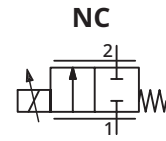


ASCO™ Proportional Solenoid Valves

2 Way, NC, Direct Operated, 1/8" Thread, Pad Mount Body

Features and Benefits

- The direct acting proportional flow control valves are designed for a wide range of applications to control very precise flow of liquid and gaseous medias
- Internal constructions are designed to operate nearly friction free. This allows a very precise proportional flow control
- All valve coils are UL recognized
- Due to the low internal friction, we also achieve a good repeatability and sensitivity
- Internal design allows quiet operation
- The proportional solenoid valves satisfy all relevant CE and UKCA directives



General

| | |
|---------------------------|--------------------------------|
| Differential pressure | See «SPECIFICATIONS» |
| Ambient temperature range | -10°C to +55°C (14°F to 131°F) |
| Maximum viscosity | 21 cSt (mm ² /s) |
| Response time | < 15 ms |

| Fluids (*) | Temperature range (TS) | Seal materials (*) |
|-------------------------------------|-----------------------------------|---|
| air, inert gases or neutral liquids | -10°C to +90°C (14°F to 194°F) | FPM (fluoroelastomer) |
| | | EPDM (ethylene propylene diene monomer) |

Materials in contact with fluid

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

| | |
|------------------|--------------------------|
| Body | Brass or stainless steel |
| Core tube | Brass or stainless steel |
| Core and plugnut | Stainless steel |
| Springs | Stainless steel |
| Seal | FPM or EPDM |
| Disc | FPM or EPDM |

Electrical characteristics

| | |
|---------------------------------|---|
| Coil insulation class | H |
| Connector specification | Industry standard, form B (11 mm) |
| Electrical enclosure protection | Moulded IP65 (EN 60529) |
| Standard voltages | DC (=) : 12 V, 24 V (Other voltages on request) |

| Voltage | Control range | Power ratings | Operator ambient temperature range (TS) | Type ⁽¹⁾ |
|---------|---------------|---------------|---|---------------------|
| | | Hot/Cold = | | |
| (V) = | (mA) | (W) | °C (°F) | |
| 12 | 100 - 440 | 5.3 / 4 | 0 to +55 (32 to 131) | 01 |
| 24 | 50 - 220 | | | |

Voltage regulation ⁽²⁾ 0-24 V DC or 0-12 V DC
12 or 24 V DC pulse width modulated (> 800 Hz) ⁽³⁾

Flow regulation characteristics ⁽⁴⁾ Hysteresis < 5 %;
Repeatability ⁽⁵⁾ < 1 %;
Sensitivity < 0.2 %

- ⁽¹⁾ Refer to the dimensional drawings on the following page.
⁽²⁾ For electronic proportional control unit, please contact us.
⁽³⁾ Higher frequencies will cause larger hysteresis but reduce the risk of oscillations. We recommend higher frequencies for applications with liquids.
⁽⁴⁾ Percentage of max. value within control range, PWM 800 Hz.
⁽⁵⁾ Repeatability measured under laboratory conditions. The flow values may drift over lifetime depending on conditions and duration of storage and usage.

