

# SOLENOID VALVES

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

## FEATURES

- The monostable spool valves in conformity with IEC 61508 Standard (2010 route 2<sub>H</sub> version) have TÜV (551 series) and EXIDA (551-553 series) certified with integrity levels: SIL 2 for HFT = 0 / SIL 3 for HFT = 1
- 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 EU Directives

## GENERAL

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

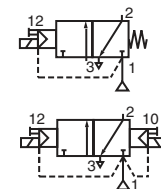
(\*) Ensure that the compatibility of the fluids in contact with the materials is verified

|                            |                                            |
|----------------------------|--------------------------------------------|
| Body                       | Aluminium, black anodised                  |
| End cover (spring return)  | Glass-filled PA                            |
| Spool valve internal parts | Zamak, stainless steel, POM, aluminium     |
| Pilot internal parts       | Refer to specific solenoid catalogue pages |
| Pilot end covers           | Aluminium                                  |
| Core tube                  | Stainless steel                            |
| Core and plugnut           | Stainless steel                            |
| Core spring                | Stainless steel                            |
| Seals                      | NBR                                        |
| Top disc                   | PA                                         |
| Disc holder                | CA                                         |
| Cartridge (low power)      | Welded, stainless steel or aluminium       |
| Seat                       | Brass                                      |
| Seat insert                | CA                                         |
| Shading coil               | Copper                                     |
| Rider rings (low power)    | PTFE (NF/WSNF solenoids only)              |

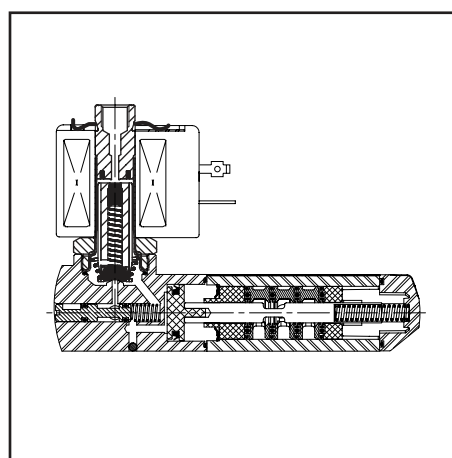
## SPECIFICATIONS

| 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 |                         |
| (✧)                                                      | (mm)         | (m³/h)              | (l/min) |                                       | ~         | =  | ~/=         | EF                        | (WS)LPKF     | NF   | EM | PV      | (WS)LI | -    | SC    |                         |
| Solenoid air pilot operated - spring return (monostable) |              |                     |         |                                       |           |    |             |                           |              |      |    |         |        |      |       |                         |
| 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> |
| 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"



3/2  
Series  
551  
553



| UP              | LP        | RP - MP                  | BP            |
|-----------------|-----------|--------------------------|---------------|
| Not available   | 0,5W - 2W | Not available            | 10,5W - 11,2W |
| Ultra Low power | Low power | Reduced and Medium power | Basic power   |

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 |                        |
| (❖)                                               | (mm)         | (m³/h)              | (l/min) |                                       | ~         | =  | ~/=         | EF                        | (WS)LPKF     | NF   | EM | PV      | (WS)LI | -    | SC    |                        |
| Solenoid air pilot operated and return (bistable) |              |                     |         |                                       |           |    |             |                           |              |      |    |         |        |      |       |                        |
| 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               |
| 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

