## PNEUMATIC PROPORTIONAL VALVES

### Product Index

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### Proportional valves

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<td>0-12</td>
<td>up to 700</td>
<td>500</td>
<td>50</td>
<td>&lt;0.5%</td>
<td>digital electronics</td>
<td>Sentronic PLUS</td>
<td>614</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0-50</td>
<td>up to 5600</td>
<td>50 &lt;0.5%</td>
<td></td>
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<td>with external pneumatic pressure supply</td>
<td>Sentronic PLUS</td>
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</tr>
<tr>
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<td>1200</td>
<td>-0.5%</td>
<td></td>
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<td>pressure hold</td>
<td>high-definition with digital control</td>
<td>Sentronic HD</td>
<td>616</td>
<td>35</td>
<td></td>
</tr>
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<td>20-500</td>
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<td>pressure released</td>
<td>with integrated control electronics</td>
<td>Flowtronics D</td>
<td>607</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0-40</td>
<td>0 to 1700</td>
<td>50 &lt;0.5%</td>
<td></td>
<td></td>
<td>pressure released</td>
<td>digital electronics</td>
<td>Servotronic Digital</td>
<td>615</td>
<td>45</td>
<td></td>
</tr>
</tbody>
</table>

All leaflets are available on: www.asco.com
## PNEUMATIC PROPORTIONAL VALVES

### Mini piezo-valve

<table>
<thead>
<tr>
<th>Pressure range (bar)</th>
<th>Flow at 6 bar (l/min)</th>
<th>Filtration (µm)</th>
<th>Hysteresis</th>
<th>Safety</th>
<th>Technology</th>
<th>Type</th>
<th>Illustration</th>
<th>Series</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6</td>
<td>0.086-0.12</td>
<td>50</td>
<td>10-15</td>
<td></td>
<td>Piezotronic</td>
<td></td>
<td></td>
<td>630</td>
<td>41</td>
</tr>
</tbody>
</table>

### Proportional solenoid valve

<table>
<thead>
<tr>
<th>Pressure range (bar)</th>
<th>Flow at 6 bar (l/min)</th>
<th>Filtration (µm)</th>
<th>Hysteresis</th>
<th>Safety</th>
<th>Technology</th>
<th>Type</th>
<th>Illustration</th>
<th>Series</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-16</td>
<td>700-5600</td>
<td>50</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>602</td>
<td>39</td>
</tr>
</tbody>
</table>

### Accessories

| Control device for proportional solenoid valve control | Control
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital control unit</td>
<td></td>
</tr>
<tr>
<td>Electronic proportional control unit</td>
<td></td>
</tr>
</tbody>
</table>
**FEATURES**

- **Sentronic**LP stands for:
  - Low power consumption (3.8 W)
  - Digital communication and control
  - Display (integrated) with function buttons (option)
  - Pilot operated proportional valve
- Other functions are valve diagnostics, parameter setting and maintenance.
- The valve's outlet pressure can also be adjusted over the integrated display and the function buttons.
- RoHS, REACH compliant.

**GENERAL**

**Fluids**

Air or neutral gas filtered at 50 µm, without condensate, lubricated or unlubricated, class 5 according to ISO 8573-1:2010 [7:4:4]

**Max. allowable pressure (MAP)**

At least 1 bar above the maximum outlet pressure

**Pressure range**

0-3 bar, 0-6 bar, 0-10 bar

**Fluid temperature**

0°C to +60°C

**Ambient temperature**

0°C to +50°C

**Flow (Qv at 6 bar)**

470 Nl/min - 5200 Nl/min

**Setpoint**

0 - 10 V (impedance 100 kΩ)
0 - 20 mA / 4 - 20 mA (impedance 250 Ω)

**Hysteresis**

1% of span

**Linearity**

1% of span

**Repeatability**

1% of span

**Minimum setpoint**

100 mV (0.2 mA/4.2 mA) with shutoff function

**Minimum outlet pressure**

1% of span

**Failsafe behaviour**

Pressure hold on loss of power, without control

**CONSTRUCTION**

**Body**

Aluminium

**Internal parts**

POM (polyacetal)

**Seals**

NBR (nitrile)

**ELECTRICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>nominal diameter DN</th>
<th>stabilised voltage *</th>
<th>max. power (W)</th>
<th>max. current (mA)</th>
<th>insulation class</th>
<th>degree of protection</th>
<th>electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>4, 8, 15</td>
<td>24VDC</td>
<td>3.8 W</td>
<td>160</td>
<td>H</td>
<td>IP 65</td>
<td>5-pin M12 connector (to be ordered separately)</td>
</tr>
</tbody>
</table>

* Max. ripple: 10 %

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>pipe size</th>
<th>orifice size (mm)</th>
<th>coefficient Kv (Nm³/h)</th>
<th>flow at 6 bar (Nl/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/4</td>
<td>4</td>
<td>0.43</td>
<td>470</td>
</tr>
<tr>
<td>G 3/8</td>
<td>8</td>
<td>1.2</td>
<td>1300</td>
</tr>
<tr>
<td>G 1/2</td>
<td>15</td>
<td>4.8</td>
<td>5200</td>
</tr>
</tbody>
</table>

Test conditions according to ISO 8778: temperature: 20 °C, relative inlet pressure: 6 bar, relative outlet pressure: 5 bar
## CATALOGUE NUMBER

| Thread connection | G = ISO 228  
| Product Series   | 617  
| Revision letter  | A = initial release  

### Size

- 0 = Flange + pressure hold (DN4)
- 4 = G1/4 + pressure hold (DN4)
- 6 = G3/8 + pressure hold (DN8)
- 8 = G1/2 + pressure hold (DN15)

### Setpoint

- 0 = 0-10V
- 1 = 0-20mA
- 2 = 4-20mA
- 5 = 2 Bit, 4 pressure select ¹)

### Feedback Type

- 0 = 0-10V
- 1 = 0-20mA
- 2 = 4-20mA

¹) only Digital IN, no Digital OUT  
²) no Digital IN possible

## DIMENSIONS (mm), WEIGHT (kg)

### Inline version

**DN 4**

- Weight: 0.49 kg

### Configurator - CAD Files
DIMENSIONS (mm), WEIGHT (kg)

Subbase version

**DN 4**
Weight: 0.49 kg

Joinable subbase
Weight: 0.3 kg
DIMENSIONS (mm), WEIGHT (kg)

**DN 8**
Weight: 0.93 kg

**DN 15**
Weight: 1.33 kg
**CONNECTOR PINNING / CABLE WIRING**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>5-wire cable (2m)</th>
<th>6-wire cable (5 m, 10 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V voltage supply</td>
<td>brown</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Analog setpoint input</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
<td>blue</td>
<td>green</td>
</tr>
<tr>
<td></td>
<td>Analog ground</td>
<td>-</td>
<td>yellow</td>
</tr>
<tr>
<td>4</td>
<td>Analog output (Feedback)</td>
<td>black</td>
<td>pink</td>
</tr>
<tr>
<td>5</td>
<td>Digital output (Pressure switch)</td>
<td>grey</td>
<td>grey</td>
</tr>
<tr>
<td>Body</td>
<td>EMC shield</td>
<td>shield</td>
<td>shield</td>
</tr>
</tbody>
</table>

* A 6-wire cable with separate analog ground is used for cable lengths over 2 m to set off the voltage drop for the setpoint.

1) Analog input when using cascade control

**CONNECTOR PINNING / 2BIT - SETPOINT**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>24V voltage supply</td>
</tr>
<tr>
<td>2</td>
<td>Input signal 1 (LSB)</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
</tr>
<tr>
<td>4</td>
<td>Input signal 2 (MSB)</td>
</tr>
<tr>
<td>5</td>
<td>unused</td>
</tr>
</tbody>
</table>

**ACCESSORIES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalogue Number</th>
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</thead>
<tbody>
<tr>
<td>Straight M12 female connector, 5 pins, with screw terminals</td>
<td>88100256</td>
</tr>
<tr>
<td>Right-angle M12 female connector, 5 pins, with screw terminals</td>
<td>88100725</td>
</tr>
<tr>
<td>Supply cable 2 m; 5x0,25 mm², straight connector</td>
<td>88100726</td>
</tr>
<tr>
<td>Supply cable 2 m; 5x0,25 mm², right-angle connector</td>
<td>88100727</td>
</tr>
<tr>
<td>Supply cable 5 m, 6 x 0,56 mm², straight connector</td>
<td>88100728</td>
</tr>
<tr>
<td>Supply cable 5 m, 6 x 0,56 mm², right-angle connector</td>
<td>88100729</td>
</tr>
<tr>
<td>Supply cable 10 m, 6 x 0,56 mm², straight connector</td>
<td>88100730</td>
</tr>
<tr>
<td>Supply cable 10 m, 6 x 0,56 mm², right-angle connector</td>
<td>88100731</td>
</tr>
<tr>
<td>Supply cable (2Bit - Setpoint) 3 m, straight connector</td>
<td>TC0403META04000</td>
</tr>
<tr>
<td>Supply cable (2Bit - Setpoint) 5 m, straight connector</td>
<td>TC0405META04000</td>
</tr>
<tr>
<td>Supply cable (2Bit - Setpoint) 3 m, right-angle connector</td>
<td>TD0403META04000</td>
</tr>
<tr>
<td>Supply cable (2Bit - Setpoint) 5 m, right-angle connector</td>
<td>TD0405META04000</td>
</tr>
<tr>
<td>RS 232 cable converter; 2 m cable with 9-pin Sub-D (plug connector)</td>
<td>88100732</td>
</tr>
<tr>
<td>USB interface, 1 m cable</td>
<td>N50930000100000</td>
</tr>
<tr>
<td>Joinable subbases for 617 DN4 with pressure supply G 3/8&quot;</td>
<td>N50781800000000</td>
</tr>
</tbody>
</table>

All leaflets are available on: [www.asco.com](http://www.asco.com)
FEATURES

- **SentronicLP stands for:**
  - Low power consumption (3.8 W)
  - Digital communication and control
  - Display (integrated) with function buttons (option)
  - Pilot operated proportional valve
- **IO-Link Class A**
- Other functions are valve diagnostics, parameter setting and maintenance.
- The valve’s outlet pressure can also be adjusted over the integrated display and the function buttons.
- RoHS, REACH compliant.

