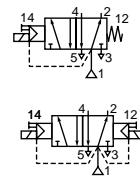




# SOLENOID VALVES

pilot operated, spool type  
single/dual solenoid (mono/bistable function)  
brass body, 1/4



**5/2**  
Series  
**551**

## FEATURES

- The monostable spool valves, series 551, have TÜV certified IEC 61508 Functional Safety data and can be used up to SIL 4/AK 7
- 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

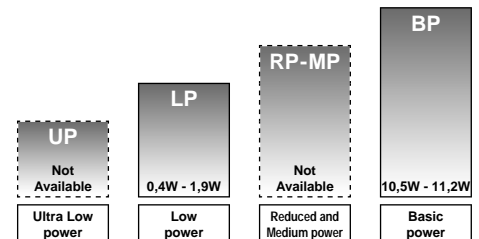
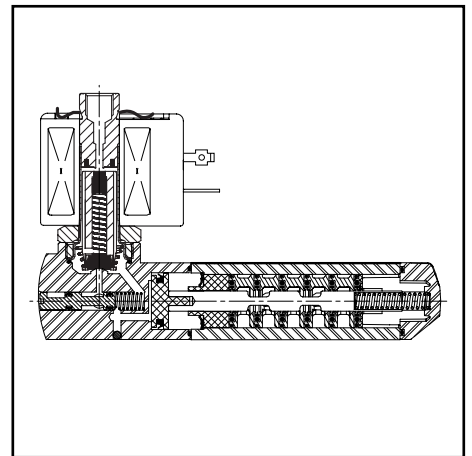
Differential pressure 2 - 10 bar [1 bar =100 kPa]  
Flow (Qv at 6 bar) 860 l/min (ANR)

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

## MATERIALS IN CONTACT WITH FLUID

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

Body, end covers	Brass
Spool valve internal parts	Brass, stainless steel, POM
Core tube	Stainless steel
Core and plugnut	Stainless steel
Core spring	Stainless steel
Seals & discs	NBR
Top disc	PA
Disc holder	POM
Cartridge (low power)	Welded, packless AISI 430
Seat	Brass
Seat insert	POM
Shading coil	Copper
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
								ATEX/CENELEC (gas/dust)								
				min. <sup>(2)</sup>	max. (PS)			NEMA 7 & 9	EEx d	EEx em	EEx m	EEx i	EEx n	SC		
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=	EF	NF	NK	EM	PV	IS	ZN	SC		
<b>Solenoid air pilot operated - spring return (monostable)</b>																
1/4	6	0,75	12,5	0 / 2	10	10	BP	-	●	●	●	●	-	●	●	❖551A419 <sup>(1)</sup>
1/4	6	0,75	12,5	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	❖551G419 <sup>(1)</sup>
1/4	6	0,75	12,5	0 / 2	10	10	LP	-	●	-	●	○	○	○	●	❖551A319 <sup>(1)</sup>
1/4	6	0,75	12,5	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	❖551G319 <sup>(1)</sup>
<b>Solenoid air pilot operated and return (bistable)</b>																
1/4	6	0,75	12,5	0 / 2	10	10	BP	-	●	●	●	●	-	●	●	❖551A420
1/4	6	0,75	12,5	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	❖551G420
1/4	6	0,75	12,5	0 / 2	10	10	LP	-	●	-	●	○	○	○	●	❖551A320
1/4	6	0,75	12,5	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	❖551G320

❖ 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".  
(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
S	C			D	U		Dustproof ATEX (EN 50281-1-1) *	-	-	-	●
E	F						Explosionproof - NEMA 3, 4, 6, 7, 9	○	-	-	●
E	V						Explosionproof - NEMA 3, 4, 6, 7, 9 - 316 SS	○	-	-	●
E	M						Encapsulated ATEX (EN 50019 & EN 50028) *	●	-	-	●
		E	T				Threaded conduit/hole (M20 x 1.5)	●	-	-	●
I	S				S	C	Intrinsically safe with SC coil ATEX (EN 50020) *	○	-	-	-
N	F						Flameproof - Alum. ATEX (EN 50018) *	●	-	-	●
N	N						Flameproof - Cast Iron ATEX (EN 50018) *	●	-	-	●
N	K						Flameproof - Alum. ATEX (EN 50018) *	-	-	-	●
P	V						Encapsulated ATEX (EN 50028) *	○	-	-	●
S	C						Solenoid with spade plug connector (EN 60730)	●	-	-	●
W	P						Waterproof IP67 - Metal enclosure (EN 60730)	●	-	-	●
W	S						Waterproof IP67 - 316 SS enclosure (EN 60730)	●	-	-	●
W	S	E	M				316 SS "EM" enclosure ATEX (EN 50019 & EN 50020) *	●	-	-	●
W	P			D	U		Dustproof ATEX (EN 50281-1-1) - Metal enclosure *	-	-	-	●
W	S			D	U		Dustproof ATEX (EN 50281-1-1) - 316 SS enclosure *	-	-	-	●
W	P			I	S		I.S. with Metal IP67 enclosure ATEX (EN 50020) *	○	-	-	-
W	S			I	S		I.S. with Metal IP67- 316 SS enclosure ATEX (EN 50020) *	○	-	-	-
W	S	N	F				Flameproof - 316 SS ATEX (EN 50018) *	●	-	-	●
Z	N						Encapsulated Non Sparking ATEX (EN 50021) *	○	-	-	●
						T	Threaded conduit (1/2" NPT)	●	-	-	●
				H	T		Class H - High temperature, +80°C ambient temp.	-	-	-	●
						X	Other special constructions	●	-	-	●

**PRODUCT SELECTION GUIDE**

**STEP 1**

Select basic catalogue number, including pipe thread identification letter. Refer to the specifications table on page 1.

**Example: G551A419**

**STEP 2**

Select prefix (combination). Refer to the specifications table on page 1 and the prefix table on page 2, respect the indicated power level.

**Example: EM**

**STEP 3**

Select suffix (combination) if required. Refer to the suffix table on page 2, respect the indicated power level.

**Example: MO**

**STEP 4**

Select voltage. Refer to standard voltages on page 3.

**Example: 230V / 50Hz**

**STEP 5**

Final catalogue / ordering number.

**Example: EM G551A419MO 230 V / 50 Hz**

**SUFFIX TABLE**

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

**OPTIONS & ACCESSORIES**

series	pipe size	exhaust protector (stainless steel)
551	G 1/8	34600418 <sup>(1)</sup>
	NPT 1/8	34600482 <sup>(1)</sup>
	G 1/4	34600419 <sup>(1)</sup>
	NPT 1/4	34600483 <sup>(1)</sup>

- Available feature
- Available feature in DC only
- Not available
- \* ATEX solenoids are also approved to EN 50281-1-1 (dust) and EN 13463-1 (non electrical valves)
- <sup>(1)</sup> Provided with "SL" suffix
- <sup>(2)</sup> Not to use with MO suffix

**ORDERING EXAMPLES:**

SC	G	551	A	419	230V / 50 Hz
SC	G	551	A	419	SL 230V / 50 Hz
SC	G	551	A	420	MO 230V / 50 Hz
SCHT	8	551	A	420	MO 230V / 50 Hz
ISSC	G	551	A	420	MO 24V / DC
WPIS	G	551	A	319	24V / DC
EM	8	551	A	419	MO 230V / 50 Hz
EF	G	551	G	419	MO 240V / 60 Hz

prefix <sup>(3)</sup>      pipe thread      basic number <sup>(3)</sup>      voltage      suffix

<sup>(3)</sup> Prefix EF should always be used with the letter G in the basic number.