<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 |
| E      | F |   |   |   |   |   | Explosionproof - NEMA 7, 9 - Zinc plated steel conduit              | ○           | -  | -  | ●  |
| E      | M |   |   |   |   |   | Waterproof IP66/67 - Metal enclosure (EN/IEC 60079-7,-18 and -31)*  | ●           | -  | -  | ●  |
|        |   | E | T |   |   |   | Threaded conduit/hole (M20 x 1,5)                                   | ●           | -  | -  | ●  |
| L      | P | K | F |   |   |   | Flameproof - Aluminium (EN/IEC 60079-1, 60079-31)*                  | ●           | -  | -  | -  |
| N      | F |   |   |   |   |   | Flameproof - Aluminium (EN/IEC 60079-1, 60079-31)*                  | ●           | -  | -  | ●  |
| P      | V |   |   |   |   |   | Encapsulated epoxy moulded (EN/IEC 60079-18)*                       | ○           | -  | -  | ●  |
| 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 / 60079-31)*    | ○           | -  | -  | -  |
| W      | S |   |   |   |   |   | Waterproof IP67 - 316 SS enclosure                                  | ●           | -  | -  | ●  |
| W      | S | L | P | K | F |   | Flameproof - 316 SS (EN/IEC 60079-1, 60079-31)*                     | ●           | -  | -  | -  |
| W      | S | E | M |   |   |   | Waterproof IP66/67 - 316 SS enclosure (EN/IEC 60079-7,-18 and -31)* | ●           | -  | -  | ●  |
| W      | S |   |   | L | I |   | I.S. with 316L SS IP67 enclosure (EN/IEC 60079-11, 60079-31)*       | ○           | -  | -  | -  |
| W      | S | N | F |   |   |   | Flameproof - 316L 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 <sup>(4)</sup> | ●           | -  | -  | ●  |
|        | 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

<sup>(4)</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 table above.

**Example : G553A405**
**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 G553A405MO 230 V / 50 Hz**
**OPTIONS & ACCESSORIES**

| series  | pipe size | exhaust protector (stainless steel) |                                |                 |
|---------|-----------|-------------------------------------|--------------------------------|-----------------|
|         |           | (G)                                 | (NPT)                          | (M)             |
| 551/553 | 1/8       | <b>34600418</b> <sup>(5)</sup>      | <b>34600482</b> <sup>(5)</sup> | -               |
| 551     | 1/4       | <b>34600419</b> <sup>(5)</sup>      | <b>34600483</b> <sup>(5)</sup> | -               |
| 553     | 1/2       | <b>34600479</b> <sup>(5)</sup>      | <b>34600481</b> <sup>(5)</sup> | -               |
| 551     | M5        | -                                   | -                              | <b>34600484</b> |

<sup>(5)</sup> Provided with "SL" suffix.

**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     |
| LI   | G | 553 | A | 305 | 24V / DC        |
| EM   | 8 | 553 | A | 406 | MO 230V / 50 Hz |
| EF   | G | 551 | H | 405 | MO 240V / 60 Hz |

prefix <sup>(6)</sup>

pipe thread

basic number <sup>(6)</sup>

voltage

suffix

## EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

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

## ELECTRICAL CHARACTERISTICS

Coil insulation class  
Electrical safety  
Standard voltages

F  
IEC 335  
DC (=) 24V - 48V  
AC (~) 24V - 48V - 115V - 230V<sup>(9)</sup>/50Hz; other voltages and 60Hz are available on request

