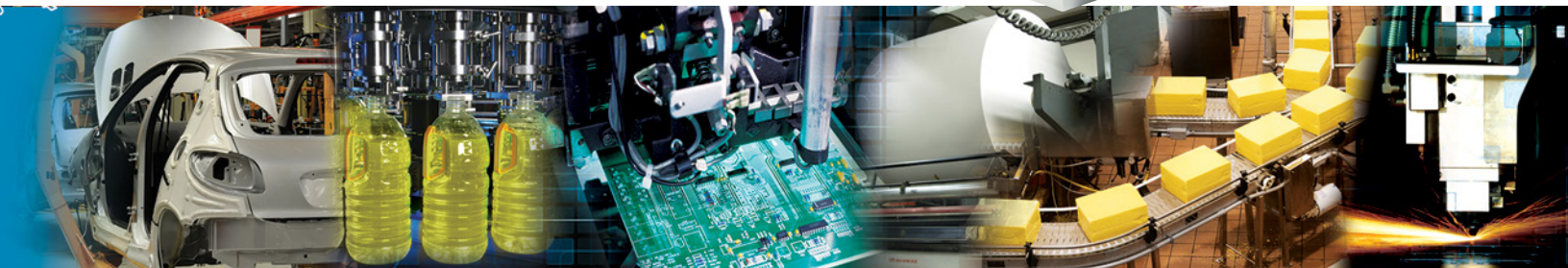




Servotronic^{Digital} | 615 Series
Proportional Technology

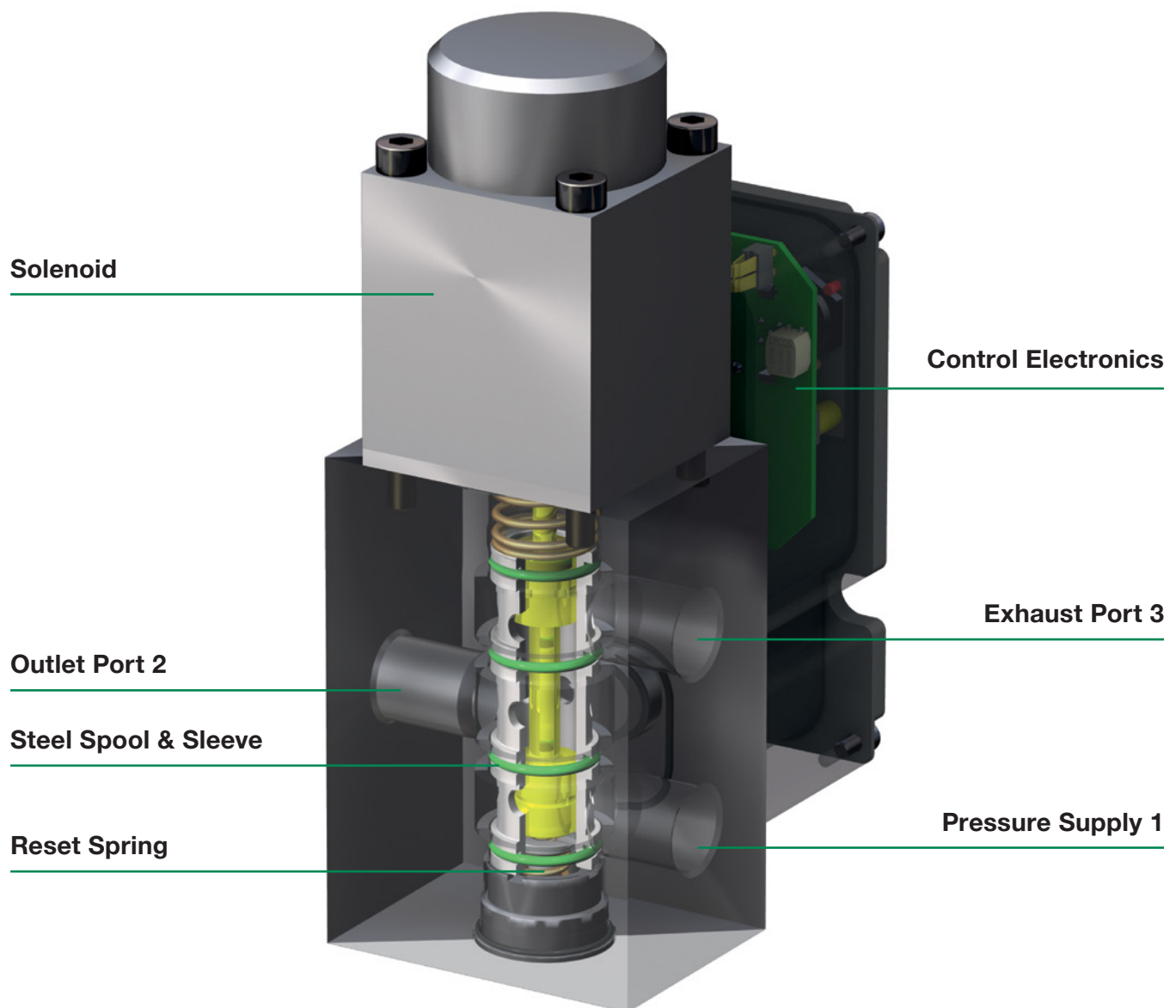


Servotronic^{Digital}

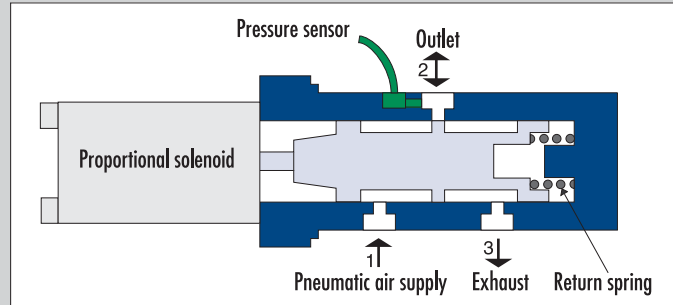
Greater versatility in automated production processes: Due to electronics, the new generation of Servotronic products increases the range of applications and performance of pneumatic components. The Servotronic^{Digital} directly responds to all pressure control needs and indirectly meets the requirements placed in the control of physical variables, such as position, velocity, acceleration, force, mass etc. The combination of innovative pneumatic technology, high-precision mechanics and modern electronics allows for quick control of pressure in a pneumatic actuating system in relation to a signal received from the controlling electronics.

The Servotronic^{Digital} is provided with a precision-lapped steel spool and sleeve with hardened and tempered surface enabling very high pulse frequencies at extremely short response times. The Servotronic^{Digital} valve has a constant air consumption.

The valve can be adjusted to a specific application using the DaS software (Data Acquisition Software).



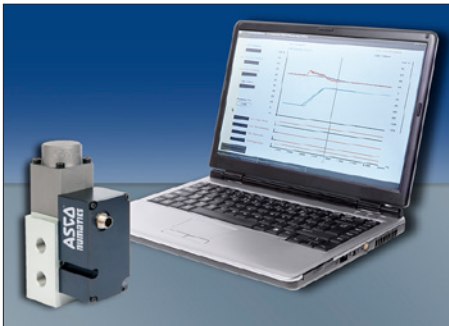
Operating Principle



Applying pressure

The Servotronic^{Digital} consists of a spool and sleeve servo-valve with three ports and control electronics to define the pressure in proportion to a given setpoint.

The spool position can be changed continually to maintain a constant outlet pressure in relation to a given setpoint signal.



The Data Acquisition Software (DaS) and the RS232 interface allow the controller to be optimally adjusted to the control loop.

