Mini Pump for Low Flow Applications

Mini pumps feature PTFE/PFA fluid paths for high-purity chemical processes. They are capable of up to 300 ml/min flow rates and 160 psi discharge pressures.

Features & Benefits

- Metal-free, PTFE/PFA flow path
- 300 ml/min max flow rate
- 160 psi max discharge pressure
- 100 psi max air supply pressure
- 0.5 m (20 in) suction lift
- Dry-run capable
- Safe, leak-free operation
- Mount in any direction
- Various liquid connection options
- Operates with analog or digital external inputs, or fixed cycle rate internal controls
- 24 VDC using 5 pin Turck power and input connections

Operation

Mini pumps operate by two solenoid valves that actuate both the suction and dispense actions of the pump. While spring-loaded checks enable the pump to mount in any direction, an upward flow path is preferred to better evacuate air bubbles from the fluid line and to improve repeatability.

Pin Function Connection Type Connector Diagram
1 Power 24 VDC Power Supply
2 Analog Input 0-5 VDC Analog input to set cycle rate
   - 0-1 VDC = Pump Off
   - 1-5 VDC = Pump On = 0-400 CPM
3 Common Ground 0 VDC Ground
4 Valve Control Actuate Suction Sink Type Signal
   - 24 VDC = Not Active
   - 0 VDC = Active
5 Valve Control Actuate Discharge Sink Type Signal
   - 24 VDC = Not Active
   - 0 VDC = Active

Operation Mode Description Notes
Analog Input Pump will stop cycling if analog input is 1 VDC or less. If analog input is 1-5 VDC, cycle rate equals: 100*Voltage-100 Pump should be powered on and valve controls disconnected.
External Valve Control When pump is powered on and analog input is less than 1 VDC, solenoids and cycle rate can be controlled from external PLC. Pump should be powered on.
Fixed Cycle Rate * By request only Pump cycles at desired rate when on. It continues cycling until powered off. Pump should be powered on and valve controls disconnected.

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PPMC300 Mini Pump

Specifications

Model: PPMC300

Dispense Volume per Stroke: ~0.75 mL*

Max Flow: ≤ 300 mL/min

Max Fluid Pressure: ≤ 11 Bar (160 psi)

Max Air Pressure: ≤ 7 Bar (100 psi)

Cycles per min: 400 max

Air Consumption: 1 SCFM

Fluid Path Materials: PTFE, PFA

Max Dry Suction Lift: ≤ 508 mm (20 in)

Solenoid Valves: 2x

Turck Connector: 5 Pin O-ring Sealed

On-Board Controller:

- Power: 24 VDC
- Max Power Consumption: 6 Watts
- Internal I/O:
  - Two 24 VDC Valve outputs
- External I/O:
  - One 0-5 VDC analog input.
  - Two NPN Compatible Signal Input

Performance

* 300 mL/min at wide open flow path. The Flow Chart measurements shown are using a back pressure regulator to simulate a pressurized system; results may vary.

Temperature Limitations

* Stroke length varies depending on operation.

Dimensions

[mm] inches

<table>
<thead>
<tr>
<th>Fitting Style</th>
<th>Fitting Size</th>
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<tbody>
<tr>
<td>F = Flaretek® compatible</td>
<td>02 = 1/8 in</td>
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<tr>
<td>P = Pillar S-300B</td>
<td>04 = 1/4 in</td>
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<tr>
<td>* F not available in 1/8 in</td>
<td>06 = 3/8 in</td>
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Electrical Connection

- E1 = 15 ft PVC Jacketed Cable
- E3 = Turck Connector
- E4 = Turck Connector with Cable

<table>
<thead>
<tr>
<th>Cycle Rate Control</th>
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<tbody>
<tr>
<td>C1 = Communication Based/Potentiometer</td>
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<tr>
<td>C2* = Hard Programmed (*Requires option 7)</td>
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<table>
<thead>
<tr>
<th>Cycle Rate (Used with option 6 C2 Only)</th>
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<tbody>
<tr>
<td>001 = 1 cycle per minute</td>
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<tr>
<td>400 = 400 cycles per minute</td>
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<tr>
<td>(*Enter value between 001 and 400)</td>
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