-	◇553G321 ⁽¹⁾
5/2 - Solenoid air pilot operated and return (bistable)																	
1/4	6	0,75	12,5	0 / 2	10	10	BP	-	-	●	-	●	●	-	-	●	◇551A422
1/4	6	0,75	12,5	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	-	◇551G422
1/4	6	0,75	12,5	0 / 2	10	10	LP	-	●	●	-	●	○	○	○	-	◇551A322
1/4	6	0,75	12,5	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	-	◇551G322
1/2	13	2,49	41,5	0 / 2	10	10	BP	-	-	●	-	●	●	-	-	●	◇553A422
1/2	13	2,49	41,5	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	-	◇553G422
1/2	13	2,49	41,5	0 / 2	10	10	LP	-	●	●	-	●	○	○	○	-	◇553A322
1/2	13	2,49	41,5	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	-	◇553G322

◇ Select **B** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1) ● Available feature ○ Available feature in DC only

⁽¹⁾ Certified IEC 61508 Functional Safety data, use suffix "SL".

⁽²⁾ Zero minimum is only achieved if external pressure is applied

All leaflets are available on: www.asconumatics.eu



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网址：<http://www.ivalve.cc>

传真：(86-532)585-10-305
Email：sales@bechinas.com

PIC-5-35-GB

SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids										basic catalogue number
				min. ⁽²⁾	max. (PS)			NEMA 7 & 9	ATEX / IECEx					IP65				
					air (*)	~			=	~/=	EF	LPKF	NF		-	EM	PV	
5/3 - W1 - pressure held, solenoid air pilot operated and return																		
1/4	6	0,66	11	0/2	10	10	BP	-	-	●	-	●	●	-	-	-	●	❖551A438
1/4	6	0,66	11	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖551G438
1/4	6	0,66	11	0/2	10	10	LP	-	●	●	-	●	○	○	○	-	●	❖551A338
1/4	6	0,66	11	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖551G338
5/3 - W3 - pressure release, solenoid air pilot operated and return																		
1/4	6	0,66	11	0/2	10	10	BP	-	-	●	-	●	●	-	-	-	●	❖551A439
1/4	6	0,66	11	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖551G439
1/4	6	0,66	11	0/2	10	10	LP	-	●	●	-	●	○	○	○	-	●	❖551A339
1/4	6	0,66	11	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖551G339

❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1) ● Available feature ○ Available feature in DC only
⁽²⁾ Zero minimum is only achieved if external pressure is applied

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
E	F						Explosionproof - NEMA 7, 9 - Zinc plated steel conduit	○	-	-	●
E	V						Explosionproof - NEMA 7, 9 - 316 SS conduit	○	-	-	●
E	M						Waterproof IP67 - Metal enclosure (EN/IEC 60079-7+18, 61241-1)*	●	-	-	●
		E	T				Threaded conduit/hole (M20 x 1,5)	○	-	-	●
I	S			S	C		Intrinsically safe with SC coil (EN/IEC 60079-11+26, 61241-11)*	○	-	-	●
L	P	K	F				Flameproof - Aluminium (EN/IEC 60079-1, 61241-1)*	●	-	-	-
N	F						Flameproof - Aluminium (EN/IEC 60079-1, 61241-1)*	●	-	-	●
P	V						Encapsulated epoxy moulded (EN/IEC 60079-18, 61241-18)*	○	-	-	●
S	C						Solenoid with spade plug connector (EN/IEC 60730)	●	-	-	●
W	L						Waterproof IP67 - Metal enclosure	●	-	-	●
W	S						I.S. with Aluminium IP67 enclosure (EN/IEC 60079-11 / 61241-1)*	○	-	-	-
W	S	L	P	K	F		Waterproof IP67 - 316 SS enclosure	●	-	-	●
W	S	E	M				Flameproof - 316 SS (EN/IEC 60079-1, 61241-1)*	●	-	-	-
W	S						Waterproof IP67 - 316 SS enclosure (EN/IEC 60079-7+18, 61241-1)*	●	-	-	●
W	S			L	I		I.S. with 316 SS IP67 enclosure (EN/IEC 60079-11+26, 61241-11)*	○	-	-	-
W	S	N	F				Flameproof - 316 SS (EN/IEC 60079-1, 61241-1)*	●	-	-	●
		T					Threaded conduit (1/2" NPT)	●	-	-	●
				H	T		Class H - High temperature, +80°C ambient temp.	-	-	-	●
				X			Other special constructions	●	-	-	●

SUFFIX TABLE

suffix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
			M	O			Push type manual operator	○/●	-	-	●
S	L						Certified IEC 61508 Functional Safety data ⁽²⁾	○/●	-	-	●

OPTIONS & ACCESSORIES

series	pipe size	stainless steel exhaust protector		
		G	NPT	(M)
551-553	1/8	34600418 ⁽¹⁾	34600482 ⁽¹⁾	-
551	1/4	34600419 ⁽¹⁾	34600483 ⁽¹⁾	-
553	1/2	34600479 ⁽¹⁾	34600479 ⁽¹⁾	-
551	M5	-	-	34600484 ⁽¹⁾

- Available feature
- Available feature in DC only
- Not available
- * ATEX solenoids are also approved according to EN 13463-1 (non electrical valves)
- ⁽¹⁾ Provided with "SL" suffix
- ⁽²⁾ Not to use with MO suffix

ORDERING EXAMPLES:

SC	G	551	A	421	230V / 50 Hz
SC	G	553	A	421	230V / 50 Hz
SC	G	551	A	421	SL 230V / 50 Hz
SC	G	551	A	422	MO 230V / 50 Hz
SCHT	8	551	A	422	MO 230V / 50 Hz
ISSC	G	551	A	422	MO 24V / DC
WSLPKF	G	551	A	321	MO 24V / DC
WSLPKF	G	551	A	321	MO 230V / 50 Hz
WSLI	G	551	A	321	24V / DC
EM	8	551	A	421	MO 230V / 50 Hz
EF	G	551	G	421	MO 240V / 60 Hz

prefix ⁽³⁾ _____ voltage
 pipe thread _____ suffix
 basic number ⁽³⁾ _____

⁽³⁾ Prefixes EF and EV should always be used with the letter G in the basic number.

