

Aquatherm RQT Premium Series

Mold Temperature Control Units

Benefits:

- **High Flow Pumps:** Designed to meet rapid cooling requirements, our energy efficient pumps provide the best flow available in the industry. Sizes from $\frac{3}{4}$ to 10 hp (0.56 to 7.5 kW). Silicon carbide pump seals are standard.
- **Long Life Heaters:** Incoloy sheathed heater elements offer superior performance, longevity, and corrosion resistance compared to copper or stainless steel options.
- **Leak-Proof Pump/Heater Assembly:** Heavy-duty cast-iron pumps, heater tubes, and mixing tubes with O-ring seals reduce threaded fittings that can cause internal pressure losses and are prone to leaks.
- **Long Life Pump Seals/Internal Flushing System:** High temperature pump seals, with an integral flush system and turbulence ribs inside the seal chamber, extend seal life and are more energy efficient than external seal flush lines.
- **High Performance Modulating Cooling Valves:** Fast-acting modulating valve responds quickly and precisely to any sudden changes in the process to ensure consistent mold temperatures all the time.
- **24 VDC Control-Circuit Power:** Dependable and safe control circuit power, isolates the control circuit from static interference for stable and precise operation.
- **Warranty:** 3 year parts and labor, lifetime pump/heater casting and standard pump seal.



We engineer compact, high performance water temperature control units designed to maximize production efficiency. The Aquatherm RQT Series delivers precise control, exceptional reliability, and user-friendly operation. Built with high-quality components including cast pump volutes, heater tubes, mixing assemblies, high-flow pumps with leak resistant silicon carbide seals and durable Incoloy-sheathed heaters - these units provide years of maintenance-free operation.

The RQT Series is designed for advanced control and data management, with three different models available, including PLC options to meet your specific needs. The RQT Premium model features a PLC with touch screen HMI to simultaneously display up to two selection KPIs. Easy to use HMI screens provide a visual alert of a potential problem before a fault occurs. If the condition worsens, the alarm sounds and the unit stops to prevent equipment damage.

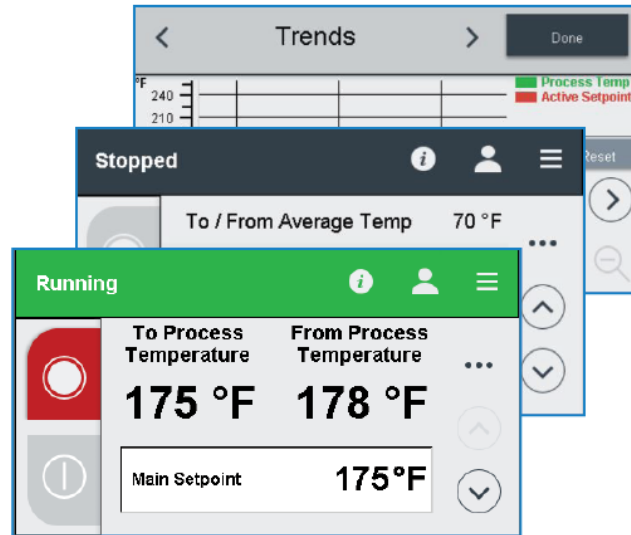


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Additional Benefits:

- **Tilted Front Panel:** Conveniently angled for optimal viewing, quick and easy monitoring and adjustment of the set point and other control functions.
- **4-20 or 0-10vDC Process Temperature Retransmit:** Continuous remote monitoring of process temperature on any device.
- **Intelligent Air Purge with 120°F (49°C) Air Purge Cancel:** At start-up, the automatic air purge sequence deactivates when the mold circuit is above 120°F (49°C) to avoid cooling of the mold during temporary power interruptions.



- **Premium PLC Controller:** PLC control with touch screen HMI simultaneously displays two selectable operation KPIs. Easy to use HMI screens provide a visual alert of a potential problem before a fault occurs. If the condition worsens, the alarm sounds and the unit stops to prevent equipment damage.

