

### 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 (552-553/EXIDA)
- The spool valves 3/2 NC 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)
- Epoxy moulded coil for general service applications
- 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)  
3/8 = 3000 l/min  
1/2 = 3800 l/min

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 60°C	NBR (nitrile) + PUR (polyurethane)

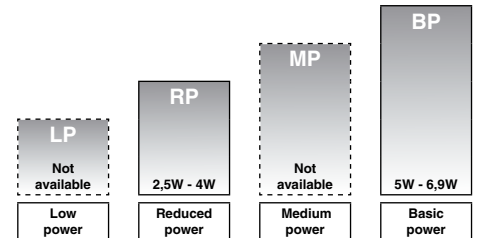
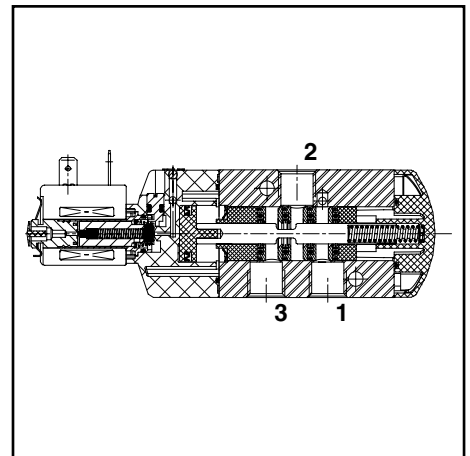
### MATERIALS IN CONTACT WITH FLUID

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

**Body** Aluminium, black anodised  
**End covers** Glass-filled PA  
**Internal parts** Zamak, stainless steel, POM, aluminium  
**Seals** NBR + PUR  
**Core and plugnut** Stainless steel  
**Shading coil** Copper

### AIR OPERATED SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			prefix option	basic catalogue number
				min.	max. (PS)			
(*)	(mm)	(m³/h)	(l/min)		air (*)	~	=	
<b>Air pilot operated - spring return (monostable)</b>								
1/4	6	0,75	12,5	2	10	10	-	❖551A105 <sup>(2)</sup>
3/8	12	2,49	41,5	2	10	10	-	❖552A105 <sup>(2)</sup>
1/2	13	3,15	52,5	2	10	10	-	❖553A105 <sup>(2)</sup>
<b>Air pilot operated and return (bistable)</b>								
1/4	6	0,75	12,5	2	10	10	-	❖551A106
3/8	12	2,49	41,5	2	10	10	-	❖552A106
1/2	13	3,15	52,5	2	10	10	-	❖553A106



POWER LEVELS - cold electrical holding values (watt)

### PILOT OPERATED 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 e mb	Ex mb	-	IP65	
<b>Solenoid air pilot operated - spring return (monostable)</b>													
1/4	6	0,75	12,5	2	10	10	RP	-	●	-	-	●	❖551A005 <sup>(2)</sup>
1/4	6	0,75	12,5	2	10	10	RP	-	-	●	-	-	X❖551A005 20787 <sup>(2)</sup>
3/8	12	2,49	41,5	2	10	10	RP-BP	-	●	●	-	●	❖552A005 <sup>(2)</sup>
1/2	13	3,15	52,5	2	10	10	RP-BP	-	●	●	-	●	❖553A005 <sup>(2)</sup>
<b>Solenoid air pilot operated and return (bistable)</b>													
1/4	6	0,75	12,5	2	10	10	RP	-	●	-	-	●	❖551A006
1/4	6	0,75	12,5	2	10	10	RP	-	-	●	-	-	X❖551A006 20787
3/8	12	2,49	41,5	2	10	10	RP-BP	-	●	●	-	●	❖552A006
1/2	13	3,15	52,5	2	10	10	RP-BP	-	●	●	-	●	❖553A006

❖ Select **B** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1) ● Available feature - Not available  
(2) Certified IEC 61508 Functional Safety data, use suffix "SL".

### PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
P	V						Encapsulated epoxy moulded (EN/IEC 60079-18, 61241-18)*	-	●	-	●
W	B	L	P				I.S./encapsulation with PBT IP67 enclosure (EN/IEC 60079-7+18+21)*	-	●	-	-
S	C						Solenoid with spade plug connector (EN/IEC 60730)	-	●	-	●
						X	Other special constructions	-	●	-	●

### SUFFIX TABLE

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

● Available feature

- Not available

\* ATEX solenoids are also approved according to EN 13463-1 (non electrical valves)

<sup>(1)</sup> Not to use with MS suffix

### PRODUCT SELECTION GUIDE

#### STEP 1

Select the fluid temperature range and seal material from the general table on page 1. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications table on page 1.

**Example : G551A005**

#### STEP 2

Select prefix (combination). Select the appropriate operator from the specifications table on page 1 and the prefix table on page 2. Select for this operator in the electrical characteristics table on page 3: the power level (RP, MP, BP), the type of electrical enclosure protection and the desired temperature class. The air operated version is without prefix.

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

Do not use prefixes for air operated versions.

**Example : SC**

#### STEP 3

Select suffix (combination) if required. Suffix GD only applies for the air operated versions, do not use suffix MS.

**Example : MS**

#### STEP 4

Select voltage. Refer to standard voltages on page 3.

**Example : 230V / 50Hz**

#### STEP 5

Final catalogue / ordering number.

**Example :**

**SC G551A005MS 230 V / 50 Hz**

### OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	(M)
551	1/4	34600419 <sup>(2)</sup>	34600483 <sup>(2)</sup>	-
552	3/8	34600478 <sup>(2)</sup>	34600480 <sup>(2)</sup>	-
553	1/2	34600479 <sup>(2)</sup>	34600481 <sup>(2)</sup>	-
551/552/553	M5	-	-	34600484 <sup>(2)</sup>

<sup>(2)</sup> Provided with "SL" suffix.

### ORDERING EXAMPLES:

SC	G	551	A	005	MS	230V / 50 Hz
PV	X8	551	A	006	20787	115V / 50 Hz
WBLP	G	552	A	005	MS	24V / DC
SC	G	552	A	005	MS	24V / DC
G		553	A	106		
G		551	A	106	GD	
G		551	A	105	GD SL	
SC	G	551	A	005	SL	

Diagram showing the breakdown of the example code SC G 551 A 005 SL:

- prefix: SC
- pipe thread: G
- basic number: 551 A 005
- voltage: 230V / 50 Hz
- suffix: SL

### 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/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>(3)</sup>
	inrush	holding		hot/cold				~	=	
	(VA)	(VA)	(W)	(W)				230 V / 50 Hz	24 V DC	
<b>Basic power (BP)</b>										
SC	15	7	5	5/6,9	-25 to +60	EN 60730	moulded IP65	43004649	43004647	02
PV	-	-	6,3	-/6,9	-40 to +65/40	II 2 G/D Ex mb IIC T3/Ex mD	moulded IP65	- <sup>(4)</sup>	- <sup>(4)</sup>	04
<b>Reduced power (RP)</b>										
SC	6	3,5	2,5	2,5/3	-25 to +60	EN 60730	moulded IP65	43004886	43004869	01
PV	-	-	4	-/3	-40 to +65/60	II 2 G/D Ex mb II T3/Ex mD	moulded IP65	- <sup>(4)</sup>	- <sup>(4)</sup>	03
WBLP	-	-	3,5	-/4	-40 to +65	II2G Ex e mb IIC T4, II2D Ex t IIC Db	IP67 PBT	- <sup>(4)</sup>	- <sup>(4)</sup>	05-06

<sup>(3)</sup> Refer to the dimensional drawings on pages 3 and 4 (Air operated versions, see page 6 for types 7 and 8).

<sup>(4)</sup> Multiple coil kits available under ATEX, contact us

### ELECTRICAL CONNECTIONS

prefix	connection
SC	Spade plug connector with cable gland DIN 43650, 11 mm, industry standard B, for cables with an outer diameter from 6 to 8 mm (type 01) or EN175301-803A (ISO 4400) for cables with an outer diameter from 6 to 10 mm (type 02).
PV	Moulded-in cable, standard length 2 m
WBLP	M20 cable gland for cables with an outer diameter from 7 to 8,5 mm. With an internal and external facility for an earthing or bonding conductor


### ADDITIONAL OPTIONS

- Other pipe threads are available on request
- Ex mb/mD (prefix "PV") solenoid can be supplied with various cable lengths
- Compliance with "UL" Available on request (series 552-553)

### INSTALLATION

- Installation/maintenance instructions are included with each valve
- The 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. 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)

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



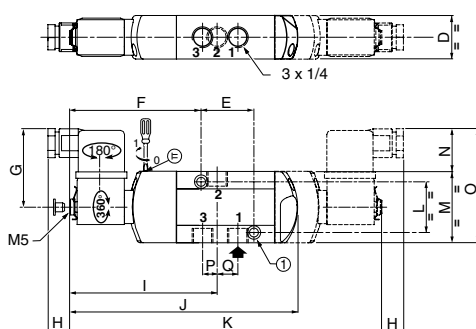
**TYPE 01:**  
SC  
Epoxy moulded  
IEC 335 / DIN 43650

551A005 / A005MS / A006 / A006MS

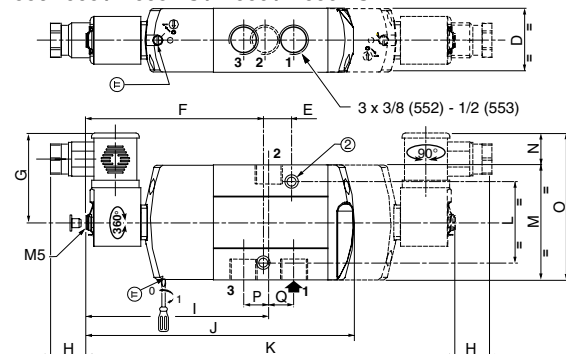


**TYPE 02:**  
SC  
Epoxy moulded  
IEC 335 / ISO 4400


552A005 / A005MS / A006 / A006MS  
553A005 / A005MS / A006 / A006MS



① 2 mounting holes dia. 5,3; spotfacing: dia. 9, depth 5 mm



② 2 mounting holes dia. 6,5; spotfacing: dia. 11, depth 6 mm

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



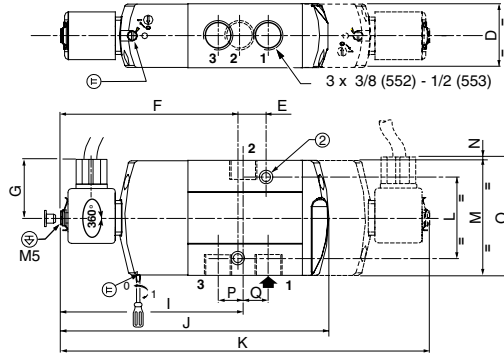
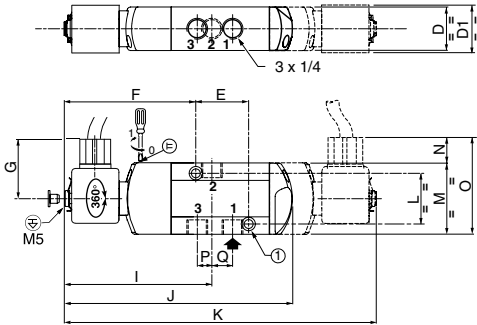
**TYPE 03:**  
PV  
Epoxy encapsulated  
EN/IEC 60079-18 and EN/IEC 61241-18

