diamond schmitt

SUBMITTAL REVIEW FORM

384 Adelaide Street West, Suite 100
Toronto, ON M5V 1R7
t: 416 862 8800

1050 West Pender Street, Suite 2010
Vancouver, BC V6E 3S7
t: 604 674 0866

1776 Broadway, Suite 2200
New York, NY 10019
t: 212 710 4329

www.dsai.ca
info@dsai.ca

To:	Rafat General Contractor Inc. 8850 George Bolton Parkway Caledon, ON L7E 2Y4	Submittal No:	033
		Project No:	201014
		File No:	4-6-23
Attention:	Pino Antelope, Bashar Mikha	Date:	December 20, 2023

Project: Chris Gibson Recreation Centre

The Architect's review is for the sole purpose of ascertaining conformance with the general design concept and for general arrangement. This review shall not mean approval of the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for all dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes, quantities or to techniques of construction and installation and for co-ordination with related work.

Contractor Package #	Spec Section	Description	Reviewed by	Status
033	23 20 00	HVAC Pumps	DSA	**RN**

Status Legend: **R** – Reviewed **RN** – Reviewed As Noted **RR** – Revise and Resubmit **N** – Not Reviewed

Comments: Refer to Mechanical Consultant's review comments throughout Submittal.

Per: Patrick Johnson

RAFAT

8850 GEORGE BOLTON PARKWAY, CALEDON, ONTARIO L7E 2Y4

Shop Drawings Transmittal No:	033

Project Name:	Renovation of Chris Gibson Recreation Centre Drive	**Project No.**	T2023-125
		DATE:	07-Dec-2023
		Submittal Required Return Date:	28-Dec-2023
Submittal No:	033		

Title:	HVAC Pumps

To:	Patrick Johnson Contract Administrator Halima Namugga Admin Project Coordinator 384 Adelaide Street West, Suite 100 Toronto, Ontario, Canada M5V 1R7 PJohnson@dsai.ca

Checked by:	**Hasan Zaidi (Rafat General Contractor Inc/Corebuild)**	**To Be Reviewed By the Following Consutlants**	1. DSI 2. IG

Submitted for:	REVIEW

Consultants Response	

Please refer to Page 2 note section for breakdown of alternative material & different pipe sizes submitted. Rafat

RAFAT

SUBMITTAL REVIEW

For general compliance with the design concept and contract documents. Subcontractor is solely responsible for jobsite correlation and correctness of all ratings, sizings, type, style, dimensions, finish, quantities and satisfactory fitting to other work and equipment. This review does not change the intent of the contract document.

- ■ Reviewed
- ☐ Make Corrections
- ☐ Resubmit
- ☐ Rejected

Per: HassanZaidi

Date: 07-Dec-2023

SUBMITTAL REVIEW

INTROBA
380 Wellington Street West
Toronto, ON
M5V 1E3

Introba

- ☐ REVIEWED
- ☑ REVIEWED AS NOTED
- ☐ REJECTED - REVISE AND RESUBMIT
- ☐ NOT REVIEWED

CHECKED BY: ILITTLEY

DISCIPLINE: M&E

DATE: 12/14/2023

REVIEWED FOR GENERAL DESIGN AND COMPLIANCE WITH CONTRACT DOCUMENTS. DIMENSIONS AND SUITABILITY FOR SITE CONDITIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REVIEW OF THE DRAWING SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS.

IRB Comments:
- Refer to comments on shop drawing.
- Provide electrical MOCP so we can confirm panel breaker sizes.
- Coordinate with electrical contractor.
- Install all pumps and accessories as per manufacturer's requirements.

CFMS-WEST CONSULTING INC. Serving South Western Ontario

The receipt/review of this submission is for the sole purpose of reviewing general conformance with the construction and/or design concepts only. The review of this submission does not, in any way, relieve the contractor of the complete responsibility for errors or omissions, or for non-compliance with the contract documents. It also does not constitute authority to vary the requirements of the contract documents as they relate to this submission.

RESPONSE: - Contractor to coordinate with Div.25 contractor during startup of variable frequency drives to confirm integration.

REVIEWED BY: Kevin Pellerin

DATE REVIEWED: December 18, 2023

200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Package 23-214 - 013

Dec 7, 2023

PROJECT NAME	PROJECT NUMBER	PROJECT ADDRESS	DUE DATE
23-214 CHRIS GIBSON REC CENTRE	23-214	125 McLaughlin Rd N, Brampton, ON, L6X 1N9	Dec 20, 2023

To

NAME	EMAIL
Hassan Zaid	hzaidi@corebuildconstruction.com
COMPANY	**ADDRESS**
RAFAT GENERAL CONTRACTOR INC.	8850 GEORGE BOLTON PKWY, BOLTON, ON, L7E 2Y4

From

NAME	EMAIL
JOSHUA STEPHENSON	josh.s@consultmechanical.com
COMPANY	**ADDRESS**
Consult Mechanical	200 Tesma Way, Vaughan, ON, L4K 5C2

Subject

HVAC Pumps

Notes

PH-01 is 2.5" pipe size, not 3"
PH-02 is 2.5" pipe size, not 3". E80 submitted, not E60
PH-03 is 2.5" pipe size, not 3"
PH-04 is E60 submitted, not E80
PH-07 is 3" pipe size, not 2.5"
PH-10 is 2.5" pipe size, not 2"
PH-013 is 3" pipe size, not 2.5"
PH-16 is 2.5" pipe size, not 2"
PH-19 has a different model submitted with lower voltage

Sanitary pumps to be submitted separately

Package Items

Spec	Subsection	Description	Type
Mechanical	HVAC	HVAC Pumps PH-01 to PH-22 RP-1	Shop Drawings

200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Item Information

Dec 7, 2023

Spec Section

Mechanical

Sub Section

HVAC

Type

Shop Drawings

Description

HVAC Pumps
PH-01 to PH-22
RP-1

Submittal # 72836	APPROVAL REQUIRED

Project 22006063-MECH-4- Chris Gibson Recreation Centre
Leader Nevin Wong
Job Site Chris Gipson Recreation Centre
Submission Date 2023-12-05
Sold To CONSULT MECH
Submitted By Boran Dal

Contacts

Role	Customer	Our Rep
Mechanical Contractor	Con-Sult Mechanical Inc.*	Nevin Wong
Designer	Integral Group	Graham Coote

Deliverables

Track #	243759	243761	243762
Tag	PH-01/02/03, 04, 05/06, 07, 08/09, 10, 11/12, 13, 14/15, 16, 17/18, 22	PH-01/02/03, 05/06, 08/09, 10, 11/12, 14/15, 16, 17/18	PH-01/02/03, 05/06, 08/09, 10, 11/12, 14/15, 16, 17/18
Description	Inline Pumps	Suction Diffuser	Triple Duty Valves
Quantity	19	15	15
Production Lead Time	28 - 32 Weeks	28 - 32 Weeks	28 - 32 Weeks
Revision #	0	0	0

Track #	243760	243763	
Tag	PH-19	PH-20,21, RP-1	
Description	ESV	Eco Circ	
Quantity	1	3	
Production Lead Time	28 - 32 Weeks	28 - 32 Weeks	
Revision #	0	0	

Attention:

1) HTS will provide equipment in accordance with the attached shop drawings.
2) Upon approved submittal and customer release, HTS will release equipment to fabrication per the published lead times. Any storage fees associated with project schedule changes will be the responsibility of the purchaser.
3) HTS can provide freight and logistics to the purchaser as an added benefit of doing business with HTS. When freight is received by the purchaser, any noticeable damage must be recorded. Otherwise, HTS is not responsible for subsequent damage claims.

Approval Stamps

Bell & Gossett
a xylem brand

PH-01/02/03

SUBMITTAL
B-552.10A

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-01/02/03
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80SC
2.5x2.5x9.5C
Split-Coupled In-Line Centrifugal Pumps
575V/3PH/60HZ

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

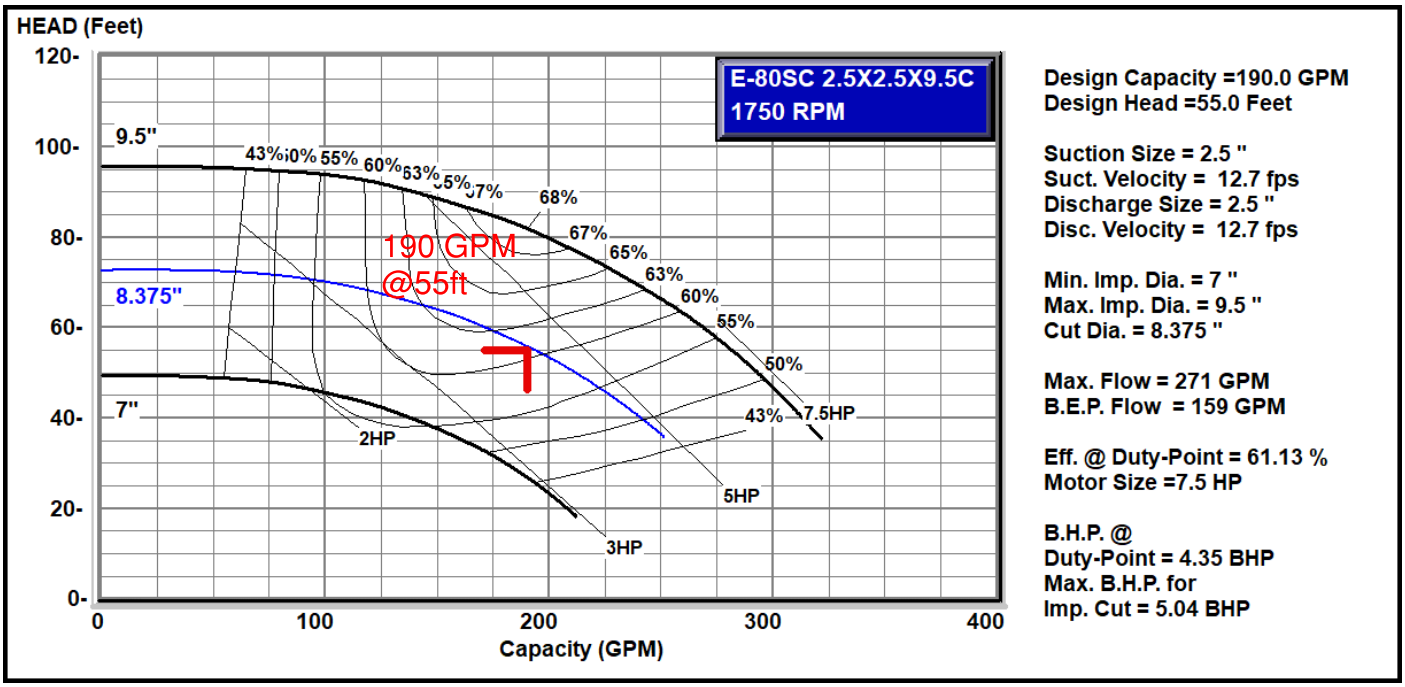
SPECIFICATIONS

FLOW	190	HEAD	55
HP	7.5	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	320		
SPECIALS	Cuno Filter Kit (200F 125psi)		

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted
MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with
125# ANSI Flange

MOUNTING
☒ In-Line Piping
PUMP VARIABLE SPEED CONTROL

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)



Design Capacity =190.0 GPM
Design Head =55.0 Feet

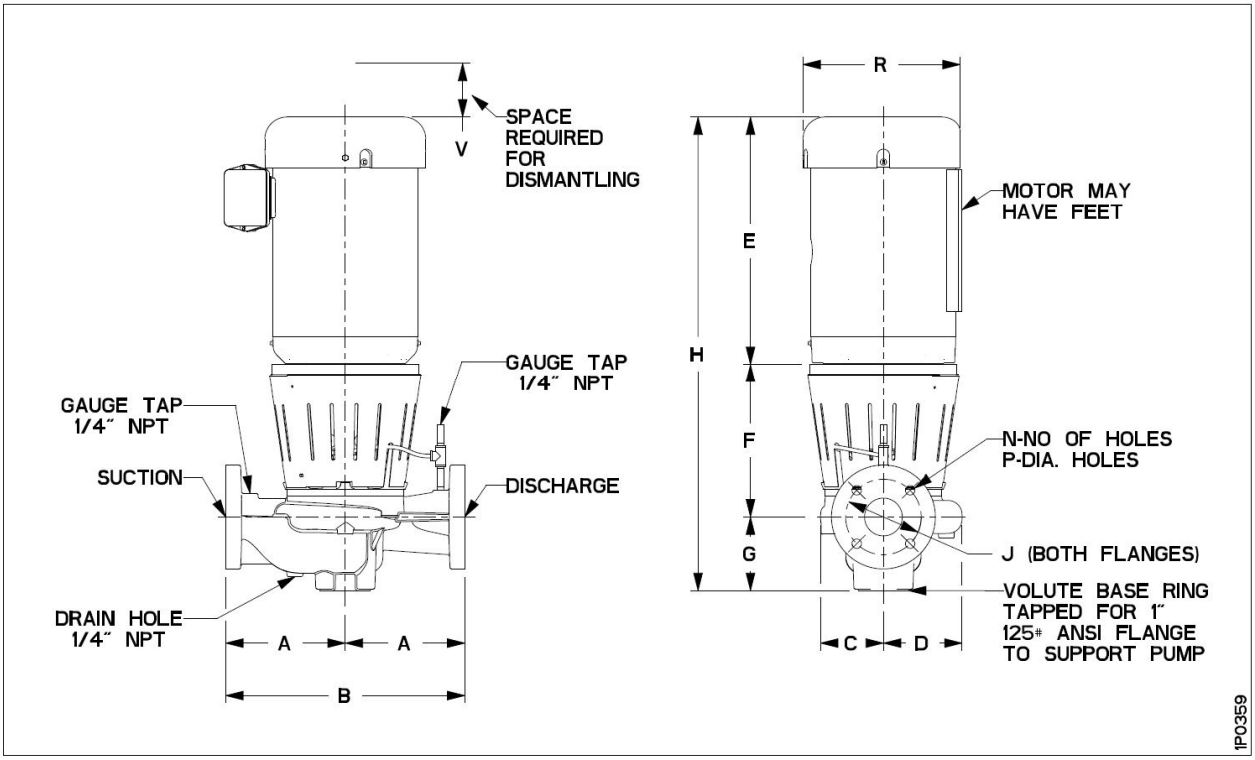
Suction Size = 2.5 "
Suct. Velocity = 12.7 fps
Discharge Size = 2.5 "
Disc. Velocity = 12.7 fps

Min. Imp. Dia. = 7 "
Max. Imp. Dia. = 9.5 "
Cut Dia. = 8.375 "

Max. Flow = 271 GPM
B.E.P. Flow = 159 GPM

Eff. @ Duty-Point = 61.13 %
Motor Size =7.5 HP

B.H.P. @
Duty-Point = 4.35 BHP
Max. B.H.P. for
Imp. Cut = 5.04 BHP



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				
143TC	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	12.05 (306)	11.64 (296)	6.00 (152)	29.69 (754)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	7.19 (183)	4.75 (121)	0.25	0.25
145TC	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	12.05 (306)	11.64 (296)	6.00 (152)	29.69 (754)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	7.19 (183)	4.75 (121)	0.25	0.25
182TC	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	12.25 (311)	11.89 (302)	6.00 (152)	30.14 (766)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	8.75 (222)	4.75 (121)	0.25	0.25
184TC	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	13.25 (337)	11.89 (302)	6.00 (152)	31.14 (791)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	8.75 (222)	4.75 (121)	0.25	0.25
213TC	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	14.88 (378)	11.89 (302)	6.00 (152)	32.76 (832)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	10.63 (270)	4.75 (121)	0.25	0.25
215TC	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	14.88 (378)	11.89 (302)	6.00 (152)	32.76 (832)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	10.63 (270)	4.75 (121)	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.

