

FEATURES

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

GENERAL

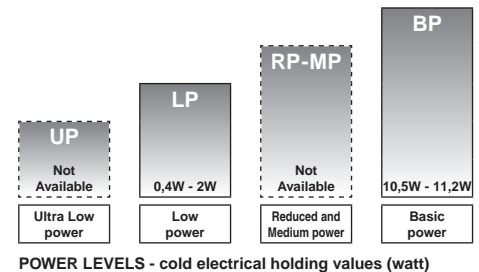
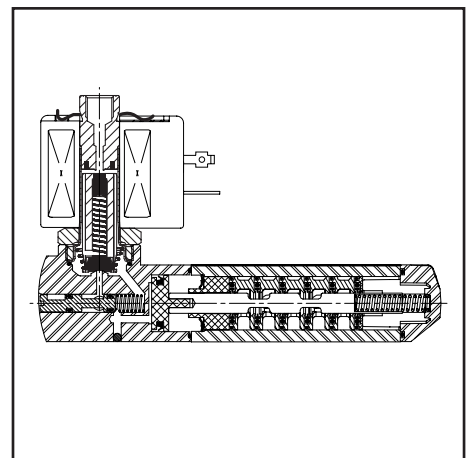
Differential pressure 2 - 10 bar [1 bar =100 kPa]
Flow (Qv at 6 bar) 860 l/min (ANR)

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

MATERIALS IN CONTACT WITH FLUID

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

| | |
|----------------------------|-----------------------------|
| Body, end covers | Brass |
| Spool valve internal parts | Brass, stainless steel, POM |
| Core tube | Stainless steel |
| Core and plugnut | Stainless steel |
| Core spring | Stainless steel |
| Seals & discs | NBR |
| Top disc | PA |
| Disc holder | POM |
| Cartridge (low power) | Welded, packless AISI 430 |
| Seat | Brass |
| Seat insert | POM |
| Shading coil | Copper |
| Rider ring (low power) | PTFE |



SPECIFICATIONS

| pipe size | orifice size | flow coefficient kv | | operating pressure differential (bar) | | | power level | prefix optional solenoids | | | | | | | | | | basic catalogue number |
|---|--------------|---------------------|---------|---------------------------------------|---------|-------|-------------|---------------------------|--------|--------------|-------|----|------|----|---|----|-------------------------|------------------------|
| | | | | | | | | max. (PS) | | ATEX / IECEx | | | | | | | | |
| | | | | min. ⁽²⁾ | air (*) | 7 & 9 | | Ex d | Ex emb | Ex mb | Ex ia | - | IP65 | SC | | | | |
| (*) | (mm) | (m³/h) | (l/min) | ~ | = | ~/= | EF | LPKF | NF | - | EM | PV | LI | IS | - | SC | | |
| Solenoid air pilot operated - spring return (monostable) | | | | | | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | BP | - | - | ● | - | ● | ● | - | - | ● | ❖551A419 ⁽¹⁾ | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | BP | ● | - | - | - | - | - | - | - | - | ❖551G419 ⁽¹⁾ | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | LP | - | ● | ● | - | ● | ○ | ○ | ○ | - | ❖551A319 ⁽¹⁾ | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | LP | ○ | - | - | - | - | - | - | - | - | ❖551G319 ⁽¹⁾ | |
| Solenoid air pilot operated and return (bistable) | | | | | | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | BP | - | - | ● | - | ● | ● | - | - | ● | ❖551A420 | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | BP | ● | - | - | - | - | - | - | - | - | ❖551G420 | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | LP | - | ● | ● | - | ● | ○ | ○ | ○ | - | ❖551A320 | |
| 1/4 | 6 | 0,75 | 12,5 | 0 / 2 | 10 | 10 | LP | ○ | - | - | - | - | - | - | - | - | ❖551G320 | |

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1) ● Available feature ○ Available feature in DC only.

(1) Certified IEC 61508 Functional Safety data, use suffix "SL" (Not to use with LPKF suffix).

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

PREFIX TABLE

| prefix | | | | | | | description | power level | | | |
|--------|---|---|---|---|---|---|--|-------------|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | LP | RP | MP | BP |
| E | F | | | | | | Explosionproof - NEMA 7, 9 - Zinc plated steel conduit | ○ | - | - | ● |
| E | V | | | | | | Explosionproof - NEMA 7, 9 - 316 SS conduit | ○ | - | - | ● |
| E | M | | | | | | Waterproof IP67 - Metal enclosure (EN/IEC 60079-7+18, 61241-1)* | ● | - | - | ● |
| | | E | T | | | | Threaded conduit/hole (M20 x 1,5) | ● | - | - | ● |
| I | S | | | S | C | | Intrinsically safe with SC coil (EN/IEC 60079-11+26, 61241-11)* | ○ | - | - | - |
| L | P | K | F | | | | Flameproof - Aluminium (EN/IEC 60079-1, 61241-1)* | ● | - | - | - |
| N | F | | | | | | Flameproof - Aluminium (EN/IEC 60079-1, 60079-31)* | ● | - | - | ● |
| P | V | | | | | | Encapsulated epoxy moulded (EN/IEC 60079-18, 61241-18)* | ○ | - | - | ● |
| S | C | | | | | | Solenoid with spade plug connector (EN/IEC 60730) | ● | - | - | ● |
| W | P | | | | | | Waterproof IP67 - Metal enclosure | ● | - | - | ● |
| L | I | | | | | | I.S. with Aluminium IP67 enclosure (EN/IEC 60079-11 / 61241-1)* | ○ | - | - | - |
| W | S | | | | | | Waterproof IP67 - 316 SS enclosure | ● | - | - | ● |
| W | S | L | P | K | F | | Flameproof - 316 SS (EN/IEC 60079-1, 61241-1)* | ● | - | - | - |
| W | S | E | M | | | | Waterproof IP67 - 316 SS enclosure (EN/IEC 60079-7+18, 61241-1)* | ● | - | - | ● |
| W | S | | | L | I | | I.S. with 316L SS IP67 enclosure (EN/IEC 60079-11, 61241-1)* | ○ | - | - | - |
| W | S | N | F | | | | Flameproof - 316 SS (EN/IEC 60079-1, 60079-31)* | ● | - | - | - |
| | | T | | | | | Threaded conduit (1/2" NPT) | ● | - | - | ● |
| | | | | H | T | | Class H - High temperature, +80°C ambient temp. | - | - | - | ● |
| | | | | | | X | Other special constructions | ● | - | - | ● |

