

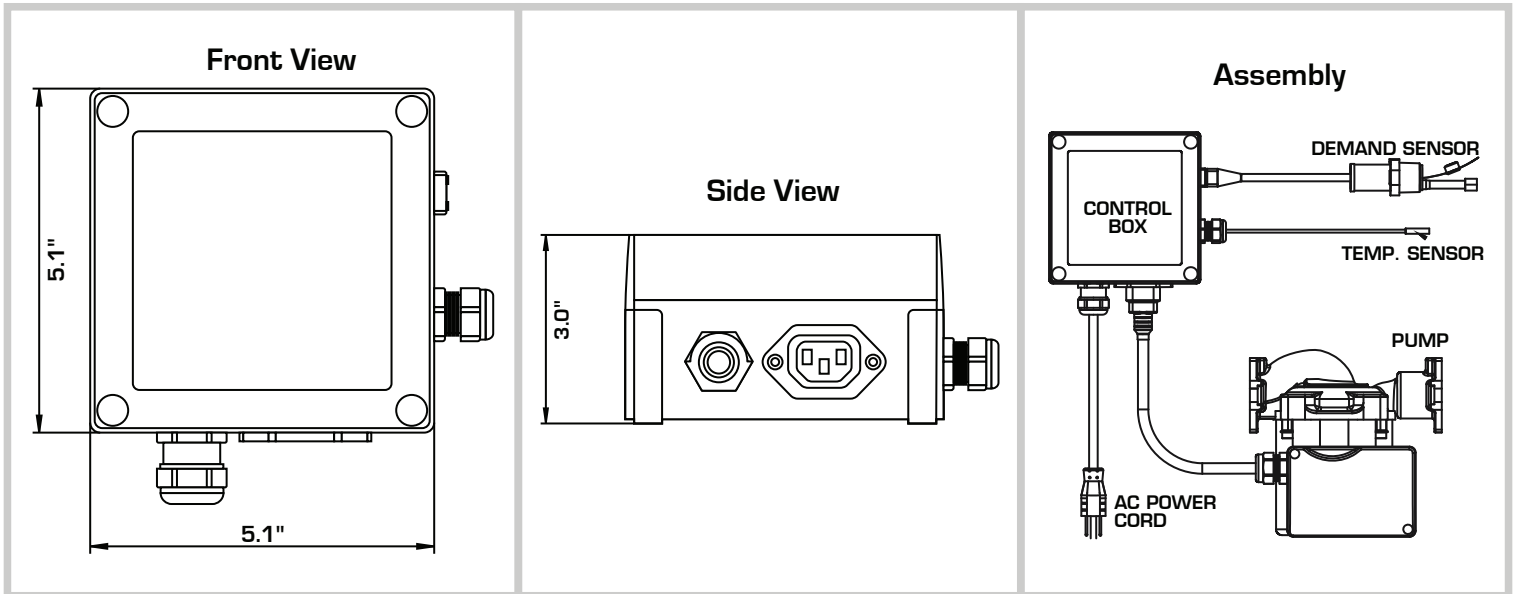


Enovative® AutoHot

JOB or CUSTOMER:			
ENGINEER:			
CONTRACTOR:			
SUBMITTED BY:	APPROVED BY:	ORDER NO.:	
Date:	Date:	Date:	

## SUBMITTAL | SPECIFICATIONS

The Enovative AutoHot System is designed to control the hot water recirculation pumps used on a domestic hot water system for almost any building that uses hot water. The controller will operate the pump on-demand using a sensor for detecting demand (multiple options exist, including: push button, occupancy and flow sensors, wired and wireless) and then the pump is turned off after the return line is hot. The controller can also be used to operate a pump that is installed under the sink at the far end of a hot water system in situations where there is no return line. By operating on-demand, the system will achieve the optimal balance between water savings and energy efficiency. The systems can come with various 3-speed pumps or standalone.



