

No: _____

SUBMITTAL COVERSHEET
Nanuet UFSD –Phase 3 Projects

Architect:

KSQ Architects
215 W 40th Street, 15th Floor
New York, NY 10018

Owner:

Nanuet Union Free School District
101 Church Street
Nanuet, NY 10954

Construction Manager:

Jacobs
One Penn Plaza, 54th floor
New York, NY 10019

Contractor: Joe Lombardo Plumbing & Heating of Rockland Inc

Contract: Ron Lombardo

Address: 321 Spook Rock Road Suite 109A

845-357-6537
Telephone: _____

Suffern, New York 10901

Fax: 845-357-8529

School Name: Nanuet Union Free School District Phase 3 Bond Projects @ Barr Middle School & Nanuet High School

Type of Submittal:

Re-submittal: [] No [] Yes

[] Shop Drawings

[] Product Data

[] Schedule

[] Sample

[] _____

[] Test Report

[] Certificate

[] Color Sample

[] Warranty

[] _____

Submittal Description:

Product Name: hydronic pumps

Manufacturer: B&G

Subcontractor/Supplier: WALLACE EANNACE

References:

Spec. Section No.: 232123

Drawing No(s): _____

Paragraph: _____

Rm. or Detail No(s): _____

Architect's/ Engineer's Review Stamp

SAGE ENGINEERING ASSOCIATES, LLP

☒ Reviewed

☐ Furnish as Corrected

☐ Rejected

☐ Revise and Resubmit

☐ Submit Specified Item

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all Work in a safe and satisfactory manner.

SAGE LOG NO. M-4

Date: 9/21/2023

By: J. Venditte

Contractor Review Statement:

These documents have been checked for accuracy and coordinated with job conditions and Contract requirements by this office and have been found to comply with the provisions of the Contract Documents.

Ronald J. Lombardo

9-14-23

Name:

Date:

Company Name:

Joe Lombardo Plumbing & Heating of Rockland Inc.

Remarks:

Job/Project:	Representative: Wallace Eannace Associates		
ESP-Systemwize: WIZE-1E1ABFDA	Created On: 09/11/2023	Phone: (516) 454-9300	
Location/Tag:	Email: info-ny@wea-inc.com		
Engineer:	Submitted By:	Date:	
Contractor:	Approved By:	Date:	

High Efficiency Large Wet Rotor Circulator with ECM Motor

Series: ecocirc® XL

Model: 55-45

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



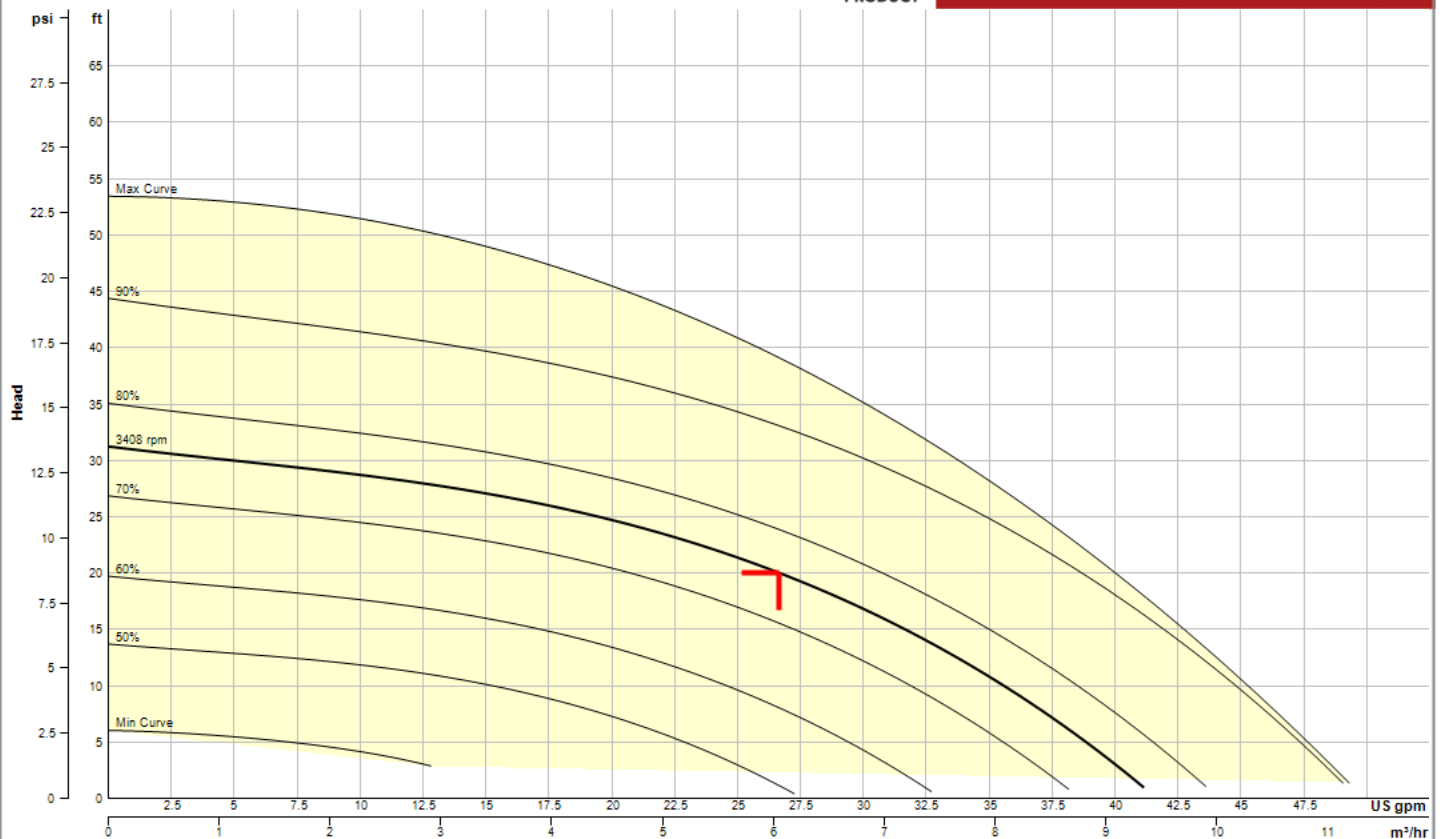
Selection Summary

Duty Point Flow	26.7 US gpm
Duty Point Head	20 ft
Control Head	6 ft
WTW Efficiency at Duty Point	40.6 %
WTW PLEV Efficiency	0.0 %
Motor Power	0.5
Electrical Input Power	0.332 hp
RPM @ Duty Point	3408 rpm
NPSHr	---
Minimum Shutoff Head	31.2 ft
Fluid Temperature	68 °F
Fluid Type	Water
Phase	1
Voltage	208-230
Weight (approx. - consult rep for exact)	22 lbs

