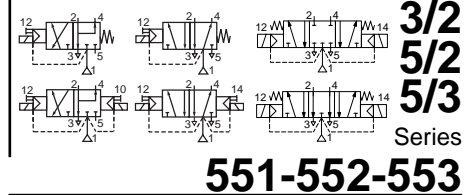




# SPOOL VALVES

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



Series  
**551-552-553**

## 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
- The spool valves have threaded port connections and "NAMUR" style interface
- The same spool valve can be adapted for 3/2 NC or 5/2 function for controlling double-acting and single-acting actuators
- 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 = 700 l/min (ANR)  
3/8 - 1/2 = 3000 l/min (5/2, 5/3)

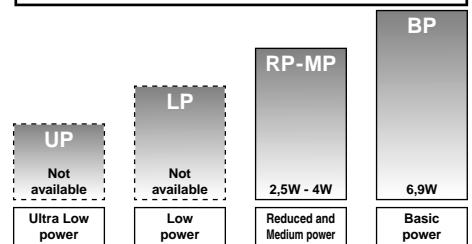
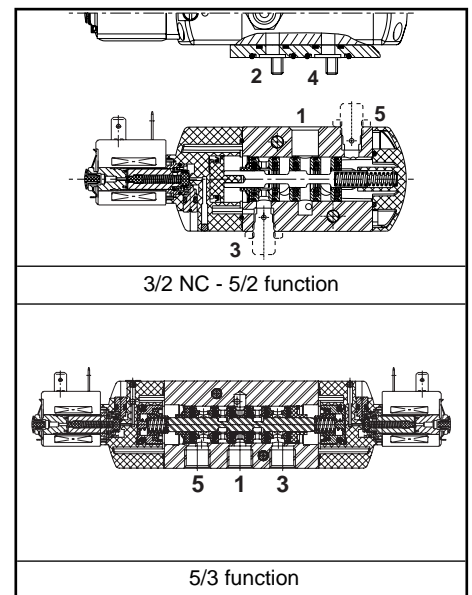
fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 60°C	NBR (nitrile) + PUR (polyurethane)

## MATERIALS IN CONTACT WITH FLUID

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified  
**Body** Aluminium, black anodized  
**End covers + interface plates** 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)			
					air (*)			
(*)	(mm)	(m³/h)	(l/min)	~	=			
<b>Air pilot operated - spring return (monostable)</b>								
1/4	6	0,75	12,5	2	10	10	-	❖551A101 <sup>(2)</sup>
3/8	12	2,49	41,5	2	10	10	-	❖552A101
1/2	13	3,15	52,5	2	10	10	-	❖553A101
<b>Air pilot operated and return (bistable)</b>								
1/4	6	0,75	12,5	2	10	10	-	❖551A102
3/8	12	2,49	41,5	2	10	10	-	❖552A102
1/2	13	3,15	52,5	2	10	10	-	❖553A102



POWER LEVELS - cold electrical holding values (watt)

## PILOT OPERATED SPECIFICATIONS 5/2

pipe size	orifice size	flow coefficient kv		operating pressure differential (bar)			power level	prefix optional solenoids					basic catalogue number
				min.	max. (PS)			ATEX/CENELEC (gas/dust)				IP65	
					air (*)			Ex d	Ex emb	Ex mb	EEEx i		
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=							
<b>3/2 NC - 5/2 - Solenoid air pilot operated - spring return (monostable)</b>													
1/4	6	0,6	10	2	10	10	RP	-	-	-	-	●	❖551A001 <sup>(2)</sup>
1/4	6	0,6	10	2	10	10	MP	-	-	●	-	-	❖551A001 <sup>(2)</sup>
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	●	❖552A001
1/2	13	2,49	41,5	2	10	10	BP	-	-	●	-	●	❖553A001
<b>3/2 NC - 5/2 - Solenoid air pilot operated and return (bistable)</b>													
1/4	6	0,6	10	2	10	10	RP	-	-	-	-	●	❖551A002
1/4	6	0,6	10	2	10	10	MP	-	-	●	-	-	❖551A002
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	●	❖552A002
1/2	13	2,49	41,5	2	10	10	BP	-	-	●	-	●	❖553A002

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

## PILOT OPERATED SPECIFICATIONS 5/3

pipe size	orifice size	flow coefficient kv (m³/h) (l/min)		operating pressure differential (bar)			power level	prefix optional solenoids					basic catalogue number
				min.	max. (PS)			ATEX/CENELEC (gas/dust)				IP65	
					air (*)			EEx d	EEx em	EEx m	EEx i		
(*)	(mm)				~	=	~/=			PV		SC	
<b>5/3 - W1 - pressure held, solenoid air pilot operated and return</b>													
1/4	6	0,6	10	2	10	10	RP	-	-	-	-	●	❖551A065
1/4	6	0,6	10	2	10	10	MP	-	-	●	-	-	❖551A065
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	-	❖552A065
1/2	13	2,49	41,5	2	10	10	BP	-	-	●	-	-	❖553A065
<b>5/3 - W3 - pressure release, solenoid air pilot operated and return</b>													
1/4	6	0,6	10	2	10	10	RP	-	-	-	-	●	❖551A066
1/4	6	0,6	10	2	10	10	MP	-	-	●	-	-	❖551A066
3/8	12	2,49	41,5	2	10	10	BP	-	-	●	-	-	❖552A066
1/2	13	2,49	41,5	2	10	10	BP	-	-	●	-	-	❖553A066

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1) ● Available feature - Not available

### 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)*	-	●	-	●
P	V						Encapsulated ATEX (EN 60079 / 61241)*	-	-	●	●
S	C					X	Solenoid with spade plug connector (EN 60730)	-	●	-	●
							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-ATEX (EN 13463-5)	-	-	-	-
		M	S		Screw type manual operator	-	●	●	●
				M	Exhaust reducer (series 551 only)	-	●	●	●
	S	L			Certified IEC 61508 Functional Safety data (1)	-	●	●	●

● Available feature

- Not available

\* ATEX solenoids are also approved according to EN/IEC 61241 (Dust) and EN 13463-1 (non electrical valves)

(2) 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 pages 1 and 2.

**Example : G551A001**

#### 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 : PV**

#### 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 :**

**PV G551A001MS 230 V / 50 Hz**

### OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	(M)
551	1/8	34600418 (3)	34600482 (3)	-
551 (W1/W3)	1/4	34600419 (3)	34600483 (3)	-
552	3/8	34600478	34600480	-
553	1/2	34600479	34600481	-
551/552/553	M5	-	-	34600484 (3)

(3) Provided with "SL" suffix.

### ORDERING EXAMPLES:

SC	G	551	A	001	MS	230V / 50 Hz
SCDU	G	551	A	002		115V / 50 Hz
PV	8	551	A	002		115V / 50 Hz
SC	G	552	A	001	MS	24V / DC
	G	553	A	102		
	G	551	A	102	GD	
	G	551	A	101	GD SL	
SC	G	551	A	001	SL	230V / 50 Hz

prefix — pipe thread — basic number — voltage — suffix

### EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

Valve temperature range	The valve temperature range 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 (LP, RP, MP or BP) and the ATEX 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

<b>Coil insulation class</b>	F
<b>Electrical safety</b>	IEC 335
<b>Standard voltages</b>	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	
		(VA)	(W)							
<b>Basic power = BP</b>										
SC	15	7	5	5 / 6,9	-25 to +60	EN 60730	moulded IP65	43004649	43004647	02
SCDU	15	7	5	5 / 6,9	-25 to +60	II 3 D IP65 T 135°C	moulded IP65	- <sup>(2)</sup>	- <sup>(2)</sup>	02
PV	-	-	4	- / 6,9	-40 to +65/40	II 2 G/D Ex mb IIC T3/Ex mD	moulded IP65	- <sup>(2)</sup>	- <sup>(2)</sup>	04
<b>Medium power = MP</b>										
PV	9	5	4	3,5 / 4,0	-40 to +60/80	II 2 G/D Ex mb IIC T4/Ex mD	moulded IP65	- <sup>(2)</sup>	- <sup>(4)</sup>	03
<b>Reduced power = RP</b>										
SC	6	3,5	2,5	2,5 / 3,0	-25 to +60	EN 60730	moulded IP65	43004886	43004869	01
SCDU	6	3,5	2,5	2,5 / 3,0	-25 to +60	II 3 D IP65 T 100°C	moulded IP65	- <sup>(2)</sup>	- <sup>(2)</sup>	01

<sup>(1)</sup> Refer to the dimensional drawings on page 4 (Air operated versions, see page 5 for types 5 and 6).

<sup>(2)</sup> Multiple coil kits available under ATEX, contact us

### ELECTRICAL CONNECTIONS


prefix	connection
SC, SCDU	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

### ADDITIONAL OPTIONS

- Other pipe threads are available on request
- Coil type CM25 with connector size 30 ISO 4400 (Pg 11P) (series 551)
- Polyamide coil
- Ex mb (Prefix "PV") execution can be supplied in various cable lengths
- Compliance with "UL" standard is available on request (552-553 ranges)
- Set of stainless steel mounting screws, catalogue number **978 02 212** (series 551)
- Set of two exhaust reducers, G1/8, catalogue number **881 00 344** (series 551)
- Dustproof ATEX (SCDU) with a coil and spade plug connector with lead (2 m lead), TPL 20651
- Magnetic latch execution for 551 series, TPL 20649

### INSTALLATION

- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- IEC 61508 Functional Safety (Suffix SL), allowable temperature range: -40°C to +60°C. Probability of failure on demand, contact us
- Spool valve supplied with two interface plates with NAMUR mating surfaces. Depending on function (NC 3/2 or 5/2), position one of the two plates on the spool valve body before installing on actuator
- 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.)
- Dowel pin (if necessary), bolts and gaskets are standard supplied
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)

**DIMENSIONS (mm), WEIGHT (kg) (PILOT OPERATED VERSION)** 



**TYPE 01 : Prefixes SC: IP65, SCDU: II 3 D, IP65, T85°C to 135°C**  
 Reduced power  
 Epoxy moulded  
 IEC 335 / DIN 43650

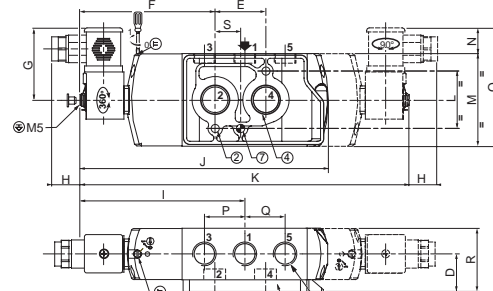
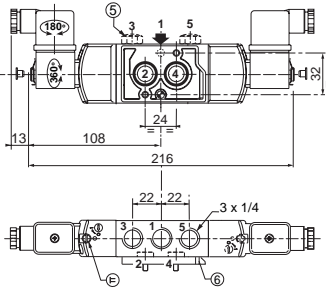
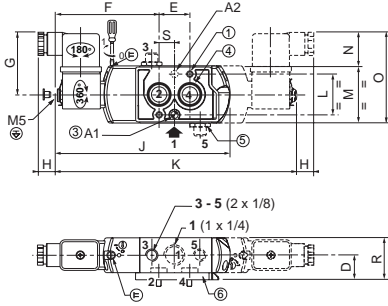
551A001/A001MS/A002/A002MS

551A065/A065MS/A066/A066MS  
 (W1 - W3)



**TYPE 02 : Prefixes SC: IP65, SCDU: II 3 D, IP65, T85°C to 135°C**  
 Basic power  
 Epoxy moulded  
 IEC 335 / ISO 4400

552A001/A001MS/A002/A002MS  
 552A065/A065MS/A066/A066MS  
 553A001/A001MS/A002/A002MS  
 553A065/A065MS/A066/A066MS



**TYPE 03 : Prefix PV : II 2 G/D, IP65, Ex mb II, Ex mD**  
 Medium power  
 Epoxy moulded  
 EN 60079-18 and EN 61241-18