### CONTROLLER SPECIFICATIONS

Control	Analog Circuit
Package Weight	2 lb. (907 g)
Dimensions	5.1" H x 5.1" W x 3.0" D (add 1" for strain relief connectors) (130mm x 130mm x 75mm)
Enclosure	Polycarbonate, IP66/67, NEMA 1, 4, 4X, 6
Approvals	IAPMO PS115-2007 Hot Water On-Demand, NSF ANSI 61 and AB1953 Low Lead Compliant, UL Certified
Application	Domestic Hot Water, Residential & Commercial Buildings, with and without return line
Power Supply	120VAC, 60Hz, 2.15A
Pump Relay	16A (limited by fuse)
Fuse	PCB Mounted, 5A, fast-acting
Temperature Sensor	10k Thermistor, copper tip surface mount
Operation Adjustments: Overrides	Override slider switches for turning system to continuous operation, temp only operation, or timed demand only operation
Operation Adjustments: Temperature Control	Adjust temperature lockout up to 127 degrees F (temperature at which system will not allow pump to run, unless overridden). Adjust temperature differential shutoff up to delta T of 15 degrees F (pump can turn off before lockout, based on a temperature differential)
Operation Adjustments: Autoprime	Adjust Autoprime intervals between 14 minutes and ~1hr 45min, some units up to 5 hours (Commercial controller only)
Warranty	Limited 5 Year

### FEATURES

- Operates pumps on-demand
- Turns on with demand
- Turns off with either delta T rise in temperature or on a set temperature
- Multiple adjustments options
- Can be applied to most buildings
- Easy overrides for maintenance and troubleshooting
- Compliant with newest green construction, energy, and energy conservation codes
- Quick payback, saves water and energy

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## SUBMITTAL | SPECIFICATIONS

### WM-S-16A

[Wireless Motion Sensor]



#### Description

The wireless motion sensor is used in conjunction with the Wireless Receiver (WR-16A) to activate the AutoHot® ondemand system, from anywhere in the home. The range of the motion sensor is up to 500 feet, in open air and up to 10 sensors can be used per receiver. May also be used in combination with the AutoHot wireless button sensor (WB-S-16A).

<b>Height:</b> 3.375 Inches	<b>Depth:</b> 2.5 Inches	<b>Net Wight:</b> 35 Grams	<b>Width:</b> 2.125 Inches	<b>Gross Wight:</b> 45 Grams
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<b>SPECIFICATIONS</b>	Working Voltage	DC 3V (2 AAA batteries)	Voltage under USB line power supply	5V
	Working current	15Ma	Working frequency	433 MHz ± 2MHz
	Current in suspend mode	30 Ua	Working temperature	-15°C ~ 60°C
	Detecting area	4~5Mx110°	Waterproof (Yes or No)	No
	Working range between reciver and sensor	120~150m in the open air		
	LED lights	4 (1 red LED for low power alert, 3 blue LED for detecting alert or extremely low power)		

### WB-S-16A

[Wireless Button Sensor]



#### Description

The Wireless Button is used with the Wireless Receiver (WR-16A) to activate the AutoHot ondemand system from a remote location, and has a range of about 1000 feet in open air. Up to 10 wireless buttons can be used per receiver and comes with mounting screws and double-sided foam tape for easy mounting. May be used in combination with the AutoHot wireless motion sensor (WMS-16A)

<b>Height:</b> 2.8125 Inches	<b>Depth:</b> .75 Inches	<b>Net Wight:</b> 20 Grams	<b>Width:</b> 1.625 Inches	<b>Gross Wight:</b> 22 Grams
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<b>SPECIFICATION</b>	Transmitter working voltage	AC 110V-220V 50Hz/60Hz
	Transmitter power consumption	0.5W
	Transmitter volume	25-110db
	Operating frequency	433MHz ± 2MHz

### WR-16A

[Wireless Receiver]



#### Description

The Wireless Receiver is used with the AutoHot wireless buttons (WB-S-16A) or Wireless Motion Sensors (WMS-16A), or a combination of both. Receiver plugs into the AutoHot controller and up to 10 sensors my be used per receiver.