551A005 20787 / A005MS 20787 / A006 20787 / A006MS 20787



**TYPE 04:**  
PV  
Epoxy encapsulated  
EN/IEC 60079-18 and EN/IEC 61241-18

552A005 / A005MS / A006 / A006MS  
553A005 / A005MS / A006 / A006MS



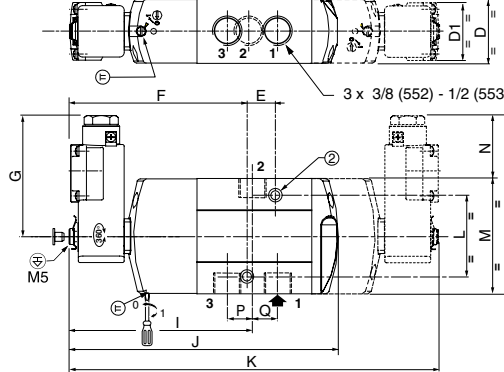
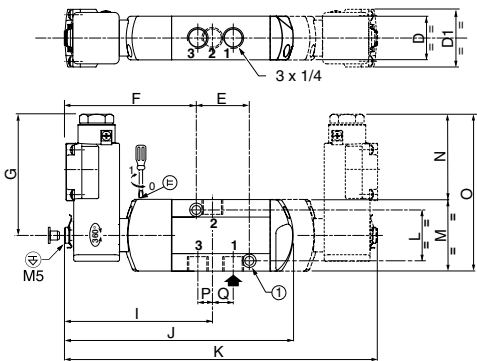
**TYPE 05:**  
WBLP  
Metal cap/PBT  
EN/IEC 60079-7, EN/IEC 60079-18 and  
EN/IEC 61241-1

551A005 / A005MS / A006 / A006MS



**TYPE 06:**  
WBLP  
Metal cap/PBT  
EN/IEC 60079-7, EN/IEC 60079-18 and  
EN/IEC 61241-1

552B005 / A005MS / A006 / A006MS  
553A005 / A005MS / A006 / A006MS



type	prefix option	power level	D	D1	E	F	G	H	I	J	K	L	M	N	O	P	Q	weight <sup>(1)</sup>	
																		monost.	bistable
01 (551)	SC	RP	27,5	-	33	83,5	49	13	93,5	145	198	32	45	27	72	9,5	12	0,35	0,43
02 (552)	SC	BP	40,2	-	16	114,2	56,2	21,8	111,6	170,2	233,3	51	72,3	20	92,3	12,1	17,5	0,70	1,00
02 (553)	SC	BP	40,2	-	16	114,2	56,2	21,8	111,6	170,2	233,3	51	72,3	20	92,3	12,1	19,5	0,69	0,99
03 (551)	PV	RP	27,5	29	33	83,5	36,5	13	93,5	145	198	32	45	13	58	9,5	12	0,37	0,49
04 (552)	PV	BP	40,2	-	16	114,2	36,5	21,8	111,6	170,2	233,3	51	72,3	0,3	92,3	12,1	17,5	0,73	1,03
04 (553)	PV	BP	40,2	-	16	114,2	36,5	21,8	110,6	170,2	233,3	51	72,3	0,3	92,3	12,1	19,5	0,72	1,02
05 (551)	WBLP	RP	27,5	37	33	83,5	81,5	-	93,5	145	198	32	45	59	104	9,5	12	0,44	0,63
06 (552)	WBLP	RP	40,2	37	16	114,2	81,5	-	111,6	170,2	233,3	51	72,3	45,35	117,65	12,1	17,5	0,80	1,17
06 (553)	WBLP	RP	40,2	37	16	114,2	81,5	-	110,6	170,2	233,3	51	72,3	45,35	117,65	12,1	19,5	0,79	1,16

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

### ACCESSORIES SERIES 551, 552 and 553

- Supply rail (supplied with seals and banjo bolts, without mounting brackets)

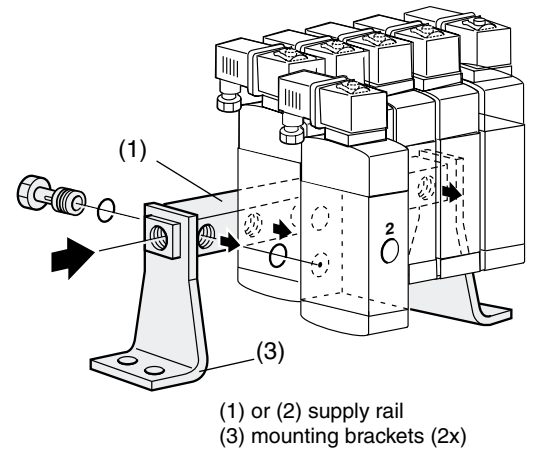
supply rail for "n" valves	catalogue number					
	series 551		series 552		series 553	
	G 1/4	NPT 1/4	G 3/8	NPT 3/8	G 1/2	NPT 1/2
2	88100034	88100053	88100800	88100807	88100759	88100766
3	88100035	(1)	88100801	88100808	88100760	88100767
4	88100036	88100054	88100802	88100809	88100761	88100768
5	88100037	88100058	88100803	88100810	88100762	88100769
6	88100038	88100055	88100804	88100811	88100763	88100770
7	88100039	88100059	88100805	88100812	88100764	88100771
8	88100040	88100060	88100806	88100813	88100765	88100772

Mounting brackets (set of 2), for series 551: catalogue number **88100049**  
for series 552-553: catalogue number **88100773**

(1) Available on request.

**supply rail with isolation valves with mounting brackets (2)**  
Allows the isolation of one or more valves from the general pressure supply

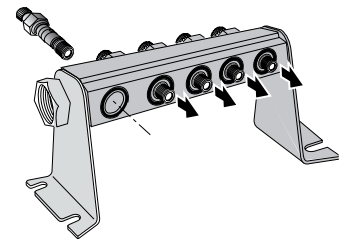
supply rail for "n" valves	catalogue number	
	G 1/4	NPT
2	88100915	-
3	88100916	-
4	88100917	-
5	88100918	-
6	88100919	-
7	88100920	-
8	88100921	-
9	88100922	-
10	88100923	-
11	88100924	-
12	88100925	-



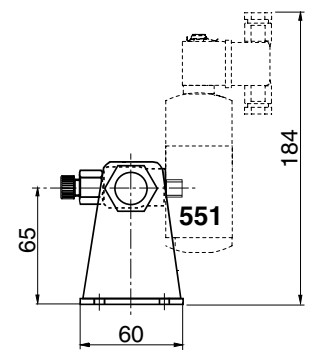
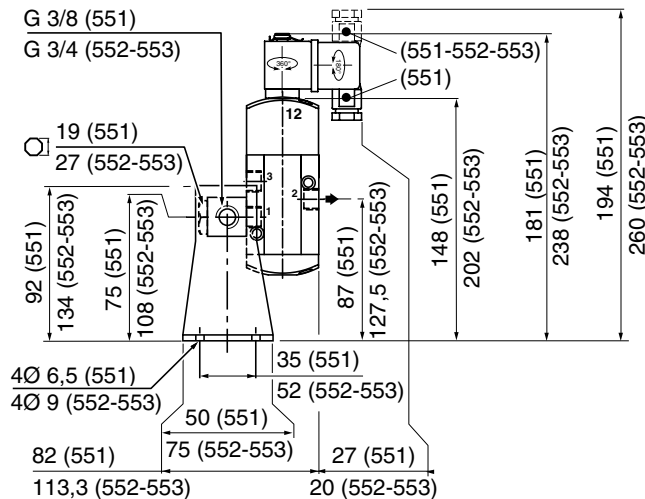
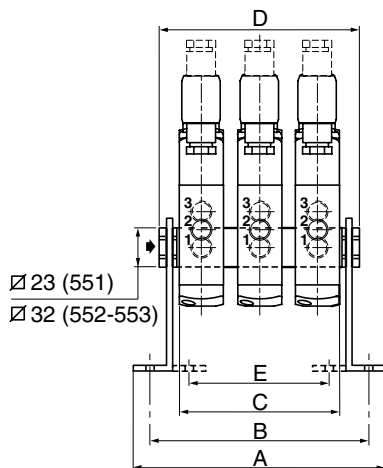
Series 551	number of valves							
	2	3	4	5	6	7	8	
A	108	136	164	192	220	248	276	
B	92	120	148	176	204	232	260	
C	55	83	111	139	167	195	223	
D	78	106	134	162	190	218	246	
E	42	70	98	126	154	182	210	
type O1, monost.*	0,9	1,3	1,7	2,0	2,4	2,9	3,3	
type O1, bistable*	1,2	1,7	2,1	2,6	3,1	3,6	4,1	

Series 552-553	number of valves							
	2	3	4	5	6	7	8	
A	136	117	218	259	300	341	382	
B	116	157	198	239	280	321	362	
C	81	122	163	204	245	286	327	
D	117	158	199	240	281	322	363	
type O2, monost.*	2,1	2,9	3,8	4,7	5,6	6,4	7,4	
type O2, bistable*	2,5	3,6	4,8	5,9	7,1	8,1	9,3	

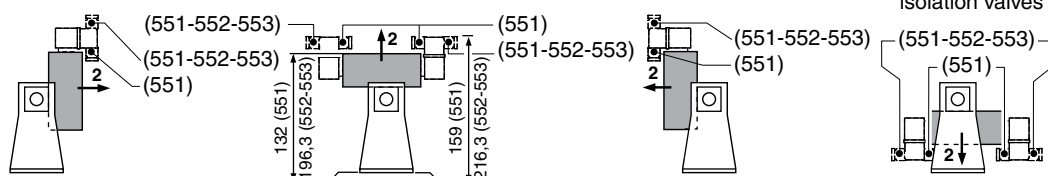
\* Weight (kg)



Supply rail with isolation valves for series 551

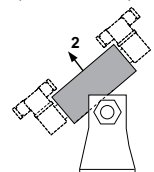


This mounting arrangement allows valves to be mounted in the positions bellow.

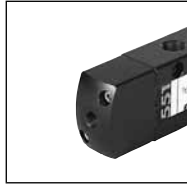


Not possible with supply rail and isolation valves

Only with supply rail with isolation valves (Series 551)

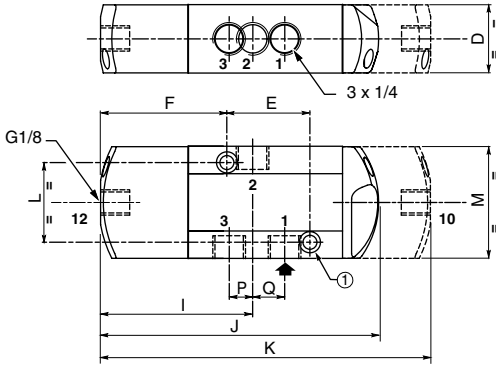


### DIMENSIONS (mm), WEIGHT (kg)

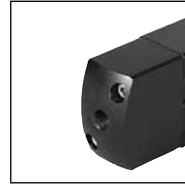


**TYPE 07: No prefix, IP65**  
(suffixes, GD: II 2 GD c, SL: SIL or GDSL: SIL, II 2 GD c)  
Air operated version  
(supply rail - see below)

551A105 / 551A106

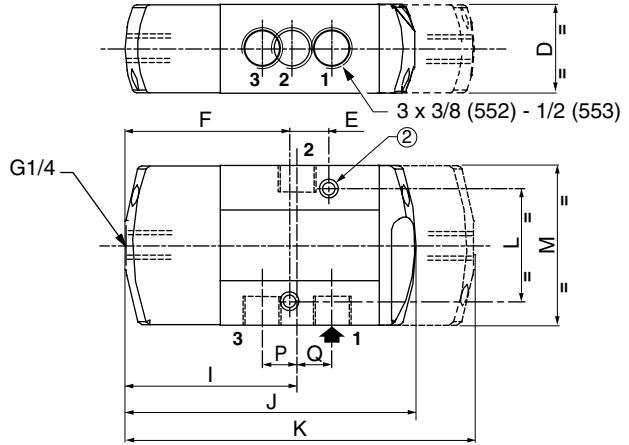


- ① 2 mounting holes dia. 5,3; spotfacing: dia. 9, depth 5 mm
- ② 2 mounting holes dia. 6,5; spotfacing: dia. 11, depth 6 mm



**TYPE 08: No prefix, IP65**  
(suffixes, GD: II 2 GD c, SL: SIL or GDSL: SIL, II 2 GD c)  
Air operated version  
(supply rail - see below)

552A105 / 552A106 / 553A105 / 553A106



type	D	E	F	I	J	K	L	M	P	Q	weight	
											monost.	bistable
07 (551)	27,5	33	50,5	61	112	133	32	45	9,5	12	0,28	0,36
08 (552)	40,2	16	78,5	75,6	134,5	162	51	72,3	12,1	17,4	0,81	1,07
08 (553)	40,2	16	78,5	74,6	134,5	162	51	72,3	12,1	19,4	0,80	1,06