Data includes:

- Heater malfunction
 - Supply and return temperature
 - Pump running hours
 - Power brownout
 - Control power on
 - Autostart signal present
 - Pump on
 - Pump overload
 - Heat on
 - Cooling on
 - Low coolant inlet pressure
 - High and low temperature limit warnings
 - High and low temperature limit alarms
 - Supply and return temperature probe faults
 - Remote setpoint 0-10vDC or 4-20mA input
- **Seal-Saver:** An automatic sequence cools the unit down before stopping the pump to extend pump seal life by eliminating the potential of seal warping.
 - **Pump Running Hours Display:** A quick and easy way to check on the total machine run time to better plan for routine maintenance.
 - **Adjustable Deviation Alarm Time Delays:** A programmable alarm time delay eliminates nuisance alarms at start-up by allowing the unit to reach a stable temperature before activating the temperature alarms.
 - **Supply and Return Temperature Display:** Continuous display of the set point, supply and return temperatures, for complete monitoring of the process and unit operation.
 - **Alarm Horn and Silence Switch:** Delivers an audio and visual indication of an alarm condition and silences the alarm after acknowledgement.
 - **Electrical Phase Error:** Protects against loss of phase, phase reversal, and phase imbalance.
 - **Adaptive Maximum Setpoint:** Automatically adjusts unit's maximum setpoint (up to 250°F(121°C) standard and 300°F (149°C) optional) for variable cooling water supply pressure installations.



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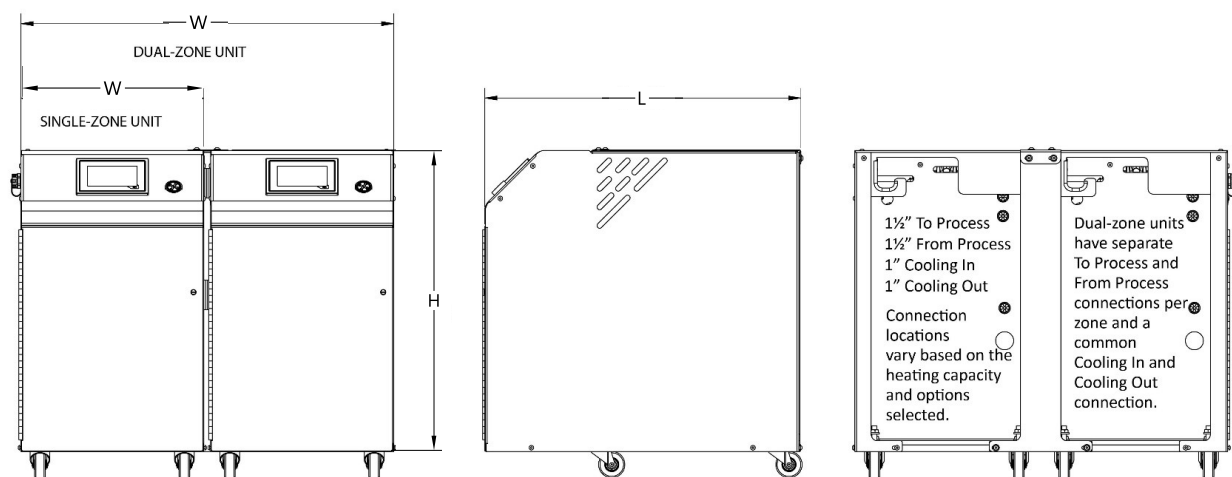
RQT Premium Series - 2

Additional Benefits (continued):

- **Digital Process Pressure:** Process and return system pressure.
- **Adaptive Pressure Relief:** Limits pressure relief valve discharge by anticipating a pressure spike and opening the cooling valve to control system pressure.
- **Digital Flow Meter:** Monitors flow to the mold.
- **Password Protection:** Allows for user level security clearance passcodes.
- **System Statistics:** Real time information on digital IO states, alarm operations, low pressure events, cooling valve active times, pump run time, heater run time, control voltage and overall run time.
- **Trending Data:** Historical performance data tracks variables such as supply and return temperatures, process pressure, heating and cooling percentages, and temperature accuracy.
- **Communication:** Modbus TCP/IP & OPC/UA communications.
- **Alternate Setpoint Swap:** Activate an alternate setpoint through a digital input.
- **Data Logs & Charting:** Trending logs provide historical performance data tracking variables.
- **Recipes:** Allows users to easily store detailed instructions for specific materials or applications to control process set points and alarm set points.