| prefix<br>option        | power ratings       |                      |                      |                        | operator<br>ambient<br>temperature<br>range (TS)<br><br>(C°) <sup>(1)</sup> | safety code                                             | electrical<br>enclosure<br>protection<br>(EN 60529) | replacement coil / kit |                  | type<br><br>(2) |
|-------------------------|---------------------|----------------------|----------------------|------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------|------------------------|------------------|-----------------|
|                         | inrush<br>~<br>(VA) | holding<br>~<br>(VA) | hot/cold<br>=<br>(W) |                        |                                                                             |                                                         |                                                     | ~<br><br>230 V/50 Hz   | =<br><br>24V/DC  |                 |
|                         |                     |                      |                      |                        |                                                                             |                                                         |                                                     |                        |                  |                 |
| Basic power (BP)        |                     |                      |                      |                        |                                                                             |                                                         |                                                     |                        |                  |                 |
| SC                      | 55                  | 23                   | 10,5                 | 9/11,2                 | -40 to +75                                                                  | EN 60730                                                | IP65 moulded                                        | 400425-117             | 400425-142       | 01              |
| WP/WS                   | 55                  | 23                   | 10,5                 | 9/11,2                 | -40 to +75                                                                  | EN 60730                                                | IP67 steel/SS                                       | 400405-117             | 400405-142       | 04              |
| NF/WSNF                 | 55                  | 23                   | 10,5                 | -                      | (-60) <sup>(7)</sup> -40 to +25/40/60                                       | II2G Ex d IIC Gb T6/T5/T4, II2D Ex tb IIIC Db           | IP66/67, alu./SS                                    | 400405-117             | -                | 02              |
| NF/WSNF                 | -                   | -                    | -                    | 9/11,2                 | (-60) <sup>(7)</sup> -40 to +40/60/75                                       | II2G Ex d IIC Gb T6/T5/T4, II2D Ex tb IIIC Db           | IP66/67, alu./SS                                    | -                      | 400405-142       | 02              |
| EM/WSEM                 | 55                  | 23                   | 10,5                 | 9/11,2                 | -40 to +40                                                                  | II2G Ex e mb IIC Gb T3, II2D Ex tb IIIC Db              | IP66/67, steel/SS                                   | 400909-117             | 400913-142       | 04              |
| PV                      | 55                  | 23                   | 10,5                 | 9/11,2                 | -40 to +65                                                                  | II2G Ex mb IIC Gb T3(-)/T4(-), II2D Ex mb IIIC Db       | 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              |
| Low power (LP)          |                     |                      |                      |                        |                                                                             |                                                         |                                                     |                        |                  |                 |
| SC                      | 1,5                 | 1,5                  | 1,5                  | 1,7/1,7                | -40 to +60                                                                  | EN 60730                                                | IP65 moulded                                        | 400925-097             | 400925-042       | 07              |
| WP/WS                   | 1,5                 | 1,5                  | 1,5                  | 1,7/1,7                | -40 to +60                                                                  | EN 60730                                                | IP67 steel/SS                                       | 400926-097             | 400926-042       | 09              |
| LPKF/WSLPKF             | 2,4                 | 2,4                  | 2,4 <sup>(9)</sup>   | -                      | -40 to +40/65/80                                                            | II2G Ex d IIB+H2 Gb T6/T5/T4, II2D Ex tb IIIC Db        | IP66/67, alu./SS                                    | - <sup>(4)</sup>       | - <sup>(4)</sup> | 13              |
| LPKF/WSLPKF             | -                   | -                    | -                    | 0,5/0,5 <sup>(8)</sup> | -40 to +60                                                                  | II2G Ex d IIB+H2 Gb T6, II2D Ex tb IIIC Db              | IP66/67, alu./SS                                    | - <sup>(4)</sup>       | - <sup>(4)</sup> | 13              |
| LPKF/WSLPKF             | -                   | -                    | -                    | 2,1 <sup>(9)</sup>     | -40 to +40/80                                                               | II2G Ex d IIB+H2 Gb T6/T4, II2D Ex tb IIIC Db           | IP66/67, alu./SS                                    | - <sup>(4)</sup>       | - <sup>(4)</sup> | 13              |
| NF/WSNF                 | -                   | -                    | 1,85                 | - /1,8                 | (-60) <sup>(7)</sup> -40 to +75/80                                          | II2G Ex d IIC Gb T6/T5, II2D Ex tb IIIC Db              | IP66/67, alu./SS                                    | - <sup>(4)</sup> (5)   | - <sup>(4)</sup> | 08              |
| EM/WSEM                 | 1,5                 | 1,5                  | 1,5                  | 1,7/1,7                | -40 to +40/55                                                               | II2G Ex e mb IIC Gb T6/T5, II2D Ex tb IIIC Db           | IP66/67, steel/SS                                   | - <sup>(4)</sup>       | - <sup>(4)</sup> | 09              |
| PV                      | -                   | -                    | -                    | 1,7/1,7                | -40 to +65                                                                  | II2G Ex mb II T6 / II2D 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              |
| LI <sup>(3)</sup> (6)   | -                   | -                    | -                    | 0,5/0,5                | -40 to +60                                                                  | II1G Ex ia IIC T6 Ga, II2D Ex tb IIIC Db <sup>(6)</sup> | IP66/67, alu.                                       | -                      | - <sup>(4)</sup> | 14              |
| WSLI <sup>(3)</sup> (6) | -                   | -                    | -                    | 0,5/0,5                | -40 to +60                                                                  | II1G Ex ia IIC T6 Ga, II2D Ex tb IIIC Db <sup>(6)</sup> | IP66/67, SS                                         | -                      | - <sup>(4)</sup> | 14              |

