

ASCO™ Piezotronic Valves

intrinsically safe, II 1G Ex ia IIC T6 or T4 Ga , II 1D Ex ia IIIC T135°C Da

ISO 15218 (CNOMO, size 15) interface, direct operated, pad mounting body, connector size 15 or leads

3/2
Series
630
(PISCS prefix)

Features and Benefits

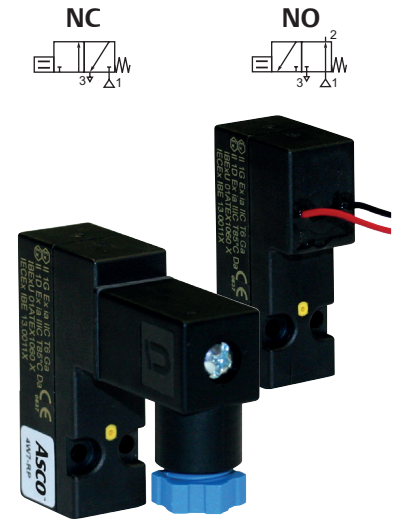
- Miniature, ultra-low power valves for use in potentially explosive atmospheres according to ATEX Directive 2014/34/EU
- ECType examination certificate (IBExU01ATEX1060X) and IECEx certificate (IECExIBE13.0011X) are in compliance with: EN IEC 60079-0:2018 and EN 60079-11:2012
- Intrinsically safe design (class Ex ia) approved for use in potentially explosive atmospheres of group IIC and temperature class T6 or T4. It can be suitable for oil, gas, paint manufacturing and application industries
- Specially designed for applications where there is a requirement for low power consumption, low weight and low bulk combined with excellent flow/pressure characteristics. They can be used in zone 0, and are also perfectly suitable for other zones. Electrical connection can be made with cable or connector according to DIN 43650, form C, 9.4 mm pin spacing

General

Differential pressure 2 - 8 bar [1 bar = 100 kPa]
Pneumatic base ISO 15218 (CNOMO E06.36.120N, size 15) or ISO 15218 (CNOMO E06.05.80N, size 30) with adapter

| Response time (ms) | NC NO | |
|--------------------|-------|-----|
| | 6 V | 8 V |
| 8 V | 780 | - |
| 12 V | 650 | - |
| 24 V | 320 | 320 |
| | 24 V | 130 |

| fluids (*) | temperature range (TS) | seal materials (*) |
|---|------------------------|--------------------|
| air or inert gas dry, filtered 5 µm (6V, 8V and 12 V versions) or 25 µm (24V version), without condensate, dew point: -20°C | -20°C to +50°C / +60°C | NBR (nitrile) |



Materials of components in contact with fluid

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

| | |
|-----------------------|---------------------------|
| Body | PPS |
| Internal parts | Piezo ceramics |
| Seals | NBR |
| Subbase | Brass, PA or zinc diecast |

Electrical characteristics

Connector Spade plug (cable Ø 4-6 mm) Ex II 1G Ex ia IIC T6 or T4 Ga
 Ex II 1D Ex ia IIIC T135°C Da

Connector specification DIN 43650, form C, 9.4 mm pin spacing
Cable specification 2 lead outlet, length 1 m, AWG 26
Electrical safety IEC 335
Electrical enclosure protection Moulded IP65 (EN 60529)
Standard voltages DC (=): 6V, 8V, 12V, 24V
Duty cycle 100%⁽¹⁾

Safety code

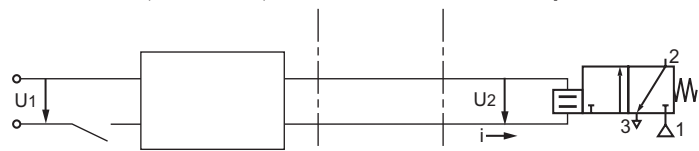
| UP | LP | RP-MP | BP |
|-----------------|---------------|--------------------------|---------------|
| 0,003W-0,125W | Not available | Not available | Not available |
| Ultra Low power | Low power | Reduced and Medium power | Basic power |