Specifications

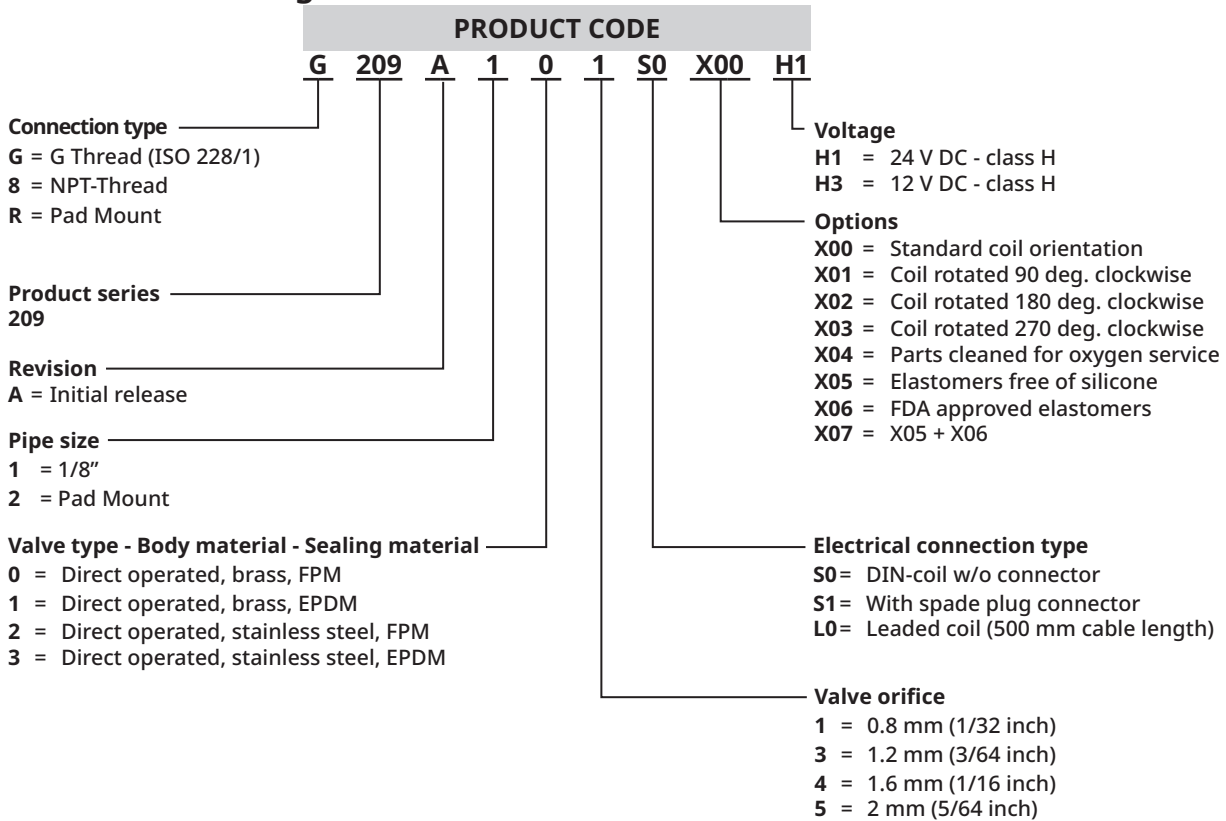
| | | | | | | | | | | PRODUCT CODE | | | | |
|--|--------------|------------------|------------|--|----------|----------------------------------|---------------|---------------|---------------|-----------------|---------------|---------------|---------------|---------------|
| Pipe size | Orifice size | Flow coefficient | | Operating pressure differential ⁽¹⁾ | | Dimensions / Type ⁽²⁾ | Thread type | Seal and disc | | | Voltage code | | | |
| | | | | bar (psi) | | | | | Brass | Stainless steel | 12 V/DC | 24 V/DC | | |
| | | Max. (PS) | | | | | | | | | | | | |
| | | 1 → 2 | Vacuum (*) | Air, inert gases or neutral liquids (*) | | | | | | | | | | |
| NC - Normally closed, without manual operator | | | | | | | | | | | | | | |
| 1/8" | 0.8 (1/32) | 0.020 | 0.33 | 0 | 1 (14.5) | 10 (145) | 01 | G | FPM | G209A101S0X00 | G209A121S0X00 | H3 H1 | | |
| | | | | | | | | | EPDM | G209A111S0X00 | G209A131S0X00 | | | |
| | | 03 | G | | | | FPM | G209A101L0X00 | G209A121L0X00 | | | | | |
| | | | | | | | EPDM | G209A111L0X00 | G209A131L0X00 | | | | | |
| | 1.2 (3/64) | 0.042 | 0.70 | | | 8 (116) | 01 | G | 01 | G | FPM | | G209A103S0X00 | G209A123S0X00 |
| | | | | | | | | | | | EPDM | | G209A113S0X00 | G209A133S0X00 |
| | | 03 | G | | | | FPM | G209A103L0X00 | G209A123L0X00 | | | | | |
| | | | | | | | EPDM | G209A113L0X00 | G209A133L0X00 | | | | | |
| | 1.6 (1/16) | 0.066 | 1.10 | 6 (87.1) | 01 | G | 01 | G | FPM | G209A104S0X00 | G209A124S0X00 | | | |
| | | | | | | | | | EPDM | G209A114S0X00 | G209A134S0X00 | | | |
| | | 03 | G | | FPM | G209A104L0X00 | G209A124L0X00 | | | | | | | |