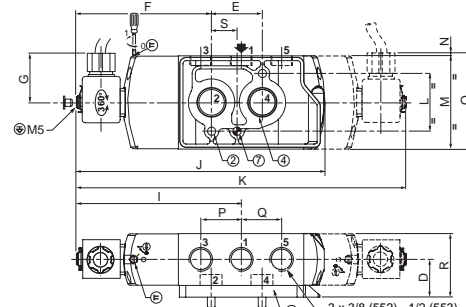
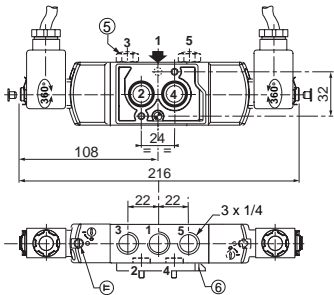
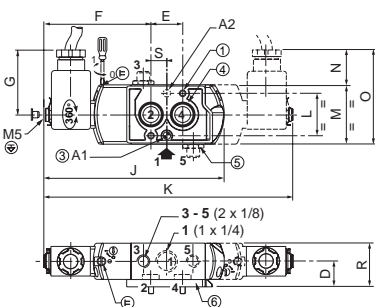
551A001/A001MS/A002/A002MS

551A065/A065MS/A066/A066MS  
 (W1 - W3)

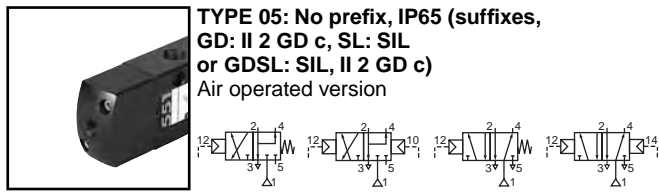


**TYPE 04 : Prefix PV : II 2 G/D, IP67, Ex mb II, Ex mD**  
 Basic power  
 Epoxy moulded  
 EN/IEC 60079-18 and EN/IEC 61241-18

552A001/A001MS/A002/A002MS  
 552A065/A065MS/A066/A066MS  
 553A001/A001MS/A002/A002MS  
 553A065/A065MS/A066/A066MS

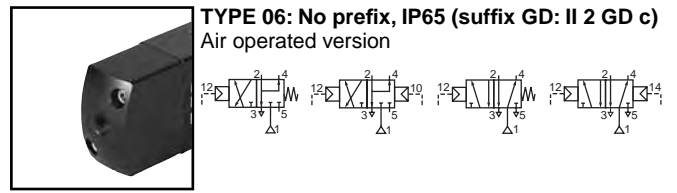
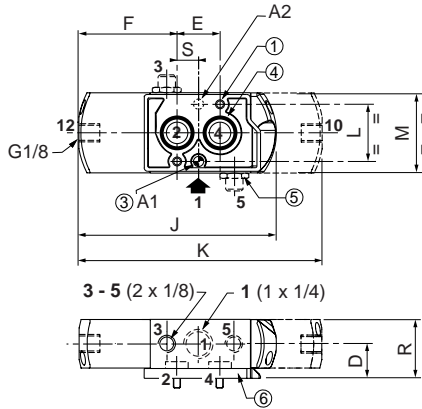


### DIMENSIONS (mm), WEIGHT (kg) (AIR OPERATED VERSION)



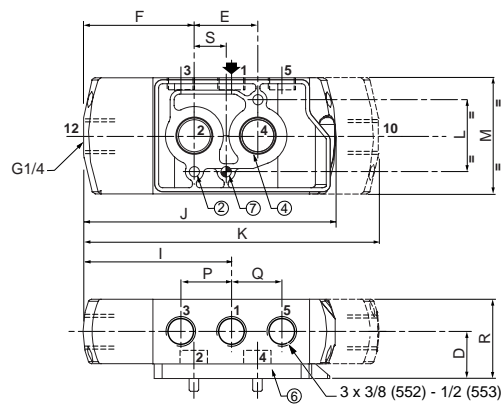
**TYPE 05: No prefix, IP65 (suffixes, GD: II 2 GD c, SL: SIL or GDSL: SIL, II 2 GD c) Air operated version**

551A101 / 551A102



**TYPE 06: No prefix, IP65 (suffix GD: II 2 GD c) Air operated version**

552A101 / 552A102 / 553A101 / 553A102



- 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
- ③ 1 dia. 5 mm hole for dowel pin (series 551)  
- in position A1: 3/2 NC function plate  
- in position A2: 5/2 function plate
- ④ 2 O-ring seals (supplied)
- ⑤ Exhaust reducers G 1/8 (series 551) or protectors adaptable on orifices 3 and 5
- ⑥ Interface plates
- ⑦ 1 dia. 6,5 mm hole for dowel pin (series 551-552). Same position for interface plate 3/2 NC or 5/2
- ⊖ Connectable pilot exhaust port

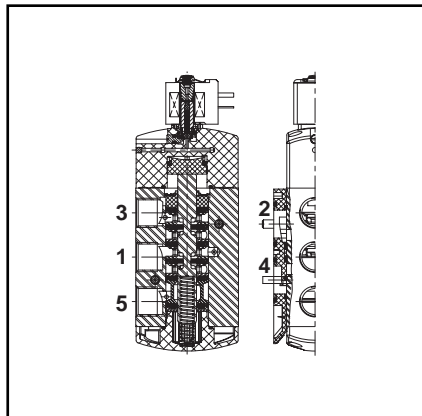
type	prefix option	power level	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	weight <sup>(1)</sup>	
																			(2)	(3)
01 (551)	SC / SCDU	RP	19	24	83	49	13	-	139	192	32	45	27	72	-	-	33	12	0,34	0,46
02 (552)	SC / SCDU	BP	29,1	40	106,7	56,2	21,8	129,3	197,5	261	45	72,3	20	92,3	29,6	29,7	49,2	20	0,91	1,21
02 (553)	SC / SCDU	BP	29,1	40	106,7	56,2	21,8	130,3	197,5	261	45	72,3	20	92,3	31,6	31,8	49,2	20	0,90	1,20
03 (551)	PV	MP	19	24	83	43,3	-	-	139	192	32	45	21	66	-	-	33	12	0,38	0,50
04 (552)	PV	MP	29,1	40	106,7	36,5	-	129,3	197,5	261	45	72,3	0,3	72,6	29,6	29,7	49,2	20	0,94	1,24
04 (553)	PV	MP	29,1	40	106,7	36,5	-	130,3	197,5	261	45	72,3	0,3	72,6	31,6	31,8	49,2	20	0,93	1,23
05 (551)	-	-	19	24	-	-	-	-	107	128	32	45	-	-	-	-	33	12	0,31	0,41
06 (552)	-	-	29,1	40	70,7	-	-	129,3	161,5	189	45	72,3	-	-	29,6	29,7	49,2	20	0,86	1,12
06 (553)	-	-	29,1	40	70,7	-	-	130,3	161,5	189	45	72,3	-	-	31,6	31,8	49,2	20	0,85	1,11

<sup>(1)</sup> Types 1 to 4 : Including coil(s) and connector(s)

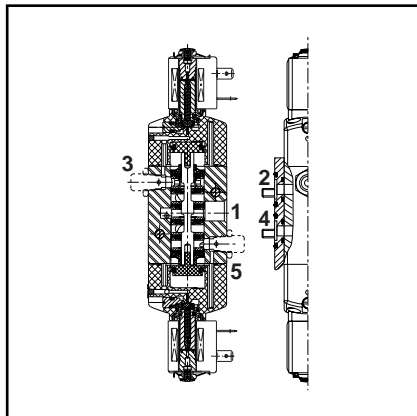
<sup>(2)</sup> monostable

<sup>(3)</sup> bistable

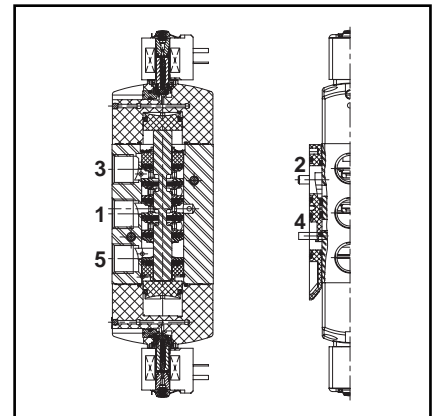
### SECTIONAL DRAWINGS



monostable 552 - 553 series



bistable 551 series



bistable 552 - 553 series



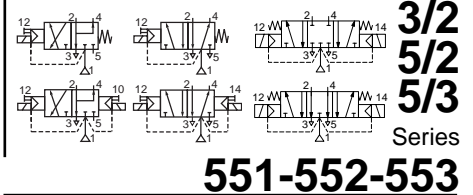


# SOLENOID VALVES

pilot operated, spool type

single/dual solenoid

aluminium body, "NAMUR" style, 1/4 to 1/2



Series  
**551-552-553**

## 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
- The spool valves have threaded port connections and "NAMUR" style interface
- The same spool valve can be adapted for 3/2 NC or 5/2 function for controlling double-acting and single-acting actuators
- All the exhaust ports of this spool valve are connectable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- Can be externally piloted (external air pilot supply) to convert valve to zero minimum operation by flipping a gasket
- The solenoid valves satisfy all relevant EC Directives



## GENERAL

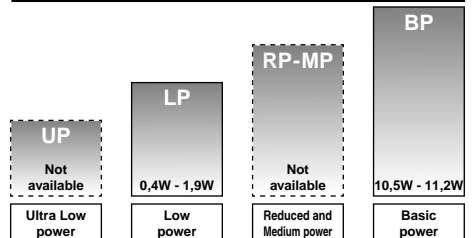
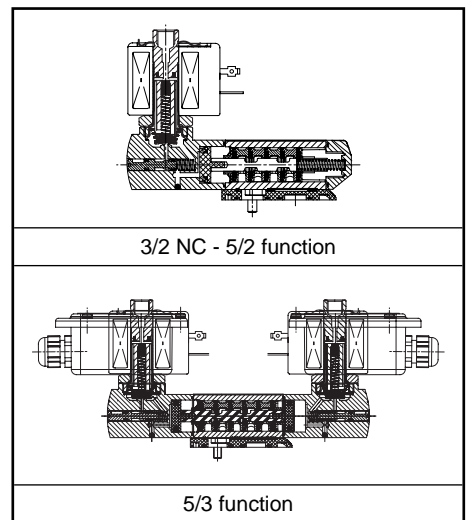
**Differential pressure** 2 - 10 bar [1 bar = 100 kPa]  
**Flow (Qv at 6 bar)** 1/4 = 700 l/min (ANR)  
 3/8 - 1/2 = 3000 l/min

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 anodized
<b>End cover (spring)</b>	Glass-filled PA
<b>Interface plates</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>	POM
<b>Cartridge (low power)</b>	Welded, packless AISI 430
<b>Seat</b>	Brass
<b>Seat insert</b>	POM
<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	
								ATEX/CENELEC (gas/dust)		IP65						
				min. <sup>(3)</sup>	max. (PS)	air (*)		NEMA 7 & 9	Ex d	Ex emb	Ex mb	EEEx i	EEEx nA	IP65		
(*)	(mm)	(m <sup>3</sup> /h)	(l/min)	~	=	~/=	EF	NF	NK	EM	PV	IS	ZN	SC		
<b>3/2 NC - 5/2 - Solenoid air pilot operated - spring return (monostable)</b>																
1/4	6	0,6	10	0 / 2	10	10	BP	-	●	●	●	●	-	●	●	❖551B401 <sup>(2)</sup>
1/4	6	0,6	10	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	❖551H401 <sup>(2)</sup>
1/4	6	0,6	10	0 / 2	10	10	LP	-	●	-	●	○	○	○	●	❖551B301
1/4	6	0,6	10	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	❖551H301
3/8	12	2,49	41,5	0 / 2	10	10	BP	-	●	●	●	●	-	●	●	❖552A401
3/8	12	2,49	41,5	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	❖552G401
3/8	12	2,49	41,5	0 / 2	10	10	LP	-	●	-	●	○	○	○	●	❖552A301
3/8	12	2,49	41,5	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	❖552G301
1/2	13	2,49	41,5	0 / 2	10	10	BP	-	●	●	●	●	-	●	●	❖553A401
1/2	13	2,49	41,5	0 / 2	10	10	BP	●	-	-	-	-	-	-	-	❖553G401
1/2	13	2,49	41,5	0 / 2	10	10	LP	-	●	-	●	○	○	○	●	❖553A301
1/2	13	2,49	41,5	0 / 2	10	10	LP	○	-	-	-	-	-	-	-	❖553G301