POWER LEVELS - cold electrical holding values (watt)

| Voltage (U _i) (max. ripple 10%) | power ratings Hot/Cold = | Holding current I _N | Typical functional ratings | | | | | Operator ambient temperature range (TS) | Type ⁽³⁾ |
|--|-----------------------------|--------------------------------|--------------------------------|----------------------------------|-------------------------------|-------------------------------|--|---|---------------------|
| | | | U ₂ (ON) turn on | U ₂ (OFF) turn off | I ₁ (peak) peak | I ₁ (hold) hold | R _s + R _c barrier + cable | | |
| (V) | (W) | (mA) | (V) | (V) | (mA) | (mA) | max. (Ω) | (°C) ⁽²⁾ | |
| Ultra low power (UP) | | | | | | | | | |
| 6 | 0.003 | 0.5 | 6..9 | 3 | 6 | 0.5 | 1200 | -20 to +50/+60 | 01-02 |
| 8 | 0.022 | 2.9 | 7.2.. 12 | 3.2 | 10 | 2.8 | 300 | | |
| 12 (12 mW version) | 0.012 | 1 | 10.8.. 16 | 3.3 | 6.8 | 1 | 1200 | | |
| 12 (32 mW version) | 0.032 | 2.7 | 10.8.. 16 | 3.3 | 8.1 | 2.7 | 470 | | |
| 24 (46 mW version) | 0.046 | 1.9 | 21.6.. 28 | 5 | 10 | 1.9 | 1200 | | |
| 24 (125 mW version) | 0.125 | 5.2 | 21.6.. 28 | 5 | 14 | 5.2 | 470 | | |

| Power level | Safety parameters | | | | |
|-----------------------------|--------------------------|----------------|----------------|----------------|----------------|
| | U _i = (DC) | I ₁ | P ₁ | L ₁ | C ₁ |
| (W) | (V) | (mA) | (W) | (H) | (µF) |
| Ultra low power (UP) | | | | | |
| All versions | 30 | 200 | 0.9 | 0 | 0 |

Example of use with a Zener barrier installed in a non-hazardous zone:
 Safe area (RS interface) Cable Explosive area



Electrical connection (piezo-valves have polarization)



| Temperature classification table | | |
|------------------------------------|--------|------|
| Ambient temperature T _s | 50°C | 60°C |
| G-classification | T6 | T4 |
| D-classification | T135°C | |

- (1) Not to be used as a safety valve.
- (2) The minimum allowable ambient temperature is -20°C
- (3) Refer to the dimensional drawings on the following pages.

Specifications

| Pipe size | Flow coefficient Kv | | Operating pressure differential (bar) | | Voltage (V) | Power ratings (W) | (M) | Catalogue number | |
|---|---------------------|---------|---------------------------------------|-----------|-------------|-------------------|-----|--------------------------------------|--------------------|
| | | | Min. | Max. (PS) | | | | Spade plug connection with connector | With 2-lead outlet |
| | (m³/h) | (l/min) | = | = | = | = | | | |
| NC - Normally closed (PISCIS prefix) | | | | | | | | | |
| pad mounting | 0.0015 | 0.026 | 2 | 8 | 6 | 0.003 | X | 63000061 | 63000062 |
| | | | | | | | ▼ | 63000059 | 63000060 |
| | 0.002 | 0.033 | 2 | 8 | 8 | 0.022 | X | 63000091 | 63000092 |
| | | | | | | | ▼ | 63000093 | 63000094 |
| | | | | | 12 | 0.012 | X | 63000051 | 63000055 |
| | | | | | | | ▼ | 63000053 | 63000057 |
| | | | | | 24 | 0.032 | X | 63000095 | 63000096 |
| | | | | | | | ▼ | 63000097 | 63000098 |
| | 0.046 | X | 63000043 | 63000047 | | | | | |
| | | ▼ | 63000045 | 63000049 | | | | | |
| | 0.125 | X | 63000099 | 63000100 | | | | | |
| | | ▼ | 63000101 | 63000102 | | | | | |
| NO - Normally open | | | | | | | | | |
| pad mounting | 0.002 | 0.033 | 2 | 8 | 12 | 0.012 | X | 63000052 | 63000056 |
| | | | | | | | ▼ | 63000054 | 63000058 |
| | | | | | 24 | 0.046 | X | 63000044 | 63000048 |
| | | | | | | | ▼ | 63000046 | 63000050 |