**ELECTRICAL CHARACTERISTICS**

**Coil insulation class** F  
**Connector** Spade plug (cable Ø 6 - 10 mm)  
**Connector specification** ISO 4400 / EN 175301-803, form A  
**Electrical safety** IEC 335  
**Standard voltages** DC (=) 24V - 48V  
 AC (-) 24V - 48V - 115V - 230V/50Hz; other voltages and 60Hz are available on request

prefix option	power ratings				operator ambient temperature range (TS) (C°)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type <sup>(1)</sup>
	inrush ~ (VA)	holding ~ (VA) (W)		hot/cold = (W)				~ (230 V/50 Hz)	= (24 V DC)	
<b>Basic power (BP)</b>										
SC	55	23	10,5	9/11,2	-40 to +75	EN 60730	moulded IP65	400425-117	400425-142	01
SCDU	55	23	10,5	9/11,2	-40 to +75	II 3D IP65 T 200°C(-)/135°C(=)	moulded IP65	- <sup>(3)</sup>	- <sup>(3)</sup>	01
WP	55	23	10,5	9/11,2	-40 to +75	EN 60730	steel IP67	400405-117	400405-142	04
WPDU	55	23	10,5	9/11,2	-40 to +75	II 3D IP67 T 200°C	steel IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	04
WS	55	23	10,5	9/11,2	-40 to +75	EN 60730	st. steel IP67	400405-117	400405-142	04
WSDU	55	23	10,5	9/11,2	-40 to +75	II 3D IP67 T 200°C	st. steel IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	04
(WS)NF/NL	55	23	10,5	-	-60 to +25/40/60	II 2G/D EEx d IIC T6/T5/T4	alu/steel IP67	400405-117	-	02
(WS)NF/NL	-	-	-	9/11,2	-60 to +40/60/75	II 2G/D EEx d IIC T6/T5/T4	alu/steel IP67	-	400405-142	02
NK	55	23	10,5	9/11,2	-40 to +50/60	II 2G/D EEx d IIB+H <sub>2</sub> T4(-/=)	aluminium IP65	400405-117	400405-142	03
EM	55	23	10,5	9/11,2	-40 to +40	II 2G/D EEx em II T3	steel IP67	400909-117	400913-142	04
WSEM	55	23	10,5	9/11,2	-40 to +40	II 2G/D EEx em II T3	st. steel IP67	400909-117	400913-142	04
PV	55	23	10,5	9/11,2	-40 to +65	II 2G/D EEx m II T3(-)T4(=)	moulded IP65	- <sup>(3)</sup>	- <sup>(3)</sup>	05
EF	55	23	10,5	9/11,2	-40 to +54/40	NEMA Types 7 and 9	NEMA 4X	238610-058	238710-006	06
EV	55	23	10,5	9/11,2	-40 to +54/40	NEMA Types 7 and 9-316 SS	NEMA 4X	238610-058	238710-006	06
ZN	55	23	10,5	9/11,2	-20 to +50	II 3G/D EEx nA II T3	moulded IP65	- <sup>(3)</sup>	- <sup>(3)</sup>	01
<b>Low power (LP)</b>										
SC	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	moulded IP65	- <sup>(3)</sup>	- <sup>(3)</sup>	07
WP	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	steel IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	09
WS	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	st. steel IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	09
NF	-	-	1,9	-/1,9	-40 to +75	II 2G/D EEx d IIC T6	aluminium IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	08
NL	-	-	1,9	-/1,9	-40 to +75	II 2G/D EEx d IIC T6	cast iron IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	08
WSNF	-	-	1,9	-/1,9	-40 to +75	II 2G/D EEx d IIC T6	st. steel IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	08
EM	1,5	1,5	1,5	1,7/1,7	-40 to +40/55	II 2G/D EEx em II T6/T5	steel IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	09
WSEM	1,5	1,5	1,5	1,7/1,7	-40 to +40/55	II 2G/D EEx em II T6/T5	st. steel IP67	- <sup>(3)</sup>	- <sup>(3)</sup>	09
PV	-	-	-	1,7/1,7	-40 to +60	II 2G/D EEx m II T6	moulded IP65	-	- <sup>(3)</sup>	10
EF	-	-	-	1,7/1,7	-40 to +40	NEMA Types 7 and 9	NEMA 4X	-	- <sup>(3)</sup>	11
EV	-	-	-	1,7/1,7	-40 to +40	NEMA Types 7 and 9-316 SS	NEMA 4X	-	- <sup>(3)</sup>	11
ISSC <sup>(2)</sup>	-	-	-	0,4/0,4	-40 to +60	II 1G/2D EEx ia IIC T6	moulded IP65	-	268976-001	12
WPIS <sup>(2)</sup>	-	-	-	0,4/0,4	-40 to +60	II 1G/2D EEx ia IIC T6	steel IP67	-	268900-001	09
WSIS <sup>(2)</sup>	-	-	-	0,4/0,4	-40 to +60	II 1G/2D EEx ia IIC T6	st. steel IP67	-	268900-001	09
ZN	-	-	-	1,7/1,7	-20 to +50	II 3G/D EEx nA II T3	moulded IP65	-	- <sup>(3)</sup>	07

- Not available

<sup>(1)</sup> Refer to the dimensional drawings on pages 4 to 6.

<sup>(2)</sup> **Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (ISSC/WPIS/WSIS operators).**

<sup>(3)</sup> Multiple coil kits available under ATEX, contact us

prefix option	safety parameters				
	U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	L <sub>i</sub>	C <sub>i</sub>
	= (DC) (V)	(mA)	(W)	(µF)	(mF)
<b>Low power (LP)</b>					
ISSC	32	500	1,5	0	0
WPIS/WSIS	32	500	1,5	0	0

**ADDITIONAL OPTIONS**

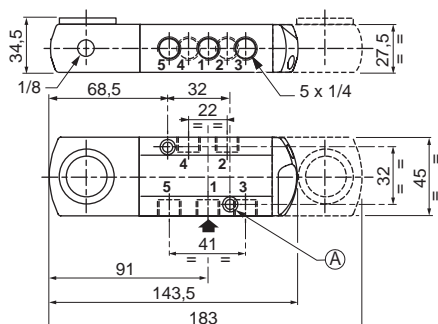
- Valves configured for external pilot air supply, TPL 20547
- Other pipe threads are available on request
- EEx m (prefix "PV") execution can be supplied in various cable lengths
- Compliance with "UL", "CSA" and other local approvals available on request
- 1/2" NPT (prefix "T") and M20 x 1.5 (prefix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

**INSTALLATION**

- Installation/maintenance instructions are included with each valve
- The solenoid 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 spool valve and its pneumatic operator if used outside or in harsh environments (dusts, liquids etc.)
- Threaded pipe connection identifier is: B = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- EEx d (prefix "NF") enclosure is provided with a 1/2" NPT threaded entry hole [optionally, M20 x 1,5 (prefix "ET")] and is supplied without cable gland
- EEx d (prefix "NK") 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
- EEx em (prefix "EM") execution: solenoid enclosure has a cable gland with integral strain relief for cables with an o.d. from 7 to 12 mm and is provided with an internal and external connection facility for an earthing or bonding conductor
- Valves with suffix "SL" are provided with a specific exhaust protector