❖ 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
				min. <sup>(3)</sup>	max. (PS)			NEMA 7 & 9	ATEX/CENELEC (gas/dust)					IP65		
					air (*)				EF	Ex d	Ex emb	Ex mb	EEx i		EEx nA	
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=	EF	NF	NK	EM	PV	IS	ZN	SC		
<b>3/2 NC - 5/2 - Solenoid air pilot operated and return (bistable)</b>																
1/4	6	0,6	10	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖551B402
1/4	6	0,6	10	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖551H402
1/4	6	0,6	10	0/2	10	10	LP	-	●	-	-	○	○	-	●	❖551B302
1/4	6	0,6	10	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖551H302
3/8	12	2,49	41,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖552A402
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖552G402
3/8	12	2,49	41,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖552A302
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖552G302
1/2	13	2,49	41,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖553A402
1/2	13	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖553G402
1/2	13	2,49	41,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖553A302
1/2	13	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖553G302
<b>5/3 - W1 - pressure held, solenoid air pilot operated and return</b>																
1/4	6	0,6	10	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖551B465
1/4	6	0,6	10	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖551H465
1/4	6	0,6	10	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖551B365
1/4	6	0,6	10	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖551H365
3/8	12	2,49	41,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖552A465
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖552G465
3/8	12	2,49	41,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖552A365
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖552G365
1/2	13	2,49	41,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖553A465
1/2	13	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖553G465
1/2	13	2,49	41,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖553A365
1/2	13	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖553G365
<b>5/3 - W3 - pressure release, solenoid air pilot operated and return</b>																
1/4	6	0,6	10	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖551B466
1/4	6	0,6	10	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖551H466
1/4	6	0,6	10	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖551B366
1/4	6	0,6	10	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖551H366
3/8	12	2,49	41,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖552A466
3/8	12	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖552G466
3/8	12	2,49	41,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖552A366
3/8	12	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖552G366
1/2	13	2,49	41,5	0/2	10	10	BP	-	●	●	●	●	-	●	●	❖553A466
1/2	13	2,49	41,5	0/2	10	10	BP	●	-	-	-	-	-	-	-	❖553G466
1/2	13	2,49	41,5	0/2	10	10	LP	-	●	-	●	○	○	○	●	❖553A366
1/2	13	2,49	41,5	0/2	10	10	LP	○	-	-	-	-	-	-	-	❖553G366

❖ Select **B** for NPT ANSI 1.20.3 or select **G** for ISO G (228/1) ● Available feature ○ Available feature in DC only - Not available  
<sup>(3)</sup> 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	M						Encapsulated ATEX + IECEx (EN/IEC 60079 / 61241)*	●	-	-	●
		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 + IECEx (EN/IEC 60079 / 61241)*	●	-	-	●
N	K						Flameproof - Alum. ATEX (EN 60079 / 61241) *	-	-	-	●
P	V						Encapsulated ATEX + IECEx (EN/IEC 60079 / 61241)*	○	-	-	●
S	C						Solenoid with spade plug connector (EN 60730)	●	-	-	●
W	P						Waterproof IP67 - Metal enclosure (EN 60730)	●	-	-	●
W	P			D	U		Dustproof ATEX (EN 50281-1-1) - Metal enclosure*	-	-	-	●
W	P			I	S		I.S. with Metal IP67 enclosure ATEX (EN 50020)*	○	-	-	-
W	P			Z	N		N.S. metal enclosure ATEX (EN 50021)*	●	-	-	●
W	S						Waterproof IP67 - 316 SS enclosure	●	-	-	●
W	S			D	U		Dustproof ATEX (EN 50281-1-1) - 316 SS enclosure*	-	-	-	●
W	S	E	M				316 SS "EM" encl. ATEX + IECEx (EN/IEC 60079/61241)*	●	-	-	●
W	S	N	F				Flameproof - St. steel 316 ATEX + IECEx (EN/IEC 60079 / 61241)*	●	-	-	●
W	S	Z	N				N.S. 316 SS enclosure ATEX (EN 50021)*	○	-	-	●
Z	N						Encapsulated Non Sparking ATEX (EN 50021)*	○	-	-	●
						T	Threaded conduit (1/2" NPT)	●	-	-	●
				H	T		Class H - High temperature	-	-	-	●
				M	F		Low temperature -40°C (series 551)	●	-	-	●
						X	Other special constructions	●	-	-	●

- \* ATEX solenoids are also approved according to EN/IEC 61241 (Dust) and EN 13463-1 (non electrical valves)
- Available feature
- Available feature in DC only
- Not available

## 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	●	-	-	●
					M		Exhaust reducer (series 551 only)	●	-	-	●
S	L						Certified IEC 61508 Functional Safety data <sup>(1)</sup>	●	-	-	●

- Available feature in DC only
- Not available
- <sup>(1)</sup> Not to use with MO 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 tables on pages 7 and 8.

**Example : G552A401**

### 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 10: 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 10.

**Example : 230V / 50Hz**

### STEP 5

Final catalogue / ordering number.

**Example :**

**EM G552A401MO 230 V / 50 Hz**

## OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	(M)
551	1/8	34600418 <sup>(2)</sup>	34600482 <sup>(2)</sup>	-
551 (W1/W3)	1/4	34600419 <sup>(2)</sup>	34600483 <sup>(2)</sup>	-
552	3/8	34600478	34600480	-
553	1/2	34600479	34600481	-

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

## ORDERING EXAMPLES:

SC	G	551	B	401	230V / 50 Hz
SC	G	551	B	401	SL 230V / 50 Hz
SC	G	551	B	402	MO 230V / 50 Hz
SCHT	8	551	B	402	MO 230V / 50 Hz
ISSC	G	553	A	302	MO 24V / DC
WPIS	8	552	A	301	24V / DC
EM	8	552	A	402	MO 230V / 50 Hz
EF	G	551	H	401	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 H in the basic number.

## EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

- Valve temperature range: The valve temperature range 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 (LP, RP, MP or BP) and the ATEX 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>(5)</sup>/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>(2)</sup>	
	inrush	holding	hot/cold				~	=		
	(VA)	(VA) (W)	(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	400-425-117	400-425-142	01
SCDU	55	23	10,5	9/11,2	-40 to +75	II 3D IP65 T 200°C(-)/135°C(=)	moulded IP65	- <sup>(4)</sup>	- <sup>(4)</sup>	01
WP/WS	55	23	10,5	9/11,2	-40 to +75	EN 60730	steel IP67	400-405-117	400-405-142	04
WPDU/WSDU	55	23	10,5	9/11,2	-40 to +75	II 3D IP67 T 200°C	steel IP67	- <sup>(4)</sup>	- <sup>(4)</sup>	04
(WS)NF	55	23	10,5	-	[-60] <sup>(1)</sup> -40 to +25/40/60	II 2G/D Ex d IIC T6/T5/T4/Ex tD	alu./SS IP67	400-405-117	-	02
(WS)NF	-	-	-	9/11,2	[-60] <sup>(1)</sup> -40 to +40/60/75	II 2G/D Ex d IIC T6/T5/T4/Ex tD	alu./SS IP67	-	400-405-142	02
NK	55	23	10,5	9/11,2	-40 to +50/60	II 2G/D Ex d IIB+H <sub>2</sub> T4/Ex tD	aluminium IP65	400-405-117	400-405-142	03
EM/WSEM	55	23	10,5	9/11,2	-40 to +40	II 2G/D Ex emb II T3/Ex tD	steel IP67	400-909-117	400-913-142	04
PV	55	23	10,5	9/11,2	-40 to +65	II 2G/D Ex mb II T3(-)/T4(=)/Ex mD	moulded IP67	- <sup>(4)</sup>	- <sup>(4)</sup>	05
EF	55	23	10,5	9/11,2	-40 to +54/40	NEMA types 7 and 9	mould.NEMA 4X	238-610-058	238-710-006	06
ZN	55	23	10,5	9/11,2	-20 to +50	II 3G/D EEx nA II T3	moulded IP65	- <sup>(4)</sup>	- <sup>(4)</sup>	01
WP(WS)ZN	55	23	10,5	9/11,2	-40 to +50/60	II 3G/D EEx nA II T3(-)/T4(=)	steel/SS IP67	- <sup>(4)</sup>	- <sup>(4)</sup>	04
<b>Low power = LP</b>										
SC	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	moulded IP65	400-925-097	400-925-042	07
WP/WS	1,5	1,5	1,5	1,7/1,7	-40 to +60	EN 60730	steel IP67	400-926-097	400-926-042	09
(WS)NF	-	-	1,9	- /1,9	[-60] <sup>(1)</sup> -40 to +75/80	II 2G/D Ex d IIC T6-T5/Ex tD	alu./SS IP67	- <sup>(4)</sup>	- <sup>(4)</sup>	08
EM/WSEM	1,5	1,5	1,5	1,7/1,7	-40 to +55	II 2G/D Ex emb II T5/Ex tD	steel IP67	- <sup>(4)</sup>	- <sup>(4)</sup>	09
PV	-	-	-	1,7/1,7	-40 to +65	II 2 G/D Ex mb II T6 / Ex mD	moulded IP67	-	- <sup>(4)</sup>	10
EF	-	-	-	1,7/1,7	-40 to +60	NEMA types 7 and 9	mould.NEMA 4X	-	- <sup>(4)</sup>	11
ISSC <sup>(3)</sup>	-	-	-	0,4/04	-40 to +60	II 2G/D EEx ia IIC T6	moulded IP65	-	268-976-001	12
WPIS <sup>(3)</sup>	-	-	-	0,4/04	-40 to +60	II 2G/D EEx ia IIC T6	steel IP67	-	268-900-001	09
ZN	-	-	-	1,7/1,7	-20 to +50	II 3G/D EEx nA II T3	moulded IP65	-	- <sup>(4)</sup>	07
WP(WS)ZN	1,5	1,5	1,5	1,7/1,7	-40 to +60	II 3G/D EEx nA II T6	steel/SS IP67	- <sup>(4)</sup>	- <sup>(4)</sup>	09

- <sup>(1)</sup> The certified minimum temperature of this operator
- <sup>(2)</sup> Refer to the dimensional drawings on pages 10 to 13.
- <sup>(3)</sup> Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (ISSC/WPIS operators).
- <sup>(4)</sup> Multiple coil kits available under ATEX, contact us
- <sup>(5)</sup> Low Power, 230 V AC does not exist. Maximum voltage in AC is 115 V.
- Not available

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

## ELECTRICAL CONNECTIONS

prefix	connection
SC, SCDU, ZN, 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, WPDU, WSDU, WPZN, WWSZ, WPIS	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	1/2" NPT threaded cable entry. Enclosures are supplied without cable gland
NK	3/4" NPT threaded cable entry. Enclosures are supplied without cable gland
PV	Moulded-in cable, standard length 2 m
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 (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
- Set of stainless steel mounting screws, catalogue number **97802212** (series 551)
- Set of two exhaust reducers, G1/8, catalogue number **88100344** (series 551)

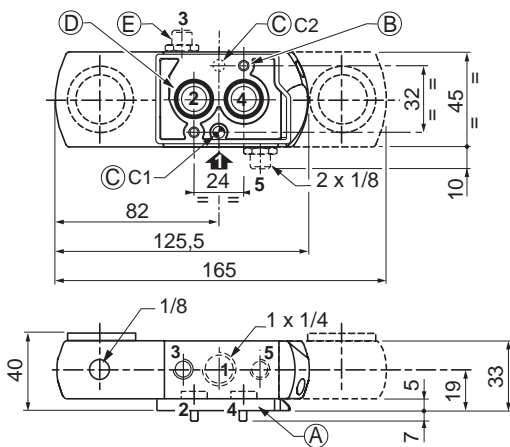
### INSTALLATION

- 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
- Spool valve supplied with two interface plates with NAMUR mating surfaces. Depending on function (NC 3/2 or 5/2), position one of the two plates on the spool valve body before installing on actuator
- 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.)
- Dowel pin (if necessary), bolts and gaskets are standard supplied
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- Prefix "(WS)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
- 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

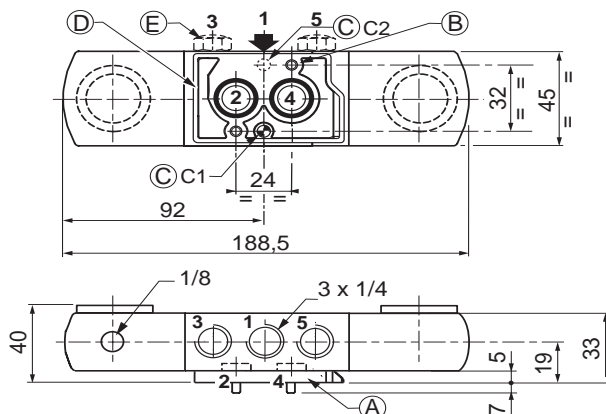
### DIMENSIONS (mm), WEIGHT (kg)