Available Options:

- **Rotary Non-Fused Disconnect Switch:** Provides overcurrent protection.
- **Mold Purge:** Quickly evacuates fluid from the process circuit, allowing for faster and cleaner disconnection of the unit.
- **C-UL508A:** Industrial control panel construction covers multiple requirements like proper component usage, enclosure environmental ratings, wiring and motor protection.
- **Two-Zone Units:** Independent control of dual cooling zones using a common cooling water manifold and electrical connection.
- **Closed Circuit:** Brazed plate heat exchanger offers isolation of the process and cooling fluid circuits.
- **Solid State Relay Heater Controls:** Handles rapid cycling and provides a longer heater contactor life under extreme and diverse operating conditions.
- **Alarm Strobe and Relay Contact:** Provides visual indication of an alarm condition or a dry contact for a remotely mounted alarm.
- **Remote Temperature Probe:** Allows for process temperature measurements at the die.
- **300°F (149°C) Operating Temperature:** Typically used in applications such as packaging and medical requiring higher temperatures.
- **Certified and Calibrated RTD:** For medical and other special requirements.
- **Process Supply, Cooling Water In Check Valves:** Prevents backflow.
- **Nonferrous Corrosion Resistance Package:** Offers increased protection and performance through bronze or stainless fittings, castings, impellers, and flanges.
- **Stacking Rack:** Saves floor space by stacking two units.
- **Flow Meter:** For high-accuracy applications and monitoring of system flow (optional card to interface with existing flow meter).
- **SPI Communications:** Communications standard for plastics processing equipment, includes an RS-485 communication port on the unit.
- **Crash Cool Valve:** Pressing Stop activates Rapid cooling for quick mold change applications.
- **Remote Display Panel:** One to one remote display of unit controller.



TECHNICAL DATA

Model	Performance Per Zone				Dimensions L x W x H inch (mm)		Shipping Weight lbs (kg)	
	Heat Cap kW	Pump Motor hp (kW)	Pump Flow gpm (l/min)	Pump Press psi (bar)	Single Zone	Dual Zone	Single Zone	Dual Zone
RQT0008	0	¾ (0.56)	50 (189)	20 (1.4)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	280 (127)	575 (261)
RQT0010	0	1 (0.75)	55 (208)	25 (1.7)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	290 (132)	585 (265)
RQT0020	0	2 (1.5)	75 (284)	30 (2.1)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	300 (136)	590 (268)
RQT0030	0	3 (2.2)	85 (322)	32 (2.2)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	350 (159)	625 (284)
RQT0050	0	5 (3.7)	100 (379)	46 (3.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	345 (157)	700 (318)
RQT0075	0	7½ (5.6)	120 (454)	56 (3.9)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	360 (163)	730 (331)
RQT00TN	0	10 (7.5)	150 (568)	65 (4.5)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	380 (172)	765 (347)
RQT0908	9	¾ (0.56)	50 (189)	20 (1.4)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	280 (127)	575 (261)
RQT0910	9	1 (0.75)	55 (208)	25 (1.7)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	290 (132)	585 (265)
RQT0920	9	2 (1.5)	75 (284)	30 (2.1)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	300 (136)	590 (268)
RQT0930	9	3 (2.2)	85 (322)	32 (2.2)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	350 (159)	625 (284)
RQT0950	9	5 (3.7)	100 (379)	46 (3.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	345 (157)	700 (318)
RQT0975	9	7½ (5.6)	120 (454)	56 (3.9)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	360 (163)	730 (331)
RQT09TN	9	10 (7.5)	150 (568)	65 (4.5)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	380 (172)	765 (347)