### ACCESSORIES SERIES 551, 552 and 553

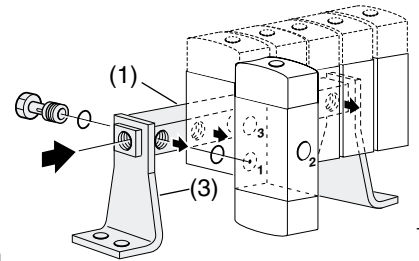
• Supply rails: see catalogue numbers on page 5

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 07, monost.*	0,9	1,2	1,5	1,9	2,2	2,5	2,8
type 07, bistable*	1,0	1,4	1,9	2,3	2,7	3,1	3,5

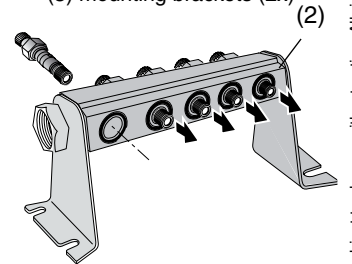
Series 552-553	number of valves						
	2	3	4	5	6	7	8
A	136	117	218	259	300	341	382
B	116	157	198	239	280	321	362
C	81	122	163	204	245	286	327
D	117	158	199	240	281	322	363
type 08, monost.*	2,3	3,0	3,8	4,7	5,5	6,3	7,2
type 08, bistable*	2,5	3,5	4,6	5,7	6,7	7,7	8,7

\* Weight (kg)

équerres support (3)	
série	code
551	88100049

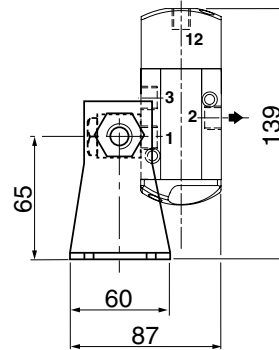
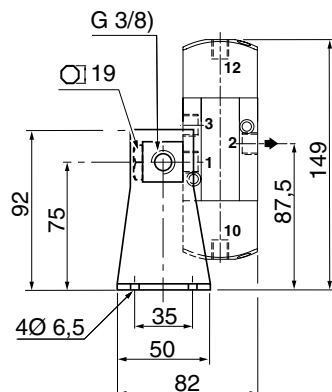
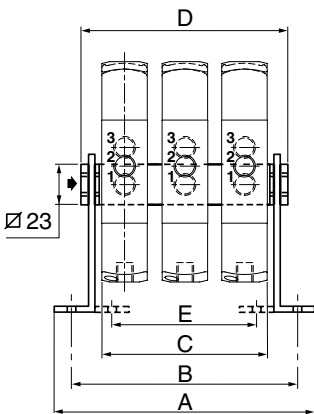


(1) or (2) supply rail  
(3) mounting brackets (2x)

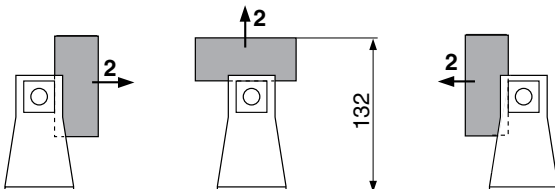


Supply rail with isolation valves for series 551

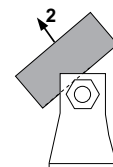
Only with supply rail with isolation valves (Series 551)



This mounting arrangement allows valves to be mounted in the positions below.



Not possible with supply rail and isolation valves

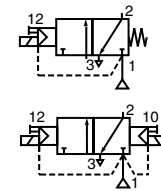






# SOLENOID VALVES

pilot operated, spool type  
single/dual solenoid (mono/bistable function)  
aluminium body, 1/4 to 1/2



**3/2**  
Series  
**551**  
**552-553**

## 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 (552-553/EXIDA)
- The spool valves 3/2 NC 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

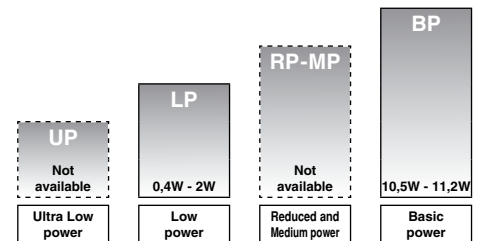
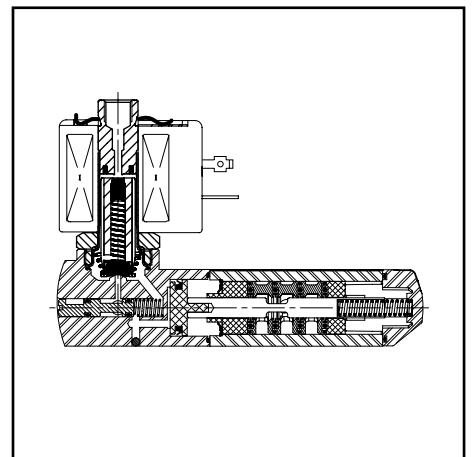
<b>Differential pressure</b>	2 - 10 bar [1 bar = 100 kPa]
<b>Flow (Qv at 6 bar)</b>	1/4 = 860 l/min (ANR) 3/8 = 3000 l/min 1/2 = 3800 l/min

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 60°C	NBR (nitrile) + PUR (polyurethane)

## MATERIALS IN CONTACT WITH FLUID

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

<b>Body</b>	Aluminium, black anodised
<b>End cover (spring return)</b>	Glass-filled PA
<b>Spool valve internal parts</b>	Zamak, stainless steel, POM, aluminium
<b>Pilot internal parts</b>	Refer to specific solenoid catalogue pages
<b>Pilot end covers</b>	Aluminium
<b>Core tube</b>	Stainless steel
<b>Core and plugnut</b>	Stainless steel
<b>Core spring</b>	Stainless steel
<b>Seals</b>	NBR
<b>Top disc</b>	PA
<b>Disc holder</b>	CA
<b>Cartridge (low power)</b>	Welded, stainless steel or aluminium
<b>Seat</b>	Brass
<b>Seat insert</b>	CA
<b>Shading coil</b>	Copper
<b>Rider rings (low power)</b>	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. <sup>(3)</sup>	max. (PS)	NEMA		ATEX / IECEx							IP65
									air (*)	7 & 9	Ex d	Ex e mb	Ex mb	Ex ia	Ex ia	-		
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=	EF	LPKF	NF	-	EM	PV	LI	IS	-	SC		
<b>Solenoid air pilot operated - spring return (monostable)</b>																		
1/4	6	0,75	12,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	-	●	❖551B405 <sup>(2)</sup>
1/4	6	0,75	12,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖551H405 <sup>(2)</sup>
1/4	6	0,75	12,5	0/2	10	10	LP	-	●	●	-	●	○	○	○	-	-	❖551B305 <sup>(2)</sup>
1/4	6	0,75	12,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖551H305 <sup>(2)</sup>
3/8	12	2,49	41,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	-	-	❖552A405 <sup>(2)</sup>
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖552G405 <sup>(2)</sup>
3/8	12	2,49	41,5	0/2	10	10	LP	-	●	●	-	-	○	○	○	-	-	❖552A305 <sup>(2)</sup>
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖552G305 <sup>(2)</sup>
1/2	13	3,15	52,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	-	-	❖553A405 <sup>(2)</sup>
1/2	13	3,15	52,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	-	❖553G405 <sup>(2)</sup>
1/2	13	3,15	52,5	0/2	10	10	LP	-	●	●	-	●	○	○	○	-	-	❖553A305 <sup>(2)</sup>
1/2	13	3,15	52,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	-	❖553G305 <sup>(2)</sup>

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1) ● Available feature ○ Available feature in DC only - Not available  
 (2) Certified IEC 61508 Functional Safety data, use suffix "SL"  
 (3) Zero minimum is only achieved if external pressure is applied

### SPECIFICATIONS

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids										basic catalogue number
								max. (PS)		ATEX / IECEx								
				min. <sup>(3)</sup>	air (*)			7 & 9	Ex d		Ex e mb	Ex mb	Ex ia	Ex ia	-	IP65		
(mm)	(m³/h)	(l/min)	~	=	~/=	EF	LPKF	NF	-	EM	PV	LI	IS	-	SC			
<b>Solenoid air pilot operated and return (bistable)</b>																		
1/4	6	0,75	12,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	●	❖551B406	
1/4	6	0,75	12,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	❖551H406	
1/4	6	0,75	12,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	-	❖551B306	
1/4	6	0,75	12,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	❖551H306	
3/8	12	2,49	41,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	-	❖552A406	
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	❖552G406	
3/8	12	2,49	41,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	-	❖552A306	
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	❖552G306	
1/2	13	3,15	52,5	0/2	10	10	BP	-	-	●	-	●	●	-	-	-	❖553A406	
1/2	13	3,15	52,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	-	❖553G406	
1/2	13	3,15	52,5	0/2	10	10	LP	-	○	●	-	●	○	○	○	-	❖553A306	
1/2	13	3,15	52,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	-	❖553G306	

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1) ● Available feature ○ Available feature in DC only - Not available  
 (3) 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	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, 60079-31)*	●	-	-	●
P	V						Encapsulated epoxy moulded (EN/IEC 60079-18, 61241-18)*	○	-	-	●
S	C						Solenoid with spade plug connector (EN/IEC 60730)	●	-	-	●
W	P						Waterproof IP67 - Metal enclosure	●	-	-	●
L	I						I.S. with Aluminium IP67 enclosure (EN/IEC 60079-11 / 61241-1)*	○	-	-	-
W	S						Waterproof IP67 - 316 SS enclosure	●	-	-	●
W	S	L	P	K	F		Flameproof - 316 SS (EN/IEC 60079-1, 61241-1)*	●	-	-	-
W	S	E	M				Waterproof IP67 - 316 SS enclosure (EN/IEC 60079-7+18, 61241-1)*	●	-	-	●
W	S	N	F				Flameproof - 316 SS (EN/IEC 60079-1, 60079-31)*	●	-	-	●
							Threaded conduit (1/2" NPT)	●	-	-	●
				H	T		Class H - High temperature (ambient +80°C)	-	-	-	●
						X	Other special constructions	●	-	-	●

### SUFFIX TABLE

suffix					description	power level			
1	2	3	4	5		LP	RP	MP	BP
			M	O	Push type manual operator	●	-	-	●
	S	L			Certified IEC 61508 Functional Safety data (4)	●	-	-	●
	M	F			Low temperature -40°C	●	-	-	●

\* ATEX solenoids are also approved according to and EN 13463-1 (non electrical valves)  
 ● Available feature  
 ○ Available feature in DC only  
 - Not available  
 (4) Not to use with MO suffix

### OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	(M)
551/552/553	1/8	34600418 (5)	34600482 (5)	-
551	1/4	34600419 (5)	34600483 (5)	-
552	3/8	34600478 (5)	34600480 (5)	-
553	1/2	34600479 (5)	34600481 (5)	-
551	M5	-	-	34600484

(5) Provided with "SL" suffix.

### 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 table above.

**Example : G552A405**

#### STEP 2

Select prefix (combination). Select the appropriate operator from the specifications table on page 7 and the prefix table on page 8. 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.

**Example : EM**

#### STEP 3

Select suffix (combination) if required.

**Example : MO**

#### STEP 4

Select voltage. Refer to standard voltages on page 9.

**Example : 230V / 50Hz**

#### STEP 5

Final catalogue / ordering number.

**Example :**

**EM G552A405MO 230 V / 50 Hz**

### ORDERING EXAMPLES:

SC	G	551	B	405	230V / 50 Hz
SC	G	551	B	405	SL 230V / 50 Hz
SC	G	551	B	406	MO 230V / 50 Hz
SCHT	8	551	B	406	MO 230V / 50 Hz
LPKF	G	551	B	305	MO 24V / DC
ISSC	G	553	A	306	MO 24V / DC
LI	G	552	A	305	24V / DC
EM	8	552	A	406	MO 230V / 50 Hz
EF	G	551	H	405	MO 240V / 60 Hz

prefix (6)      pipe thread      basic number (6)      voltage      suffix

(6) Prefixes EF should always be used with the letter H or G in the basic number.