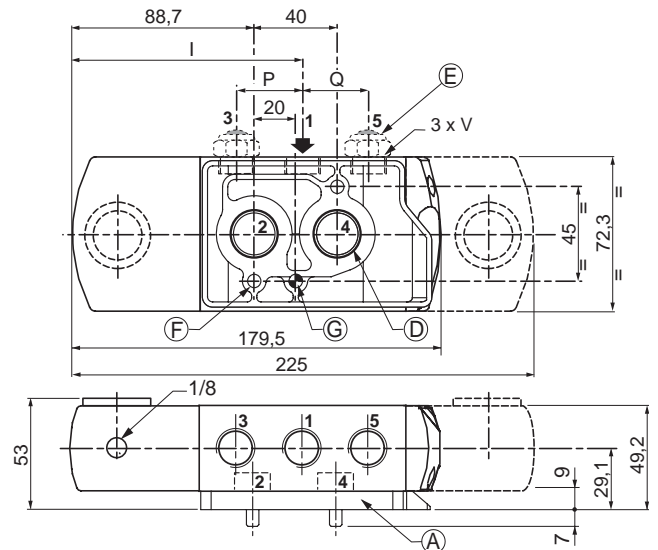
**Series 551**



**Series 551 (W1, W3)**



**Series 552-553**



	type	I	P	Q	V
<b>552</b>	01 à 12	111,3	29,6	29,7	3/8
<b>553</b>	01 to 12	112,3	31,6	31,8	1/2

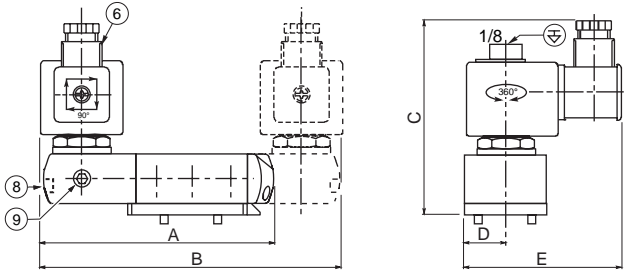
- (A) Interface plates
- (B) 2 mounting holes dia. 5,3; Spotfacing: dia. 9, depth 5 mm
- (C) 1 dia. 5 mm hole for dowel pin (series 551)
  - in position C1: 3/2 NC function plate
  - in position C2: 5/2 function plate
- (D) 2 O-ring seals (supplied)
- (E) Exhaust reducers G 1/8 (series 551) or protectors adaptable on orifices 3 and 5
- (F) 2 mounting holes dia. 6.5 ; Spotfacing: dia. 11, depth 6 mm
- (G) 1 dia. 6,5 mm hole for dowel pin (series 551-552). Same position for interface plate 3/2 NC or 5/2

## DIMENSIONS (mm), WEIGHT (kg)



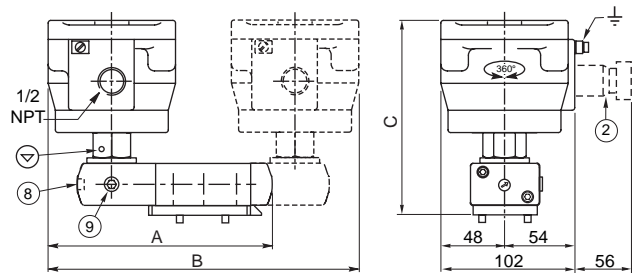
**TYPE 01 : Prefixes SC: IP65, ZN: II 3 G/D, IP65, EEx nA II, SCDU: II 3 D, IP65, T100°C to 200°C**  
 Basic power  
 Epoxy moulded  
 IEC 335 / ISO 4400

551B401/B402/B401MO/B402MO/B465/B466/B465MO/B466MO  
 552A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO  
 553A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO



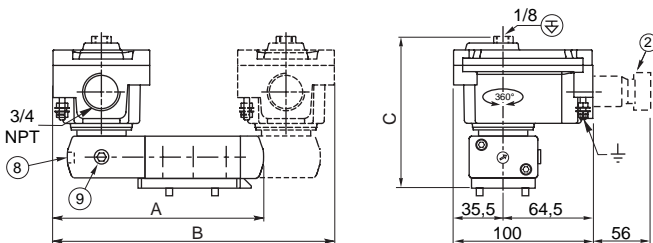
**TYPE 02 : Prefixes NF/WSNF: II 2 G/D, IP67, Ex d IIC**  
 Basic power  
 Aluminium, epoxy coated (NF)  
 Stainless steel AISI 316 (WSNF)  
 EN/IEC 60079-1 and EN/IEC 61241-1

551B401/B402/B401MO/B402MO/B465/B466/B465MO/B466MO  
 552A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO  
 553A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO



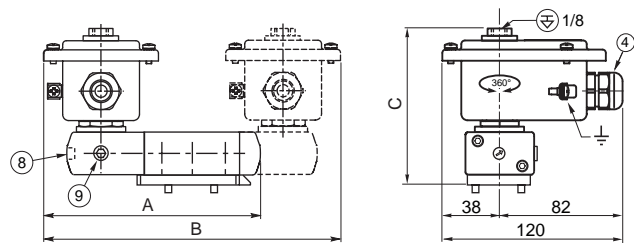
**TYPE 03 : Prefix NK: II 2 GD, IP65, Ex d IIB + H<sub>2</sub>**  
 Basic power  
 Aluminium, epoxy coated  
 EN 60079-1 and EN 61241-1

551B401/B402/B401MO/B402MO/B465/B466/B465MO/B466MO  
 552A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO  
 553A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO



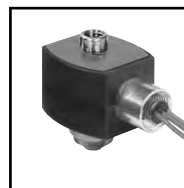
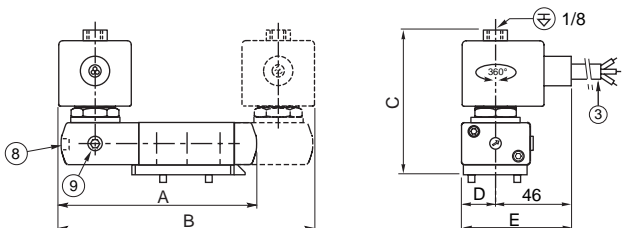
**TYPE 04 : Prefixes WP/WS: IP67, EM/WSEM: II 2 G/D, IP67, Ex emb II, WPDU/WSDU: II 3 D, IP67, T85°C to 200°C, WPZN/WSZN: II 3 G/D, IP67, EEx nA II**  
 Basic power  
 Steel, epoxy coated (EM, WP, WPDU, WPZN)  
 Stainless steel AISI 316 SS (WS, WSDU, WSEM, WSZN)  
 IEC 335 / EN 60079-7/18 and EN 61241-1

551B401/B402/B401MO/B402MO/B465/B466/B465MO/B466MO  
 552A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO  
 553A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO



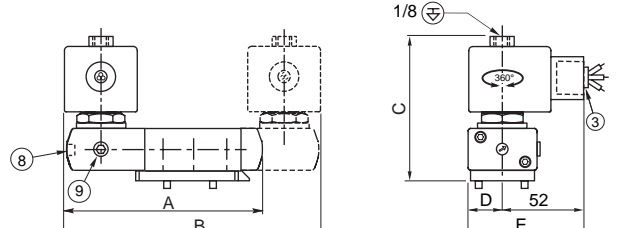
**TYPE 05 : Prefix PV: II 2 G/D, IP67, Ex mb II, Ex mD**  
 Basic power  
 Epoxy encapsulated  
 EN/IEC 60079-18 and EN/IEC 61241-18

551B401/B402/B401MO/B402MO/B465/B466/B465MO/B466MO  
 552A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO  
 553A401/A402/A401MO/A402MO/A465/A466/A465MO/A466MO



**TYPE 06 : Prefix EF: ICS-6 ANSI / NEMA types 7 and 9**  
 Basic power  
 Epoxy encapsulated  
 ICS-6 ANSI / NEMA  
 Type 7 and 9  
 NOTE: applicable to solenoid only

551H401/H402/H401MO/H402MO/H465/H466/H465MO/H466MO  
 552G401/G402/G401MO/G402MO/G465/G466/G465MO/G466MO  
 553G401/G402/G401MO/G402MO/G465/G466/G465MO/G466MO

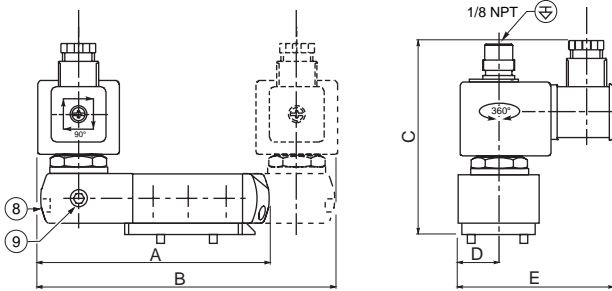


## DIMENSIONS (mm), WEIGHT (kg)



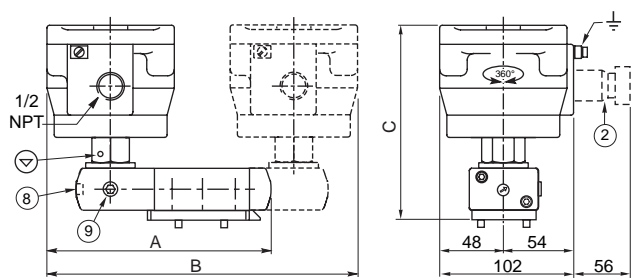
**TYPE 07 : Prefixes SC: IP65, ZN: II 3 G/D, IP65, EEx nA II**  
 Low power  
 Epoxy moulded  
 IEC 335 / ISO 4400

551B301/B302/B301MO/B302MO/B365/B366/B365MO/B366MO  
 552A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO  
 553A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO



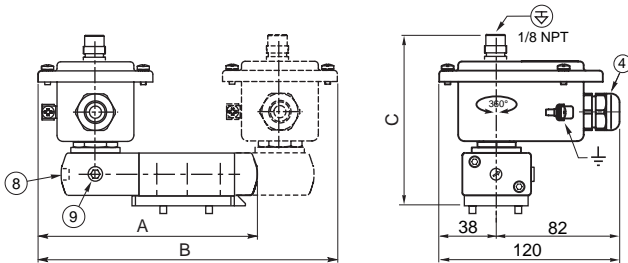
**TYPE 08 : Prefixes NF/WSNF: II 2 G/D, IP67, Ex d IIC**  
 Low power  
 Aluminium, epoxy coated (NF)  
 Stainless steel AISI 316 (WSNF)  
 EN/IEC 60079-1 and EN/IEC 61241-1

551B301/B302/B301MO/B302MO/B365/B366/B365MO/B366MO  
 552A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO  
 553A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO



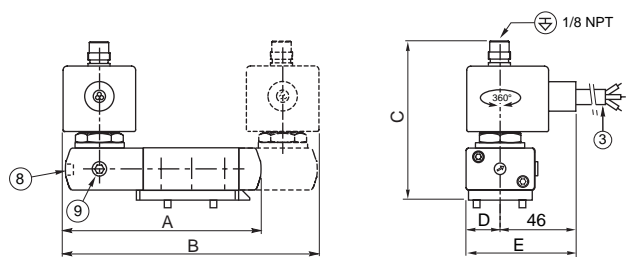
**TYPE 09 : Prefixes WP/WS: IP67, EM/WSEM: II 2 G/D, IP67, Ex emb II, WPDU/WSDU: II 3 D, IP67, T85°C to 200°C, WPZN/WSZN: II 3 G/D, IP67, EEx nA II, WPIS: II 2 G/D EEx ia IIC**  
 Low power  
 Steel, epoxy coated (EM, WP, WPDU, WPZN, WPIS)  
 Stainless steel AISI 316 SS (WS, WSDU, WSEM, WSZN)  
 IEC 335 / EN 60079-7/18 and EN 61241-1

551B301/B302/B301MO/B302MO/B365/B366/B365MO/B366MO  
 552A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO  
 553A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO



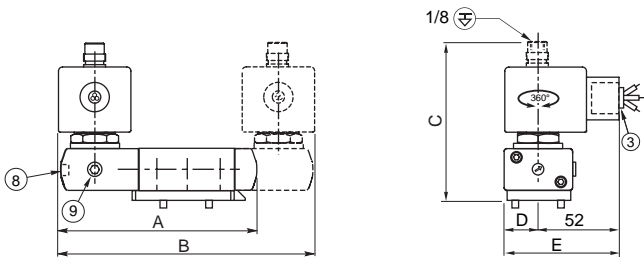
**TYPE 10 : Prefix PV: II 2 G/D, IP67, Ex mb II, Ex mD**  
 Low power  
 Epoxy encapsulated  
 EN/IEC 60079-18 and EN/IEC 61241-18

551B301/B302/B301MO/B302MO/B365/B366/B365MO/B366MO  
 552A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO  
 553A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO



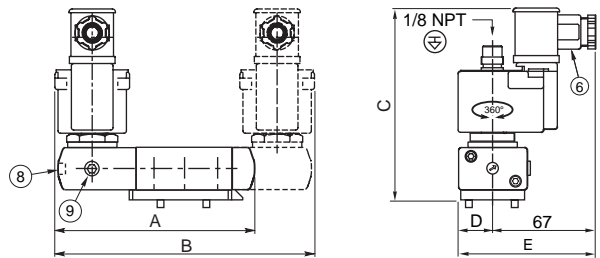
**TYPE 11 : Prefix: EF: ICS-6 ANSI / NEMA types 7 and 9**  
 Low power  
 Epoxy encapsulated  
 ICS-6 ANSI / NEMA  
 Type 7 and 9  
 NOTE: applicable to solenoid only

551H301/H302/H301MO/H302MO/H365/H366/H365MO/H366MO  
 552G301/G302/G301MO/G302MO/G365/G366/G365MO/G366MO  
 553G301/G302/G301MO/G302MO/G365/G366/G365MO/G366MO



**TYPE 12 : Prefix ISSC: II 2 G/D EEx ia IIC, IP65**  
 Low power  
 Polypropylene moulded  
 IEC 335 / ISO 4400  
 EN 50020 and EN 50281-1-1

551B301/B302/B301MO/B302MO/B365/B366/B365MO/B366MO  
 552A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO  
 553A301/A302/A301MO/A302MO/A365/A366/A365MO/A366MO



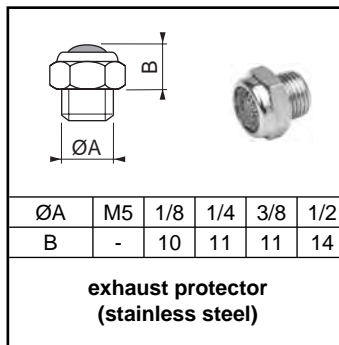
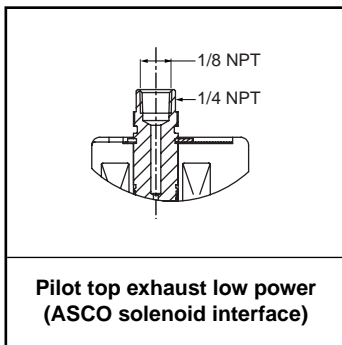
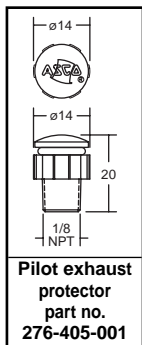
### DIMENSIONS (mm), WEIGHT (kg)

- 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
- ⊕ Connectable pilot exhaust port
- ⊖ Non-connectable pilot exhaust port

type	prefix option	plage de puissance	A		B			C		D		E		weight <sup>(1)</sup>					
			551	552/553	551	551 (W1-W3)	552/553	551	552/553	551	552/553	551	552/553	monostable			5/2 bistable - 5/3		
														551	552	553	551	552	553
01	SC / SCDU / ZN	BP	125	179,5	174	198,5	225	107,7	121,2	22,5	36,15	86,5	100,2	0,86	1,76	1,66	1,37	2,32	2,22
02	NF / WSNF	BP	152	224,3	218	241,5	314,6	146,8	160,3	-	-	-	-	1,90	2,80	2,70	3,45	4,46	4,36
03	NK	BP	137	193,5	190	213,5	253	107	120,5	-	-	-	-	1,10	2,28	2,18	1,89	2,84	2,74
04	WP/WS/WSDU/WPDU	BP	142	196,2	198	221,5	258,3	108	121,5	-	-	-	-	0,89	1,77	1,67	1,43	2,34	2,24
04	(WS)EM/WP(WS)ZN	BP	142	196,2	198	221,5	258,3	108	121,5	-	-	-	-	0,89	1,77	1,67	1,43	2,34	2,24
05	PV	BP	126	179,5	166	189,5	225	93	106,5	22,5	36,15	67,5	81,2	0,87	1,77	1,67	1,39	2,33	2,23
06	EF	BP	126,5	183	167	190,5	232	90,5	104	22,5	36,15	74,5	88,2	0,88	1,77	1,67	1,40	2,34	2,24
07	SC / ZN	LP	126,5	180,5	167	190,5	227	106,5	120	22,5	36,15	87,5	101,2	0,86	1,97	1,87	1,61	2,53	2,43
08	NF / WSNF	LP	152	224,3	218	241,5	314,6	146,8	160,3	-	-	-	-	1,90	2,80	2,70	3,45	4,46	4,36
09	WP/WS/(WS)EM	LP	142	196,2	198	221,5	258,3	107,2	120,7	-	-	-	-	1,10	1,98	1,88	1,43	2,55	2,45
09	WS/(WS)ZN	LP	142	196,2	198	221,5	258,3	107,2	120,7	-	-	-	-	1,10	1,98	1,88	1,43	2,55	2,45
09	WPIS	LP	142	196,2	198	221,5	258,3	107,2	120,7	-	-	-	-	1,10	1,98	1,88	1,43	2,55	2,45
10	PV	LP	126	179,5	166	189,5	225	105,5	119	22,5	36,15	67,5	81,2	1,08	1,98	1,88	1,60	2,54	2,44
11	EF	LP	126,5	183	167	190,5	232	105,5	119	22,5	36,15	74,5	88,2	1,07	1,98	1,88	1,59	2,55	2,45
12	ISSC	LP	116	182	169	192,5	230	129,5	143	22,5	36,15	89,5	103,5	0,90	1,80	1,70	1,46	2,36	2,26

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

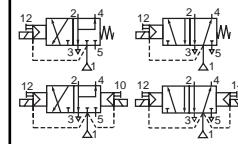
### ACCESSORIES





# SOLENOID VALVES

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



3/2  
5/2

Series

**551-552-553**

## 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
- The spool valves have threaded port connections and "NAMUR" style interface
- The same spool valve can be adapted for 3/2 NC or 5/2 function for controlling double-acting and single-acting actuators
- 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 = 700 l/min (ANR)  
3/8 - 1/2 = 3000 l/min

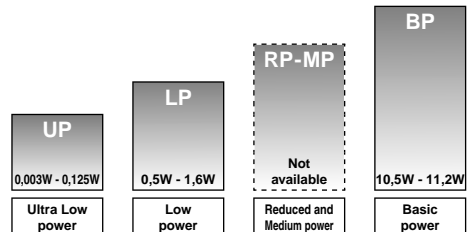
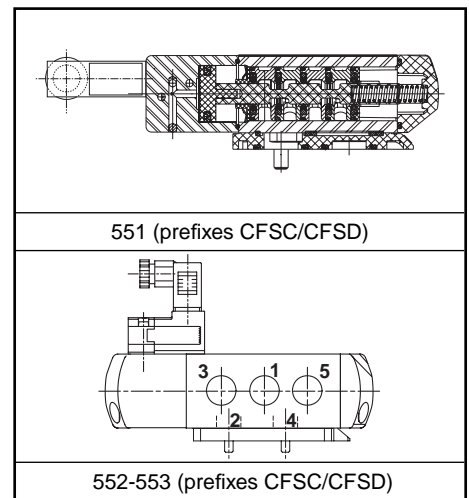
fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, filtered	- 25°C to + 40°C <sup>(1)</sup>	NBR (nitrile) + PUR (polyurethane)
	- 25°C to + 60°C	

<sup>(1)</sup> With series 302 pilots, suffixes CFSC/CFSD/CFVT/CFL/CFSCIS/CFSDIS/CFVTIS/CFSCZN/CFVTZN.

## MATERIALS IN CONTACT WITH FLUID

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

**Body** Aluminium, black anodized  
**End cover (spring)** Glass-filled PA  
**Interface plates** 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 (ISSC)  
Size 15 (E06.36.120N), refer to specific catalogue pages: 302 pilots (CFSC/CFSD/CFVT/CFL/CFSCIS/CFSDIS/CFVTIS/CFSCZN/CFVTZN) 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/CENELEC (gas/dust)							IP65	CNOMO size 30	CNOMO size 15
					air (*)	~		=	Ex d	EEx i	EEx i	EEx i	IP65	EEx nA			
(*)	(mm)	(m³/h)	(l/min)				~/=	CTNK	ISSC	CFSCIS	PISCIS	CFSC	CFSCZN	PISC			
<b>3/2 NC - 5/2 - Solenoid air pilot operated - spring return (monostable)</b>																	
1/4	6	0,6	10	2	10	10	LP	-	-	-	-	●	●	-	-	❖551C501 <sup>(2)</sup>	
1/4	6	0,6	10	2	-	8	LP	-	-	○	-	-	-	-	-	❖551C501 <sup>(2)</sup>	
1/4	6	0,6	10	2	10	10	BP	●	-	-	-	-	-	-	❖551A201 <sup>(2)</sup>	-	
1/4	6	0,6	10	2	-	8	LP	-	○	-	-	-	-	-	❖551A201 <sup>(2)</sup>	-	
1/4	6	0,6	10	2	8	8	UP	-	-	-	○	-	-	●	-	❖551C501 <sup>(2)</sup>	
3/8	12	2,49	41,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖552A501	
3/8	12	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖552A501	
3/8	12	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	❖552A201	-	
3/8	12	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	❖552A201	-	
3/8	12	2,49	41,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖552A501	
1/2	13	2,49	41,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖553A501	
1/2	13	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖553A501	
1/2	13	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	❖553A201	-	
1/2	13	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	❖553A201	-	
1/2	13	2,49	41,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖553A501	

❖ 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/CENELEC (gas/dust)							IP65	CNOMO size 30	CNOMO size 15
					air (*)			Ex d	EEEx i	EEEx i	EEEx i	IP65	EEEx nA	PISC			
(*)	(mm)	(m³/h)	(l/min)	~	=	~/=	CTNK	ISSC	CFSCIS	PISCIS	CFSC	CFSCZN	PISC				
<b>3/2 NC - 5/2 - Solenoid air pilot operated and return (bistable)</b>																	
1/4	6	0,6	10	2	10	10	LP	-	-	-	-	●	-	-	-	❖551C502	
1/4	6	0,6	10	2	-	8	LP	-	-	○	-	-	-	-	-	❖551C502	
1/4	6	0,6	10	2	10	10	BP	●	-	-	-	-	-	-	-	❖551A202	
1/4	6	0,6	10	2	-	8	LP	-	○	-	-	-	-	-	-	❖551A202	
1/4	6	0,6	10	2	8	8	UP	-	-	-	○	-	-	●	-	❖551C502	
3/8	12	2,49	41,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖552A502	
3/8	12	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖552A502	
3/8	12	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖552A202	
3/8	12	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖552A202	
3/8	12	2,49	41,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖552A502	
1/2	13	2,49	41,5	2	10	10	LP	-	-	-	-	●	●	-	-	❖553A502	
1/2	13	2,49	41,5	2	-	8	LP	-	-	○	-	-	-	-	-	❖553A502	
1/2	13	2,49	41,5	2	10	10	BP	●	-	-	-	-	-	-	-	❖553A202	
1/2	13	2,49	41,5	2	-	8	LP	-	○	-	-	-	-	-	-	❖553A202	
1/2	13	2,49	41,5	2	8	8	UP	-	-	-	○	-	-	●	-	❖553A502	