Model	Performance Per Zone				Dimensions L x W x H inch (mm)		Shipping Weight lbs (kg)	
	Heat Cap kW	Pump Motor hp (kW)	Pump Flow gpm (l/min)	Pump Press psi (bar)	Single Zone	Dual Zone	Single Zone	Dual Zone
RQT1208	12	¾ (0.56)	50 (189)	20 (1.4)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	280 (127)	575 (261)
RQT1210	12	1 (0.75)	55 (208)	25 (1.7)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	290 (132)	585 (265)
RQT1220	12	2 (1.5)	75 (284)	30 (2.1)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	300 (136)	590 (268)
RQT1230	12	3 (2.2)	85 (322)	32 (2.2)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	350 (159)	625 (284)
RQT1250	12	5 (3.7)	100 (379)	46 (3.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	345 (157)	700 (318)
RQT1275	12	7½ (5.6)	120 (454)	56 (3.9)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	360 (163)	730 (331)
RQT12TN	12	10 (7.5)	150 (568)	65 (4.5)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	380 (172)	765 (347)
RQT1808	18	¾ (0.56)	50 (189)	20 (1.4)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	280 (127)	575 (261)
RQT1810	18	1 (0.75)	55 (208)	25 (1.7)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	290 (132)	585 (265)
RQT1820	18	2 (1.5)	75 (284)	30 (2.1)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	300 (136)	590 (268)
RQT1830	18	3 (2.2)	85 (322)	32 (2.2)	24 x 14 x 25 (610 x 356 x 635)	24 x 28 x 25 (610 x 711 x 635)	350 (159)	625 (284)
RQT1850	18	5 (3.7)	100 (379)	46 (3.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	345 (157)	700 (318)
RQT1875	18	7½ (5.6)	120 (454)	56 (3.9)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	360 (163)	730 (331)
RQT18TN	18	10 (7.5)	150 (568)	65 (4.5)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	380 (172)	765 (347)
RQT2408	24	¾ (0.56)	50 (189)	20 (1.4)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	280 (127)	575 (261)
RQT2410	24	1 (0.75)	55 (208)	25 (1.7)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	290 (132)	585 (265)
RQT2420	24	2 (1.5)	75 (284)	30 (2.1)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	300 (136)	590 (268)
RQT2430	24	3 (2.2)	85 (322)	32 (2.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	350 (159)	625 (284)
RQT2450	24	5 (3.7)	100 (379)	46 (3.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	345 (157)	700 (318)
RQT2475	24	7½ (5.6)	120 (454)	56 (3.9)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	360 (163)	730 (331)
RQT24TN	24	10 (7.5)	150 (568)	65 (4.5)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	380 (172)	765 (347)



Model	Performance Per Zone				Dimensions L x W x H inch (mm)		Shipping Weight lbs (kg)	
	Heat Cap kW	Pump Motor hp (kW)	Pump Flow gpm (l/ min)	Pump Press psi (bar)	Single Zone	Dual Zone	Single Zone	Dual Zone
RQT3608	36	¾ (0.56)	50 (189)	20 (1.4)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	280 (127)	575 (261)
RQT3610	36	1 (0.75)	55 (208)	25 (1.7)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	290 (132)	585 (265)
RQT3620	36	2 (1.5)	75 (284)	30 (2.1)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	300 (136)	590 (268)
RQT3630	36	3 (2.2)	85 (322)	32 (2.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	350 (159)	625 (284)
RQT3650	36	5 (3.7)	100 (379)	46 (3.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	345 (157)	700 (318)
RQT3675	36	7½ (5.6)	120 (454)	56 (3.9)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	360 (163)	730 (331)
RQT36TN	36	10 (7.5)	150 (568)	65 (4.5)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	380 (172)	765 (347)
RQT4808	48	¾ (0.56)	50 (189)	20 (1.4)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	280 (127)	575 (261)
RQT4810	48	1 (0.75)	55 (208)	25 (1.7)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	290 (132)	585 (265)
RQT4820	48	2 (1.5)	75 (284)	30 (2.1)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	300 (136)	590 (268)
RQT4830	48	3 (2.2)	85 (322)	32 (2.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	350 (159)	625 (284)
RQT4850	48	5 (3.7)	100 (379)	46 (3.2)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	345 (157)	700 (318)
RQT4875	48	7½ (5.6)	120 (454)	56 (3.9)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	360 (163)	730 (331)
RQT48TN	48	10 (7.5)	150 (568)	65 (4.5)	26 x 14 x 29 (660 x 356 x 737)	26 x 28 x 29 (660 x 711 x 737)	380 (172)	765 (347)

