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Miniature Electronic Pressure Controllers

Precision Fluidics





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When you partner with the global leader in motion and control technologies, expect to move your business and the world forward. From miniature solenoid valves to highly integrated automation systems, our innovations are critical to life-saving medical devices and scientific instruments used for drug discovery and pathogen detection. Not to mention, critical to decreasing time to market and lowering your overall cost of ownership. So partner with Parker, and get ready to move, well, anything.



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OEM-EP Miniature Electronic Pressure Controllers Pressure Controllers



Physical Properties

Valve Technology:
Thermally compensated proportional valve
Media:
Non-corrosive gases
Operating Environment:
0 to 50°C (32 to 131°F)
Storage Temperature:
-40 to 65°C (-40 to 131°F)
Length: 1.02 in (26 mm)
Width: 1.06 in (27 mm)
Height: 2.36 in (60 mm)
Porting: 10-32 female ports
Metric adaptor available

Measuring just 26mm x 27mm x 60mm, the OEM-EP, Electronic Pressure Controller, is the smallest electronic pressure controller available on the market, configured specifically for the analytical instrumentation and life science OEM markets.

The OEM-EP can be configured to control pressure or flow and can replace manual regulators, flow controllers, and needle valves, providing integral closed loop proportional control for sensitive instrumentation applications. This product uses Parker Hannifin's patented VSO[®] proportional valve, as well as the proven circuitry of its successful larger products.

Features

- Silent operation
- High accuracy
- "Set and Forget" closed loop control

Electrical

Main Power: 24 VDC ± 10% Input Control Signal: 0-5 VDC standard Monitor Output Voltage: 0-5 volts Current Requirement: <400 mA Electrical Connector: 6 pin miniature interface cable included

• Low power consumption

- Long life
- Analog control

Performance Characteristics

Pressure Ranges:0-2 psig0-15 psig0-50 psig0-100 psigPressure Accuracy: \pm 0.2% FS typical* \pm 1.5% FS maxResponse:<15 msec</td>(Response time to target pressure is output volume dependent)Linearity:< \pm 1.5% FS*Contact factory for details.

Configurations

Custom configurations are available. Contact factory for details.



Pressure Controller with No Internal Vent





Dimensions

Ordering Information

Part Number	990-005101-002	990-005101-015	990-005101-100	990-005103-002	990-005103-015	990-005103-100
Family	0EM-EP	0EM-EP	0EM-EP	0EM-EP	0EM-EP	0EM-EP
Configuration	Internal Vent					
Effective Orifice	0.010" (0.25mm)	0.010" (0.25mm)	0.010" (0.25mm)	0.030" (0.75mm)	0.030" (0.75mm)	0.030" (0.75mm)
Main Voltage	24 VDC					
Control Voltage	0-5 VDC					
Pressure Range	0-2 psig	0-15 psig	0-100 psig	0-2 psig	0-15 psig	0-100 psig
Buy Online	Y	Y	Y	Y	Y	Y

Part Number	990-005123-015	990-005123-050	990-005123-100
Family	0EM-EP	0EM-EP	0EM-EP
Configuration	No Internal Vent	No Internal Vent	No Internal Vent
Effective Orifice	0.030" (0.75mm)	0.030" (0.75mm)	0.030" (0.75mm)
Main Voltage	24 VDC	24 VDC	24 VDC
Control Voltage	0-5 VDC	0-5 VDC	0-5 VDC
Pressure Range	0-15 psig	0-50 psig	0-100 psig
Buy Online	Y	Y	Y

Accessories			
Part Number 190-008246-001			
Configuration	10-32 Male to M5 x .8 mm Female Adaptor w/O-ring		
Wetted Materials	FKM		
Buy Online	Y		

• Internal Vent Configurations have a slight constant vent to atmosphere to accurately control pressure and are typically used to pressurize closed volumes of inert gasses.

• No Internal Vent Configurations are typically selected for gas flow applications and do not have an internal vent.

• Control starts at approximately 10% of full scale control voltage and pressure rating allowing for positive shutoff. Pressure control may not be possible below 10% of full scale rating.



NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002247-001 and Drawing #890-003182-001.