**DIMENSIONS (mm), WEIGHT (kg)**

**All types**



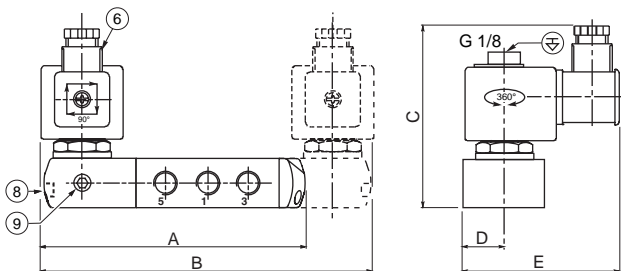
(A) 2 mounting holes 5.3 mm dia.;  
Spotfacing: 9 mm dia., depth 5 mm



**TYPE 01**

Prefix "SC", "ZN" and "SCDU" Solenoid  
Basic power  
Epoxy moulded  
IEC 335 / ISO 4400 (SC/SCDU)  
EN 50021 (ZN)  
IP65 / II 3 D IP65 T 100°C to 200°C / II 3 G/D EEx nA II

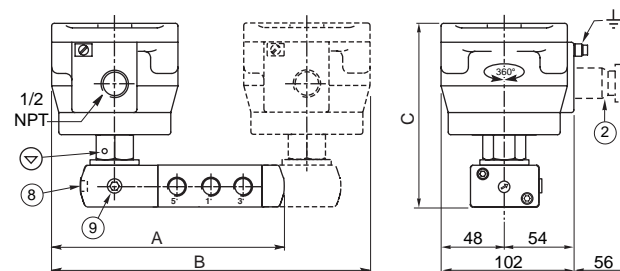
551A419 / 551A420



**TYPE 02**

Prefix "NF", "NL" and "WSNF" Solenoid  
Basic power  
Aluminium, steel; epoxy coated (NF and NL)  
AISI 316 SS (WSNF)  
EN 50018 and EN 50281-1-1  
IP67 / II 2 G/D EEx d IIC

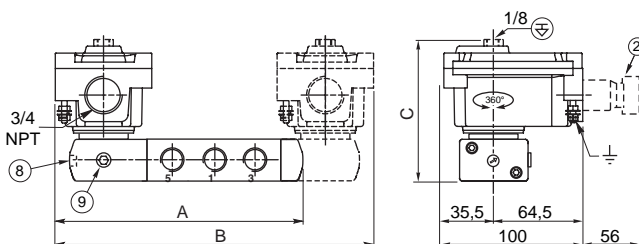
551A419 / 551A420



**TYPE 03**

Prefix "NK" Solenoid  
Basic power  
Aluminium; epoxy coated  
EN 50018 and EN 50281-1-1  
IP65 / II 2 G/D EEx d IIB + H2

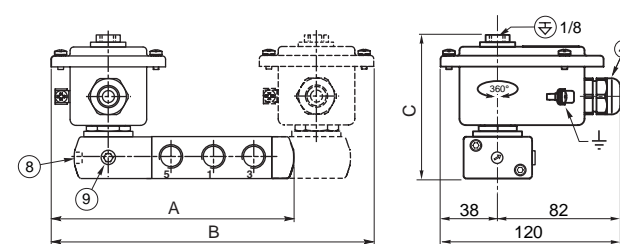
551A419 / 551A420




**TYPE 04**

Prefix "WP", "WS" / "WPDU", "WSDU" / "EM", "WSEM" Solenoid  
Basic power  
Steel; epoxy coated (WP, WPDU and EM)  
AISI 316 SS (WS, WSDU and WSEM)  
IEC 335 / EN 50019 & EN 50028 EN 50281-1-1  
IP67 / II 3 D IP65 T 135°C to 200°C / II 2 G/D EEx em II

551A419 / 551A420



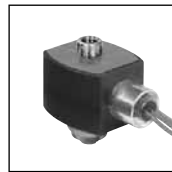
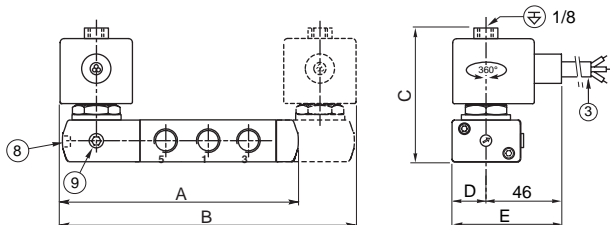
**DIMENSIONS (mm), WEIGHT (kg)** 



**TYPE 05**

Prefix "PV" Solenoid  
Basic power  
Epoxy encapsulated  
EN 50028 and EN 50281-1-1  
II 2 G/D EEx m II  
IP65

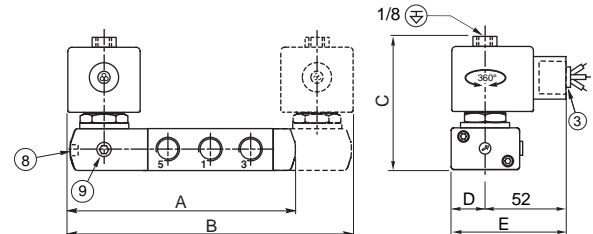
551A419 / 551A420



**TYPE 06**

Prefix "EF" and "EV" Solenoid  
Basic power  
Epoxy encapsulated  
ICS-6 ANSI / NEMA  
Types 7 and 9  
Note: applicable to solenoid only

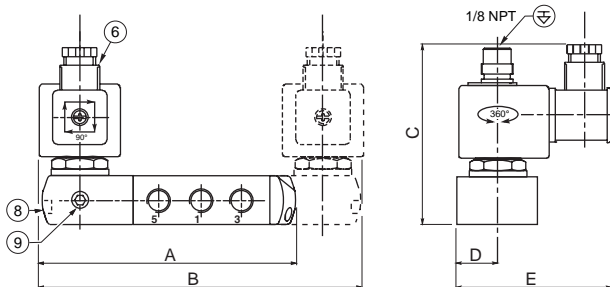
551G419 / 551G420



**TYPE 07**

Prefix "SC" / "ZN" Solenoid  
Low power  
Epoxy moulded  
IEC 335 / ISO 4400 (SC)  
EN 50021 (ZN)  
IP65 / II 3 G/D EEx nA II

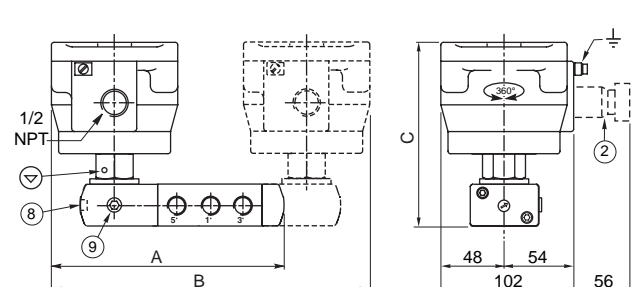
551A319 / 551A320



**TYPE 08**

Prefix "NF", "NL" and "WSNF" Solenoid  
Low power  
Aluminium, steel; epoxy coated (NF and NL)  
AISI 316 SS (WSNF)  
EN 50018 and EN 50281-1-1  
IP67 / II 2 G/D EEx d IIC