GENERAL

**Fluids**
Air or neutral gas filtered, according to ISO 8573-1:2010 [7:4:4]

**Max. allowable pressure (MAP)**
At least 1 bar above the maximum outlet pressure

**Pressure range**
0-3 bar, 0-6 bar, 0-10 bar

**Fluid temperature**
0°C to +60°C

**Ambient temperature**
0°C to +50°C

**Flow (Qv at 6 bar)**
470 Nl/min - 5200 Nl/min

**Setpoint**
Digital setpoint in steps of 1 mbar

**Hysteresis**
1.5% of span

**Linearity**
1.5% of span

**Repeatability**
1.5% of span

**Minimum setpoint**
0.5% of span with shutoff function

**Minimum outlet pressure**
1% of span

**Failsafe behaviour**
Pressure hold on loss of power, without control

**IO-Link**
Protocol Specification V1.1

**Baudrate**
COM3 (230,4 kBaud)

**Minimum cycle time**
0.5 ms

**Process data**
2 Byte IN, 2 Byte OUT

**Port type**
Class A

CONSTRUCTION

**Body**
Aluminium

**Internal parts**
POM (polyacetal)

**Seals**
NBR (nitrile)

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>nominal diameter DN</th>
<th>stabilised voltage *</th>
<th>max. power (W) (&lt;1 W compensate)</th>
<th>max. current (mA)</th>
<th>insulation class</th>
<th>degree of protection</th>
<th>electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>4, 8, 15</td>
<td>24VDC</td>
<td>3,8 W</td>
<td>160</td>
<td>H</td>
<td>IP 65</td>
<td>5-pin M12 connector (to be ordered separately)</td>
</tr>
</tbody>
</table>

* Max. ripple: 10 %

SPECIFICATIONS

<table>
<thead>
<tr>
<th>pipe size</th>
<th>orifice size (mm)</th>
<th>coefficient Kv (Nm³/h)</th>
<th>at 6 bar (Nm/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/NPT 1/4</td>
<td>4</td>
<td>0,43</td>
<td>470</td>
</tr>
<tr>
<td>G/NPT 3/8</td>
<td>8</td>
<td>1,2</td>
<td>1300</td>
</tr>
<tr>
<td>G/NPT 1/2</td>
<td>15</td>
<td>4,8</td>
<td>5200</td>
</tr>
</tbody>
</table>

Test conditions according to ISO 8778: temperature: 20 °C, relative inlet pressure: 6 bar, relative outlet pressure: 5 bar
**CATALOGUE NUMBER**

Thread connection
- G = ISO 228
- 8 = NPT

Product Series
- 617

Revision letter
- A = Initial release

Size
- 0 = Flange + pressure hold (DN4)
- 4 = 1/4 + pressure hold (DN4)
- 6 = 3/8 + pressure hold (DN8)
- 8 = 1/2 + pressure hold (DN15)
- J = Flange + pressure hold (DN4), external pressure
- F = 1/4 + pressure hold (DN4), external pressure
- G = 3/8 + pressure hold (DN8), external pressure
- H = 1/2 + pressure hold (DN15), external pressure

Setpoint
- 8 = IO-Link Class A

Feedback Type
- 6 = IO-Link Class A

1) Only possible with size G1/4 (DN4)

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

**Inline version**

**DN 4**

Weight: 0.49 kg
**DIMENSIONS (mm), WEIGHT (kg)**

**Subbase version**

**DN 4**

Weight: 0.49 kg

**Joinable subbase**

Weight: 0.3 kg
**DIMENSIONS (mm), WEIGHT (kg)**

**DN 8**

Weight: 0.93 kg

**DN 15**

Weight: 1.33 kg
## CONNECTOR PINNING / CABLE WIRING

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V voltage supply</td>
</tr>
<tr>
<td>2</td>
<td>not connected</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
</tr>
<tr>
<td>4</td>
<td>C/Q</td>
</tr>
<tr>
<td>5</td>
<td>not connected</td>
</tr>
<tr>
<td></td>
<td>Body</td>
</tr>
<tr>
<td></td>
<td>EMC shield</td>
</tr>
</tbody>
</table>

## ACCESSORIES

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection cable 5m, straight socket, open cable end</td>
<td>N15183710000000</td>
</tr>
<tr>
<td>Connection cable 10m, straight socket, open cable end</td>
<td>N15183840000000</td>
</tr>
<tr>
<td>Connection cable 5m, straight socket on straight connector</td>
<td>N15184490000000</td>
</tr>
<tr>
<td>Connection cable 10m, straight socket on straight connector</td>
<td>N15184520000000</td>
</tr>
<tr>
<td>Joinable subbases for 617 DN4 with pressure supply G 3/8&quot;</td>
<td>N50781800000000</td>
</tr>
</tbody>
</table>
FEATURES

- **Sentronic**D is a highly dynamical 3-way proportional valve with digital control.
- **Sentronic**D stands for:
  - Digital communication and control
  - Display (integrated)
  - Direct operated valve
  - Dynamic behaviour (high speed)
- A special feature of the **Sentronic**D is its DaS software supplied for optimum adjustment over PC and viewing of setpoint and feedback signals.
- Other functions are valve diagnostics, parameter setting and maintenance.
- The valve’s outlet pressure can also be adjusted over the integrated display and the function buttons.

GENERAL

**Fluids**
Air or neutral gases filtered at 50 µm, without condensate, lubricated or unlubricated

**Maximum allowable pressure (MAP)**
6 to 13 bar

**Pressure range**
0-3 bar, 0-6 bar, 0-10 bar

**Fluid temperature**
0°C to +60°C

**Ambient temperature**
0°C to +50°C

**Flow (Qv at 6 bar)**
470 to 1300 l/min (ANR)

**Setpoint**
0 - 10 V (impedance 100 kΩ)
0 - 20 mA / 4 - 20 mA (impedance 250 Ω)

**Hysteresis**
< 1% of span

**Linearity**
< 0.5% of span

**Repeatability**
< 0.5% of span

**Minimum setpoint**
100 mV (0.2 mA/4.2 mA) with shutoff function

**Minimum outlet pressure**
1% of span

CONSTRUCTION

**Body**
aluminium

**Internal parts**
POM (polyacetal)

**Seals**
NBR (nitrile) and FPM (fluoroelastomer)

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>nominal diameter DN (mm)</th>
<th>stabilised voltage *</th>
<th>max. power (W)</th>
<th>max. current (mA)</th>
<th>insulation class</th>
<th>degree of protection</th>
<th>electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>12 V = +/-10%</td>
<td>21</td>
<td>850</td>
<td>H</td>
<td>IP 65</td>
<td>5-pin M12 connector (not supplied)</td>
</tr>
<tr>
<td>8</td>
<td>24 V = +/-10%</td>
<td>40</td>
<td>1650</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Max. ripple: 10 %

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Ø ports</th>
<th>Ø orifice DN (mm)</th>
<th>Kn coefficient (Nm³/h)</th>
<th>flow at 6 bar (l/min - ANR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/8</td>
<td>4</td>
<td>0.43</td>
<td>470</td>
</tr>
<tr>
<td>G 1/4</td>
<td>8</td>
<td>1.2</td>
<td>1300</td>
</tr>
</tbody>
</table>

Test conditions according to ISO 8778: temperature: 20 °C, relative inlet pressure: 6 bar, relative outlet pressure: 5 bar

CATALOGUE NUMBER

NNN: Nominal diameter
608 = DN 4mm
609 = DN 8mm

C: Connection
0 = G 1/8 (DN4), G 1/4 (DN 8)
1 = G 1/4 (DN 4), G 3/8 (DN 8)
2 = Subbase
G 1/8 (DN 4), G 1/4 (DN 8)
5 = NPT 1/8 (DN 4), NPT 1/4 (DN 8)
6 = NPT 1/4 (DN 4), NPT 3/8 (DN 8)

P: Pressure range
max. allowable pressure (MAP)
1 = 0 - 10 bar
3 = 0 - 3 bar
6 = 0 - 6 bar

S: Setpoint
0 = 0 - 10 V
1 = 0 - 20 mA
2 = 4 - 20 mA

E: Display
0 = without display
1 = with display

D: Digital output
1 = Pressure switch output
PNP ± 5 %

A: Analog output
1 = Feedback output 0 - 10 V
2 = Feedback output 0 - 20 mA
3 = Feedback output 4 - 20 mA

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

**Inline version**

**DN 4**

Weight: 0.56 kg

---

**(v) Remove the pre-installed screws to use the through holes to mount the valve.**

**DN 8**

Weight: 1.13 kg
**Subbase version**

**DN 4**

Weight: 0.56 kg

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

Subbase version

**DN 8**

Weight: 1,13 kg

---

Configurator - CAD Files

---

All leaflets are available on: [www.asco.com](http://www.asco.com)

16 - Proportional Valves
CONNECTION PINNING / CABLE WIRING

<table>
<thead>
<tr>
<th>pin</th>
<th>description</th>
<th>5-wire cable (2m)</th>
<th>6-wire cable (5m, 10m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V voltage supply</td>
<td>brown</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Analog setpoint input</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
<td>blue</td>
<td>green</td>
</tr>
<tr>
<td></td>
<td>Analog ground</td>
<td></td>
<td>yellow</td>
</tr>
<tr>
<td>4</td>
<td>Analog output (feedback)</td>
<td>black</td>
<td>pink</td>
</tr>
<tr>
<td>5</td>
<td>Digital output (pressure switch)</td>
<td>grey</td>
<td>grey</td>
</tr>
<tr>
<td>Body</td>
<td>EMC shield</td>
<td>shield</td>
<td>shield</td>
</tr>
</tbody>
</table>

* A 6-wire cable with separate analog ground is used for cable lengths over 2 m to set off the voltage drop for the setpoint.