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Pressure Controllers



Typical Applications:

- Volumetric Flow Control
- Carrier Gas Pressure Control
- Air over Liquid Flow Control
- Split Flow Control

Physical Properties

Valve Technology: Thermally compensated VSO® proportional valves. Media: Non-corrosive gases **Operating Environment:** 32 to 131°F (0 to 55°C) **Storage Temperature:** -40 to 149°F (-40 to 65°C) Length: 1.27 in (32.26) mm Width: 2.32 in (58.96 mm) **Height:** 2.20 in (55.83 mm) Weight: 5.6 oz (158.8 g) **Porting:** 10-32 female ports Metric adaptor available

The VSO-GC Electronic Pressure Control Unit converts a variable electrical control signal into a variable pneumatic output. The internal integration on the VSO-GC has been optimized for low flow applications and applications utilizing minimal volume. Used to control critical pressures and flows, the VSO-GC replaces manual regulators, needle valves, flow controllers, and vent orifices, providing integral closed loop proportional control.

This product uses Parker Hannifin's patented VSO[®] proportional valve and offers significant improvements over dual valve controllers. The VSO-GC is used for carrier gas flow control, microfluidic flow control and for aspirate/ dispense applications.

Features

- Offers silent operation
- Ensures high accuracy and unparalleled resolution
- Tested for long life
- Offers internal closed loop control
- OEM application-specific configurations available
- Analog control
- Optimized for stability at low flows
- RoHS compliant.

Electrical

Main Voltage: 24 VDC ± 10% Input Control Signal: 0-5 VDC standard Monitor Output Voltage: 0-5 VDC Maximum Current Requirement: < 400 mA Electrical Connection: RJ-45

Wetted Materials

Manifold: AL 6061-T6, FKM, 302 Series SS Valve: FKM, 300 Series SS

Brass 36000HT Tubing:

Ester Based Polyurethane Sensor:

Glass, Silicon, Silicone, Polyphenylene Sulfide

Performance Characteristics

Pressure Ranges:				
0-2.00 psig	(0-0.14 bar)			
0-15.00 psig	(0-1.03 bar)			
0-50.00 psig	(0-3.45 bar)			
0-100.00 psig	(0-6.89 bar)			

Pressure Accuracy:

± 1.5% Full Scale maximum

Response:

<15 msec

(Response time to target pressure is output volume dependent)

Linearity:

 \leq +1.5% Full Scale



VSO-GC Miniature Electronic Pressure Controllers VSO-GC Flow Capability Sizing Charts

How Flow Effects Pressure Control

The flow curves illustrate the flow capabilities of the three models of pressure controllers.

Pressure control using a constant flow approach requires the system to manage pressure drops across a variable orifice and a fixed orifice (see below).



Choosing the Right Model

In many cases, the fixed orifice is the cumulative restriction of the application system consuming gas. That fixed restriction and the inlet supply pressure level are key factors when selecting the correct model number for the VSO-GC.

If the orifice is too small, it may fail to generate enough flow to drop the required pressure across the fixed orifice. If the orifice is too large, the Pressure Controller can become unstable.

EXAMPLE:

Please refer to flow chart labeled 0.010" (0.25mm) orifice. If your application requires 40 PSIG of pressure at 1 SLPM of flow, you would need a 0.010" orifice pressure controller.

This graph shows that a 0.010" orifice will flow up to 1.5 SLPM at 40 PSIG making it the right choice for your application.

Typical Flow vs Pressure @ 25°C







VSO-GC Miniature Electronic Pressure Controllers Dimensions $\left| - \begin{array}{c} (2.320) \\ ([58.93]) \end{array} \right|$



Electrical Interface

CAT 5e Plug-in (RJ-45) Connector (included)		
Signal	RJ-45 Pin # Color	
Main Power, 24 VDC	1 White w/ Orange	
Input Control Signal, 0-5 VDC	2 Solid Orange	
Monitor Signal Output, 0-5 VDC	3 White w/ Green	
System Ground	4 Solid Blue	

CAT 5e to flying lead Plug-in Cable (included)



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Installation Guide

The VSO-GC is a dynamic pressure controller that uses proportional valve technology to supply an accurate and stable pressure source for a variety of application requirements. Installation of this device requires the completion of a few easy steps.

They are as follows:

- Ensure that the gas is non corrosive, clean and dry.
- Connect the gas supply to the "Source" port on the VSO-GC.
- Connect a line requiring the controlled pressure to the "Requirement" port on the VSO-GC.
- Pneumatic ports are 10-32 UNF-2B Female. Metric adaptor option is available.
- Electrical connections are made through the connector at the top of the unit. They are as follows:





Key Things to Remember:

The pressure controller requires downstream restriction to build pressure.