### 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<sup>(6)</sup>/50Hz; other voltages and 60Hz are available on request

prefix option	power ratings				operator ambient temperature range (TS) (C°) <sup>(1)</sup>	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type <sup>(2)</sup>
	inrush	holding	hot/cold					~	=	
	(VA)	(VA)	(W)	(W)				230 V/50 Hz	24V/DC	
<b>Basic power (BP)</b>										
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) <sup>(7)</sup> -40 to +25/40/60	I12G Ex d IIC T6/T5/T4, I12D Ex t	IP67 alu./SS	400405-117	-	02
NF/WSNF	-	-	-	9/11,2	(-60) <sup>(7)</sup> -40 to +40/60/75	I12G Ex d IIC T6/T5/T4, I12D Ex t	IP67 alu./SS	-	400405-142	02
EM/WSEM	55	23	10,5	9/11,2	-40 to +40	I12G Ex e mb II T3, I12D Ex tD	IP67 steel/SS	400909-117	400913-142	04
PV	55	23	10,5	9/11,2	-40 to +65	I12G Ex mb II T3(-)/T4(=), I12D Ex mD 21	IP67 moulded	- <sup>(4)</sup>	- <sup>(4)</sup>	05
EF	55	23	10,5	9/11,2	-40 to +54/40	NEMA type 7 and 9	NEMA 4X	238614-058	238714-006	06
<b>Low power (LP)</b>										
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 <sup>(8)</sup>	2,4	2,4	2,4	0,5/0,5 <sup>(6)</sup>	-40 to +80/60	I12G Ex d IIB+H2 Gb T4/T6, I12D Ex t Db	IP67 alu./SS	- <sup>(4)</sup>	- <sup>(4)</sup>	13
NF/WSNF	-	-	1,9	-/1,9	(-60) <sup>(7)</sup> -40 to +75/80	I12G Ex d IIC T6/T5, I12D Ex t	IP67 alu./SS	- <sup>(4)</sup> <sup>(5)</sup>	- <sup>(4)</sup>	08
EM/WSEM	1,5	1,5	1,5	1,7/1,7	-40 to +40/55	I12G Ex e mb II T6/T5, I12D Ex tD	IP67 steel/SS	- <sup>(4)</sup>	- <sup>(4)</sup>	09
PV	-	-	-	1,7/1,7	-40 to +65	I12G Ex mb II T6 / I12D Ex mD 21	IP67 moulded	-	- <sup>(4)</sup>	10
EF	-	-	-	1,7/1,7	-40 to +60	NEMA type 7 and 9	NEMA 4X	-	- <sup>(4)</sup>	11
ISSC <sup>(3)</sup>	-	-	-	0,4/0,4	-40 to +60	I12G Ex ia IIC T6, I12D Ex iaD 21	IP65 moulded	-	268976-001	12
LI <sup>(3) (6)</sup>	-	-	-	0,5/0,5	-40 to +60	I11G Ex ia IIC T6 Ga, I12D Ex t IIIC Db <sup>(6)</sup>	IP67 alu.	-	- <sup>(4)</sup>	14

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

- <sup>(1)</sup> Temperature range can be limited by sealings
- <sup>(2)</sup> Refer to the dimensional drawings on pages: 10 to 14
- <sup>(3)</sup> ISSC/LI: Check the electrical characteristics in the corresponding catalogue pages
- <sup>(4)</sup> Multiple coil kits are available under ATEX/IECEX, contact us
- <sup>(5)</sup> (WS)NF: Low Power, 230 V AC does not exist. Maximum voltage in AC is 115 V
- <sup>(6)</sup> LI: Low Power, 24 V DC only (For use in zone 0 locations, see the installation conditions given in the I&M instructions)
- <sup>(7)</sup> The certified minimum temperature of this operator
- <sup>(8)</sup> 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	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	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

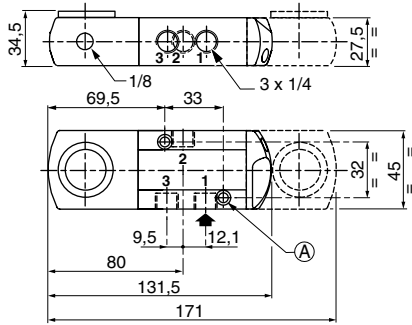
### INSTALLATION

- 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) 

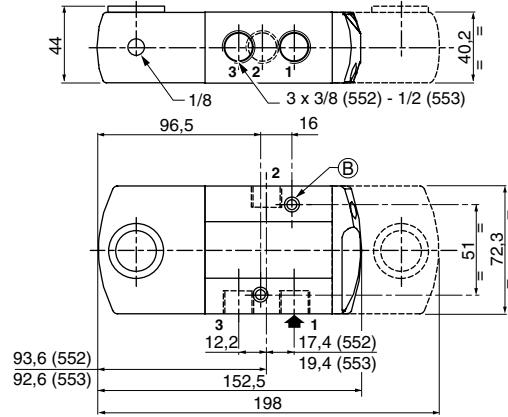
Types 01 to 12

Series 551



(A) 2 mounting holes dia. 5,3 mm  
Spotfacing: dia. 9 mm, depth 5 mm

Series 552-553



(B) 2 mounting holes dia. 6,5 mm  
Spotfacing: dia. 11 mm, depth 8 mm



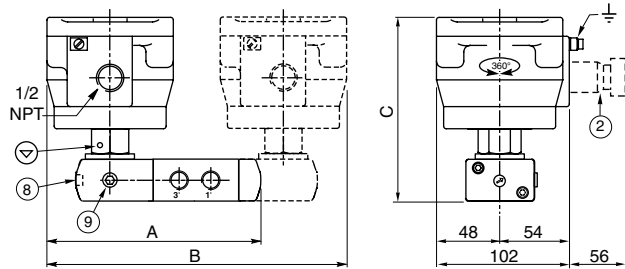
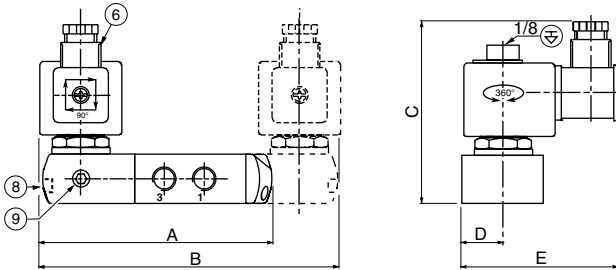
**TYPE 01:**  
SC  
Epoxy moulded  
IEC 335 / ISO 4400

551B405 / B406 / B405MO / B406MO  
552A405 / A406 / A405MO / A406MO  
553A405 / A406 / A405MO / A406MO



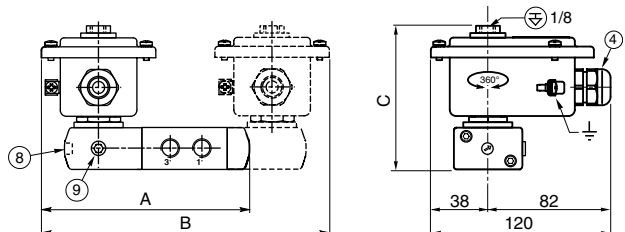
**TYPE 02:**  
NF / WSNF  
Aluminium; epoxy coated / AISI 316 SS  
EN/IEC 60079-1 and EN/IEC 60079-31


551B405 / B406 / B405MO / B406MO  
552A405 / A406 / A405MO / A406MO  
553A405 / A406 / A405MO / A406MO



**TYPE 04:**  
WP / WS  
EM / WSEM  
Steel; epoxy coated / AISI 316 SS  
IEC 335 / EN 60079-7/18 and EN 61241-1

551B405 / B406 / B405MO / B406MO  
552A405 / A406 / A405MO / A406MO  
553A405 / A406 / A405MO / A406MO

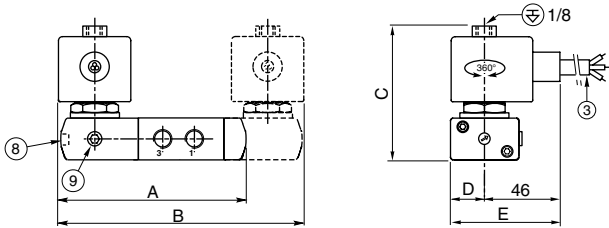


**DIMENSIONS (mm), WEIGHT (kg)** 



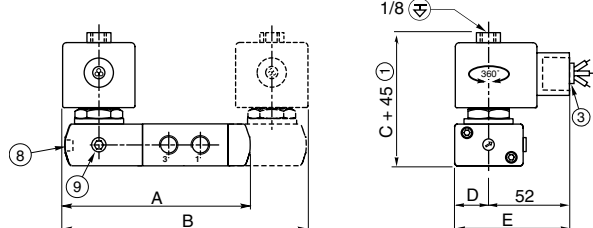
**TYPE 05:**  
PV  
Epoxy encapsulated  
EN/IEC 60079-18 and EN/IEC 61241-18

551B405 / B406 / B405MO / B406MO  
552A405 / A406 / A405MO / A406MO  
552A405 / A406 / A405MO / A406MO



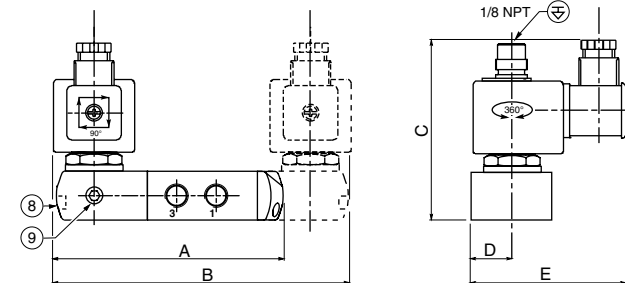
**TYPE 06:**  
EF: NEMA type 7 and 9  
Epoxy encapsulated  
ICS-6 ANSI  
NOTE: applicable to solenoid only

551H405 / H406 / H405MO / H406MO  
552G405 / G406 / G405MO / G406MO  
553G405 / G406 / G405MO / G406MO



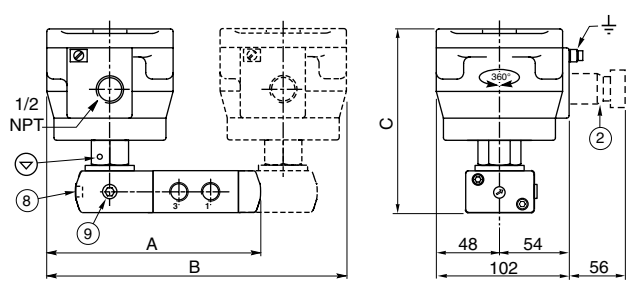
**TYPE 07:**  
SC  
Epoxy moulded  
IEC 335 / ISO 4400

551B305 / B306 / B305MO / B306MO  
552A305 / A306 / A305MO / A306MO  
553A305 / A306 / A305MO / A306MO



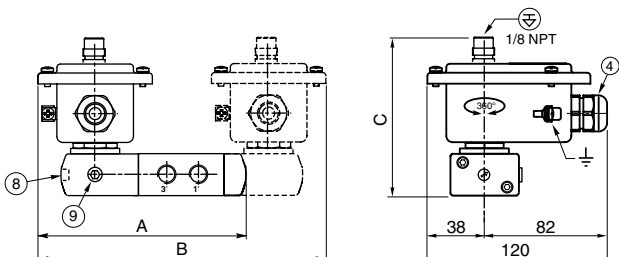
**TYPE 08:**  
NF / WSNF  
Aluminium; epoxy coated / AISI 316 SS  
EN/IEC 60079-1 and EN/IEC 60079-31