ACCESSORIES

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight M12 female connector, 5 pins, with screw terminals</td>
<td>88100256</td>
</tr>
<tr>
<td>Right-angle M12 female connector, 5 pins, with screw terminals</td>
<td>88100725</td>
</tr>
<tr>
<td>Supply cable 2 m, 2 x 0.25 mm², straight connector</td>
<td>88100726</td>
</tr>
<tr>
<td>Supply cable 2 m, 2 x 0.25 mm², right-angle connector</td>
<td>88100727</td>
</tr>
<tr>
<td>Supply cable 5 m, 6 x 0.56 mm², straight connector</td>
<td>88100728</td>
</tr>
<tr>
<td>Supply cable 5 m, 6 x 0.56 mm², right-angle connector</td>
<td>88100729</td>
</tr>
<tr>
<td>Supply cable 10 m, 6 x 0.56 mm², straight connector</td>
<td>88100730</td>
</tr>
<tr>
<td>Supply cable 10 m, 6 x 0.56 mm², right-angle connector</td>
<td>88100731</td>
</tr>
<tr>
<td>RS 232 cable converter; 2m cable with 9-pin Sub-D (plug connector)</td>
<td>88100732</td>
</tr>
<tr>
<td>RS 232 cable converter; 2 m cable with 9-pin Sub-D (screw connector)</td>
<td>88100970</td>
</tr>
<tr>
<td>Joinable subbase for 608 (DN 4 mm) with G 3/8&quot;, common supply and exhaust</td>
<td>35500558</td>
</tr>
<tr>
<td>Joinable subbase for 609 (DN 8 mm) with G 1/2&quot;, common supply and exhaust</td>
<td>35500559</td>
</tr>
<tr>
<td>DaS Light: Data Acquisition Software for SentronicD - basic parameters - CD-ROM</td>
<td>99100110</td>
</tr>
<tr>
<td>DaS Expert: Data Acquisition Software for SentronicD - full parameters - CD-ROM</td>
<td>99100111</td>
</tr>
</tbody>
</table>
**FEATURES**

**Sentronic** PLUS is a highly dynamical 3-way proportional valve with digital control. **Sentronic** PLUS stands for:
- Digital communication and control
- Direct operated valve
- Dynamic behaviour (high speed)

A special feature of the **Sentronic** PLUS is its DaS software supplied for optimum adjustment over PC and viewing of setpoint and feedback signals. Other functions are valve diagnostics, parameter setting and maintenance.

**GENERAL**

**Fluids**

- Air or neutral gases, filtered at 50 µm, condensate-free, lubricated or un lubricated
- G1/8 - G1/4 - G1/2 - G1

**Ports**

- See table below

**Max. allowable pressure**

- See table below

**Pressure range**

- See table below

**Fluid temperature**

- 0...+60 °C

**Ambient temperature**

- 0...+60 °C

**Setpoint - analog**

- 0 - 10 V (impedance 100 KΩ)
- 0 - 20 mA± 20 mA (impedance 250 KΩ)

**Hysteresis**

- 0,5 % of span

**Linearity / pressure measurement**

- ± 0,5 % of span

**Repeatability**

- ± 0,5 % of span

**EXPLOSION SAFETY**

**Safety code**

- II 2D Ex tB IIIIC T135 °C Db
- II 3G Ex nA IIC Gc, 0 ≤ Ta ≤ +50 °C

**EC type examination certificate no.:**

- IBEU07ATEX1173

**CONSTRUCTION**

**Body**

- Direct operated poppet valve
- See table below

**Internal parts**

- Stainless steel and brass

**Seals**

- FPM and NBR

**ELECTRICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>nominal diameter</th>
<th>stabilised voltage *</th>
<th>max. power (W)</th>
<th>max. current (mA)</th>
<th>insulation class</th>
<th>degree of protection</th>
<th>electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 (DN 6)</td>
<td>24 V = 24 V = 0...10%</td>
<td>12</td>
<td>24 2)</td>
<td>500</td>
<td>F</td>
<td>IP65 5-pin M12 connector</td>
</tr>
<tr>
<td>6 (DN 12)</td>
<td>24 V = 24 V = 0...10%</td>
<td>24 2)</td>
<td>1000 2)</td>
<td>1800</td>
<td>7-pin DIN connector</td>
<td></td>
</tr>
<tr>
<td>12 (DN 20)</td>
<td>24 V = 24 V = 0...10%</td>
<td>34</td>
<td>1400</td>
<td>5-pin M12 connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 (DN 30)</td>
<td>24 V = 24 V = 0...10%</td>
<td>44</td>
<td>1800</td>
<td>7-pin M12 connector</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Max. ripple: 10 %

**SPECIFICATIONS**

**flow (l/min - ANR)**

<table>
<thead>
<tr>
<th>pipe size</th>
<th>orifice size (mm)</th>
<th>coefficient Kv (Nm³/h)</th>
<th>at 6 bar (l/min - ANR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/8</td>
<td>3</td>
<td>0,18</td>
<td>210</td>
</tr>
<tr>
<td>G 1/4</td>
<td>6</td>
<td>0,60</td>
<td>700</td>
</tr>
<tr>
<td>G 1/2</td>
<td>12</td>
<td>1,20</td>
<td>1400</td>
</tr>
<tr>
<td>G 1</td>
<td>20</td>
<td>4,80</td>
<td>5500</td>
</tr>
</tbody>
</table>

**CATALOGUE NUMBER**

6 1 4 3 5 7

**S: SETPOINT**

- 0 = 0 ... 10 Volt
- 1 = 0 ... 20 mA
- 2 = 4 ... 20 mA

**D: DIGITAL OUTPUT**

- 1 = Pressure switch output PNP ± 5 %
- 2 = 4 ... 20 mA
- 3 = Feedback output 4 ... 20 mA
- 4 = Feedback input 0 ... 10 Volt
- 5 = Feedback input 0 ... 20 mA
- 6 = Feedback input 4 ... 20 mA

**BASID PP**

- Configurator - CAD Files

**PP: PRESSURE RANGE**

- Max. allowable
- Relative pressure
- Pressure bar
- Vacuum (relative)

<table>
<thead>
<tr>
<th>Relative pressure</th>
<th>Pressure range (bar)</th>
<th>Vacuum (relative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 = 0 - 100 mbar</td>
<td>2 V1 = 0 ... -1 bar</td>
<td>2 shut-off valve</td>
</tr>
<tr>
<td>50 = 0 - 500 mbar</td>
<td>2 V2 = 0 ... -1 bar</td>
<td>(vacuum at port 3)</td>
</tr>
<tr>
<td>60 = 0 - 1 bar</td>
<td>2 V3 = 0 ... -1 bar</td>
<td>(vacuum at port 1)</td>
</tr>
<tr>
<td>02 = 0 - 2 bar</td>
<td>3 04 = 0 ... -1 bar</td>
<td>12 shut-off valve</td>
</tr>
<tr>
<td>05 = 0 - 5 bar</td>
<td>8 06 = 0 ... -1 bar</td>
<td>12 shut-off valve</td>
</tr>
<tr>
<td>08 = 0 - 10 bar</td>
<td>12 09 = 0 ... -1 bar</td>
<td>12 shut-off valve</td>
</tr>
<tr>
<td>10 = 0 - 12 bar</td>
<td>14 11 = 0 ... -1 bar</td>
<td>12 shut-off valve</td>
</tr>
<tr>
<td>12 = 0 - 16 bar 1)</td>
<td>18 13 = 0 ... -1 bar</td>
<td>12 shut-off valve</td>
</tr>
<tr>
<td>16 = 0 - 16 bar 1)</td>
<td>22 14 = 0 ... -2 bar</td>
<td>12 shut-off valve</td>
</tr>
<tr>
<td>20 = 0 - 20 bar 1)</td>
<td>22 15 = 0 ... -2 bar</td>
<td>12 shut-off valve</td>
</tr>
<tr>
<td>3H = 0 - 30 bar 2)</td>
<td>40 16 = 0 ... -2 bar</td>
<td>12 shut-off valve</td>
</tr>
<tr>
<td>5H = 0 - 50 bar 2)</td>
<td>60 17 = 0 ... -2 bar</td>
<td>12 shut-off valve</td>
</tr>
</tbody>
</table>

**A: VERSION (ports), body**

- D = M12 with display - non-explosionproof
- E = M12 without display - explosionproof (ATEX)
- F = DIN connector, 7-pin, with display - non-explosionproof
- G = DIN connector, 7-pin without display - non-explosionproof

**B: CONTROL PANEL**

- A = DN6 (G 1/4), Alu
- B = DN12 (G 1/2), Alu
- C = DN6 (G 1/4), St. steel
- D = DN20 (G 1/4), Brass

**C: CONTROL PANEL**

- E = DN12 (NPT 1/2), Alu
- F = DN20 (NPT 1/4), Alu

**D: CONTROL PANEL**

- G = DN6 (NPT 1/4), Alu
- H = DN6 (G 1/4), Brass

**PP: DIGITAL OUTPUT**

- 1 = Pressure switch output PNP ± 5 %

All leaflets are available on: [www.asco.com](http://www.asco.com)
DIMENSIONS (mm), WEIGHT (kg)

**G 1/8**
Weight: 0.550 kg

**G 1/4**
Weight: 0.850 kg aluminium / 1.540 kg brass

**G 1/2**
Weight: 1.650 kg

M12 connector; 5 pins

M4 hole for earth screw, \( \Phi 8 \)

M4 hole for earth screw, \( \Phi 8 \)

Available, design and specifications are subject to change without notice. All rights reserved.
DIMENSIONS (mm), WEIGHT (kg)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1</td>
<td>3,400 kg</td>
</tr>
</tbody>
</table>

M12 connector; 5 pins

M4 hole for earth screw, \( \phi 8 \)

CONNECTOR PINNING / CABLE WIRING

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>5-wire cable (2 m)</th>
<th>6-wire cable (5 m, 10 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24 V voltage supply</td>
<td>brown</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Analog setpoint input</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
<td>blue</td>
<td>green</td>
</tr>
<tr>
<td></td>
<td>Analog ground (^\circ)</td>
<td>-</td>
<td>yellow</td>
</tr>
<tr>
<td>4</td>
<td>Analog output (Feedback)</td>
<td>black</td>
<td>pink</td>
</tr>
<tr>
<td>5</td>
<td>Digital output (Pressure switch)</td>
<td>grey</td>
<td>grey</td>
</tr>
<tr>
<td>Body</td>
<td>EMC screen</td>
<td>shield</td>
<td>shield</td>
</tr>
</tbody>
</table>

\(^\circ\) A 6-wire cable with separate analog ground is used for cable lengths over 2 m to set off the voltage drop for the setpoint.
PROPORTIONAL VALVES SENTRONICPLUS WITH 7-PIN DIN-CONNECTOR SERIES 614

DIMENSIONS (mm), WEIGHT (kg)

<table>
<thead>
<tr>
<th>Series</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/8</td>
<td>2 x Ø 10</td>
<td>0.550 kg</td>
</tr>
<tr>
<td>G 1/4</td>
<td>2 x Ø 4.3</td>
<td>0.850 kg aluminium / 1.540 kg brass</td>
</tr>
</tbody>
</table>