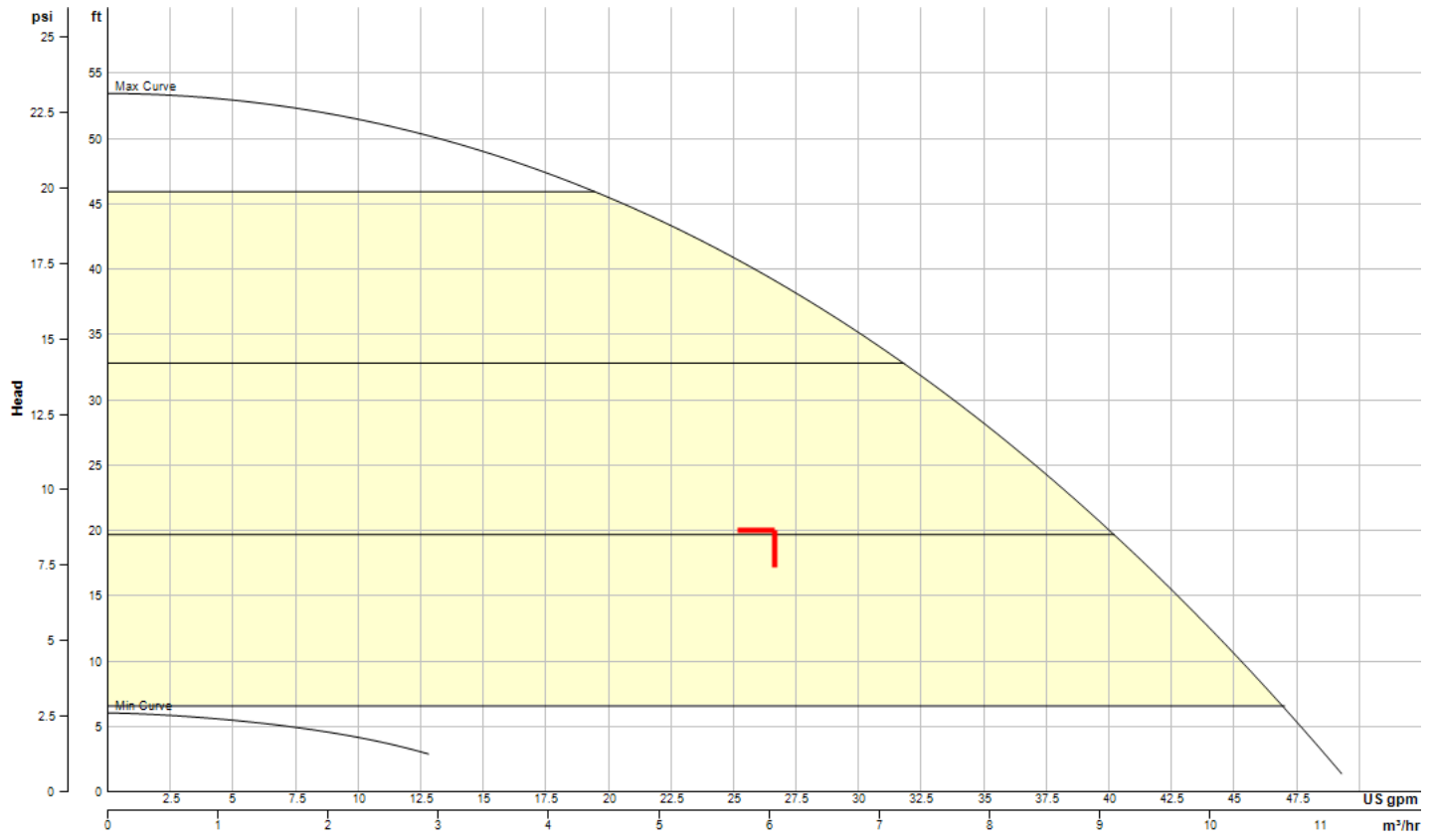
Performance Curve



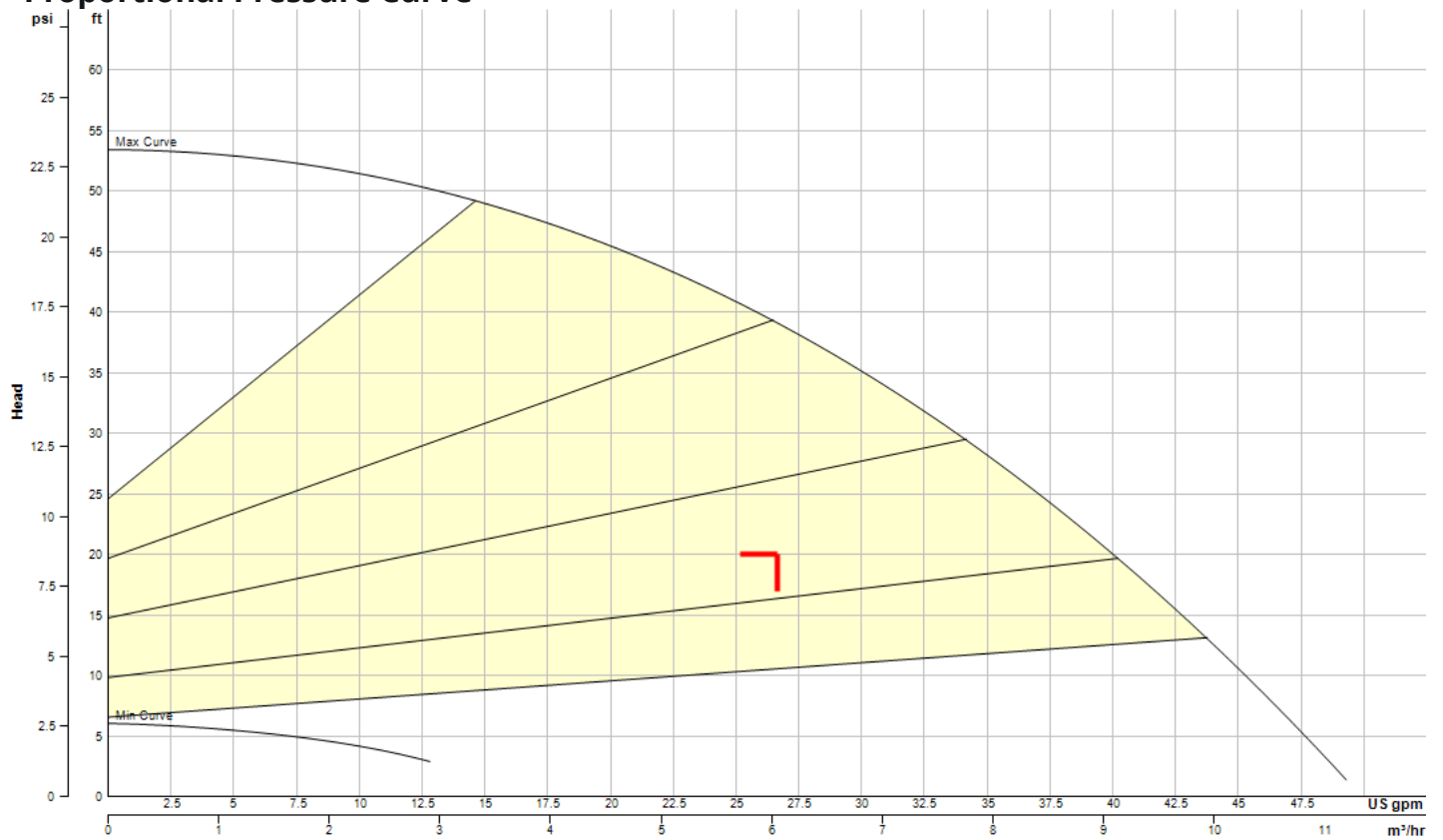
ecocirc XL
Ecocirc XL 55-45

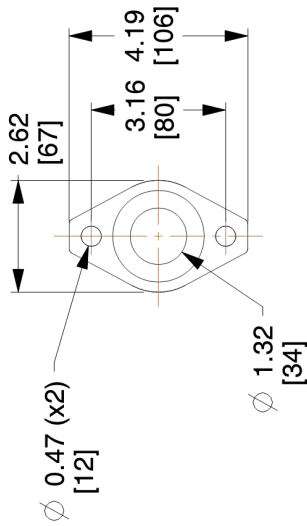


Constant Pressure Curve

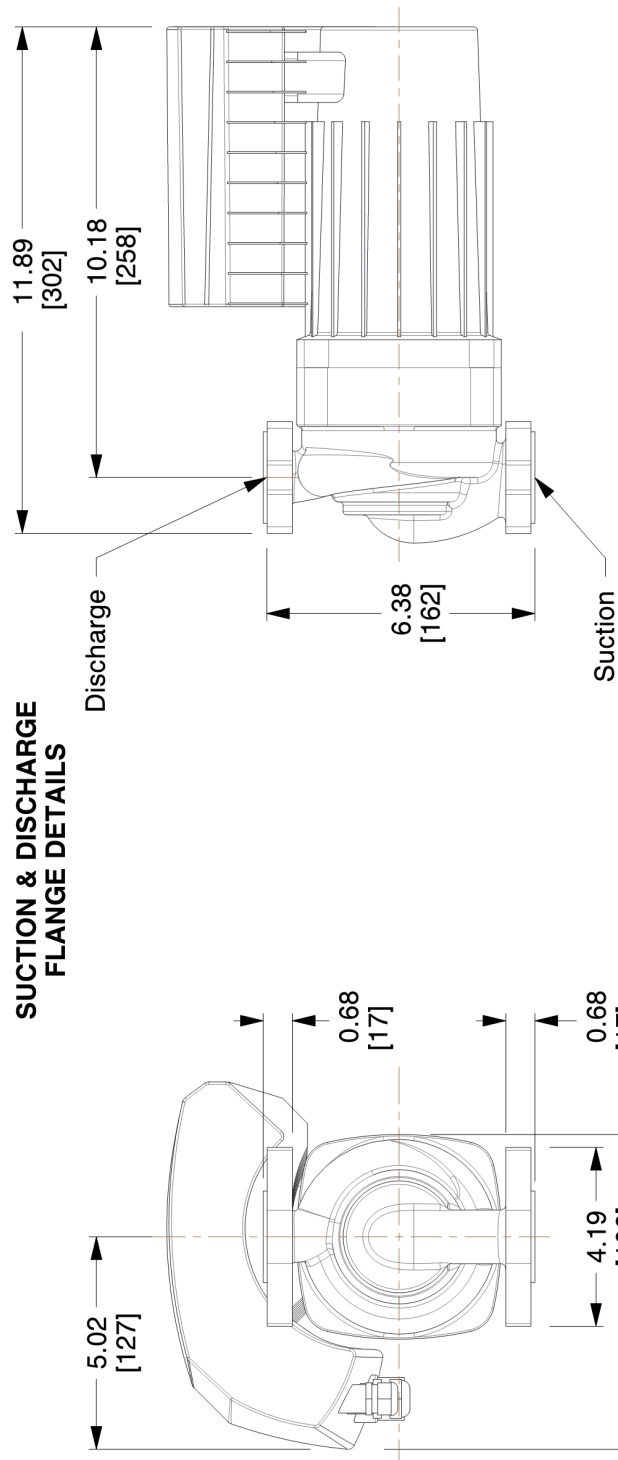


Proportional Pressure Curve





SUCTION & DISCHARGE FLANGE DETAILS



Dimensions are subject to change

Not to be used for construction unless certified



8200 N. Austin Ave.
Morton Grove, IL 60053, USA

BG-104306 ECOCIRC XL 55-45

Series ecocirc XL High Efficiency Large Wet Rotor Circulator with (ECM)

Motor Hp:1/2 | Voltage:208-230 | Phase:1 | Watts Range:30-500 | Amp Range:0.2-2.0

Dimensions : IN (mm)

Scale : N.T.S.

Submittal # : A-429C

Standard Materials of Construction

Pump Body Construction:	Cast Iron or Stainless Steel
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

Operating Data

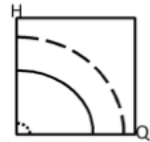
Max Working Pressure	175 psi (12 bar)
Minimum Working Temperature	14°F (-10°C)
Maximum Working Temperature	230°F (110°C)
Ambient Temperature Range	32°F - 104°F (0°C - 40°C)



STANDARD OPERATING MODES



CONSTANT SPEED



The pump maintains a constant speed at any flow rate. The desired speed is set on the interface panel of the pump.



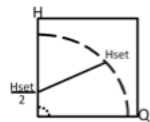
CONSTANT PRESSURE (Δp -c)



The pump maintains a constant differential pressure at any flow demand until the maximum speed is reached. The desired head of the pump can be set via user interface. Recommended for use in systems with small or constant pressure losses.



PROPORTIONAL PRESSURE (Δp -v)



The differential pressure continuously increases or decreases based on the flow demand. The set point head can be set on the pump user interface. Use for systems with large pressure losses.