ELECTRICAL DATA

Pump hp (kW)	9 kW ¹ Heater				
	Rated Voltage FLA ¹ @ 208	Rated Voltage FLA ¹ @ 230	Rated Voltage FLA ¹ @ 400	Rated Voltage FLA ¹ @ 460	Rated Voltage FLA ¹ @ 575
¾ (0.56)	25.8	25.8	14.9	12.9	10.4
1 (0.75)	24.3	24.3	16.0	13.2	10.5
2 (1.5)	28.7	28.7	17.1	14.4	11.5
3 (2.2)	31.5	31.5	18.1	15.5	12.4
5 (3.7)	36.1	36.1	18.7	17.6	14.0
7½ (5.6)	41.1	41.1	23.2	20.2	15.9
10 (7.5)	N/A	N/A	N/A	23.6	18.8



Pump hp (kW)	12 kW ¹ Heater				
	Rated Voltage FLA ¹ @ 208	Rated Voltage FLA ¹ @ 230	Rated Voltage FLA ¹ @ 400	Rated Voltage FLA ¹ @ 460	Rated Voltage FLA ¹ @ 575
¾ (0.56)	33.3	33.3	19.2	16.7	13.4
1 (0.75)	34.0	34.0	20.3	17.0	13.5
2 (1.5)	36.2	36.2	21.4	18.2	14.5
3 (2.2)	39.0	39.0	22.4	19.3	15.4
5 (3.7)	43.6	43.6	22.5	21.4	17.0
7½ (5.6)	48.6	48.6	27.0	24.0	18.9
10 (7.5)	N/A	N/A	N/A	27.4	21.8

Pump hp (kW)	18 kW ¹ Heater				
	Rated Voltage FLA ¹ @ 208	Rated Voltage FLA ¹ @ 230	Rated Voltage FLA ¹ @ 400	Rated Voltage FLA ¹ @ 460	Rated Voltage FLA ¹ @ 575
¾ (0.56)	48.4	48.4	27.9	24.2	19.5
1 (0.75)	49.1	49.1	29.0	24.5	19.6
2 (1.5)	51.3	51.3	30.1	25.7	20.6
3 (2.2)	54.1	54.1	31.1	26.8	21.5
5 (3.7)	58.7	58.7	30.0	28.9	23.1
7½ (5.6)	63.7	63.7	34.5	31.5	25.0
10 (7.5)	N/A	N/A	N/A	34.9	27.9