SUFFIX TABLE

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

OPTIONS & ACCESSORIES

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

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

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 above.

Example : G551A419

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 (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 3.

Example : 230V / 50Hz

STEP 5

Final catalogue / ordering number.

Example :

EM G551A419MO 230 V / 50 Hz

ORDERING EXAMPLES:

| | | | | | | |
|------|-----|-----|-----|-----|-----------------|-------------|
| SC | G | 551 | A | 419 | 230V / 50 Hz | |
| SC | G | 551 | A | 419 | SL 230V / 50 Hz | |
| SC | G | 551 | A | 420 | MO 230V / 50 Hz | |
| SCHT | 8 | 551 | A | 420 | MO 230V / 50 Hz | |
| ISSC | G | 551 | A | 420 | MO 24V / DC | |
| WSL | PKF | G | 551 | A | 319 | MO 24V / DC |
| LPKF | G | 551 | A | 319 | MO 24V / DC | |
| LPKF | G | 551 | A | 319 | MO 230V / 50 Hz | |
| LI | G | 551 | A | 319 | 24V / CDC | |
| WSLI | G | 551 | A | 320 | MO 24V / DC | |
| EM | 8 | 551 | A | 419 | MO 230V / 50 Hz | |
| EF | G | 551 | G | 419 | MO 240V / 60 Hz | |

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

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

EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

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

ELECTRICAL CHARACTERISTICS

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

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

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

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

ELECTRICAL CONNECTIONS

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

ADDITIONAL OPTIONS

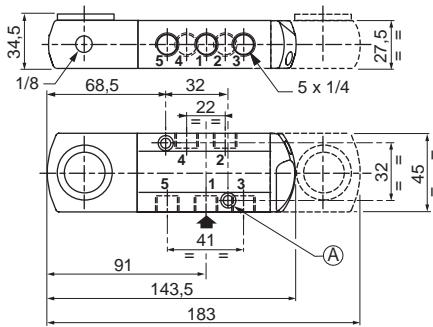
- Valves configured for external pilot air supply, TPL 20547
- Other pipe threads are available on request
- Ex mb/mD (prefix "PV") solenoid can be supplied with various cable lengths
- Compliance with "UL", "CSA" and other local approvals available on request
- 1/2" NPT (prefix "T") and M20 x 1.5 (prefix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

INSTALLATION

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

DIMENSIONS (mm), WEIGHT (kg)

All types

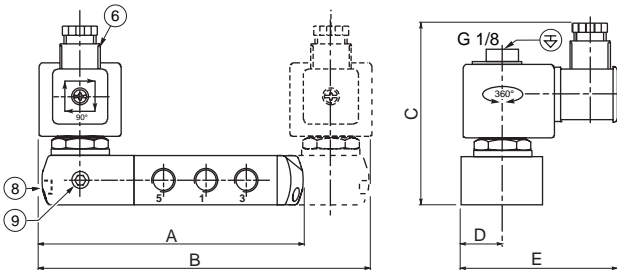


(A) 2 mounting holes 5.3 mm dia.;
Spotfacing: 9 mm dia., depth 5 mm



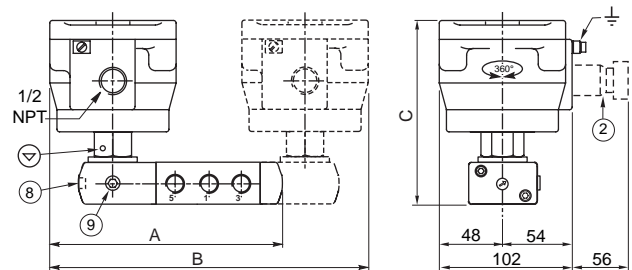
TYPE 01:
SC
Epoxy moulded
IEC 335 / ISO 440

551A419 / 551A420



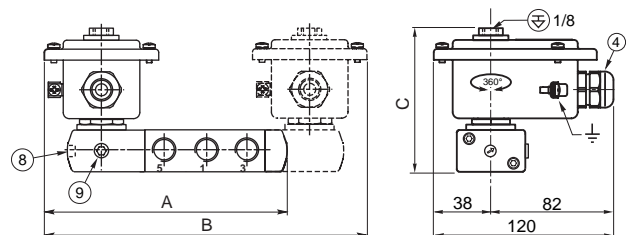
TYPE 02:
Ex d IIC
NF / WSNF
Aluminium; epoxy coated / AISI 316 SS
EN/IEC 60079-1 and EN/IEC 60079-31