| | | | | | EPDM | G209A114L0X00 | G209A134L0X00 | | | | | | | |
| | 2 (5/64) | 0.078 | 1.30 | 4.5 (65.3) | 01 | G | 01 | G | FPM | G209A105S0X00 | G209A125S0X00 | | | |
| | | | | | | | | | EPDM | G209A115S0X00 | G209A135S0X00 | | | |
| | | 03 | G | | FPM | G209A105L0X00 | G209A125L0X00 | | | | | | | |
| | | | | | EPDM | G209A115L0X00 | G209A135L0X00 | | | | | | | |
| Pad mounting | 0.8 (1/32) | 0.020 | 0.33 | 0 | 1 (14.5) | 10 (145) | 02 | - | FPM | R209A201S0X00 | R209A221S0X00 | | | |
| | | | | | | | | | EPDM | R209A211S0X00 | R209A231S0X00 | | | |
| | | 04 | - | | | | FPM | R209A201L0X00 | R209A221L0X00 | | | | | |
| | | | | | | | EPDM | R209A211L0X00 | R209A231L0X00 | | | | | |
| | 1.2 (3/64) | 0.042 | 0.70 | | | 8 (116) | 02 | - | 02 | - | FPM | R209A203S0X00 | R209A223S0X00 | |
| | | | | | | | | | | | EPDM | R209A213S0X00 | R209A233S0X00 | |
| | | 04 | - | | | | FPM | R209A203L0X00 | R209A223L0X00 | | | | | |
| | | | | | | | EPDM | R209A213L0X00 | R209A233L0X00 | | | | | |
| | 1.6 (1/16) | 0.066 | 1.10 | 6 (87.1) | 02 | - | 02 | - | FPM | R209A204S0X00 | R209A224S0X00 | | | |
| | | | | | | | | | EPDM | R209A214S0X00 | R209A234S0X00 | | | |
| | | 04 | - | | FPM | R209A204L0X00 | R209A224L0X00 | | | | | | | |
| | | | | | EPDM | R209A214L0X00 | R209A234L0X00 | | | | | | | |
| | 2 (5/64) | 0.073 | 1.22 | 4.5 (65.3) | 02 | - | 02 | - | FPM | R209A205S0X00 | R209A225S0X00 | | | |
| | | | | | | | | | EPDM | R209A215S0X00 | R209A235S0X00 | | | |
| | | 04 | - | | FPM | R209A205L0X00 | R209A225L0X00 | | | | | | | |
| | | | | | EPDM | R209A215L0X00 | R209A235L0X00 | | | | | | | |