All leaflets are available on: www.asconumatics.eu

EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

- Valve temperature range The valve temperature range (TS) is determined by the selected seal material, the temperature range for proper operation of the valve and sometimes by the fluid (e.g. steam)
- Operator ambient temperature range The operator ambient temperature range is determined by the selected power level and the safety code
- Total temperature range The temperature range of the complete solenoid valve is determined by the limitations of both temperature ranges above

ELECTRICAL CHARACTERISTICS

- Coil insulation class F
- Electrical safety IEC 335
- Standard voltages DC (=) 24V - 48V
AC (~) 24V - 48V - 115V - 230V⁽⁶⁾/50Hz; other voltages and 60Hz are available on request

prefix option	power ratings				operator ambient temperature range (TS) (C°) ⁽¹⁾	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type ⁽²⁾
	inrush	holding		hot/cold				~	=	
	(VA)	(VA)	(W)	(W)				230 V/50 Hz	24V/DC	
Basic power (BP)										
SC	55	23	10,5	9/11,2	-40 to +75	EN 60730	IP65 moulded	400425-117	400425-142	01
WP/WS	55	23	10,5	9/11,2	-40 to +75	EN 60730	IP67 steel/SS	400405-117	400405-142	04
NF/WSNF	55	23	10,5	-	(-60) ⁽⁷⁾ -40 to +25/40/60	II2G Ex d IIC T6/T5/T4, II2D Ex t	IP67 alu./SS	400405-117	-	02
NF/WSNF	-	-	-	9/11,2	(-60) ⁽⁷⁾ -40 to +40/60/75	II2G Ex d IIC T6/T5/T4, II2D Ex t	IP67 alu./SS	-	400405-142	02
EM/WSEM	55	23	10,5	9/11,2	-40 to +40	II2G Ex e mb II T3, II2D Ex tD	IP67 steel/SS	400909-117	400913-142	04
PV	55	23	10,5	9/11,2	-40 to +65	II2G Ex mb II T3(-)/T4(=), II2D Ex mD 21	IP67 moulded	- ⁽⁴⁾	- ⁽⁴⁾	05
EF/EV	55	23	10,5	9/11,2	-40 to +54/40	NEMA type 7 and 9	NEMA 4X	238614-058	238714-006	06
Low power (LP)										
SC	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	IP65 moulded	400925-097	400925-042	07
WP/WS	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	IP67 steel/SS	400926-097	400926-042	09
LPKF/WSLPKF ⁽⁸⁾	2,4	2,4	2,4	0,5/0,5 ⁽⁸⁾	-40 to +80/60	II2G Ex d IIB+H2 Gb T4/T6, II2D Ex tDb	IP67 alu./SS	- ⁽⁴⁾	- ⁽⁴⁾	13
NF/WSNF	-	-	1,9	-/1,9	(-60) ⁽⁷⁾ -40 to +75/80	II2G Ex d IIC T6/T5, II2D Ex t	IP67 alu./SS	- ⁽⁴⁾ (5)	- ⁽⁴⁾	08
EM/WSEM	1,5	1,5	1,5	1,7/1,7	-40 to +40/55	II2G Ex e mb II T6/T5, II2D Ex tD	IP67 steel/SS	- ⁽⁴⁾	- ⁽⁴⁾	09
PV	-	-	-	1,7/1,7	-40 to +65	II2G Ex mb II T6 / II2D Ex mD 21	IP67 moulded	-	- ⁽⁴⁾	10
EF/EV	-	-	-	1,7/1,7	-40 to +60	NEMA type 7 and 9	NEMA 4X	-	- ⁽⁴⁾	11
ISSC ⁽³⁾	-	-	-	0,4/0,4	-40 to +60	II1G Ex ia IIC T6, II2D Ex iaD 21	IP65 moulded	-	268976-001	12
LI ⁽³⁾ (6)	-	-	-	0,5/0,5	-40 to +60	II1G Ex ia IIC T6 Ga, II2D Ex t IIC Db ⁽⁶⁾	IP67 alu.	-	- ⁽⁴⁾	14
WSLI ⁽³⁾ (6)	-	-	-	0,5/0,5	-40 to +60	II1G Ex ia IIC Ga T6, II2D Ex t IIC Db	IP67 SS	-	- ⁽⁴⁾	14

prefix option	safety parameters				
	U _i = (DC) (V)	I _i (mA)	P _i (W)	L _i (H)	C _i (µF)
Low power (LP)					
ISSC	32	500	1,5	0	0
LI/WSLI	32	500	1,5	0	0

- ⁽¹⁾ Temperature range can be limited by sealings
- ⁽²⁾ Refer to the dimensional drawings on pages:4 to 7
- ⁽³⁾ ISSC/LI/WSLI: Check the electrical characteristics in the corresponding catalogue pages
- ⁽⁴⁾ Multiple coil kits are available under ATEX/IECEX, contact us
- ⁽⁵⁾ (WS)NF: Low Power, 230 V AC does not exist. Maximum voltage in AC is 115 V
- ⁽⁶⁾ LI/WSLI: Low Power, 24 V DC only (LI: For use in zone 0 locations, see the installation conditions given in the I&M instructions)
- ⁽⁷⁾ The certified minimum temperature of this operator
- ⁽⁸⁾ LPKF/WSLPKF: 24 V DC, max. ambient temp. +80°C, contact us (48 V DC = 2,1 W)
- Not available