551B305 / B306 / B305MO / B306MO  
552A305 / A306 / A305MO / A306MO  
553A305 / A306 / A305MO / A306MO



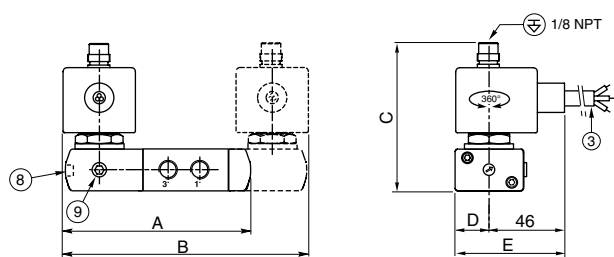
**TYPE 09:**  
WP / WS  
EM / WSEM  
Steel; epoxy coated / AISI 316 SS  
IEC 335/EN 60079-7/18 and EN 61241-1

551B305 / B306 / B305MO / B306MO  
552A305 / A306 / A305MO / A306MO  
553A305 / A306 / A305MO / A306MO



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

551B305 / B306 / B305MO / B306MO  
552A305 / A306 / A305MO / A306MO  
553A305 / A306 / A305MO / A306MO

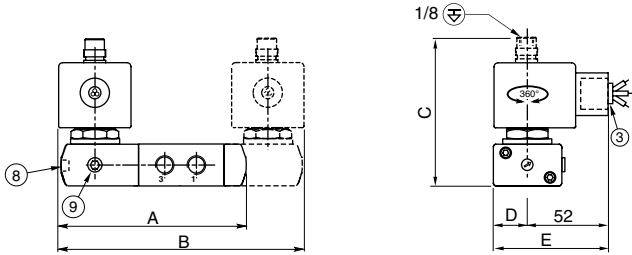


### DIMENSIONS (mm), WEIGHT (kg)



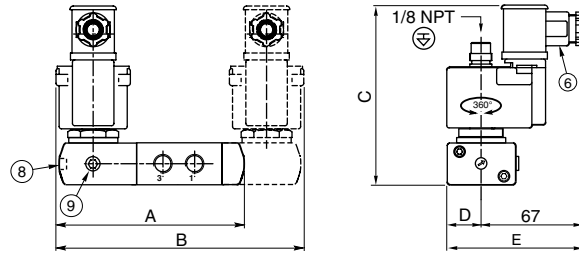
**TYPE 11:**  
 EF: NEMA type 7 and 9  
 Epoxy encapsulated  
 ICS-6 ANSI  
 NOTE: applicable to solenoid only

551H305 / H306 / H305MO / H306MO  
 552G305 / G306 / G305MO / G306MO  
 553G305 / G306 / G305MO / G306MO



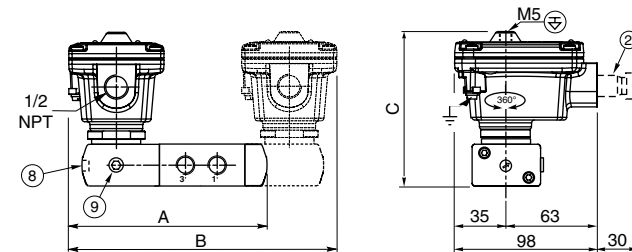
**TYPE 12:**  
 ISSC  
 Polypropylene moulded  
 Epoxy moulded  
 IEC 335/EN 60079-11/26 and EN/IEC 61241-11

551B305 / B306 / B305MO / B306MO  
 552A305 / A306 / A305MO / A306MO  
 553A305 / A306 / A305MO / A306MO



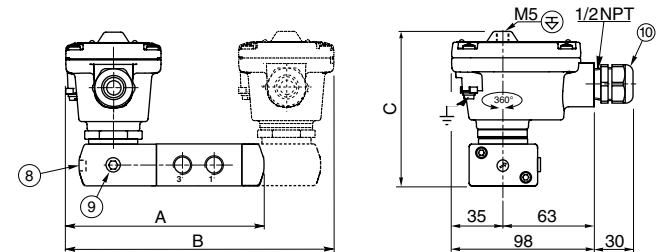
**TYPE 13:**  
 LPKF / WSLPKF  
 Aluminium, cataphoresis black painting / AISI 316L SS  
 EN/IEC 60079-1 and EN/IEC 61241-1

551B305 / B306 / B305MO / B306MO  
 552A305 / A306 / A305MO / A306MO  
 553A305 / A306 / A305MO / A306MO



**TYPE 14:**  
 LI  
 Aluminium, cataphoresis black painting  
 IEC and EN: 60079-11, 61241-1

551B305 / B306 / B305MO / B306MO  
 552A305 / A306 / A305MO / A306MO  
 553A305 / A306 / A305MO / A306MO



- 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 Push type or screw type manual operator, 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

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

type	prefix option	power level	A		B		C		D		E		weight <sup>(1)</sup>					
			monostable			bistable												
			551	552/553	551	552/553	551	552/553	551	552/553	551	552/553	551	552	553	551	552	553
01	SC	BP	132	152,5	170	198	102,7	112,2	22,5	36,15	86,5	100,2	0,76	1,45	1,35	1,34	2,01	1,91
02	NF / WSNF	BP	158	197,3	224	287,6	141,8	151,3	-	-	-	-	1,85	2,49	2,39	3,51	4,15	4,05
04	WP/WS	BP	148	169,2	204	231,3	103	112,5	-	-	-	-	0,84	1,46	1,36	1,49	2,03	1,93
04	(WS)EM	BP	148	169,2	204	231,3	103	112,5	-	-	-	-	0,84	1,46	1,36	1,49	2,03	1,93
05	PV	BP	132	152,5	172	198	88	97,5	22,5	36,15	67,5	81,2	0,82	1,46	1,36	1,45	2,02	1,92
06	EF	BP	132,5	156	173	205	85,5	95	22,5	36,15	74,5	88,2	0,64	1,46	1,36	1,29	2,03	1,93
07	SC	LP	132,5	153,5	173	200	101,5	111	22,5	36,15	87,5	101,2	0,97	1,66	1,56	1,55	2,22	2,16
08	NF / WSNF	LP	158	197,3	224	287,5	141,8	151,3	-	-	-	-	1,85	2,49	2,39	3,51	4,15	4,05
09	WP/WS/(WS)EM	LP	148	169,2	204	231,3	102,2	111,7	-	-	-	-	1,05	1,67	1,57	1,70	2,23	2,14
10	PV	LP	132	152,5	172	198	100,5	110	22,5	36,15	67,5	81,2	1,03	1,67	1,57	1,67	2,23	2,13
11	EF	LP	132,5	156	173	205	100,5	110	22,5	36,15	74,5	88,2	0,85	1,67	1,57	1,50	2,24	2,14
12	ISSC	LP	122	155	175	203	124,5	134	22,5	36,15	89,5	103,5	0,80	1,49	1,39	1,41	2,05	1,95
13	LPKF	LP	141	164,5	192	222	113	122,5	-	-	-	-	0,90	1,86	1,76	1,62	2,31	2,21
13	WSLPKF	LP	141	164,5	192	222	113	122,5	-	-	-	-	1,51	2,46	2,77	2,82	3,51	3,28
14	LI	LP	141	164,5	192	222	113	122,5	-	-	-	-	0,91	1,87	1,77	1,63	2,32	2,22

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

### ACCESSORIES

**pilot exhaust protector**  
part no. 276-405-001

**pilot top exhaust low power**  
(ASCO solenoid interface)

ØA	M5	1/8	1/4	3/8	1/2
B	4,5	10	11	11	14

**exhaust protector**  
(stainless steel)

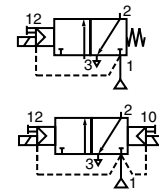






# SOLENOID VALVES

solenoid air pilot operated, spool type  
single/dual solenoid (mono/bistable function)  
aluminium body, 1/4 to 1/2



**3/2**  
Series  
**551**  
**552-553**

## 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 (552-553/EXIDA)
- The spool valves 3/2 NC 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)
- Ultra low power level for inside application, suitable to connect to process fieldbus remote I/O or valve couplers
- 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)  
3/8 = 3000 l/min  
1/2 = 3800 l/min

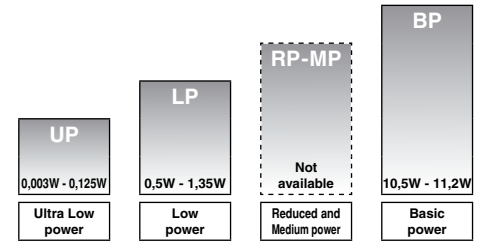
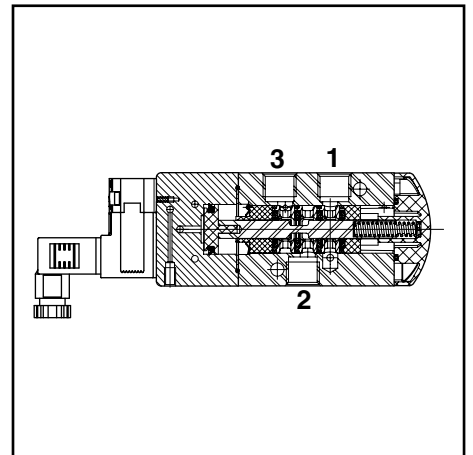
fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 40°C <sup>(1)</sup>	NBR (nitrile) + PUR (polyurethane)
	- 25°C to + 60°C	

<sup>(1)</sup> With series 302 pilots, prefixes CFSC/CFVT/CFSCIS/CFSCZN.

## MATERIALS IN CONTACT WITH FLUID

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

**Body** Aluminium, black anodised  
**End cover (spring return)** Glass-filled PA  
**Spool valve internal parts** Zamak, stainless steel, POM, aluminium  
**Pilot internal parts** Size 30 (E06.05.80), refer to specific catalogue pages: 374 pilots (CTNK) and 195 (LISC)  
Size 15 (E06.36.120N), refer to specific catalogue pages: 302 pilots (CFSC/CFVT/CFSCIS/CFSCZN) and 630 piezotronic (PISC-PISCIS)  
**Pilot end covers** Aluminium



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.	max. (PS)			ATEX / IECEx			IP65		CNOMO size 30	CNOMO size 15		
					air (*)	~		=	~/=	Ex d	Ex ia	Ex nA			IP65	
(*)	(mm)	(m³/h)	(l/min)					CTNK	LISC	CFSCIS	PISCIS	CFSCZN	CFSC	PISC		
<b>Solenoid air pilot operated - spring return (monostable)</b>																
1/4	6	0,75	12,5	2	10	10	LP	-	-	-	-	○	●	-	-	❖551C505 <sup>(2)</sup>
1/4	6	0,75	12,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖551C505 <sup>(2)</sup>
1/4	6	0,75	12,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖551A205 <sup>(2)</sup>
1/4	6	0,75	12,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖551B205
1/4	6	0,75	12,5	2	8	8	UP	-	-	-	○	-	●	-	-	❖551C505 <sup>(2)</sup>
3/8	12	2,49	41,5	2	10	10	LP	-	-	-	-	○	●	-	-	❖552A505 <sup>(2)</sup>
3/8	12	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖552A505 <sup>(2)</sup>
3/8	12	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖552A205 <sup>(2)</sup>
3/8	12	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖552B205
3/8	12	2,49	41,5	2	8	8	UP	-	-	-	-	○	●	-	-	❖552A505 <sup>(2)</sup>
1/2	13	3,15	52,5	2	10	10	LP	-	-	-	-	○	●	-	-	❖553A505 <sup>(2)</sup>
1/2	13	3,15	52,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖553A505 <sup>(2)</sup>
1/2	13	3,15	52,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖553A205 <sup>(2)</sup>
1/2	13	3,15	52,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖553B205
1/2	13	3,15	52,5	2	8	8	UP	-	-	-	○	-	●	-	-	❖553A505 <sup>(2)</sup>

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1) ● Available feature ○ Available feature in DC only - Not available  
<sup>(2)</sup> Certified IEC 61508 Functional Safety data, use suffix "SL".