<b>Height:</b> 3.375 Inches	<b>Depth:</b> 1 Inches	<b>Net Wight:</b> 76 Grams	<b>Width:</b> 3.1875 Inches	<b>Gross Wight:</b> 76 Grams
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<b>SPECIFICATION</b>	Input of receiver	AC 110V / 220V 50Hz/60Hz
	Optional melodies	52
	Volume lodness	30-110db
	Plug type	RJ45 connector
	Expandable (Yes or No)	Yes
	Work frequency	433 MHz ± 2MHz
	Working temperature	-15°C ~ 60°C

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## SUBMITTAL | SPECIFICATIONS

### HB-S-13A

(Hardwired Push Button)

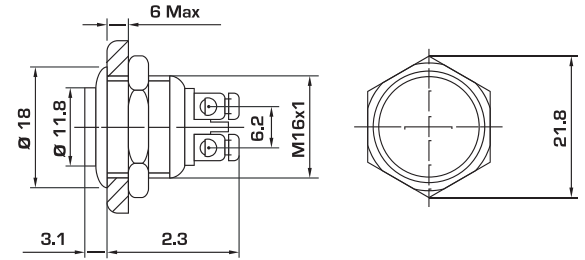


#### Description

The hardwired push button activator is a normally open, momentary contact switch that signals the AutoHot to turn on when pressed by the user. One hard wired push button comes standard with every AutoHot system and is suitable for a 16mm mounting hole. You can run multiple hardwired buttons in parallel to activate the AutoHot system from various fixture locations.

<b>Thread diameter:</b> 16 mm	<b>Length:</b> 24 mm / 0.94"	<b>Net weight:</b> 14 g	<b>Width:</b> 21 mm / 0.83"
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<b>SPECIFICATIONS</b>	Contact type	Momentary (1NO)
	Head shape	Hight Round
	Switch rating	36 VDC, 2A
	Terminal number	2; Mounting
	Material	Stainless Steel
	Housing color	Silver Tone, Blue
	Thread diameter	16 mm / 0.63"



### HM-S-17A

(Hardwired Motion Sensor)



<b>SPECIFICATIONS</b>	Model	SFL-350
	Detecting Distance	8M
	Working Voltage	9-16VDC
	Detecting Angle	360° LED Light is ON
	Working Current	≤ 18mA (DC 12V)
	Working Temperature	-10~50°C
	Dimension	88mm x 22mm
	Installation	Ceiling Mounted
	Alarm Output	N.O/N.C (Optional)
	Alarm Sensitivity	Adjustable, suit for different district and temperature
LED ON/OFF Optional	Suit for any Alarm System	

### HR-S-17W

(Hardwired Rocker Switch-White)



<b>SPECIFICATIONS</b>	Part Number	HR-S-17W
	Product Description	15A 277V Single Control Momentary Contact Rocker Toggle Switch
	Size	65mm x 32mm x 38mm
	Max. Current	15A
	Max. Voltage	277V
	Mechanical Life	10 Years
	Color	White
	Material	pc
	Type	Electronic Switch
	Feature	Safety
Function	Touch Panel Light Wall Switch	
Application	House	