⁽¹⁾ Limit value for tightness. If the inlet pressure is more than twice the outlet pressure discontinuities in the flow curve such as steps or oscillations can occur.

⁽²⁾ For dimensions, see drawing(s) for each construction type on the following page(s).

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

Product selection guide



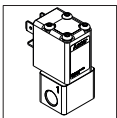
Options

- Digital control unit for all connector coils [catalogue numbers: **X90850164500100-0200** + **833-064154** (adapter)]
- Electronic proportional control unit for all connector coils [catalogue number: **E908A003**]
- Control device (Control²) [catalogue numbers: **60300117**, **60300118**]
- Special valve adjustments available on request

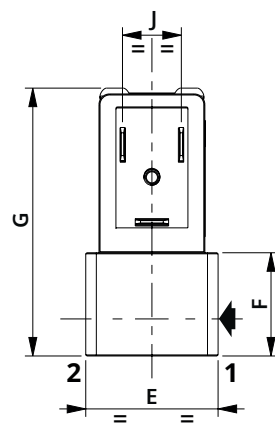
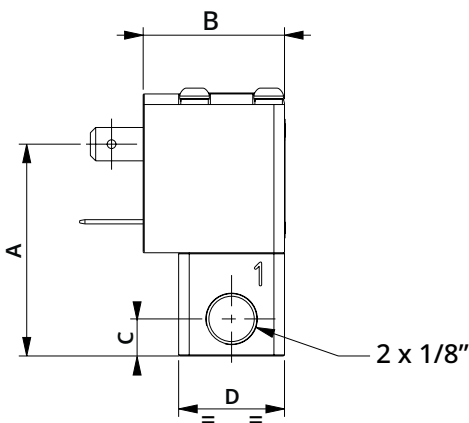
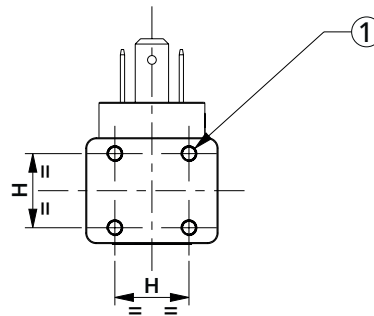
Installation

- The proportional solenoid valves can be mounted in any position without affecting operation with gases. For use with liquids non-upright position is recommended
- For use with liquids, it is recommended to flush the valve to evacuate any air
- Thread connection: Pipe connections G type thread according to ISO 228/1 and NPT type according to ANSI B1.20.3
- Installation/maintenance instructions are included with each valve

Dimensions mm (inches), Weight kg (lbs)



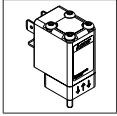
TYPE 01
Electrical interface "S0"
1/8" thread



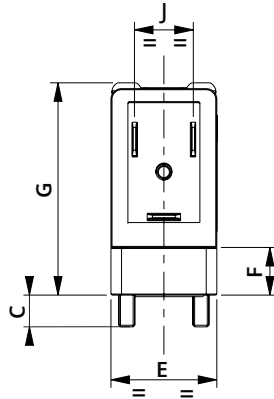
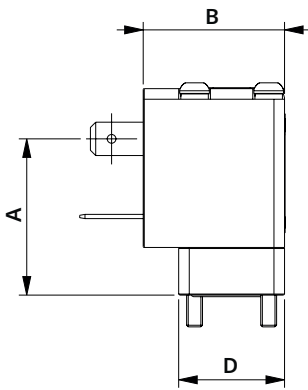
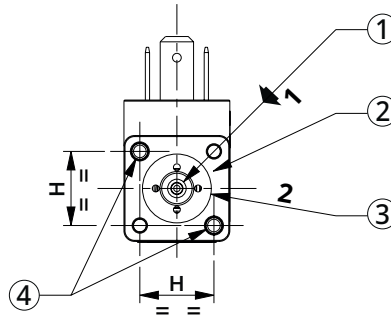
① 4 x M3 holes, depth 6 mm (0.236 inch)

| | | A | B | C | D | E | F | G | H | J | Weight | | | |
|-----------------|------|-------|------|-------|-------|-------|-------|------|------|------|--------|-------|-----------|-------|
| | | | | | | | | | | | Brass | | St. steel | |
| G209A1xxS0X00Hx | mm | 40 | 26.7 | 7 | 20 | 25 | 19.5 | 50.5 | 14 | 11 | 0.12 | kg | 0.12 | kg |
| 8209A1xxS0X00Hx | (in) | 1.575 | 1.05 | 0.276 | 0.787 | 0.984 | 0.768 | 1.99 | 0.55 | 0.44 | 0.26 | (lbs) | 0.26 | (lbs) |

Dimensions mm (inches). Weight kg (lbs) 



TYPE 02
Electrical interface "S0"
Pad mounting body

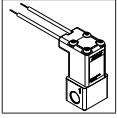


- ① Inlet within \varnothing 2.5mm (0.098 inch)
- ② Sealing surface on connection plate within \varnothing 15 mm (0.59 inch) from center
- ③ Outlet at any position between \varnothing 6.4mm (0.252 inch) and \varnothing 12mm (0.472 inch) from center
- ④ 2 Mounting screws M3