## 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			IP65		CNOMO size 30	CNOMO size 15		
					air (*)			Ex d	Ex ia		Ex nA	CFSC			PISC	
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=	CTNK	LISC	CFSCIS	PISCIS	CFSCZN	CFSC	PISC			
<b>Solenoid air pilot operated and return (bistable)</b>																
1/4	6	0,75	12,5	2	10	10	LP	-	-	-	-	○	●	-	-	❖551C506
1/4	6	0,75	12,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖551C506
1/4	6	0,75	12,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖551A206
1/4	6	0,75	12,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖551B206
1/4	6	0,75	12,5	2	8	8	UP	-	-	-	○	-	●	-	-	❖551C506
3/8	12	2,49	41,5	2	10	10	LP	-	-	-	-	○	●	-	-	❖552A506
3/8	12	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖552A506
3/8	12	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖552A206
3/8	12	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖552B206
3/8	12	2,49	41,5	2	8	8	UP	-	-	-	○	-	●	-	-	❖552A506
1/2	13	3,15	52,5	2	10	10	LP	-	-	-	-	○	●	-	-	❖553A506
1/2	13	3,15	52,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖553A506
1/2	13	3,15	52,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖553A206
1/2	13	3,15	52,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖553B206
1/2	13	3,15	52,5	2	8	8	UP	-	-	-	○	-	●	-	-	❖553A506

## PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		UP	LP	RP	BP
<b>CNOMO solenoid (pilot) interface size 30</b>											
L	I	S	C				Intrinsically safe, pilot 195, ATEX (EN/IEC 60079-11+26, 61241-11)*	-	○	-	-
C	T	N	K				Flameproof with pilot 374, ATEX (EN 60079-1 / 61241-1)*	-	-	-	●
<b>CNOMO solenoid (pilot) interface size 15</b>											
C	F	S	C				Solenoid + spade plug AMP 2,5x0,5, 9,4 mm, (EN 60730), 302 pilot	-	●	-	-
C	F	V	T				Solenoid with M12 connection, LED + protection (EN 60730), 302 pilot	-	○	-	-
C	F	S	C	I	S		Intrinsically safe, 9,4 mm, pilot 302; ATEX (EN 60079 / 61241)*	-	○	-	-
C	F	S	C	Z	N		Non sparking, connector 9,4 mm cable 2 m, pilot 302 (EN 60079/61241)*	-	○	-	-
P	I	S	C				Solenoid with spade plug connector (EN 60730), 630 piezotronic pilot	●	-	-	-
P	I	S	C	I	S		Intrinsically safe, piezotronic 630 pilot, ATEX (EN 60079 / 61241)*	○	-	-	-

## SUFFIX TABLE

suffix					description	power level			
1	2	3	4	5		UP	LP	RP	BP
<b>CNOMO solenoid (pilot) interface size 30</b>									
		M	S		Screw type manual operator <sup>(1) (3)</sup>	-	-	-	●
	S	L			Certified IEC 61508 Functional Safety data (monostable) <sup>(3)</sup>	-	-	-	●
<b>CNOMO solenoid (pilot) interface size 15</b>									
		M	S		Screw type manual operator <sup>(1)</sup>	-	●	-	-
		M	O		Push type manual operator	○/●	○/●	-	-
	S	L			Certified IEC 61508 Functional Safety data (monostable)	○/●	○/●	-	-

## OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	-
551/552/553	1/8	34600418 <sup>(2)</sup>	34600482 <sup>(2)</sup>	-
551	1/4	34600419 <sup>(2)</sup>	34600483 <sup>(2)</sup>	-
552	3/8	34600478 <sup>(2)</sup>	34600480 <sup>(2)</sup>	-
553	1/2	34600479 <sup>(2)</sup>	34600481 <sup>(2)</sup>	-
551/552/553	M5	-	-	34600484 <sup>(2)</sup>

- ❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1)
- Available feature
- Available feature in DC only
- Not available
- \* ATEX solenoids are also approved according to EN 13463-1 (non electrical valves)
- <sup>(1)</sup> Not to use with SL suffix
- <sup>(2)</sup> Provided with SL suffix (series 551)
- <sup>(3)</sup> 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 13. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications tables on pages 13 and 14.  
**Example : G552A505**

**STEP 2**  
Select prefix (combination). Select the appropriate operator from the tables on pages 13 and 14. Select for this operator in the electrical characteristics table on page 15: the power level (UP, 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.  
**Example : CFSC**

**STEP 3**  
Select suffix. Suffix **MO** mandatory for the pilot 302 (CFSCIS/CFSDIS/CFVTIS/CFSCZN/CFVTZN). Refer to the suffix table on page 14, respect the indicated power level.  
**Example : MO**

**STEP 4**  
Selection of TPL is mandatory for the 630 pilot (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 15.  
**Example : 230V / 50Hz**

**STEP 6**  
Final catalogue / ordering number.  
**Example :**  
**CFSCG552A505MO 230 V / 50 Hz**

## ORDERING EXAMPLES:

CTNK	G	551	A	205	115V / 50 Hz
CTNK	G	551	A	206 MS	115V / 50 Hz
CTNK	G	551	A	205 SL	24V / DC
LISC	G	551	B	205	12.24V / DC
CFSC	G	552	C	506	230V / 50 Hz
CFSC	8	552	C	505 MO	230V / 50 Hz
CFSC	G	552	C	505 SLMO	230V / 50 Hz
CFVTZN	G	551	C	505	24V / DC
PISCIS	G	551	C	506 MO	6V / DC
PISCIS	G	551	C	505 SLMO	6V / DC
PISCIS X	G	551	C	505 MO	TPL20666 24HV / DC

prefix — pipe thread — basic number — voltage — TPL — 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 ; CFSC/CFSCZN/CFVT : 24V  
CFSCIS : 12V - 24V ; LISC : 12..24V, PISC : 24V à 70V ; PISCIS : 6V, 8V, 12V, 24V  
AC (~) CTNK : 24V - 48V - 115V - 230V/50Hz ; CFSC : 24V - 115V - 230V/50Hz ;  
PISC : 24V to 70V - 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>(2)</sup>
	inrush ~ (VA)	holding ~ (VA) (W)		hot/cold = (W)				~	=	
<b>Basic power (BP)</b>										
CTNK	55	23	10,5	9/11,2	-20 to +50/60	II 2G/D Ex d IIB+H2 T4/Ex tD	aluminium IP65	-	-	01
<b>Low power (LP)</b>										
CFSC	1,4	1,2	1,1	1/1,2	-25 to +60	EN 60730	moulded IP65	-	-	03
CFSC	2,1 <sup>(7)</sup>	1,6 <sup>(7)</sup>	1,5 <sup>(7)</sup>	-	-25 to +60	EN 60730	moulded IP65	-	-	03
CFVT <sup>(6)</sup>	-	-	-	1,15/1,35	-25 to +60	EN 60730	moulded IP67	-	-	04
CFSCZN	-	-	-	1/1,2	-25 to +40/55/60	II 3G Ex nA II T6/T5/T4, II 3D Ex tD A22	moulded IP65	-	-	07
CFSCIS <sup>(4)(5)</sup>	-	-	-	0,5	-10 to +40/60	II 2G Ex ia IIC T6/T4, II 2D Ex iaD 20	moulded IP65	-	-	09
LISC <sup>(3)(4)</sup>	-	-	-	0,5	-40 to +65	II 1G Ex ia IIC T6 Ga, II 2D Ex ib IIC Db <sup>(3)</sup>	moulded IP65	-	-	02
<b>Ultra low power (UP)</b>										
PISC	-	-	-	0,007	-0 to +60	-	moulded IP65	-	-	06
PISCIS <sup>(1)(4)6V</sup>	-	-	-	0,003	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS <sup>(1)(4)8V</sup>	-	-	-	0,022	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS <sup>(1)(4)12LV</sup>	-	-	-	0,012	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS <sup>(1)(4)12HV</sup>	-	-	-	0,032	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS <sup>(1)(4)24LV</sup>	-	-	-	0,046	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06
PISCIS <sup>(1)(4)24HV</sup>	-	-	-	0,125	-20 to +50	II 2G Ex ia IIC T6, II 2D Ex iaD 20	moulded IP65	-	-	06

(1) Piezotronic standard voltages:

Prefix PISC, 24 V to 70 V AC/DC, peak current max. : 80 mA, holding current max. : 1 mA

Prefix PISCIS:	6 V DC / 3 mW	8 V DC / 22 mW	12 V DC / 12 mW	12 HV DC / 32 mW	24 V DC / 46 mW	24 HV 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> (DC) (V)	I <sub>i</sub> (mA)	P <sub>i</sub> (W)	L <sub>i</sub> (H)	C <sub>i</sub> (µF)
<b>Low power (LP)</b>					
CFSCIS	28	300	1,6	0	0
LISC	30	300	1,6	0	0
<b>Ultra low power (UP)</b>					
PISCIS	30	200	0,9	0	0

(2) Refer to the dimensional drawings on pages 18 to 20.

(3) Min. operating current (I<sub>(ON)</sub> min.): 0,036 A / U<sub>(ON)</sub> 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 (CFSCIS/LISC/PISCIS: 302/19500036/630 pilots).

(5) CFSCIS (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

(6) Values for LED + protection.

(7) AC : 230V

- Not available

## 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
CFSC, CFSCIS, PISC, PISCIS	Spade plug connector with cable gland DIN 43650, 9,4 mm, form C, for cables with an outer diameter from 4 to 6 mm
CFVT	Spade plug connector, DIN 43650, 9,4 mm, form C, pre-wired connector length 2m
CFSCZN	Straight M12 connector with moulded-in cable, standard length 5 m
CFL	Moulded-in flying lead, standard length 0,3 m

## ADDITIONAL OPTIONS

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

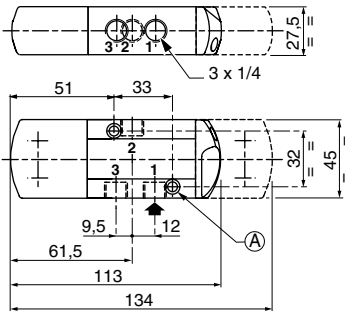
## INSTALLATION

- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- 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. 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)**

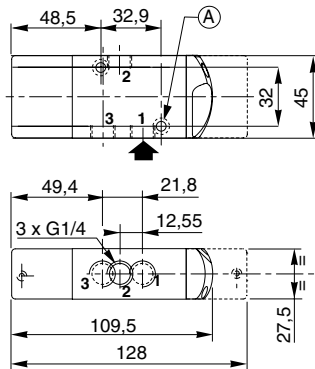
**Types 01 and 02**

**Series 551**



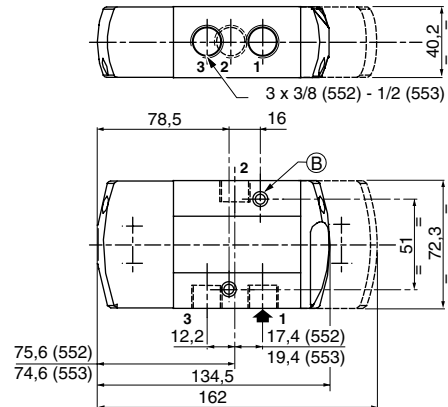
**Types 03 to 10**

**Series 551**



**Types 01 to 10**

**Series 552-553**



Ⓐ 2 mounting holes dia. 5,3 mm  
Spotfacing: dia. 9 mm, depth 5 mm

Ⓑ 2 mounting holes dia. 6,5 mm  
Spotfacing: dia. 11 mm, depth 6 mm



**TYPE 01:**

**CTNK**  
Light alloy, cataphoresis black painting  
EN 60079-1 and EN 61241-1

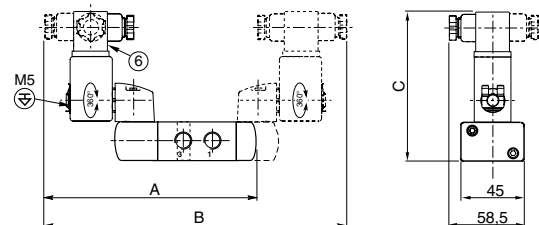
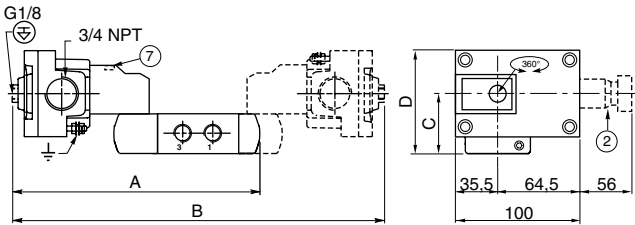
**551A205MS / A206MS**  
**552A205MS / A206MS**  
**553A205MS / A206MS**