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

- (1) Temperature range can be limited by sealings  
(2) Refer to the dimensional drawings on pages: 10 to 14  
(3) LI/WSLI: Check the electrical characteristics in the corresponding catalogue pages  
(4) Multiple coil kits are available under ATEX/IECEx, contact us  
(5) (WS)NF: Low Power, 230 V AC does not exist. Maximum voltage in AC is 115 V  
(6) LI/WSLI: Low Power, 24 V DC only (For use in zone 0 locations, see the installation conditions given in the I&M instructions)  
(7) The certified minimum temperature of this operator  
(8) LPKF/WSLPKF: 24 V DC (0,5 W)  
(9) Max. power ratings values: 115 V AC (2,4 W), 48 V DC (2,1 W)  
- Not available

## ELECTRICAL CONNECTIONS

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

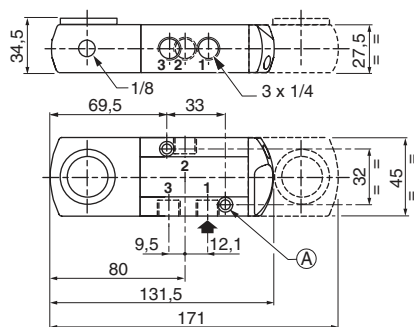
## INSTALLATION

- 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). Check temperature range of valve body and solenoid for suitability. 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) 

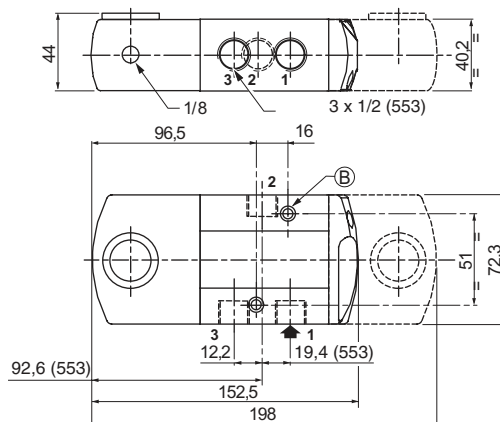
Types 01 to 12

Series 551



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

Series 553



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



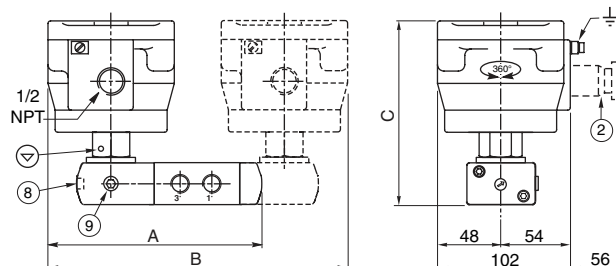
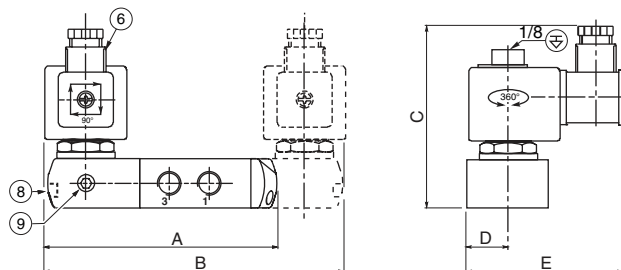
**TYPE 01:**  
Epoxy moulded  
SC: IEC 335 / ISO 4400