Xylem Inc.
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Phone: (847)966-3700 Fax: (847)965-8379
www.xyleminc.com/bellgossett

Bell & Gossett
a xylem brand

PH-04

SUBMITTAL
B-143.10

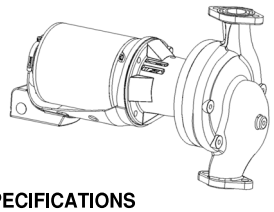
JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-04
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:



575V/3PH/60HZ
1.5x1.5x6.25
Series e-60®
Maintenance Free In-Line Mounted Pump

SPECIFICATIONS

FLOW	65	HEAD	30
HP	1.5	RPM	1800
VOLTS	575		
CYCLE	60	PHASE	3
ENCLOSURE	ODP Standard Efficient		
APPROX. WEIGHT	88		
SPECIALS			

MATERIALS OF CONSTRUCTION

☒ BRONZE FITTED

FEATURES

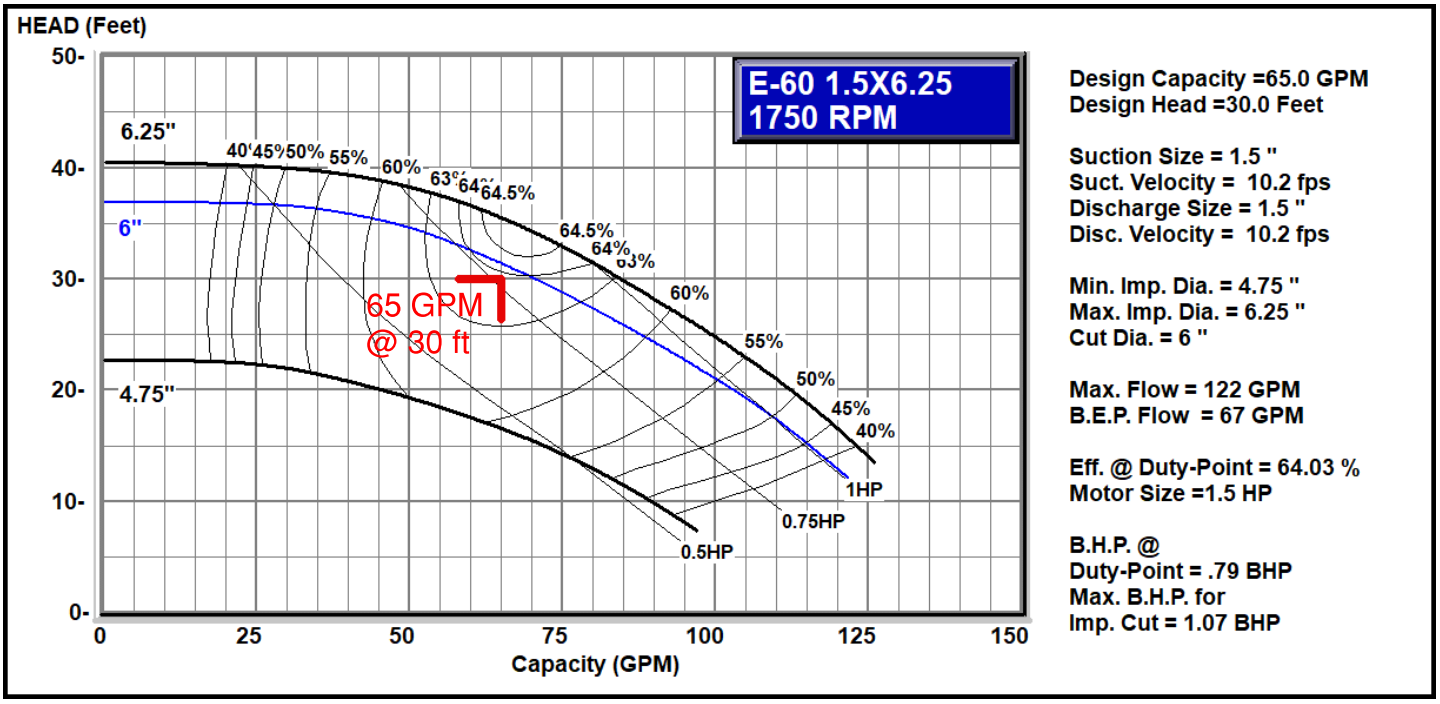
☒ MAINTENANCE FREE PUMP
☒ UNITIZED INTERNALLY SELF-FLUSHING MECHANICAL SEAL
☒ XLII® BEARING LUBRICATION SYSTEM
☒ THREE YEAR WARRANTY
☒ FACTORY TEST

WORKING PRESSURE

☒ 175 psi (12 bar) W.P.

TYPE OF SEAL

☒ **Standard Seal**
EPR/Carbon/Silicon Carbide
-20 °F TO 250 °F(-29 °C TO 121 °C)



Design Capacity =65.0 GPM
Design Head =30.0 Feet

Suction Size = 1.5 "
Suct. Velocity = 10.2 fps
Discharge Size = 1.5 "
Disc. Velocity = 10.2 fps

Min. Imp. Dia. = 4.75 "
Max. Imp. Dia. = 6.25 "
Cut Dia. = 6 "

Max. Flow = 122 GPM
B.E.P. Flow = 67 GPM

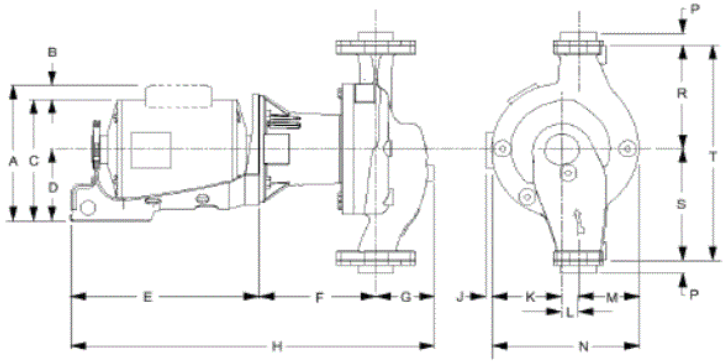
Eff. @ Duty-Point = 64.03 %
Motor Size =1.5 HP

B.H.P. @
Duty-Point = .79 BHP
Max. B.H.P. for
Imp. Cut = 1.07 BHP

Series e-60 1.5x1.5x6.25 Centrifugal Pump Submittal

PH-04

B-143.10



SUCTION AND DISCHARGE SIZE INCHES NPT	PUMP DIMENSIONS IN INCHES (MM)									
	F	G	K	L	M	N	P	R	S	T
1.5	6.69	3.38	4.06	1	3.56	8.56	0.75	6.5	7	13.5
	(170)	(86)	(103)	(25)	(90)	(217)	(19)	(165)	(178)	(343)

MAXIMUM WORKING PRESSURE 175PSI (12BAR)

ALL MOTORS 1750RPM

DIMENSIONS - INCHES (MM)

MOTOR HP		MOTOR DIMENSIONS - INCHES (MM)					
HP	PHASE	A (max)	B	C	D	E	H
1/2	1	10.12 (257)	2.25 (57)	7.88 (200)	4.38 (111)	11 (279)	21.31 (541)
1/2	3	7.88 (200)	-	7.88 (200)	4.38 (111)	11 (279)	21.31 (541)
3/4	1	10.12 (257)	2.25 (57)	7.88 (200)	4.38 (111)	11 (279)	21.31 (541)
3/4	3	7.88 (200)	-	7.88 (200)	4.38 (111)	11 (279)	21.31 (541)
1	1	10.12 (257)	2.25 (57)	7.88 (200)	4.38 (111)	11 (279)	21.31 (541)
1	3	7.88 (200)	-	7.88 (200)	4.38 (111)	11 (279)	21.31 (541)
1.5	1	8.75 (222)	2.25 (57)	6.5 (165)	3.25 (83)	10.75 (273)	21.38 (543)
1.5	3	6.5 (165)	-	6.5 (165)	3.25 (83)	10.75 (273)	21.38 (543)

DIMENSIONS ARE SUBJECT TO CHANGE. NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS CERTIFIED.

INCLUDES COMPANION FLANGES.

<

Xylem Inc.
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Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
www.bellgossett.com

xylem
Let's Solve Water

PH-05/06

Bell & Gossett
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SUBMITTAL
B-552.20A

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-05/06
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80SC

4x4x9.5B

Split-Coupled In-Line Centrifugal Pumps

575V/3PH/60HZ

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

SPECIFICATIONS

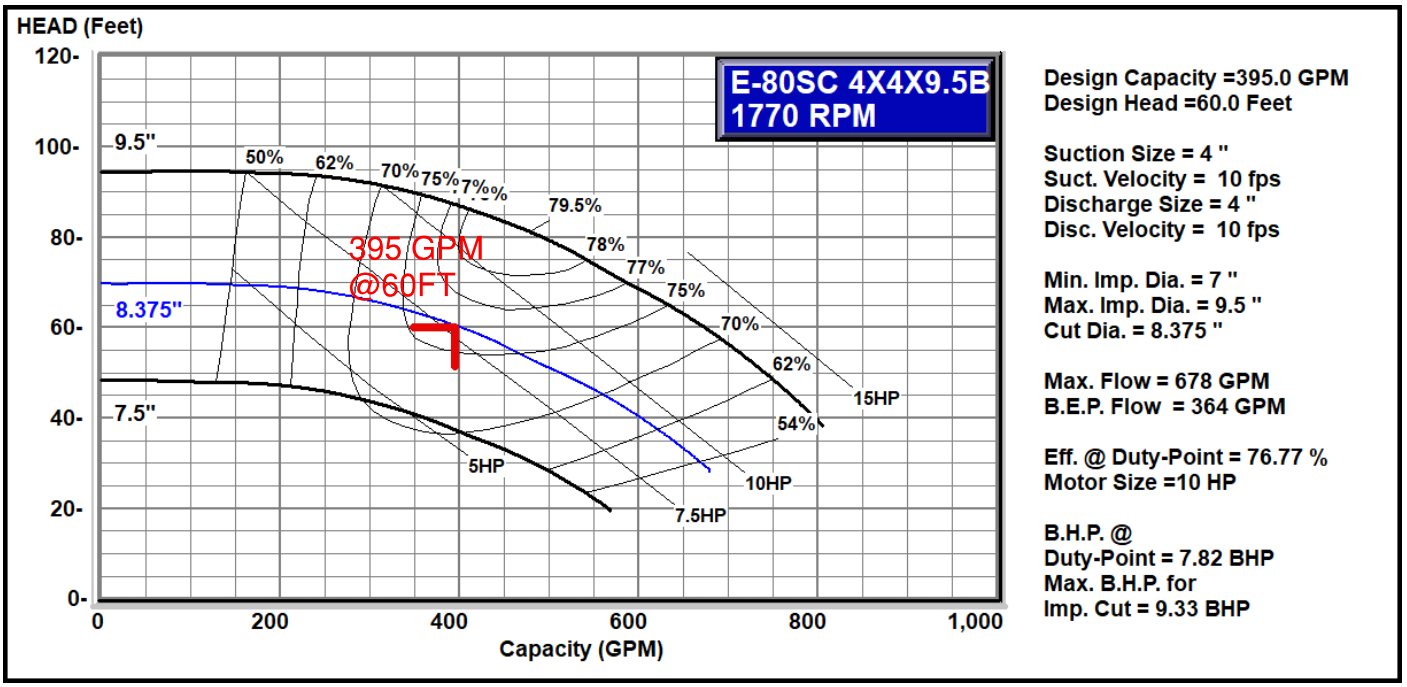
FLOW	395	HEAD	60
HP	10	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	480		
SPECIALS	Cuno Filter Kit (200F 125psi)		

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with
125# ANSI Flange

MOUNTING
☒ In-Line Piping

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)



Design Capacity =395.0 GPM
Design Head =60.0 Feet

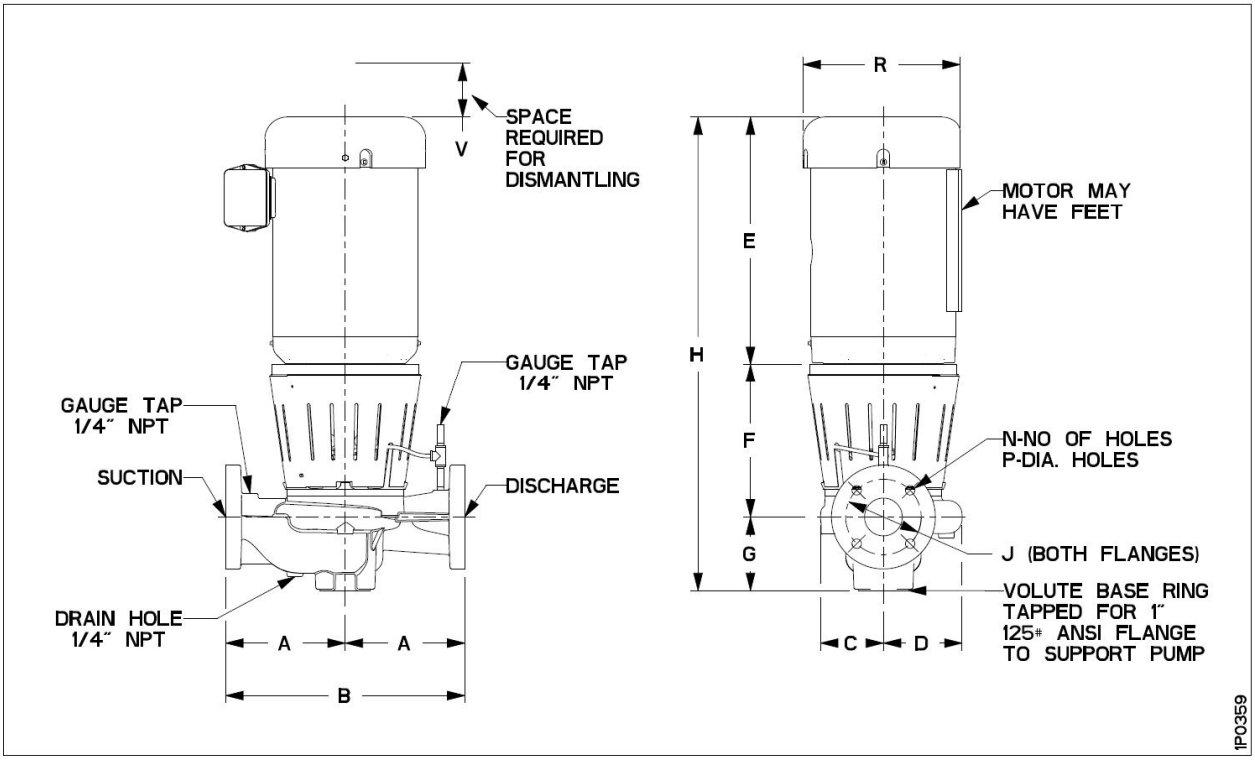
Suction Size = 4 "
Suct. Velocity = 10 fps
Discharge Size = 4 "
Disc. Velocity = 10 fps

Min. Imp. Dia. = 7 "
Max. Imp. Dia. = 9.5 "
Cut Dia. = 8.375 "

Max. Flow = 678 GPM
B.E.P. Flow = 364 GPM

Eff. @ Duty-Point = 76.77 %
Motor Size =10 HP

B.H.P. @
Duty-Point = 7.82 BHP
Max. B.H.P. for
Imp. Cut = 9.33 BHP



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				
182TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	12.25 (311)	12.75 (324)	7.25 (184)	32.25 (819)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	8.75 (222)	5.00 (127)	0.25	0.25
184TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	13.25 (337)	12.75 (324)	7.25 (184)	33.25 (845)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	8.75 (222)	5.00 (127)	0.25	0.25
213TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	14.88 (378)	12.75 (324)	7.25 (184)	34.88 (886)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	10.63 (270)	5.00 (127)	0.25	0.25
215TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	14.88 (378)	12.75 (324)	7.25 (184)	34.88 (886)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	10.63 (270)	5.00 (127)	0.25	0.25
254TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	19.44 (494)	12.75 (324)	7.25 (184)	39.44 (1002)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	12.31 (313)	5.00 (127)	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.

Xylem Inc.
8200 N. Austin Avenue, Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
www.xyleminc.com/bellgossett

Bell & Gossett
a xylem brand

PH-07/13

SUBMITTAL
B-139.12B

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-07
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80
3x3x7C
Close Coupled In-Line Centrifugal Pump
575V/3PH/60HZ

DESCRIPTION:
The Series e-80 is a highly efficient, heavy duty, close coupled pump designed for horizontal or vertical in-line mounting. The e-80 is available in stainless steel fitted construction, with flows up to 2500 GPM, heads to 380 feet.