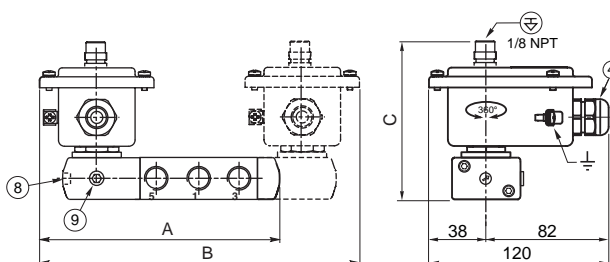
551A319 / 551A320



**TYPE 09**

Prefix "WP", "WS" / "EM", "WSEM" Solenoid  
Prefix "WPIs" / "WSIS" Solenoid  
Low power  
Metal; epoxy coated / AISI 316 SS  
IEC 335 / EN 50019 & EN 50028 / EN 50020 EN 50281-1-1  
IP67 / II 2 G/D EEx em II / II 1G/2D EEx ia IIC

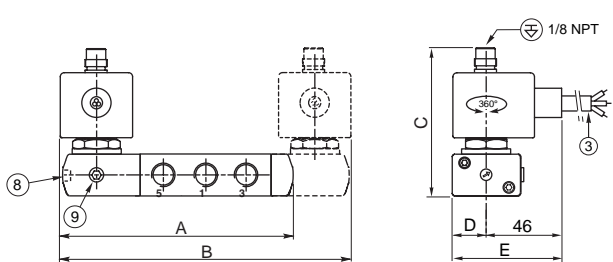
551A319 / 551A320



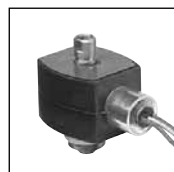
**TYPE 10**

Prefix "PV" Solenoid  
Low power  
Epoxy encapsulated  
EN 50028 and EN 50281-1-1  
II 2 G/D EEx m II  
IP65

551A319 / 551A320



### DIMENSIONS (mm), WEIGHT (kg)



#### TYPE 11

Prefix "EF" and "EV" Solenoid  
Low power  
Epoxy encapsulated  
ICS-6 ANSI / NEMA  
Types 7 and 9  
Note: applicable to solenoid only

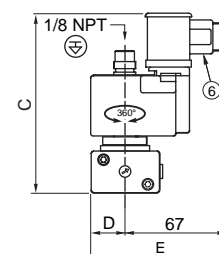
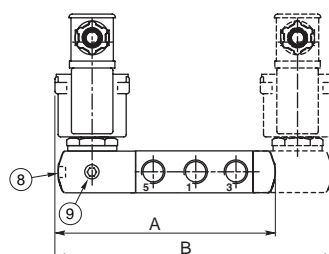
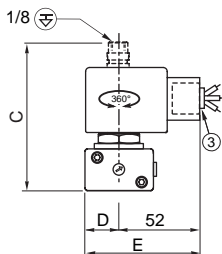
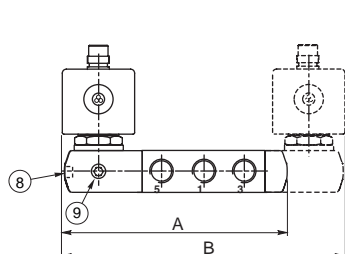
551H319 / 551G320



#### TYPE 12

Prefix "ISSC" Solenoid  
Low power  
Polypropylene moulded  
EN 50020 and EN 50281-1-1  
II 1G/2D EEx ia IIC

551A319 / 551A320

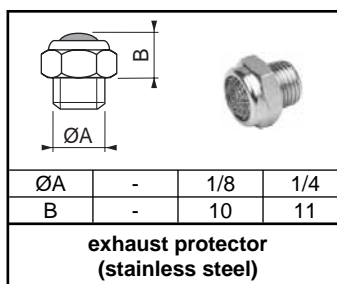
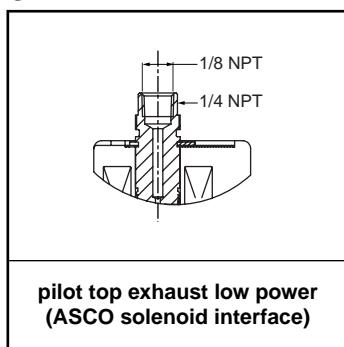
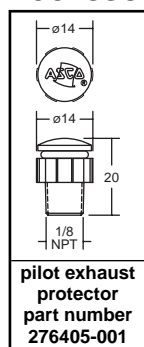


type	prefix option	power level	A	B	C	D	E	weight <sup>(1)</sup>	
								monostable	bistable
01	SC / SCDU / ZN	basic power	144	182	102,7	22,5	86,5	1,52	2,28
02	NF	basic power	170	236	141,8	-	-	2,61	4,45
02	WSNF	basic power	170	236	141,8	-	-	3,91	5,75
02	NL	basic power	170	236	141,8	-	-	3,71	5,55
03	NK	basic power	155	208	102	-	-	1,78	2,78
04	WP/WPDU/WS/WSDU/EM/WSEM	basic power	160	216	103	-	-	1,70	2,43
05	PV	basic power	144	184	88	22,5	67,5	1,58	2,39
06	EF / EV	basic power	144,5	185	85,5	22,5	74,5	1,40	2,23
07	SC / ZN	low power	144,5	185	101,5	22,5	87,5	1,67	2,57
08	NF	low power	170	236	141,8	-	-	2,55	4,53
08	WSNF	low power	170	236	141,8	-	-	3,85	5,83
08	NL	low power	170	236	141,8	-	-	3,65	5,63
09	WP / WS / EM / WSEM / WPIS / WSIS	low power	160	216	102,2	-	-	1,75	2,72
10	PV	low power	144	184	100,5	22,5	67,5	1,73	2,69
11	EF / EV	low power	144,5	185	100,5	22,5	74,5	1,55	2,52
12	ISSC	low power	134	187	124,5	22,5	89,5	1,50	2,43

<sup>(1)</sup> Incl. coil(s) and connector(s)

- ② EEx 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 (Ø 6 - 10 mm)
- ⑧ Push type or screw type manual operator, suffix MO
- ⑨ External pilot air supply, 1/8 pipe size
- ⊕ Connectable pilot exhaust port
- ⊖ Non-connectable pilot exhaust port

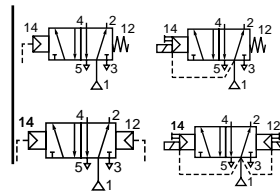
### ACCESSORIES





# SPOOL VALVES

pilot or air operated, spool type  
single/dual solenoid (mono/bistable function)  
brass body, 1/4



**5/2**  
Series  
**551**

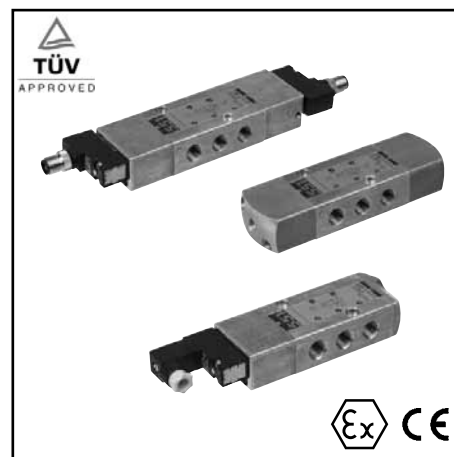
## FEATURES

- The monostable spool valves, series 551, have TÜV certified IEC 61508 Functional Safety data and can be used up to SIL 4/AK 7
- 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)** 860 l/min (ANR)