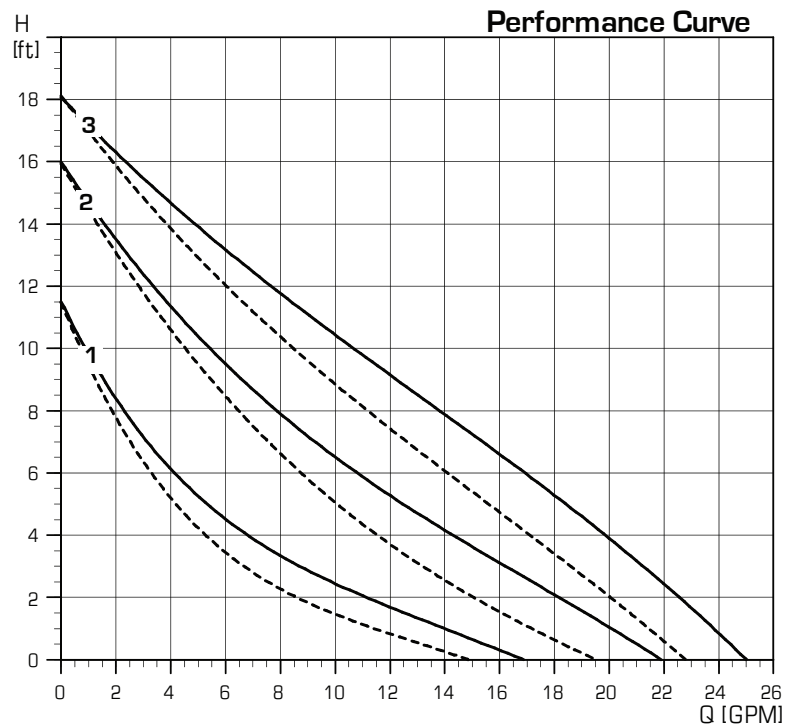
# 55-SERIES PUMP SPECIFICATIONS

## TECHNICAL & ELECTRICAL DATA

Flow range:	0-25 gpm
Head range:	0-18 feet
Motors:	2-pole, single-phase
Max. liquid temperature:	230°F (110°C)
Min. liquid temperature:	36°F (2°C)
Max. system pressure:	145 psi (10 bar)

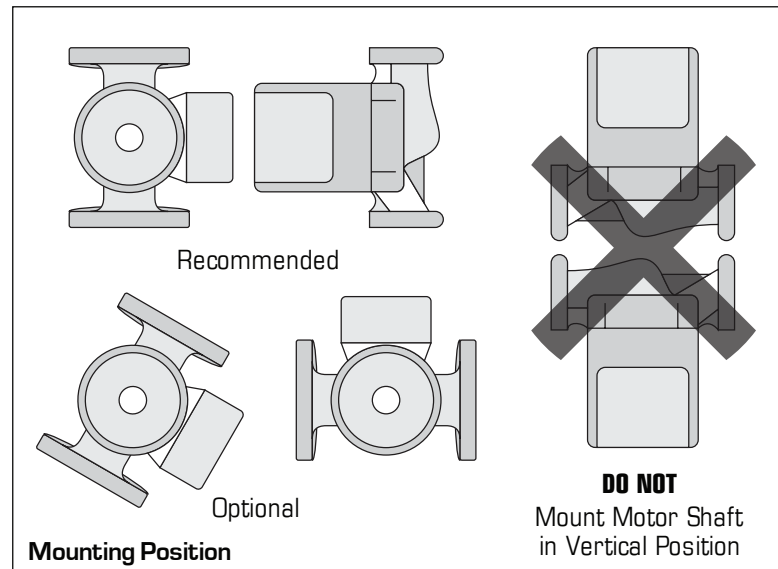
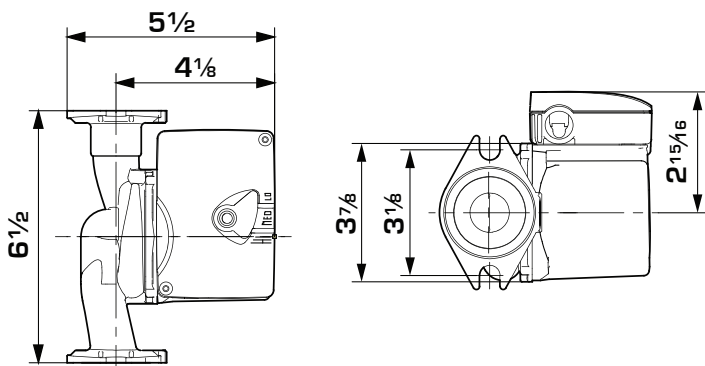
Model	Spd	Volts	Amps	Watts	Hp	Capacitor
55-Series	3	115	0.75	87	0.12	10 µF/180 V
	2		0.69	77	0.10	10 µF/180 V
	1		0.53	58	0.08	10 µF/180 V

Part No.	Name	Description
R055A	<b>AutoHot™</b>	55-Series Pump, Residential AutoHot Controller, Hardwired Push Button Activator
R055A-USK		55-Series Pump, Residential AutoHot Controller, Under Sink Kit, Hardwired Push Button Activator



## SIZE & WEIGHT

Model	Type and Size	Wt. (lbs)
55-Series	GF 15/26	6



## MATERIALS OF CONSTRUCTION

DESCRIPTION	MATERIAL	DESCRIPTION	MATERIAL
Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding Shaft Retainer	304 Stainless Steel	Pump Housing (Volute)	Silicon bronze C875 or Stainless steel 300 series
Stator Housing	Aluminum	O'Ring & Gaskets	EP (Ethylene Propylene Rubber)
Shaft, Upper & Lower Radial Bearings	Aluminum Oxide Ceramic	Impeller	PES Composite (30% Glass Filled)
Thrust Bearing	Carbon bearing and EPDM retainer	Terminal Box	Noryl®
Check Valve	ACETAL with 302 Stainless Steel Spring & Nitrile Rubber Seats		