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



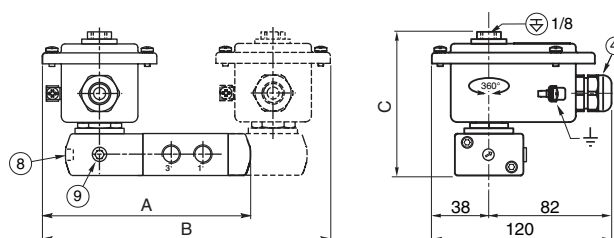
**TYPE 02:**  
Aluminium; epoxy coated / AISI 316L SS  
NF/WSNF: EN/IEC 60079-1, 60079-31

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



**TYPE 04:**  
Metal; epoxy coated / AISI 316 SS  
WP / WS: IEC 335  
EM / WSEM: EN/IEC 60079-7 +18 + 31

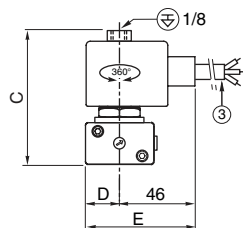
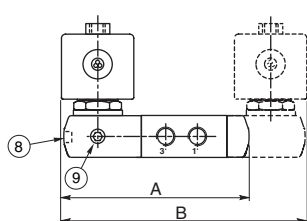
551B405 / B406 / B405MO / B406MO  
553A405 / A406 / A405MO / A406MO



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

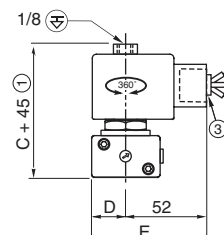
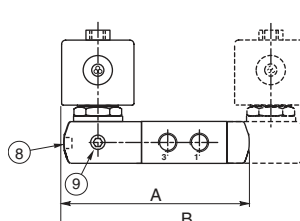

**TYPE 05:**  
Epoxy encapsulated  
PV: EN/IEC 60079-18

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



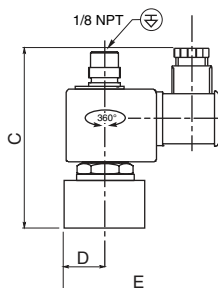
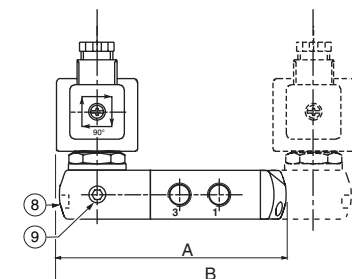
**TYPE 06:**  
Epoxy encapsulated  
EF: NEMA type 7, 9 / ICS-6 ANSI  
NOTE: applicable to solenoid only

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



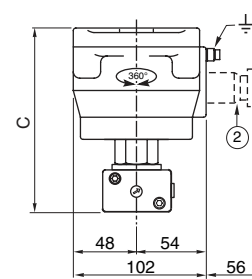
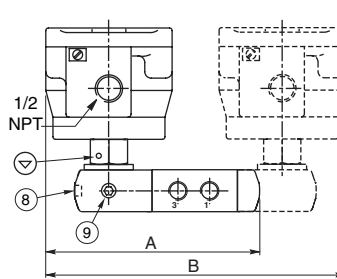
**TYPE 07:**  
Epoxy moulded  
SC: IEC 335 / ISO 4400

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



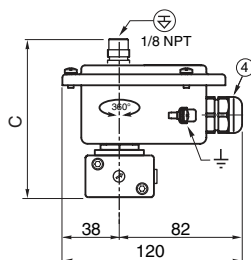
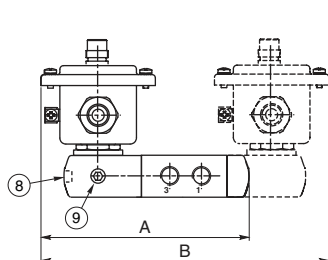
**TYPE 08:**  
Aluminium; epoxy coated / AISI 316L SS  
NF/WSNF: EN/IEC 60079-1, 60079-31