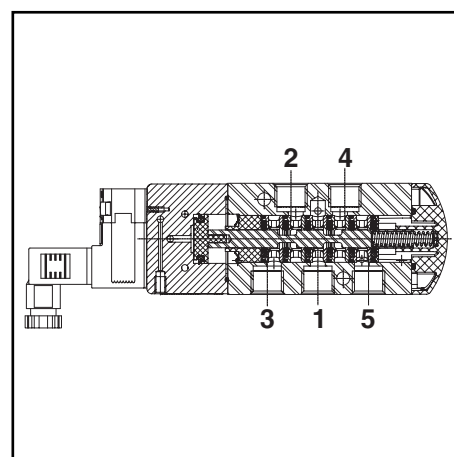
fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 40°C to + 60°C	VMQ (silicone) + PUR (polyurethane)



## MATERIALS IN CONTACT WITH FLUID

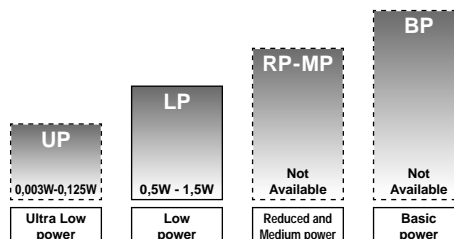
(\*) Ensure that the compatibility of the fluids in contact with the materials is verified

	Air operated	CNOMO solenoid (pilot) interface
<b>Body, end covers</b>	Brass, AISI 316L	Brass, AISI 316L
<b>Spool valve internal parts</b>	Brass, stainless steel, POM	Brass, stainless steel, POM
<b>Seals</b>	NBR	NBR
<b>Pilot internal parts</b>	-	Size 15 (E06.36.120N), refer to catalogue pages: 302 pilot (CFSC/CFSD/CFVT/CFL/CFSCIS/CFSDIS/CFVTIS) and 630 piezotronic pilot (PISC/PISCIS)



## 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 (*)	=		
<b>Pilot air operated - spring return (monostable)</b>								
1/4	6	0,75	12,5	2	10	10	-	❖551A119 <sup>(1)</sup>
<b>Pilot air operated and return (bistable)</b>								
1/4	6	0,75	12,5	2	10	10	-	❖551A120



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/CENELEC				IP65					
					air (*)	=		EEEx i	CFSCIS	CFSDIS	CFVTIS	PISCIS	CFSC	CFSD		CFVT	CFL
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=	CFSCIS	CFSDIS	CFVTIS	PISCIS	CFSC	CFSD	CFVT	CFL	PISC	CNOMO size 15	
<b>Solenoid air pilot operated - spring return (monostable)</b>																	
1/4	6	0,75	12,5	2	10	10	LP	-	-	-	-	●	●	●	●	-	❖551C519 <sup>(1)</sup>
1/4	6	0,75	12,5	2	-	8	LP	○	○	○	-	-	-	-	-	-	❖551C519 <sup>(1)</sup>
1/4	6	0,75	12,5	2	8	8	UP	-	-	-	○	-	-	-	-	●	❖551C519 <sup>(1)</sup>
<b>Solenoid air pilot operated and return (bistable)</b>																	
1/4	6	0,75	12,5	2	10	10	LP	-	-	-	-	●	●	●	●	-	❖551C520
1/4	6	0,75	12,5	2	-	8	LP	○	○	○	-	-	-	-	-	-	❖551C520
1/4	6	0,75	12,5	2	8	8	UP	-	-	-	○	-	-	-	-	●	❖551C520

❖ 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".



**PREFIX TABLE**

prefix							description	power level			
1	2	3	4	5	6	7		UP	LP	RP	BP
C	F	S	C				Solenoid + spade plug DIN 43650, 9,4 mm, industry standard B (EN 60730)	-	●	-	-
C	F	S	D				Solenoid + spade plug ISO 15217/DIN 43650, 8 mm, form C (EN 60730)	-	●	-	-
C	F	V	T				Solenoid with connection M12, LED + protection (EN 60730)	-	○	-	-
C	F	L					Solenoid with cable ends, LED + protection (EN 60730)	-	○	-	-
C	F	S	C	I	S		Intrinsically safe, spade plug DIN 43650, 9,4 mm, industry stand. B, ATEX (EN 50020) *	-	○	-	-
C	F	S	D	I	S		Intrinsically safe, spade plug ISO 15217/DIN 43650, 8 mm, form C, ATEX (EN 50020) *	-	○	-	-
C	F	V	T	I	S		Intrinsically safe, connector M12 (straight), LED + protection, ATEX (EN 50020) *	-	○	-	-
P	I	S	C				Solenoid, spade plug DIN 43650, 9,4 mm, industry stand. B, ATEX (EN 60730)	●	-	-	-
P	I	S	C	I	S		Intrinsically safe, spade plug DIN 43650, 9,4 mm, industry stand. B, ATEX (EN 50020) *	○	-	-	-

**SUFFIX TABLE**

suffix							description	power level			
1	2	3	4	5	6	7		UP	LP	RP	BP
	G	D					Non-electrical, 1 GD c, construction safety, gas/dust-ATEX (EN 13463-5)	-	-	-	-
			M	S			Screw type manual operator <sup>(1)</sup>	-	○/●	-	-
			M	O			Push type manual operator	○/●	○/●	-	-
S	L						Certified IEC 61508 Functional Safety data <sup>(1)</sup>	○/●	○/●	-	-

**OPTIONS & ACCESSORIES**

series	pipe size	exhaust protector (stainless steel)
551	G 1/4	<b>34600419</b> <sup>(2)</sup>
	NPT 1/4	<b>34600483</b> <sup>(2)</sup>
	M5	<b>34600484</b> <sup>(2)</sup>

- Available feature
- Available feature in DC only
- Not available
- \* ATEX solenoids are also approved to EN 50281-1-1 (dust) and EN 13463-1 (non electrical valves)
- <sup>(1)</sup> Not to use with "SL" suffix
- <sup>(2)</sup> Provided with "SL" suffix

**PRODUCT SELECTION GUIDE**

**STEP 1**

Select basic catalogue number, including pipe thread identification letter. Refer to the specifications table on page 7.

**Example: G551C519**

**STEP 2**

Select prefix (combination). Refer to the specifications table on page 7 and the prefix table on page 8, respect the indicated power level.

Air operated version, does not use prefix.

**Example: CFSC**

**STEP 3**

Select suffix (combination) if required.

Refer to the suffix table on page 8, respect the indicated power level.

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

**Example: MO**

**STEP 4**

Select TPL, on page 9, mandatory for the pilot 630 (PISCIS), 12 HV DC (32 mW) and 24 HV DC (125 mW). Add "X" between the prefix "PISCIS" and the basic catalogue number.

**STEP 5**

Select voltage. Refer to standard voltages on page 9.

**Example: 230V / 50Hz**

**STEP 6**

Final catalogue / ordering number.