551A419 / 551A420



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

551A419 / 551A420

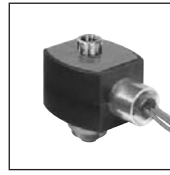
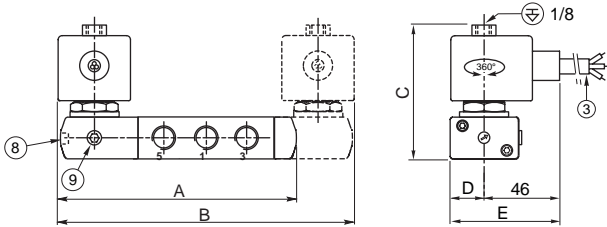


DIMENSIONS (mm), WEIGHT (kg)



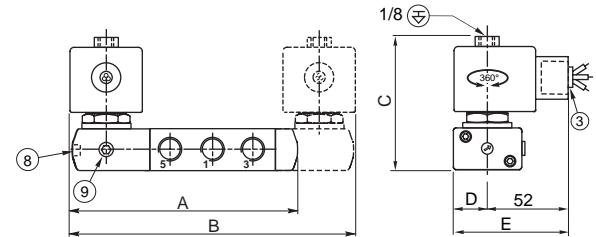
TYPE 05:
PV
Epoxy encapsulated
EN/IEC 60079-18 and EN/IEC 61241-18

551A419 / 551A420



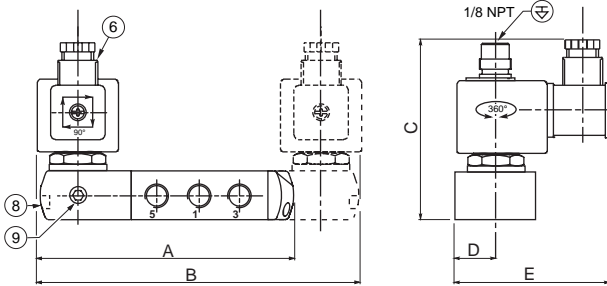
TYPE 06:
EF and EV: NEMA type 7 and 9
Epoxy encapsulated
ICS-6 ANSI
NOTE: applicable to solenoid only

551G419 / 551G420



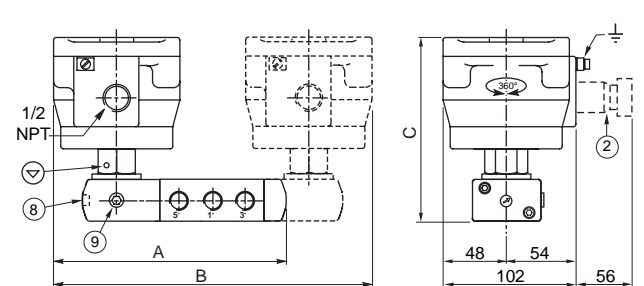
TYPE 07:
SC
Epoxy moulded
IEC 335 / ISO 4400

551A319 / 551A320



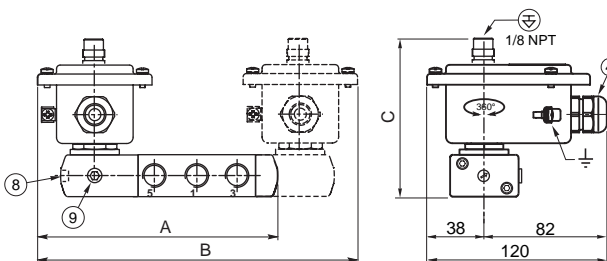
TYPE 08:
NF / WSNF
Aluminium; epoxy coated / AISI 316 SS
EN/IEC 60079-1 and EN/IEC 60079-31

551A319 / 551A320



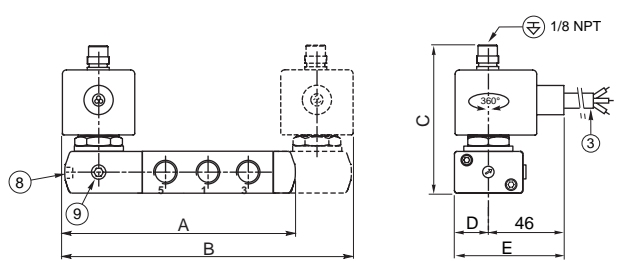
TYPE 09:
WP / WS
EM / WSEM
Steel; epoxy coated / AISI 316 SS
IEC 335 / EN 60079-7/18 and EN 61241-1

551A319 / 551A320



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

551A319 / 551A320



DIMENSIONS (mm), WEIGHT (kg)