• The VSO-GC is a non venting controller. A non-venting controller does not incorporate an internal vent orifice and will require a downstream restriction of roughly 20% to 60% of the controller's orifice size.

For example:

A non-vented controller with an orifice size of 0.010" should have 0.002" to 0.006" effective downstream restriction.



Configurations

Typical Gas Chromatograph Schematic



Pressure Controller with No Internal Vent



Ordering Information

Part Number	990-005020-002	990-005021-015	990-005021-050	990-005021-100	990-005023-015	990-005023-050	990-005023-100
Family	VSO-GC						
Configuration	No Internal Vent						
Effective Orifice	0.003" (0.076mm)	0.010" (0.25mm)	0.010" (0.25mm)	0.010" (0.25mm)	0.030" (0.75mm)	0.030" (0.75mm)	0.030" (0.75mm)
Main Voltage	24 VDC						
Control Voltage	0-5 VDC						
Pressure Range	0-2 psig	0-15 psig	0-50 psig	0-100 psig	0-15 psig	0-50 psig	0-100 psig
Buy Online	Y	Y	Y	Y	Y	Y	Y

Accessories			
Part Number 190-008246-001			
Configuration	10-32 Male to M5 x .8 mm Female Adaptor w/O-ring		
Wetted Materials	FKM		
Buy Online	Ŷ		

ORDER ONLINE

NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002202-002 and Drawing #890-003146-002.

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NOTES



Pressure Controllers



Typical Applications:

- Volumetric Flow Control
- Carrier Gas Pressure Control
- Air over Liquid Flow Control
- Electronic Pressure Regulation

Physical Properties

Valve Technology:

Thermally compensated VSO® proportional valves. Media: Non-corrosive gases **Operating Environment:** 32 to 131°F (0 to 55°C) **Storage Temperature:** -40 to 149°F (-40 to 65°C) Length: 1.27 in (32.26) mm Width: 2.32 in (58.96 mm) **Height:** 2.20 in (55.83 mm) Weight: 5.6 oz (158.8 g) **Porting:** 10-32 female ports Metric adaptor available

The VSO-EP Electronic Pressure Control Unit converts a variable electrical control signal into a variable pneumatic output. Used to control critical pressure, the VSO-EP replaces manual regulators, needle valves, flow controllers, and vent orifices, providing integral closed loop proportional control. This product uses Parker Hannifin's patented VSO® proportional valve and offers significant improvements over dual valve controllers. VSO-EP is used for carrier gas flow control, microfluidic flow control, vacuum pump control, and for aspirate/dispense applications.

Features

- Offers silent operation
- Ensures high accuracy and unparalleled resolution
- Tested for long life
- Offers internal closed loop control
- OEM application-specific configurations available
- Analog control
- RoHS compliant.

Electrical

Main Voltage: 24 VDC ± 10% Input Control Signal: 0-5 VDC standard Monitor Output Voltage: 0-5 VDC Maximum Current Requirement: < 400 mA Electrical Connection:

Wetted Materials

Manifold: AL 6061-T6, FKM, 302 Series SS

Valve: FKM, 300 Series SS Brass 36000HT

Tubing: Ester Based Polyurethane Sensor:

Glass, Silicon, Silicone, Polyphenylene Sulfide

Performance Characteristics

Pressure Ranges:

0-5.00 psig	(0-0.35 bar)
0-15.00 psig	(0-1.03 bar)
0-30.00 psig	(0-2.07 bar)
0-50.00 psig	(0-3.45 bar)
0-100.00 psig	(0-6.89 bar)

Pressure Accuracy:

 \pm 1.5% Full Scale maximum

Response:

<15 msec

(Response time to target pressure is output volume dependent)

Linearity:

 \leq +1.5% Full Scale



VSO-EP Miniature Electronic Pressure Controllers VSO-EP Flow Capability Sizing Charts

How Flow Effects Pressure Control

The flow curves illustrate the flow capabilities of the three models of pressure controllers.

Pressure control using a constant flow approach requires the system to manage pressure drops across a variable orifice and a fixed orifice (see below).