(M), type of manual operator: X: without ▼: impulse

Subbases

| Pipe size | Designation | Catalogue number |
|--------------------------------|---|----------------------------|
| Aluminium subbases | | |
| M5 ⁽¹⁾ , tapped | single subbase (M5 lateral connection) | 88263002 ⁽²⁾ |
| - | intermediate subbase, adapter for mounting of Piezotronic valve, NC, series 630, on CNOMO interface E06.05.80 (30x30) | 30300001 |
| Brass subbase | | |
| M5 ⁽¹⁾ , tapped | single subbase (M5 lateral connection) | 88263001 ⁽²⁾ |
| Zinc diecast subbases | | |
| G 1/8" ⁽¹⁾ , tapped | laterally-connected single subbase | 35300047 ⁽¹⁾⁽²⁾ |
| G 1/8" ⁽¹⁾ , tapped | joinable subbase | 35300048 ⁽²⁾ |

⁽¹⁾ Subbases with a CNOMO E06.05.80 interface (30x30) require the adapter **88263001** for Piezotronic valves mounting.

⁽²⁾ Assembly safety code [solenoid valve + subbase(s)]: II 2GD IP65 Ex ia IIC T6 .

Installation

- The solenoid valves can be mounted in any position without affecting operation
- Solenoid valve supplied with mounting screws
- Pipe connections G 1/8" have standard thread according to ISO 228/1
- Electrical connection between solenoid valve and barrier/interface with cable or connector
- Installation/maintenance instructions are included with each valve

Compatibles barriers

Located in safe areas, these barriers allow to feed the intrinsically safe, piezotronic valves series 630 located in explosive areas. This equipment must be ordered from its respective manufacturers, specifying that they are intended to feed intrinsically safe, Piezotronic valves.

| ASCO pilot / 630 / II 1G Ex ia IIC T6 or T4 Ga / II 1D Ex ia IIIC T 135°C Da | | | | | | | |
|--|--------------------|-------------|---------|----------|----------|----------|-----------|
| Suppliers | Barrier reference | PIEZOTRONIC | | | | | |
| | | 6V/22mW | 8V/22mW | 12V/12mW | 12V/32mW | 24V/46mW | 24V/125mW |
| CEAG | FB 6208 | | | | | X | X |
| Pepperl + Fuchs | FDO-VC-Ex4.PA | X | | | | | X |
| Stahl | 9475/12-04-11 | | | | X | | |
| | 9475/12-04-21 | | | | | | X |
| | 9475/12-04-31 | | | | | | X |
| | 9475/12-08-41 | X | X | | | | |
| | 9475/12-08-51 | | | | X | | |
| | 9475/12-08-61 | | | | | X | X |
| Turck | AS 80-Ex | | | X | | | |
| | DM 80-Ex | | X | | | | |
| AP3 | NAEV30-DO4H-C024-0 | | | | | X | X |
| | NAEV30-DO4L-C024-0 | | | | | X | |
| ABB | DX910S | X | | | | | |

Not compatible

In accordance with the zone classification and the national legislation of each country, apply the certification procedures for the connection of IS-rated products with associated equipment. All information subject to change without notice. All responsibility for the use of products from other suppliers and the possible modifications of their characteristics is disclaimed.

