



## AquaPUMP Variable Speed Circulating Pumps

### SUBMITTAL SHEET

<b>Job Name</b>	
<b>Engineer</b>	
<b>Mechanical Contractor</b>	
<b>Contractor's P.O. No.</b>	
<b>Representative</b>	
<b>Notes</b>	

<b>Model(s)</b>				
	Qty.		Notes	
	Qty.		Notes	
<b>Approval Service</b>				
<b>Tag No.</b>				

### APPLICATION

The Resideo AquaPUMP Variable speed, in-line, wet rotor circulator is designed for variable or constant pressure applications in closed-loop hydronic heating and cooling systems, as well as open circulation systems (stainless steel model).

The Resideo AquaPUMP auto zone changes the pump speed according to the system demand without any requirement of external controls or control wiring.

The Resideo AquaPUMP circulator is recommended for circulating water in closed hydronic heating systems or potable water systems (stainless steel model).

The Resideo AquaPUMP includes operating modes suitable for systems with constant or variable flows, such as:

- Underfloor heating systems
- One-pipe (series) systems
- Two-pipe (parallel) systems
- Multi-zone heating systems

Resideo AquaPUMP circulators incorporate variable speed control technology with an ECM motor, enabling optimum energy efficiency and occupant comfort, with built-in control algorithms that can adapt to continuously changing system requirements.

The Resideo AquaPUMP features a user-friendly front mounted control panel and wiring box for ease of installation.

The pump is non-submersible and for use in dry, frost free, well ventilated installations.

### SPECIFICATIONS

#### Control:

Variable or fixed speed

Multi-select pressure sensing operation

0-10VDC external operation

**Motor Protection:** The motor includes an internal thermal overload protection. External motor protection is not required.

**Maximum Fluid Temperature:** 230 °F ( 110 °C) maximum

**Maximum Working Pressure:** 150 psi (10 bar).

**Maximum Relative Air Humidity (rh):** 95%.

**Standards:** Insulation Class H

**Certification:** ETL listed for US and Canada (conforms to ULSTD.778 certified to CSA STD. C22.2 No.108-01)

\*NSF 372 (for stainless steel models)

*Additional specifications on reverse side.*

### MATERIALS OF CONSTRUCTION

**Body:** Cast iron (closed systems), stainless steel (open systems)

**Motor Housing:** Aluminum

**Impeller:** Noryl

**Shaft:** Ceramic

**O-Ring/Flange Gaskets:** EPDM rubber

**Bearings:** Ceramic

**Bearings Plate:** Stainless steel

**Motor Cap:** Stainless steel

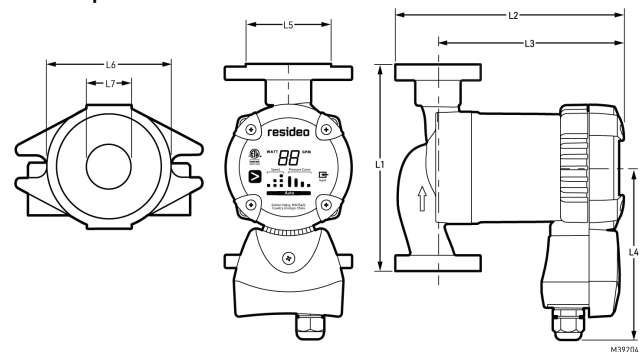


Table 1. Dimensions.

Product Number	Max. Flow		Max. Pressure Head		Connections		Weight lbs. (kg)	Dimensions						
	GPM	LPM	Feet	Meters	Bolt Hole Spacing	Bolt Hole		L1 in. (mm)	L2 in. (mm)	L3 in. (mm)	L4 in. (mm)	L5 in. (mm)	L6 in. (mm)	L7 in. (mm)
PCVF-ECM2020/U	20	75.7	20	6	3-5/32 in. (80.2 mm)	1/2 in. (12.7 mm)	8.0 (3.6)	6.50 (165)	7.08 (180)	5.75 (146)	5.31 (135)	3.25 (80)	2.6 (66)	0.968 (24.6)
PCVF-ECM2020-LF/U	20	75.7	20	6	3-5/32 in. (80.2 mm)	1/2 in. (12.7 mm)	8.0 (3.6)	6.50 (165)	7.08 (180)	5.75 (146)	5.31 (135)	3.25 (80)	2.6 (66)	0.968 (24.6)

Table 2. Accessories and Spare Parts.

