

JOB: UNIT TAG: ENGINEER: CONTRACTOR:	REPRESENTATIVE: ORDER NO. SUBMITTED BY: APPROVED BY:	DATE: DATE: DATE:
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ecocirc® XL

High Efficiency Large Wet Rotor Circulator with Electronically Commutated Motor (ECM)



DESCRIPTION

The ecocirc® XL circulator is designed with a highly efficient electronically commutated permanent magnet motor (ECM/PM Technology). Cast Iron Body designed for closed loop hydronic heating and cooling systems pumping water or water/glycol mix.
Lead Free Bronze† body designed for plumbing systems or open loop heating and cooling systems.

CONSTRUCTION MATERIALS

Pump Body: Cast Iron or Lead-Free† Bronze
Impeller: Poly-phenylene Sulfide or Stainless Steel
Shaft: AISI 420 Stainless Steel
Rotor: Permanent Magnet
Bearing: Carbon Sleeve
Gasket/O-Ring: EPDM
All Other Wetted Parts: AISI 304 Stainless Steel
Motor Type: Electronically Commutated Motor /Permanent Magnet
Motor Insulation Class: F

SPECIFICATIONS

MODEL NO.			
FLOW		HEAD	
HP		RPM	
VOLTAGE		CYCLE	PHASE
SPECIALS			

OPERATING DATA

Maximum Working Pressure: 175 psi (12 Bar)
Minimum Working Temperature: 14°F (-10°C)
Maximum Working Temperature: 230°F (110°C)
Ambient Temperature Range: 32°F - 104°F (0°C - 40°C)

SCHEDULE

CAST IRON BODY		LEAD-FREE BRONZE BODY†		RATED MOTOR CHARACTERISTICS					
MODEL NUMBER	PART NUMBER	MODEL NUMBER	PART NUMBER	HP*	VOLTAGE	PHASE	Hz	WATTS RANGE	AMP RANGE
ecocirc XL 20-35	104300	ecocirc XL B 20-35	104400LF	1/12	115	1	50/60	6 - 85	0.1 - 1.3
ecocirc XL 36-45	104301	ecocirc XL B 36-45	104401LF	1/6	115	1	50/60	20 - 200	0.1 - 3.0
ecocirc XL 36-45	104302	ecocirc XL B 36-45	104402LF	1/6	208-230	1	50/60	20 - 200	0.1 - 1.5
ecocirc XL 15-75	104303	ecocirc XL B 15-75	104403LF	1/6	115	1	50/60	30 - 150	0.1 - 2.3
ecocirc XL 15-75	104304	ecocirc XL B 15-75	104404LF	1/6	208-230	1	50/60	30 - 150	0.1 - 1.1
ecocirc XL 55-45	104306	ecocirc XL B 55-45	104406LF	1/2	208-230	1	50/60	30 - 500	0.2 - 2.0
ecocirc XL 20-140	104308	ecocirc XL B 20-140	104408LF	1/2	208-230	1	50/60	35 - 470	0.2 - 2.0
ecocirc XL 65-130	104309	ecocirc XL B 65-130	104409LF	1	208-230	1	50/60	45 - 825	0.5 - 3.5
ecocirc XL 40-200	104312	ecocirc XL B 40-200	104412LF	1	208-230	1	50/60	45 - 825	0.5 - 3.5
ecocirc XL 70-145	104315	ecocirc XL B 70-145	104415LF	2	208-230	1	50/60	55 - 1400	0.6 - 6.0
ecocirc XL 40-275	104318	ecocirc XL B 40-275	104418LF	2	208-230	1	50/60	50 - 1400	0.5 - 6.0

Note: Where potable water is pumped, use a lead-free† bronze booster. ecocirc XL pumps are recommended for indoor use only.

† = Lead-Free as described in the Reduction of Lead in Drinking Water Act (RLDWA) - certified to NSF 372.