ELECTRICAL CONNECTIONS

prefix	connection
SC, ISSC	Spade plug connector with cable gland EN175301-803A (ISO 4400) for cables with an outer diameter from 6 to 10 mm
WP, WS, EM, WSEM	M20 cable gland for cables with an outer diameter from 7 to 12 mm. With an internal and external facility for an earthing or bonding conductor
NF, WSNF, LPKF, WSLPKF	1/2" NPT threaded cable entry. Enclosures are supplied without cable gland
PV	Moulded-in cable, standard length 2 m
LI, WSLI	1/2" NPT cable gland for cables with an outer diameter from 7 to 12 mm. With an internal and external facility for an earthing or bonding conductor
EF, EV	1/2" NPT conduits, standard length 35 cm

ADDITIONAL OPTIONS

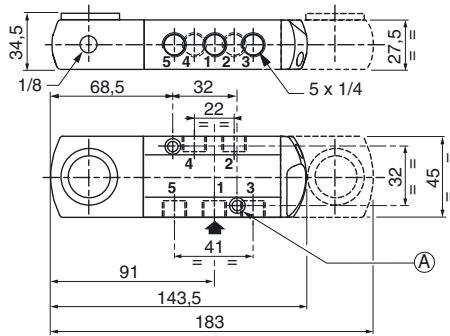
- Valves configured for external pilot air supply, TPL 20547
- Other pipe threads are available on request
- Ex mb/mD (prefix "PV") solenoid can be supplied with various cable lengths
- Compliance with "UL", "CSA" and other local approvals available on request
- 1/2" NPT (prefix "T") and M20 x 1.5 (prefix "ET") conduits (aluminium or 316 SS) available for steel solenoid housing

INSTALLATION

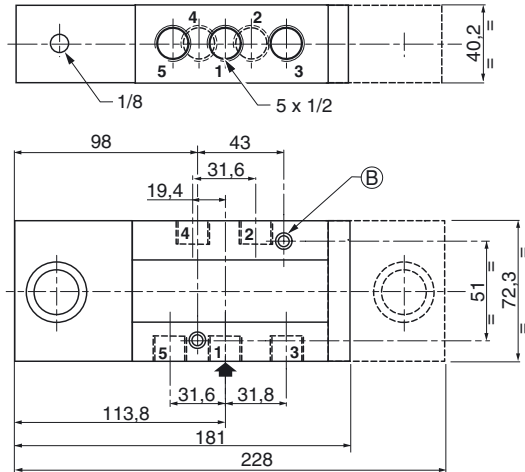
- Multi language installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any position without affecting operation
- Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for a "distributing" function or use in NO function. Contact us for functions available in specific versions
- IEC 61508 Functional Safety (suffix SL), allowable temperature range: -40°C to +60°C. For probability of failure, contact us
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dusts, liquids etc.)
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- Prefix "NF/WSNF" enclosure is provided with a 1/2" NPT threaded entry hole, M20 x 1,5 (prefix "ET") is optional. Both are supplied without cable gland

DIMENSIONS (mm), WEIGHT (kg)

Series 551



Series 553



2 mounting holes

- Ⓐ 5.3 mm dia.; Spotfacing: 9 mm dia., depth 5 mm
- Ⓑ 6.5 mm dia.; Spotfacing: 11 mm dia., depth 6 mm



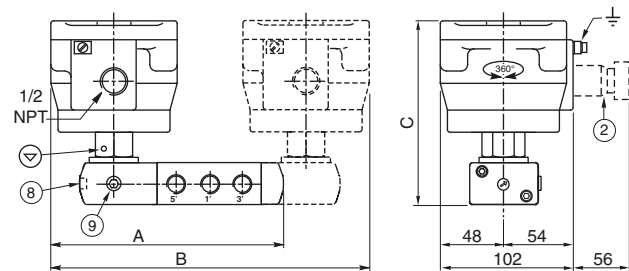
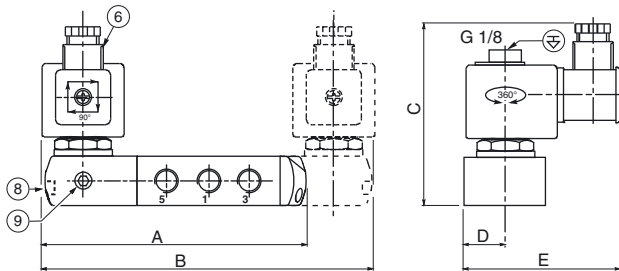
TYPE 01:
SC
Epoxy moulded
IEC 335 / ISO 440

551A421 / 551A422 / 551A438 / 551A439 / 553A421 / 553A422



TYPE 02:
NF / WSNF
Aluminium; epoxy coated / AISI 316 SS
EN/IEC 60079-1 and EN/CEI 60079-31

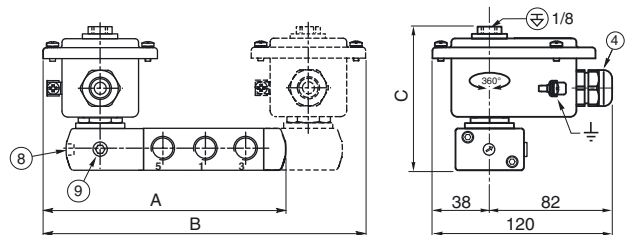
551A421 / 551A422 / 551A438 / 551A439 / 553A421 / 553A422



TYPE 04:

WP / WS
EM / WSEM
Steel; epoxy coated / AISI 316 SS
IEC 335 / EN 60079-7/18 and EN 61241-1

551A421 / 551A422 / 551A438 / 551A439 / 553A421 / 553A422

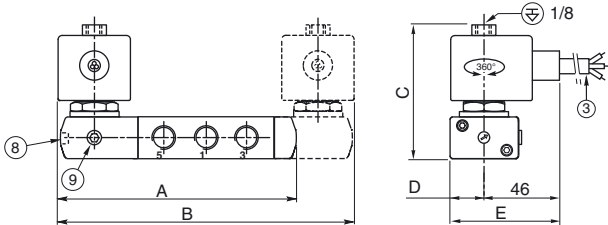


DIMENSIONS (mm), WEIGHT (kg)



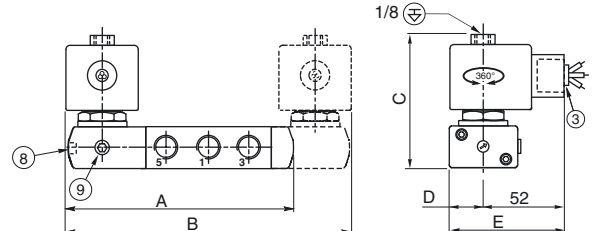
TYPE 05:
PV
Epoxy encapsulated
EN/IEC 60079-18 and EN/IEC 61241-18

551A421 / 551A422 / 551A438 / 551A439 / 553A421 / 553A422



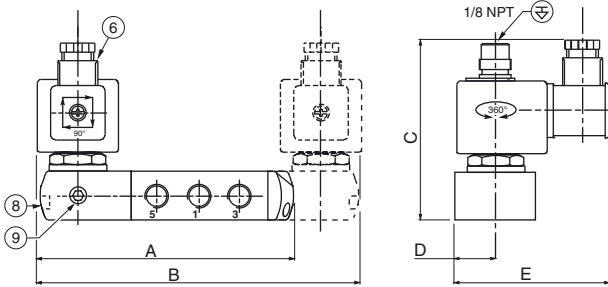
TYPE 06:
EF and EV: NEMA type 7 and 9
Epoxy encapsulated
ICS-6 ANSI
NOTE: applicable to solenoid only

551G421 / 551G422 / 551G438 / 551G439 / 553G421 / 553G422



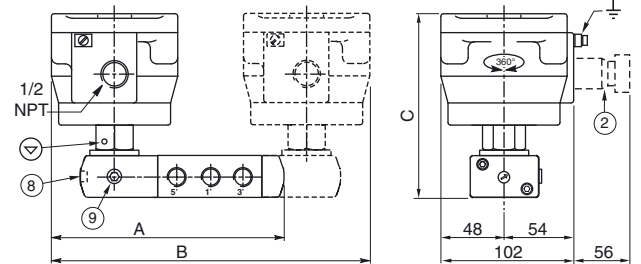
TYPE 07:
SC
Epoxy moulded
IEC 335 / ISO 4400

551A321 / 551A322 / 551A338 / 551A339 / 553A321 / 553A322



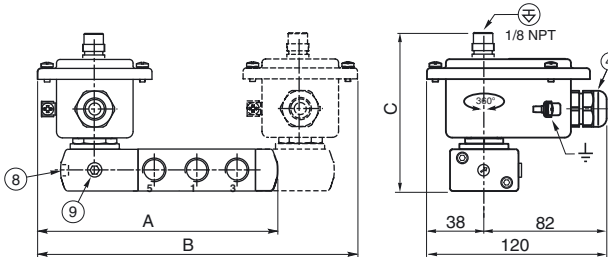
TYPE 08:
NF / WSNF
Aluminium; epoxy coated / AISI 316 SS
EN/IEC 60079-1 and EN/IEC 60079-31

551A321 / 551A322 / 551A338 / 551A339 / 553A321 / 553A322



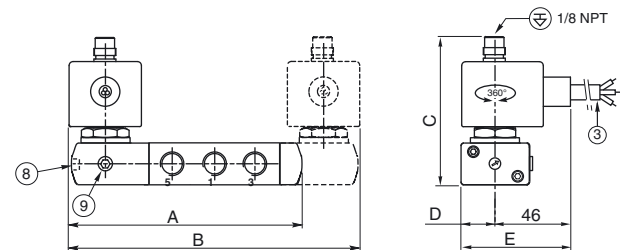
TYPE 09:
WP / WS
EM / WSEM
Steel; epoxy coated / AISI 316 SS
IEC 335 / EN 60079-7/18 and EN 61241-1

551A321 / 551A322 / 551A338 / 551A339 / 553A321 / 553A322



TYPE 10:
PV
Epoxy encapsulated
EN/IEC 60079-18 and EN/IEC 61241-18

551A321 / 551A322 / 551A338 / 551A339 / 553A321 / 553A322



DIMENSIONS (mm), WEIGHT (kg)



TYPE 11:

EF and EV: NEMA type 7 and 9
Epoxy encapsulated
ICS-6 ANSI
NOTE: applicable to solenoid only