Weight: 0.550 kg

Configurator - CAD Files

All leaflets are available on: www.asco.com

22 - Proportional Valves
DIMENSIONS (mm), WEIGHT (kg)

G 1/2

Weight: 1,650 kg

G 1

Weight: 3,400 kg

All leaflets are available on: www.asco.com

配置器 - CAD 文件
## ACCESSORIES

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight M12 female connector, 5 pins, with screw terminals</td>
<td>88100256</td>
</tr>
<tr>
<td>Right-angle M12 female connector, 5 pins, with screw terminals</td>
<td>88100725</td>
</tr>
<tr>
<td>Supply cable 2 m; 5x0.25 mm$^2$; straight connector</td>
<td>88100726</td>
</tr>
<tr>
<td>Supply cable 2 m; 5x0.25 mm$^2$; right-angle connector</td>
<td>88100727</td>
</tr>
<tr>
<td>Supply cable 5 m; 6x0.50 mm$^2$; straight connector</td>
<td>88100728</td>
</tr>
<tr>
<td>Supply cable 5 m; 6x0.50 mm$^2$; right-angle connector</td>
<td>88100729</td>
</tr>
<tr>
<td>Supply cable 10 m; 6x0.50 mm$^2$; straight connector</td>
<td>88100730</td>
</tr>
<tr>
<td>Supply cable 10 m; 6x0.50 mm$^2$; right-angle connector</td>
<td>88100731</td>
</tr>
<tr>
<td>RS 232 cable converter; 2 m cable with 9-pin Sub-D (plug connector)</td>
<td>88100732</td>
</tr>
<tr>
<td>RS 232 cable converter; 2 m cable with 9-pin Sub-D (screw connector)</td>
<td>88100970</td>
</tr>
<tr>
<td>DaS Light: Data Acquisition Software for <strong>Sentronic</strong>$^\text{PLUS}$ - basic parameters - CD-ROM</td>
<td>99100110</td>
</tr>
<tr>
<td>DaS Expert: Data Acquisition Software for <strong>Sentronic</strong>$^\text{PLUS}$ - full parameters - CD-ROM</td>
<td>99100111</td>
</tr>
</tbody>
</table>
**FEATURES**

**SENTRONICPLUS** is a highly dynamical 3-way proportional valve with digital control.

**SENTRONICPLUS** stands for:
- Digital communication and control
- Direct operated valve
- Dynamic behaviour (high speed)
- IO-Link Class A Version
- RoHS, REACH compliant

**GENERAL**

**Fluids**
Air or neutral gases, filtered, according to ISO 8573-1:2010 [7:4:4]

**Ports**
G/NPT 1/8, G/NPT 1/4

**Max. allowable pressure**
See table below

**Pressure range**
See table below

**Fluid temperature**
0...60 °C

**Ambient temperature**
0...60 °C

**Setpoint**
Digital setpoint in steps of 1 mbar

**Hysteresis**
0.5 % of span

**Linearity / pressure measurement**
± 0.5 % of span

**Repeatability**
± 0.5 % of span

**IO-Link**

**Protocol Version**
Specification V1.1

**Baudrate**
COM3 (230,4 kBaud)

**Minimum cycle time**
0.5 ms

**Process data**
2 Byte IN, 2 Byte OUT

**Port type**
Class A

**CONSTRUCTION**

**Body**
Direct operated poppet valve

**Internal parts**
Stainless steel and brass

**Seals**
FPM and NBR

**ELECTRICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>nominal diameter DN</th>
<th>stabilised voltage *</th>
<th>max. power (W)</th>
<th>max. current (mA)</th>
<th>insulation class</th>
<th>degree of protection</th>
<th>electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/NPT 1/8</td>
<td>24VDC</td>
<td>12</td>
<td>700</td>
<td>F</td>
<td>IP65</td>
<td>5-pin M12 connector (see table “Pin assignment IO-Link interface”)</td>
</tr>
<tr>
<td>G/NPT 1/4</td>
<td>6VDC</td>
<td>24</td>
<td>1200</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Max. ripple: 10 %

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>pipe size</th>
<th>orifice size (mm)</th>
<th>coefficient Kv (Nm³/h)</th>
<th>flow at 6 bar (l/min - ANR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/NPT 1/8</td>
<td>3</td>
<td>0,18</td>
<td>210</td>
</tr>
<tr>
<td>G/NPT 1/4</td>
<td>6</td>
<td>0,60</td>
<td>700</td>
</tr>
</tbody>
</table>

**CATALOGUE NUMBER**

6 1 4 3 5 7

**B: CONTROL PANEL**

- B = IO-Link with display
- C = IO-Link without display

**A: VERSION (ports), body**

- 0 = DN6 (G 1/4), Alu
- 9 = DN3 (NPT 1/8), Brass
- = DN6 (NPT 1 4/4), Alu
- 0 = DN6 (G 1/8), Brass
- 7 = DN3 (G 1/4), St. steel
- = DN6 (G 1/4), Brass

**S: SETPOINT**

- B = IO-Link Class A

**I: FEEDBACK**

- B = IO-Link Class A

**D: OUTPUT**

- 1 = Standard

- PP: PRESSURE RANGE

<table>
<thead>
<tr>
<th>Relative pressure</th>
<th>Express pressure (bar)</th>
<th>Vacuum (relative)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 = 0 - 100 bar</td>
<td>2</td>
<td>V1 = 0 ... -1 bar</td>
</tr>
<tr>
<td>50 = 0 - 500 bar</td>
<td>2</td>
<td>shut-off valve</td>
</tr>
<tr>
<td>60 = 0 - 1 bar</td>
<td>2</td>
<td>(vacuum at port 3)</td>
</tr>
<tr>
<td>02 = 0 - 2 bar</td>
<td>3</td>
<td>V2 = 0 ... -1 bar</td>
</tr>
<tr>
<td>03 = 0 - 3 bar</td>
<td>6</td>
<td>bypass version</td>
</tr>
<tr>
<td>05 = 0 - 5 bar</td>
<td>8</td>
<td>V3 = 0 ... -1 bar</td>
</tr>
<tr>
<td>06 = 0 - 6 bar</td>
<td>8</td>
<td>shut-off valve</td>
</tr>
<tr>
<td>10 = 0 - 10 bar</td>
<td>12</td>
<td>(vacuum at port 1)</td>
</tr>
<tr>
<td>12 = 0 - 12 bar</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

**Configurator - CAD Files**

All leaflets are available on: [www.asco.com](http://www.asco.com)
**DIMENSIONS (mm), WEIGHT (kg)**

### G/NPT 1/8

Weight: 0.55 kg

![Diagram of G/NPT 1/8](image)

### G/NPT 1/4

Weight: 0.85kg aluminium / 1.2kg brass/stainless steel

![Diagram of G/NPT 1/4](image)
PIN ASSIGNMENT IO-Link INTERFACE

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V voltage supply</td>
</tr>
<tr>
<td>2</td>
<td>not connected</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
</tr>
<tr>
<td>4</td>
<td>C/Q</td>
</tr>
<tr>
<td>5</td>
<td>not connected</td>
</tr>
<tr>
<td>Body</td>
<td>EMC shield</td>
</tr>
</tbody>
</table>

ACCESSORIES

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection cable 5m, straight socket, open cable end</td>
<td>N15183710000000</td>
</tr>
<tr>
<td>Connection cable 10m, straight socket, open cable end</td>
<td>N15183840000000</td>
</tr>
<tr>
<td>Connection cable 5m, straight socket on straight connector</td>
<td>N15184490000000</td>
</tr>
<tr>
<td>Connection cable 10m, straight socket on straight connector</td>
<td>N15184520000000</td>
</tr>
</tbody>
</table>
FEATURES

SENTRONIC\textsuperscript{PLUS} is a highly dynamical 3-way proportional valve with digital control.

SENTRONIC\textsuperscript{PLUS} stands for:
- Digital communication and control
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- Dynamic behaviour (high speed)

A special feature of the SENTRONIC\textsuperscript{PLUS} is its DaS software supplied for optimum adjustment over PC and viewing of setpoint and feedback signals. Other functions are valve diagnostics, parameter setting and maintenance.

GENERAL

Fluids
Air or neutral gases, filtered at 50 µm, condensate-free, lubricated or un lubricated

Ports
G1/8 - G1/4 - G1/2 - G1

Max. allowable pressure
See table below

Pressure range
See table below

Fluid temperature
0...60 °C

Ambient temperature
0...60 °C

Setpoint - analog
0 - 10 V (impedance 100 KΩ)

0 - 20 mA(4 - 20 mA) (impedance 250 Ω)

Hysteresis
0.5 % of span

Linearity / pressure measurement
± 0.5 % of span

Repeatability
± 0.5 % of span

EXPLOSION SAFETY

Safety code
II 2D Ex tb IIIC T135 °C Db

II 3G Ex e IIIC T4 Gc, 0 ≤ Ta ≤ +50 °C

EC type examination
IBExU07ATEX1173

CONSTRUCTION

Body
Direct operated poppet valve

Internal parts
Stainless steel and brass

Seals
FPM and NBR

ELECTRICAL CHARACTERISTICS

nominal diameter DN
stabilised voltage *
max. power (W)
max. current (mA)
insulation class
degree of protection
electrical connection

3
24 V = 24 V =
+/-10%
12
24 2)
1000 2)
F
IP65
5-pin M12 connector or
7-pin DIN connector

6
12
20

6 = DN20 (NPT 1”)
5 = DN12 (NPT 1/2”)
4 = DN6 (NPT 1/4”)
2 = DN20 (G 1)
1 = DN12 (G 1/2)
0 = DN6 (G 1/4)

Max. ripple: 10 %

SPECIFICATIONS

pipe size
size of orifice (mm)

G 1/8
3

G 1/4
6

G 1/2
12

G 1
20

G 1/8
G 1/4
G 1/2
G 1

Coefficient Kv
(Nm³/h)

Flow at 6 bar
(l/min - ANR)

0,18
0,60
1,20
4,80
210
700
1400
5600

1) Only for DN3 and DN 6
2) Only for DN6, brass / 1,8 A 44 W

OTHER VERSIONS AVAILABLE ON REQUEST.
**DIMENSIONS (mm), WEIGHT (kg)**

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/8</td>
<td></td>
<td>0.700 kg</td>
</tr>
<tr>
<td>G 1/4</td>
<td></td>
<td>1.000 kg</td>
</tr>
<tr>
<td>G 1/2</td>
<td></td>
<td>1.800 kg</td>
</tr>
</tbody>
</table>