Choosing the Right Model

In many cases, the fixed orifice is the cumulative restriction of the application system consuming gas. That fixed restriction and the inlet supply pressure level are key factors when selecting the correct model number for the VSO-EP.

If the orifice is too small, it may fail to generate enough flow to drop the required pressure across the fixed orifice. If the orifice is too large, the Pressure Controller can become unstable.

EXAMPLE:

Please refer to flow chart labeled 0.010" (0.25mm) orifice. If your application requires 40 PSIG of pressure at 1 SLPM of flow, you would need a 0.010" orifice pressure controller.

This graph shows that a 0.010" orifice will flow up to 1.5 SLPM at 40 PSIG making it the right choice for your application.











Electrical Interface

CAT 5e Plug-In (RJ-45) Connector (Included)		
Signal	RJ-45 Pin # Color	
Main Power, 24 VDC	1 White w/ Orange	
Input Control Signal, 0-5 VDC	2 Solid Orange	
Monitor Signal Output, 0-5 VDC	3 White w/ Green	
System Ground	4 Solid Blue	

CAT 5e to flying lead Plug-in Cable (included)



Electronic Pressure Control

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Installation Guide

The VSO-EP is a dynamic pressure controller that uses proportional valve technology to supply an accurate and stable pressure source for a variety of application requirements. Installation of this device requires the completion of a few easy steps.

They are as follows:

- Ensure that the gas is non corrosive, clean and dry.
- Connect the gas supply to the "Source" port on the VSO-EP.
- Connect a line requiring the controlled pressure to the "Requirement" port on the VSO-EP.
- Pneumatic ports are 10-32 UNF-2B Female. Metric adaptor option is available.
- Electrical connections are made through the connector at the top of the unit. They are as follows:

CAT 5e Plug-in (RJ-45) Connector (included)		
Signal	RJ-45 Pin # Color	
Main Power, 24 VDC	1 White w/ Orange	
Input Control Signal, 0-5 VDC	2 Solid Orange	
Monitor Signal Output, 0-5 VDC	3 White w/ Green	
System Ground	4 Solid Blue	



Key Things to Remember:

The pressure controller requires downstream restriction to build pressure. There are two ways to accomplish this:

- Use a venting controller. The venting controller is configured with an internal vent orifice that is roughly 40% of the controller orifice size. This configuration of controller can supply pressure to an application with a effective downstream restriction that represents 30% of the controller orifice size down to a completely restricted application.
- Use of a non-venting controller. The non-venting controller does not incorporate an internal vent orifice and will require a downstream restriction of roughly 20% to 60% of the controller's orifice size.

For example:

A non-vented controller with an orifice size of 0.010" should have 0.002" to 0.006" effective downstream restriction.





With Internal Vent.

A vent is required when the application does not consume any gas. For example, pressurizing a piloted regulator.

Ordering Information

Wetted Materials

Part Number	990-005001-015	990-005001-050	990-005001-100	990-005003-015	990-005003-050	990-005003-100
Family	VS0-EP	VSO-EP	VS0-EP	VS0-EP	VSO-EP	VSO-EP
Configuration	Internal Vent	Internal Vent	Internal Vent	Internal Vent	Internal Vent	Internal Vent
Effective Orifice	0.010" (0.25mm)	0.010" (0.25mm)	0.010" (0.25mm)	0.030" (0.75mm)	0.030" (0.75mm)	0.030" (0.75mm)
Main Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Control Voltage	0-5 VDC	0-5 VDC	0-5 VDC	0-5 VDC	0-5 VDC	0-5 VDC
Pressure Range	0-15 psig	0-50 psig	0-100 psig	0-15 psig	0-50 psig	0-100 psig
Buy Online	Y	Y	Y	Y	Y	Y
		1				
Part Number 190-008246-001						
Configuration		10-32 1	Male to M5 x 8 mm Female	Adaptor w/O_ring	1	

FKM

Pressure Controller with No Internal Vent



With No Internal Vent.

An internal vent may not be required when the application consumes a high rate of gas or the gas is coming from a limited source and/or is flammable.