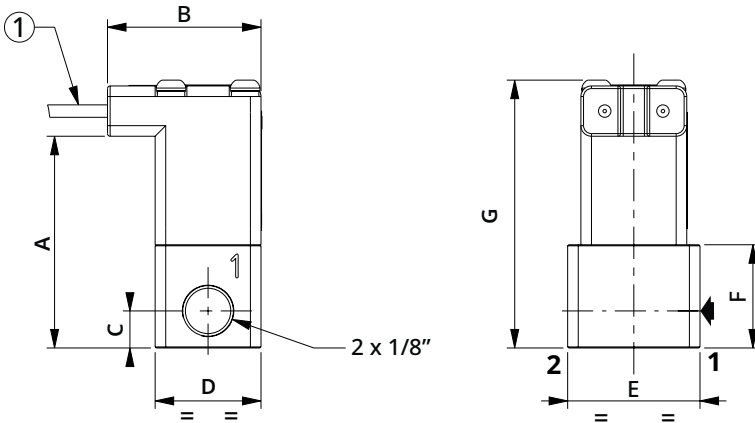
| | | | | | | | | | | | Weight | | | |
|-----------------|------|------|------|-------|-------|-------|-------|-------|------|------|--------|-------|-----------|-------|
| | | A | B | C | D | E | F | G | H | J | Brass | | St. steel | |
| R209A2xxS0X00Hx | mm | 29.5 | 26.7 | 6 | 20 | 20 | 9 | 40 | 14 | 11 | 0.08 | kg | 0.08 | kg |
| | (in) | 1.16 | 1.05 | 0.236 | 0.787 | 0.787 | 0.354 | 1.575 | 0.55 | 0.44 | 0.18 | (Lbs) | 0.18 | (Lbs) |

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Dimensions mm (inches), Weight kg (lbs) 

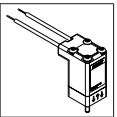


TYPE 03
Electrical interface "L0"
1/8" thread

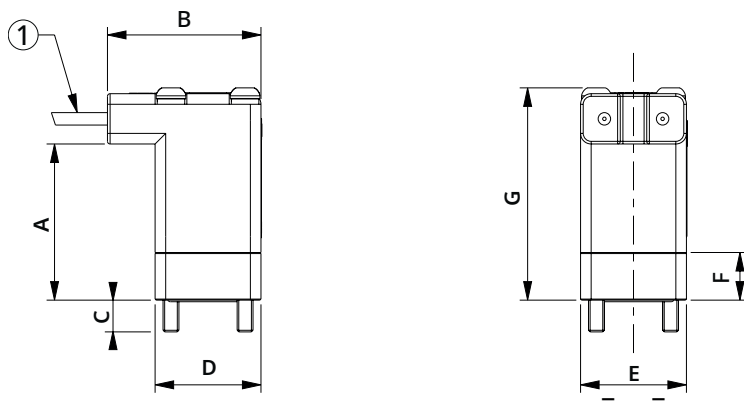


① AWG 22, length 500 mm (18 inch)

| | | A | B | C | D | E | F | G | Weight | | | |
|-----------------|------|-------|------|-------|-------|-------|-------|------|--------|-------|-----------|-------|
| | | | | | | | | | Brass | | St. steel | |
| G209A1xxL0X00Hx | mm | 40 | 29 | 7 | 20 | 25 | 19.5 | 50.5 | 0.12 | kg | 0.12 | kg |
| | (in) | 1.575 | 1.14 | 0.276 | 0.787 | 0.984 | 0.768 | 1.99 | 0.26 | (lbs) | 0.26 | (lbs) |
| 8209A1xxL0X00Hx | mm | | | | | | | | | | | |
| | (in) | | | | | | | | | | | |



TYPE 04
Electrical interface "L0"
Pad mounting body



① AWG 22, length 500 mm (18 inch)

| | | A | B | C | D | E | F | G | Weight | | | |
|-----------------|------|------|------|-------|-------|-------|-------|-------|--------|-------|-----------|-------|
| | | | | | | | | | Brass | | St. steel | |
| R209A2xxL0X00Hx | mm | 29.5 | 29 | 6 | 20 | 20 | 9 | 40 | 0.08 | kg | 0.08 | kg |
| | (in) | 1.16 | 1.14 | 0.236 | 0.787 | 0.787 | 0.354 | 1.575 | 0.18 | (lbs) | 0.18 | (lbs) |