

JOB: UNIT TAG: ENGINEER: CONTRACTOR:	REPRESENTATIVE: ORDER NO. SUBMITTED BY: APPROVED BY:	DATE: DATE: DATE:
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Lead Free, Energy Efficient e³ ecocirc Circulators for Potable Water Application



Description

e³ circulators are energy efficient circulators using permanent magnet, ECM (electronically commutated motor) technology. The e³ circulators are designed specifically for potable water applications. These circulators are lead free* and come with a variety of options including a temperature sensor, various body styles, assembled with electrical cord and plug, timer and more.

Materials of Construction

Pump Body: Lead Free* Brass
 O-Ring: EPDM or Viton
 Bearing: Carbon/Alumina Ceramic
 Impeller: Nylon/PPO
 Motor: High Efficiency ECM
 All Other Wetted Parts: Type 316 Stainless Steel
 Shaft-less, seal-less construction

Operating Data

Pump
 Maximum Working Pressure: 150 psi (10.3 Bar)
 Maximum Working Temperature: 230°F (110°C)
 Minimum Working temperature: 50°F (10°C)

Motor
 ECM Spherical Motor
 100-240V 50/60HZ
 5-28 Watts Power Consumption
 Automatic Overload Protection
 Low in-rush current

Adjustable Speed Switch (Models Without Temp Sensor)
 Infinitely variable-speed switch to manually adjust motor speed.

Adjustable Temperature Sensor (Fixed Speed Only)
 Adjustable Set Point from 68 to 158 °F (20° to 70°C)
 Turns circulator OFF when water temperature reaches set point
 Turns circulator ON when water temperature is 10°F (6°C) below set point

Connections
 1/2" UltraCirc
 1/2" Sweat
 1/2" FNPT Threaded

*As defined by CA AB1953

Standard Features

Motor
 Designed with a shaftless spherical motor with permanent magnet technology for improved efficiency.

Lead Free
 All e³ circulators are made from lead free* construction

Optional Features

Adjustable Speed Switch
 This switch is only available on models without the internal temperature sensor. A stepless motor switch allows infinite motor speed variation.

Adjustable Temperature Sensor
 This built-in temperature sensor is adjustable and will turn the circulators off when it reaches the set point and turn the circulators back on when the temperature is more than 10°F (6°C) below the set point. Only available on fixed-speed motors.

Body Types
 UltraCirc: The UltraCirc comes with 1/2" union connections and has a built in air purger to remove unwanted air. The UltraCirc also has a built in check and isolation valves for easy isolation and removal of motor housing.

Sweat: The e³ circulators have the option of a 1/2" sweat connection.

Threaded: The e³ circulators have the option of 1/2" female NPT.

Plug
 e³ circulators have the option to be pre-wired with a 6 ft. electrical plug. For fastest installation, install the circulators into the piping and simply plug the circulator into a standard outlet.

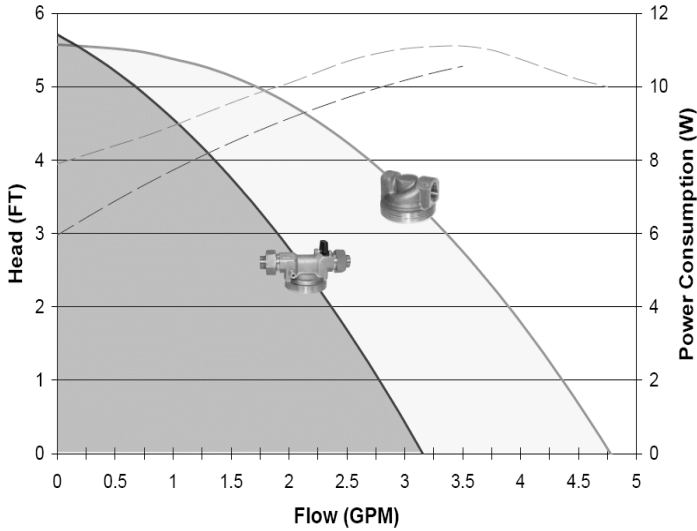
Timer
 e³ circulators can provide an even greater increase in energy savings when used in combination with the e³-Timer. The timer is easily installed by removing the motor end cap, plugging in the timer and setting the timer schedule.