Ordering Information

Part Number	990-005010-100	990-005011-015	990-005011-050	990-005011-100	990-005013-030
Family	VS0-EP	VSO-EP	VSO-EP	VSO-EP	VSO-EP
Configuration	No Internal Vent	No Internal Vent	No Internal Vent	No Internal Vent	No Internal Vent
Effective Orifice	0.003" (0.076mm)	0.010" (0.25mm)	0.010" (0.25mm)	0.010" (0.25mm)	0.030" (0.75mm)
Main Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC
Control Voltage	0-5 VDC	0-5 VDC	0-5 VDC	0-5 VDC	0-5 VDC
Pressure Range	0-100 psig	0-15 psig	0-50 psig	0-100 psig	0-30 psig
Buy Online	Y	Y	Y	Y	Y
		Accessories			1
Part Number			190-008246-001		
Configuration		10-32	10-32 Male to M5 x .8 mm Female Adaptor w/O-ring		
Wetted Materials			FKM		
Buy Online			Y		1

NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002202-001 and Drawing #890-003146-001.

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NOTES



VSO-EV Miniature Electronic Vacuum Controllers

Pressure Controllers



The VSO-EV[™] is a pressure controller specifically configured and optimized for vacuum pressure control. The VSO-EV converts a variable electrical control signal into a closed-loop, tightly regulated pneumatic output. Often used for aspirating liquid samples, as well as for pipetting and dispensing nano-liter volumes, the VSO-EV offers users an internal sensor to close the control loop around critical system parameters. This EVC is well suited for high precision automated laboratory instruments, meeting the most stringent separation and detection requirements.

Features

- Low weight and low power consumption
- Ensures high accuracy and unparalleled resolution
- Tested for long life
- Offers internal closed loop control and external pressure sensor capability*
- OEM application-specific configurations available
- Analog control

*Accessories Required

Physical Properties

Valve Technology: Thermally compensated proportional valve Non-corrosive gases

Operating Environment: 0 to 55°C (32 to 131°F)

Storage Temperature:

-40 to 65°C (-40 to 131°F)

Length: 2.25 in (57.15 mm)

Media:

Width:

2.25 in (57.15 mm)

Height: 1.25 in (31.75 mm)

Porting: 10-32 female ports

Metric adaptor available

Electrical

Power: 24 VDC ± 10% **Input Control Signal:** 0-5 VDC standard 4-20 mA available

Monitor Output Voltage: 0-5 volts **Current Requirement:** <400 mA

Electrical Connector: RJ-45

Performance Characteristics

Vacuum Ranges:

0-150 mBar 0-345 mBar Custom units available

Pressure Accuracy:

± 0.2% FS typical*

± 1.5% FS max

Response:

<15 msec (Response time to target pressure is output volume dependent)

Linearity:

< +1.0% FS

*Contact factory for details.



VSO-EV Miniature Electronic Vacuum Controllers



VACUUM CONTROL: STANDARD CONFIGURATION

Ordering Information

Part Number 990-00		05203-005	99()-005001-050
Family	V	SO-EV		VSO-EV
Configuration	Inter	rnal Vent	lr	nternal Vent
Effective Orifice	0.030	" (0.75mm)	0.0	10" (0.25mm)
Main Voltage	2	4 VDC		24 VDC
Control Voltage 0-		-5 VDC		0-5 VDC
Pressure Range 0-3/		45mBar	(0-150mBar
Buy Online		Y		N
Accessories				
Part Number	190-008246-001			
Configuration	10-32 Male to M5 x .8 mm Female Adaptor w/O-ring			
Wetted Materials	FKM			

Custom configurations are available. Contact factory for details.

CAT 5e Plug-in (RJ-45) Connector (included)		
Signal RJ-45 Pin # Color		
Main Power, 24 VDC	1 White w/ Orange	
Input Control Signal,0-5 VDC	2 Solid Orange	
Monitor Signal Output, 0-5 VDC	3 White w/ Green	

System Ground

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4 Solid Blue

ORD	ER
ONLI	NE

Buy Online

NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002219-001 and Drawing #890-003146-001.

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Pressure Controllers



Typical Applications:

- Gas over liquid flow control
- Microfluidic flow control
- Hydro-dynamic focusing
- Liquid dispensing

Physical Properties

Valve Technology: Thermally compensated proportional valve, digital dump valve Media: Non-corrosive gases **Operating Environment:** 0 to 50°C (32 to 131°F) **Storage Temperature:** -40 to 65°C (-40 to 131°F) Length: 1.52 in (39 mm) Width: 1.66 in (42 mm) **Height:** 2.79 in (71 mm) **Porting:** 10-32 female ports Metric adaptor available

Used in analytical and OEM instrument applications, the VSO-HP delivers integral closed loop proportional control with the highest level of accuracy and stability.