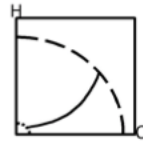


NIGHT MODE

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)

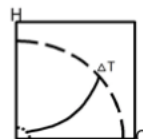
TEMPERATURE DEPENDENT OPERATING MODES

SET POINT TEMPERATURE (Δp -T)



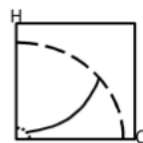
The nominal differential pressure set point is modified based on the fluid temperature. Uses the built-in temperature sensor.

SET POINT TEMPERATURE (T)



The pump maintains a constant temperature in a system, such as domestic hot water system or a single temperature heating system. Uses the built-in temperature sensor.

DIFFERENTIAL TEMPERATURE (ΔT)



The pump maintains a constant differential temperature between the built-in and external temperature sensors.

INPUT SIGNALS

- One 0-10V (Analog): Speed Control by external controller
- One 4-20mA (Analog): Connection with an external differential pressure sensor for pressure control mode (two differential pressure sensor ranges: 0-15 and 0-30 PSIG) on single phase models.
- Two absolute pressure sensors 4-20mA (Analog) input for three phase models.
- One external temperature sensor input for Differential Temp operating mode. Sensor Type: KYT38, P/N: 104502
- One built-in temperature sensor for Set Point Temp and Differential-Temp operating mode.

REMOTE BUILDING MANAGEMENT SYSTEM CAPABILITIES

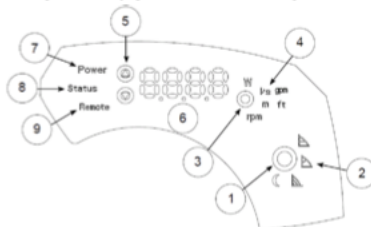
- The pump can be monitored or controlled by a signal from BMS (Building Management System). Built-in protocols are BACnet and Modbus. Direct connection to a PC is available.
- An optional wireless module can be added to create a short range wireless field for remote connection to the pump. An internet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

START/STOP CONNECTIONS: Connect to external dry contact relay or use with a thermostat.

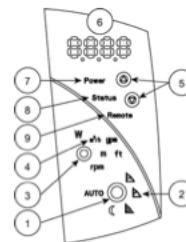
OUTPUT RELAY(single phase): Normally Open Dry Contact Relay for Fault Mode indication.

OUTPUT RELAYS (three phase): Two Normally Open Dry Contact Relays for Fault Mode and Run indication.

ONBOARD USER INTERFACE



- Control mode button
- Control mode indicators
- Parameter button
- Parameter indicators
- Setting buttons
- Numeric display
- Power indicator
- Status / Fault indicator
- Remote control indicator



Job/Project:	Representative: Wallace Eannace Associates		
ESP-Systemwize: WIZE-199B4760	Created On: 09/11/2023	Phone: (516) 454-9300	
Location/Tag:	Email: info-ny@wea-inc.com		
Engineer:	Submitted By:	Date:	
Contractor:	Approved By:	Date:	

High Efficiency Large Wet Rotor Circulator with ECM Motor

Series: ecocirc® XL

Model: 65-130

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



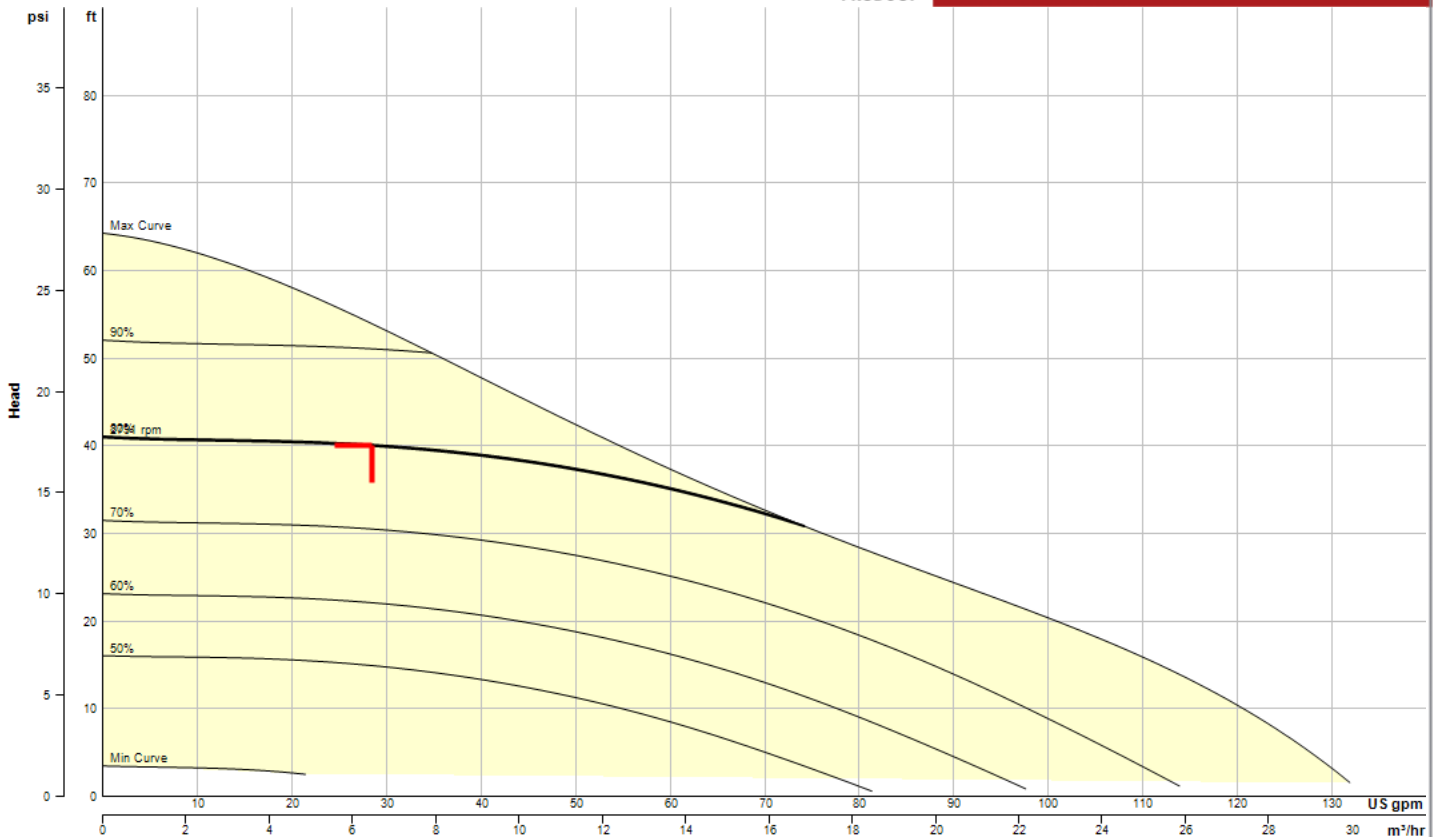
Selection Summary

Duty Point Flow	28.5 US gpm
Duty Point Head	40 ft
Control Head	12 ft
WTW Efficiency at Duty Point	39.7 %
WTW PLEV Efficiency	0.0 %
Motor Power	1.0
Electrical Input Power	0.723 hp
RPM @ Duty Point	2791 rpm
NPSHr	---
Minimum Shutoff Head	41 ft
Fluid Temperature	68 °F
Fluid Type	Water
Phase	1
Voltage	208-230
Weight (approx. - consult rep for exact)	35 lbs