**Example:**

**CFSC G551C519MO 230 V / 50 Hz**

**ORDERING EXAMPLES:**

CFSC	G 551 C 519	230V / 50 Hz
CFSC	G 551 C 519 SL	230V / 50 Hz
CFSD	G 551 C 520 MO	230V / 50 Hz
CFVT	8 551 C 520 MO	230V / 50 Hz
CFL	G 551 C 520 MO	24V / DC
PISCIS	G 551 C 519 MO	6V / DC
PISCIS	G 551 C 519 SLMO	6V / DC
PISCISX	G 551 C 520 MS TPL20666	24HV / DC
	G 551 A 119	
	G 551 A 119 GD	
	G 551 A 119 GDSL	
	G 551 A 120	

prefix — pipe thread — basic number — exhaust protector — manual operator — suffix — voltage — TPL



### CNOMO SOLENOID (PILOT) INTERFACE ELECTRICAL CHARACTERISTICS

<b>Coil insulation class</b>	F
<b>Connector</b>	Spade plug (cable Ø 4 - 6 mm or cable Ø 6 - 7 mm)
<b>Connector specification</b>	DIN 43650, 9,4 mm, industry standard B (CFSC/PISC/PISCIS prefixes) ISO 15217 / DIN 43650, 8 mm, form C (CFSD/CFSDIS prefixes) M12, IEC 60947-5-2/CNOMO E03-62-520N (CFVT/CFVTIS prefixes) M12 (CFVT/CFVTIS prefixes) or cable ends (CFL prefix)
<b>Connection</b>	IEC 335
<b>Electrical safety</b>	DC (=) CFSC/CFSD: 12V - 24V; CFVT/CFL: 24V CFSCIS/CFSDIS/CFVTIS: 12V PISC: 24V to 70V; PISCIS: 6V, 8V, 12V, 24V
<b>Standard voltages</b>	AC (~) CFSC/CFSD: 24V - 115V - 230V/50Hz; other voltages and 60Hz are available on request PISC: 24V to 70V

prefix option	power ratings				operator ambient temperature range (TS) (C°)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type <sup>(1)</sup>
	inrush	holding		hot/cold				~	=	
	(VA)	(VA)	(W)	(W)				-	-	
<b>Low power (LP)</b>										
CFSC/CFSD	1,4	1,2	1,1	1/1,12	-25 to +60	EN 60730	moulded IP65	-	-	01
CFSC/CFSD	2,1 <sup>(6)</sup>	1,6 <sup>(6)</sup>	1,5 <sup>(6)</sup>	-	-25 to +60	EN 60730	moulded IP65	-	-	01
CFVT/CFL <sup>(5)</sup>	-	-	-	1,15/1,35	-25 to +60	EN 60730	moulded IP67/IP65	-	-	02-03
CFSCIS <sup>(3)(4)</sup>	-	-	-	0,5	-10 to +50	II 1GD EEx ia IIC T5	moulded IP65	-	-	04
CFSDIS <sup>(3)(4)</sup>	-	-	-	0,5	-10 to +50	II 1GD EEx ia IIC T5	moulded IP65	-	-	04
CFVTIS <sup>(3)(4)</sup>	-	-	-	0,5	-10 to +50	II 1GD EEx ia IIC T5	moulded IP67	-	-	05
<b>Ultra low power (UP)</b>										
PISC	-	-	-	0,007	-0 to +60	-	moulded IP65	-	-	06
PISCIS <sup>(2)(3)6V</sup>	-	-	-	0,003	-20 to +50	II 1GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(2)(3)8V</sup>	-	-	-	0,022	-20 to +50	II 1GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(2)(3)12LV</sup>	-	-	-	0,012	-20 to +50	II 1GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(2)(3)12HV</sup>	-	-	-	0,032	-20 to +50	II 1GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(2)(3)12LV</sup>	-	-	-	0,046	-20 to +50	II 1GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(2)(3)12HV</sup>	-	-	-	0,125	-20 to +50	II 1GD EEx ia IIC T6	moulded IP65	-	-	06

- Not available  
<sup>(1)</sup> Refer to the dimensional drawings on pages 10 and 11.  
<sup>(2)</sup> Piezotronic standards voltages:

Prefix PISCIS:	6 V DC / 3 mW	8 V DC / 22 mW	12 L V DC / 12 mW	12 H V DC / 32 mW	24 L V DC / 46 mW	24 H V DC / 125 mW
Turn ON voltage U <sub>ON</sub>	6 .. 9 V	7,2 .. 12 V	10,8 .. 16 V	10,8 .. 16 V	21,6 .. 28 V	21,6 .. 28 V
Turn OFF voltage U <sub>OFF</sub>	3 V	3,2 V	3,3 V	3,3 V	5 V	5 V
Peak current	6 mA	10 mA	6,8 mA	8,1 mA	10 mA	14 mA
Holding current	0,5 mA	2,8 mA	1 mA	2,7 mA	1,9 mA	5,2 mA
Cable + max. barrier resistances (R <sub>S</sub> + R <sub>C</sub> )	1200 Ω max.	300 Ω max.	1200 Ω max.	470 Ω max.	1200 Ω max.	470 Ω max.

prefix option	safety parameters				
	U <sub>I</sub>	I <sub>I</sub>	P <sub>I</sub>	L <sub>I</sub>	C <sub>I</sub>
	= (DC) (V)	(mA)	(W)	(µF)	(mF)
<b>Low power (LP)</b>					
CFSCIS	28	300	1,6	0	0
CFSDIS/CFVTIS	28	300	1,6	0	0
<b>Ultra low power (UP)</b>					
PISCIS	30	200	0,9	0	0

<sup>(3)</sup> Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (CFSCIS/CFSDIS/CFVTIS: 302 pilots / PISCIS: 630 pilot).  
<sup>(4)</sup> CFSCIS/CFSDIS/CFVTIS (302 pilots):  
 12 V : I<sub>ON</sub> min., with LED = 33 mA; U<sub>ON</sub> min.= 11,9 V; U<sub>(max)</sub> recommended = 23 V; U<sub>OFF</sub> = 3,3 V; I<sub>OFF</sub> = 10 mA  
 24 V : I<sub>ON</sub> min., with LED = 25 mA; U<sub>ON</sub> min.= 16,4 V; U<sub>(max)</sub> recommended = 28 V; U<sub>OFF</sub> = 5,7 V; I<sub>OFF</sub> = 7 mA  
<sup>(5)</sup> Values for LED + protection. Use with TPL 20674 (CFSC and CFSD prefixes)  
<sup>(6)</sup> AC: 230 V  
 - Not available

### ADDITIONAL OPTIONS

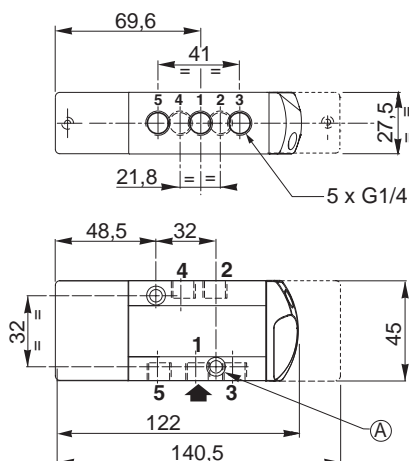
- TPL numbers: TPL **20665**: Piezotronic, PISCIS prefix, 12 HV (32 mW)  
TPL **20666**: Piezotronic, PISCIS prefix, 24 HV (125 mW)
- TPL numbers: TPL **20674**: LED and protection, CFSC / CFSD prefixes - Add 0,15 W (DC) and 0,4 W/VA (AC)  
Only available in 24 V AC/DC and 115 V AC
- Other pipe threads are available on request

### INSTALLATION

- Installation/maintenance instructions are included with each valve
- The solenoid valves and air operated 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 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)
- Valves with suffix "SL" are provided with a specific exhaust protector