With an extra internal dump valve, the VSO-HP offers rapid depressurization, which results in a fast response time and has an optional external sensor for expertly controlling pressure in required applications.

The VSO-HP can be configured to control pressure or flow, replacing manual regulators, flow controllers, and needle valves. This product uses Parker Hannifin's patented VSO[®] proportional valve and offers precise motion control with Parker pneumatic cylinders, such as the Series SRX.

Features

- Stable pressure control with minimal thermal drift
- Rapid depressurization
- High accuracy; high repeatability
- Low power consumption
- Optional 5 VDC supply output

Electrical

Power: 24 VDC + 10% Input Control Signal: 0-5 VDC standard Monitor Output Voltage: 0-5 volts Current Requirement: <400 mA Electrical Connector: 6 pin miniature interface cable included

• Configurable for pressure control or flow control

- External pressure sensor capability
- Silent operation; long life
- Analog control

Performance Characteristics

Pressure Rang	es:
0-5 psig 0-15 psig	0-7 psig 0-100 psig
Pressure Accu	racy:
<u>+</u> 0.2% FS typic <u>+</u> 1.5% FS max	cal*
Response:	
<15 msec (Response time is output volum	to target pressure e dependent)
Linearity:	
< <u>+</u> 1.5% FS	

*Contact factory for details.



Dimensions



CONNECTOR PINOUT

J1

Part Number	990-005303-005	990-005303-015	990-005303-100
Family	VSO-HP	VSO-HP	VSO-HP
Configuration	Internal Vent	Internal Vent	Internal Vent
Effective Orifice	0.030" (0.75mm)	0.030" (0.75mm)	0.030" (0.75mm)
Relief Valve Orifice	0.030" (0.75mm)	0.030" (0.75mm)	0.030" (0.75mm)
Main Voltage	24 VDC	24 VDC	24 VDC
Control Voltage	0-5 VDC	0-5 VDC	0-5 VDC
Pressure Range	0-5psig	0-15psig	0-100psig
Buy Online	N	Y	Y

Part Number	990-005311-007	990-005311-015	990-005311-100	
Family	VSO-HP	VSO-HP	VSO-HP	
Configuration	No Internal Vent	No Internal Vent	No Internal Vent	
Effective Orifice	0.010" (0.25mm)	0.010" (0.25mm)	0.010" (0.25mm)	
Relief Valve Orifice	0.030" (0.75mm)	0.030" (0.75mm)	0.030" (0.75mm)	
Main Voltage	24 VDC	24 VDC	24 VDC	
Control Voltage	0-5 VDC	0-5 VDC	0-5 VDC	
Pressure Range	0-7psig	0-15psig	0-100psig	
Buy Online	N	N	N	
Accessories				
Part Number		190-008246-001		
Configuration		10-32 Male to M5 x 8 mm Female Adaptor w/O-ring		

- Internal Vent Configurations have a slight constant vent to atmosphere to accurately control pressure and are typically used to pressurize closed volumes of inert gasses.
- No Internal Vent Configurations are typically selected for gas flow applications and do not have an internal vent.
- Control starts at approximately 10% of full scale control voltage and pressure rating allowing for positive shutoff. Pressure control may not be possible below 10% of full scale rating.

Ordering Information

NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002250-001 and Drawing #890-003186-001. PPF-EPC-002/US August 2011

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VSO-LP Miniature Electronic Pressure Controllers Pressure Controllers



The VSO-LP series provides single channel "I to P" control for industrial applications requiring long life and high accuracy. This voltage sensitive module promotes consistent, accurate flow while offering rapid depressurization. It incorporates an onboard sensing transducer and uses Parker Hannifin's patented VSO[®] proportional valve, plus a long life digital valve.