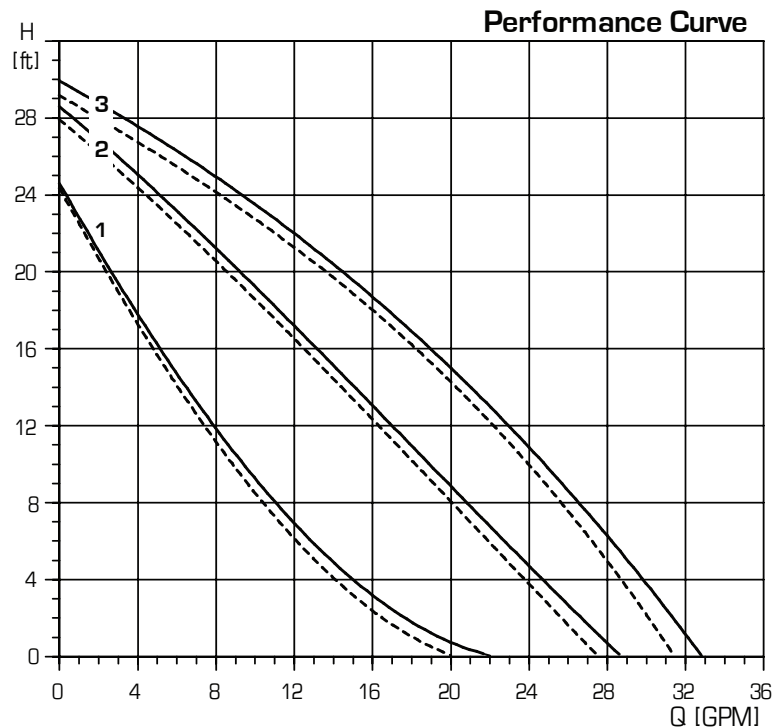
# 99-SERIES PUMP SPECIFICATIONS

## TECHNICAL & ELECTRICAL DATA

Flow range:	0-33 gpm
Head range:	0-29 feet
Motors:	2-pole, single-phase
Max. liquid temperature:	230°F (110°C)
Min. liquid temperature:	36°F (2°C)
Max. system pressure:	145 psi (10 bar)

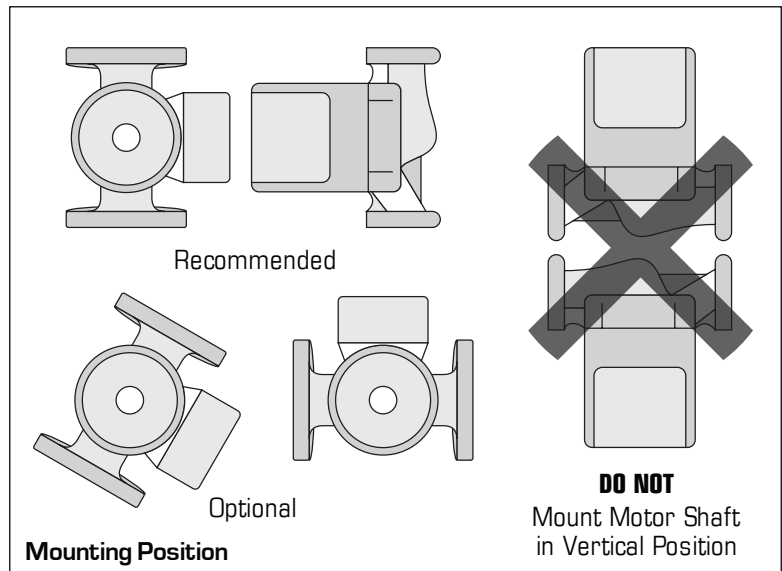
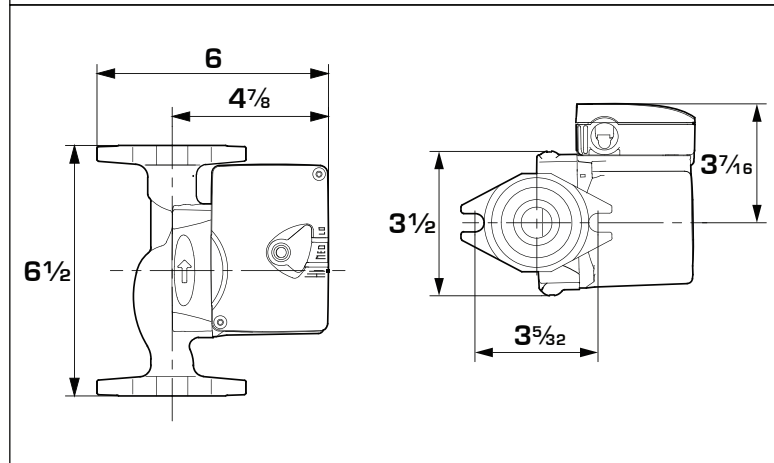
Model	Spd	Volts	Amps	Watts	Hp	Capacitor
99-Series	3	115	1.8	197	1/6	20 µF/180 V
	2		1.5	179	1/6	20 µF/180 V
	1		1.3	150	1/6	20 µF/180 V