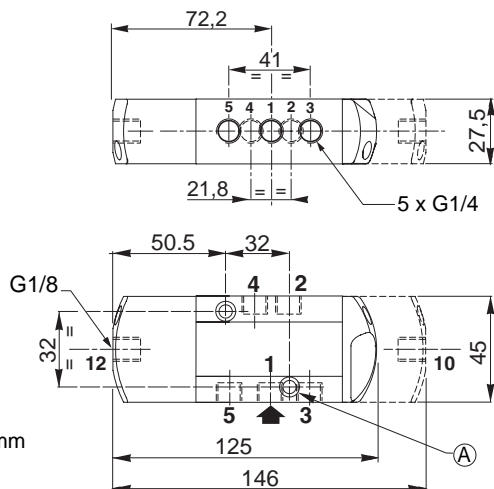
**DIMENSIONS (mm), WEIGHT (kg)**

**Type 01..06: CNOMO size 15 (E06.36.120N)**



(A) 2 mounting holes 5.3 mm dia.;  
Spotfacing: 9 mm dia., depth 5 mm

**Type 07: Air operated**

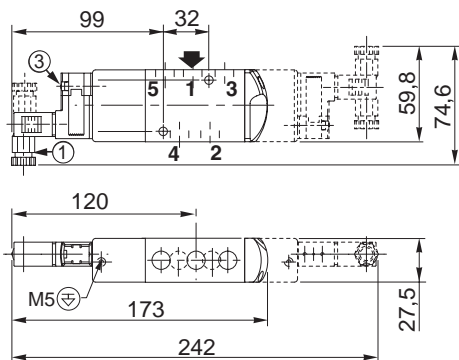


**TYPE 01**

Prefix "CFSC" and "CFSD" Solenoid  
Low power  
302 pilot  
Polyarylamide  
IEC 335 / DIN 43650, 9,4 mm/8 mm (cable 4 - 6 mm)  
IP65

551C519 / 551C520

551C519MS / 551C520MS / 551C519MO / 551C520MO

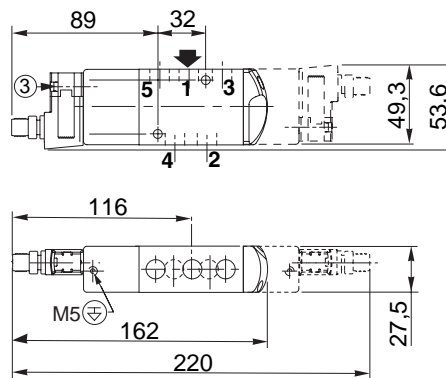


**TYPE 02**

Prefix "CFVT" Solenoid  
Low power  
302 pilot  
Polyarylamide  
IEC 335 / M12 connection + LED and protection  
IP67

551C519 / 551C520

551C519MS / 551C520MS / 551C519MO / 551C520MO

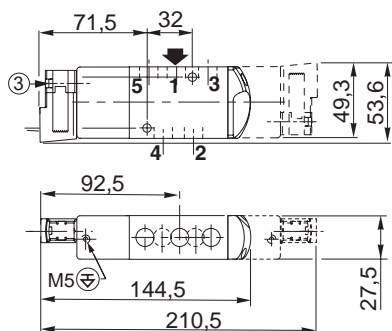


**TYPE 03**

Prefix "CFL" Solenoid  
Low power  
302 pilot  
Polyarylamide  
IEC 335 / cable ends + LED and protection  
IP65

551C519 / 551C520

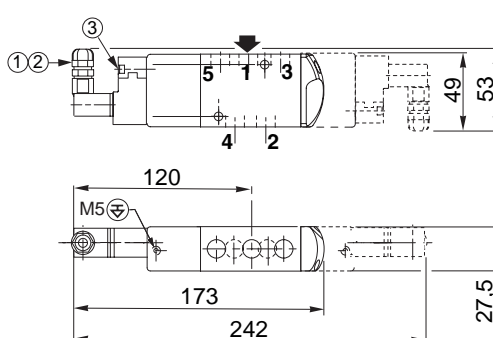
551C519MS / 551C520MS / 551C519MO / 551C520MO



**TYPE 04**

Prefix "CFSCIS" and "CFSDIS" Solenoid  
Low power  
302 pilot  
Polyarylamide  
IEC 335 / DIN 43650, 9,4 mm/8 mm (cable 6 - 7 mm)  
EN 50020 and EN 50281-1-1  
IP65 / II 1 GD EEx ia IIC

551C519MO / 551C520MO



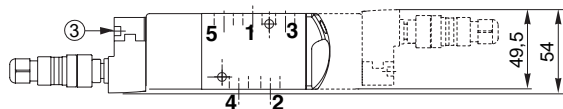
### DIMENSIONS (mm), WEIGHT (kg)



#### TYPE 05

Prefix "CFVTIS" Solenoid  
 Low power  
 302 pilot  
 Polyarylamide  
 IEC 335 / connector M12 + LED and protection  
 EN 50020 and EN 50281-1-1  
 IP67 / II 1 GD EEx ia IIC

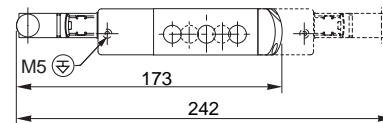
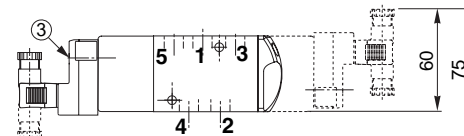
551C519MO / 551C520MO



#### TYPE 06

Prefix "PISC" and "PISCIS" Solenoid  
 Ultra low power  
 630 pilot (piezotronic)  
 Polyamide, epoxy coated  
 IEC 335, DIN 43650, 9,4 mm  
 EN 50020 and EN 50281-1-1 (PISCIS)  
 IP65 / II 1 GD EEx ia IIC

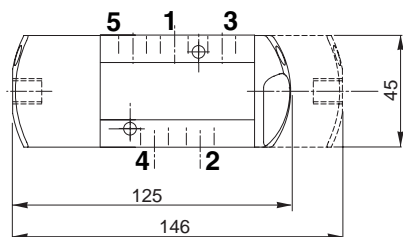
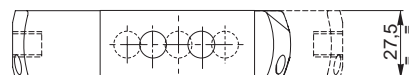
551C519MO / 551C520MO



#### TYPE 07

Air operated version  
 No prefix  
 Use "SL", "GD" or "GDSL" suffix  
 IP65 / II 1 GD c

551A119 / 551A120

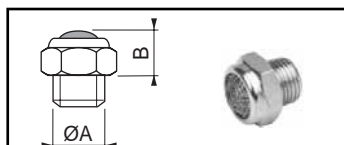


- ① Connector rotatable by 90° increments (cable 4 - 6 mm)
- ② Connector rotatable by 90° increments (cable 6 - 7 mm)
- ③ Manual operator location
- ⊕ Connectable pilot exhaust port

type	prefix option	power level	weight <sup>(1)</sup>	
			monostable	bistable
01	CFSC / CFSD	low power	0,966	1,175
02	CFVT	low power	0,966	1,175
03	CFL	low power	0,959	1,161
04	CFSCIS / CFSDIS	low power	0,971	1,185
05	CFVTIS	low power	0,993	1,229
06	PISC / PISCIS	ultra low power	0,95	1,143
07	-	-	0,914	1,071

<sup>(1)</sup> Incl. connector(s), except CFVT.