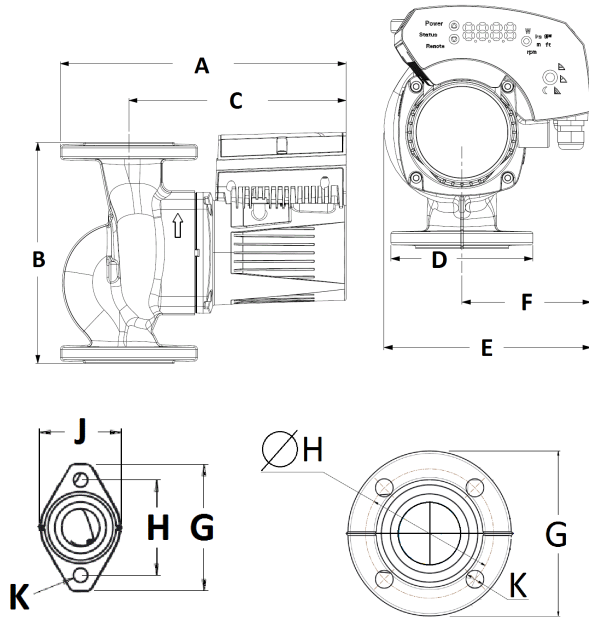
* = Nominal HP

DIMENSIONS AND WEIGHTS

MODEL NO	Nominal Motor HP	DIMENSIONS - INCHES (mm)						APPROX. SHIPPING WEIGHT LBS. (KG)	
		A	B	C	D	E	F	Cast Iron	Bronze
ecocirc XL 20-35	1/12	9.94 (252)	6.38 (162)	8.20 (208)	4.19 (106)	7.20 (183)	4.72 (120)	19.8 (9)	22 (10)
ecocirc XL 36-45	1/6	9.94 (252)	6.38 (162)	8.20 (208)	4.19 (106)	7.20 (183)	4.72 (120)	19.8 (9)	22 (10)
ecocirc XL 15-75	1/6	11.04 (280)	8.5 (216)	8.39 (213)	5.19 (132)	7.57 (192)	4.72 (120)	26.4 (12)	28.6 (13)
ecocirc XL 55-45	1/2	11.89 (302)	6.38 (162)	10.18 (258)	4.19 (106)	8.12 (206)	5.02 (127)	26.4 (12)	28.6 (13)
ecocirc XL 20-140	1/2	13.39 (340)	11.5 (292)	10.41 (264)	5.19 (132)	8.20 (208)	5.02 (127)	35.2 (16)	39.6 (18)
ecocirc XL 65-130	1	14.84 (377)	11.5 (292)	11.80 (299)	4.62 (117)	9.53 (242)	5.77 (146)	39.6 (18)	44 (20)
ecocirc XL 40-200	1	15.17 (385)	11.5 (292)	11.80 (299)	5.19 (132)	9.53 (242)	5.77 (146)	41.8 (19)	46.2 (21)
ecocirc XL 70-145	2	14.84 (377)	11.5 (292)	11.80 (299)	4.62 (117)	9.53 (242)	5.77 (146)	38.4 (17.4)	44 (20)
ecocirc XL 40-275	2	16.04 (407)	12.0 (305)	12.57 (319)	6.00 (152)	10.07 (256)	5.77 (146)	49.6 (22.5)	55 (25)

MODEL NO	FLANGE SIZE INCHES - NPT	# of Bolts	DIMENSIONS - INCHES (mm)				B&G COMPANION FLANGE (Set of 2)	
			G	H	J	K	CAST IRON PN	BRONZE PN
ecocirc XL 20-35	3/4, 1, 1-1/4, 1-1/2	2	4.19 (106)	3.16 (80)	2.62 (66)	0.47 (12)	101001 - 101004 ⁺	101011LF - 101014LF ⁺
ecocirc XL 36-45	3/4, 1, 1-1/4, 1-1/2	2	4.19 (106)	3.16 (80)	2.62 (66)	0.47 (12)	101001 - 101004 ⁺	101011LF - 101014LF ⁺
ecocirc XL 15-75	2	4	5.18 (132)	4.06 (103)	-	0.56 (14)	101215	10216LF
ecocirc XL 55-45	3/4, 1, 1-1/4, 1-1/2	2	4.19 (106)	3.16 (80)	2.62 (66)	0.47 (12)	101001 - 101004 ⁺	101011LF - 101014LF ⁺
ecocirc XL 20-140	2	4	5.19 (132)	4.06 (103)	-	0.56 (14)	101215	10216LF
ecocirc XL 65-130	1, 1-1/4, 1-1/2	2	4.62 (117)	3.44 (87)	2.86 (73)	0.47 (12)	101005 - 101007 ⁺	101015LF - 101017LF ⁺
ecocirc XL 40-200	2	4	5.19 (132)	4.06 (103)	-	0.56 (14)	101215	10216LF
ecocirc XL 70-145	1, 1-1/4, 1-1/2	2	4.62 (117)	3.44 (87)	2.86 (73)	0.47 (12)	101005-101007 ⁺	101015LF-101017LF ⁺
ecocirc XL 40-275	3	4	6.00 (152)	5.06 (129)	-	0.53 (13)	101217	10218LF