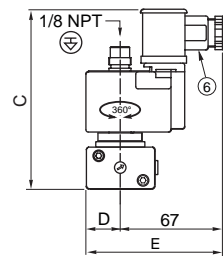
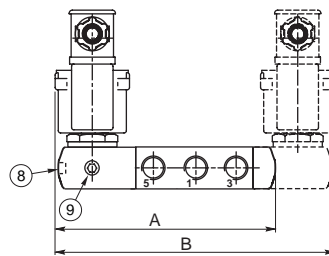
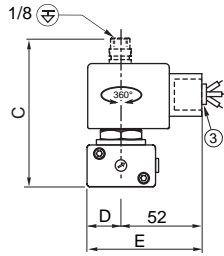
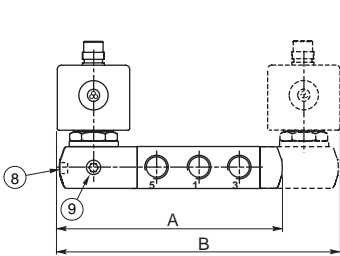
TYPE 11: Prefixes EF/EV: ICS-6 ANSI / NEMA EF and EV: NEMA type 7 and 9
Epoxy encapsulated
ICS-6 ANSI
NOTE: applicable to solenoid only

551H319 / 551G320



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

551A319 / 551A320



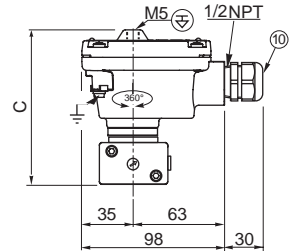
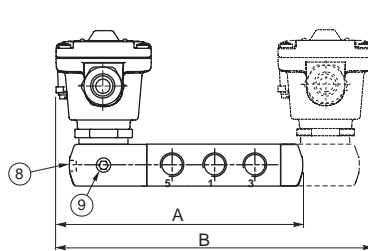
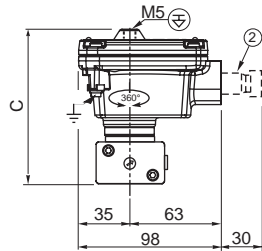
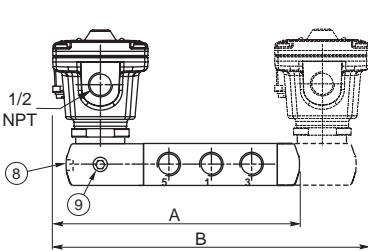
TYPE 13:
LPKF / WSLPKF
Aluminium, cataphoresis black painting / AISI 316L SS
EN/IEC 60079-1 and EN/IEC 61241-1

551A319 / 551A320



TYPE 14:
LI / WSLI
Aluminium, cataphoresis black painting / AISI 316L SS
IEC and EN: 60079-11, 61241-1

551A319 / 551A320



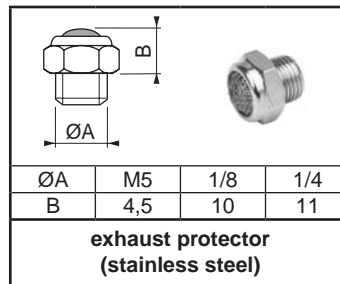
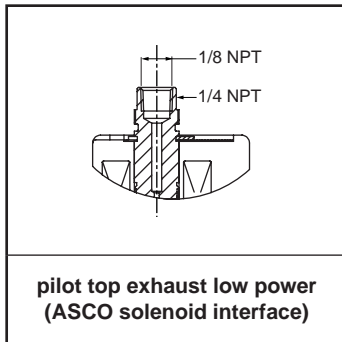
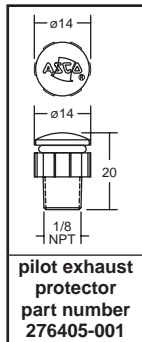
DIMENSIONS (mm), WEIGHT (kg)

| type | prefix option | power level | A | B | C | D | E | weight ⁽¹⁾ | |
|------|---------------------|-------------|-------|-----|-------|------|------|-----------------------|----------|
| | | | | | | | | monostable | bistable |
| 01 | SC | basic power | 144 | 182 | 102,7 | 22,5 | 86,5 | 1,52 | 2,28 |
| 02 | NF | basic power | 170 | 236 | 141,8 | - | - | 2,61 | 4,45 |
| 02 | WSNF | basic power | 170 | 236 | 141,8 | - | - | 3,91 | 5,75 |
| 04 | WP / WS / EM / WSEM | basic power | 160 | 216 | 103 | - | - | 1,70 | 2,43 |
| 05 | PV | basic power | 144 | 184 | 88 | 22,5 | 67,5 | 1,58 | 2,39 |
| 06 | EF / EV | basic power | 144,5 | 185 | 85,5 | 22,5 | 74,5 | 1,40 | 2,23 |
| 07 | SC | low power | 144,5 | 185 | 101,5 | 22,5 | 87,5 | 1,67 | 2,57 |
| 08 | NF | low power | 170 | 236 | 141,8 | - | - | 2,55 | 4,53 |
| 08 | WSNF | low power | 170 | 236 | 141,8 | - | - | 3,85 | 5,83 |
| 09 | WP / WS / EM / WSEM | low power | 160 | 216 | 102,2 | - | - | 1,75 | 2,72 |
| 10 | PV | low power | 144 | 184 | 100,5 | 22,5 | 67,5 | 1,73 | 2,69 |
| 11 | EF / EV | low power | 144,5 | 185 | 100,5 | 22,5 | 74,5 | 1,55 | 2,52 |
| 12 | ISSC | low power | 134 | 187 | 124,5 | 22,5 | 89,5 | 1,50 | 2,43 |
| 13 | LPKF | low power | 153 | 204 | 113 | - | - | 1,66 | 2,56 |
| 13 | WSLPKF | low power | 153 | 204 | 113 | - | - | 2,27 | 3,76 |
| 14 | LI | low power | 153 | 204 | 113 | - | - | 1,67 | 2,57 |
| 14 | WSLI | low power | 153 | 204 | 113 | - | - | 2,28 | 3,77 |