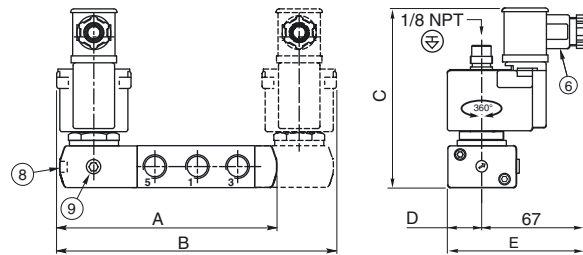
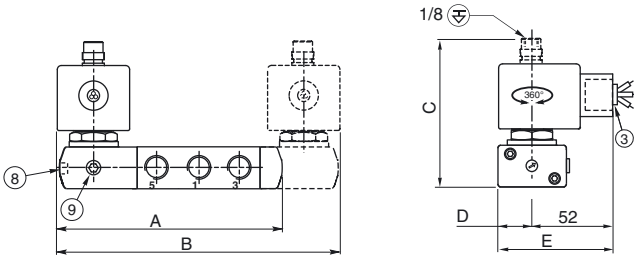
551G321 / 551G322 / 551G338 / 551G339 / 553G321 / 553G322



TYPE 12:

ISSC
Polypropylene moulded
Epoxy moulded
IEC 335/EN 60079-11/26 and EN/IEC 61241-11

551A321 / 551A322 / 551A338 / 551A339 / 553A321 / 553A322



TYPE 13:

LPKF / WSLPKF
Aluminium, cataphoresis black painting / AISI 316L SS
EN/IEC 60079-1 and EN/IEC 61241-1

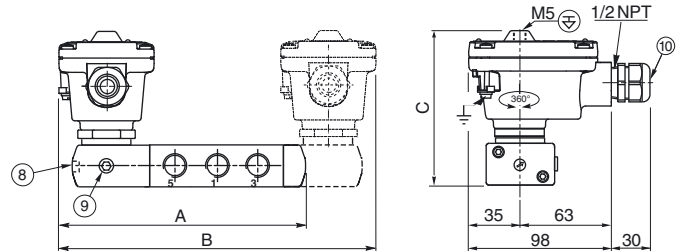
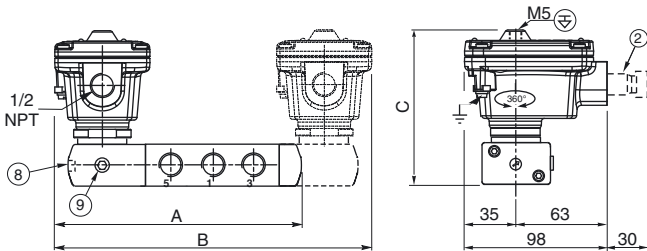
551A321 / 551A322 / 551A338 / 551A339 / 553A321 / 553A322



TYPE 14:

LI / WSLI
Aluminium, cataphoresis black painting / AISI 316L SS
IEC and EN: 60079-11, 61241-1

551A321 / 551A322 / 551A338 / 551A339 / 553A321 / 553A322



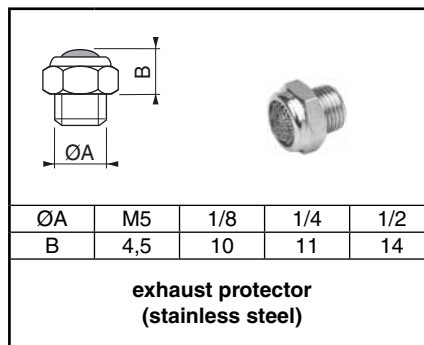
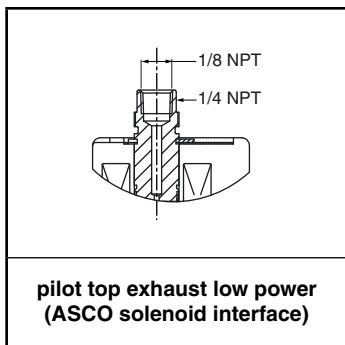
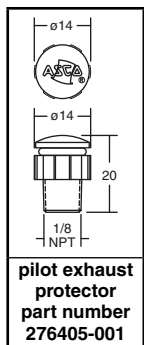
DIMENSIONS (mm), WEIGHT (kg)

type	prefix option	power level	551					553					weight ⁽¹⁾			
			A	B	C	D	E	A	B	C	D	E	monostable		bistable	
													551	553	551	553
01	SC	basic power	144	184	103	22,5	87	182	229	109	36,5	101	1,27	3,06	2,03	4,38
02	NF	basic power	170	236	142	-	-	208	281	148	-	-	2,42	4,21	4,13	6,48
02	WSNF	basic power	170	236	142	-	-	208	281	148	-	-	3,72	5,51	6,73	9,08
04	WP / WS / EM / WSEM	basic power	160	216	103	-	-	198	261	109	-	-	1,70	3,49	2,69	5,04
05	PV	basic power	144	184	88	22,5	69	182	229	94	36,5	82,5	1,37	3,16	2,03	4,38
06	EF / EV	basic power	145	185	86	22,5	75	183	230	92	36,5	88,5	1,37	3,16	2,03	4,38
07	SC	low power	145	185	102	22,5	88	183	230	108	36,5	102	1,27	3,06	2,03	4,38
08	NF	low power	170	236	142	-	-	208	281	148	-	-	2,42	4,21	4,13	6,48
08	WSNF	low power	170	236	142	-	-	208	281	148	-	-	3,72	5,51	6,73	9,08
09	WP / WS / EM / WSEM	low power	160	216	102	-	-	198	261	108	-	-	1,70	3,49	2,69	5,04
10	PV	low power	144	184	101	22,5	69	182	229	107	36,5	82,5	1,37	3,16	2,03	4,38
11	EF / EV	low power	145	185	101	22,5	75	182	230	107	36,5	88,5	1,37	3,16	2,03	4,38
12	ISSC	low power	146	187	125	22,5	90	184	232	131	36,5	103,5	1,37	3,16	2,23	4,38
13	LPKF	low power	153	204	113	-	-	193	252	118,7	-	-	1,39	4,48	2,31	4,68
13	WSLPKF	low power	153	204	113	-	-	193	252	118,7	-	-	2,00	3,15	3,51	5,75
14	LI	low power	153	204	113	-	-	193	252	118,7	-	-	1,40	4,49	2,32	4,69
14	WSLI	low power	153	204	113	-	-	193	252	118,7	-	-	2,01	3,16	3,52	5,76