SPECIFICATIONS

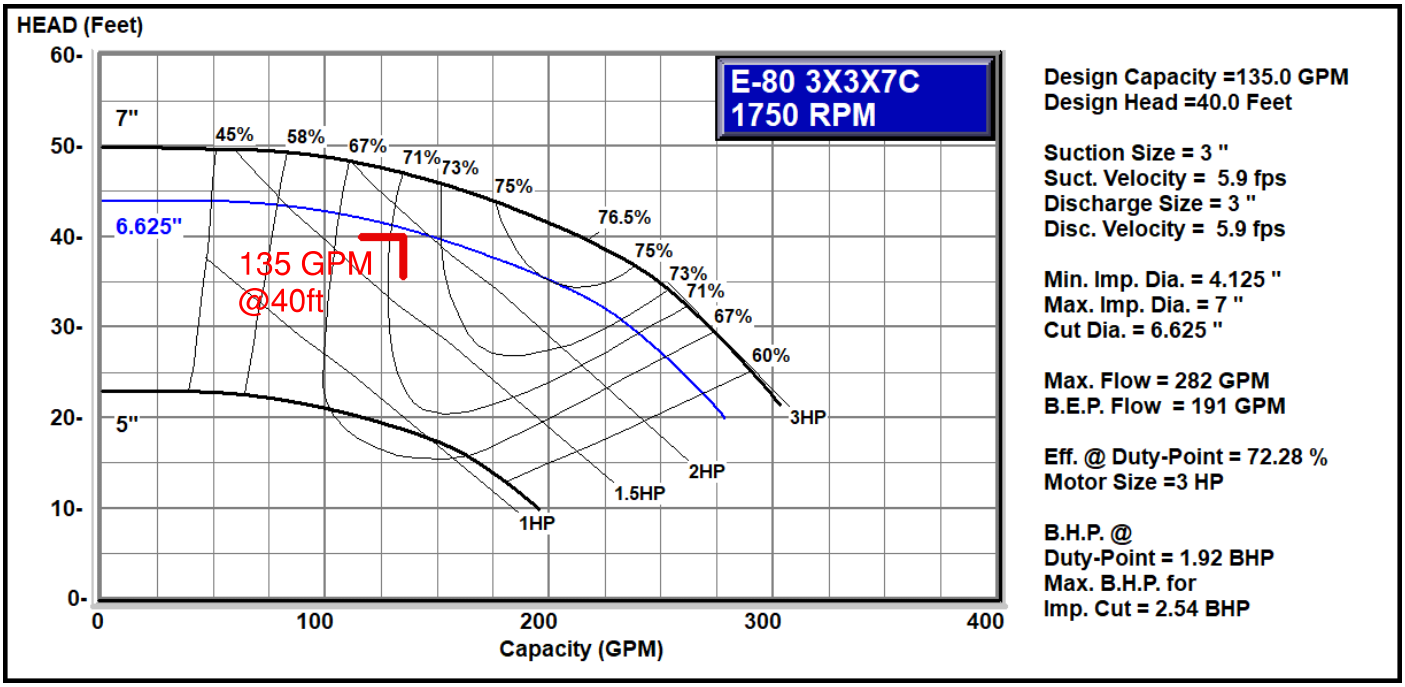
FLOW	135	HEAD	40
HP	3	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	190		
SPECIALS			

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with
125# ANSI flange drilling

MOUNTING
☒ In-Line Piping

TYPE OF SEAL
☒ -F Standard Seal w/ Flush Line
(Buna-Carbon/Ceramic)
-20° to 225°F (-29° to 107°C)
Max working pressure 175 psi (12 bar)



Design Capacity =135.0 GPM
Design Head =40.0 Feet

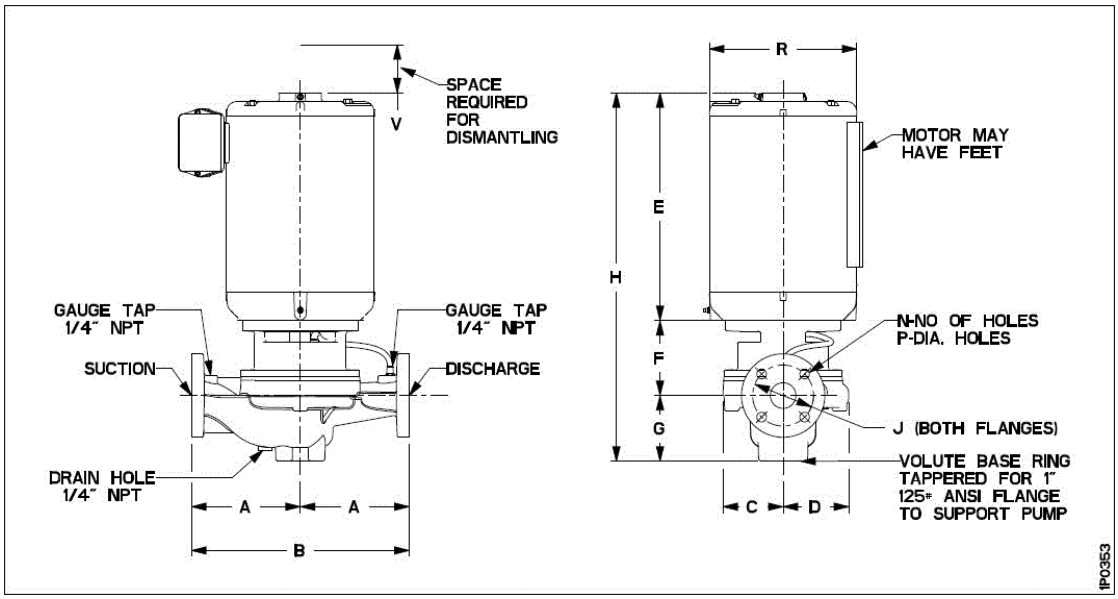
Suction Size = 3 "
Suct. Velocity = 5.9 fps
Discharge Size = 3 "
Disc. Velocity = 5.9 fps

Min. Imp. Dia. = 4.125 "
Max. Imp. Dia. = 7 "
Cut Dia. = 6.625 "

Max. Flow = 282 GPM
B.E.P. Flow = 191 GPM

Eff. @ Duty-Point = 72.28 %
Motor Size =3 HP

B.H.P. @
Duty-Point = 1.92 BHP
Max. B.H.P. for
Imp. Cut = 2.54 BHP



In-Line Piping

DIMENSIONS - Inches (mm) **STANDARD SEAL**

MOTOR FRAME	A	B	C	D	E (max)	F	G	H (max)	125# ANSI			250# ANSI			R	S (Max)*	V (min)	Suct/Disch Gauge Taps (NPT)	Drain Tap (NPT)
									J	N	P	J	N	P					
143JM	9.50 (241)	19.00 (483)	4.98 (126)	6.25 (159)	11.63 (295)	4.88 (124)	5.85 (149)	22.35 (568)	6.00 (152)	4	0.75 (19)	6.63 (168)	8	0.88 (22)	9.75 (248)	1.50 (38)	4.50 (114)	0.25	0.25
145JM	9.50 (241)	19.00 (483)	4.98 (126)	6.25 (159)	12.63 (321)	4.88 (124)	5.85 (149)	23.35 (593)	6.00 (152)	4	0.75 (19)	6.63 (168)	8	0.88 (22)	9.75 (248)	1.50 (38)	4.50 (114)	0.25	0.25
182JM	9.50 (241)	19.00 (483)	4.98 (126)	6.25 (159)	15.31 (389)	4.88 (124)	5.85 (149)	26.04 (661)	6.00 (152)	4	0.75 (19)	6.63 (168)	8	0.88 (22)	11.75 (298)	1.00 (25)	4.50 (114)	0.25	0.25
184JM	9.50 (241)	19.00 (483)	4.98 (126)	6.25 (159)	15.31 (389)	4.88 (124)	5.85 (149)	26.04 (661)	6.00 (152)	4	0.75 (19)	6.63 (168)	8	0.88 (22)	11.75 (298)	1.00 (25)	4.50 (114)	0.25	0.25
213JM	9.50 (241)	19.00 (483)	4.98 (126)	6.25 (159)	19.25 (489)	4.88 (124)	5.85 (149)	29.98 (761)	6.00 (152)	4	0.75 (19)	6.63 (168)	8	0.88 (22)	14.00 (356)	0.00	4.50 (114)	0.25	0.25
215JM	9.50 (241)	19.00 (483)	4.98 (126)	6.25 (159)	19.25 (489)	4.88 (124)	5.85 (149)	29.98 (761)	6.00 (152)	4	0.75 (19)	6.63 (168)	8	0.88 (22)	14.00 (356)	0.00	4.50 (114)	0.25	0.25
254JM	9.50 (241)	19.00 (483)	4.98 (126)	6.25 (159)	24.13 (613)	5.88 (149)	5.85 (149)	35.85 (911)	6.00 (152)	4	0.75 (19)	6.63 (168)	8	0.88 (22)	17.00 (432)	0.00	4.50 (114)	0.25	0.25
256JM	9.50 (241)	19.00 (483)	4.98 (126)	6.25 (159)	24.13 (613)	5.88 (149)	5.85 (149)	35.85 (911)	6.00 (152)	4	0.75 (19)	6.63 (168)	8	0.88 (22)	17.00 (432)	0.00	4.50 (114)	0.25	0.25

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

NOTE: For Single phase Motors add 1" to dimensions E & H.

*Dimensions are for ODP Motors. For TEFC add S dimension to dimensions E & H.

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PH-08/09

SUBMITTAL
B-552.20A

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-08/09
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80SC

4x4x9.5B

Split-Coupled In-Line Centrifugal Pumps

575V/3PH/60HZ

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

SPECIFICATIONS

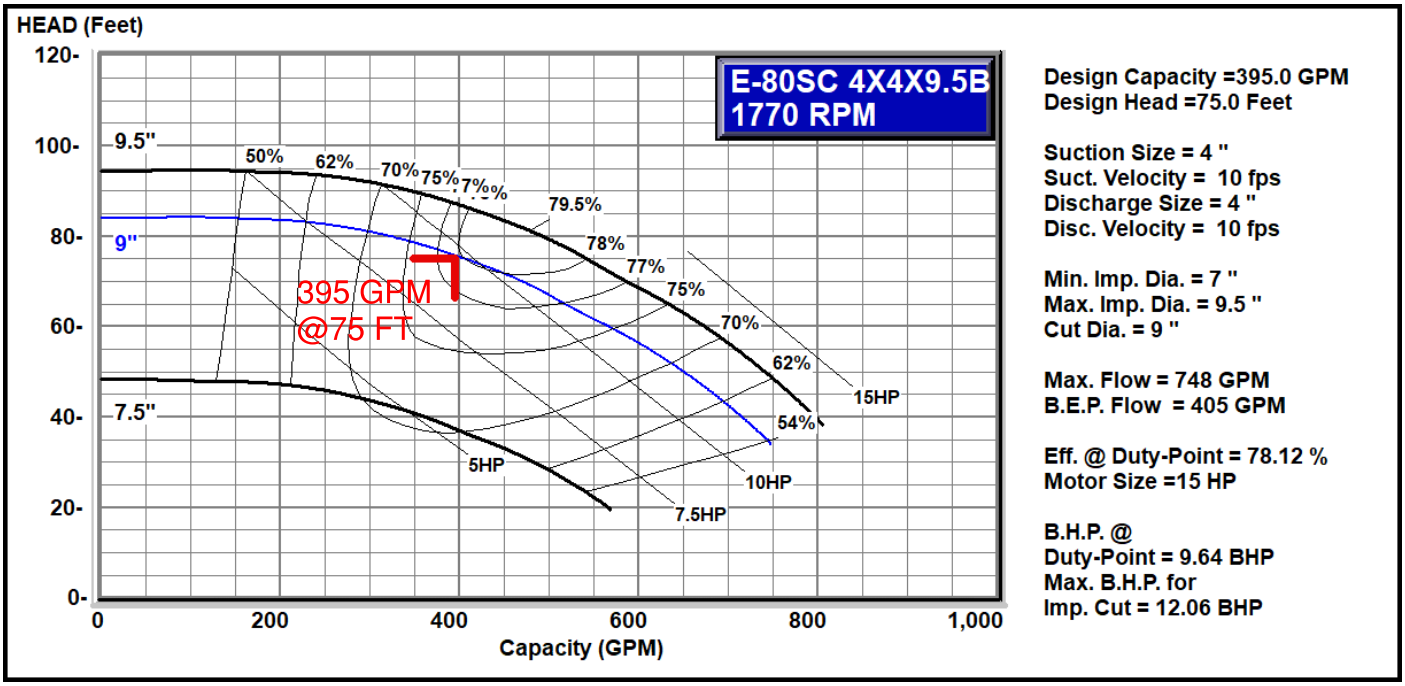
FLOW	395	HEAD	75
HP	15	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	605		
SPECIALS	Cuno Filter Kit (200F 125psi)		

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with 125# ANSI Flange

MOUNTING
☒ In-Line Piping

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)



Design Capacity =395.0 GPM
Design Head =75.0 Feet

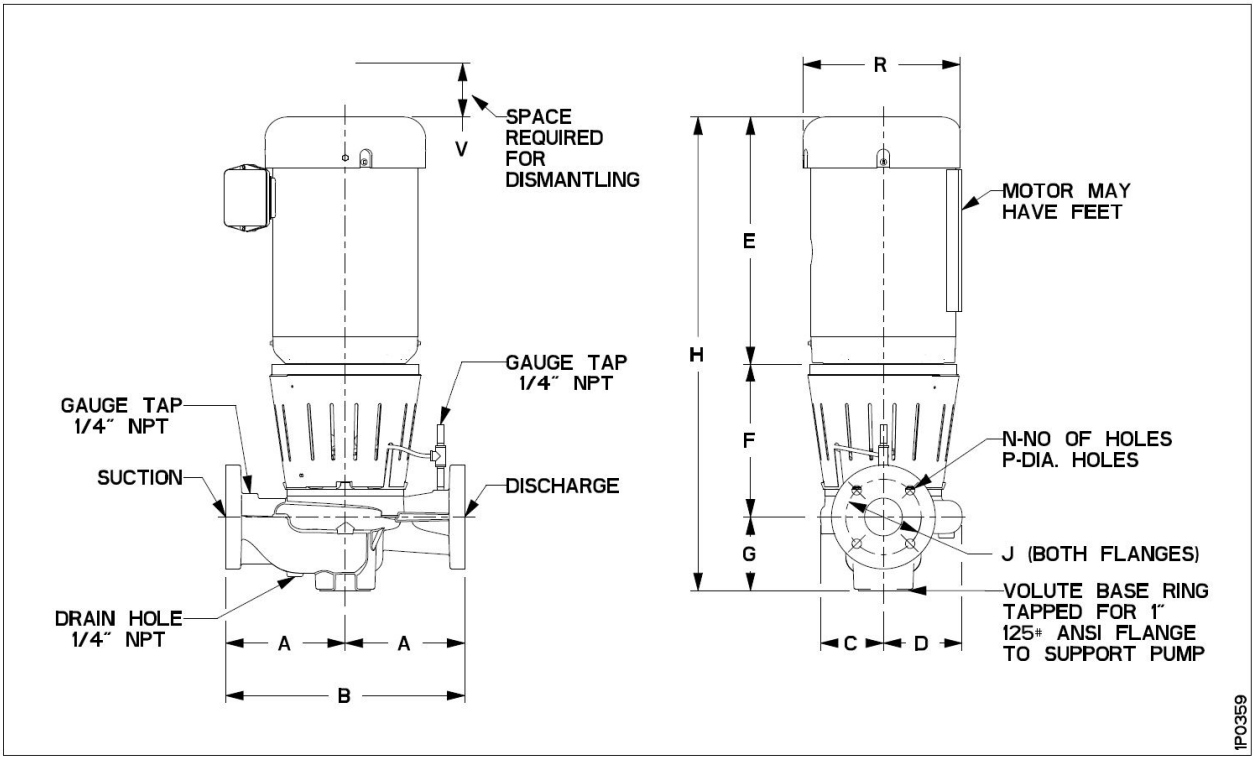
Suction Size = 4 "
Suct. Velocity = 10 fps
Discharge Size = 4 "
Disc. Velocity = 10 fps

Min. Imp. Dia. = 7 "
Max. Imp. Dia. = 9.5 "
Cut Dia. = 9 "

Max. Flow = 748 GPM
B.E.P. Flow = 405 GPM

Eff. @ Duty-Point = 78.12 %
Motor Size =15 HP

B.H.P. @
Duty-Point = 9.64 BHP
Max. B.H.P. for
Imp. Cut = 12.06 BHP



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				
182TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	12.25 (311)	12.75 (324)	7.25 (184)	32.25 (819)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	8.75 (222)	5.00 (127)	0.25	0.25
184TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	13.25 (337)	12.75 (324)	7.25 (184)	33.25 (845)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	8.75 (222)	5.00 (127)	0.25	0.25
213TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	14.88 (378)	12.75 (324)	7.25 (184)	34.88 (886)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	10.63 (270)	5.00 (127)	0.25	0.25
215TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	14.88 (378)	12.75 (324)	7.25 (184)	34.88 (886)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	10.63 (270)	5.00 (127)	0.25	0.25
254TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	19.44 (494)	12.75 (324)	7.25 (184)	39.44 (1002)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	12.31 (313)	5.00 (127)	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.

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PH-10

SUBMITTAL
B-139.10B

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-10
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80
2.5x2.5x9.5C
Close Coupled In-Line Centrifugal Pump

DESCRIPTION:
The Series e-80 is a highly efficient, heavy duty, close coupled pump designed for horizontal or vertical in-line mounting. The e-80 is available in stainless steel fitted construction, with flows up to 2500 GPM, heads to 380 feet.