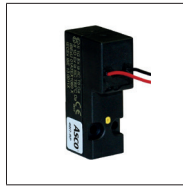
ASCO™ Piezotronic Valves

Dimensions (mm), Weight (kg)



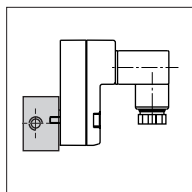
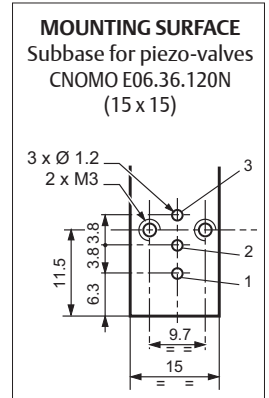
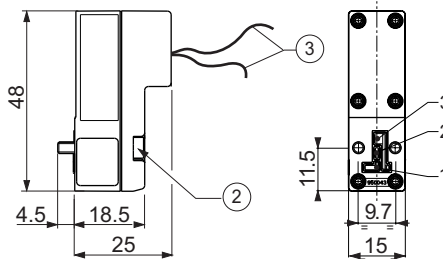
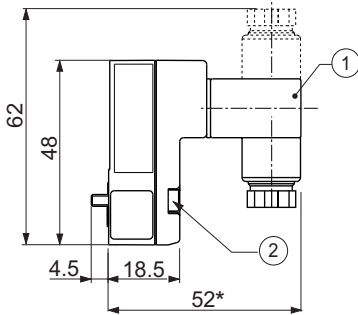
TYPE 01:
Piezo-valves (NC = PISCIS prefix)
Ultra low power
EN IEC 60079-0:2018 ; EN 60079-11:2012
II 1G Ex ia IIC T6 or T4 Ga,
II 1D Ex ia IIC T135°C Da
IP65
Weight: 0.031 kg

63000061/059/091/093/051/053/095/097/043/045
/099/101/052/054/044/046



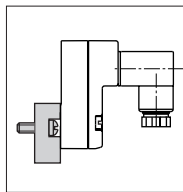
TYPE 02:
Piezo-valves with 2-lead outlet
Ultra low power
EN IEC 60079-0:2018 ; EN 60079-11:2012
II 1G Ex ia IIC T6 or T4 Ga,
II 1D Ex ia IIC T135°C Da
IP65
Weight: 0.023 kg

63000062/060/092/094/055/057/096/098
/047/049/100/102/056/058/048/050



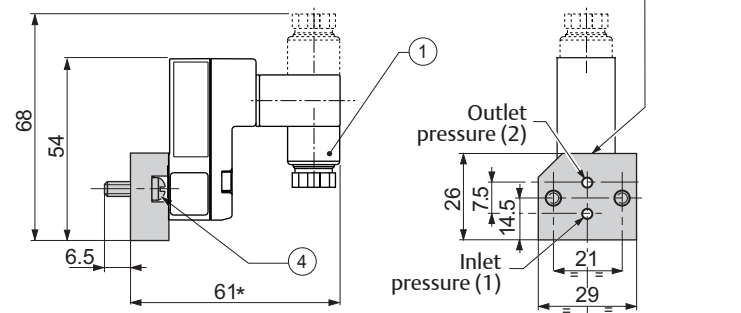
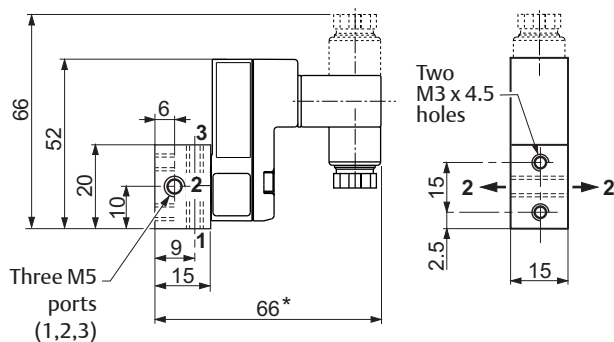
TYPE 03
Single M5 subbases,
aluminium (0.011 kg) or brass (0.032 kg)

88263002 (aluminium) or 30300001 (brass)



TYPE 04
CNOMO adapter 30x30
(Only for NC version)
Weight: 0.018 kg

88263001

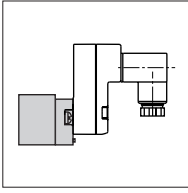


Single subbase connection:

Outlet port (2) can be connected on the left or the right side of the subbase. Close the unused port with a Ø M5 plug (supplied).