Part No.	Name	Description
R099A	<b>AutoHot™</b>	99-Series Pump, Residential AutoHot Controller, Hardwired Push Button Activator
R099A-USK		99-Series Pump, Residential AutoHot Controller, Under Sink Kit, Hardwired Push Button Activator



## SIZE & WEIGHT

Model	Type and Size	Wt. (lbs)
99-Series	Flange - (2) 1/2" Dia. Bolt Holes	10



## MATERIALS OF CONSTRUCTION

DESCRIPTION	MATERIAL	DESCRIPTION	MATERIAL
Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding Shaft Retainer	304 Stainless Steel	Pump Housing (Volute)	Silicon bronze C875 or Stainless steel 300 series
Stator Housing	Aluminum	O'Ring & Gaskets	EP (Ethylene Propylene Rubber)
Shaft, Upper & Lower Radial Bearings	Aluminum Oxide Ceramic	Impeller	PES Composite (30% Glass Filled)
Thrust Bearing	Carbon bearing and EPDM retainer	Terminal Box	Noryl®
Check Valve	ACETAL with 302 Stainless Steel Spring & Nitrile Rubber Seats		

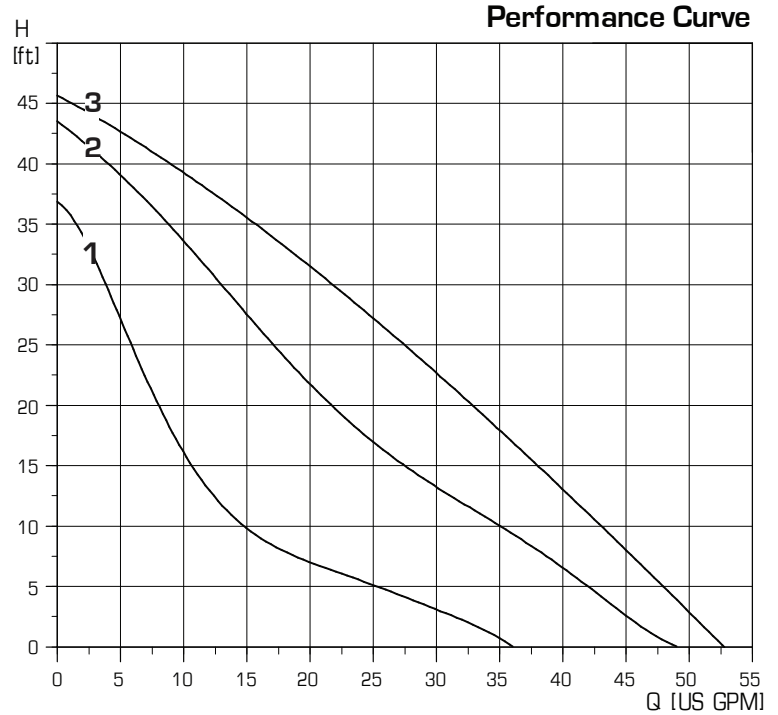
# 150-SERIES PUMP SPECIFICATIONS

## TECHNICAL & ELECTRICAL DATA

Flow range:	0-53 gpm
Head range:	0-46 feet
Motors:	2-pole, single-phase
Max. liquid temperature:	230°F (110°C)
Min. liquid temperature:	36°F (2°C)
Max. system pressure:	145 psi (10 bar)