SPECIFICATIONS

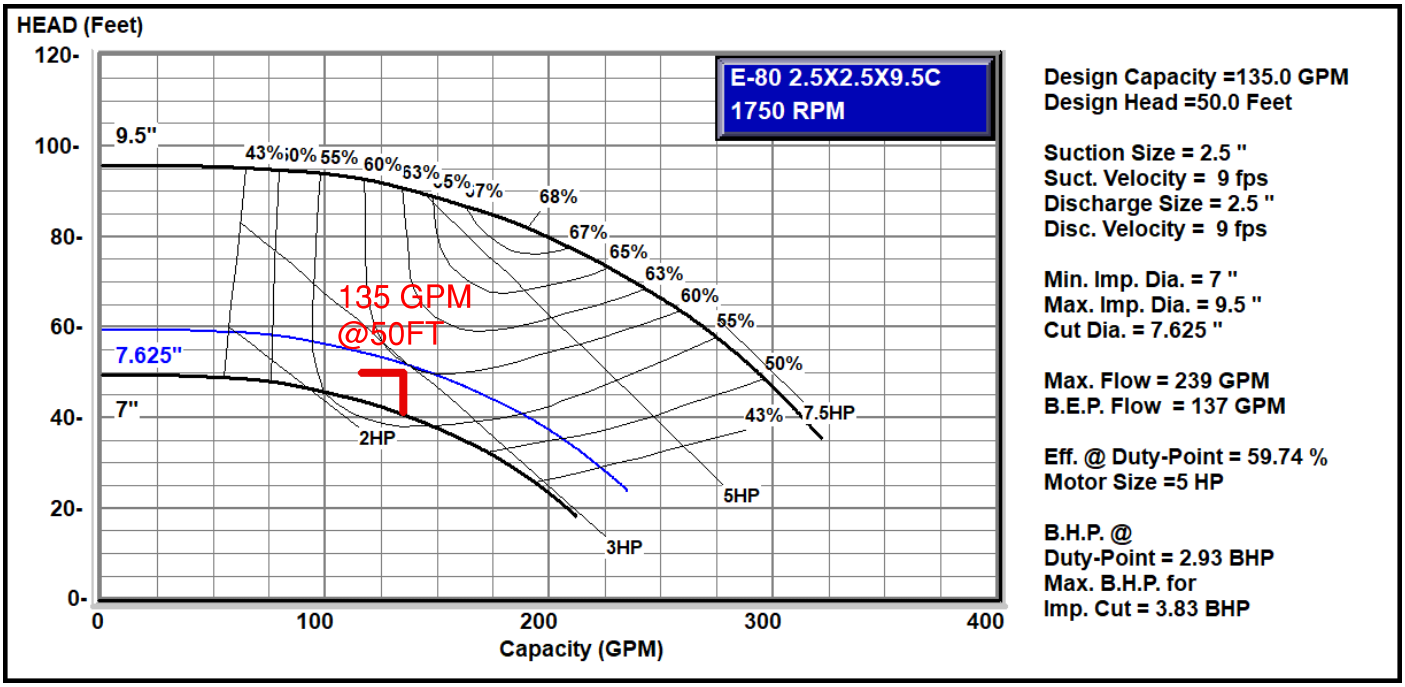
FLOW	135	HEAD	50
HP	5	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	225		
SPECIALS			

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with
125# ANSI flange drilling

MOUNTING
☒ In-Line Piping

TYPE OF SEAL
☒ -F Standard Seal w/ Flush Line
(Buna-Carbon/Ceramic)
-20° to 225°F (-29° to 107°C)
Max working pressure 175 psi (12 bar)



Design Capacity =135.0 GPM
Design Head =50.0 Feet

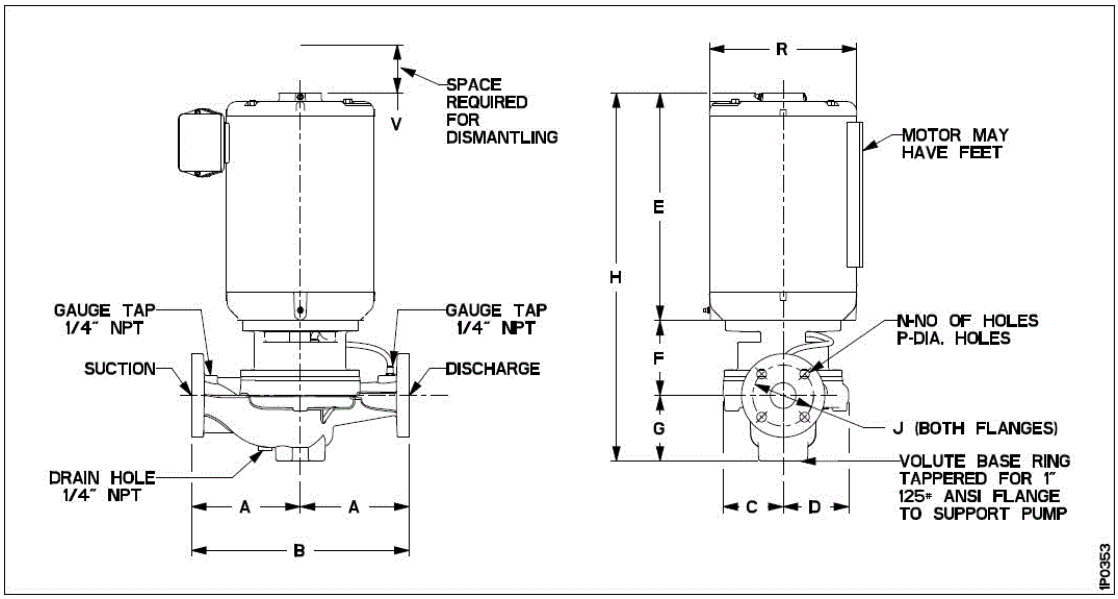
Suction Size = 2.5 "
Suct. Velocity = 9 fps
Discharge Size = 2.5 "
Disc. Velocity = 9 fps

Min. Imp. Dia. = 7 "
Max. Imp. Dia. = 9.5 "
Cut Dia. = 7.625 "

Max. Flow = 239 GPM
B.E.P. Flow = 137 GPM

Eff. @ Duty-Point = 59.74 %
Motor Size =5 HP

B.H.P. @
Duty-Point = 2.93 BHP
Max. B.H.P. for
Imp. Cut = 3.83 BHP



In-Line Piping

DIMENSIONS - Inches (mm) **STANDARD SEAL**

MOTOR FRAME	A	B	C	D	E (max)	F	G	H (max)	125# ANSI			250# ANSI			R	S (Max)*	V (min)	Suct/Disch Gauge Taps (NPT)	Drain Tap (NPT)
									J	N	P	J	N	P					
145JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	12.63 (321)	4.81 (122)	6.00 (152)	23.44 (595)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	9.75 (248)	1.50 (38)	4.75 (121)	0.25	0.25
182JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	15.31 (389)	4.81 (122)	6.00 (152)	26.13 (664)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	11.75 (298)	1.00 (25)	4.75 (121)	0.25	0.25
184JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	15.31 (389)	4.81 (122)	6.00 (152)	26.13 (664)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	11.75 (298)	1.00 (25)	4.75 (121)	0.25	0.25
213JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	19.25 (489)	4.81 (122)	6.00 (152)	30.06 (764)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	14.00 (356)	0.00	4.75 (121)	0.25	0.25
215JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	19.25 (489)	4.81 (122)	6.00 (152)	30.06 (764)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	14.00 (356)	0.00	4.75 (121)	0.25	0.25
254JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	24.13 (613)	5.81 (148)	6.00 (152)	35.94 (913)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	17.00 (432)	0.00	4.75 (121)	0.25	0.25
256JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	24.13 (613)	5.81 (148)	6.00 (152)	35.94 (913)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	17.00 (432)	0.00	4.75 (121)	0.25	0.25
284JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	23.63 (600)	5.81 (148)	6.00 (152)	35.44 (900)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	16.13 (410)	4.63 (117)	4.75 (121)	0.25	0.25
286JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	25.13 (638)	5.81 (148)	6.00 (152)	36.94 (938)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	16.13 (410)	4.63 (117)	4.75 (121)	0.25	0.25
324JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	26.00 (660)	5.81 (148)	6.00 (152)	37.81 (960)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	18.75 (476)	5.38 (137)	4.75 (121)	0.25	0.25
326JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	26.00 (660)	5.81 (148)	6.00 (152)	37.81 (960)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	18.75 (476)	5.38 (137)	4.75 (121)	0.25	0.25

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

NOTE: For Single phase Motors add 1" to dimensions E & H.

*Dimensions are for ODP Motors. For TEFC add S dimension to dimensions E & H.

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SUBMITTAL
B-552.20A

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-11/12
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80SC

4x4x9.5B

Split-Coupled In-Line Centrifugal Pumps

575V/3PH/60HZ

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

SPECIFICATIONS

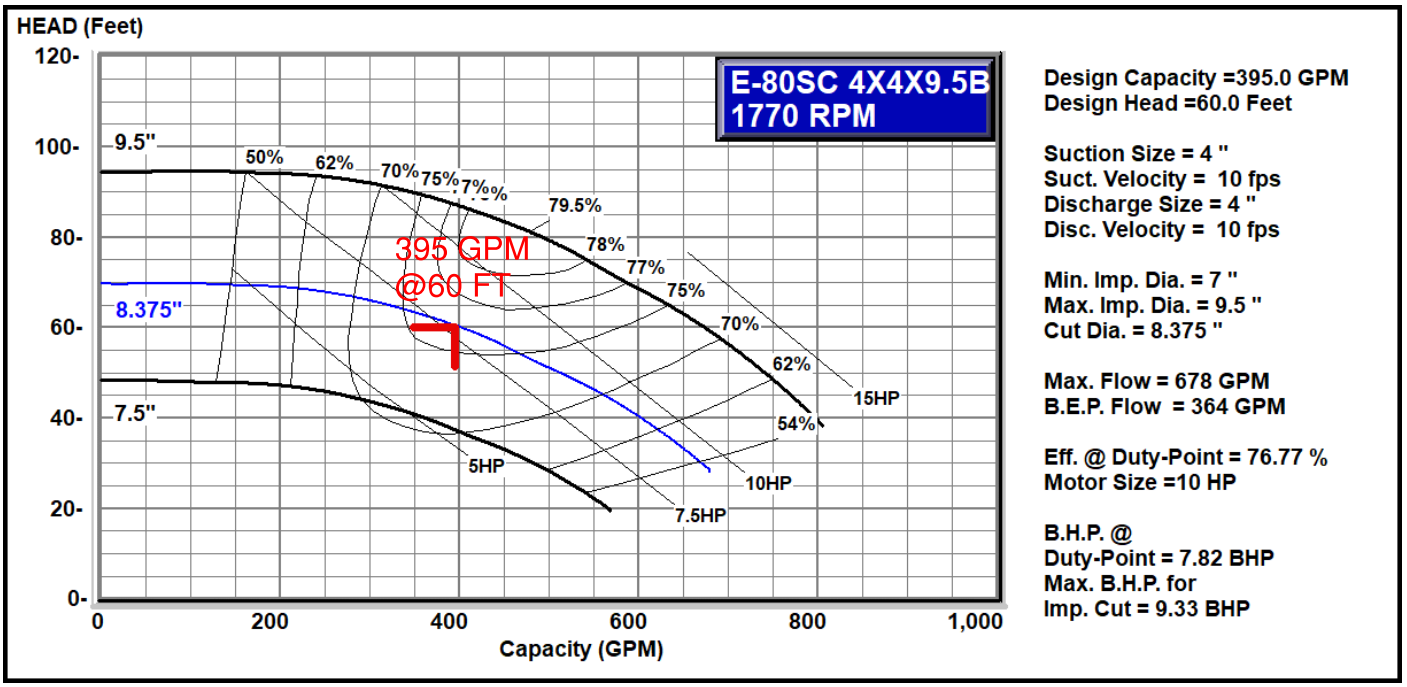
FLOW	395	HEAD	60
HP	10	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	480		
SPECIALS	Cuno Filter Kit (200F 125psi)		

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with
125# ANSI Flange

MOUNTING
☒ In-Line Piping

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)



Design Capacity =395.0 GPM
Design Head =60.0 Feet

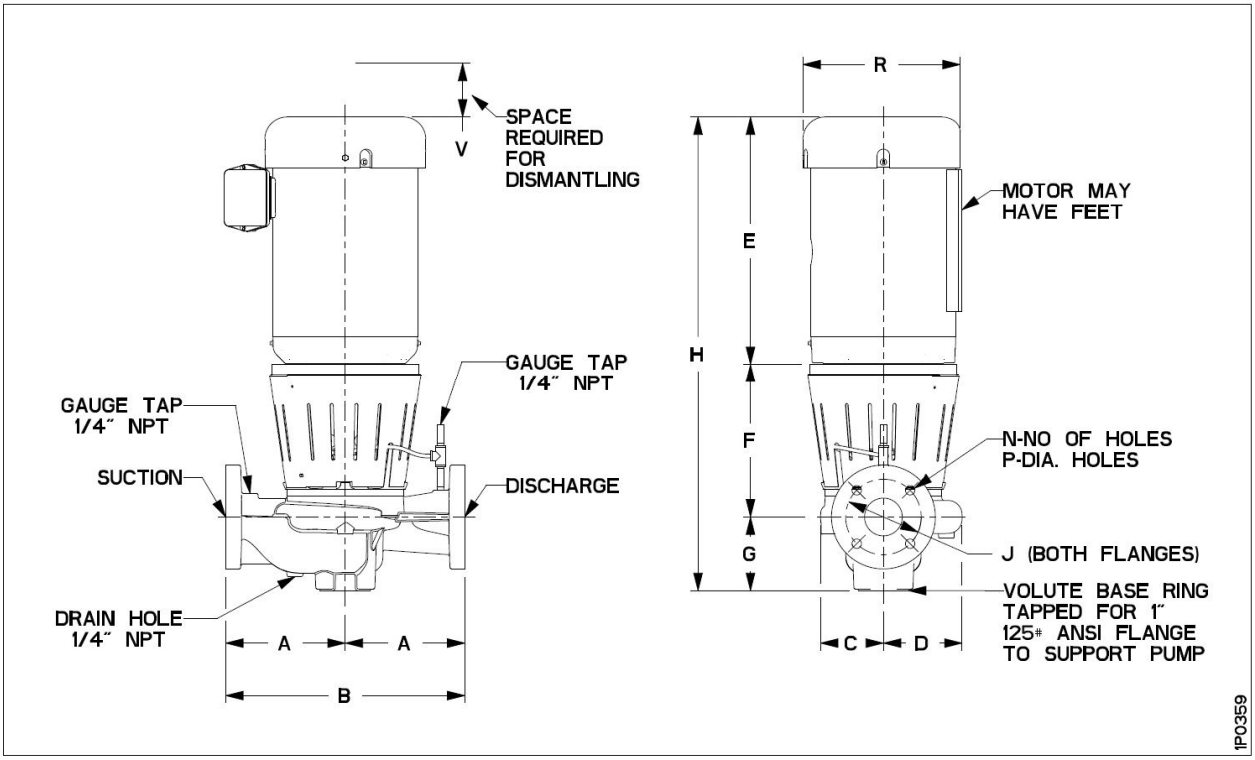
Suction Size = 4 "
Suct. Velocity = 10 fps
Discharge Size = 4 "
Disc. Velocity = 10 fps

Min. Imp. Dia. = 7 "
Max. Imp. Dia. = 9.5 "
Cut Dia. = 8.375 "

Max. Flow = 678 GPM
B.E.P. Flow = 364 GPM

Eff. @ Duty-Point = 76.77 %
Motor Size =10 HP

B.H.P. @
Duty-Point = 7.82 BHP
Max. B.H.P. for
Imp. Cut = 9.33 BHP



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				
182TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	12.25 (311)	12.75 (324)	7.25 (184)	32.25 (819)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	8.75 (222)	5.00 (127)	0.25	0.25
184TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	13.25 (337)	12.75 (324)	7.25 (184)	33.25 (845)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	8.75 (222)	5.00 (127)	0.25	0.25
213TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	14.88 (378)	12.75 (324)	7.25 (184)	34.88 (886)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	10.63 (270)	5.00 (127)	0.25	0.25
215TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	14.88 (378)	12.75 (324)	7.25 (184)	34.88 (886)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	10.63 (270)	5.00 (127)	0.25	0.25
254TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	19.44 (494)	12.75 (324)	7.25 (184)	39.44 (1002)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	12.31 (313)	5.00 (127)	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.