**Configuration - CAD Files**
**DIMENSIONS (mm), WEIGHT (kg)**

<table>
<thead>
<tr>
<th>G 1</th>
</tr>
</thead>
</table>

Weight: 3,550 kg

**PROPORTIONAL VALVES SENTRONICPLUS WITH M12 CONNECTION SERIES 614**

**CONNECTOR PINNING / CABLE WIRING**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>5-wire cable (2 m)</th>
<th>6-wire cable (5 m, 10 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24 V voltage supply</td>
<td>brown</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Analog setpoint input</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
<td>blue</td>
<td>green</td>
</tr>
<tr>
<td></td>
<td>Analog ground</td>
<td>-</td>
<td>yellow</td>
</tr>
<tr>
<td>4</td>
<td>Analog output (Feedback)</td>
<td>black</td>
<td>pink</td>
</tr>
<tr>
<td>5</td>
<td>Digital output (Pressure switch)</td>
<td>grey</td>
<td>grey</td>
</tr>
<tr>
<td>Body</td>
<td>EMC screen</td>
<td>shield</td>
<td>shield</td>
</tr>
</tbody>
</table>

* A 6-wire cable with separate analog ground is used for cable lengths over 2 m to set off the voltage drop for the setpoint.
**DIMENSIONS** (mm), **WEIGHT** (kg)

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/8</td>
<td></td>
<td>0.700 kg</td>
</tr>
<tr>
<td>G 1/4</td>
<td></td>
<td>1.000 kg aluminium / 1.700 kg brass</td>
</tr>
</tbody>
</table>

**PROPORTIONAL VALVES SENTRY-plus WITH 7-PIN DIN-CONNECTOR SERIES 614**

Configurator - CAD Files

All leaflets are available on: www.asco.com

32 - Proportional Valves
DIMENSIONS (mm), WEIGHT (kg)

**G 1/2**

Weight: 1,800 kg

**G 1**

Weight: 3,550 kg

Configurator - CAD Files
## ACCESSORIES

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight M12 female connector, 5 pins, with screw terminals</td>
<td>88100256</td>
</tr>
<tr>
<td>Right-angle M12 female connector, 5 pins, with screw terminals</td>
<td>88100725</td>
</tr>
<tr>
<td>Supply cable 2 m; 5x0,25 mm²; straight connector</td>
<td>88100726</td>
</tr>
<tr>
<td>Supply cable 2 m; 5x0,25 mm²; right-angle connector</td>
<td>88100727</td>
</tr>
<tr>
<td>Supply cable 5 m; 6x0,50 mm²; straight connector</td>
<td>88100728</td>
</tr>
<tr>
<td>Supply cable 5 m; 6x0,50 mm²; right-angle connector</td>
<td>88100729</td>
</tr>
<tr>
<td>Supply cable 10 m; 6x0,50 mm²; straight connector</td>
<td>88100730</td>
</tr>
<tr>
<td>Supply cable 10 m; 6x0,50 mm²; right-angle connector</td>
<td>88100731</td>
</tr>
<tr>
<td>RS 232 cable converter; 2 m cable with 9-pin Sub-D (plug connector)</td>
<td>88100732</td>
</tr>
<tr>
<td>RS 232 cable converter; 2 m cable with 9-pin Sub-D (screw connector)</td>
<td>88100970</td>
</tr>
<tr>
<td><strong>DaS Light</strong>: Data Acquisition Software for <strong>Sentronic</strong>PLUS - basic parameters - CD-ROM</td>
<td>99100110</td>
</tr>
<tr>
<td><strong>DaS Expert</strong>: Data Acquisition Software for <strong>Sentronic</strong>PLUS - full parameters - CD-ROM</td>
<td>99100111</td>
</tr>
</tbody>
</table>

All leaflets are available on: [www.asco.com](http://www.asco.com)
FEATURES

- **Sentronic**\(^{HD}\) is a high-definition 3-way proportional valve with digital control.
- **Sentronic**\(^{HD}\) stands for high-definition pressure regulation.
- The DaS-HD software is supplied to offer optimum adjustment over PC and viewing of all process variables. It allows easy diagnostics, parameter setting and maintenance.

GENERAL

**Fluids**

Air or neutral gases, condensate-free, lubricated or unlubricated

Class 5 to ISO 8573-1

**Ports**

G1/4

**Max. allowable pressure**

12 bar

**Pressure range**

See “PRODUCT CODE” overleaf

**Fluid temperature**

0...50 °C

**Ambient temperature**

0...50 °C

**Hysteresis**

± 0.25 % of span

**Linearity / pressure measurement**

± 0.25 % of span

**Repeatability**

± 0.25 % of span

CONSTRUCTION

- Pilot operated valve
- Body: Aluminium
- Internal parts: Stainless steel, brass, aluminium and POM
- Seals: FPM
- Degree of protection: See table below

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>nominal diameter DN</th>
<th>stabilised voltage (^{*})</th>
<th>max. power (W)</th>
<th>max. current (mA)</th>
<th>insulation class</th>
<th>degree of protection</th>
<th>electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>24 V DC (\pm 10%)</td>
<td>5</td>
<td>240</td>
<td>F</td>
<td>IP65</td>
<td>8-pin M12 connector, A coded (not supplied)</td>
</tr>
</tbody>
</table>

\(^{*}\) Max. ripple: 10 %

SPECIFICATIONS

<table>
<thead>
<tr>
<th>pipe size</th>
<th>orifice size (mm)</th>
<th>coefficient Kv (Nm(^3)/h)</th>
<th>flow at 6 bar (l/min - ANR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/4</td>
<td>6</td>
<td>1.12</td>
<td>1200</td>
</tr>
</tbody>
</table>
HOW TO ORDER

15-DIGIT PRODUCT CODE

<table>
<thead>
<tr>
<th>G</th>
<th>616</th>
<th>A</th>
<th>C</th>
<th>S</th>
<th>I</th>
<th>O</th>
<th>I</th>
<th>XXX</th>
<th>PP</th>
</tr>
</thead>
</table>

Pipe thread
G = ISO 228

Product series
616

Revision letter
A = Initial release

Size
4 = G1/4 + pressure hold
5 = G1/4 + pressure release

Setpoint
0 = 0 - 10 V
1 = 0 - 20 mA
2 = 4 - 20 mA
3 = PWM - Frequency *

Feedback Type
0 = 0 - 10 V
1 = 0 - 20 mA
2 = 4 - 20 mA

Options
A00 = Standard

Input 2 / Display with buttons
0 = Standard NC + Display
2 = Analog IN 2 + Display
4 = Digital IN 2 + Display
6 = Frequency IN + Display *

Output 2
0 = NC
1 = Digital OUT
2 = Analog OUT

* If Setpoint PWM-Frequency is selected, frequency input is not available at IN 2

DIMENSIONS (mm), WEIGHT (kg)

Weight: 1.6 kg

Configurator - CAD Files

All leaflets are available on: www.asco.com
PROPORTIONALVENTIL SENTRONIC\textsuperscript{HD} WITH M12 CONNECTION  SERIES 616

CONNECTOR PINNING / CABLE WIRING

Ethernet TCP/IP programming interface

M12 male connector, 4-pin, D coded

M12 male connector, 8-pin, A coded

View on male connector (the device is equipped with a female connector)

\begin{tabular}{|c|c|}
\hline
Pin & Description & 8-wire cable (5 m, 10 m) \\
\hline
1 & Digitaler input & white \\
2 & \(+24\) VDC voltage supply & brown \\
3 & Setpoint ground SET- & green \\
4 & Setpoint SET+ (PWM) & yellow \\
5 & Analog input 2 / Digital input 2 / Frequency input & grey \\
6 & Analog output & pink \\
7 & Ground 24VDC & blue \\
8 & Digital output / Analog output 2 & red \\

Body & EMC screen & shield \\
\hline
\end{tabular}

\textit{b) The use of a shielded cable is recommended.}

ACCESSORIES

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply cable 5 m; 8x0,50 mm\textsuperscript{2}; straight connector</td>
<td>N43802302700000</td>
</tr>
<tr>
<td>Supply cable 10 m; 8x0,50 mm\textsuperscript{2}; straight connector</td>
<td>N43802302800000</td>
</tr>
<tr>
<td>Supply cable 10 m; 8x0,50 mm\textsuperscript{2}; right-angle connector</td>
<td>N43802302900000</td>
</tr>
<tr>
<td>Programming cable 2 m; M12 to RJ45 connector</td>
<td>N43802302600000</td>
</tr>
</tbody>
</table>

All leaflets are available on: www.asco.com

Proportional Valves - 37
FEATURES

- Proportional valve without integrated control electronics. The valve can be used in an open control loop with a control unit or in a closed control loop with a CONTROL\textsuperscript{D} control device and an external sensor.

- A modular arrangement of the individual components (proportional valve, control device, sensor) can be of advantage in special applications, e.g. in high ambient temperature environments.

