Viridian® — VR1816

Infinitely Variable Speed, ECM High-Efficiency Circulator

The Viridian VR1816 circulator is an infinitely variable speed, high efficiency wet rotor circulator with an ECM permanent magnet motor. Operating modes include infinitely variable fixed speed and self-adjusting constant pressure or proportional pressure variable speed.

- High-efficiency ECM motor uses up to 85% less electricity
- Highest pump efficiency in its class
- Infinitely variable speed settings to fine tune flow for any system
- LED displays operating mode and error code diagnostics
- Easy to use dial to set operating modes
Infinitely variable speed operation to fine tune flow for any system.

- 18’ Shut-off head, 16 gpm max flow
- ECM High-Efficiency Motor
- Operates in 3 different modes:
  - Infinitely Variable Fixed Speed
  - Constant Pressure — Self-adjusting, Variable Speed
  - Proportional Pressure — Self-adjusting, Variable Speed
- LED displays:
  - Operating mode or error code diagnostics
- Easy to use dial to set operating speed or pressure control
- Use with a Taco ZVC Zone Valve Control or SR Switching Relay for ON/OFF operation.
- Integral Flow Check (IFC®) included
- Dual electrical knockouts
- Whisper quiet operation

Typical Variable Speed Applications

- Adjustable Proportional or Constant Pressure
  - Across a series loop system using zone valves
  - Across multi-zone radiant manifolds with loop actuators
  - Across multiple panel radiators with thermostatic radiator valves (TRV)

T= thermostatic radiator valves (TRV)
The VR1816 is factory-programmed for **Max Speed Setting**. Simply turn the dial to change speed, operating mode or pressure setting.

**Fixed Speed Mode (Min/Max)**

Fixed speed mode allows the installer to fine tune the circulator flow rate to precisely match design load conditions. It is infinitely variable between min/max settings.

See chart to the left for equivalent 00® model at each variable speed setting.

**Constant Pressure Mode**

In Constant pressure mode, the circulator maintains a constant pressure differential ($\Delta p-c$) in the system as heating load increases or decreases. Selection options are 5, 10, or 15 feet of head constant pressure.

See chart to the left for equivalent the 00® model at each setting.

**Proportional Pressure Mode**

In Proportional/Variable pressure mode, the circulator maintains a proportional pressure differential ($\Delta p-v$) as heating load increases or decreases. Flow will change in relationship to the change in pressure differential.

Selection options are Low, Medium, or High. If unsure on proper setting, select Medium and adjust as needed.
Specifications

- Maximum Shutoff Head: 18 feet
- Maximum Flow: 16 gpm
- Maximum Operating Pressure: 125 psi (8.6 bar)
- Maximum Water Temp: 230°F (110°C)
- Electrical specifications:
  - Voltage: 110-120V, 50/60 Hz, Single phase
  - Operating Power: 9W - 44W
  - Max. AMP Rating: 0.54
- Equipped with a cast iron casing and should be used for closed loop systems only.
- Taco circulator pumps are for indoor use only.
- Acceptable for use with water or maximum of 50% water/glycol solution.

Materials of Construction:

- Casing: Cast Iron
- Stator Housing: Composite
- Cartridge: Composite
- Impeller: Composite
- Shaft: Ceramic
- Bearings: Carbon
- Thrust Bearing: Ceramic
- O-Ring & Gaskets: EPDM
- Integral Flow Check (IFC):
  - Body, Plunger: Acetal
  - O-ring Seal: EPDM
  - Spring: Stainless Steel

Applications

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Pump Dimensions & Weights

<table>
<thead>
<tr>
<th>Model</th>
<th>Flange Code</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>G</th>
<th>Ship Wt.</th>
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<tbody>
<tr>
<td>VR1816F</td>
<td>S</td>
<td>5</td>
<td>6</td>
<td>152</td>
<td>4-1/8</td>
<td>104</td>
<td>3-3/16</td>
<td>80</td>
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</table>

Mounting Positions

<table>
<thead>
<tr>
<th>Flange Code</th>
<th>Standard (S)</th>
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</table>

Electrical Data

<table>
<thead>
<tr>
<th>Model</th>
<th>Volts</th>
<th>Hz</th>
<th>Ph</th>
<th>Max.Amps</th>
<th>Max. Watts</th>
<th>RPM</th>
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<tbody>
<tr>
<td>VR1816F</td>
<td>110/120</td>
<td>50/60</td>
<td>1</td>
<td>54</td>
<td>44</td>
<td>1590 - 4830</td>
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</tbody>
</table>

Motor Type

ECM, Permanent Magnet, Electronically Protected