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PH-14/15

SUBMITTAL
B-552.20A

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-14/15
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80SC

4x4x9.5B

Split-Coupled In-Line Centrifugal Pumps

575V/3PH/60HZ

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

SPECIFICATIONS

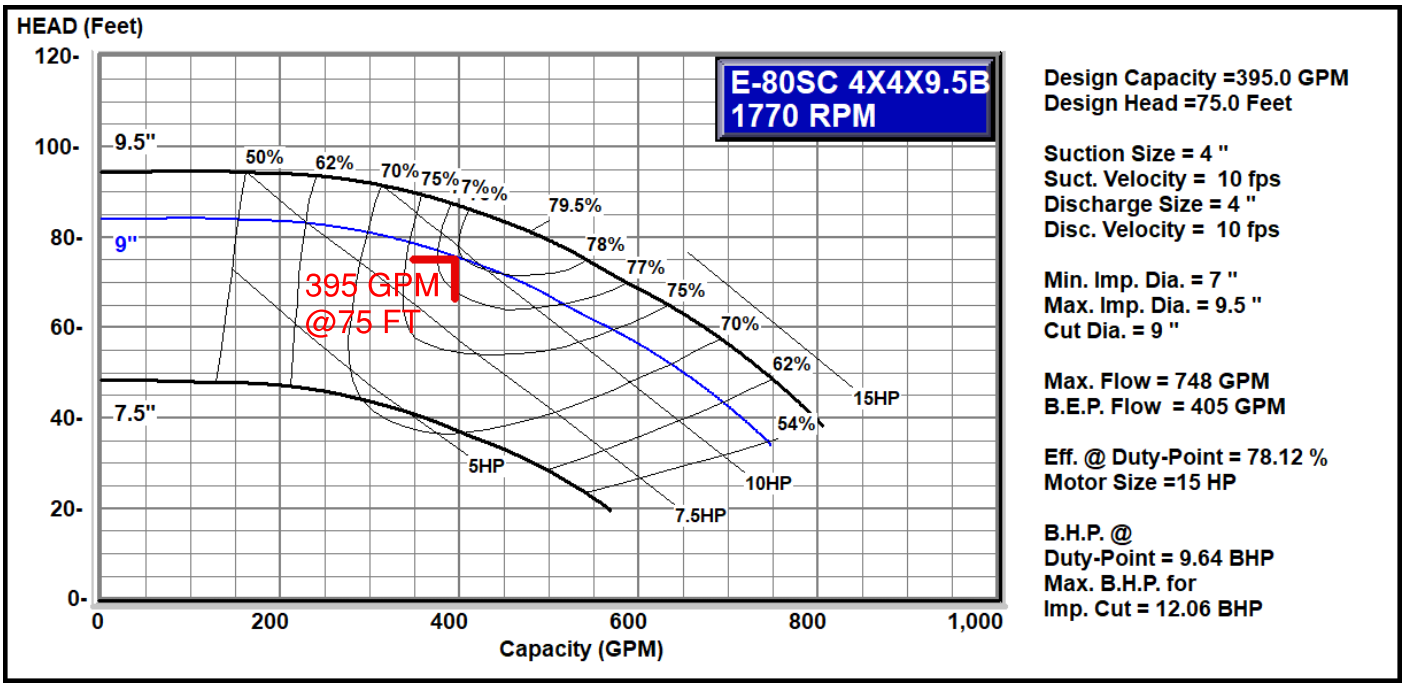
FLOW	395	HEAD	75
HP	15	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	605		
SPECIALS	Cuno Filter Kit (200F 125psi)		

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with
125# ANSI Flange

MOUNTING
☒ In-Line Piping

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)



Design Capacity =395.0 GPM
Design Head =75.0 Feet

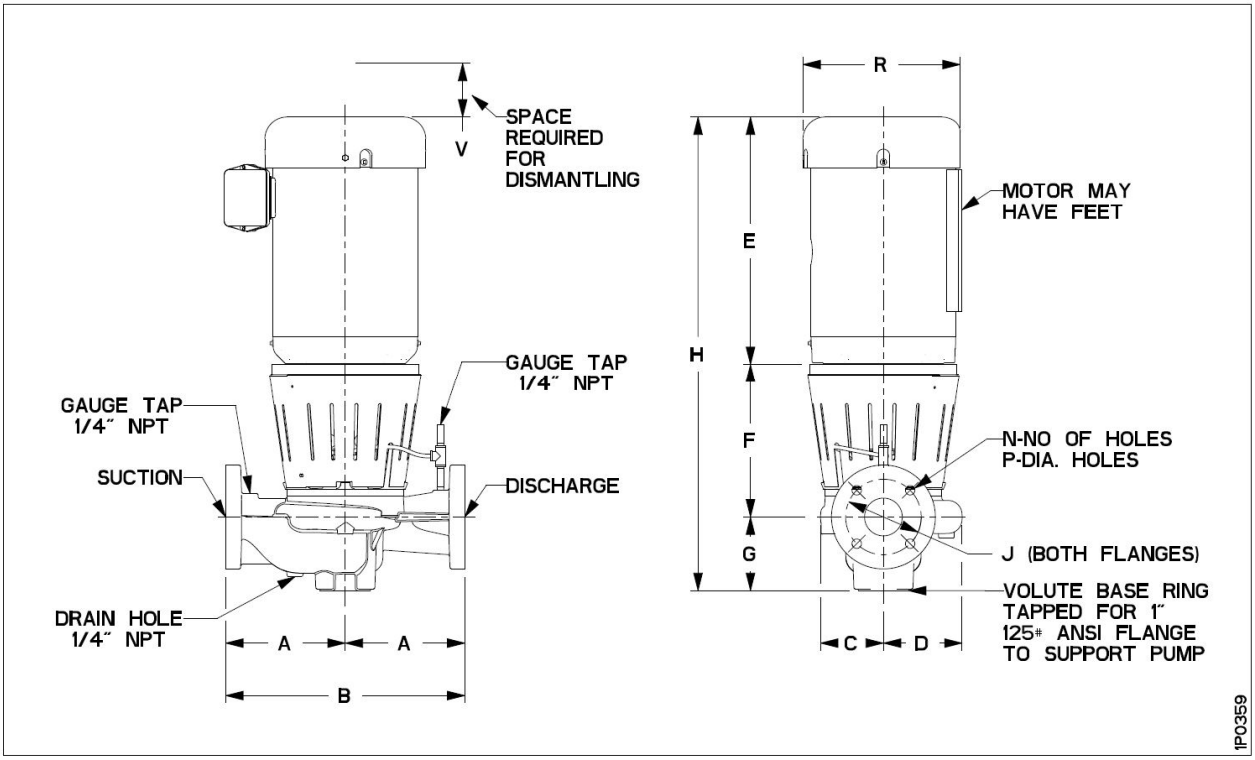
Suction Size = 4 "
Suct. Velocity = 10 fps
Discharge Size = 4 "
Disc. Velocity = 10 fps

Min. Imp. Dia. = 7 "
Max. Imp. Dia. = 9.5 "
Cut Dia. = 9 "

Max. Flow = 748 GPM
B.E.P. Flow = 405 GPM

Eff. @ Duty-Point = 78.12 %
Motor Size =15 HP

B.H.P. @
Duty-Point = 9.64 BHP
Max. B.H.P. for
Imp. Cut = 12.06 BHP



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				
182TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	12.25 (311)	12.75 (324)	7.25 (184)	32.25 (819)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	8.75 (222)	5.00 (127)	0.25	0.25
184TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	13.25 (337)	12.75 (324)	7.25 (184)	33.25 (845)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	8.75 (222)	5.00 (127)	0.25	0.25
213TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	14.88 (378)	12.75 (324)	7.25 (184)	34.88 (886)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	10.63 (270)	5.00 (127)	0.25	0.25
215TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	14.88 (378)	12.75 (324)	7.25 (184)	34.88 (886)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	10.63 (270)	5.00 (127)	0.25	0.25
254TC	12.50 (318)	25.00 (635)	6.51 (165)	7.94 (202)	19.44 (494)	12.75 (324)	7.25 (184)	39.44 (1002)	7.50 (191)	8	0.75 (19)	7.88 (200)	8	0.88 (22)	12.31 (313)	5.00 (127)	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.

Xylem Inc.
8200 N. Austin Avenue, Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
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PH-16

SUBMITTAL
B-139.10B

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-16
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80
2.5x2.5x9.5C
Close Coupled In-Line Centrifugal Pump
575V/3PH/60HZ

DESCRIPTION:
The Series e-80 is a highly efficient, heavy duty, close coupled pump designed for horizontal or vertical in-line mounting. The e-80 is available in stainless steel fitted construction, with flows up to 2500 GPM, heads to 380 feet.

SPECIFICATIONS

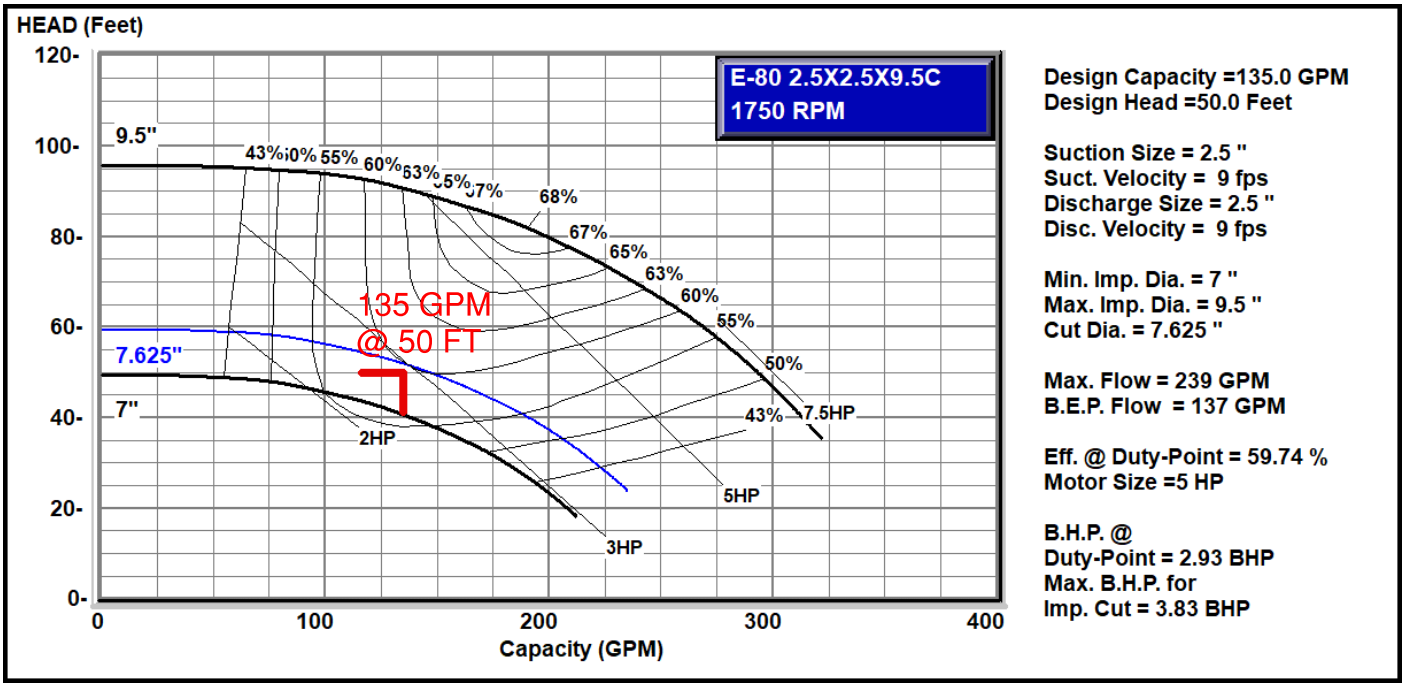
FLOW	135	HEAD	50
HP	5	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	225		
SPECIALS			

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with
125# ANSI flange drilling

MOUNTING
☒ In-Line Piping

TYPE OF SEAL
☒ -F Standard Seal w/ Flush Line
(Buna-Carbon/Ceramic)
-20° to 225°F (-29° to 107°C)
Max working pressure 175 psi (12 bar)



Design Capacity =135.0 GPM
Design Head =50.0 Feet

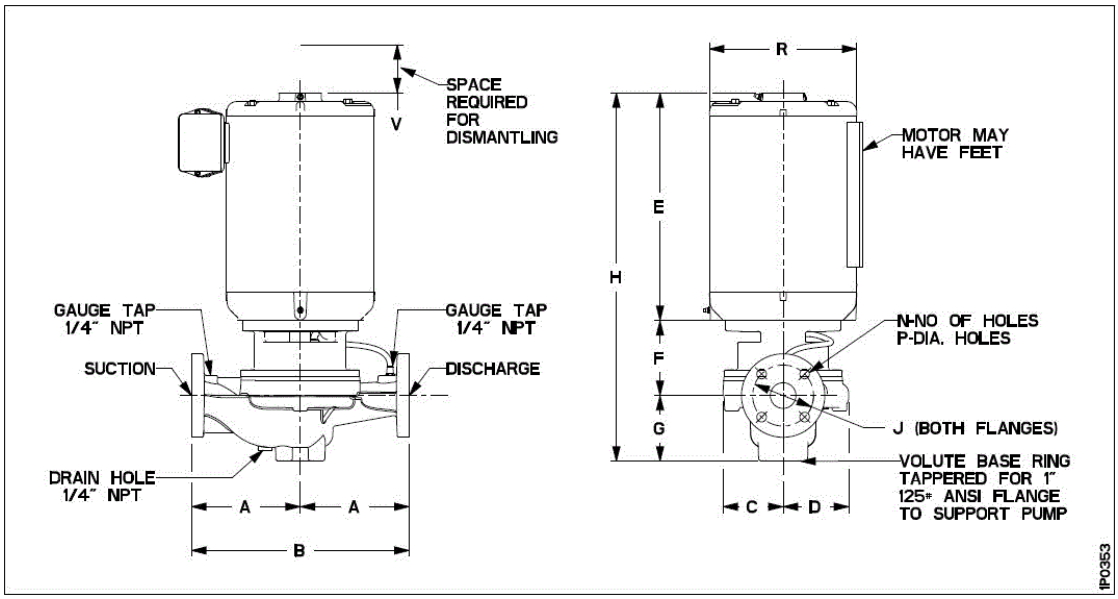
Suction Size = 2.5 "
Suct. Velocity = 9 fps
Discharge Size = 2.5 "
Disc. Velocity = 9 fps

Min. Imp. Dia. = 7 "
Max. Imp. Dia. = 9.5 "
Cut Dia. = 7.625 "

Max. Flow = 239 GPM
B.E.P. Flow = 137 GPM

Eff. @ Duty-Point = 59.74 %
Motor Size =5 HP

B.H.P. @
Duty-Point = 2.93 BHP
Max. B.H.P. for
Imp. Cut = 3.83 BHP



In-Line Piping

DIMENSIONS - Inches (mm) **STANDARD SEAL**

MOTOR FRAME	A	B	C	D	E (max)	F	G	H (max)	125# ANSI			250# ANSI			R	S (Max)*	V (min)	Suct/Disch Gauge Taps (NPT)	Drain Tap (NPT)
									J	N	P	J	N	P					
145JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	12.63 (321)	4.81 (122)	6.00 (152)	23.44 (595)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	9.75 (248)	1.50 (38)	4.75 (121)	0.25	0.25
182JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	15.31 (389)	4.81 (122)	6.00 (152)	26.13 (664)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	11.75 (298)	1.00 (25)	4.75 (121)	0.25	0.25
184JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	15.31 (389)	4.81 (122)	6.00 (152)	26.13 (664)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	11.75 (298)	1.00 (25)	4.75 (121)	0.25	0.25
213JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	19.25 (489)	4.81 (122)	6.00 (152)	30.06 (764)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	14.00 (356)	0.00	4.75 (121)	0.25	0.25
215JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	19.25 (489)	4.81 (122)	6.00 (152)	30.06 (764)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	14.00 (356)	0.00	4.75 (121)	0.25	0.25
254JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	24.13 (613)	5.81 (148)	6.00 (152)	35.94 (913)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	17.00 (432)	0.00	4.75 (121)	0.25	0.25
256JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	24.13 (613)	5.81 (148)	6.00 (152)	35.94 (913)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	17.00 (432)	0.00	4.75 (121)	0.25	0.25
284JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	23.63 (600)	5.81 (148)	6.00 (152)	35.44 (900)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	16.13 (410)	4.63 (117)	4.75 (121)	0.25	0.25
286JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	25.13 (638)	5.81 (148)	6.00 (152)	36.94 (938)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	16.13 (410)	4.63 (117)	4.75 (121)	0.25	0.25
324JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	26.00 (660)	5.81 (148)	6.00 (152)	37.81 (960)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	18.75 (476)	5.38 (137)	4.75 (121)	0.25	0.25
326JM	10.75 (273)	21.50 (546)	5.96 (151)	7.06 (179)	26.00 (660)	5.81 (148)	6.00 (152)	37.81 (960)	5.50 (140)	4	0.75 (19)	5.88 (149)	8	0.88 (22)	18.75 (476)	5.38 (137)	4.75 (121)	0.25	0.25

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

NOTE: For Single phase Motors add 1" to dimensions E & H.

*Dimensions are for ODP Motors. For TEFC add S dimension to dimensions E & H.

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Bell & Gossett
a xylem brand

PH-17/18

SUBMITTAL
B-139.2B

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-17/18
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:

Series e-80
1.5x1.5x9.5B
Close Coupled In-Line Centrifugal Pump

DESCRIPTION:
The Series e-80 is a highly efficient, heavy duty, close coupled pump designed for horizontal or vertical in-line mounting. The e-80 is available in stainless steel fitted construction, with flows up to 2500 GPM, heads to 380 feet.