Special Specifications

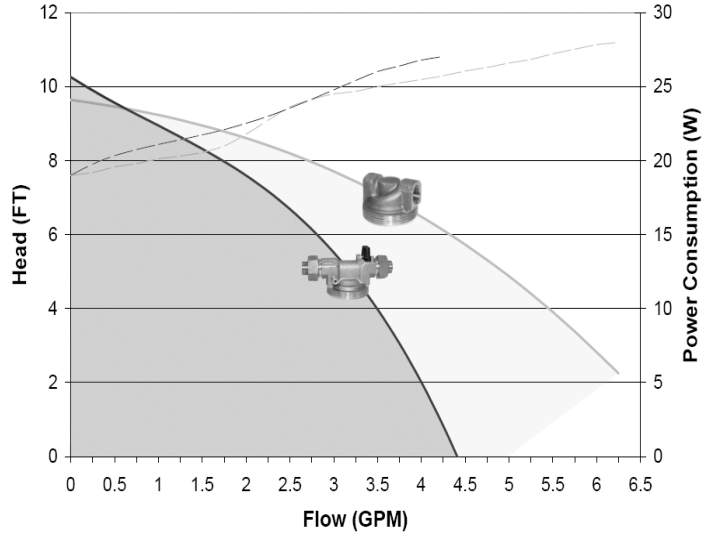
The contractor shall furnish and install in-line circulating pumps as illustrated on the plans and in accordance with the following specification:

1. The pumps shall be of the high efficiency type specifically designed for quiet operation
2. Pump to be suitable for 230°F (110°C) operation at 150 psig (10.3 Bar) working pressure
3. The pumps shall have a ceramic ball bearing lubricated by the system fluid.
4. Pump body shall be a lead-free (less than 0.25% Pb) brass
5. Pump to have (1) of following options:
 - a) Pump to have built-in adjustable thermostat from 68°F to 158°F (20°C to 70°C)
 - b) Pump to have built-in stepless speed switch
6. Motor shall be spherical permanent magnet electrically commutated motor (ECM)
7. Motor shall be non-overloading at any point on the pump curve and shall have built in overload protection
8. Pumps to have a capacity of _____GPM at _____foot of head
9. All pumps to be supplied by bell & Gossett Model_____

e³-4 Pump Curves

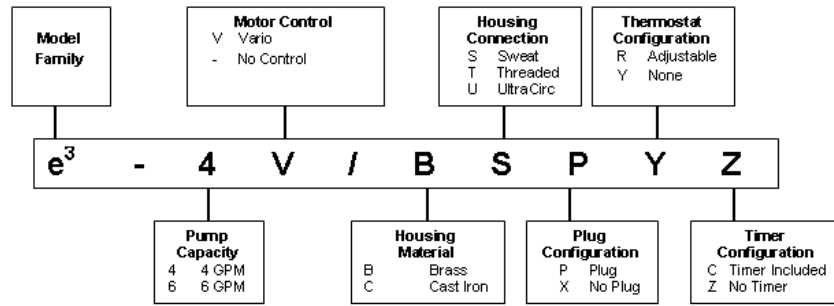


e³-6 Pump Curves



Part Number	Model	Material	Connection		Adjustable Speed	Adjustable Thermostat	Plug
			Size	Type			
LHB08100101	e ³ -4V/BSPYZ	LEAD-FREE BRASS	1/2"	SWEAT	.		.
LHB08100102	e ³ -4V/BSXRZ	LEAD-FREE BRASS	1/2"	SWEAT		.	
LHB08100104	e ³ -4V/BTXYZ	LEAD-FREE BRASS	1/2"	FNPT	.		
LHB08100106	e ³ -4V/BTPRZ	LEAD-FREE BRASS	1/2"	FNPT		.	.
LHB08100107	e ³ -4V/BUPYZ	LEAD-FREE BRASS	1/2"	UNION	.		.
LHB08100108	e ³ -4V/BUPRZ	LEAD-FREE BRASS	1/2"	UNION		.	.
LHB08100109	e ³ -6V/BSPYZ	LEAD-FREE BRASS	1/2"	SWEAT	.		.
LHB08100112	e ³ -6V/BTXYZ	LEAD-FREE BRASS	1/2"	FNPT	.		
LHB08100110	e ³ -6V/BTPYZ	LEAD-FREE BRASS	1/2"	FNPT	.		.
LHB08100111	e ³ -6V/BUPYZ	LEAD-FREE BRASS	1/2"	UNION	.		.
LHB08260002	e ³ -TIMER						

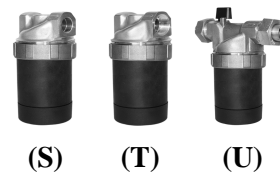
Model Nomenclature



Motor Control
(V) Vario - A built in stepless switch allows for the user to choose the speed at which the pump will operate
(-) There is no control and the circulator operates at full speed at all times



Housing Connection
(S) 1/2" Sweat Connection
(T) 1/2" FNPT Connection
(U) 1/2" UltraCirc Union Connection