GENERAL

Fluids

- Air or neutral gas, filtered at 50 µm, lubricated or un lubricated

Max. allowable pressure

- 8 or 16 bar (G1/4)
- 12 bar (G1/2 - G1)

Pressure range

- 0-6 or 0-16 bar (G1/4)
- 0-12 bar (G1/2) - 0-10 bar (G1)

Temperature / fluid

- -10°C to +60°C

Temperature / ambient

- -10°C to +60°C

Flow (Qv at 6 bar)

- 700 to 5600 l/min (ANR)

CONSTRUCTION

Body

- Aluminium, anodised

Internal parts

- Stainless steel and brass

Seals

- NBR (nitrile)

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>nominal diameter DN (mm)</th>
<th>voltage (stabilised) *</th>
<th>max. power (W)</th>
<th>max. current (mA)</th>
<th>insulation class</th>
<th>protection degree</th>
<th>electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/4</td>
<td>24 V +/-10%</td>
<td>24</td>
<td>1000</td>
<td>F</td>
<td>IP 65</td>
<td>connector size 30, ISO4400/EN175301-803, form A, rotatable by 90°</td>
</tr>
<tr>
<td>G 1/2</td>
<td>34</td>
<td>34</td>
<td>1400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G 1</td>
<td>44</td>
<td>44</td>
<td>1800</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) residual ripple: 10 %

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Ø ports</th>
<th>Ø orifice DN (mm)</th>
<th>flow Kv coefficient at 6 bar (l/min - ANR)</th>
<th>control range (bar)</th>
<th>max. inlet pressure (bar)</th>
<th>catalogue no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/4</td>
<td>6</td>
<td>10</td>
<td>700</td>
<td>0 - 6</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0 - 16</td>
<td>16</td>
</tr>
<tr>
<td>G 1/2</td>
<td>12</td>
<td>20</td>
<td>1400</td>
<td>0 - 12</td>
<td>12</td>
</tr>
<tr>
<td>G 1</td>
<td>20</td>
<td>80</td>
<td>5600</td>
<td>0 - 10</td>
<td>12</td>
</tr>
</tbody>
</table>

(2) Version with low hysteresis

PRODUCTS SUITABLE FOR CONTROL APPLICATIONS

designation | series | illustration |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTROL\textsuperscript{D}</td>
<td>603</td>
<td><img src="www.asco.com" alt="CONTROL\textsuperscript{D} illustration" /></td>
</tr>
<tr>
<td>Electronic proportional control unit</td>
<td>908</td>
<td><img src="www.asco.com" alt="Electronic proportional control unit illustration" /></td>
</tr>
</tbody>
</table>
OPTIONS AND ACCESSORIES

- FPM seals - catalogue no. 460594
- Digital control device CONTROL® for DIN EN 50022 rail mounting
  - Used as a current regulator in open-loop applications
  - Used with an external sensor for closed-loop applications
- Electronic proportional control unit (908 Series, current adjustment from 0 to 1100 mA).

INSTALLATION

- The valves can be mounted in any position without affecting operation
- The valve body has 2 mounting holes in body
- Threaded pipe connection is standard: G = G (ISO 228/1)
- Installation/maintenance instructions are included with each valve

DIMENSIONS (mm), WEIGHT (kg)

<table>
<thead>
<tr>
<th>Ø DN</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>P</th>
<th>R</th>
<th>S</th>
<th>weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>35</td>
<td>115</td>
<td>52</td>
<td>43</td>
<td>10</td>
<td>20</td>
<td>M5</td>
<td>16</td>
<td>11</td>
<td>34</td>
<td>G1/4</td>
<td>107</td>
<td>82</td>
<td>123</td>
<td>153</td>
<td>4</td>
<td>10</td>
<td>0.700</td>
</tr>
<tr>
<td>12</td>
<td>45</td>
<td>151</td>
<td>70</td>
<td>57.5</td>
<td>12</td>
<td>28</td>
<td>M6</td>
<td>22.5</td>
<td>15</td>
<td>48.5</td>
<td>G1/2</td>
<td>119</td>
<td>96</td>
<td>151</td>
<td>190</td>
<td>4.5</td>
<td>10</td>
<td>1.500</td>
</tr>
<tr>
<td>20</td>
<td>60</td>
<td>188</td>
<td>96</td>
<td>79</td>
<td>15</td>
<td>33</td>
<td>M8</td>
<td>30.5</td>
<td>20</td>
<td>60</td>
<td>G1</td>
<td>-</td>
<td>116</td>
<td>184</td>
<td>-</td>
<td>6.5</td>
<td>15</td>
<td>3.300</td>
</tr>
</tbody>
</table>

Note: Specifications are subject to change without notice. All rights reserved.
FEATURES
• Miniature, ultra-low power consumption (0.004 W), almost no heat dissipation
• Pad mounting proportional mini piezo-valves available with single subbase M5
• Variable flow, proportional to the control signal
• No wearing parts: practically unlimited service life
• No inductive peaks when switching: no circuit protection necessary
• Valves do not require a minimum operating pressure
• The solenoid valves satisfy all relevant EU directives

GENERAL
Differential pressure See «SPECIFICATIONS» [1 bar = 100 kPa]
Pneumatic base ISO 15218 (CNOMO E06.36.120N, size 15)
Response time 8 - 15 ms

MATERIALS IN CONTACT WITH FLUID
 (+++) Ensure that the compatibility of the fluids in contact with the materials is verified
Body PPS
Internal parts Piezo ceramics, brass
Seals NBR
Subbases Brass or aluminium

ELECTRICAL CHARACTERISTICS
Connector Spade plug (cable Ø 6-7 mm)
Connector specification DIN 43650, 9,4 mm, form C
or 2 leads outlet AWG 28, length 1 m
Electrical safety IEC 335
Electrical enclosure protection Moulded IP65 (EN 60529)
Standard voltages (U_{n}) DC (-): 0 to 40 V

<table>
<thead>
<tr>
<th>holding power ratings</th>
<th>ambient temperature range</th>
<th>type (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>current</td>
<td>(mA)</td>
<td>(VA)</td>
</tr>
<tr>
<td>inrush</td>
<td>&lt; 100</td>
<td>-</td>
</tr>
<tr>
<td>holding</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Voltage regulation 0 - 40 V DC
Flow regulation characteristic Hysteresis < 10 to 15%

SPECIFICATIONS

catalogue number

connection | flow coefficient Kv | operating pressure differential (bar) | holding power (W) | catalogue number |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(m³/h) (l/min)</td>
<td>max. (PS)</td>
<td>air (+) =</td>
<td>without manual operator connector</td>
</tr>
<tr>
<td>NC - Normally closed pad mounting</td>
<td>0,005</td>
<td>0,086</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>NO - Normally open pad mounting</td>
<td>0,007</td>
<td>0,12</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>pipe size</th>
<th>mounting type</th>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single subbase, ISO 15218 (CNOMO E06.36.120N, size 15)</td>
<td>M5</td>
<td>individual mounting</td>
<td>88263002</td>
</tr>
</tbody>
</table>

0001858A-2018-01
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All leaflets are available on: www.asco.com
Proportional Valves - 41
OPTIONS

- Connector with cable length of 2 m ([www.asco.com](http://www.asco.com))

INSTALLATION

- The solenoid valves can be mounted in any position without affecting operation
- Mounting on single subbases
- Unlike the on/off type, the proportional version is not equipped with electronics. Please check for correct polarity when connecting the valve. The piezo element will be damaged if the polarity of the connections is inversed. The control system of the user must be used for charging and discharging.

Important note: The peak current must be limited by serial resistor greater than 30 ohms
- Installation/maintenance instructions are included with each valve

DIMENSIONS (mm), WEIGHT (kg)

<table>
<thead>
<tr>
<th>Type</th>
<th>Catalogue Number</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>63000075/76/77/78/79/80/81/82</td>
<td>0.040</td>
</tr>
<tr>
<td>02</td>
<td>63000035/36/37/38/39/40/41/42</td>
<td>0.032</td>
</tr>
<tr>
<td>- 88263002</td>
<td>0.012</td>
<td></td>
</tr>
<tr>
<td>- 30300001</td>
<td>0.034</td>
<td></td>
</tr>
</tbody>
</table>

All leaflets are available on: [www.asco.com](http://www.asco.com)
FEATURES
• The Flowtronic™ consists of a fast, direct-acting 2-port proportional valve, a pressure sensor unit and digital control electronics
• Especially designed for applications placing extreme dynamic demands on flow control
• Control and maintenance of constant and even flow, irrespective of outside influences
• Precise measurement of flow with two sensors
• Adaptable to different applications due to the use of digital control electronics that can be configured by PC over a USB interface
• Auto-tune function and ASCO FlowCom PC software provide for quick and easy start-up
• Diagnosis over integrated LEDs or the ASCO FlowCom PC software

GENERAL
Fluid
Air or neutral gases, filtered at 50 µm, without condensate, lubricated or not
Minimum allowable pressure
4 bar
Maximum allowable pressure (MAP)
8 bar
Control range
5 - 2000 l/min (ANR), consult us for other ranges
Fluid temperature
0°C to +50°C
Ambient temperature
0°C to +40°C
Setpoint - analog
0 - 10 V (100 kΩ), 0/4 to 20 mA (resistance 250 Ω)
Feedback - analog
0 - 10 V, 0/4 to 20 mA (max. load 500 Ω)
Flow accuracy
Hysteresis ± 3%
Linearity ± 3%
Repeatability ± 1.5%
Calibration conditions
Ambient temperature 22.5°C ±2.5°C
Fluid Air
Dynamic performance
Response time < 200 ms
Other features
Auto-tune, error display by LED

CONSTRUCTION
Body Aluminium
Internal parts Aluminium, stainless steel and brass
Seals NBR (nitrile)

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>nominal diameter DN</th>
<th>voltage * (W)</th>
<th>max. power (mA)</th>
<th>max. current</th>
<th>max. current</th>
<th>insulation class degree of protection electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2, 3, 5 and 6</td>
<td>24 V = ±10% W</td>
<td>30</td>
<td>1250</td>
<td>H</td>
<td>IP65 - 5 pin M12 connector</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>44</td>
<td>1800</td>
<td></td>
<td>- USB connection with 4 pin M12 connector</td>
</tr>
</tbody>
</table>

Max. ripple: 10 %

SPECIFICATIONS

<table>
<thead>
<tr>
<th>pipe size</th>
<th>DN</th>
<th>flow (1)</th>
<th>max. inlet pressure</th>
<th>catalogue number with display</th>
<th>catalogue number without display</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(l/min - ANR)</td>
<td>(bar)</td>
<td>setpoint / output feedback</td>
<td>setpoint / output feedback</td>
</tr>
<tr>
<td>G</td>
<td>2</td>
<td>5 - 50</td>
<td>8</td>
<td>60701073</td>
<td>60701073</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10 - 100</td>
<td>8</td>
<td>60701055</td>
<td>60701055</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>20 - 500</td>
<td>8</td>
<td>60701019</td>
<td>60701019</td>
</tr>
<tr>
<td>1/4</td>
<td>6</td>
<td>50 - 1000</td>
<td>8</td>
<td>60701037</td>
<td>60701037</td>
</tr>
<tr>
<td>1/2</td>
<td>8</td>
<td>100 - 2000</td>
<td>8</td>
<td>60701091</td>
<td>60701091</td>
</tr>
</tbody>
</table>

Measurement without flow restriction at the outlet.
**CONNECTOR PINNING / CABLE WIRING**

<table>
<thead>
<tr>
<th>pin</th>
<th>description</th>
<th>5-wire cable (2m)</th>
<th>6-wire cable (5m, 10m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V voltage supply</td>
<td>brown</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Analog setpoint input</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
<td>blue</td>
<td>green</td>
</tr>
<tr>
<td></td>
<td>Analog ground (^{*})</td>
<td>yellow</td>
<td>yellow</td>
</tr>
<tr>
<td>4</td>
<td>Analog output (feedback)</td>
<td>black</td>
<td>pink</td>
</tr>
<tr>
<td>5</td>
<td>Digital output (pressure switch)</td>
<td>grey</td>
<td>grey</td>
</tr>
</tbody>
</table>

\(^{*}\) A 6-wire cable with separate analog ground is used for cable lengths over 2 m to set off the voltage drop for the setpoint.