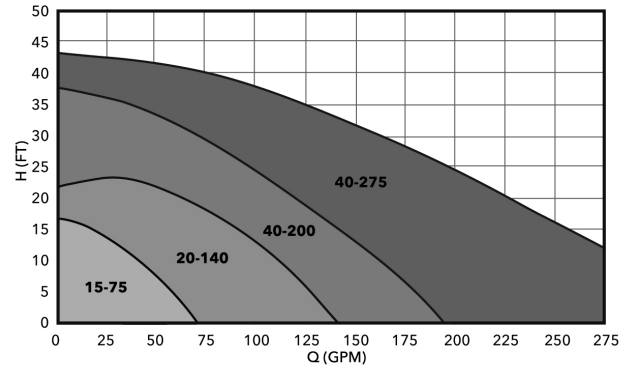
*Part numbers represent a Master Carton of 12 flanges with fasteners pack.
1-1/2" is the diameter of the suction and discharge for the 2-bolt models.



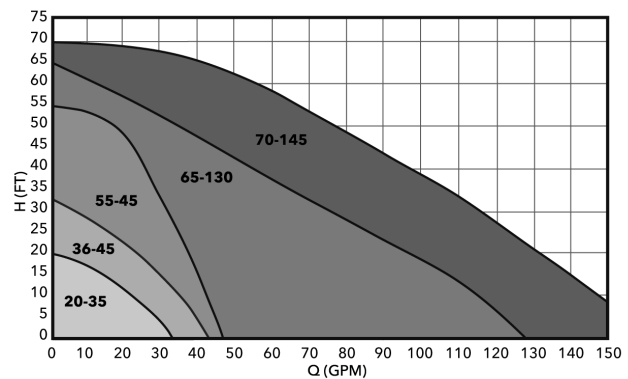
SAFETY STANDARDS AND PROTECTION

- Enclosure: Class 2, IP44 (equivalent to NEMA Type 2)
- UL Listed to UL 778; UL 1004-1, 1004-7; and UL 60730-1
- cUL Listed to C22.2 #108
- Electronically Thermally Protected (Integrated Motor Protection)
- Motor Insulation Class: F
- NSF 372 - ≤ 0.25% lead content by weight on wetted surfaces for Bronze pump models

ecocirc XL High Flow Performance Range

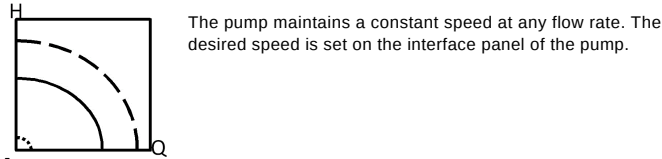


ecocirc XL High Head Performance Range

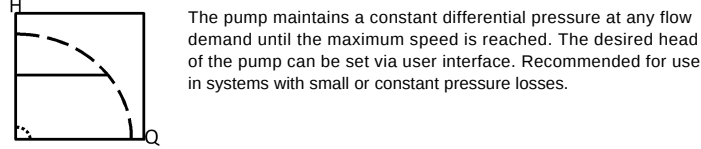


STANDARD OPERATING MODES

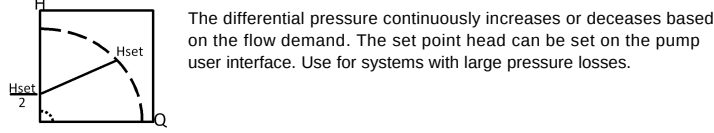
CONSTANT SPEED



CONSTANT PRESSURE (Δp-c)