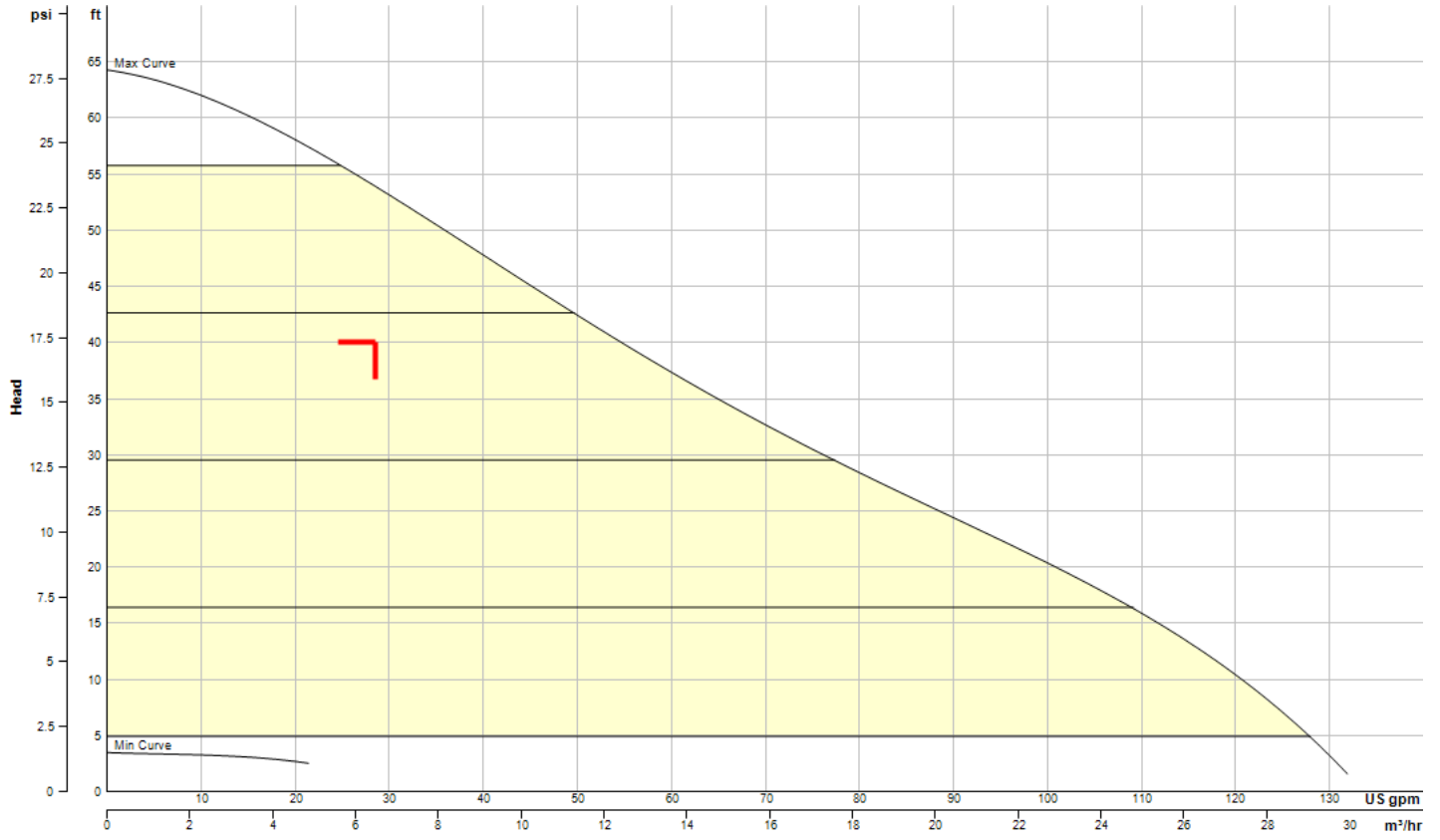
Performance Curve



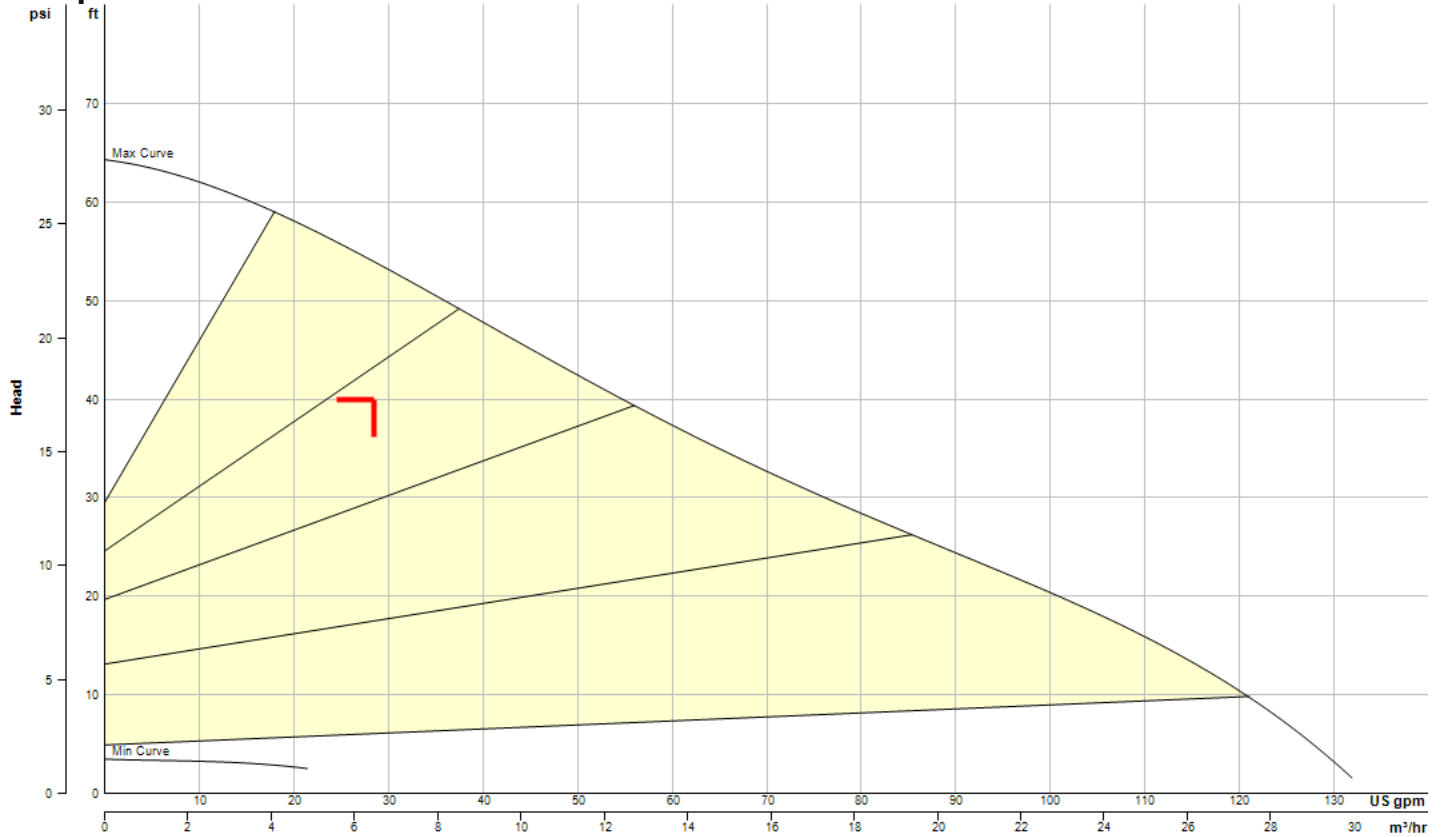
ecocirc XL
Ecocirc XL 65-130

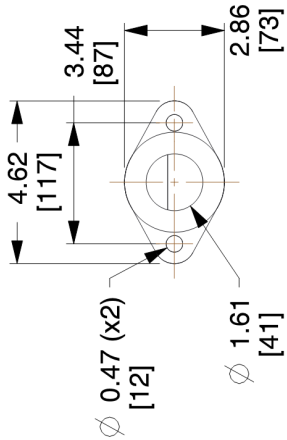


Constant Pressure Curve

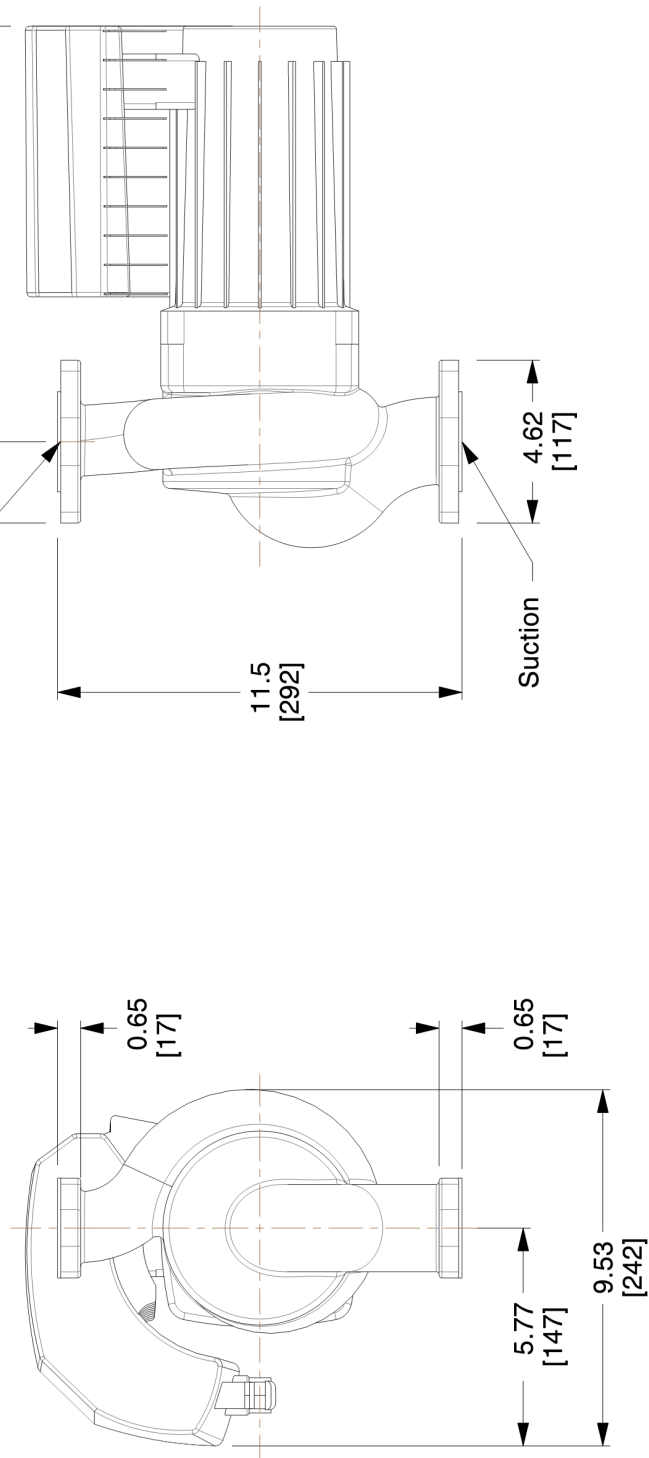


Proportional Pressure Curve





SUCTION & DISCHARGE FLANGE DETAILS



8200 N. Austin Ave.
Morton Grove, IL 60053, USA

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Dimensions are subject to change
Not to be used for construction unless certified

BG-104309 ECOCIRC XL 65-130

Series ecocirc XL High Efficiency Large Wet Rotor Circulator with (ECM)

Motor Hp:1 | Voltage:208-230 | Phase:1 | Watts Range:45-825 | Amp Range:0.5-3.5

Dimensions : IN (mm)

Scale : N.T.S.

Submittal # : A-429C

Standard Materials of Construction

Pump Body Construction:	Cast Iron or Stainless Steel
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

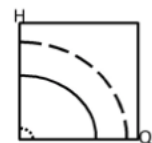
Operating Data

Max 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)



STANDARD OPERATING MODES

CONSTANT SPEED



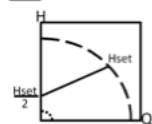
The pump maintains a constant speed at any flow rate. The desired speed is set on the interface panel of the pump.