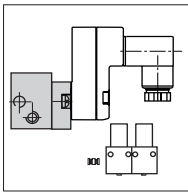
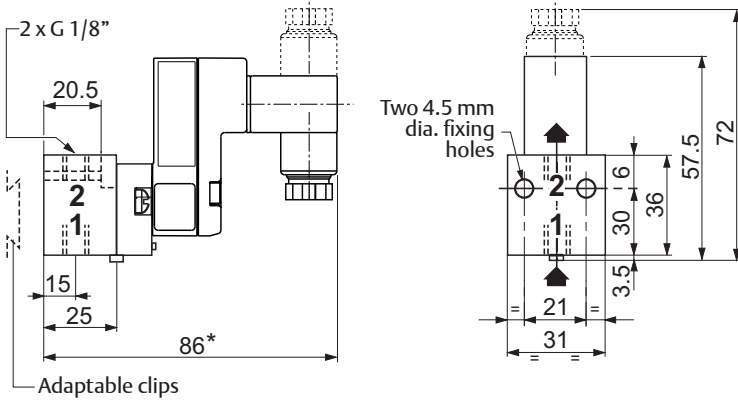
- ① Plug connector size 15, rotatable by 90°, cable 4-6 mm dia.
- ② Secured by two screws CM3 x 20
- ③ 2 leads, length 1 m
- ④ Secured by two screws CM4 x 10
- * +10 mm for connector removal

Dimensions (mm), Weight (kg)



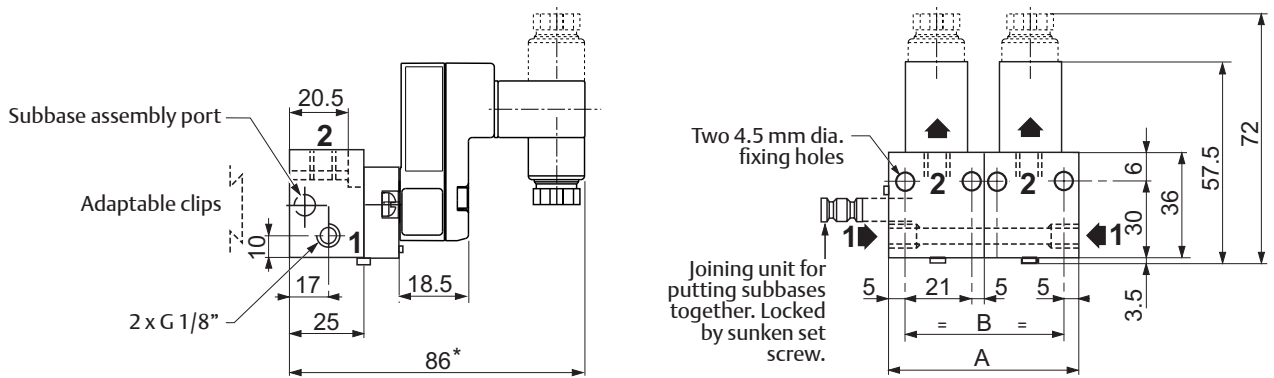
TYPE 05
CNOMO size 30 adapter + Single G 1/8" subbase
Total weight (with NC solenoid valve and connector): 0.118 kg

88263001 + 35300047



TYPE 6
CNOMO size 30 adapter + joinable G 1/8" subbase
Total weight (with NC solenoid valve and connector): see table

88263001 + 35300048



Subbases supplied with seals, screws and joining units for gang mounting
* +10 mm for connector removal

| number of subbases | Dimension | | Weight |
|--------------------|-----------|-----|--------|
| | A | B | |
| 2 | 62 | 52 | 0.363 |
| 3 | 93 | 83 | 0.608 |
| 4 | 124 | 114 | 0.853 |
| 5 | 155 | 145 | 1.098 |
| 6 | 186 | 176 | 1.343 |
| 7 | 217 | 207 | 1.588 |
| 8 | 248 | 238 | 1.833 |

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