Features

- Output pressure control
- Rapid depressurization
- High accuracy; high repeatability
- Low power consumption
- On-board pressure sensing transducer
- Silent operation; long life
- Analog control

Physical Properties

Valve Technology:
Thermally compensated
proportional valve, bleed valve
Media:
Non-corrosive gases
Operating Environment:
0 to 50°C (32 to 122°F)
Storage Temperature:
-40 to 65°C (-40 to 149°F)
Length:
1.52 in (39 mm)
Width:
1.66 in (42 mm)
Height:
2.79 in (71 mm)
Porting:
10-32 female ports
Metric adaptor available

Electrical

Power: 24 VDC + 10% Input Control Signal: 0-5 VDC standard 4-20 mA available Monitor Output Voltage: 0-5 volts Current Requirement: <250 mA Electrical Connector: 6 pin miniature interface cable included

Performance Characteristics

	Pressure Ranges:
	0-15 psig 0-100 psig
	Pressure Accuracy:
	<u>+</u> 1.5% FS max
	Response:
	<15 msec (Response time to target pressure is output volume dependent)
	Linearity:
	< ±1.5% FS







Custom configurations are available. Contact factory for details.

Ordering Information

Part Number	990-005403-015	990-005403-100
Family	VSO-LP	VSO-LP
Configuration	Internal Vent	Internal Vent
Effective Orifice	0.030" (0.75mm)	0.030" (0.75mm)
Relief Valve Orifice	0.030" (0.75mm)	0.030" (0.75mm)
Power	24 VDC	24 VDC
Control Voltage	0-5 VDC	0-5 VDC
Pressure Range	0-15psig	0-100psig
Buy Online	Y	Y

Accessories		
Part Number 190-008246-001		
Configuration	10-32 Male to M5 x .8 mm Female Adaptor w/O-ring	
Wetted Materials	FKM	
Buy Online	Y	



NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002272-001 and Drawing #890-003186-002 PPF-EPC-002/US August 2011

> For more information call +1 603 595 1500 or email ppfinfo@parker.com Visit www.parker.com/precisionfluidics



VSO-BT Benchtop Controllers Pressure Controllers



Typical Applications:

- Liquid Piloting
- Microfluidics
- Cytometry Research
- Oocyte Chambers

Physical Properties

Media:

Air and non-corrosive gasses

Operating Environment:

0 to 55°C (32 to 131°F)

Storage Temperature:

-40 to 55°C (-40 to 131°F)

Dimensions (W x L x H): 5.08 x 5.25 x 2.25 in

(129 x 133 x 57 mm)

Weight:

2 lbs (907 grams)

The VSO-BT Electronic Benchtop pressure controller combines the closed loop performance features of OEM-grade electronic pressure controllers into a form factor suitable for laboratory and prototype development work. Used in microfluidic and life science research, this unit replaces manual regulators, sensors, gauges, and tubing assemblies while providing considerably better pressure accuracy and eliminating pressure drift and fluctuation.

Features

- Simple adjustment of closed-loop pressure set points via front panel knob
- Electrical inputs for high resolution set points
- Set and display pressure in your choice of units
- Optional I/O hook-ups allow high resolution and/or remote operation
- Quick disconnect fittings for easy pneumatic connection

Electrical

Input Power:

100 - 240 VAC* (50-60 Hz) *power supply and 6ft. cord included

I / O:

0–5 VDC analog input for high resolution (0.001 psi) pressure set points

0–5 VDC monitor output signal allows high resolution (0.001 psi)

LED Display

3 digit visual (0.375" height) with choice of pressure units (see ordering information) **Refresh rate**

0.1 sec

Performance Characteristics

Pneumatic

Includes 2 pcs of Parker Presto-Loc quick disconnect fittings for ¼" urethane tubing

Recommended Pressure Source: 120% rated pressure

Accessories (not included)

Burst proof air-over-liquid piloting chamber

VSO-BT Pressure Controllers

Dimensions





Ordering Information

Part Number	VSO-BT-015	VSO-BT-050	VSO-BT-100
Pressure Range (psig)	0-14.7	0-50	0-100
Acutual Resolution from Monitor Signal (psi)	0.001	0.001	0.001
Display Resolution (psi)	0.1	0.1	1
Display Resolution (bar)	0.001	0.01	0.01
Display Resolution (kPa)	0.1	1	1
Display Resolution (kg _f /cm ³)	0.001	0.01	0.01
Repeatability of Pressure Control	0.2% Full Scale	0.2% Full Scale	0.2% Full Scale



NOTE: Please consult Parker Precision Fluidics for other considerations. For more detailed information, visit us on the Web, or call and refer to Performance Spec #790-002202-004 and Drawing #890-003213-001

For more information call +1 603 595 1500 or email ppfinfo@parker.com

Visit www.parker.com/precisionfluidics



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Electrical Connections



FRONT



BACK

NOTES





FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE.

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