**TYPE 02:**

**LISC**  
Aluminium  
IEC 335/EN 60079-11/26 and EN/IEC 61241-11

**551B205 / B206**  
**552B205 / B206**  
**553B205 / B206**

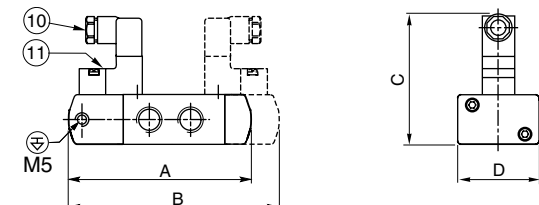
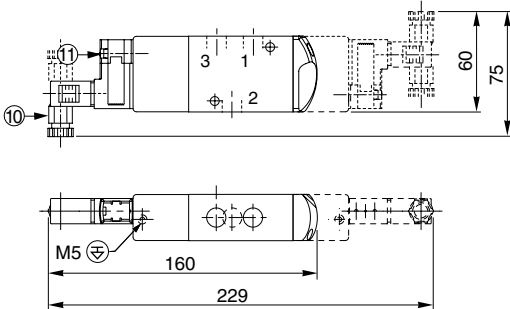



**TYPE 03:**

**CFSC**  
302 pilot  
Polyarylamide  
IEC 335 / DIN 43650

**551C505 / 551C506**  
**551C505MS / 551C505MO / C506MS / C506MO**

**552A505 / A505MS / A505MO / A506 / A506MS / A506MO**  
**553A505 / A505MS / A505MO / A506 / A506MS / A506MO**



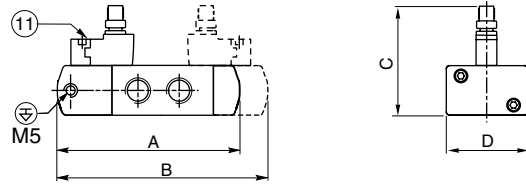
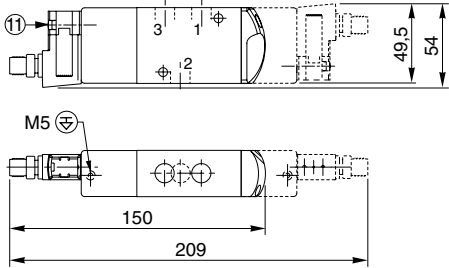
**DIMENSIONS (mm), WEIGHT (kg)** 



**TYPE 04:**  
 CFVT  
 302 pilot  
 Polyarylamide  
 IEC 335 / connection M12 + LED and protection

551C505 / 551C506  
 551C505MS / 551C505MO / C506MS / C506MO

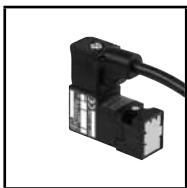
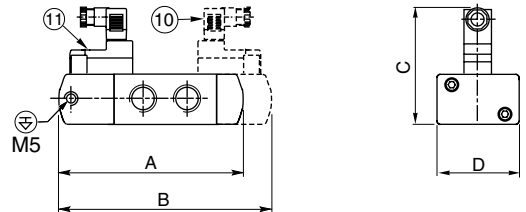
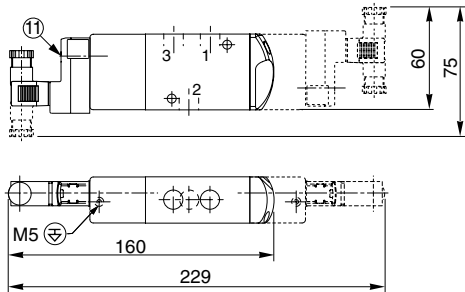
552A505 / A505MS / A505MO / A506 / A506MS / A506MO  
 553A505 / A505MS / A505MO / A506 / A506MS / A506MO



**TYPE 06:**  
 PICS / PISCIS  
 Piezotronic pilot  
 Polyamide  
 IEC 335 / DIN 43650  
 EN 60079-11/26 and EN 61241-11

551C505MO / 551C506MO

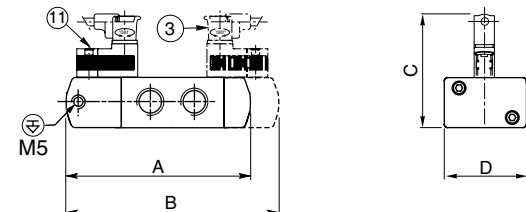
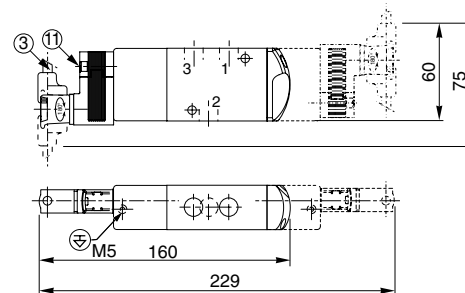
552A505MO / A506MO  
 553A505MO / A506MO



**TYPE 07:**  
 CFSCZN  
 302 pilot  
 Polyarylamide  
 IEC 335 / DIN 43650, cable 2 m  
 EN 60079-15 and EN 61241-1

551C505MO / 551C506MO

552A505MO / A506MO  
 553A505MO / A506MO



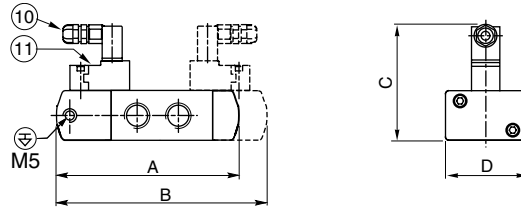
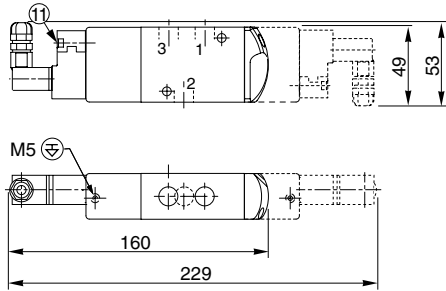
### DIMENSIONS (mm), WEIGHT (kg)



**TYPE 09:**  
 CFSCIS  
 302 pilot  
 Polyarylamide  
 IEC 335 / DIN 43650  
 EN/IEC 60079-11/26 and EN/IEC 61241-11

551C505MO / 551C506MO

552A505MO / A506MO  
 553A505MO / A506MO



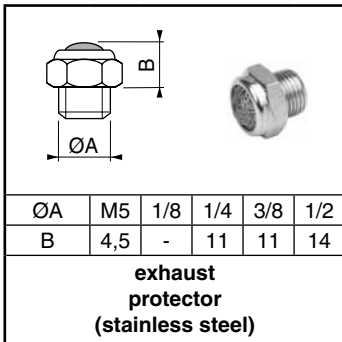
- ② Ex d certified cable gland (on request)
- ③ Three-core cable, length 2 m
- ④ Cable gland for unarmoured cable with 7 to 12 mm dia. sheath
- ⑥ Connector rotatable by 90° increments, cable Ø 6 - 8 mm
- ⑦ Screw type manual operator, suffix MS
- ⑧ Push type or screw type manual operator, suffix MO
- ⑨ External pilot air supply, 1/8 pipe size
- ⑩ Connector rotatable by 90° increments, cable Ø 6 - 7 mm
- ⑪ Push type manual operator, suffix MO
- ⊕ Connectable pilot exhaust port
- ⊖ Non-connectable pilot exhaust port

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

type	prefix option	power level	A		B		C		D		E		weight <sup>(1)</sup>					
			551	552/553	551	552/553	551	552/553	551	552/553	551	552/553	monostable			bistable		
													551	552	553	551	552	553
01	CTNK	BP	183	217,5	276	328	43	55,7	77	89,7	-	-	1,12	1,97	1,87	1,86	3,05	2,95
02	LISC	LP	164	204,5	236	284	107	116,5	45	72,3	-	-	0,59	1,44	1,34	0,80	2,52	2,42
03	CFSC	LP	-	134,5	-	162	-	90,2	-	72,3	-	-	0,33	1,10	1,00	0,38	2,18	2,08
04	CFVT	LP	-	134,5	-	162	-	79,2	-	72,3	-	-	0,33	1,10	1,00	0,38	2,18	2,08
06	PISC / PISCIS	UP	-	134,5	-	162	-	90,2	-	72,3	-	-	0,31	1,10	1,00	0,32	2,18	2,08
07	CFSCZN	LP	-	134,5	-	162	-	90,2	-	72,3	-	-	0,41	1,18	1,08	0,54	2,34	2,24
09	CFSCIS	LP	-	134,5	-	162	-	91,2	-	72,3	-	-	0,34	1,12	1,02	0,4	2,22	2,12

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

### ACCESSORIES



ØA	M5	1/8	1/4	3/8	1/2
B	4,5	-	11	11	14

**exhaust protector (stainless steel)**

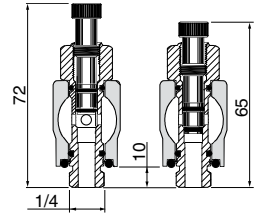


## ACCESSORIES SERIE 551

Supply rail (supplied 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>	(4)
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>

(4) Available on request.

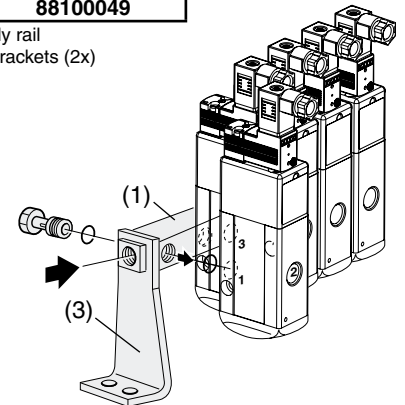
supply rail with isolation valves with mounting brackets (3) Allows the isolation of one or more valves from the general pressure supply		
supply rail for "n" valves	catalogue number	
	G 1/4	NPT
2	<b>88100915</b>	-
3	<b>88100916</b>	-
4	<b>88100917</b>	-
5	<b>88100918</b>	-
6	<b>88100919</b>	-
7	<b>88100920</b>	-
8	<b>88100921</b>	-
9	<b>88100922</b>	-
10	<b>88100923</b>	-
11	<b>88100924</b>	-
12	<b>88100925</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)						
03, mono/bistable	0,9/1	1,2/1,4	1,5/1,9	1,9/2,3	2,2/2,7	2,5/3,1	2,8/3,5
04, mono/bistable	0,9/1	1,2/1,4	1,5/1,9	1,9/2,3	2,2/2,7	2,5/3,1	2,8/3,5
06, mono/bistable	0,86/0,92	1,94/1,28	1,42/1,74	1,8/2,1	2,08/2,46	2,36/2,82	2,64/3,18
07, mono/bistable	0,9/1	1,2/1,4	1,5/1,9	1,9/2,3	2,2/2,7	2,5/3,1	2,8/3,5
08, mono/bistable	1,25/1,65	1,62/2,16	1,92/2,77	2,46/3,28	2,83/3,79	3,20/4,30	3,57/4,81
09, mono/bistable	0,92/1,02	1,23/1,46	1,54/1,98	1,95/2,4	2,26/2,82	2,57/3,24	2,88/3,66