CONSTANT PRESSURE (Δp -c)



The pump maintains a constant differential pressure at any flow demand until the maximum speed is reached. The desired head of the pump can be set via user interface. Recommended for use in systems with small or constant pressure losses.

PROPORTIONAL PRESSURE (Δp -v)



The differential pressure continuously increases or decreases based on the flow demand. The set point head can be set on the pump user interface. Use for systems with large pressure losses.

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)

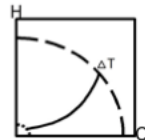
TEMPERATURE DEPENDENT OPERATING MODES

SET POINT TEMPERATURE (Δp -T)



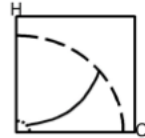
The nominal differential pressure set point is modified based on the fluid temperature. Uses the built-in temperature sensor.

SET POINT TEMPERATURE (T)



The pump maintains a constant temperature in a system, such as domestic hot water system or a single temperature heating system. Uses the built-in temperature sensor.

DIFFERENTIAL TEMPERATURE (ΔT)



The pump maintains a constant differential temperature between the built-in and external temperature sensors.

INPUT SIGNALS

- One 0-10V (Analog): Speed Control by external controller
- One 4-20mA (Analog): Connection with an external differential pressure sensor for pressure control mode (two differential pressure sensor ranges: 0-15 and 0-30 PSIG) on single phase models.
- Two absolute pressure sensors 4-20mA (Analog) input for three phase models.
- One external temperature sensor input for Differential Temp operating mode. Sensor Type: KYT38, P/N: 104502
- One built-in temperature sensor for Set Point Temp and Differential-Temp operating mode.

REMOTE BUILDING MANAGEMENT SYSTEM CAPABILITIES

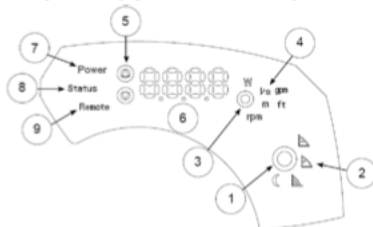
- The pump can be monitored or controlled by a signal from BMS (Building Management System). Built-in protocols are BACnet and Modbus. Direct connection to a PC is available.
- An optional wireless module can be added to create a short range wireless field for remote connection to the pump. An internet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

START/STOP CONNECTIONS: Connect to external dry contact relay or use with a thermostat.

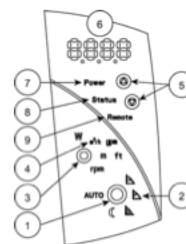
OUTPUT RELAY(single phase): Normally Open Dry Contact Relay for Fault Mode indication.

OUTPUT RELAYS (three phase): Two Normally Open Dry Contact Relays for Fault Mode and Run indication.

ONBOARD USER INTERFACE



- Control mode button
- Control mode indicators
- Parameter button
- Parameter indicators
- Setting buttons
- Numeric display
- Power indicator
- Status / Fault indicator
- Remote control indicator



JOB: 103 Church Street - Nanuet - BUY

REPRESENTATIVE: Wallace Eannace Associates, Inc

UNIT TAG: P-HS-3-4

ENGINEER: Sage Engineering

CONTRACTOR:
ORDER NO.
SUBMITTED BY: Alex Curran

APPROVED BY:
DATE: 9/11/2023

DATE:
DATE:


Series e-80SC 4x4x11B Split-Coupled In-Line Centrifugal Pumps

P-HS-3-4
DESCRIPTION:

The Series e-80SC is a highly efficient, heavy duty, split coupled pump designed for vertical in-line mounting.

SPECIFICATIONS

FLOW	500	HEAD	85
HP	20	RPM	1800
VOLTS		200	
CYCLE	60	INPUT PHASE	3
ENCLOSURE	Baldor ODP NEMA Premium w/Shaft Grounding Rings Inverter Duty		
APPROX. WEIGHT		675	
SPECIALS			

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE

- ☒ 175 psi (12 bar) with 125# ANSI Flange
☐ 250 psi (17 bar) with 250# ANSI Flange drilling (requires e-80-S)

MOUNTING
☒ In-Line Piping ☐ Flange Supports

PUMP VARIABLE SPEED CONTROL

- ☐ Integrated Technologic® Sensorless Control (ITSC)
☐ Integrated Technologic® (IT)
☐ External input by others
☐ Pressure Sensor(s)
☐ Differential Pressure Sensor(s)
☐ Flow Sensor(s) ☐ By Others

PARALLEL PUMPING SYSTEM

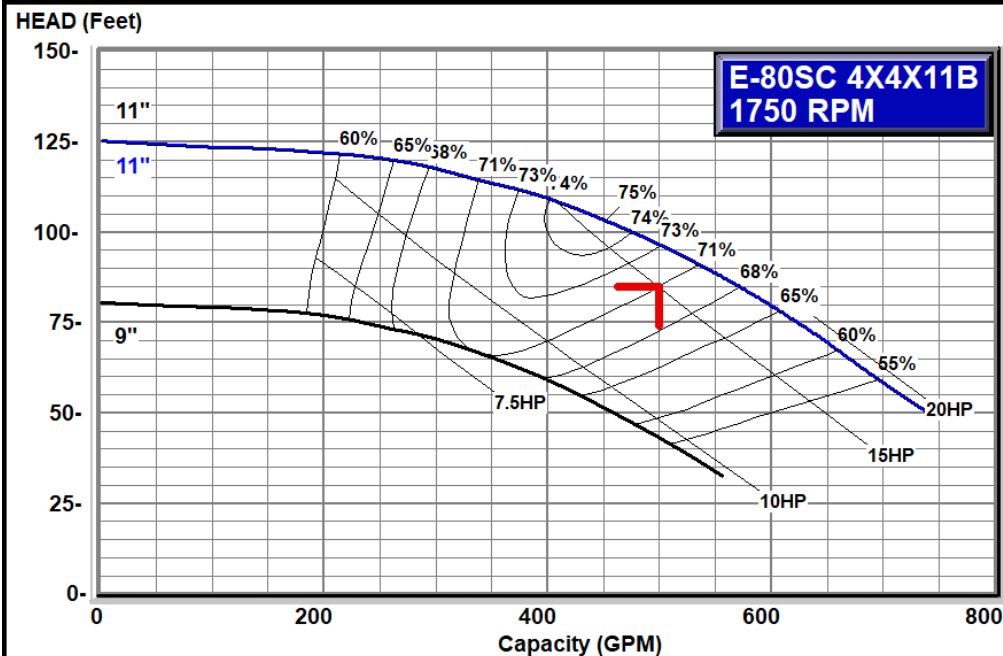
- ☐ Sensorless Control (ITSC)
☐ Sensored Control (IT)