SPECIFICATIONS

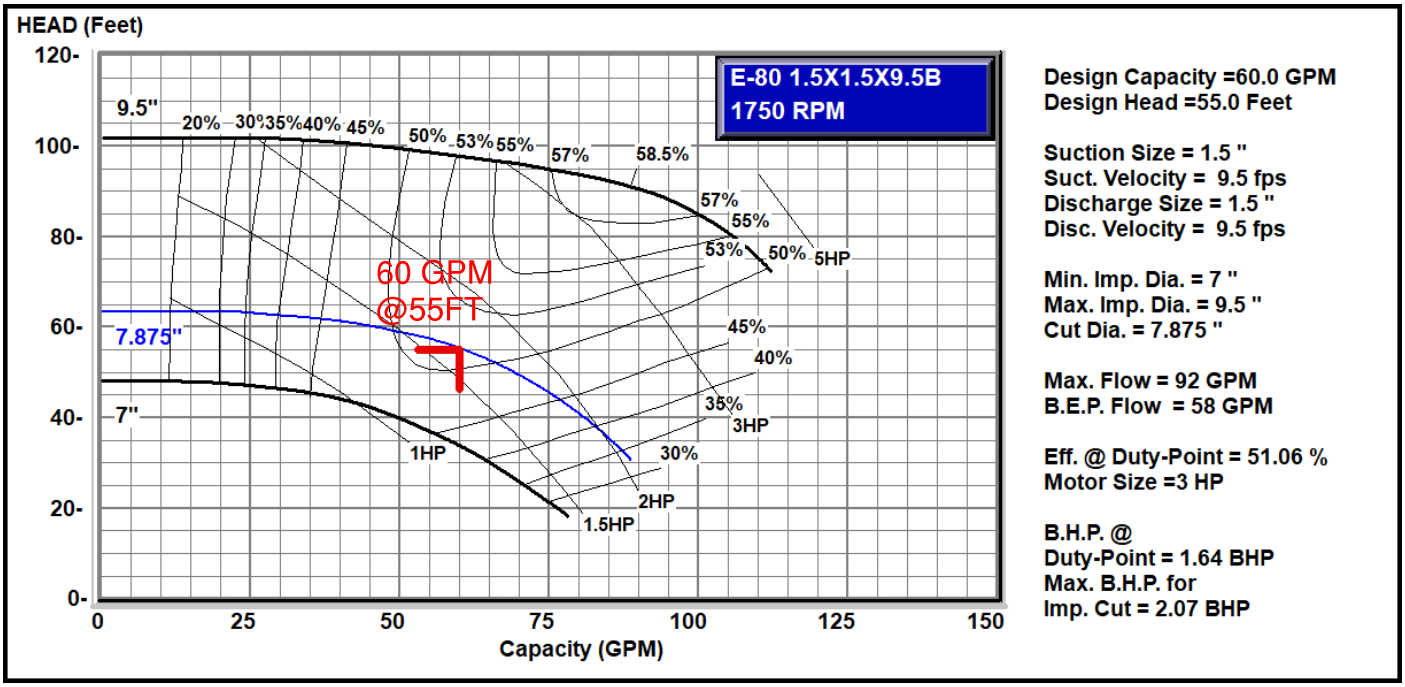
FLOW	60	HEAD	55
HP	3	RPM	1800
VOLTS	575		
CYCLE	60	INPUT PHASE	3
ENCLOSURE	ODP Nema Premium Efficient		
APPROX. WEIGHT	180		
SPECIALS			

MATERIALS OF CONSTRUCTION
☒ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) with
125# ANSI flange drilling

MOUNTING
☒ In-Line Piping

TYPE OF SEAL
☒ -F Standard Seal w/ Flush Line
(Buna-Carbon/Ceramic)
-20° to 225°F (-29° to 107°C)
Max working pressure 175 psi (12 bar)



Design Capacity =60.0 GPM
Design Head =55.0 Feet

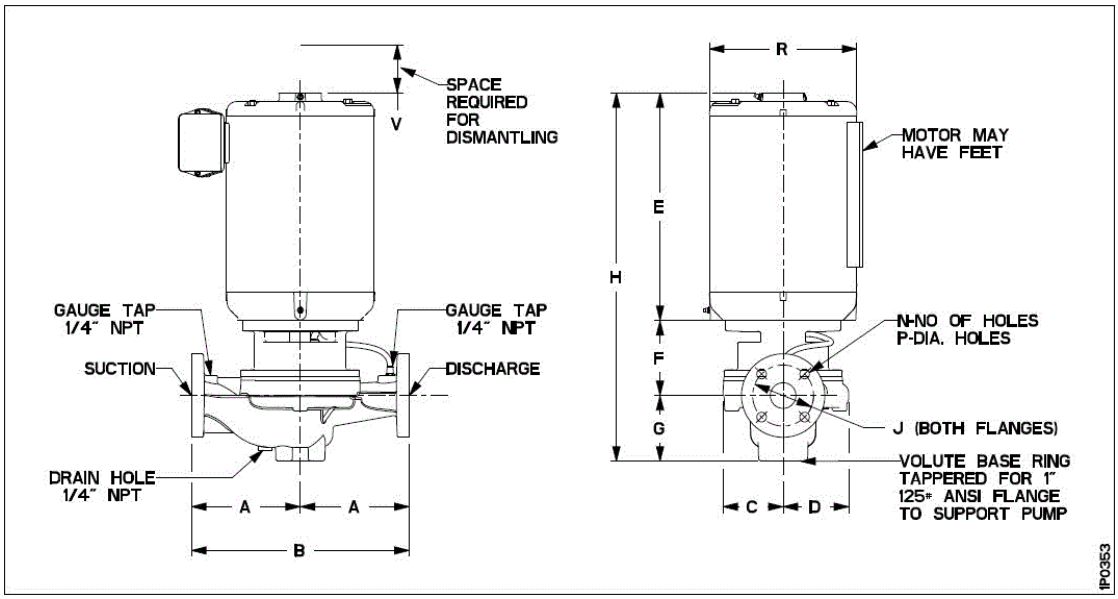
Suction Size = 1.5 "
Suct. Velocity = 9.5 fps
Discharge Size = 1.5 "
Disc. Velocity = 9.5 fps

Min. Imp. Dia. = 7 "
Max. Imp. Dia. = 9.5 "
Cut Dia. = 7.875 "

Max. Flow = 92 GPM
B.E.P. Flow = 58 GPM

Eff. @ Duty-Point = 51.06 %
Motor Size =3 HP

B.H.P. @
Duty-Point = 1.64 BHP
Max. B.H.P. for
Imp. Cut = 2.07 BHP



In-Line Piping

DIMENSIONS - Inches (mm) **STANDARD SEAL**

MOTOR FRAME	A	B	C	D	E (max)	F	G	H (max)	125# ANSI			250# ANSI			R	S (Max)*	V (min)	Suct/Disch Gauge Taps (NPT)	Drain Tap (NPT)
									J	N	P	J	N	P					
143JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	11.63 (295)	4.69 (119)	4.50 (114)	20.81 (529)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	9.75 (248)	1.50 (38)	4.00 (102)	0.25	0.25
145JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	12.63 (321)	4.69 (119)	4.50 (114)	21.81 (554)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	9.75 (248)	1.50 (38)	4.00 (102)	0.25	0.25
182JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	15.31 (389)	4.69 (119)	4.50 (114)	24.50 (622)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	11.75 (298)	1.00 (25)	4.00 (102)	0.25	0.25
184JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	15.31 (389)	4.69 (119)	4.50 (114)	24.50 (622)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	11.75 (298)	1.00 (25)	4.00 (102)	0.25	0.25
213JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	19.25 (489)	4.69 (119)	4.50 (114)	28.44 (722)	3.88 (98)	4	0.63 (16)	4.50 (114)	1.00	0.88 (22)	14.00 (356)	1.00 (25)	4.00 (102)	0.25	0.25
215JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	19.25 (489)	4.69 (119)	4.50 (114)	28.44 (722)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	14.00 (356)	0.00	4.00 (102)	0.25	0.25
254JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	24.13 (613)	5.69 (144)	4.50 (114)	34.31 (872)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	17.00 (432)	0.00	4.00 (102)	0.25	0.25
256JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	24.13 (613)	5.69 (144)	4.50 (114)	34.31 (872)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	17.00 (432)	0.00	4.00 (102)	0.25	0.25
284JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	23.63 (600)	5.69 (144)	4.50 (114)	33.81 (859)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	16.13 (410)	4.63 (117)	4.00 (102)	0.25	0.25
286JM	9.50 (241)	19.00 (483)	5.86 (149)	6.16 (156)	25.13 (638)	5.69 (144)	4.50 (114)	35.31 (897)	3.88 (98)	4	0.63 (16)	4.50 (114)	4	0.88 (22)	16.13 (410)	4.63 (117)	4.00 (102)	0.25	0.25

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

NOTE: For Single phase Motors add 1" to dimensions E & H.

*Dimensions are for ODP Motors. For TEFC add S dimension to dimensions E & H.

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Bell & Gossett
a xylem brand

PH-01-03

PH-05-18

SUBMITTAL

B-826A

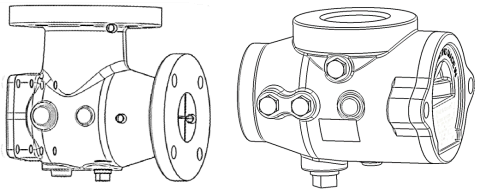
JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG:
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:



B&G Suction Diffuser Plus

Centrifugal Pump Accessories

DESCRIPTION

The Bell & Gossett Suction Diffuser Plus is designed for direct application to the pump suction and provides ideal flow conditions for the pump, providing NPSH requirements are met. Its integrated Flow Cone directs flow through the unit and into the pump suction while working with the full length straightening vanes to create a more uniform flow profile. The orifice cylinder has a free area equal to five times the cross section of the pump suction opening and serves as a coarse strainer to protect the pump from large sediment. The disposable start-up strainer helps to clean the system during the first 24-48 hours of operation before it is removed. Its optional pressure temperature ports allow you to verify that the start-up strainer has been removed without the need to take the unit apart.

MATERIALS OF CONSTRUCTION

Type	Body	Inlet Vanes	Orifice Cylinder	Start-Up Strainer
X	Cast Iron	Steel		16 Mesh Bronze
Z	Cast Iron	Stainless Steel		16 Mesh Bronze

NOTES: Type X-For Closed Systems.
Type Z-For Domestic Water and Tower Systems.

OPERATING DATA

Operating Temperature: 250?F (121?C)
Working Pressure: 175 psi (1,207 kPa)

IRB: Provide electrical requirements.

SCHEDULE

MODEL NUMBER	DIMENSIONS INCHES (mm) SYSTEM SIDE		PUMP SIDE		TAGGING INFORMATION	X QUANTITY	Z QUANTITY
BA-3X/BA-3Z	2 (50.8)	FPT	1-1/2 (38.1)	FPT	PH-17/18	2	
BB-3X/BB-3Z	2 (50.8)	FPT	2 (50.8)	FPT			
CB-3X/CB-3Z	2-1/2 (63.5)	FPT	2 (50.8)	FPT			
CC-3X/CC-3Z	2-1/2 (63.5)	FLG	2-1/2 (63.5)	FLG	PH-01/02/03 , PH-10 , PH-13 , PH-16	6	
DA-3X/DA-3Z	3 (76.2)	FPT	1-1/2 (38.1)	FPT			
DB-3X/DB-3Z	3 (76.2)	FPT	2 (50.8)	FPT			
DC-3X/DC-3Z	3 (76.2)	FLG	2-1/2 (63.5)	FLG			
DD-3X/DD-3Z	3 (76.2)	FLG	3 (76.2)	FLG	PH-07	1	
EC-3X/EC-3Z	4 (101.6)	FLG	2-1/2 (63.5)	FLG			
ED-3X/ED-3Z	4 (101.6)	FLG	3 (76.2)	FLG			
EE-3X/EE-3Z	4 (101.6)	FLG	4 (101.6)	FLG	PH-05/06 , PH-08/09 , PH-11/12 , PH-14/15	8	
FE-3X/FE-3Z	5 (127)	FLG	4 (101.6)	FLG			
FF-3X/FF-3Z	5 (127)	FLG	5 (127)	FLG			
GE-3X/GE-3Z	6 (152.4)	FLG	4 (101.6)	FLG			
GF-3X/GF-3Z	6 (152.4)	FLG	5 (127)	FLG			
GG-3X/GG-3Z	6 (152.4)	FLG	6 (152.4)	FLG			
HG-3X/HG-3Z	8 (203.2)	FLG	6 (152.4)	FLG			
HH-3X/HH-3Z	8 (203.2)	FLG	8 (203.2)	FLG			
JH-3X/JH-3Z	10 (254)	FLG	8 (203.2)	FLG			
JJ-3X/JJ-3Z	10 (254)	FLG	10 (254)	FLG			

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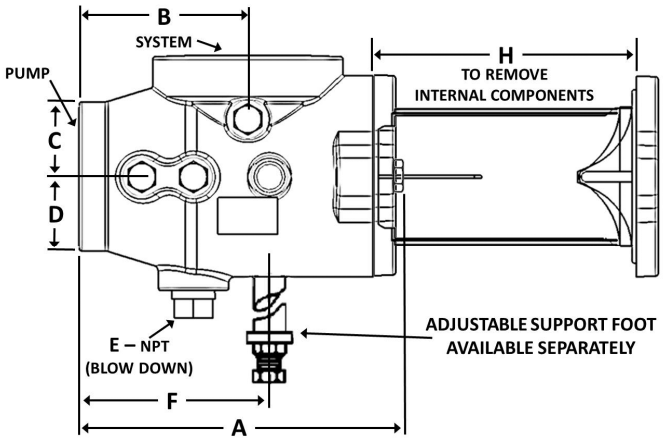
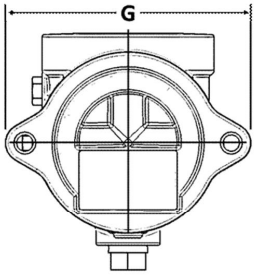
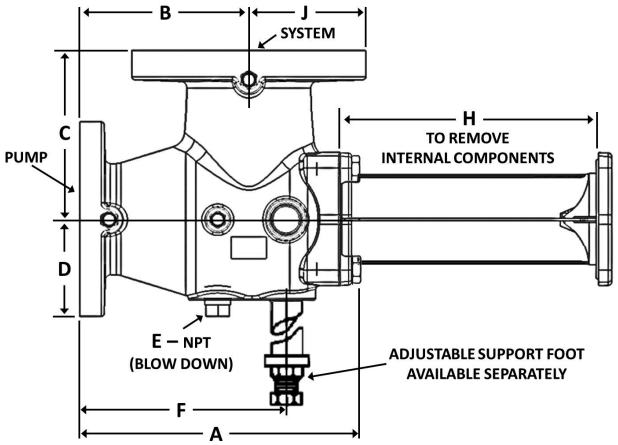
SUCTION DIFFUSER PLUS PH-01-03 PH-05-18 **B-826A**





Threaded x Threaded Models



Flange x Flange Models

DIMENSIONS – INCHES (mm)