### ACCESSORIES



ØA	M5	-	1/4
B	4,3	-	11

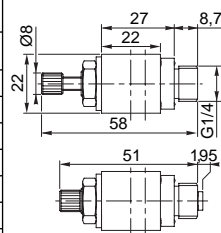
exhaust protector  
(stainless steel)

### ACCESSORIES

supply rail with seals and banjo bolts (without mounting brackets) (1)		
supply rail for "n" valves	catalogue number	
	G 1/4	NPT 1/4
2	<b>88100034</b>	<b>88100053</b>
3	<b>88100035</b>	<b>88100054</b> <sup>(4)</sup>
4	<b>88100036</b>	<b>88100054</b>
5	<b>88100037</b>	<b>88100058</b>
6	<b>88100038</b>	<b>88100055</b>
7	<b>88100039</b>	<b>88100059</b>
8	<b>88100040</b>	<b>88100060</b>

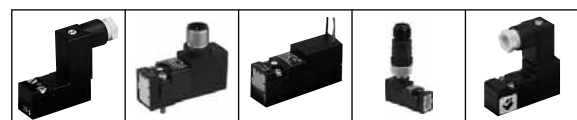
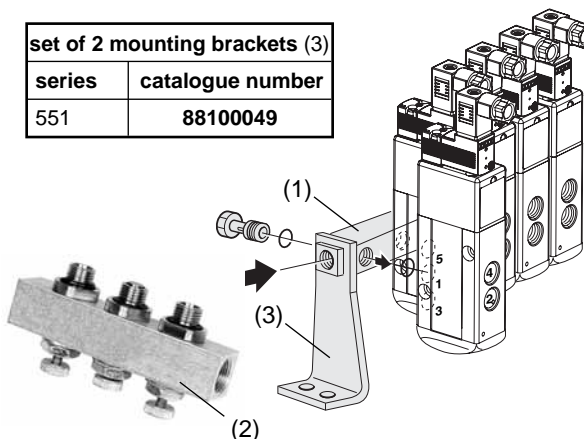
<sup>(4)</sup> Available on request.

supply rail with isolation valves (without mounting brackets) (2) - allows the isolation of one or more valves from the general pressure supply		
supply rail for "n" valves	catalogue number	
	G 1/4	
2	<b>88100717</b>	
3	<b>88100718</b>	
4	<b>88100719</b>	
5	<b>88100720</b>	
6	<b>88100721</b>	
7	<b>88100722</b>	
8	<b>88100723</b>	

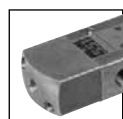
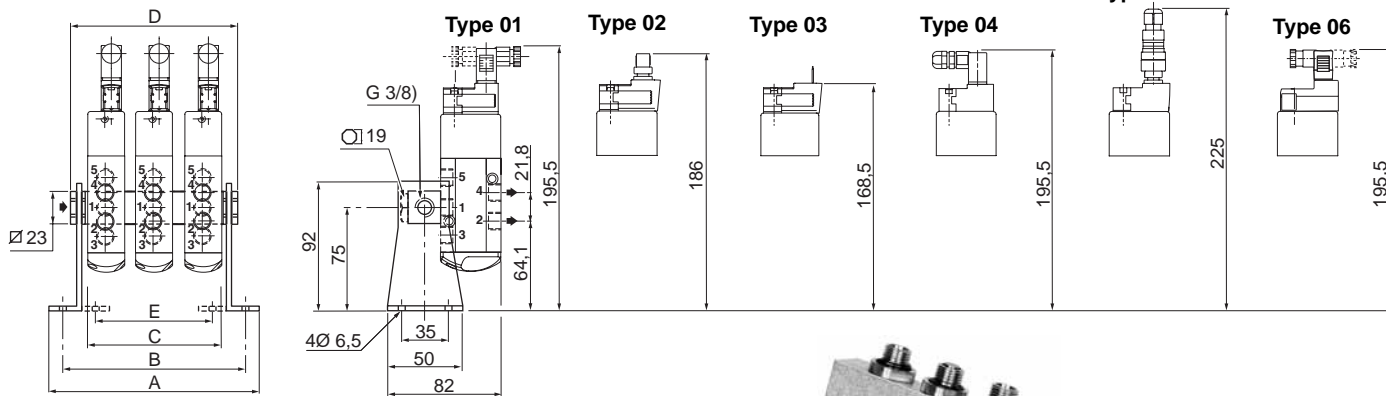


series 551	number of valves							
	2	3	4	5	6	7	8	
A	108	136	164	192	220	248	276	
B	92	120	148	176	204	232	260	
C	55	83	111	139	167	195	223	
D	78	106	134	162	190	218	246	
E	42	70	98	126	154	182	210	
type	weight (kg)							
01/02, mono/bistable	2,3/2,6	3,4/3,9	4,5/5,2	5,6/6,5	6,7/7,8	7,8/9,1	8,9/10,4	
03, mono/bistable	2,4/2,7	3,5/4	4,6/5,3	5,7/6,6	6,8/7,9	7,9/9,2	9/10,5	
04, mono/bistable	2,2/2,5	3,3/3,8	4,4/5,1	5,5/6,4	6,6/7,7	7,7/9	8,8/10,3	
05, mono/bistable	2,4/2,7	3,5/4	4,6/5,3	5,7/6,6	6,8/7,9	7,9/9,2	9/10,5	
06, mono/bistable	2,3/2,6	3,4/3,9	4,5/5,2	5,6/6,5	6,7/7,8	7,8/9,1	8,9/10,4	
07, mono/bistable	2,15/2,97	3,15/3,9	4,23/5,2	5,3/6,47	6,49/7,74	7,58/9	8,76/10,3	

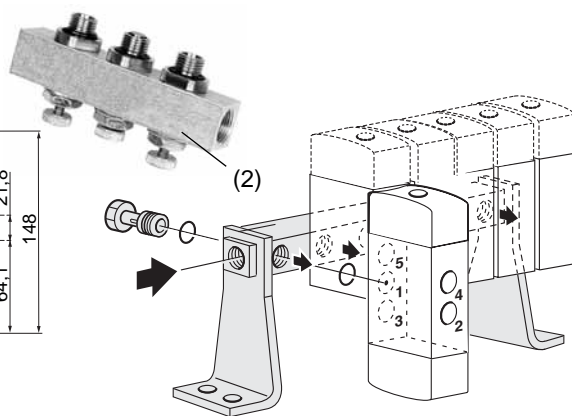
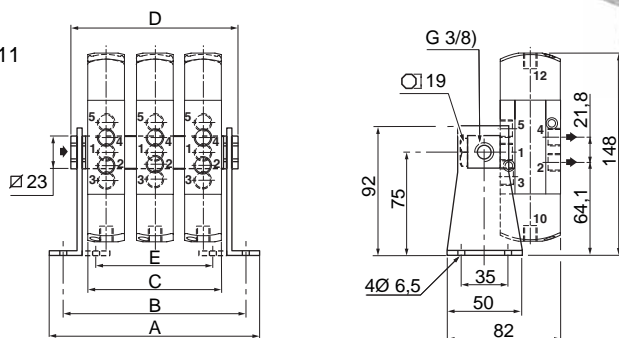
set of 2 mounting brackets (3)	
series	catalogue number
551	<b>88100049</b>



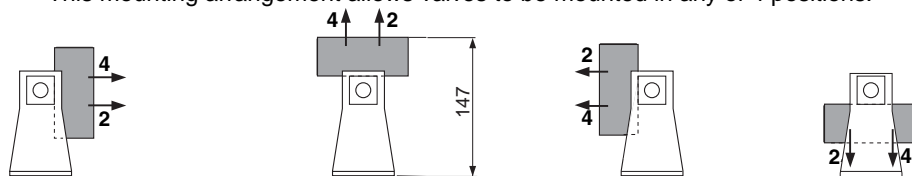
**TYPE 01-02-03-04-05-06**  
See pages 10 and 11



**TYPE 07**  
See page 11



This mounting arrangement allows valves to be mounted in any of 4 positions.



set of 2 mounting brackets (3)	
series	catalogue number
551	<b>88100049</b>