⁽¹⁾ Incl. coil(s) and connector(s)

- ② Ex d certified cable gland (on request)
- ③ Three-core cable, length 2 m
- ④ Cable gland for unarmoured cable with 7 to 12 mm dia. sheath
- ⑥ Connector rotatable by 90° increments (cable Ø 6 - 10 mm)
- ⑧ 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

ACCESSORIES

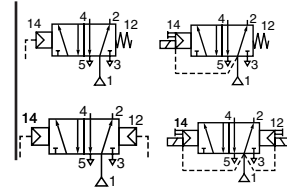


All leaflets are available on: www.asconumatics.eu

5-33-8 **BCAE** 青岛秉诚自动化设备有限公司
Automation Solutions 地址：中国·青岛市重庆南路99号海尔云街甲3号楼7F

服务热线：4006-918-365
网址：<http://www.ivalve.cc>

传真：(86-532)585-10-365
Email：sales@bechinas.com



FEATURES

- The monostable spool valves have TÜV certified IEC 61508 Functional Safety data and can be used up to SIL 4
- All the exhaust ports of this spool valve are connectable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- The solenoid valves satisfy all relevant EC Directives

GENERAL

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

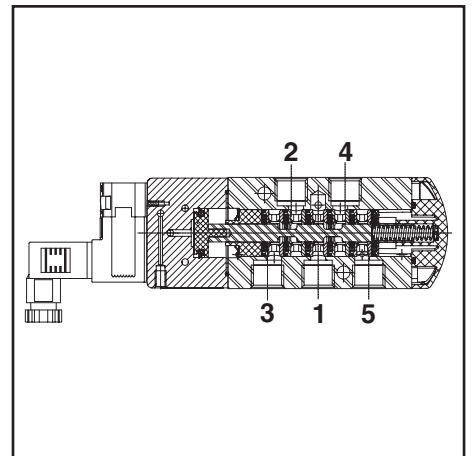
| fluids (*) | temperature range (TS) | seal materials (*) |
|--------------------------|------------------------|-------------------------------------|
| air, inert gas, filtered | - 40°C to + 60°C (2) | VMQ (silicone) + PUR (polyurethane) |

(2) -40°C for air operated versions.

MATERIALS IN CONTACT WITH FLUID

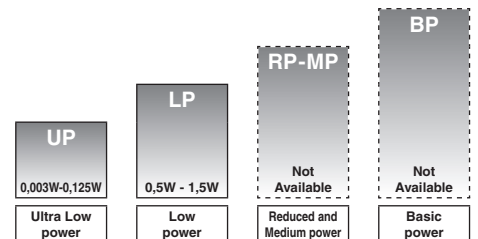
(*) Ensure that the compatibility of the fluids in contact with the materials is verified

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



AIR OPERATED SPECIFICATIONS

| pipe size | orifice size | flow coefficient kv | | operating pressure differential (bar) | | | prefix optional | basic catalogue number |
|--|--------------|---------------------|---------|---------------------------------------|-----------|----|-----------------|------------------------|
| | | | | min. | max. (PS) | | | |
| (*) | (mm) | (m³/h) | (l/min) | | air (*) | | | |
| | | | | | ~ | = | | |
| Pilot air operated - spring return (monostable) | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 2 | 10 | 10 | - | ❖551A119 (1) |
| Pilot air operated and return (bistable) | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 2 | 10 | 10 | - | ❖551A120 |



POWER LEVELS - cold electrical holding values (watt)

CNOMO SOLENOID (PILOT) INTERFACE SPECIFICATIONS

| pipe size | orifice size | flow coefficient kv | | operating pressure differential (bar) | | | power level | prefix optional solenoids | | | | | basic catalogue number |
|---|--------------|---------------------|---------|---------------------------------------|-----------|----|-------------|---------------------------|--------|------|------|------|------------------------|
| | | | | min. | max. (PS) | | | ATEX / IECEx | | IP65 | | | |
| (*) | (mm) | (m³/h) | (l/min) | | air (*) | | ~/= | CFSCIS | PISCIS | CFSC | CFVT | PISC | CNOMO size 15 |
| | | | | | ~ | = | | | | | | | |
| Solenoid air pilot operated - spring return (monostable) | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 2 | 10 | 10 | LP | - | - | ● | ● | - | ❖551C519 (1) |
| 1/4 | 6 | 0,75 | 12,5 | 2 | - | 8 | LP | ○ | - | - | - | - | ❖551C519 (1) |
| 1/4 | 6 | 0,75 | 12,5 | 2 | 8 | 8 | UP | - | ○ | - | - | ● | ❖551C519 (1) |
| Solenoid air pilot operated and return (bistable) | | | | | | | | | | | | | |
| 1/4 | 6 | 0,75 | 12,5 | 2 | 10 | 10 | LP | - | - | ● | ● | - | ❖551C520 |
| 1/4 | 6 | 0,75 | 12,5 | 2 | - | 8 | LP | ○ | - | - | - | - | ❖551C520 |
| 1/4 | 6 | 0,75 | 12,5 | 2 | 8 | 8 | UP | - | ○ | - | - | ● | ❖551C520 |

❖ Select 8 for NPT ANSI 1.20.3 or select G for ISO G (228/1) ● Available feature ○ Available feature in DC only.