## 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>											
I	S	S	C				Intrinsically safe with pilot 195, ATEX (EN 50020) *	-	○	-	-
C	T	N	K				Flameproof with pilot 374, ATEX (EN 60079 / 61241) *	-	-	-	●
<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	S	D				Solenoid + spade plug ISO 15217, 8 mm, (EN 60730), 302 pilot	-	●	-	-
C	F	V	T				Solenoid with M12 connection, LED + protection (EN 60730), 302 pilot	-	○	-	-
C	F	L					Solenoid with cable ends, LED + protection (EN 60730), 302 pilot	-	○	-	-
C	F	S	C	I	S		Intrins. safe, spade plug connector, pilot 302; ATEX (EN 50020) *	-	○	-	-
C	F	S	D	I	S		Intrins. safe, spade plug ISO 15217, 8 mm, pilot 302; ATEX (EN 50020) *	-	○	-	-
C	F	V	T	I	S		Intrins. safe, connector M12 (straight), LED + protection, pilot 302; ATEX (EN 50020) *	-	○	-	-
C	F	S	C	Z	N		Non sparking, spade plug connector 9,4 mm, pilot 302; ATEX (EN 50021) *	-	●	-	-
C	F	V	T	Z	N		Non sparking, connector M12 (straight), LED + protection, pilot 302; ATEX (EN 50020) *	-	○	-	-
P	I	S	C				Solenoid with spade plug connector (EN 60730), 630 piezotronic pilot	●	-	-	-
P	I	S	C	I	S		Intrinsically safe with piezotronic pilot 630; ATEX (EN 50020) *	○	-	-	-

## 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)</sup>	-	-	-	●
		M	O		Push type or screw type manual operator <sup>(1)</sup>	-	○	-	-
		S	L		Exhaust reducer (series 551 only)	○	●	-	●
					Certified IEC 61508 Functional Safety data (monostable)	-	-	-	●
<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		Exhaust reducer (series 551 only)	○/●	●	-	●
					Certified IEC 61508 Functional Safety data (monostable)	○/●	○/●	-	-

## OPTIONS & ACCESSORIES

series	pipe size	exhaust protector (stainless steel)		
		(G)	(NPT)	(M)
551	1/8	34600418 <sup>(2)</sup>	34600482 <sup>(2)</sup>	-
552	3/8	34600478	34600480	-
553	1/2	34600479	34600481	-
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/IEC 61241 (Dust) and EN 13463-1 (non electrical valves)
- <sup>(1)</sup> Not to use with SL suffix
- <sup>(2)</sup> Provided with SL suffix (series 551)

## ORDERING EXAMPLES:

CTNK	G	551	A	201				115V / 50 Hz
CTNK	G	551	A	202	MS			115V / 50 Hz
CTNK	G	551	A	201	SL			24V / DC
ISSC	G	551	A	201	SL			24V / DC
CFSC	G	552	C	502				230V / 50 Hz
CFSC	8	552	C	501	MO			230V / 50 Hz
CFSC	G	552	C	501	SLMO			230V / 50 Hz
CFVTZN	G	551	C	501				230V / 50 Hz
CFVTZN	G	551	C	501				24V / DC
ISSC	G	552	A	201	MO			24V / DC
PISCIS	G	551	C	502	MO			6V / DC
PISCIS	G	551	C	501	SLMO			6V / DC
PISCIS X	G	551	C	501	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 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 (LP, RP, MP or BP) and the ATEX 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

<b>Coil insulation class</b>	F
<b>Electrical safety</b>	IEC 335
<b>Standard voltages<sup>(3)</sup></b>	DC (=) CTNK : 24V - 48V ; CFSC/CFSD/CFSCZN : 12V - 24V ; CFVT/CFL/CFVTZN : 24V CFSCIS/CFSDIS/CFVTIS : 12V - 24V ; ISSC : 24V PISC : 24V to 70V ; PISCIS : 6V, 8V, 12V, 24V AC (~) CTNK : 24V - 48V - 115V - 230V/50Hz ; CFSC/CFSD/CFSCZN : 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 ~	holding ~		hot/cold =				~	=	
	(VA)	(VA)	(W)	(W)				-	-	
<b>Basic power = BP</b>										
CTNK	55	23	10,5	9/11,2	-20 to +50/60	II 2G/D Ex d IIB+H <sub>2</sub> T4/Ex tD	aluminium IP65	-	-	01
<b>Low power = LP</b>										
CFSC/CFSD	1,4	1,2	1,1	1/1,2	-25 to +60	EN 60730	moulded IP65	-	-	03
CFSC/CFSD	2,1 <sup>(7)</sup>	1,6 <sup>(7)</sup>	1,5 <sup>(7)</sup>	-	-25 to +60	EN 60730	moulded IP65	-	-	03
CFVT/CFL <sup>(6)</sup>	-	-	-	1,15/1,35	-25 to +60	EN 60730	moulded IP67/IP65	-	-	04-05
CFSCZN	1,4	1,2	1,1	1/1,2	-25 to +60	II 3GD EEx nA IIC T5	moulded IP65	-	-	07
CFSCZN	2,1 <sup>(7)</sup>	1,6 <sup>(7)</sup>	1,5 <sup>(7)</sup>	-	-25 to +60	II 3GD EEx nA IIC T5	moulded IP67/IP65	-	-	07
CFVTZN	-	-	-	1,15/1,35	-25 to +60	II 3GD EEx nA IIC T5	moulded IP67	-	-	08
CFSCIS <sup>(4)(5)</sup>	-	-	-	0,5	-10 to +50	II 2GD EEx ia IIC T5 (12V)/T6 (24V)	moulded IP65	-	-	09
CFSDIS <sup>(4)(5)</sup>	-	-	-	0,5	-10 to +50	II 2GD EEx ia IIC T5 (12V)/T6 (24V)	moulded IP65	-	-	09
CFVTIS <sup>(4)(5)</sup>	-	-	-	0,5	-10 to +50	II 2GD EEx ia IIC T5 (12V)/T6 (24V)	moulded IP67	-	-	10
ISSC <sup>(3)(4)</sup>	-	-	-	1,6	-40 to +50	II 2G/D EEx ia IIC T6	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 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(1)(4)8V</sup>	-	-	-	0,022	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(1)(4)12LV</sup>	-	-	-	0,012	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(1)(4)12HV</sup>	-	-	-	0,032	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(1)(4)24LV</sup>	-	-	-	0,046	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06
PISCIS <sup>(1)(4)24HV</sup>	-	-	-	0,125	-20 to +50	II 2GD EEx ia IIC T6	moulded IP65	-	-	06

<sup>(1)</sup> 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	12L V DC / 12 mW	12H V DC / 32 mW	24L V DC / 46 mW	24H 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> (DC) (V)	I <sub>i</sub> (mA)	P <sub>i</sub> (W)	L <sub>i</sub> (μF)	C <sub>i</sub> (mF)
<b>Low power = LP</b>					
CFSCIS	28	300	1,6	0	0
CFSDIS/CFVTIS	28	300	1,6	0	0
ISSC	28	115	1,6	0	0
<b>Ultra low power = UP</b>					
PISCIS	30	200	0,9	0	0

<sup>(2)</sup> Refer to the dimensional drawings on pages 18 to 22.

<sup>(3)</sup> Min. operating current (I<sub>min</sub>): 0,037 A

<sup>(4)</sup> Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (CFSCIS/ISSC/PISCIS: 302/195/630 pilots).

<sup>(5)</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>(6)</sup> Values for LED + protection. Use with TPL 20674 (CFSC and CFSD prefixes)

<sup>(7)</sup> AC : 230V

- Not available

### ELECTRICAL CONNECTIONS

prefix	connection
CTNK	3/4" NPT threaded cable entry. Enclosures are supplied without cable gland
ISSC	Spade plug connector with cable gland EN175301-803A (ISO 4400) for cables with an outer diameter from 6 to 8 mm
CFSC, CFSCIS, CFSCZN, PISC, PISCIS	Spade plug connector with cable gland DIN 43650, 9,4 mm, industry standard B, for cables with an outer diameter from 4 to 6 mm
CFSD, CFSDIS	Spade plug connector with cable gland ISO 15217 / DIN 43650, 8 mm, form C, for cables with an outer diameter from 4 to 6 mm
CFVT	M12 connection for M12 connector
CFVTIS	Straight M12 connector for cables with an outer diameter from 2,5 mm to 6,5 mm
CFVTZN	Straight M12 connector with moulded-in cable, standard length 5 mm
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 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
- Set of stainless steel mounting screws, catalogue number **978 02 212** (series 551)
- Set of two exhaust reducers, G1/8, catalogue number **881 00 344** (series 551)

### INSTALLATION

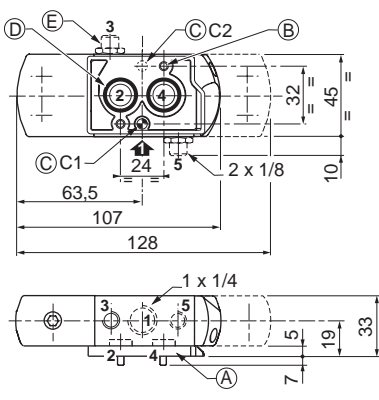
- Installation/maintenance instructions are included with each valve
- The valves can be mounted in any position without affecting operation
- IEC 61508 Functional Safety (Suffix SL), allowable temperature range: -40°C to +60°C. Probability of failure on demand, contact us
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the valve if used outside or in harsh environments (dusts, liquids etc.)
- Spool valve supplied with two interface plates with NAMUR mating surfaces. Depending on function (NC 3/2 or 5/2), position one of the two plates on the spool valve body before installing on actuator
- 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.)
- Dowel pin (if necessary), bolts and gaskets are standard supplied
- 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)

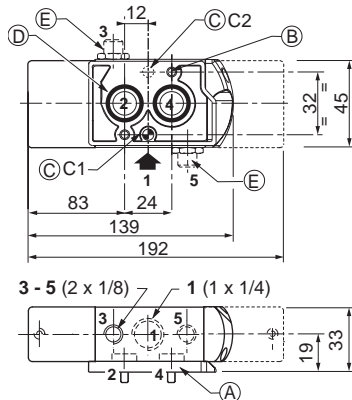
Series 551

Series 552-553

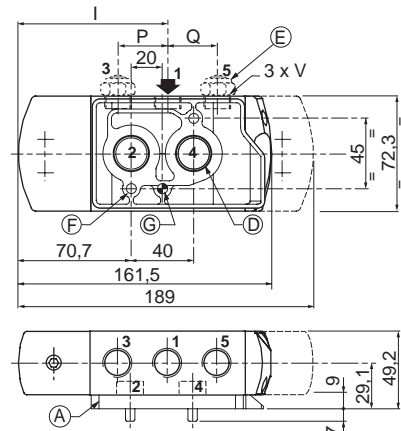
Types 01 et 02



Types 03 to 10



Types 01 to 10



	I	P	Q	V
<b>552</b>	93,3	29,6	29,7	3/8
<b>553</b>	94,3	31,6	31,8	1/2

- (A) Interface plates
- (B) 2 mounting holes dia. 5,3; Spotfacing: dia. 9, depth 5 mm
- (C) 1 dia. 5 mm hole for dowel pin (series 551)  
 - in position C1: 3/2 NC function plate  
 - in position C2: 5/2 function plate
- (D) 2 O-ring seals (supplied)

- (E) Exhaust reducers G 1/8 (series 551) or protectors adaptable on orifices 3 and 5
- (F) 2 mounting holes dia. 6.5 ; Spotfacing: dia. 11, depth 6 mm
- (G) 1 dia. 6,5 mm hole for dowel pin (series 551-552).  
 Same position for interface plate 3/2 NC or 5/2

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



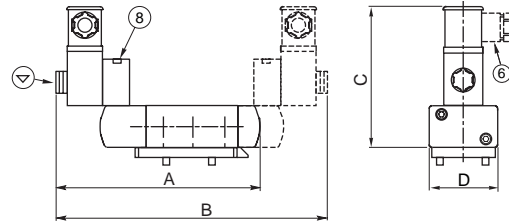
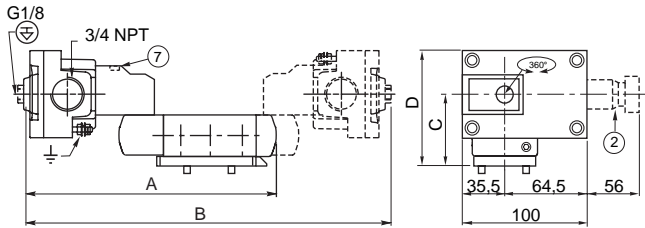
**TYPE 01 : Prefix CTNK: II 2 GD, IP65, Ex d IIB + H<sub>2</sub>**  
 Basic power  
 374 pilot, light alloy  
 Aluminium; epoxy coated  
 EN 60079-1 and EN 61241-1