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

Weight: 1.85 kg

**ACCESSORIES**

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOWTRONIC(D) software &quot;ASCO-FlowCom-Light&quot; - CD-ROM</td>
<td>88100895</td>
</tr>
<tr>
<td>FLOWTRONIC(D) software &quot;ASCO-FlowCom-Expert&quot; - CD-ROM</td>
<td>88100896</td>
</tr>
<tr>
<td>USB cable for connection of FLOWTRONIC(D) to PC</td>
<td>88100897</td>
</tr>
<tr>
<td>Straight M12 female connector, 5 pins, with screw terminals</td>
<td>88100256</td>
</tr>
<tr>
<td>Supply cable 2 m, 5 x 0.25 mm(^2), straight connector</td>
<td>88100726</td>
</tr>
<tr>
<td>Supply cable 5 m, 6 x 0.56 mm(^2), straight connector</td>
<td>88100728</td>
</tr>
<tr>
<td>Supply cable 10 m, 6 x 0.56 mm(^2), straight connector</td>
<td>88100730</td>
</tr>
</tbody>
</table>

All leaflets are available on: [www.asco.com](http://www.asco.com)
PROPORTIONAL VALVES
SERVOTRONIC DIGITAL
Digital electronic pressure regulator
for applications with constant flow

FEATURES
Servotronic digital is a highly dynamical 3-way proportional valve with digital control particularly suitable for applications with constant flow.

Servotronic digital stands for:
• Digital communication and control
• Direct operated valve
• Dynamic behaviour (high speed)

A special feature of the Servotronic digital is its DaS software supplied for optimum adjustment over PC and viewing of setpoint and feedback signals. Other functions are valve diagnostics, parameter setting and maintenance.

SPECIFICATIONS
Fluids: Air or neutral gas, filtered at 50 µm, condensate-free, lubricated or unlubricated
Ports: G3/8
Maximum allowable pressure: See table below
Pressure range: See table below
Temperature / fluid: 0...60 °C
Temperature / ambient: 0...60 °C
Setpoint - analog: 0 - 10 V (impedance 100 KΩ), 0 - 20 mA/4 - 20 mA (impedance 250 Ω)
Hysteresis: 0,5 % of span
Linearity / pressure measurement: ± 0,5 % of span
Repeatability: ± 0,5 % of span

CONSTRUCTION
Direct operated poppet valve
Body: Aluminium
Internal parts: Stainless steel and brass
Seals: FPM and NBR

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>nominal diameter DN (mm)</th>
<th>voltage *</th>
<th>max. power (W)</th>
<th>max. current (mA)</th>
<th>insulation class</th>
<th>degree of protection</th>
<th>electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 3/8</td>
<td>24 V ±10%</td>
<td>20</td>
<td>810</td>
<td>F</td>
<td>IP 65</td>
<td>5-pin M12 connector</td>
</tr>
</tbody>
</table>

* Maximum ripple: 10 %

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Ø ports</th>
<th>Ø orifice DN (mm)</th>
<th>K_v coefficient (Nm³/h)</th>
<th>flow at 6 bar (l/min - ANR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 3/8</td>
<td>8</td>
<td>1,45</td>
<td>1700</td>
</tr>
</tbody>
</table>

CATALOGUE NUMBER

6 1 5 3 7 0

A: VERSION (connection), body
S: SETPOINT
I: FEEDBACK

Other versions available on request.

All leaflets are available on: www.asco.com

Proportional Valves - 45
**DIMENSIONS (mm), WEIGHT (kg)**

Weight: 1,760 kg

**CONNECTOR PINNING / CABLE WIRING**

<table>
<thead>
<tr>
<th>pin</th>
<th>description</th>
<th>5-wire cable (2m)</th>
<th>6-wire cable (5m, 10m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24V voltage supply</td>
<td>brown</td>
<td>brown</td>
</tr>
<tr>
<td>2</td>
<td>Analog setpoint input</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td>3</td>
<td>Supply ground</td>
<td>blue</td>
<td>green</td>
</tr>
<tr>
<td></td>
<td>Analog ground</td>
<td>yellow</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Analog output (feedback)</td>
<td>black</td>
<td>pink</td>
</tr>
<tr>
<td>5</td>
<td>Digital output (pressure switch)</td>
<td>grey</td>
<td>grey</td>
</tr>
<tr>
<td></td>
<td>Body</td>
<td>EMC shield</td>
<td>Shield</td>
</tr>
</tbody>
</table>

*) A 6-wire cable with separate analog ground is used for cable lengths over 2 m to set off the voltage drop for the setpoint.

**ACCESSORIES**

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight M12 female connector, 5 pins, with screw terminals</td>
<td>88100256</td>
</tr>
<tr>
<td>Right-angle M12 female connector, 5 pins, with screw terminals</td>
<td>88100725</td>
</tr>
<tr>
<td>Supply cable 2 m, 5x0,25 mm², straight connector</td>
<td>88100726</td>
</tr>
<tr>
<td>Supply cable 2 m, 5x0,25 mm², right-angle connector</td>
<td>88100727</td>
</tr>
<tr>
<td>Supply cable 5 m, 6x0,56 mm², straight connector</td>
<td>88100728</td>
</tr>
<tr>
<td>Supply cable 5 m, 6x0,56 mm², right-angle connector</td>
<td>88100729</td>
</tr>
<tr>
<td>Supply cable 10 m, 6x0,56 mm², straight connector</td>
<td>88100730</td>
</tr>
<tr>
<td>Supply cable 10 m, 6x0,56 mm², right-angle connector</td>
<td>88100731</td>
</tr>
<tr>
<td>RS-232 cable converter, 2 m cable with 9 pin Sub-D (plug connector)</td>
<td>88100732</td>
</tr>
<tr>
<td>RS-232 cable converter, 2 m cable with 9 pin Sub-D (screw connector)</td>
<td>88100970</td>
</tr>
<tr>
<td>DaS-Light, Data Acquisition Software for Servotronic DIGITAL, basic parameters - CD-ROM</td>
<td>99100110</td>
</tr>
<tr>
<td>DaS-Expert, Data Acquisition Software for Servotronic DIGITAL, full parameters - CD-ROM</td>
<td>99100111</td>
</tr>
</tbody>
</table>

All leaflets are available on: [www.asco.com](http://www.asco.com)
FEATURES

- Control device for PWM (pulse-width modulated) proportional solenoid valve control
- Designed for open-loop, closed-loop and double-loop (cascaded) control
- Suitable for the control of flow, pressure, temperature, force etc.
- Integrated display and LEDs
- Control parameters adjustable via software (DigiCom, USB interface)
- Auto-Adapt function/button for automatic adjustment of the CONTROLD control device to the control valve

A special feature of the CONTROLD is the "ASCO-DigiCom" software supplied for optimum adjustment over PC. Setpoint and feedback values can be viewed at the same time. Other functions are valve diagnostics, parameter setting and maintenance.

GENERAL

Ambient temperature -20°C to +50°C

CONSTRUCTION

Body PA (polyamide)
Degree of protection IP20
Electrical connection Pluggable terminal block (0.08 - 1.5 mm²)
Mounting DIN-EN 50022 rail

ELECTRICAL CHARACTERISTICS

Supply voltage (U_N) 24 V DC ±10 %, max. ripple 10 %
or 12 V DC +15 % -5 %, max. ripple 10 %

Max. current of proportional solenoid valve 2 A
Setpoint input 0 - 10 V DC, 0 - 20 mA, 4 - 20 mA
Sensor input 0 - 10 V DC, 0 - 20 mA, 4 - 20 mA
Feedback output 0 - 10 V, 0 / 4 - 20 mA
Ramp ON/OFF adjustable between 0,1 and 20 seconds
Adjustable switching frequency 20 to 2000 Hz

SPECIFICATIONS

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTROLD control device - 12 V DC</td>
<td>60300117</td>
</tr>
<tr>
<td>CONTROLD control device - 24 V DC</td>
<td>60300118</td>
</tr>
</tbody>
</table>

PROPORTIONAL VALVES SUITABLE FOR CONTROL APPLICATIONS

<table>
<thead>
<tr>
<th>description</th>
<th>series</th>
<th>illustration</th>
<th>catalogue page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-port proportional valve for pressure control</td>
<td>602</td>
<td></td>
<td><a href="http://www.asco.com">www.asco.com</a></td>
</tr>
<tr>
<td>Posiflow proportional solenoid valves</td>
<td>202</td>
<td>203</td>
<td>202 1/8 (<a href="http://www.asco.com">www.asco.com</a>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>202 1/4-3/8 (<a href="http://www.asco.com">www.asco.com</a>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>203 3/8-1/2 (<a href="http://www.asco.com">www.asco.com</a>)</td>
</tr>
</tbody>
</table>
DIMENSIONS (mm), WEIGHT (kg)

weight: 0.153 kg

CONNECTOR PINNING

<table>
<thead>
<tr>
<th>pin</th>
<th>description</th>
<th>pin</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>V DC IN/ + supply</td>
<td>11</td>
<td>Setpoint</td>
</tr>
<tr>
<td>2</td>
<td>GND IN/ ground</td>
<td>12</td>
<td>GND setpoint</td>
</tr>
<tr>
<td>3</td>
<td>Protective earth PE</td>
<td>13</td>
<td>Digital input</td>
</tr>
<tr>
<td>4</td>
<td>Frequency input</td>
<td>14</td>
<td>GND Digital input</td>
</tr>
<tr>
<td>5</td>
<td>Sensor supply voltage +</td>
<td>15</td>
<td>Valve / coil connection</td>
</tr>
<tr>
<td>6</td>
<td>Analog input 1</td>
<td>16</td>
<td>GND valve</td>
</tr>
<tr>
<td>7</td>
<td>GND sensor supply voltage</td>
<td>17</td>
<td>Digital output</td>
</tr>
<tr>
<td>8</td>
<td>Sensor supply voltage +</td>
<td>18</td>
<td>GND Digital output</td>
</tr>
<tr>
<td>9</td>
<td>Analog input 2</td>
<td>19</td>
<td>GND Analog output</td>
</tr>
<tr>
<td>10</td>
<td>GND sensor supply voltage</td>
<td>20</td>
<td>Analog output</td>
</tr>
</tbody>
</table>

