ASCO™

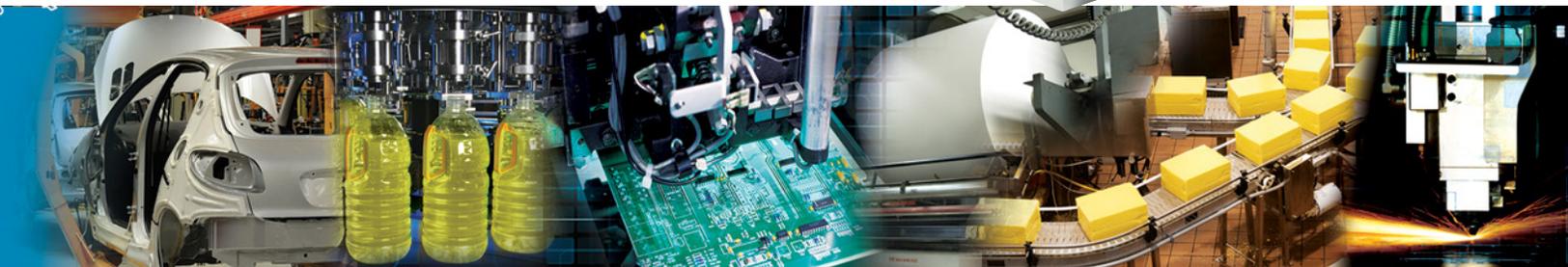## Servotronic^Digital | 615 Series

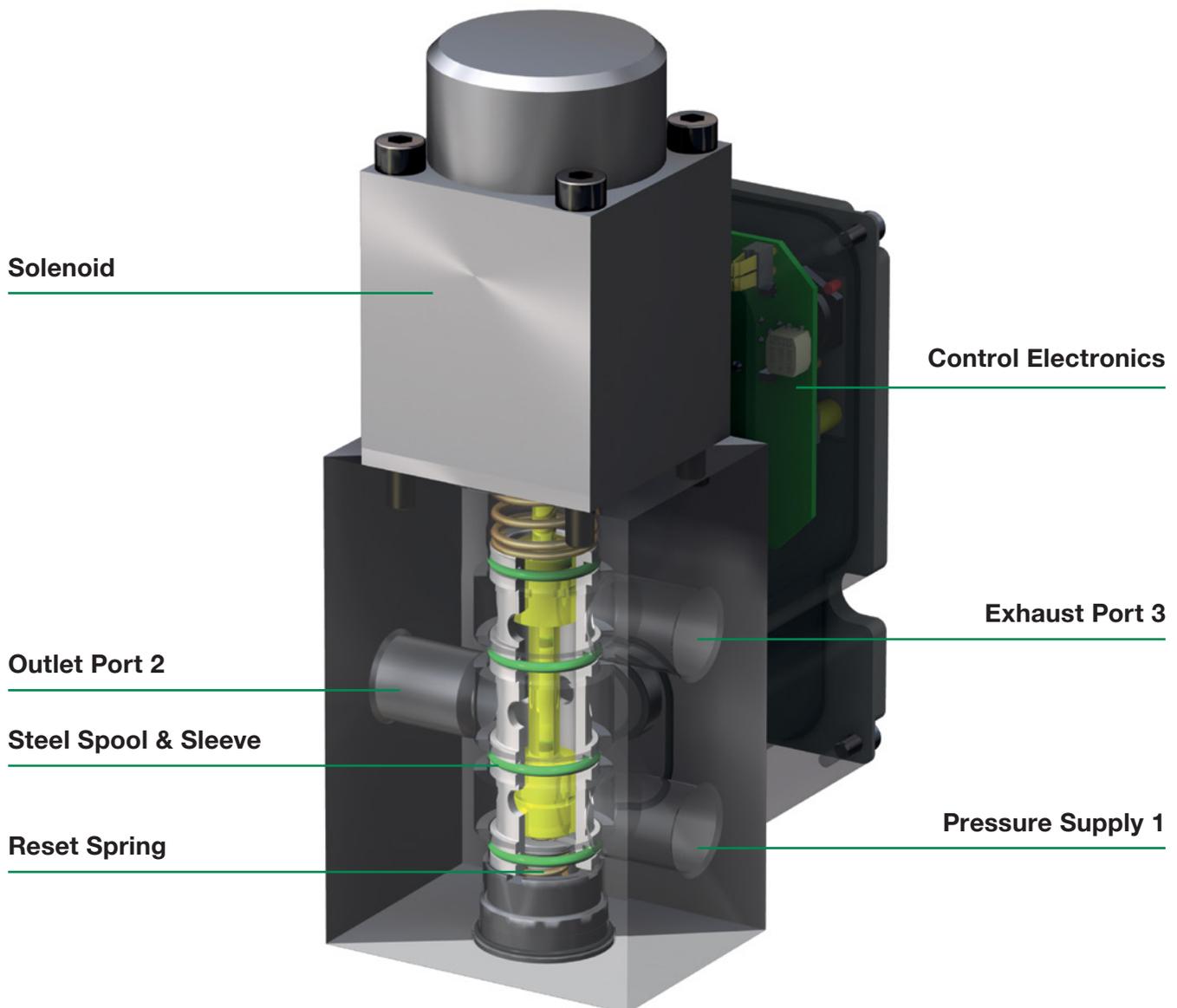Proportional Technology
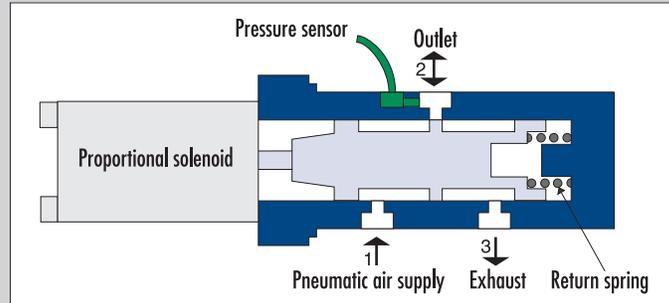
EMERSON™

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).