⁽¹⁾ Incl. coil(s) and connector(s)

- ② Ex d certified cable gland (on request)
- ③ Three-core cable, length 2 m
- ④ Cable gland for unarmoured cable with 7 to 12 mm dia. sheath
- ⑥ Connector rotatable by 90° increments (cable Ø 6 - 10 mm)
- ⑧ Manual operator location, suffix MO
- ⑨ External pilot air supply, 1/8 pipe size
- ⑩ Cable gland for unarmoured cable with 7 to 12 mm dia. sheath
- ⊕ Connectable pilot exhaust port
- ⊖ Non-connectable pilot exhaust port

ACCESSORIES

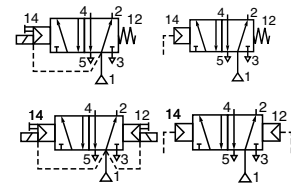


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SPOOL VALVES

pilot or air operated, spool type
single/dual solenoid (mono/bistable function)
stainless steel body, 1/4 - 1/2



5/2

Series

551
553

FEATURES

- The monostable spool valves have TÜV-EXIDA certified IEC 61508 Functional Safety data and can be used up to SIL 4 (551/TÜV)-SIL 3 (553/EXIDA)
- Series 551 versions according to ATEX 94/9/EC, for zones 0, 1 and 2 and series 553 air-operated versions for zones 1 and 2
- The 3/2 NC solenoid operated spool valves have threaded port connections
- All the exhaust ports of this spool valve are connectable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- The solenoid valves satisfy all relevant EC Directives

GENERAL

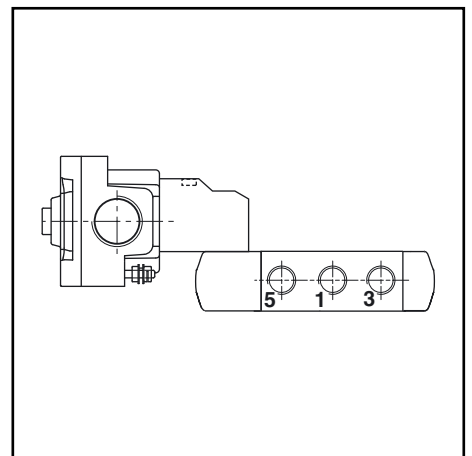
Differential pressure 2 - 10 bar [1 bar = 100 kPa]
Flow (Qv at 6 bar) 1/4 = 860 l/min (ANR)
1/2 = 3000 l/min

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	551 : - 40°C to + 80°C	VMQ (silicone) + PUR (polyurethane)
	553 : - 40°C to + 60°C	

MATERIALS IN CONTACT WITH FLUID

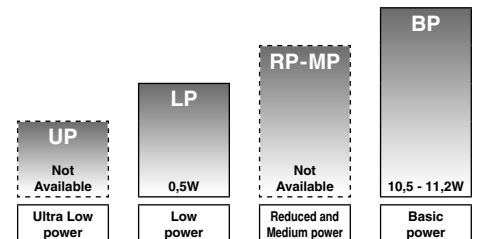
(*) Ensure that the compatibility of the fluids in contact with the materials is verified

	Air operated (Series 551-553)	CNOMO solenoid (pilot) interface (Series 551)
Body, end covers	Stainless steel, AISI 316L	Stainless steel, AISI 316L
Spool valve internal parts	Stainless steel, POM	Stainless steel, POM
Seals	NBR	NBR
Pilot internal parts	-	Size 30 (E06.05.80N), refer to catalogue pages: 374 pilot (CTNK) and 195 pilot (LISC)



AIR OPERATED SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			prefix optional	basic catalogue number
				min.	max. (PS)			
(*)	(mm)	(m³/h)	(l/min)		air (*)			
					~	=		
Pilot air operated - spring return (monostable)								
1/4	6	0,75	12,5	2	10	10	-	❖551A121 ⁽¹⁾
1/2	13	2,49	41,5	2	10	10	-	❖553A121 ⁽¹⁾
Pilot air operated and return (bistable)								
1/4	6	0,75	12,5	2	10	10	-	❖551A122
1/2	13	2,49	41,5	2	10	10	-	❖553A122



POWER LEVELS - cold electrical holding values (watt)

CNOMO SOLENOID (PILOT) INTERFACE SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids		basic catalogue number
				min.	max. (PS)			ATEX / IECEx		
(*)	(mm)	(m³/h)	(l/min)		air (*)		~/=	Ex d	Ex ia	
					~	=		CTNK	LISC	
Solenoid air pilot operated - spring return (monostable)										
1/4	6	0,75	12,5	2	10	10	BP	●	-	❖551A221 ⁽¹⁾
1/4	6	0,75	12,5	2	-	8	LP	-	○	❖551B221
Solenoid air pilot operated and return (bistable)										
1/4	6	0,75	12,5	2	10	10	BP	●	-	❖551A222
1/4	6	0,75	12,5	2	-	8	LP	-	○	❖551B222

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1) ● Available feature ○ Available feature in DC only.
⁽¹⁾ Certified IEC 61508 Functional Safety data, use suffix "SL".