Model No.	System Side		Pump Side		A	B	C	D	E	F	G	H	J	Orifice Cylinder Free Area in^2 (cm^2)	Approx. Shpg. Wt. Lbs. (Kg)
BA-3	2 (50.8)	T	1-1/2 (38.1)	T	5.96 (151)	3 (76)	2.25 (57)	2.37 (60)	3/4 (19)	3.81 (97)	5.25 (133)	5.15 (130.8)	N/A	11 (71)	13 (6)
BB-3	2 (50.8)	T	2 (50.8)	T	7.56 (192)	3.87 (98)	2.75 (70)	2.75 (70)	3/4 (19)	4.38 (111)	5.75 (146)	6.75 (171.5)	N/A	20-1/2 (132)	14 (6)
CB-3	2-1/2 (63.5)	T	2 (63.5)	T	7.56 (192)	3.87 (98)	2.75 (70)	2.75 (70)	3/4 (19)	4.38 (111)	5.75 (146)	6.75 (171.5)	N/A	20-1/2 (132)	16 (7)
CC-3	2-1/2 (63.5)	F	2-1/2 (63.5)	F	8.44 (214)	4.75 (121)	4.75 (121)	3.5 (89)	3/4 (19)	5.77 (147)	N/A	7.63 (193.7)	3.5 (89)	26 (168)	36 (16)
DA-3	3 (76.2)	T	1-1/2 (38.1)	T	7.44 (189)	3.87 (98)	2.75 (70)	2.75 (70)	3/4 (19)	4.38 (111)	5.75 (146)	6.63 (168.3)	N/A	20-1/2 (132)	17 (8)
DB-3	3 (76.2)	T	2 (50.8)	T	7.56 (192)	3.87 (98)	2.75 (70)	2.75 (70)	3/4 (19)	4.38 (111)	5.75 (146)	6.75 (171.5)	N/A	20-1/2 (132)	17 (8)
DC-3	3 (76.2)	F	2-1/2 (63.5)	F	8.75 (222)	5 (127)	5 (127)	3.50 (89)	3/4 (19)	5.77 (147)	N/A	7.63 (193.7)	3.75 (95)	26 (168)	44 (20)
DD-3	3 (76.2)	F	3 (76.2)	F	9.56 (243)	5.50 (140)	5.50 (140)	3.75 (95)	3/4 (19)	7.0 (178)	N/A	8.75 (222.3)	3.75 (95)	37-1/2 (242)	48 (22)
EC-3	4 (101.6)	F	2-1/2 (63.5)	F	11 (279)	6.50 (165)	6.50 (165)	3.50 (95)	3/4 (19)	5.77 (147)	N/A	7.63 (193.7)	4.50 (114)	26 (168)	42 (19)
ED-3	4 (101.6)	F	3 (76.2)	F	11 (279.4)	6.50 (165)	6.50 (165)	3.75 (95)	3/4 (19)	7.93 (201)	N/A	10 (254)	4.5 (114)	37-1/2 (242)	55 (25)
EE-3	4 (101.6)	F	4 (101.6)	F	11.5 (292)	6.50 (165)	6.50 (165)	4.50 (114)	3/4 (19)	7.87 (200)	N/A	10.69 (271.5)	4.50 (114)	65 (419)	72 (33)
FE-3	5 (127)	F	4 (101.6)	F	12.5 (318)	7.50 (191)	7.50 (191)	4.50 (114)	3/4 (19)	7.87 (200)	N/A	10.69 (271.5)	5 (127)	65 (419)	84 (38)
FF-3	5 (127)	F	5 (127)	F	13.67 (347)	7.50 (191)	7.50 (191)	5 (127)	3/4 (19)	10.44 (265)	N/A	12.84 (326.1)	5 (127)	90 (581)	100 (45)
GE-3	6 (152.4)	F	4 (101.6)	F	13.5 (343)	8 (203)	8 (203)	4.50 (114)	3/4 (19)	7.87 (200)	N/A	10.69 (271.5)	5.50 (140)	65 (419)	90 (41)
GF-3	6 (152.4)	F	5 (127)	F	15.67 (398)	8 (203)	8 (203)	5 (127)	3/4 (19)	10.46 (266)	N/A	13.84 (351.5)	5.50 (140)	90 (581)	105 (48)
GG-3	6 (152.4)	F	6 (152.4)	F	15.82 (402)	8 (203)	8 (203)	5.50 (140)	3/4 (19)	11 (279)	N/A	14.75 (374.7)	5.50 (140)	127 (819)	134 (61)
HG-3	8 (203.2)	F	6 (152.4)	F	15.82 (402)	9 (229)	9 (229)	5.50 (140)	3/4 (19)	11 (279)	N/A	14.75 (374.7)	6.75 (171)	127 (819)	150 (68)
HH-3	8 (203.2)	F	8 (203.2)	F	19.55 (497)	9 (229)	9 (229)	6.75 (171)	3/4 (19)	12.62 (321)	N/A	18.25 (463.6)	6.75 (171)	218 (1406)	250 (113)
JH-3	10 (254)	F	8 (203.2)	F	19.55 (497)	10 (254)	11 (279)	6.75 (171)	3/4 (19)	12.62 (321)	N/A	18.25 (463.6)	8 (203)	218 (1406)	290 (132)
JJ-3	10 (254)	F	10 (254)	F	22.80 (579)	11 (279)	11 (279)	8 (203)	3/4 (19)	15.68 (398)	N/A	21.50 (546.1)	8 (203)	338 (2180)	415 (188)

(T) Threaded - FPT (F) Flanged *Dimensions include orifice cylinder + 2-1/2 (64) inch clearance.

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

Bell & Gossett
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PH-01-03 PH-05-18

SUBMITTAL
B-831F

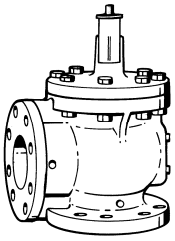
JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG:
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:



Centrifugal Pump Accessories

Triple Duty® Valve – with Flanged Ends

Angle Pattern with Soft Seat Nonslam Check Valve, Throttling Valve, Calibrated Balance Valve and Shutoff Valve

DESCRIPTION

The Triple Duty Valve is a quiet operating heavy-duty valve which performs all of the functions normally required on the discharge side of hydronic system pumps.

The valve serves as a nonslam check valve as needed for zoned pumping, parallel and standby pumping, and condenser water applications. The spring loaded disk prevents valve chatter, and assures positive shutoff.

Bell & Gossett's Triple Duty Valve has a calibrated nameplate for rough system balance. The Triple Duty Valve is also equipped with Model RV-125A brass readout valves for more accurate system balance.

The calibrated nameplate allows the valve to be returned to the original balance position after shutoff.

To repack under system pressure, turn the valve stem to the fully open position. Turning the valve stem to the closed position provides shutoff.

CONSTRUCTION MATERIALS

Body: Cast Iron with Bronze Seat
Disc: Brass with EPDM Seat Insert
Stem: Stainless Steel
Spring: Stainless Steel
Packing: Teflon-Graphite (Asbestos-free)
Gasket: Asbestos-free
Readout Valve: Brass with EPT insert, Check Valve & Gasket

SCHEDULE

Maximum Working Pressure 175 PSIG (1,207 kPa) – Maximum Operating Temperature 250°F (121°C)

MODEL NO.	PART #	FLANGE SIZE INCHES (mm)	MAXIMUM RECOMMENDED FLOW GPM (m^3/Hr)	TAGGING INFORMATION	QUANTITY
3D-2S	132131	2 (50.8)	360 (82)	PH-17/18	2
3D-2-1/2S	132132	2-1/2 (63.5)	360 (82)	PH-01/02/03 , PH-07 , PH-10 , PH-13 , PH-16	7
3D-3S	132133	3 (76.2)	800 (182)		
3D-4S	132134	4 (101.6)	1500 (341)	PH-05/06 , PH-08/09 , PH-11/12 , PH-14/15	8
3D-5S	132135	5 (127)	2050 (466)		
3D-6S	132136	6 (152.4)	2900 (659)		
3D-8S	132137	8 (203.2)	4100 (932)		
3D-10S	132138	10 (254)	6600 (1500)		

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TRIPLE DUTY ® VALVE – ANGLE PATTERN

PH-01-03 PH-05-18 B-831F

PERFORMANCE DATA

Cv RATING REFERENCE	Cv RATING AT 100% OF STEM RISE* (m^3/hr)							
	3D-2S	3D-2-1/2S	3D-3S	3D-4S	3D-5S	3D-6S	3D-8S	3D-10S
A	113 (25.7)	106 (24.1)	241 (54.7)	456 (103.6)	632 (143.5)	863 (196.0)	1,239 (281.4)	2,330 (529.2)
B	85 (19.3)	100 (22.7)	202 (45.9)	356 (80.9)	496 (112.7)	733 (166.5)	1,135 (257.8)	1,998 (453.8)

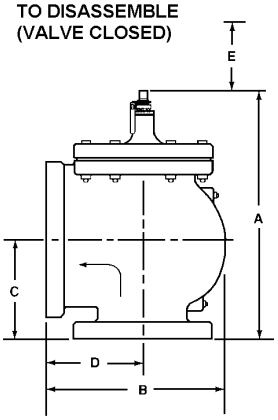
A. FLOWMETER Cv FOR BALANCING. MINIMUM READING OF 3 FEET (.9 m) OF PRESSURE DROP REQUIRED FOR ACCURATE FLOW DETERMINATION.

B. Cv FOR CALCULATING PRESSURE DROP ACCROSS THE VALVE.

NOTE: MAXIMUM RECOMMENDED PRESSURE DROP SHOULD NOT EXCEED 25 FEET (7.6 m).

* CONTACT YOUR LOCAL BELL & GOSSETT REPRESENTATIVE FOR COMPLETE PERFORMANCE CURVE DATA.

DISTANCE REQUIRED TO DISASSEMBLE (VALVE CLOSED)



MODEL NUMBER	DIMENSIONS IN INCHES (mm)							APPROX. SHPG. WT. LBS. (Kg)
	FLANGE SIZE*	A		B	C	D	E	
		OPEN	CLOSED					
3D-2S	2 (50.8)	12-1/8 (308)	11-5/16 (287)	7-15/16 (202)	4-7/16 (113)	4-7/16 (113)	3-1/2 (89)	29 (13)
3D-2-1/2S	2-1/2 (63.5)	12-5/16 (313)	11-5/16 (287)	7-15/16 (202)	4-7/16 (113)	4-7/16 (113)	3-1/2 (89)	28 (13)
3D-3S	3 (76.2)	13-7/16 (341)	12-3/16 (310)	8-1/2 (216)	4-3/4 (121)	4-3/4 (121)	3-15/16 (100)	36 (16)
3D-4S	4 (101.6)	17-11/16 (449)	16-3/16 (411)	11 (279)	4-7/8 (124)	6-3/4 (172)	6-1/4 (159)	92 (42)
3D-5S	5 (127)	18-3/8 (467)	16-5/8 (422)	12 (305)	5-1/16 (129)	7 (178)	6-7/8 (175)	112 (51)
3D-6S	6 (152.4)	20-9/16 (522)	18-9/16 (472)	13-1/2 (343)	5-7/8 (149)	8 (203)	8-1/4 (210)	114 (52)
3D-8S	8 (203.2)	24-3/4 (629)	22-1/2 (572)	15-13/16 (402)	7-1/2 (191)	8-9/16 (519)	10-3/8 (264)	260 (118)
3D-10S	10 (254)	29-7/8 (759)	26-5/8 (676)	19-1/2 (495)	10 (254)	10-7/8 (276)	12-1/4 (311)	358 (163)

*STANDARD 125 PSIG (862 kPa) ANSI FLANGES.

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

TYPICAL SPECIFICATIONS

Furnish and install as shown on plans, an angle pattern valve designed to perform the functions of a nonslam check valve, throttling valve, shutoff valve and calibration balancing valve.

The valve shall be a heavy-duty cast iron construction with standard 125 psig (862 kPa) ANSI flanged connections, and rated for a maximum working pressure of 175 psig (1207 kPa) at 250°F (121°C). The valve shall be fitted with a bronze seat, replaceable brass disc with EPDM seat insert, stainless steel stem, and chatter-preventing spring and calibrated nameplate. The valve design shall permit repacking under full system pressure.

Xylem Inc.
8200 N. Austin Avenue
Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
www.bellgossett.com

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3SV2TA4F60 | Configuration Summary

PUMP

Installation	Complete Pump	Pump Size	1-22SV
		Speed	3500

MOTOR

Sizing Method	Max. shaft power	Frequency (Hz)	60
Service Factor	1.15	Poles	2
Upsize	No	Enclosure	TEPE
Overloading	No	Frame Size	56C
		Power	0.37 kW
		Phase (~)	3
		Voltage	208-230/460 V

IRB: Available in 600V?

MATERIALS

Pump Body Material	Stainless Steel (AISI 304)	Impeller Material	Stainless Steel (AISI 304)

SEAL

Type of Seal	Mechanical Seals	Rotating Face	Carbon
		Stationary Face	Silicon Carbide Graphite Filled
		Elastomers	Viton
		Spring	316 SS
		Metal Components	316 SS

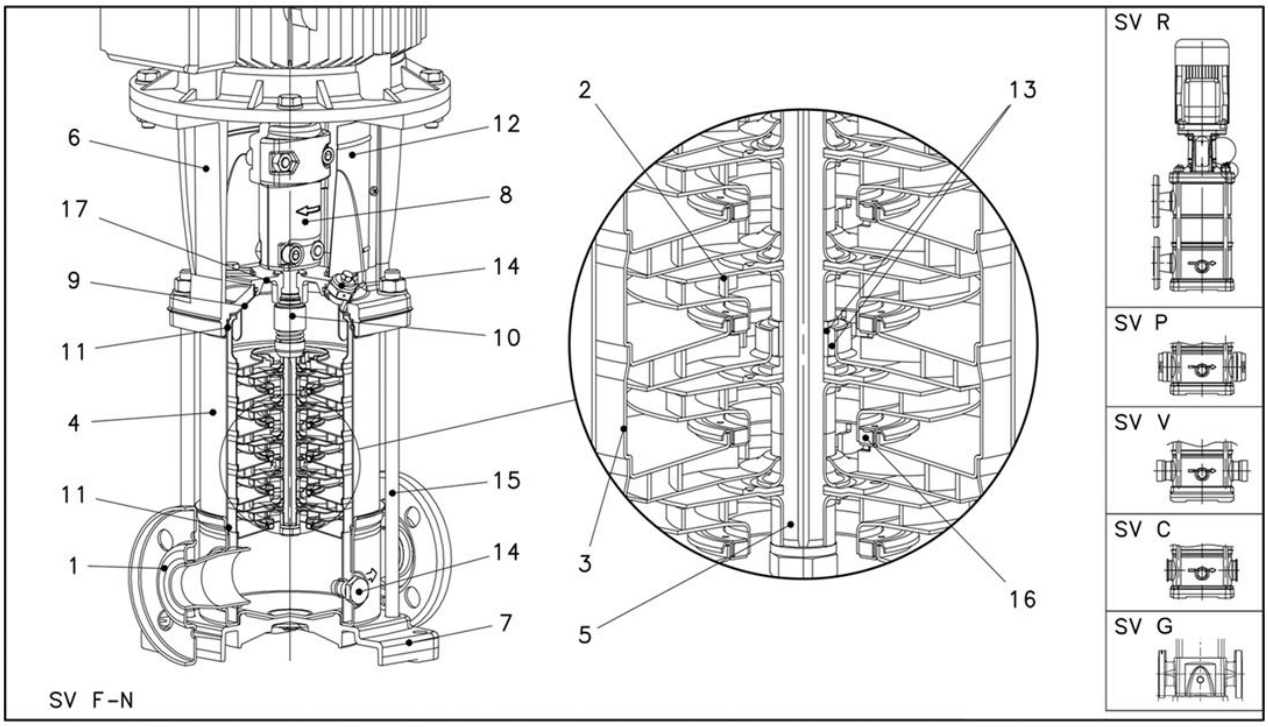
FLANGE

Flange	[T] = Oval Flanges (AISI 304)	Class Type	Class 250 / 300

STANDARD OPTIONS

Special Configuration	Please Select	Additional Configuration	Please Select

3SV2TA4F60 | Product Details



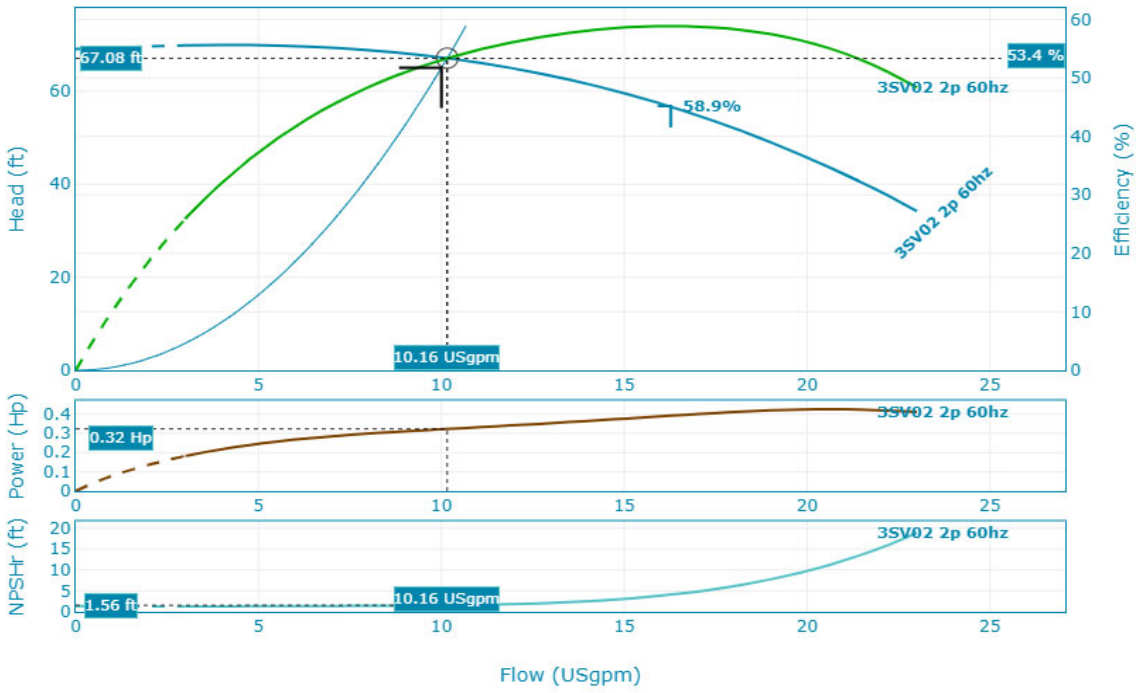
Material Details

Elastomers (11)	Viton (opt . EPDM)
Casing (4)	Stainless Steel / AISI 316L
Seal Gland (17)	Stainless Steel / AISI 316
Diffuser (3)	Stainless Steel / AISI 304
Shaft Sleeve and Bushing (13)	Tungsten Carbide
Pump Body (1)	Stainless Steel (F, P, R) / AISI 304
Seal Plate (9)	Stainless Steel / AISI 316L
Fill/Drain Plugs (14)	Stainless Steel / AISI 316
Adapter (6)	Cast Iron / ASTM Class 35/40B
Base (7)	Aluminum (F, P, R) / A384.0-F
Shaft (5)	Stainless Steel / AISI 316
Tie Rods (15)	Carbon Steel / Zinc Plated / A29 Gr.1045
Coupling (8)	Aluminum / A384.0-F
Mechanical Seal (10)	See Mechanical Section
Coupling Guard (12)	Stainless Steel / AISI 304
Wear Ring (16)	PPS
Impeller (2)	Stainless Steel / AISI 304