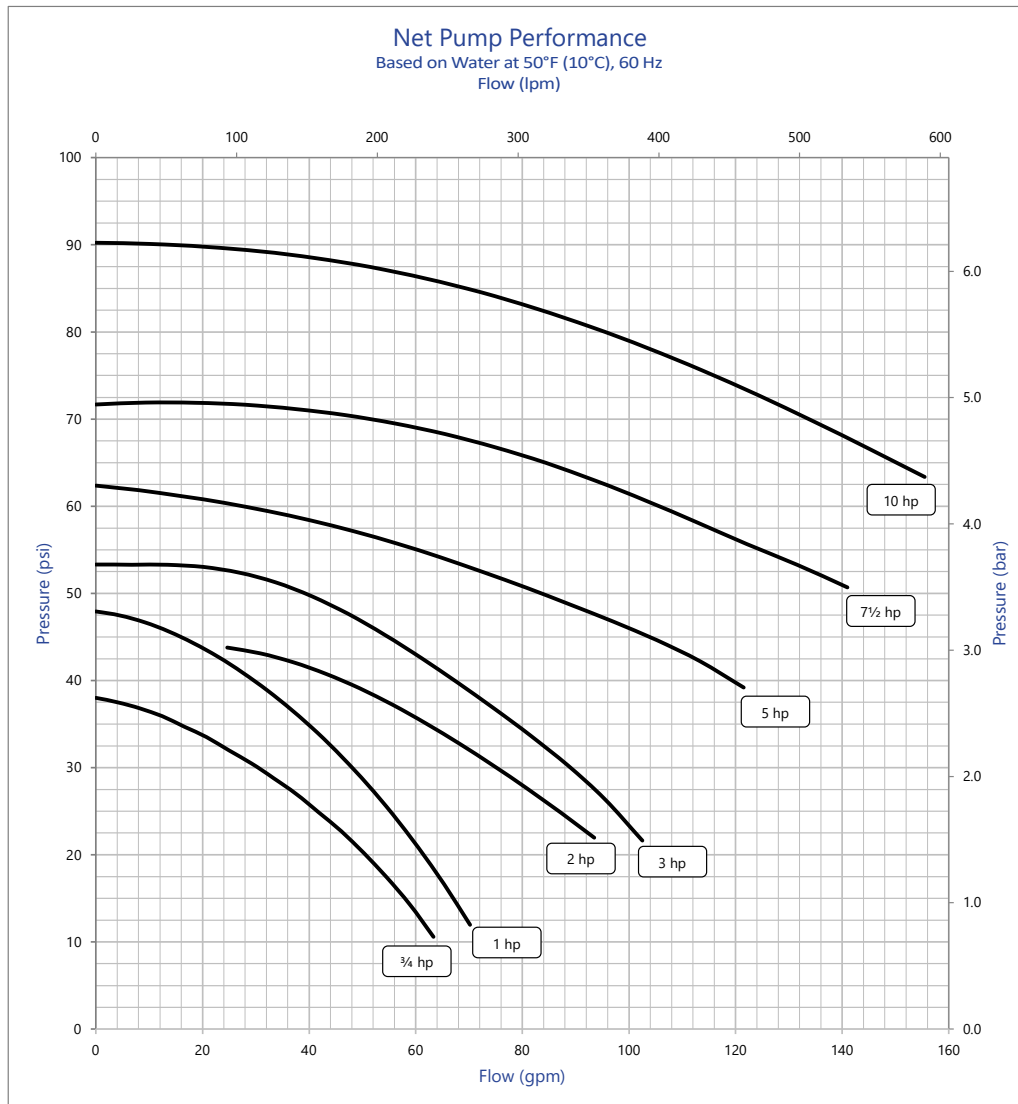
Pump hp (kW)	24 kW ¹ Heater				
	Rated Voltage FLA ¹ @ 208	Rated Voltage FLA ¹ @ 230	Rated Voltage FLA ¹ @ 400	Rated Voltage FLA ¹ @ 460	Rated Voltage FLA ¹ @ 575
¾ (0.56)	63.4	63.4	36.5	31.7	25.5
1 (0.75)	64.1	64.1	37.6	32.0	25.6
2 (1.5)	66.3	66.3	38.7	33.2	26.6
3 (2.2)	69.1	69.1	39.7	34.3	27.5
5 (3.7)	73.7	73.7	37.5	36.4	29.1
7½ (5.6)	78.7	78.7	42.0	39.0	31.0
10 (7.5)	N/A	N/A	N/A	42.4	33.9

Pump hp (kW)	36 kW ¹ Heater				
	Rated Voltage FLA ¹ @ 208	Rated Voltage FLA ¹ @ 230	Rated Voltage FLA ¹ @ 400	Rated Voltage FLA ¹ @ 460	Rated Voltage FLA ¹ @ 575
¾ (0.56)	N/A	N/A	N/A	46.8	37.5
1 (0.75)	N/A	N/A	N/A	47.1	37.6
2 (1.5)	N/A	N/A	N/A	48.3	38.6
3 (2.2)	N/A	N/A	N/A	49.4	39.5
5 (3.7)	N/A	N/A	N/A	51.5	41.1
7½ (5.6)	N/A	N/A	N/A	54.1	43.0
10 (7.5)	N/A	N/A	N/A	57.5	45.9



Pump hp (kW)	48 kW ¹ Heater				
	Rated Voltage FLA ¹ @ 208	Rated Voltage FLA ¹ @ 230	Rated Voltage FLA ¹ @ 400	Rated Voltage FLA ¹ @ 460	Rated Voltage FLA ¹ @ 575
¾ (0.56)	N/A	N/A	N/A	61.8	49.6
1 (0.75)	N/A	N/A	N/A	62.1	49.7
2 (1.5)	N/A	N/A	N/A	63.6	50.7
3 (2.2)	N/A	N/A	N/A	64.4	51.6
5 (3.7)	N/A	N/A	N/A	66.5	53.2
7½ (5.6)	N/A	N/A	N/A	69.1	55.1
10 (7.5)	N/A	N/A	N/A	72.5	58.0

¹FLA for reference purposes only. Does not include options or accessories.



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Manufacturer reserves the right to change specification
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