PROPORTIONAL PRESSURE (Δp-v)



NIGHT MODE

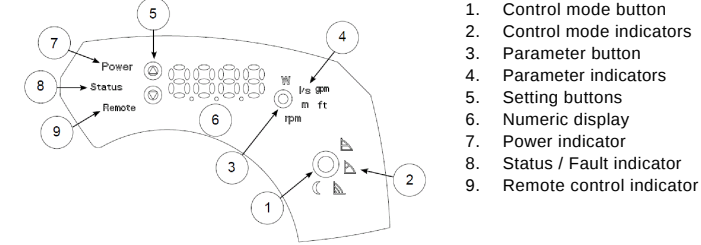
The pump will automatically reduce speed when there is an abrupt change in fluid temperature. The change in fluid temperature is from a boiler operating in night time setback mode. The built-in temperature sensor is used. (Fixed Speed, Constant Pressure, Proportional Pressure)

INPUT SIGNALS

- One 0-10V (Analog): Speed Control by external controller
- One 4-20mA (Analog): Connection with an external pressure sensor for the pressure control mode (two different pressure sensor ranges: 0-15 PSI and 0-30 PSI)
- One external temperature sensor input for Differential Temp operating mode. Sensor Type KTY38 PN:104502
- One built-in temperature sensor for Set Point Temp and Differential-Temp operating mode.

INPUT RELAY: Normally Open Contact Relay for Pump Start/Stop function which can be used with any thermostat.

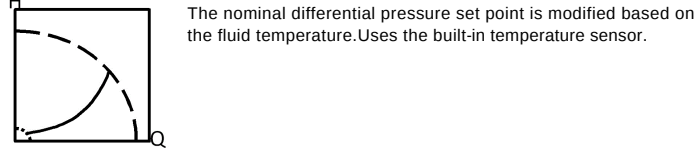
ONBOARD USER INTERFACE



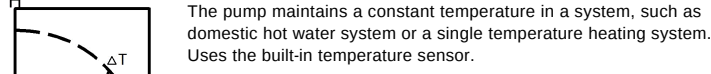
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TEMPERATURE INFLUENCED OPERATING MODES

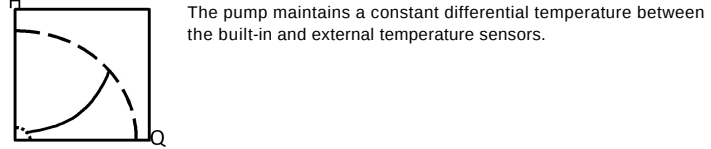
SET POINT TEMPERATURE (Δp-T)



SET POINT TEMPERATURE (T)



DIFFERENTIAL TEMPERATURE (ΔT)



REMOTE BUILDING MANAGEMENT SYSTEM CAPABILITIES

- The pump can be monitored or controlled by a signal from BMS (Building Management System). Built-in protocols are BACnet and Modbus. Direct connection to a PC is available.
- An optional Wi-Fi module can be added to create a short range Wi-Fi field for remote connection to the pump. An internet browser or an App can be used to program the advanced settings. Module PN: 104500

OUTPUT RELAY: Normally Open Dry Contact Relay for Fault Mode indication.

CONTROL MODE	ONBOARD USER INTERFACE	EXTERNAL USER INTERFACE	SETPOINT UNITS
CONSTANT SPEED	•	•	RPM
(Δp-c)	•	•	SETPOINT HEAD (ft/m)
(Δp-v)	•	•	SETPOINT HEAD (ft/m)
NIGHT MODE	•	•	-
(Δp-T)		•	SETPOINT HEAD and T
T		•	SETPOINT T
(ΔT)		•	SETPOINT ΔT

The numeric display will show the parameter indicated when running and will display any error and alarm codes.