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

PREFIX TABLE

| prefix | | | | | | | description | power level | | | |
|--------|---|---|---|---|---|---|--|-------------|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | | UP | LP | RP | BP |
| C | F | S | C | | | | Solenoid + spade plug DIN 43650, 9,4 mm, industry standard B (EN 60730) | - | ● | - | - |
| C | F | V | T | | | | Solenoid with connection M12, LED + protection (EN 60730) | - | ○ | - | - |
| C | F | S | C | I | S | | Intrinsically safe, 9,4 mm, pilot 302; ATEX (EN 60079 / 61241) * | - | ○ | - | - |
| P | I | S | C | | | | Solenoid, spade plug DIN 43650, 9,4 mm, industry stand. B, ATEX (EN 60730) | ● | - | - | - |
| P | I | S | C | I | S | | Intrinsically safe, piezotronic 630 pilot, ATEX (EN 60079/61241) * | ○ | - | - | - |

SUFFIX TABLE

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

OPTIONS & ACCESSORIES

| series | pipe size | exhaust protector (stainless steel) |
|--------|-----------|-------------------------------------|
| 551 | G 1/4 | 34600419 ⁽²⁾ |
| | NPT 1/4 | 34600483 ⁽²⁾ |
| | M5 | 34600484 ⁽²⁾ |

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

PRODUCT SELECTION GUIDE

STEP 1

Select the fluid temperature range and seal material from the general table on page 9. Select basic catalogue number, including pipe thread identification letter. Refer to the specifications tables on page 9.

Example: G551C519

STEP 2

Select prefix (combination). Select the appropriate operator from the tables on pages 9 and 10. Select for this operator in the electrical characteristics table on page 11: the power level (UP, LP), the type of electrical enclosure protection and the desired temperature class.

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

Example : CFSC

STEP 3

Select suffix. Suffix **MO** mandatory for the pilot 302 (CFSCIS). Refer to the suffix table on page 10, respect the indicated power level.

Example : MO

STEP 4

Selection of TPL, on page 11, is mandatory for the 630 pilot (PISCIS), 12 HV DC (32 mW) and 24 HV DC (125 mW). Add "X" between the prefix "PISCIS" and the basic catalogue number.

STEP 5

Select voltage.

Refer to standard voltages on page 11.

Example : 230V / 50Hz

STEP 6

Final catalogue / ordering number.

Example :

CFSC G551C519MO 230 V / 50 Hz

ORDERING EXAMPLES:

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

| | | | | | | | |
|--------------|-------|-------|-------|-------|-------|-------|---------|
| prefix | _____ | _____ | _____ | _____ | _____ | _____ | voltage |
| pipe thread | _____ | _____ | _____ | _____ | _____ | _____ | TPL |
| basic number | _____ | _____ | _____ | _____ | _____ | _____ | suffix |

EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

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

ELECTRICAL CHARACTERISTICS

| | |
|-----------------------|---|
| Coil insulation class | F |
| Electrical safety | IEC 335 |
| Standard voltages | DC (=) CFSC/ CFVT: 24V CFSCIS: 12V - 24V ; PISC: 24V à 70V ; PISCIS: 6V, 8V, 12V, 24V AC (~) CFSC: 24V - 115V - 230V/50Hz - Other voltages are available on request PISC: 24V to 70V |

| prefix option | power ratings | | | | operator ambient temperature range (TS) (C°) | safety code | electrical enclosure protection (EN 60529) | replacement coil | | type ⁽¹⁾ |
|-------------------------------|---------------------|--------------------------|--------------------|----------------------|---|--|---|------------------|---|---------------------|
| | inrush ~ (VA) | holding ~ (VA) (W) | | hot/cold = (W) | | | | ~ | = | |
| | | 1,4 | 1,2 | | | | | | | |
| Low power (LP) | | | | | | | | | | |
| CFSC | 2,1 ⁽⁶⁾ | 1,6 ⁽⁶⁾ | 1,5 ⁽⁶⁾ | - | -25 to +60 | EN 60730 | moulded IP65 | - | - | 01 |
| CFSC | - | - | - | - | -25 to +60 | EN 60730 | moulded IP65 | - | - | 01 |
| CFVT ⁽⁵⁾ | - | - | - | 1,15/1,35 | -25 to +60 | EN 60730 | moulded IP67/IP65 | - | - | 02 |
| CFSCIS ⁽³⁾⁽⁴⁾ | - | - | - | 0,5 | -10 to +40/60 | II 1G Ex ia IIC T6/T4, II 1D Ex iaD 20 | moulded IP65 | - | - | 04 |
| Ultra low power (UP) | | | | | | | | | | |
| PISC | - | - | - | 0,007 | -0 to +60 | - | moulded IP65 | - | - | 06 |
| PISCIS ⁽²⁾⁽³⁾ 6V | - | - | - | 0,003 | -20 to +50 | II 1G Ex ia IIC T6, II 1D Ex iaD 20 | moulded IP65 | - | - | 06 |
| PISCIS ⁽²⁾⁽³⁾ 8V | - | - | - | 0,022 | -20 to +50 | II 1G Ex ia IIC T6, II 1D Ex iaD 20 | moulded IP65 | - | - | 06 |
| PISCIS ⁽²⁾⁽³⁾ 12LV | - | - | - | 0,012 | -20 to +50 | II 1G Ex ia IIC T6, II 1D Ex iaD 20 | moulded IP65 | - | - | 06 |
| PISCIS ⁽²⁾⁽³⁾ 12HV | - | - | - | 0,032 | -20 to +50 | II 1G Ex ia IIC T6, II 1D Ex iaD 20 | moulded IP65 | - | - | 06 |
| PISCIS ⁽²⁾⁽³⁾ 12LV | - | - | - | 0,046 | -20 to +50 | II 1G Ex ia IIC T6, II 1D Ex iaD 20 | moulded IP65 | - | - | 06 |
| PISCIS ⁽²⁾⁽³⁾ 12HV | - | - | - | 0,125 | -20 to +50 | II 1G Ex ia IIC T6, II 1D Ex iaD 20 | moulded IP65 | - | - | 06 |