ACCESSORIES

- "ASCO-DigiCom" CONTROL® software on CD-ROM (supplied with the controller) - catalogue number 88100893
- USB cable for CONTROL® to PC connection (to be ordered separately) - catalogue number 88100894
FEATURES
• Converts analog input control signals to coil current of a proportional solenoid valve by means of pulse width modulation
• LED-Display integrated in the connector
• Adjustable UP/DOWN ramp control
• Output coil current independent of coil resistance (temperature) and supply voltage variations
• The electronic circuit is integrated in a standard housing according to DIN EN 175301-803, form A
• Parameter setting via PC interface and programming adapter or, optionally, via the switches integrated in the connector

GENERAL
Nominal voltage 12/24 V DC
Maximum current 1,2 A / 2,5 A

CONSTRUCTION
Housing PA
Cover PA
Screw Zinc plated steel
Seals NBR

ELECTRICAL CHARACTERISTICS
Connector M12, 5 pins
Connector specification DIN EN 175301-803, form A
Electrical safety IEC 335
Electrical enclosure protection IP65 (EN 60529)
Supply voltage 12V ... 30 V DC (incl. ripple)

<table>
<thead>
<tr>
<th>full load current (I_{FL})</th>
<th>input control signal</th>
<th>ambient temperature range</th>
</tr>
</thead>
<tbody>
<tr>
<td>(mA)</td>
<td>U_c =</td>
<td>(C°)</td>
</tr>
<tr>
<td>1200/2400</td>
<td>0 - 10</td>
<td>4 - 20</td>
</tr>
<tr>
<td></td>
<td>-20 to +65</td>
<td></td>
</tr>
</tbody>
</table>

Ramp time Selectable ON/OFF, adjustable from 50 ms to 5 s, UP/DOWN
Adjustable switch frequency 60 - 1500 Hz

SPECIFICATIONS

catalogue number: proportional valves for digital control unit

<table>
<thead>
<tr>
<th>type</th>
<th>setpoint</th>
<th>control unit</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>0 - 10 V</td>
<td>X90850164500100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 - 20 mA</td>
<td>X90850164500200</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>0 - 10 V</td>
<td>X90850164500100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 - 20 mA</td>
<td>X90850164500200</td>
<td></td>
</tr>
</tbody>
</table>

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

PROPORTIONAL VALVES SUITABLE FOR CONTROL APPLICATIONS

<table>
<thead>
<tr>
<th>description</th>
<th>series</th>
<th>illustration</th>
<th>catalogue page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-port proportional valve for pressure control</td>
<td>602</td>
<td>[Illustration]</td>
<td>[<a href="http://www.asco.com">www.asco.com</a>]</td>
</tr>
<tr>
<td>Posiflow proportional solenoid valves</td>
<td>202</td>
<td>[Illustration]</td>
<td>[<a href="http://www.asco.com">www.asco.com</a>]</td>
</tr>
<tr>
<td></td>
<td>202</td>
<td>202</td>
<td>[<a href="http://www.asco.com">www.asco.com</a>]</td>
</tr>
</tbody>
</table>

Refer to the dimensional drawings on the following page.
INSTALLATION

- The control unit can be mounted in any position without affecting operation

DIMENSIONS (mm), WEIGHT (kg)

<table>
<thead>
<tr>
<th>TYPE 01: CONTROL UNIT</th>
<th>TYPE 02: ADAPTER from Form A to Form B</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.075 kg</td>
<td></td>
</tr>
</tbody>
</table>

ACCESSORIES

<table>
<thead>
<tr>
<th>description</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight M12 female connector, 5 pins, with screw terminals</td>
<td>88100256</td>
</tr>
<tr>
<td>Right-angle M12 female connector, 5 pins, with screw terminals</td>
<td>88100725</td>
</tr>
<tr>
<td>Supply cable 2 m, 2 x 0.25 mm², straight connector</td>
<td>88100726</td>
</tr>
<tr>
<td>Supply cable 2 m, 2 x 0.25 mm², right-angle connector</td>
<td>88100727</td>
</tr>
<tr>
<td>Supply cable 5 m, 6 x 0.56 mm², straight connector</td>
<td>88100728</td>
</tr>
<tr>
<td>Supply cable 5 m, 6 x 0.56 mm², right-angle connector</td>
<td>88100729</td>
</tr>
<tr>
<td>Supply cable 10 m, 6 x 0.56 mm², straight connector</td>
<td>88100730</td>
</tr>
<tr>
<td>Supply cable 10 m, 6 x 0.56 mm², right-angle connector</td>
<td>88100731</td>
</tr>
<tr>
<td>Adapter DIN EN 175301-803 from Form A to Form B for Type 02</td>
<td>833-064154</td>
</tr>
<tr>
<td>Programming adapter</td>
<td>X90850164500300</td>
</tr>
</tbody>
</table>

INPUT AND OUTPUT SIGNALS

<table>
<thead>
<tr>
<th>Pin</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Voltage supply (see &quot;Electrical Characteristics&quot;)</td>
</tr>
<tr>
<td>3</td>
<td>Analog ground 0 V (GND)</td>
</tr>
<tr>
<td>2</td>
<td>Setpoint input (differential input)</td>
</tr>
<tr>
<td>4</td>
<td>The range 0...100 % corresponds to an input voltage of 0...10 V or an input current of 4...20 mA (depending on version used).</td>
</tr>
<tr>
<td>5</td>
<td>LIN Bus connection</td>
</tr>
<tr>
<td></td>
<td>The parameters for the device can be set via this connection and our programming adapter.</td>
</tr>
</tbody>
</table>

All leaflets are available on: www.asco.com

50 - Proportional Valves
FEATURES

- Converts analog input control signals to coil current of a proportional solenoid valve by means of pulse width modulation
- Switch-off function at less than 2% of the maximum control signal
- Adjustable ramp control
- Output coil current independent of coil resistance (temperature) and supply voltage variations
- Min. and max. output coil current adjustable to required input control signal
- The electronic circuit is integrated in a housing connectable to a 3-terminal spade plug coil connector according to ISO 4400/EN 175301-803, form A, DIN 43650, 11 mm, industry standard B or DIN 43650, 9,4 mm, industry standard B

GENERAL

Nominal voltage 24 V DC
Maximum current 1100 mA

CONSTRUCTION

Housing PA
Cover PA
Screw Zinc plated steel
Seals NBR

ELECTRICAL CHARACTERISTICS

Connector Spade plug (cable Ø 6-10 mm)
Connector specification ISO 4400 / EN 175301-803, form A (2)
Valve connection With 3 terminal plug connection
Control unit: E908A001 ISO 4400 / EN 175301-803, form A
Control unit: E908A003 DIN 43650, 11 mm, industry standard B
Control unit: E908A004 DIN 43650, 9,4 mm, industry standard B (assembled to 200 mm cable)

Electrical safety IEC 335
Electrical enclosure protection IP65 (EN 60529)
Supply voltage DC (=) : 24V ±10 % (U_n), max. ripple 10%

prefix option max. full load current (I_c) input control signal (selectable) power consumption (electronics) unit ambient temperature range \( ^{\circ}C \) type (1)
- 1100 0 - 10 0 - 20 4 - 20 0,8 -10 to +75 01 - 02

Switch-off current < 2 % of max. input control signal
Adjustable offset Upwm 15 - 50 % E.D.
Adjustable full load Upwm 30 - 100 % E.D.
Ramp time Selectable on/off, adjustable 0,1 - 3 sec.
Adjustable switch frequency 40 - 700 Hz

SPECIFICATIONS

<table>
<thead>
<tr>
<th>recommended for proportional valve types</th>
<th>type</th>
<th>catalogue number</th>
</tr>
</thead>
<tbody>
<tr>
<td>202A001V to 202A087V 203B001V and 203B002V</td>
<td>01</td>
<td>E908A001</td>
</tr>
<tr>
<td>202A201V to 202A208V 202A101V to 202A104V 202A105V to 202B108V</td>
<td>02</td>
<td>E908A003</td>
</tr>
<tr>
<td>202A004</td>
<td>01</td>
<td>E908A004</td>
</tr>
</tbody>
</table>

(1) Refer to the dimensional drawings on the following page.
(2) The connector is supplied with each control unit. Do not use the standard connector mounted on the POSIFLOW solenoid valves.

PROPORTIONAL VALVES SUITABLE FOR CONTROL APPLICATIONS

<table>
<thead>
<tr>
<th>description suitable for control applications</th>
<th>series</th>
<th>illustration</th>
<th>catalogue page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-port proportional valve for pressure control</td>
<td>022</td>
<td>[Image]</td>
<td><a href="http://www.asco.com">www.asco.com</a></td>
</tr>
</tbody>
</table>
**OPTIONS**

- ASCO can offer any adaptation or modification to the control unit to meet special requests from the users' field

**INSTALLATION**

- The control unit can be mounted in any position without affecting operation
- The connector to ISO 4400 / EN 175301-803, form A, is supplied with each unit
- Catalogue number E908A004: The 4-terminal connector to ISO 4400 / EN 175301-803, form A, is supplied with each unit.
- The outlet to the solenoid valve is fitted with a 200 mm long cable with a connector to DIN 43650, 9.4 mm, industry standard B
- Installation and maintenance instructions are included with each control unit

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

<table>
<thead>
<tr>
<th>Type</th>
<th>Catalogue Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>Weight</th>
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</thead>
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<td>E908A001/004</td>
<td>96</td>
<td>70</td>
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<td>30</td>
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<td>30</td>
<td>4</td>
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<td>70</td>
<td>0.1</td>
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<tr>
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<td>E908A003</td>
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<td>48</td>
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<td>98</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Weight without connector.

**ORDERING EXAMPLES:**

- Type 01: E908A001 - E908A004
- Type 02: E908A003

**VOLTAGE-CURRENT / TIME DIAGRAM**

- Supply, 4 terminals, ISO 4400/EN 175301-803, form A
- Solenoid valve connection:
  - 3 terminals, ISO 4400/EN 175301-803, form A
  - 3 terminals, DIN 43650, 11 mm, industry standard B
  - 3 terminals, DIN 43650, 9.4 mm, industry standard B

All leaflets are available on: www.asco.com