Advantages

- Minimum hysteresis
- Very short response times
- Excellent flow characteristics
- Compact monobloc construction with integrated electronics and sensor
- High reliability and long service life due to precision mechanics combined with simple control technology
- Digital control
- Easy change of control parameters

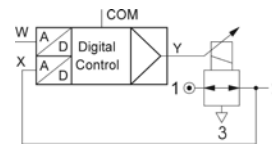
Servotronic^{Digital}

Servotronic^{Digital} is a highly dynamic 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.



| Fluids | Ambient Temperature | Body | Internal Parts | Seals |
|---|---------------------------------|----------|---------------------------|---|
| Air or neutral gas, filtered at 50 µm, lubricated or unlubricated | 0 °C to 60 °C (32 °F to 140 °F) | Aluminum | Stainless steel and brass | FPM (fluoroelastomer) and NBR (nitrile) |

| General Valve Information | |
|----------------------------------|--|
| Maximum allowable pressure (MAP) | See table below |
| Fluid Temperature | 0 °C to 60 °C (32 °F to 140 °F) |
| Pressure Range | 0 to 40 bar |
| Setpoint | 0 – 10 V, 0 – 20 mA, 4 – 20 mA |
| Ports | G3/8 |
| Construction | Spool and sleeve valve |
| Actuation | Lifting solenoid |
| Hysteresis | 0.5% of span |
| Linearity/pressure measurement | ± 0.5% of span |
| Repeatability | ± 0.5% of span |
| Analog Setpoint | 0 – 10 V (impedance 100 KΩ), 0 – 20 mA/4 – 20 mA (impedance 250 Ω) |

| Electrical Characteristics | | | | | | |
|----------------------------|----------------|----------------|-------------------|------------------|----------------------|--|
| Nominal Diameter DN (mm) | Voltage * | Max. Power (W) | Max. Current (mA) | Insulation Class | Degree of Protection | Electrical Connection |
| 8 | 24 VDC = ± 10% | 20 | 810 | F | IP65 | 5-pin M12 connector (to be ordered separately) |

* Max. ripple: 10%

| Specifications | | | |
|----------------|-------------------|--|------------------------|
| Ø Ports | Ø Orifice DN (mm) | Flow | |
| | | C _v Flow Factor (K, Nm ³ /h) | at 6 Bar (l/min - ANR) |
| G 3/8 | 8 | 1.68 (1.45) | 1700 |

How to Order

6 1 5 3 7 0 A S I D P P

Version (connection) Body

7 = Integrated electronics

Setpoint

0 = 0 – 10 Volt
1 = 0 – 20 mA
2 = 4 – 20 mA

Feedback

1 = Feedback output 0 – 10 Volt
2 = Feedback output 0 – 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*

* Feedback input is needed for dual loop units.

Pressure Range

Output Pressure

40 = 0 – 100 mbar
50 = 0 – 500 mbar
60 = 0 – 1 bar
02 = 0 – 2 bar
03 = 0 – 3 bar
05 = 0 – 5 bar
06 = 0 – 6 bar
10 = 0 – 10 bar
12 = 0 – 12 bar
14 = 0 – 14 bar
16 = 0 – 16 bar
20 = 0 – 20 bar
30 = 0 – 30 bar
4H = 0 – 40 bar

Options

A00 = Dual loop control
018 = Oxygen clean

Max. Inlet Pressure (bar)

2
2
2
3
8
8
12
12
14
18
22
35
45

Vacuum (relative)