**551A201MS / A202MS**  
**552A201MS / A202MS**  
**553A201MS / A202MS**



**TYPE 02 : Prefix ISSC: II 2 GD EEx ia IIC, IP65**  
 Low power  
 195 pilot  
 Polyamide  
 IEC 335 / ISO 4400  
 EN 50020 and EN 50281-1-1

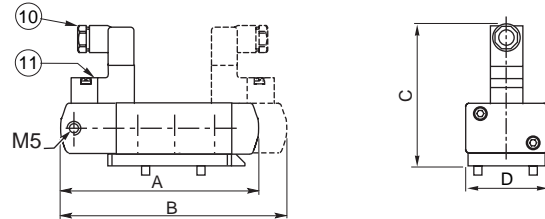
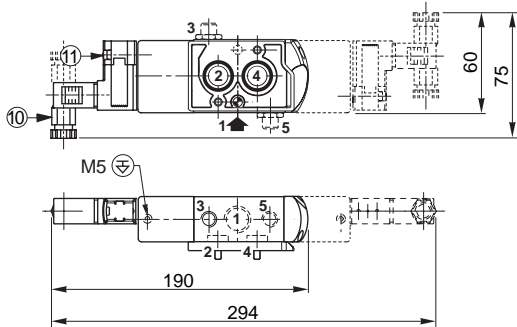
**551A201MO / A202MO**  
**552A201MO / A202MO**  
**553A201MO / A202MO**



**TYPE 03 : Prefixes CFSC and CFSD: IP65**  
 Low power  
 302 pilot  
 Polyarylamide  
 IEC 335 / DIN 43650 or ISO 15217

**551C501 / 551C502**  
**551C501MS / 551C501MO / C502MS / C502MO**

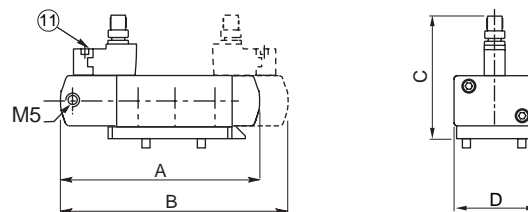
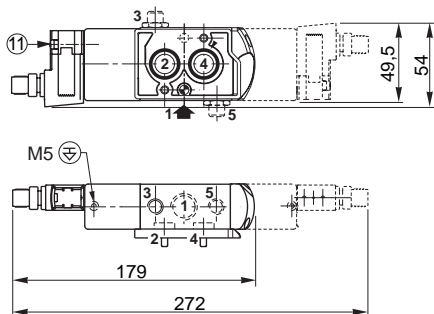
**552A501 / A501MS / A501MO / A502 / A502MS / A502MO**  
**553A501 / A501MS / A501MO / A502 / A502MS / A502MO**



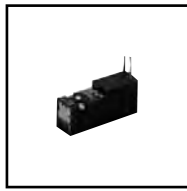
**TYPE 04 : Prefix CFVT: IP67(with M12 connector mounted)**  
 Low power  
 302 pilot  
 Polyarylamide  
 IEC 335 / connection M12 + LED and protection

**551C501 / 551C502**  
**551C501MS / 551C501MO / C502MS / C502MO**

**552A501 / A501MS / A501MO / A502 / A502MS / A502MO**  
**553A501 / A501MS / A501MO / A502 / A502MS / A502MO**

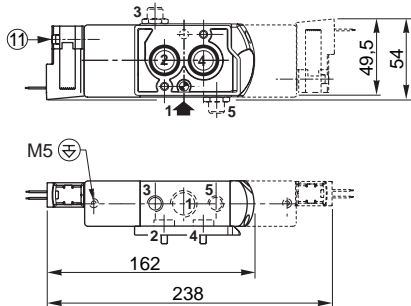


### DIMENSIONS (mm), WEIGHT (kg)

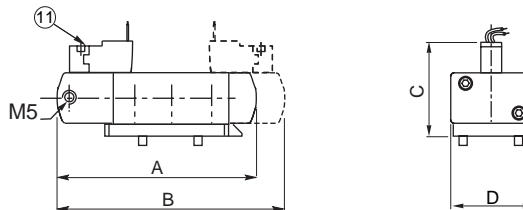


**TYPE 05 : Prefix CFL: IP65**  
 Low power  
 302 pilot  
 Polyarylamide  
 IEC 335 / flying lead + LED and protection

**551C501 / 551C502**  
**551C501MS / 551C501MO / C502MS / C502MO**

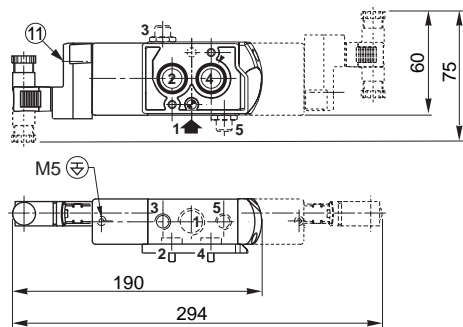


**552A501 / A501MS / A501MO / A502 / A502MS / A502MO**  
**553A501 / A501MS / A501MO / A502 / A502MS / A502MO**

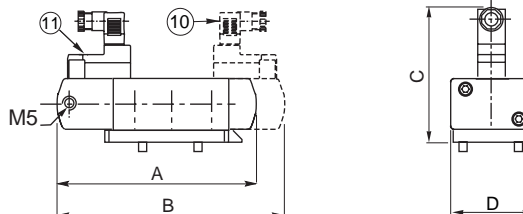


**TYPE 06: Prefixes PISC: IP65, PISCIS: II 2 GD**  
**EEx ia IIC, IP65**  
 Ultra low power  
 Piezotronic pilots, polyamide  
 Epoxy moulded  
 IEC 335 / DIN 43650  
 EN50020 and EN 50281-1-1

**551C501MO / 551C502MO**

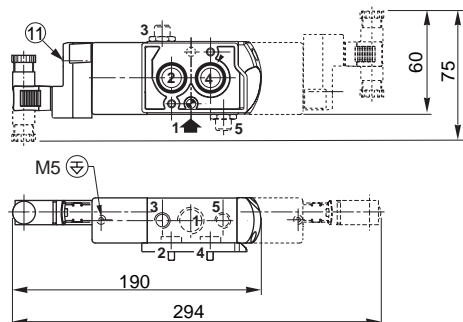


**552A501MO / A502MO**  
**553A501MO / A502MO**

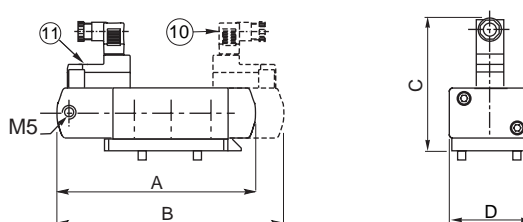



**TYPE 07: Prefix CFSCZN: II 3 GD, IP65, EEx nA IIC**  
 Low power  
 302 pilot, Polyarylamide  
 Connector with LED and protection  
 EN50021 and EN 50281-1-1

**551C501MO / 551C502MO**



**552A501MO / A502MO**  
**553A501MO / A502MO**

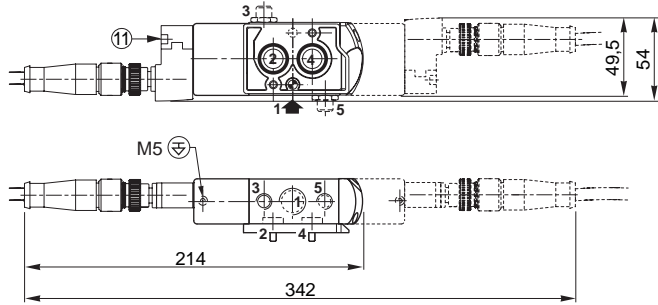


**DIMENSIONS (mm), WEIGHT (kg)** 

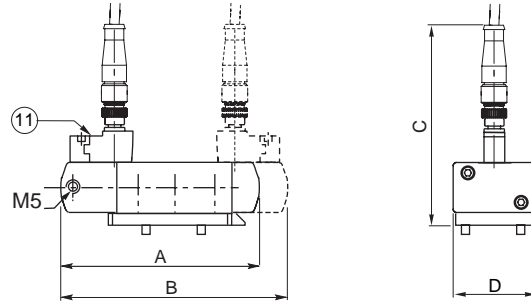


**TYPE 08 : Prefix CFVTZN: II 3 GD, IP67, EEx nA IIC**  
 Low power  
 302 pilot, Polyarylamide  
 M 12 connector + LED and protection  
 EN50021 and EN 50281-1-1

551C501MO / 551C502MO

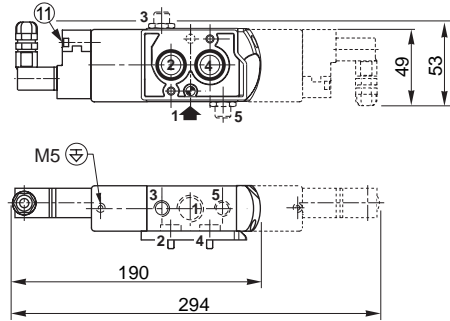


552A501MO / A502MO  
 553A501MO / A502MO

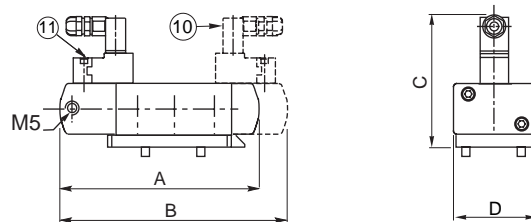


**TYPE 09 : Prefixes CFSCIS and CFSDIS: II 2 GD**  
**EEx ia IIC, IP65**  
 Low power  
 302 pilot, Polyarylamide  
 IEC 335 / DIN 43650 or ISO 15217  
 Connector + LED and protection  
 EN50020 and EN 50281-1-1

551C501MO / 551C502MO

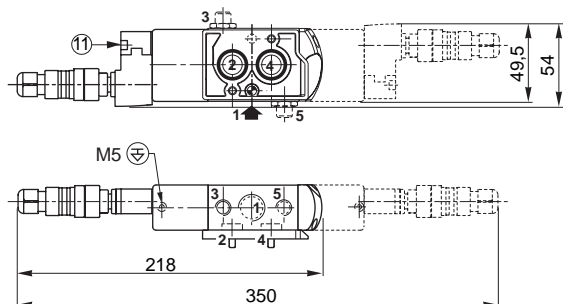


552A501MO / A502MO  
 553A501MO / A502MO

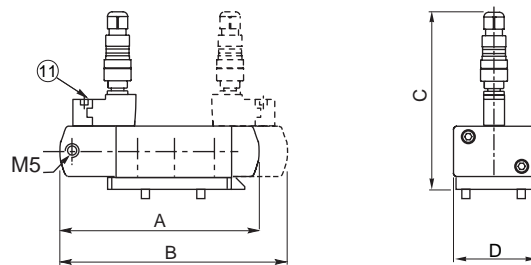


**TYPE 10 : Prefix CFVTIS: II 2 GD**  
**EEx ia IIC, IP67**  
 Low power  
 302 pilot, polyarylamide  
 M 12 connector (straight) + LED and protection  
 EN50020 and EN 50281-1-1

551C501MO / 551C502MO



552A501MO / A502MO  
 553A501MO / A502MO



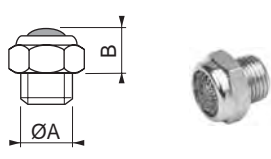
### DIMENSIONS (mm), WEIGHT (kg)

- ② Ex d certified cable gland (on request)
- ⑥ Connector rotatable by 90° increments, cable Ø 6 - 10 mm
- ⑦ Screw type manual operator, suffix MS
- ⑧ Push type or screw type manual operator, suffix MO
- 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