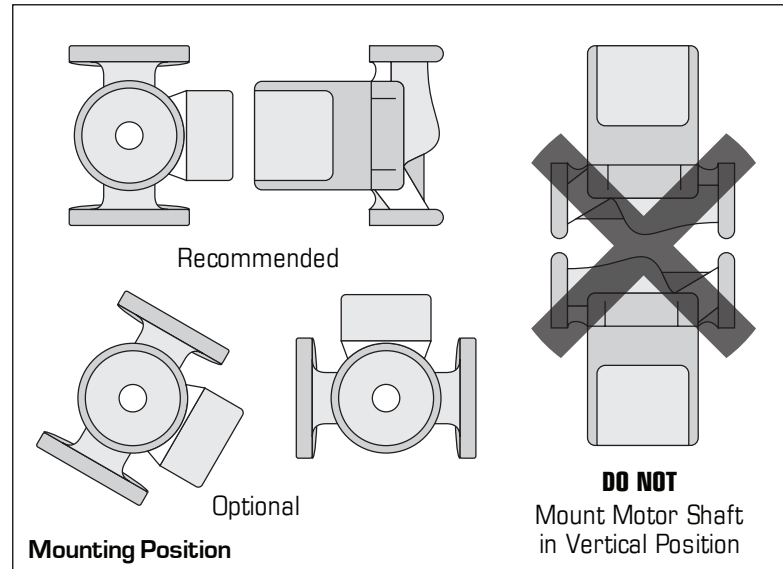
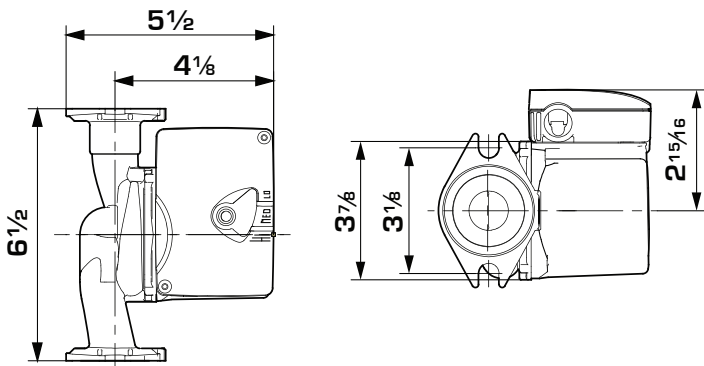
Model	Spd	Volts	Amps	Watts	Hp	Capacitor
150-Series	3	115	3.5	370	1/6	40µF/180 V
	2		3.1	335	1/6	40µF/180 V
	1		2.5	265	1/6	40µF/180 V

Part No.	Name	Description
RO150A	<b>AutoHot™</b>	150-Series Pump, Residential AutoHot Controller, Hardwired Push Button Activator
RO150A-USK		150-Series Pump, Residential AutoHot Controller, Under Sink Kit, Hardwired Push Button Activator



## SIZE & WEIGHT

Model	Type and Size	Wt. (lbs)
150-Series	GF 15/26	6



## MATERIALS OF CONSTRUCTION

DESCRIPTION	MATERIAL	DESCRIPTION	MATERIAL
Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding Shaft Retainer	304 Stainless Steel	Pump Housing (Volute)	Silicon bronze C875 or Stainless steel 300 series
Stator Housing	Aluminum	O'Ring & Gaskets	EP (Ethylene Propylene Rubber)
Shaft, Upper & Lower Radial Bearings	Aluminum Oxide Ceramic	Impeller	PES Composite (30% Glass Filled)
Thrust Bearing	Carbon bearing and EPDM retainer	Terminal Box	Noryl®
Check Valve	ACETAL with 302 Stainless Steel Spring & Nitrile Rubber Seats		