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

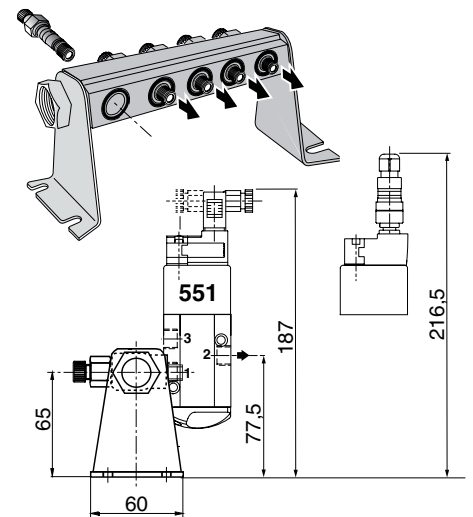
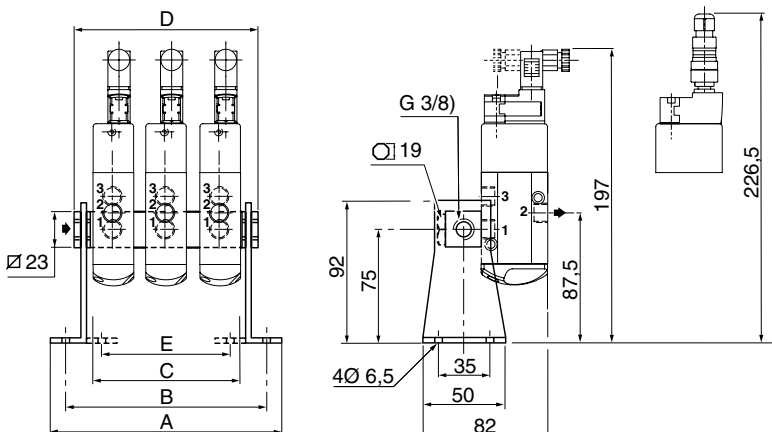
(1) or (2) supply rail  
(3) mounting brackets (2x)



## DIMENSIONS (mm), WEIGHT (kg)

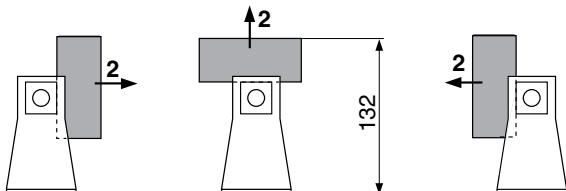


**TYPE 03-04-06-07-09**  
See pages 15 to 20

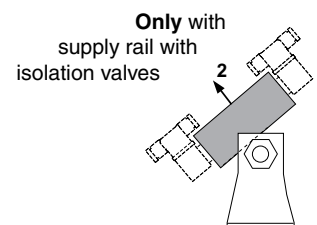


Supply rail with isolation valves

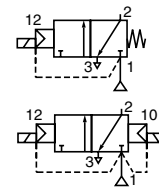
This mounting arrangement allows valves to be mounted in the positions bellow.



Not possible with supply rail and isolation valves







#### FEATURES

- Solenoid pilot valve 3/2 NC with flapper/nozzle technology for long service life
- Ultra power low pilot (**0,03 W**) for use in potentially explosive atmospheres according to ATEX-Directive 94/9/EC  
EC type-examination certificate no.: **LCIE 07 ATEX 6080 X**
- Pilot associated to a series 551 valve with aluminium body for control of actuators in the pharmaceutical, fine chemical and process industries
- The pilot's intrinsic safe (Ex ia) protection allows it to be installed in hazardous zone 1 or 2. It is compatible with all safety barrier brands
- Exhaust ports of this spool valve connectable for better environmental protection
- 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

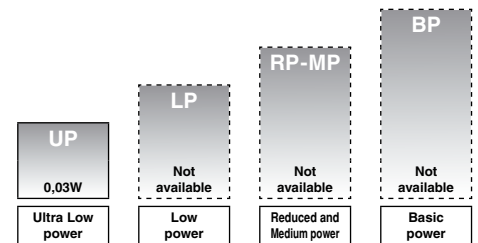
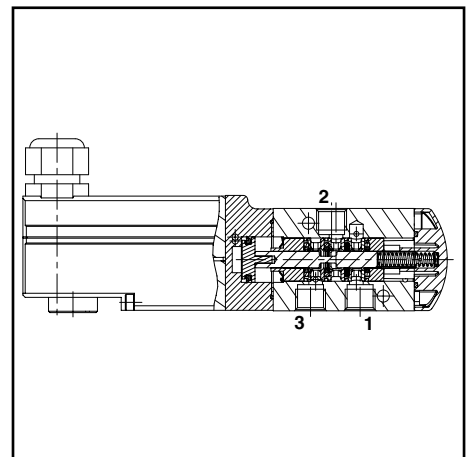
**Differential pressure** 2 - 8 bar [1 bar = 100 kPa]  
**Flow (Qv at 6 bar)** 860 l/min (ANR)

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

#### MATERIALS IN CONTACT WITH FLUID

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

<b>Body</b>	Aluminium, black anodised
<b>End cover (spring return)</b>	PBT
<b>Pilot end covers</b>	Aluminium
<b>Spool valve internal parts</b>	Stainless steel, POM, aluminium
<b>Pilot housing</b>	PBT reinforced (thermoplastic polyester)
<b>Pilot seals</b>	NBR + VMQ (silicone)



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 / IECEx								
								min.	max. (PS)		air (*)		Ex ia			
(*)	(mm)	(m³/h)	(l/min)				~	=	-/=	CTPV						
<b>Solenoid air pilot operated - spring return (monostable)</b>																
1/4	6	0,75	12,5	2	-	8	UP	-	○	-	-	-	-	-	-	❖551A691
<b>Solenoid air pilot operated and return (bistable)</b>																
1/4	6	0,75	12,5	2	-	8	UP	-	○	-	-	-	-	-	-	❖551A693

❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1) ○ Available feature in DC only - Not available

## PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		UP	LP	RP	BP
<b>Solenoid (pilot) interface</b>											
C	T	P	V				Intrinsically safe with pilot 19500033, ATEX (EN 60079) *	○	-	-	-

## PRODUCT SELECTION GUIDE

### STEP 1

Select the fluid temperature range and seal material from the general table on page 21. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications tables on page 21.

**Example : G551A691**

### STEP 2

Select prefix (combination). Select the appropriate operator from the tables on page 21. Select for this operator in the electrical characteristics table on page 23: the power level (UP), 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.

**Example : CTPV**

### STEP 3

Select voltage.

Refer to standard voltages on page 22.

**Example : 16..40V / DC**

### STEP 4

Final catalogue / ordering number.

**Example :**

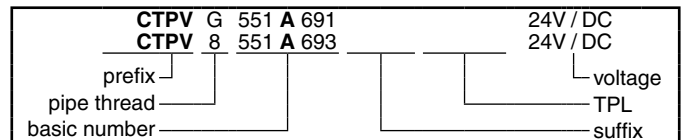
**CTPVG551A691 16..40V / DC**

## OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		fitting with inlet filter 0,1 mm and seal
		(G)	(NPT)	(G)
551	1/4	34600419	34600483	88100931

- ❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1)
- Available feature
- Available feature in DC only
- Not available
- \* ATEX solenoids are also approved to EN 13463-1 (non electrical valves)

## ORDERING EXAMPLES:



## 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	B
Electrical safety	IEC 335
Voltage range	DC (=) CTPV : 16 to 40 V

prefix option	power ratings			operator ambient temperature range (TS) (C°)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type <sup>(2)</sup>	
	inrush ~ (VA)	holding ~ (VA) (W)	hot/cold = (W)				~	=		
	<b>Ultra low power (UP)</b>									
CTPV <sup>(1)</sup>	-	-	-	0,04/0,03	-40 to +80/+50	II 2G Ex ia IIC T5/T6	moulded IP65	-	-	01

<sup>(1)</sup> Prefix CTPV, U<sub>max</sub> : 16 to 40 V DC; Max. current consumption : I<sub>max</sub> : 2,5 to 6,7 mA; P<sub>max</sub> : 40 to 270 mW  
8080 Ω at +80°C ≤ Internal resistance (Ω) ≥ 5000 Ω at +40°C

prefix option	safety parameters				
	U <sub>≡</sub> (DC) (V)	I <sub>≡</sub> (mA)	P <sub>≡</sub> (W)	L <sub>≡</sub> (μF)	C <sub>≡</sub> (mF)
<b>Ultra low power (UP)</b>					
CTPV	40	200	0,75	0	0

<sup>(2)</sup> Refer to the dimensional drawings on page 24.  
- Not available

## ELECTRICAL CONNECTIONS

prefix	connection
CTPV	M20 cablegland for cables with an outer diameter from 5 to 9 mm

## ADDITIONAL OPTIONS

<ul style="list-style-type: none"> <li>Other pipe threads are available on request</li> </ul>
---

## INSTALLATION

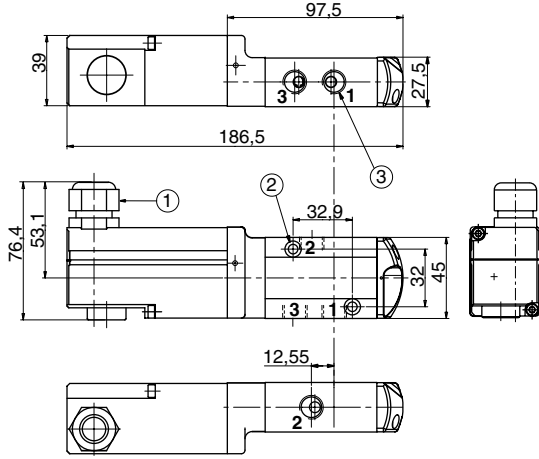
<ul style="list-style-type: none"> <li>Installation/maintenance instructions are included with each valve</li> <li>The valves can be mounted in any position without affecting operation</li> <li>Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for a "distributing" function</li> <li>It is recommended to protect the pilot with an inlet filter G 1/4, catalogue number 88100931</li> <li>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.)</li> <li>Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)</li> </ul>
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### DIMENSIONS (mm), WEIGHT (kg)

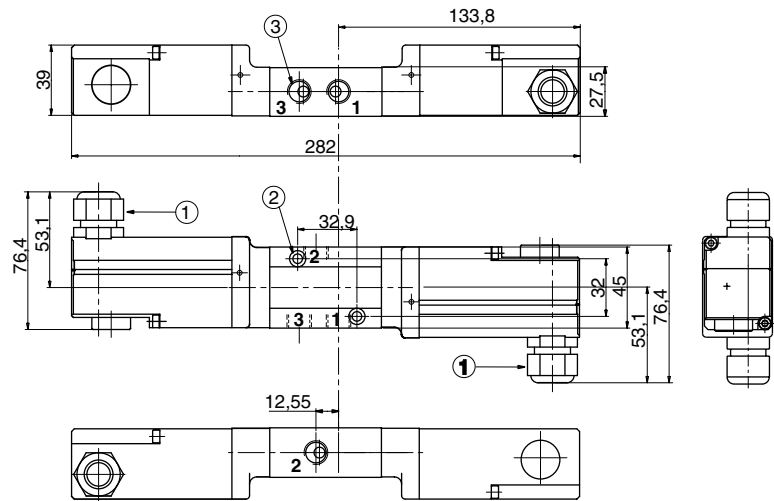


**TYPE 01:**  
CTPV  
Aluminium  
IEC 335 / ISO 4400  
EN 60079-11

551A691



551A693



- ① Cable gland for unarmoured cable with 5 to 9 mm dia. sheath
- ② 2 mounting holes dia. 5,3 mm Spotfacing: dia. 9 mm, depth 5 mm
- ③ 3 x 1/4

type	prefix option	power level	weight <sup>(1)</sup>	
			monostable	bistable
01	CFVT	UP	0,47	0,75

<sup>(1)</sup> Without cable.

### ACCESSORIES

<table border="1"> <tr> <td>ØA</td> <td>-</td> <td>-</td> <td>1/4</td> <td>-</td> <td>-</td> </tr> <tr> <td>B</td> <td>-</td> <td>-</td> <td>11</td> <td>-</td> <td>-</td> </tr> </table>	ØA	-	-	1/4	-	-	B	-	-	11	-	-	<table border="1"> <tr> <td>ØA</td> <td>-</td> <td>-</td> <td>1/4</td> <td>-</td> <td>-</td> </tr> <tr> <td>B</td> <td>-</td> <td>-</td> <td>11</td> <td>-</td> <td>-</td> </tr> </table>	ØA	-	-	1/4	-	-	B	-	-	11	-	-
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B	-	-	11	-	-																				
ØA	-	-	1/4	-	-																				
B	-	-	11	-	-																				
<b>exhaust protector (stainless steel)</b>	<b>fitting with inlet filter 100 µm and seal</b>																								