All leaflets are available on: www.asconumatics.eu



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传真：(86-532)585-10-365
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5-35-9

80094GB-2012/R01

PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		UP	LP	RP	BP
C	T	N	K				Flameproof with pilot 374, ATEX (EN 60079 / 61241) *	-	-	-	●
L	I	S	C				Intrinsically safe, pilot 195, ATEX (EN/IEC 60079-11+26, 61241-11)*	-	○	-	-

SUFFIX TABLE

suffix							description	power level			
1	2	3	4	5	6	7		UP	LP	RP	BP
	G	D					Non électrique, 1 GD c (551)/2 GD c (553), ATEX (EN 13463-5)	-	-	-	-
	S	L	M	S			Commande manuelle maintenue ⁽³⁾ Certification CEI 61508 Sécurité fonctionnelle intégrée ⁽¹⁾⁽³⁾	-	○	-	●

OPTIONS & ACCESSORIES

series	pipe size	stainless steel exhaust protector	
		G	NPT
551	1/8	34600418 ⁽²⁾	34600482 ⁽²⁾
551	1/4	34600419 ⁽²⁾	34600483 ⁽²⁾
553	1/2	34600479 ⁽²⁾	34600479 ⁽²⁾

- Available feature
- Available feature in DC only
- Not available
- * ATEX solenoids are also approved according to EN 13463-1 (non electrical valves)
- ⁽¹⁾ Not to use with MS suffix
- ⁽²⁾ Provided with "SL" suffix
- ⁽³⁾ Not to use with LISC prefix

PRODUCT SELECTION GUIDE

STEP 1

Select the fluid temperature range and seal material from the general table on page 7. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications tables on page 7.

Example: G551A221

STEP 2

Select prefix (combination). Select the appropriate operator from the tables on page 7. Select for this operator in the electrical characteristics table on page 9: the power level (LP, BP), the type of electrical enclosure protection and the desired temperature class.

Warning: The ambient temperature range of your application may not exceed the temperature range of your operator.

Air operated version, does not use prefix.

Example : CTNK

STEP 3

Select suffix (combination) if required. Refer to the suffix table, respect the indicated power level.

GD suffix available for air operated version only (do not use manual operator suffix).

Example : MS

STEP 4

Select voltage.

Refer to standard voltages on page 15.

Example : 230V / 50Hz

STEP 5

Final catalogue / ordering number.

Example :

CTNK G551A221MS 230 V / 50 Hz

ORDERING EXAMPLES:

CTNK	G	551	A	221		230V / 50 Hz
CTNK	G	551	A	221	SL	24V / DC
CTNK	G	551	A	221	MS	115V / 50 Hz
CTNK	G	551	A	222		230V / 50 Hz
CTNK	G	551	A	222	MS	48V / DC
CTNK	8	551	A	221		230V / 50 Hz
LISC	G	551	B	221		12.24V / DC
LISC	G	551	B	222		12.24V / DC
		G	551	A	121	
		G	551	A	121	GD
		G	551	A	121	GD SL
		G	551	A	122	
		G	553	A	121	
		G	551	A	122	GD

prefix ———

pipe thread ———

basic number ———

————— voltage

————— suffix

EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

- Valve temperature range The valve temperature range (TS) is determined by the selected seal material, the temperature range for proper operation of the valve and sometimes by the fluid (e.g. steam)
- Operator ambient temperature range The operator ambient temperature range is determined by the selected power level and the safety code
- Total temperature range The temperature range of the complete solenoid valve is determined by the limitations of both temperature ranges above

ELECTRICAL CHARACTERISTICS

- Coil insulation class F
- Electrical safety IEC 335
- Standard voltages DC (=) CTNK : 24V - 48V ; LISC : 12..24V
CA (~) CTNK : 24V - 48V - 115V - 230V/50Hz - other voltages and 60Hz are available on request

prefix option	power ratings				operator ambient temperature ranges (TS) (C°)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type ⁽¹⁾
	inrush	holding		hot/cold				~	=	
	(VA)	(VA)	(W)	(W)				-	-	
Basic power (BP)										
CTNK	55	23	10,5	9/11,2	-20 to +60	II 2G/D Ex d IIB+H ₂ T4/Ex tD	moulded IP65	-	-	01
Low power (LP)										
LISC ⁽³⁾⁽⁴⁾	-	-	-	0,5	-40 to +65	II 1G Ex ia IIC T6 Ga, II 2D Ex ib IIIC Db ⁽³⁾	moulded IP65	-	-	02

- Not available

⁽¹⁾ Refer to the dimensional drawings on page 12.

prefix option	safety parameters				
	U _r (DC) (V)	I _r (mA)	P _r (W)	L _r (µF)	C _r (mF)
Low power (LP)					
LISC	30	300	1,6	0	0

⁽³⁾ Min. operating current (I_{(ON) min.}): 0,036 A / U_{(ON) min.} = 12,8 V (**For use in zone 0 locations, see the installation conditions given in the I&M instructions**)

⁽⁴⁾ Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (LISC: 19500036/LISC pilot).

ELECTRICAL CONNECTIONS

prefix	connection
CTNK	3/4" NPT threaded cable entry. Enclosures are supplied without cable gland
LISC	Spade plug connector with cable gland EN175301-803A (ISO 4400) for cables with an outer diameter from 6 to 8 mm

ADDITIONAL OPTIONS

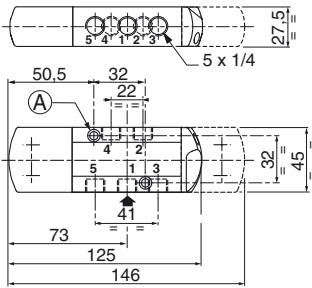
- Mounting on aluminium supply rail, 1/4 or 1/2
- Other pipe threads are available on request