Solenoid

Control Electronics

Exhaust Port 3

Outlet Port 2

Steel Spool & Sleeve

Pressure Supply 1

Reset Spring

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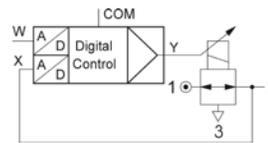
Fluids	Ambient Temperature	Body	Internal Parts	Seals
Air or neutral gas, filtered at 50 µm, lubricated or unlubricated	0 °C to 60 °C (32 °F to 140 °F)	Aluminum	Stainless steel and brass	FPM (fluoroelastomer) and NBR (nitrile)

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$_v$ Nm³/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 PP

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.

Options
A00 = Dual loop control
018 = Oxygen clean

Pressure Range

Output Pressure	Max. Inlet Pressure (bar)	Vacuum (relative)
40 = 0 – 100 mbar	2	V3 = 0 to -1 bar
50 = 0 – 500 mbar	2	shut-off valve
60 = 0 – 1 bar	2	
02 = 0 – 2 bar	3	
03 = 0 – 3 bar	8	
05 = 0 – 5 bar	8	
06 = 0 – 6 bar	12	
10 = 0 – 10 bar	12	
12 = 0 – 12 bar	14	
16 = 0 – 16 bar	18	
20 = 0 – 20 bar	22	
30 = 0 – 30 bar	35	
4H = 0 – 40 bar	45	

Digital Output
1 = Pressure switch output PNP ± 5%

Dimensions: inches (mm)

Weight: 1.76kg (3.88lbs)

Information subject to change without notice. For ordering information or regarding your local sales office visit www.asco.com.

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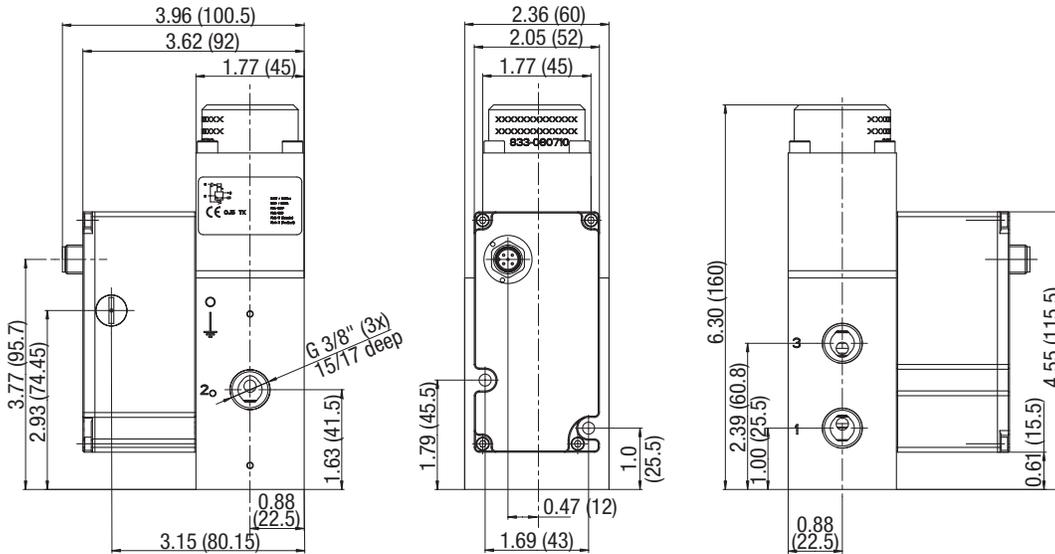
Connector Pin Out
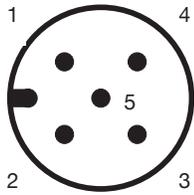
Pin	Description	6-wire cable
1	24V voltage supply	brown
2	Analog setpoint input	white
3	Supply ground	blue
3	Analog ground*	yellow
4	Analog output (feedback)	black
5	Digital output (pressure switch)	grey
Body	EMC shield	shield

* 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
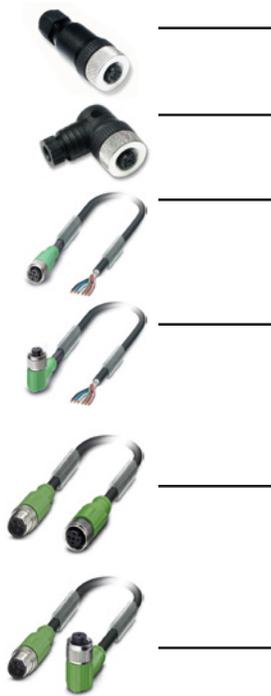
5 Pin 12mm FEMALE Straight Field Attachable Connectors	Model Number
PG 9 Cable Gland	TC05F20000000000

5 Pin 12mm FEMALE 90 DEGREE Field Attachable Connectors	
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