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



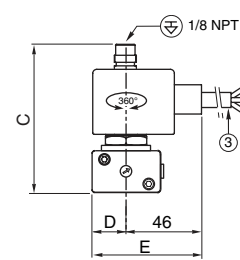
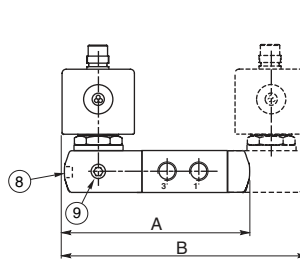
**TYPE 09:**  
Metal; epoxy coated / AISI 316 SS  
WP / WS: IEC 335  
EM / WSEM: EN/IEC 60079-7 +18 + 31

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



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

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



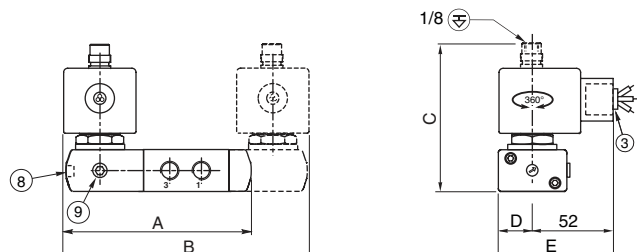
**DIMENSIONS (mm), WEIGHT (kg)**

**TYPE 11:**

Epoxy encapsulated

EF: NEMA type 7, 9 / ICS-6 ANSI

NOTE: applicable to solenoid only

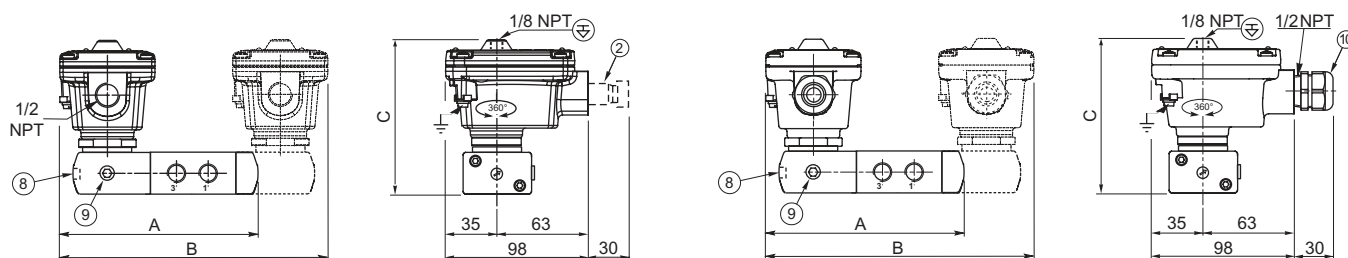
**551H305 / H306 / H305MO / H306MO**  
**553G305 / G306 / G305MO / G306MO**

**TYPE 13:**

 Aluminium, cataphoresis black painting / AISI 316L SS  
 LPKF/WSLPKF: EN/IEC 60079-1, 60079-31

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

**TYPE 14:**

 Aluminium, cataphoresis black painting / AISI 316L SS  
 LI / WSLI : EN/IEC 60079-11, 60079-31

**551B305 / B306 / B305MO / B306MO**  
**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

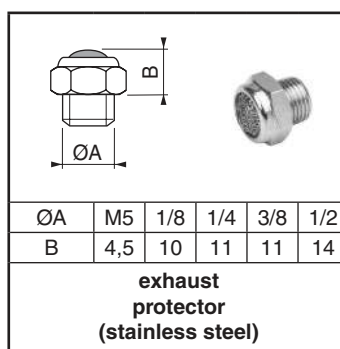
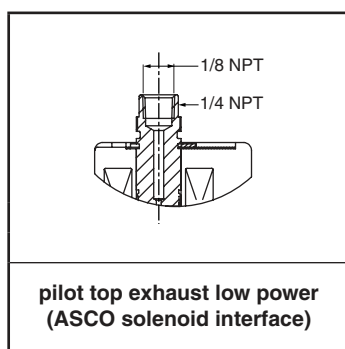
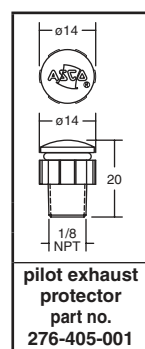
⊕ Connectable pilot exhaust port