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	177	244	270	355	48	64,7	77	98,7	-	-	1,12	1,97	1,87	1,86	3,05	2,95
02	ISSC	LP	140	213,5	198	293	107	120,5	45	72,3	-	-	0,59	1,44	1,34	0,80	2,52	2,42
03	CFSC / CFSD	LP	-	161,5	-	189	-	99,2	-	72,3	-	-	0,33	1,10	1,00	0,38	2,18	2,08
04	CFVT	LP	-	161,5	-	189	-	90,2	-	72,3	-	-	0,33	1,12	1,02	0,38	2,22	2,12
05	CFL	LP	-	161,5	-	189	-	72	-	72,3	-	-	0,32	1,11	1,01	0,39	2,21	2,11
06	PISC / PISCIS	UP	-	161,5	-	189	-	99,2	-	72,3	-	-	0,31	1,10	1,00	0,32	2,18	2,08
07	CFSCZN	LP	-	161,5	-	189	-	99,2	-	72,3	-	-	0,33	1,10	1,00	0,38	2,18	2,08
08	CFVTZN	LP	-	161,5	-	189	-	124	-	72,3	-	-	0,56	1,33	1,23	0,83	2,68	2,58
09	CFSCIS/CFSDIS	LP	-	161,5	-	189	-	100,2	-	72,3	-	-	0,34	1,12	1,02	0,4	2,22	2,12
10	CFVTIS	LP	-	161,5	-	189	-	130	-	72,3	-	-	0,36	1,14	1,04	0,44	2,26	2,16

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

### ACCESSORIES



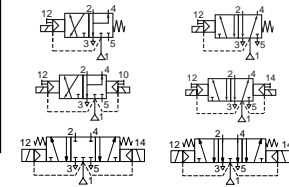
ØA	M5	1/8	1/4	3/8	1/2
B	4,5	-	11	11	14

**exhaust protector  
(stainless steel)**



# SOLENOID VALVES

pilot operated, spool type  
single/dual solenoid  
aluminium body, "NAMUR" style, 1/4 to 1/2



3/2-5/2  
5/3  
Series  
551-552  
553

## FEATURES

- The solenoid operated spool valves have threaded port connections and NAMUR interface
- The same spool valve can be adapted for 3/2 NC or 5/2 function for controlling double-acting and single-acting actuators
- 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 valves offer environmental protection against the ingress of liquids, dusts or 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 (ASCO solenoid interface)
- The monostable spool valves have TÜV certified IEC 61508 Functional Safety data and can be used up to SIL 4/AK 7
- The solenoid valves satisfy all relevant EC Directives

## GENERAL

Differential pressure  
Flow (Qv at 6 bar)

2 - 10 bar [1 bar = 100 kPa]  
l/min (ANR)

1/4	3/8	1/2
700	3000	3000

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, end cover	Aluminium, anodisé noir
End cover (spring)	Glass-filled polyamide
Interface plates	Glass-filled polyamide
Spool valve internal parts	Zamak, st. steel, POM, aluminium
Core tube, core spring	Stainless steel
Core and plugnut	Stainless steel
Top disc	PA
Pilot seals	FPM, NBR
Shading coil	Copper

## OTHERS MATERIALS

Solenoid enclosure Zinc plated steel (epoxy coated)

## ELECTRICAL CHARACTERISTICS

Coil insulation class	F
Coil connection	Embedded screw terminal (cable Ø 7 - 12 mm)
Cable entry	Cable gland, polyamide, M20x1,5
Electrical safety	IEC 335
Electrical enclosure protection	IP67 (EN 60529)
Standard voltages	DC (=): 24V - 48V
(Other voltages and 60 Hz on request)	AC (~): 24V - 48V - 115V - 230V / 50 Hz

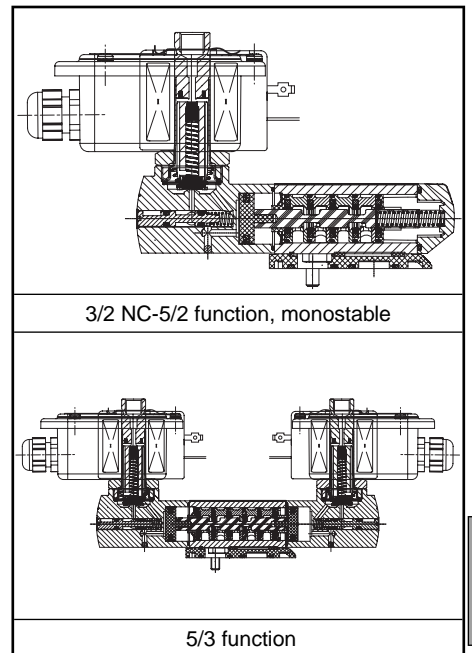
prefix option	power ratings				operator ambient temperature range (TS) (C°)	replacement coil		type (1)
	inrush ~ (VA)	holding ~ (W)		hot/cold = (W)		~ 230 V/50 Hz	= 24 V DC	
		~ (VA)	~ (W)					
WP	55	23	10,5	9/11,2	-40 to +75	400405-117	400405-142	01

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

## SPECIFICATIONS

pipe size (G)	orifice size (mm)	flow coefficient Kv (m³/h) (l/mln)		operating pressure differential (bar)		power coil (W)		catalogue number	options			
		min. (2)	max. (PS) air (*)	min. (2)	max. (PS) air (*)	~	=		impulse / maintained man. operator			
<b>3/2 NC - 5/2 - Solenoid air pilot operated - spring return (monostable)</b>												
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	WPG551B401	MO	-	-
3/8	12	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG552A401	MO	-	-
1/2	13	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG553A401	MO	-	-
<b>3/2 NC - 5/2 - Solenoid air pilot operated and return (bistable)</b>												
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	WPG551B402	MO	-	-
3/8	12	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG552A402	MO	-	-
1/2	13	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG553A402	MO	-	-
<b>5/3 - W1 - pressure held, solenoid air pilot operated and return</b>												
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	WPG551B465	MO	-	-
3/8	12	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG552A465	MO	-	-
1/2	13	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG553A465	MO	-	-
<b>5/3 - W3 - pressure release, solenoid air pilot operated and return</b>												
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	WPG551B466	MO	-	-
3/8	12	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG552A466	MO	-	-
1/2	13	2,49	41,5	0 / 2	10	10	10,5	11,2	WPG553A466	MO	-	-
<b>3/2 NC - 5/2 - Solenoid air pilot operated - spring return (monostable), certified IEC 61508 Functional Safety data</b>												
1/4	6	0,6	10	0 / 2	10	10	10,5	11,2	WPG551B401SL	-	-	-

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



G

### OPTIONS

- Valves configured for external pilot air supply with ASCO solenoid interface, TPL 20547
- Explosionproof enclosures for use in zones 1/21-2/22, categories 2-3, to ATEX Directive 94/9/EC (see "Explosionproof Solenoids" section)
- Compliance with "UL", "CSA" and other local approvals available on request
- Coil insulation class H for max. ambient temperature +80°C, prefix "WPHT"
- 1/2" NPT (prefix "T") and M20 x 1.5 (prefix "ET") conduits (aluminium or 316 SS) available for steel solenoid enclosure
- Low temperature version (-40°C), use suffix "MF"
- Valves equipped with exhaust reducers G 1/8 (3/2 NC-5/2, series 551), suffix M
- Set of stainless steel mounting screws (series 551), catalogue number **97802212**
- Set of two G 1/8 exhaust reducers (series 551), catalogue number **88100344**
- Other pipe threads are available on request

### INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- 3/2 NC-5/2 spool valve supplied with two interface plates with NAMUR mating surfaces. Depending on function (3/2 NC or 5/2), position one of the two plates on the spool valve body before installing on actuator
- Dowel pin (if necessary), bolts and gaskets are standard supplied
- 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.)
- IEC 61508 Functional Safety (suffix SL), allowable temperature range: -40°C to +60°C. For probability of failure, contact us
- Threaded pipe connection identifier is G = G (ISO 228/1)
- 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 internal and external grounding terminals
- Valves with suffix "SL" are supplied with specific exhaust protectors
- Installation/maintenance instructions are included with each valve

### ACCESSORIES

series	pipe size	exhaust protector
		stainless steel
551-552-553	G 1/8	<b>34600418</b> <sup>(1)</sup>
551 (W1/W3)	G 1/4	<b>34600419</b>
552	G 3/8	<b>34600478</b>
553	G 1/2	<b>34600479</b>

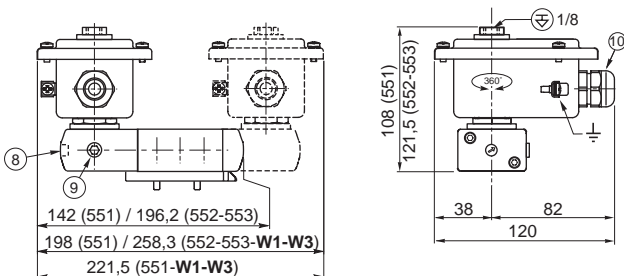
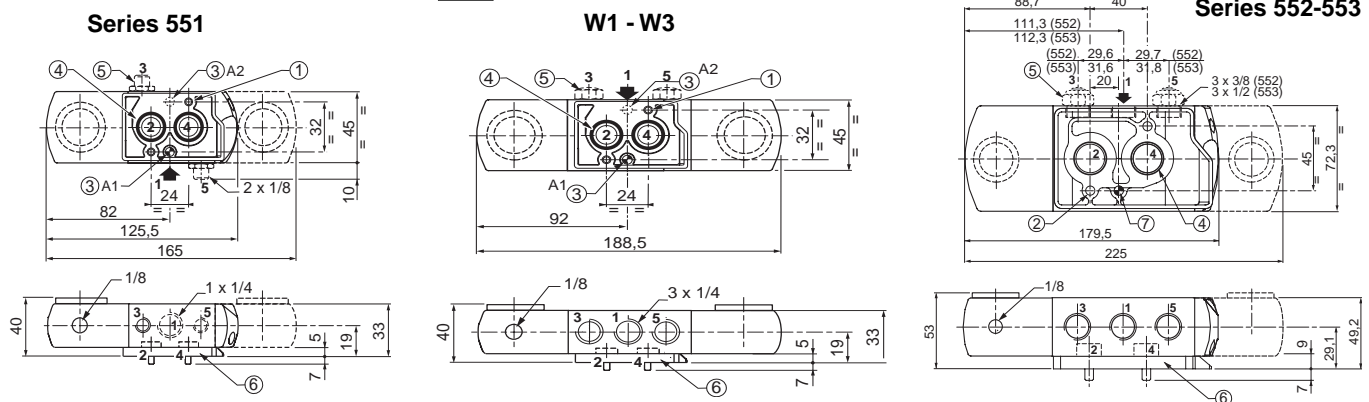
<sup>(1)</sup> Supplied with suffix "SL".

### ORDERING EXAMPLES:

WP	G	551	B	401	230V / 50 Hz
WP	G	551	B	401	SL 230V / 50 Hz
WP	G	553	A	402	MO 24V / DC
WPHT	G	551	B	402	MO 230V / 50 Hz
WP	G	552	A	402	MO 115V / 50 Hz

prefix \_\_\_\_\_ voltage \_\_\_\_\_  
 pipe thread \_\_\_\_\_ suffix \_\_\_\_\_  
 basic number \_\_\_\_\_

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



type	prefix option	weight <sup>(2)</sup>								
		monostable			bistable			W1 - W3		
		551	552	553	551	552	553	551	552	553
04	WP	0,79	1,67	1,57	1,33	2,24	2,14	1,43	2,24	2,14

<sup>(2)</sup> Including coil and cable gland.

2 mounting holes:

- ① 5,3 mm dia. (Spotfacing: 9 mm dia., depth 5 mm)
- ② 6,5 mm dia. (Spotfacing: 11 mm dia., depth 6 mm)

- ③ One 5 mm dia. hole for dowel pin:
  - in position A1: 3/2 NC function plate
  - in position A2: 5/2 function plate
- ④ 2 O-ring seals (supplied)
- ⑤ Exhaust reducer (G 1/8, 3/2 NC-5/2, series 551) or exhaust protector
- ⑥ Interface plate
- ⑦ One 6,5 mm dia. hole for dowel pin, position for 3/2 NC or 5/2 function plate
- ⑧ Manual operator location
- ⑨ External pilot air supply, 1/8 pipe size
- ⑩ Cable gland for unarmoured cable with 7 to 12 mm dia. sheath