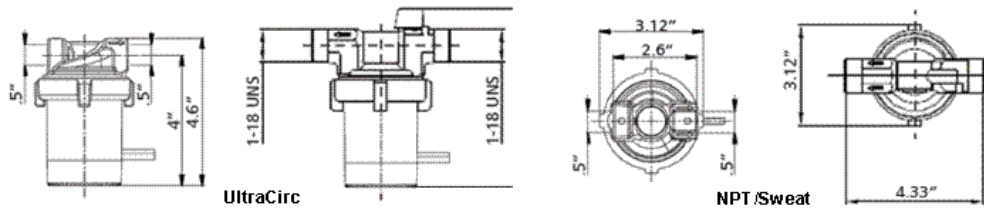
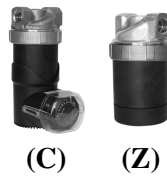
Plug Configuration
(P) e³ Circulator have the option to be pre-wired with a 6ft. electric plug.
(X) e³ circulators can also be permanently wired to the building electrical system.



Thermostat Configuration
(R) comes with a built-in adjustable thermostat.
(Y) No thermostat.



Timer Configuration
(C) Comes with pre-assembled timer.
(Z) Timer sold separately



e³- Timer

Description

To increase the overall efficiency of a domestic hot water recirculating system and to reduce water wasted while waiting for hot water, the e³ Timer can be installed on the e³ circulator. The timer is easily installed by removing the motor end cap, plugging in the timer and setting the timer schedule without any wiring. The timer can be used in 3-different selections: ON, OFF and Timer. The On selection operates the pump continuously, the OFF selection turns the pump OFF and the TIMER selection (depicted by a clock on the timer) turns the pump on when programmed.

OPERATIONAL LIMITS

e³Timer

Power Supply: Internally powered by the e³ circulating pump

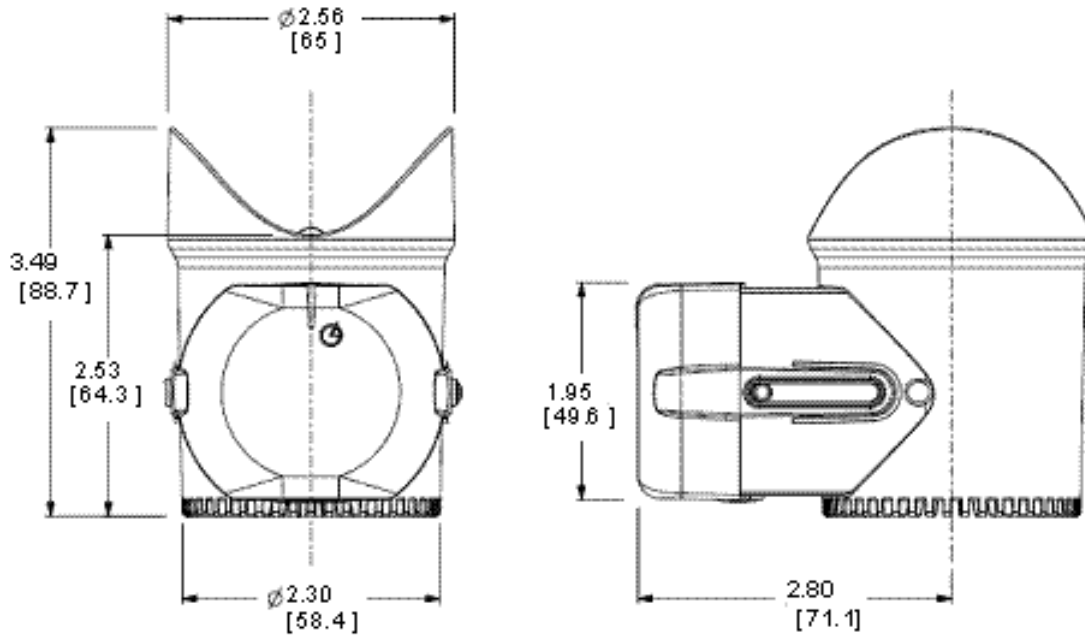
Minimum Switch Interval: 30 minutes.

Run Modes: ON(Continuous, OFF(off at all times) and TIMER (run at programmed intervals)

Part Number	Model	Tagging Information	Quantity
LHB08260002	e ³ -TIMER		

e³- TIMER Kit Dimensions

Timer Kit Dimensions in Inches (mm)



TYPICAL SPECIFICATON

Furnish and install as shown on plans and accordance with the following specification:

Timer Kit Dimensions in Inches (mm)

1. The timer kit to be installed on an e³ circulator
2. The timer kit to receive internal power from e³ circulator
3. The timer shall provide ON-OFF control at a minimum interval of 30 minutes. IT shall also have the option for continious ON or OFF operation.

All unit shall be Bell & Gossett Model No. e³-Timer