- Not available

⁽¹⁾ Refer to the dimensional drawings on pages 12 and 13.

⁽²⁾ Piezotronic standards voltages:

| | | | | | | |
|---|---------------|----------------|-------------------|-------------------|-------------------|--------------------|
| Prefix PISCIS: | 6 V DC / 3 mW | 8 V DC / 22 mW | 12 L V DC / 12 mW | 12 H V DC / 32 mW | 24 L V DC / 46 mW | 24 H V DC / 125 mW |
| Turn ON voltage U _{ON} | 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 _{OFF} | 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 _s + R _c) | 1200 Ω max. | 300 Ω max. | 1200 Ω max. | 470 Ω max. | 1200 Ω max. | 470 Ω max. |

| prefix option | safety parameters | | | | |
|-----------------------------|--------------------------|----------------|----------------|----------------|----------------|
| | U _i = (DC) | I _i | P _i | L _i | C _i |
| | (V) | (mA) | (W) | (H) | (µF) |
| Low power (LP) | | | | | |
| CFSCIS | 28 | 300 | 1,6 | 0 | 0 |
| Ultra low power (UP) | | | | | |
| PISCIS | 30 | 200 | 0,9 | 0 | 0 |

⁽³⁾ Intrinsically safe pilots: Check the electrical characteristics in the corresponding catalogue pages (CFSCIS: 302 pilot / PISCIS: 630 pilot).

⁽⁴⁾ CFSCIS (302 pilot):

12 V : I_{ON} min., with LED = 33 mA; U_{ON} min. = 11,9 V; U_(max) recommended = 23 V; U_{OFF} = 3,3 V; I_{OFF} = 10 mA
24 V : I_{ON} min., with LED = 25 mA; U_{ON} min. = 16,4 V; U_(max) recommended = 28 V; U_{OFF} = 5,7 V; I_{OFF} = 7 mA

⁽⁵⁾ Values for LED + protection.

⁽⁶⁾ AC: 230 V

- Not available

ELECTRICAL CONNECTIONS

| prefix | connection |
|----------------------------|--|
| CFSC, CFSCIS, 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 |
| CFVT | M12 connection for M12 connector |

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 prefix - Add 0,15 W (DC) and 0,4 W/VA (AC)
Only available in 24 V AC/DC and 115 V AC
- Mounting on aluminium supply rail, 1/4 or 1/2
- Other pipe threads are available on request

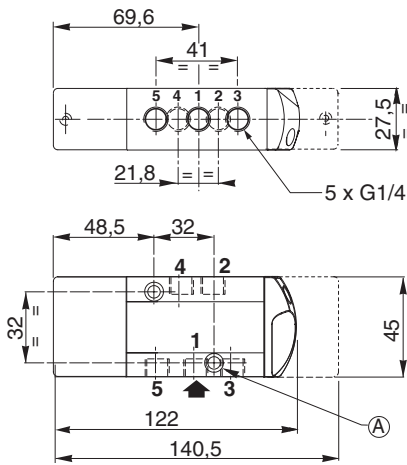
INSTALLATION

- Installation/maintenance instructions are included with each valve
- The solenoid valves and air operated valves can be mounted in any position without affecting operation
- IEC 61508 Functional Safety (Suffix SL), allowable temperature range: -40°C to +60°C. Probability of failure on demand, contact us
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dusts, liquids etc.)
- Threaded pipe connection identifier is: 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- Valves with suffix "SL" are provided with a specific exhaust protector

All leaflets are available on: www.asconumatics.eu

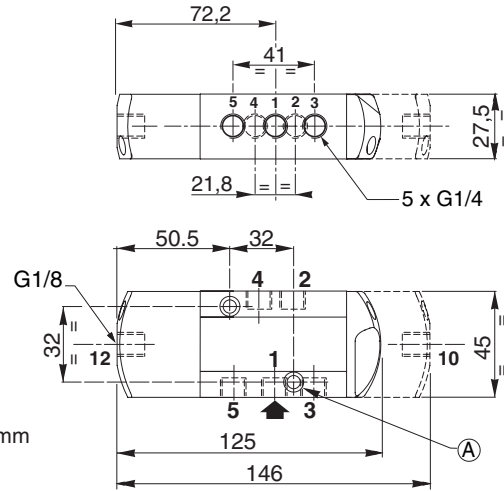
DIMENSIONS (mm), WEIGHT (kg)