Product Number	Description
PCG100/U	1 in. and 1-1/4 in. circulating pump flange gaskets
PCV100/U	1 in. and 1-1/4 in. circulating pump check valve



# Technical Data

Supply Voltage: 1 x 115 V – 10%/6%

**Table 3. Supply Voltage.**

	Minimum	Maximum
Amp	0.05	0.72
Watt	5	45

**Inlet Pressure:**

Minimum inlet pressure in relation to liquid temperature.

**Table 4. Inlet Pressure.**

Liquid Temperature	Minimum Inlet Pressure
150 °F (65 °C)	3.0 ft (0.91 m)
167 °F (75 °C)	4.4 ft (1.34 m)
194 °F (90 °C)	9.2 ft (2.8 m)
230 °F (110 °C)	36.1 ft (11 m)

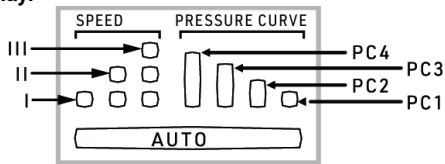
**Operating Temperatures:**

To avoid condensation in the control box and stator, the liquid temperature must always be higher than the ambient temperature.

**Table 5. Operating Temperatures.**

Ambient Temperature	Liquid Temperature	
	Minimum	Maximum
32 °F (0 °C)	35.6 °F (2 °C)	230 °F (110 °C)
50 °F (10 °C)	50 °F (10 °C)	230 °F (110 °C)
68 °F (20 °C)	68 °F (20 °C)	230 °F (110 °C)
86 °F (30 °C)	86 °F (30 °C)	230 °F (110 °C)
95 °F (35 °C)	95 °F (35 °C)	194 °F (90 °C)
104 °F (40 °C)	104 °F (40 °C)	176 °F (80 °C)

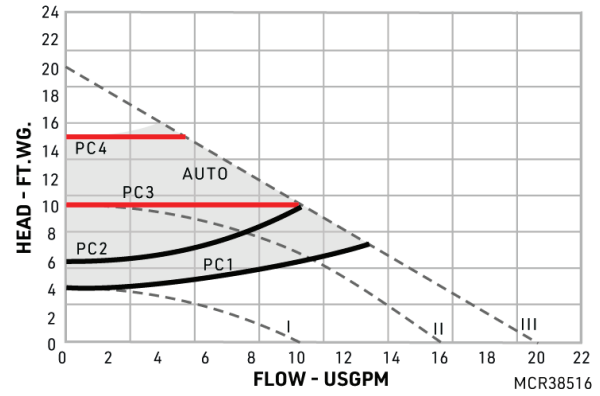
**Display:**



LIGHTS ON THE DISPLAY INDICATE THE CONTROL MODE SELETED.

M38515

**PCVF-ECM2020 Performance Curves:**



**AUTO:** Circulator adapts to system demand over time.

**PC1:** Lowest proportional-pressure curve

**PC2:** Highest proportional-pressure curve

**PC3:** Lowest constant-pressure curve

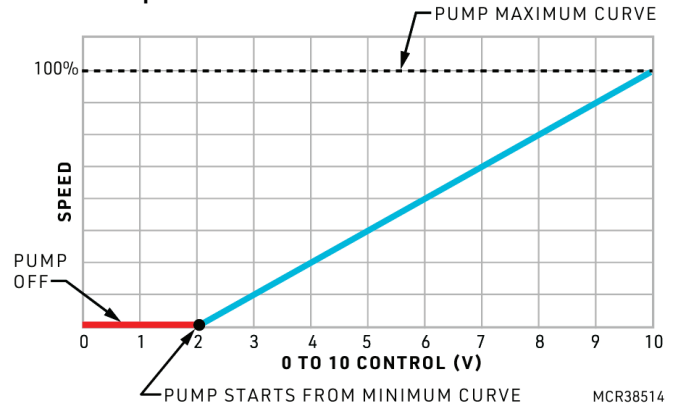
**PC4:** Highest constant pressure curve

**III:** Highest constant speed

**II:** Medium constant speed

**I:** Lowest constant speed

**0 – 10 VDC Operation:**



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