∇ Non-connectable pilot exhaust port

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


| type | prefix option | power level | A     |       | B   |       | C     |       | D    |       | E    |       | weight <sup>(1)</sup> |      |          |      |
|------|---------------|-------------|-------|-------|-----|-------|-------|-------|------|-------|------|-------|-----------------------|------|----------|------|
|      |               |             | 551   | 553   | 551 | 553   | 551   | 553   | 551  | 553   | 551  | 553   | monostable            |      | bistable |      |
| 01   | SC            | BP          | 132   | 152,5 | 170 | 198   | 102,7 | 112,2 | 22,5 | 36,15 | 86,5 | 100,2 | 0,76                  | 1,35 | 1,34     | 1,91 |
| 02   | NF / WSNF     | BP          | 158   | 197,3 | 224 | 287,6 | 141,8 | 151,3 | -    | -     | -    | -     | 1,85                  | 2,39 | 3,51     | 4,05 |
| 04   | WP/WS         | BP          | 148   | 169,2 | 204 | 231,3 | 103   | 112,5 | -    | -     | -    | -     | 0,84                  | 1,36 | 1,49     | 1,93 |
| 04   | (WS)EM        | BP          | 148   | 169,2 | 204 | 231,3 | 103   | 112,5 | -    | -     | -    | -     | 0,84                  | 1,36 | 1,49     | 1,93 |
| 05   | PV            | BP          | 132   | 152,5 | 172 | 198   | 88    | 97,5  | 22,5 | 36,15 | 67,5 | 81,2  | 0,82                  | 1,36 | 1,45     | 1,92 |
| 06   | EF            | BP          | 132,5 | 156   | 173 | 205   | 85,5  | 95    | 22,5 | 36,15 | 74,5 | 88,2  | 0,64                  | 1,36 | 1,29     | 1,93 |
| 07   | SC            | LP          | 132,5 | 153,5 | 173 | 200   | 101,5 | 111   | 22,5 | 36,15 | 87,5 | 101,2 | 0,97                  | 1,56 | 1,55     | 2,16 |
| 08   | NF / WSNF     | LP          | 158   | 197,3 | 224 | 287,5 | 141,8 | 151,3 | -    | -     | -    | -     | 1,85                  | 2,39 | 3,51     | 4,05 |
| 09   | WP/WS/(WS)EM  | LP          | 148   | 169,2 | 204 | 231,3 | 102,2 | 111,7 | -    | -     | -    | -     | 1,05                  | 1,57 | 1,70     | 2,14 |
| 10   | PV            | LP          | 132   | 152,5 | 172 | 198   | 100,5 | 110   | 22,5 | 36,15 | 67,5 | 81,2  | 1,03                  | 1,57 | 1,67     | 2,13 |
| 11   | EF            | LP          | 132,5 | 156   | 173 | 205   | 100,5 | 110   | 22,5 | 36,15 | 74,5 | 88,2  | 0,85                  | 1,57 | 1,50     | 2,14 |
| 13   | LPKF          | LP          | 141   | 164,5 | 192 | 222   | 113   | 122,5 | -    | -     | -    | -     | 0,90                  | 1,76 | 1,62     | 2,21 |
| 13   | WSLPKF        | LP          | 141   | 164,5 | 192 | 222   | 113   | 122,5 | -    | -     | -    | -     | 1,51                  | 2,77 | 2,82     | 3,28 |
| 14   | LI            | LP          | 141   | 164,5 | 192 | 222   | 113   | 122,5 | -    | -     | -    | -     | 0,91                  | 1,77 | 1,63     | 2,22 |
| 14   | WSLI          | LP          | 141   | 164,5 | 192 | 222   | 113   | 122,5 | -    | -     | -    | -     | 1,52                  | 2,38 | 2,83     | 3,42 |

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

**ACCESSORIES**




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