INSTALLATION

- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- IEC 61508 Functional Safety (Suffix SL), allowable temperature range: -40°C to +60°C. Probability of failure on demand, contact us
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the valve if used outside or in harsh environments (dusts, liquids etc.)
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- Ex d (prefix "CTNK") enclosure is provided with a 3/4" NPT threaded entry hole [optionally, 1/2" NPT (prefix "T") or M20 x 1,5 (prefix "ET")] and is supplied without cable gland
- Valves with suffix "SL" are provided with specific exhaust protectors

DIMENSIONS (mm), WEIGHT (kg)

Type 01-02: CNOMO (Series 551) size 30 (E06.05.80)



2 mounting holes

- Ⓐ 5.3 mm dia.; Spotfacing: 9 mm dia., depth 5 mm
- Ⓑ 6.5 mm dia.; Spotfacing: 11 mm dia., depth 6 mm

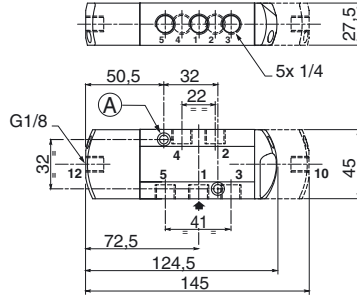


TYPE 01:
CTNK
Light alloy, cataphoresis black painting
EN 60079-1 and EN 61241-1

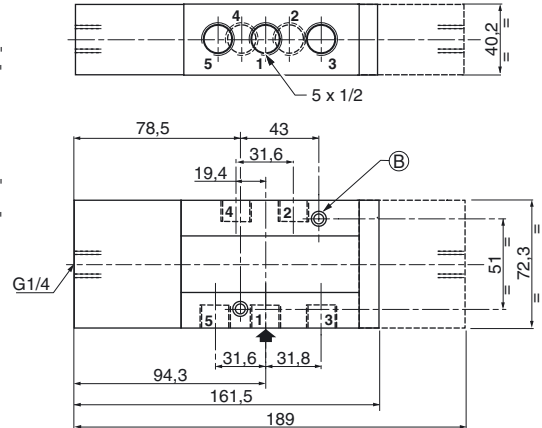
551A221 / 551A222
551A221MS / 551A222MS

Type 03: Air operated

Series 551

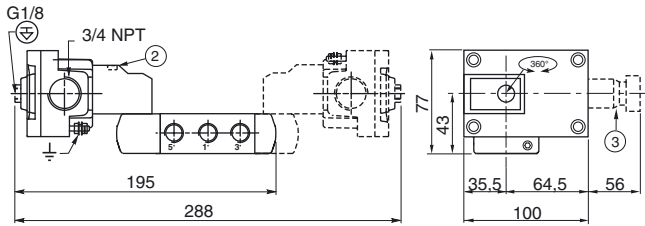


Series 553



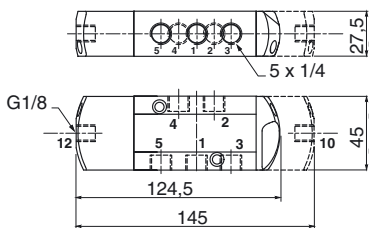
TYPE 02:
LISC
Aluminium
IEC 335/EN 60079-11/26 and EN/IEC 61241-11

551B221 / 551B222

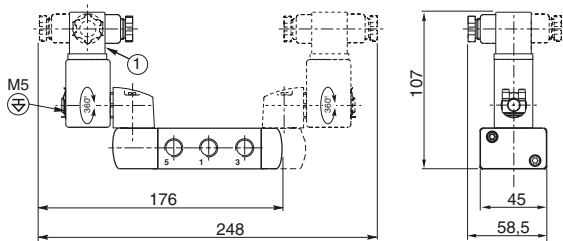
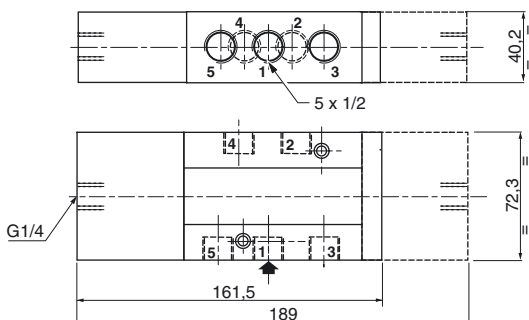


TYPE 03:
No prefix, IP65
[suffixes 551: GD (II 1 GD c) ; SL (SIL) ;
GDSL (SIL, II 1 GD c)
suffix 553: GD (II 2 GD c) ; SL (SIL) ;
GDSL (SIL, II 2 GD c)]
Air operated version

551A121 / 551A122



553A121 / 553A122

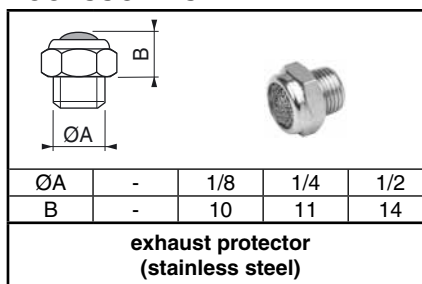


- ① Connector rotatable by 90° increments (cable 6 - 8 mm)
- ② Manual operator location
- ③ Ex d certified cable gland (on request)
- ⊖ Connectable pilot exhaust port
- ⊕ Non-connectable pilot exhaust port

type	prefix option	power level	weight ⁽¹⁾			
			monostable		bistable	
			551	553	551	553
01	CTNK	basic power	1,66	-	2,60	-
02	LISC	low power	1,09	-	1,47	-
03	-	-	0,86	2,52	0,99	3,07

⁽¹⁾ Incl. connector(s), except CFVT.

ACCESSORIES



ØA	-	1/8	1/4	1/2
B	-	10	11	14

exhaust protector
(stainless steel)

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