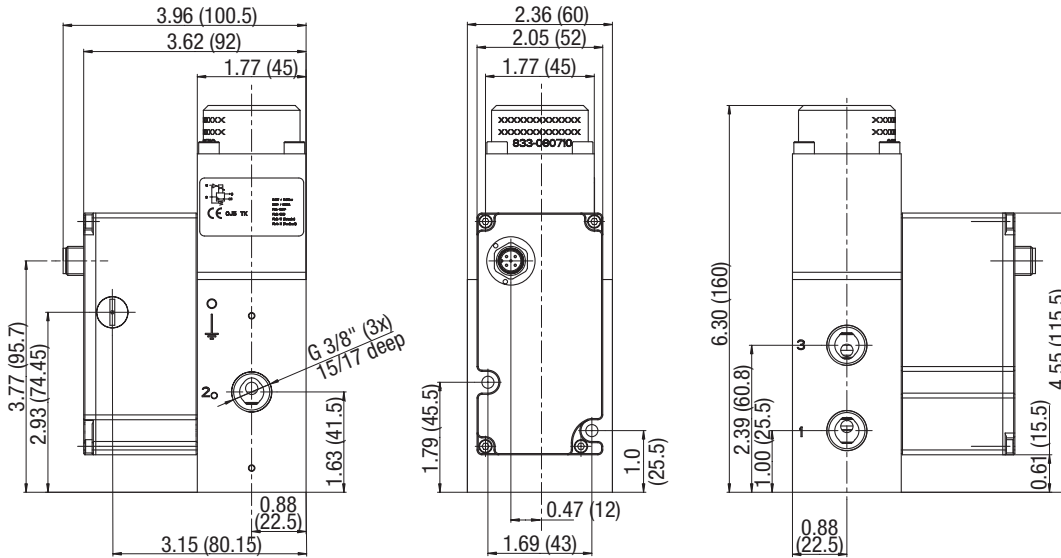
V3 = 0 to -1 bar shut-off valve

Digital Output

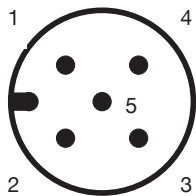
1 = Pressure switch output PNP ± 5%

Dimensions: inches (mm)

Weight: 1.76kg (3.88lbs)



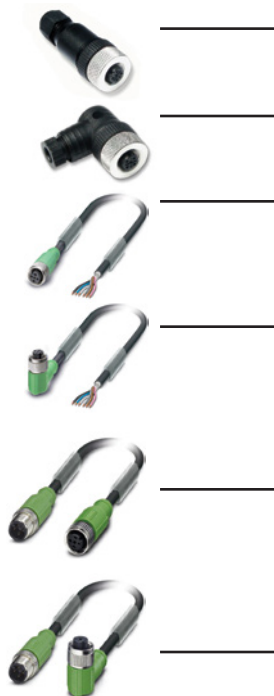
Connector Pin Out



| Pin | Description | 6-wire cable |
|------|----------------------------------|--------------|
| 1 | 24V voltage supply | brown |
| 2 | Analog setpoint input | white |
| 3 | Supply ground | blue |
| | Analog ground* | yellow |
| 4 | Analog output (feedback) | black |
| 5 | Digital output (pressure switch) | grey |
| Body | EMC shield | shield |

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

Accessories



| 5 Pin 12mm FEMALE Straight Field Attachable Connectors | | Model Number |
|--|--|----------------------------|
| PG 9 Cable Gland | | TC05F20000000000 |
| 5 Pin 12mm FEMALE 90 DEGREE Field Attachable Connectors | | Model Number |
| PG 9 Cable Gland | | TD05F20000000000 |
| Micro Female 5 Pole Straight 6 Wire 24 AWG, Shielded | | |
| 3 Meter | | TC0503MMS000671Y |
| 5 Meter | | TC0505MMS000671Y |
| Micro Female 5 Pole 90 Degree 6 Wire 24 AWG Euro Color Code, Shielded | | |
| 3 Meter | | TD0503MMS000671Y |
| 5 Meter | | TD0505MMS000671Y |
| Micro F/M 4 Pole Straight 22 AWG Euro Color Code | | |
| Unshielded | | Shielded |
| 2 Meter - TC0403MIETA04000 | | 3 Meter - TC0403MMETA04000 |
| 5 Meter - TC0405MIETA04000 | | 5 Meter - TC0405MMETA04000 |
| Micro F 90°/M Straight 22 AWG Euro Color Code | | |
| Unshielded | | Shielded |
| 2 Meter - TD0403MIETA04000 | | 3 Meter - TD0403MMETA04000 |
| 5 Meter - TD0405MIETA04000 | | 5 Meter - TD0405MMETA04000 |
| PC Software & Cable Connectors | | Model Number |
| DaS Light: Data Acquisition Software for Sentronic ^D - basic parameters - free download at asco.com | | 99100110 |
| DaS Expert: Data Acquisition Software for Sentronic ^D - full parameters | | Consult Factory |
| RS 232 cable converter; 2m cable with 9-pin Sub-D (plug connector) | | 88100732 |