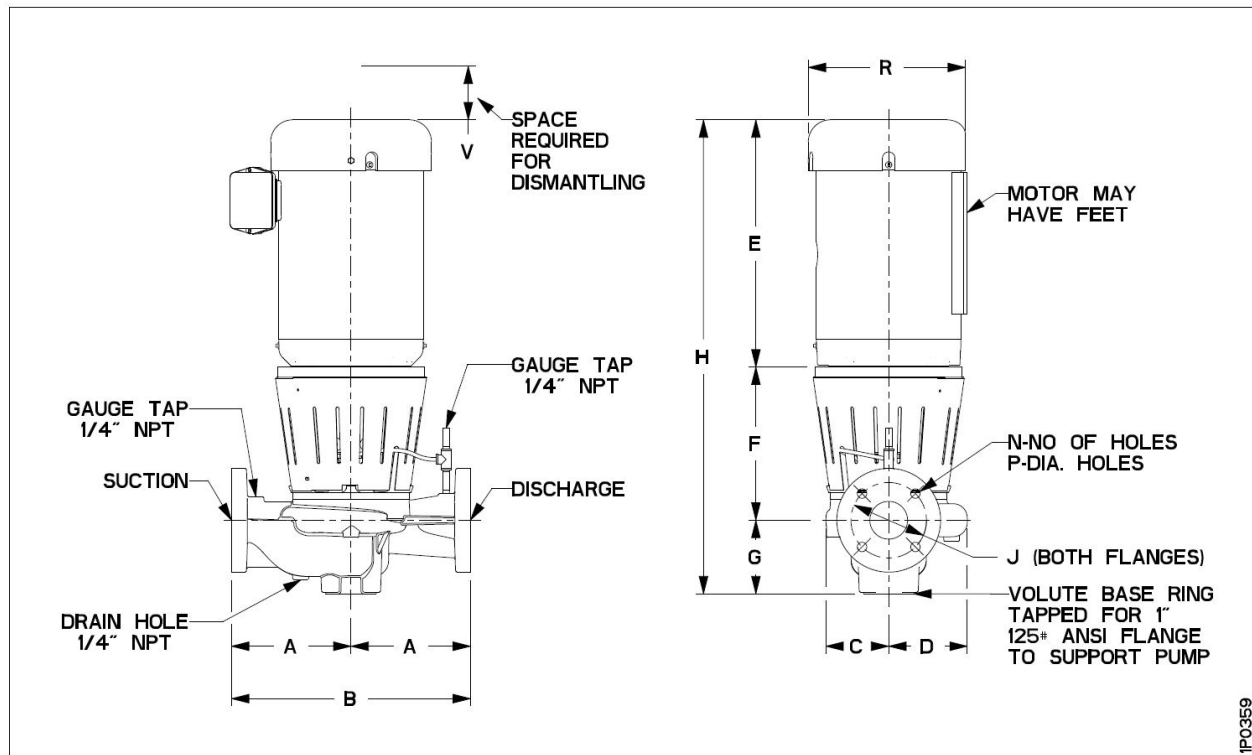
PARALLEL SENSORLESS CONTROLLER

- ☐ Pump Mounted
☐ Wall Mounted
 _____ Pumps in Parallel

TYPE OF FLUSHED SEAL

- ☒ Standard Inside Unitized-175# (EPR/Carbon-Ceramic)
 -20° to 250°F (-29° to 121°C)
 Max working pressure 175 psi (12 bar)
☐ Inside Unitized (EPR/Carbon-Tungsten Carbide)-250#
 -20° to 250°F (-29° to 121°C)
 Max working pressure 250 psi (17 bar)
☐ Inside Unitized (FKM/Carbon-Ceramic)
 -10° to 225°F (-23° to 107°C)
 Max working pressure 250 psi (17 bar)
☐ Outside (EPR/Carbon-Ceramic)-250#
 -20° to 250°F (-29° to 121°C)
 Max working pressure 250 psi (17 bar)
☐ Outside (FKM/Carbon-Ceramic)-250#
 -10° to 225°F (-23° to 107°C)



Design Capacity = 500.0 GPM
Design Head = 85.0 Feet
Suction Size = 4 "
Discharge Size = 4 "
Min. Imp. Dia. = 7.5 "
Max. Imp. Dia. = 11 "
Cut Dia. = 11 "
Motor Size = 20 HP



In-Line Piping

DIMENSIONS - Inches (mm)

TC SHAFT MOTORS

MOTOR FRAME	A	B	C	D	E (max)	F	G	H (max)	125# ANSI			250# ANSI			R	V (min)	Suct/Disch Gauge Taps (NPT)	Drain Tap (NPT)
									J	N	P	J	N	P				
213TC	13.00 (330)	26.00 (660)	7.01 (178)	8.22 (209)	14.88 (378)	11.44 (291)	7.50 (191)	33.81 (859)	7.50 (191)	8 (19)	0.75 (19)	7.88 (200)	8 (22)	0.88 (22)	10.63 (270)	5.75 (146)	0.25	0.25
215TC	13.00 (330)	26.00 (660)	7.01 (178)	8.22 (209)	14.88 (378)	11.44 (291)	7.50 (191)	33.81 (859)	7.50 (191)	8 (19)	0.75 (19)	7.88 (200)	8 (22)	0.88 (22)	10.63 (270)	5.75 (146)	0.25	0.25
254TC	13.00 (330)	26.00 (660)	7.01 (178)	8.22 (209)	19.44 (494)	11.44 (291)	7.50 (191)	38.38 (975)	7.50 (191)	8 (19)	0.75 (19)	7.88 (200)	8 (22)	0.88 (22)	12.31 (313)	5.75 (146)	0.25	0.25
 256TC	13.00 (330)	26.00 (660)	7.01 (178)	8.22 (209)	21.19 (538)	11.44 (291)	7.50 (191)	40.13 (1019)	7.50 (191)	8 (19)	0.75 (19)	7.88 (200)	8 (22)	0.88 (22)	12.31 (313)	5.75 (146)	0.25	0.25
284TC	13.00 (330)	26.00 (660)	7.01 (178)	8.22 (209)	22.06 (560)	13.50 (343)	7.50 (191)	43.06 (1094)	7.50 (191)	8 (19)	0.75 (19)	7.88 (200)	8 (22)	0.88 (22)	14.13 (359)	5.75 (146)	0.25	0.25

Dimensions are subject to change. Not to be used for construction purposes unless certified.

NOTE: For TEFC add 1-1/2" to dimensions E & H.