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



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

Type 07: Air operated



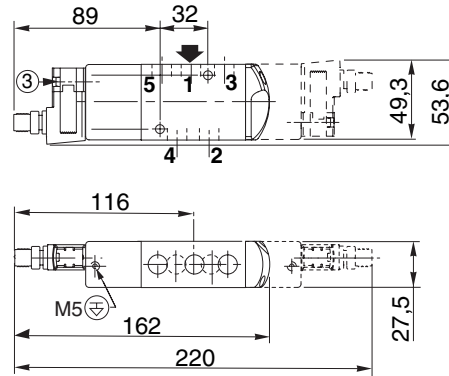
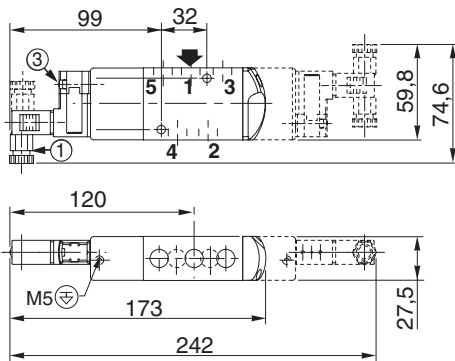
TYPE 01:
CFSC
302 pilot
Polyarylamide
IEC 335 / DIN 43650

551C519 / 551C520
551C519MS / 551C520MS / 551C519MO / 551C520MO



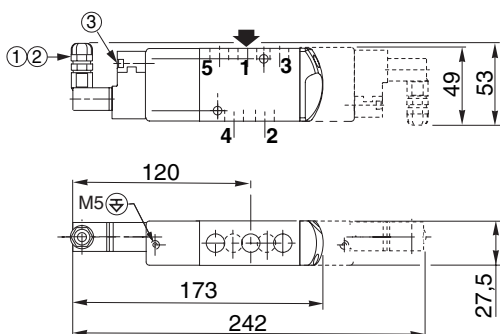
TYPE 02:
CFVT
302 pilot
Polyarylamide
IEC 335 / connection M12 + LED and protection

551C519 / 551C520
551C519MS / 551C520MS / 551C519MO / 551C520MO



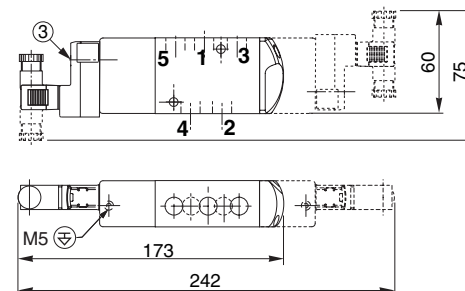
TYPE 04:
CFSCIS
302 pilot
Polyarylamide
IEC 335 / DIN 43650
EN/IEC 60079-11/26 and EN/IEC 61241-11

551C519MO / 551C520MO

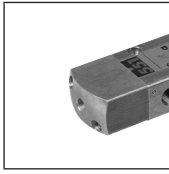


TYPE 06:
PICS / PISCIS
Piezotronic pilot
Polyamide
IEC 335 / DIN 43650
EN 60079-11/26 and EN 61241-11

551C519MO / 551C520MO



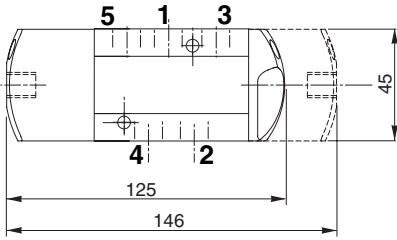
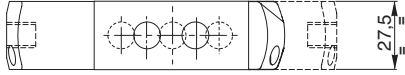
DIMENSIONS (mm), WEIGHT (kg)



TYPE 07:

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

551A119 / 551A120

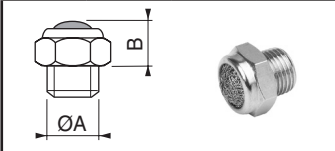


- ① Connector rotatable by 90° increments (cable 4 - 6 mm)
- ② Connector rotatable by 90° increments (cable 6 - 7 mm)
- ③ Manual operator location
- ⊕ Connectable pilot exhaust port

| type | prefix option | power level | weight ⁽¹⁾ | |
|------|---------------|-----------------|-----------------------|----------|
| | | | monostable | bistable |
| 01 | CFSC | low power | 0,966 | 1,175 |
| 02 | CFVT | low power | 0,966 | 1,175 |
| 04 | CFSCIS | low power | 0,971 | 1,185 |
| 06 | PISC / PISCIS | ultra low power | 0,95 | 1,143 |
| 07 | - | - | 0,914 | 1,071 |

⁽¹⁾ Incl. connector(s), except CFVT.

ACCESSORIES



| | | | |
|----|-----|---|-----|
| ØA | M5 | - | 1/4 |
| B | 4,3 | - | 11 |

**exhaust protector
(stainless steel)**

All leaflets are available on: www.asconumatics.eu

5-33-14



青岛秉诚自动化设备有限公司
地址：中国·青岛市重庆南路99号海尔云街甲3号楼7F

服务热线：4006-918-365
网址：<http://www.ivalve.cc>

传真：(86-532)585-10-365
Email：sales@bechinas.com