Motor Data

Enclosure	TEPE
Speed	3,500 rpm
Rated Power	0.4 kW
Rated Voltage	575V
Frame Size	56C
Phase	3
FLA	1.6-1.5/.75
SLA	2.1-2/1

3SV2TA4F60 | Hydraulic Data & Performance Curve



Selection Criteria

Series	e-SV
Model	3SV02 3500rpm
Stages	2
Frequency	60 Hz
Total Flow	10.00 USgpm
Total Head	65.00 ft
Pump Flow	10.00 USgpm
Pump Head	65.00 ft
System Type	Single Pump
Operating Pumps	1
Rated Power	0.5 Hp
Max Operating Pressure	30.27 psi
Max P2	0.43 Hp

Design Point

Flow	10.16 USgpm
Head	67.08 ft
Efficiency	53.35 %
Shaft power (P2)	0.32 Hp
NPSHr	1.56 ft

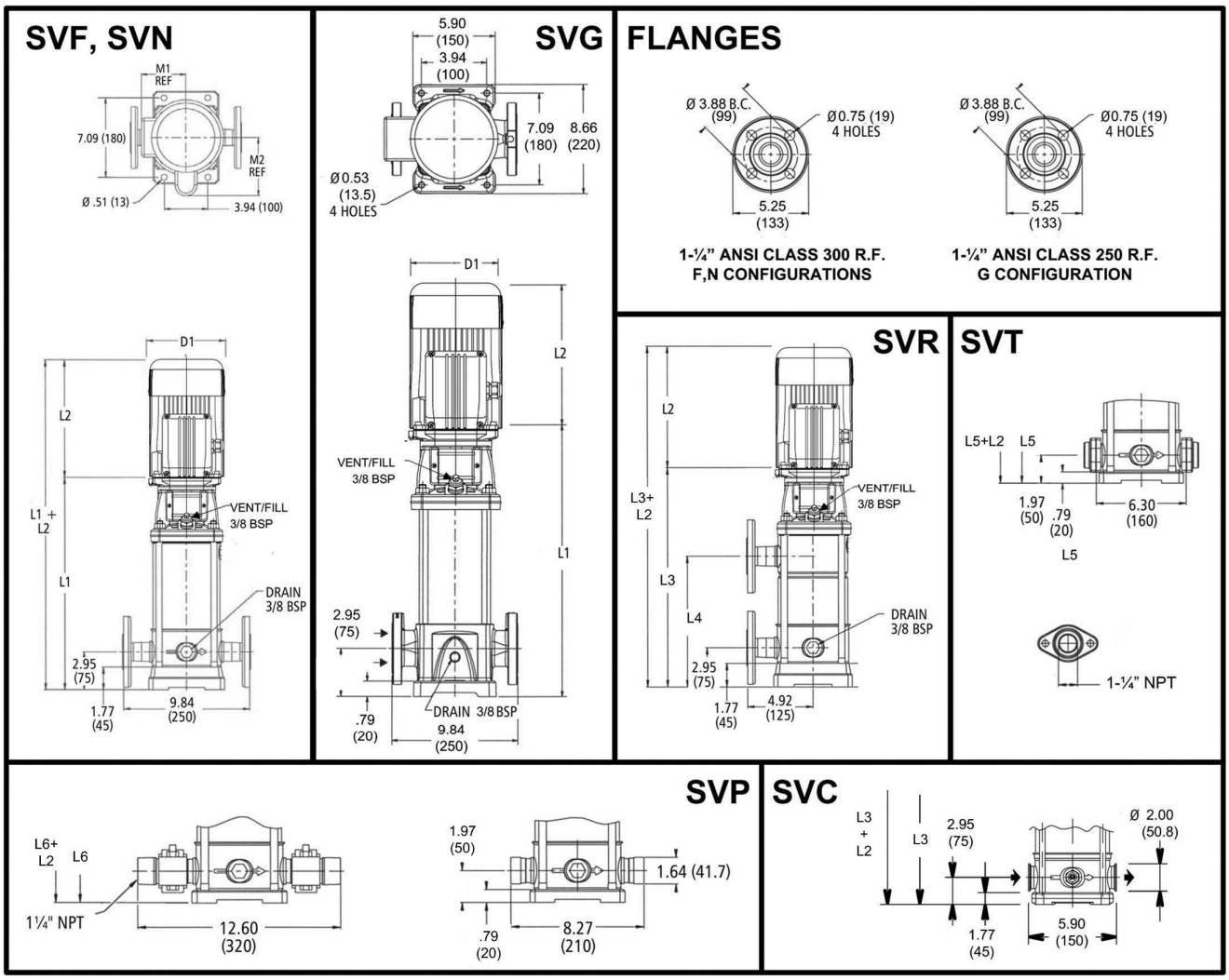
Design Curve Data

Rated Motor Speed	3,500 RPM
Min Flow	3 USgpm
Max Flow	23 USgpm
H@QMax	34.23 ft
H@QMin	69.83 ft
BEP	58.9 %
BEP Flow	16.26 USgpm
BEP Head	56.67 ft

Fluid Data

Fluid Type	Water
Fluid Temperature	68 °F
Specific Gravity	1
Density	62.31322 lb/ft³
Dynamic Viscosity	1.00165 cP
Fluid Vapor Pressure	0.33929 psi

3SV2TA4F60 | Dimensional Data & Drawing



Dimensions

Total Weight	44 lbs
NEMA Frame	56C
L1	13.27 inch
L2	10.17 inch
D1 (MAX.)	7.19 inch
L5	12.29 inch
L6	12.29 inch
D2	6.5 inch
M (Ref.)	6.5 inch

PH-20/21

Bell & Gossett
a xylem brand

Submittal

Job/Project: 22006063 chris Gibson Conv	Representative:	
ESP-Systemwize: WIZE-FDB62B2E Created On: 11/23/2023	Phone:	
Location/Tag: PH-20/21	Email:	
Engineer:	Submitted By:	Date:
Contractor:	Approved By:	Date:

High Efficiency Large Wet Rotor Circulator with ECM Motor

Series: ecocirc® XL N

Model: 70-145

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.

SUITABLE FOR USE WITH DOMESTIC WATER

NSF/ANSI 372 c UL us LISTED

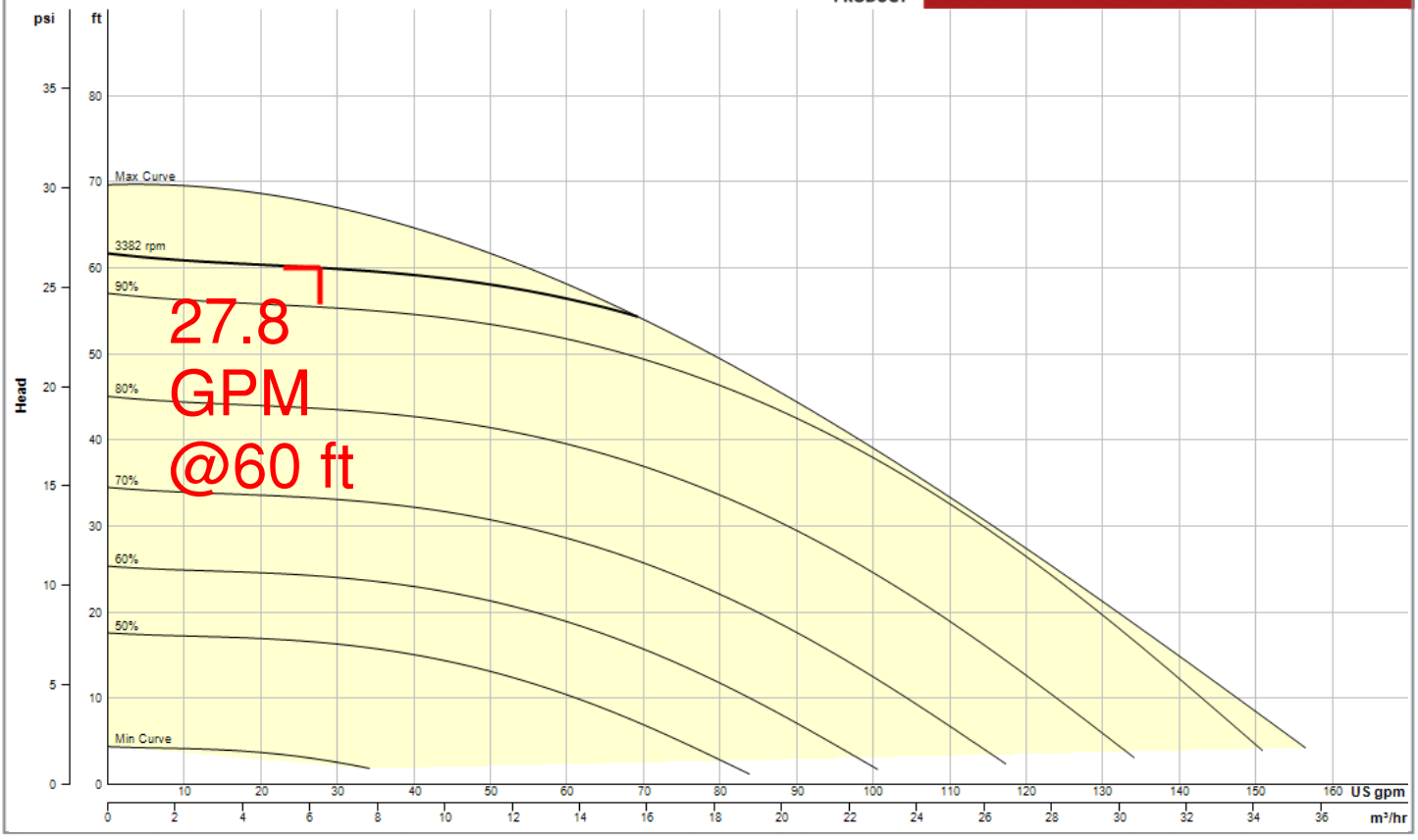
Selection Summary

Duty Point Flow	27.8 US gpm
Duty Point Head	60 ft
Control Head	0 ft
WTW Efficiency at Duty Point	31.8 %
WTW PLEV Efficiency	0.0 %
Motor Power	2.0
Electrical Input Power	1.32 hp
RPM @ Duty Point	3382 rpm
NPSHr	---
Minimum Shutoff Head	61.7 ft
Fluid Temperature	68 °F
Fluid Type	Water
Phase	1
Voltage	208-230
Weight *(approx. - consult rep for exact)*	38 lbs

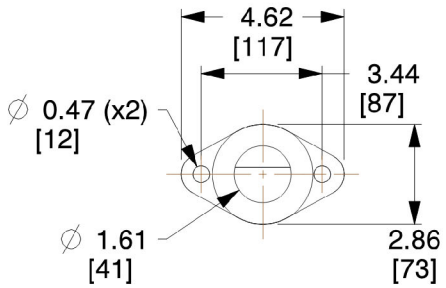
Performance Curve

THE POWER OF e PREMIUM EFFICIENCY PRODUCT

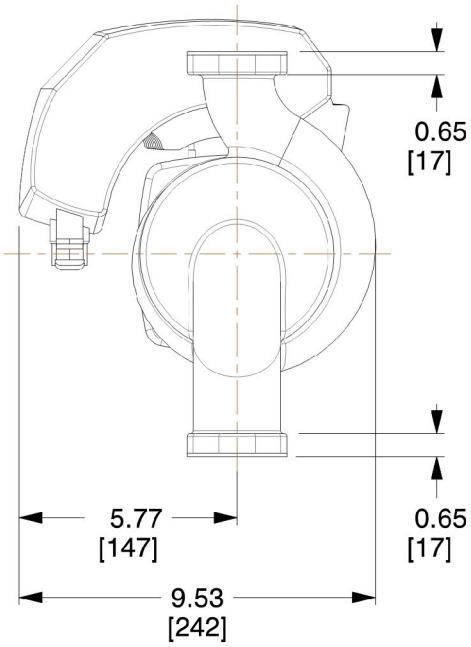
ecocirc XL
Ecocirc XL 70-145

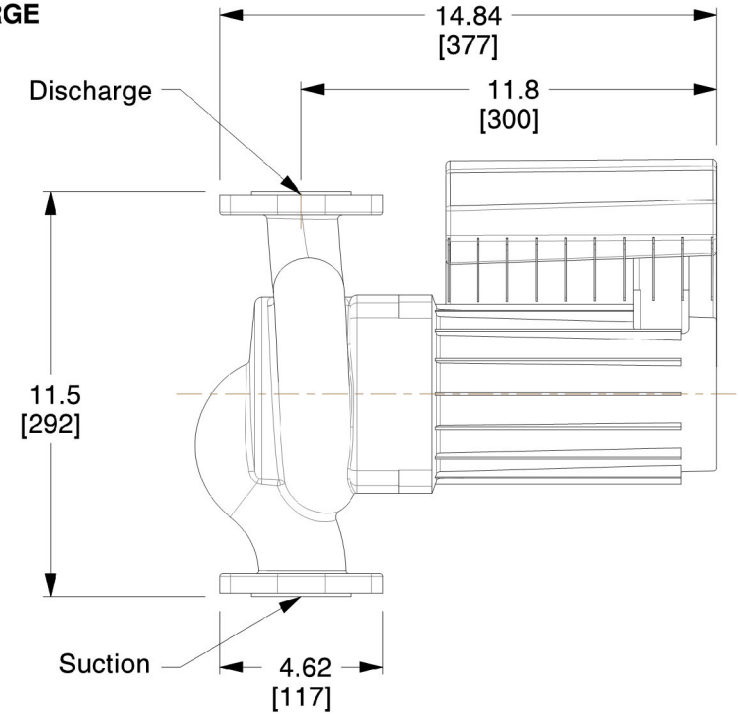


Performance curve meets 14.6 / ISO 9906 acceptance criteria



SUCTION & DISCHARGE FLANGE DETAILS





PH-20/21

Bell & Gossett
a xylem brand

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

Dimensions are subject to change

Not to be used for construction unless certified

BG-104465LF ECOCIRC XL N 70-145

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

Motor Hp:2 | Voltage:208-230 | Phase:1 | Watts Range:55-1400 | Amp Range:0.6-6.0

Dimensions : IN (mm)	Scale : N.T.S.	Submittal # : A-429C

PH-20/21

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)

NSF/ANSI 372

c UL us LISTED

STANDARD OPERATING MODES

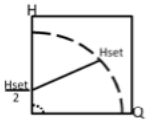
CONSTANT SPEED

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 deceases 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 TEMPERTURE (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 TEMPERTURE (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.

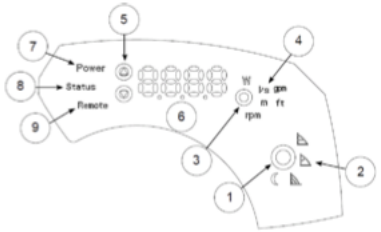
REMOTE BUILDING MANAGEMENT SYSTEM CAPABILITIES

- 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

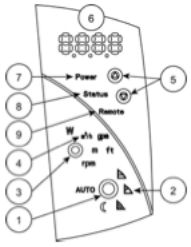
START/STOP CONNECTIONS: Connect to external dry contact relay or use with a thermostat.

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



1. Control mode button
2. Control mode indicators
3. Parameter button
4. Parameter indicators
5. Setting buttons
6. Numeric display
7. Power indicator
8. Status / Fault indicator
9. Remote control indicator



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PH-22

SUBMITTAL
B-146.1A

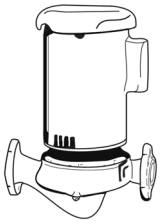
JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG: PH-22
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-23
DATE:
DATE:



1.25AAB
Series e-90
Centrifugal Pumps
In-Line Mounted - Close Coupled

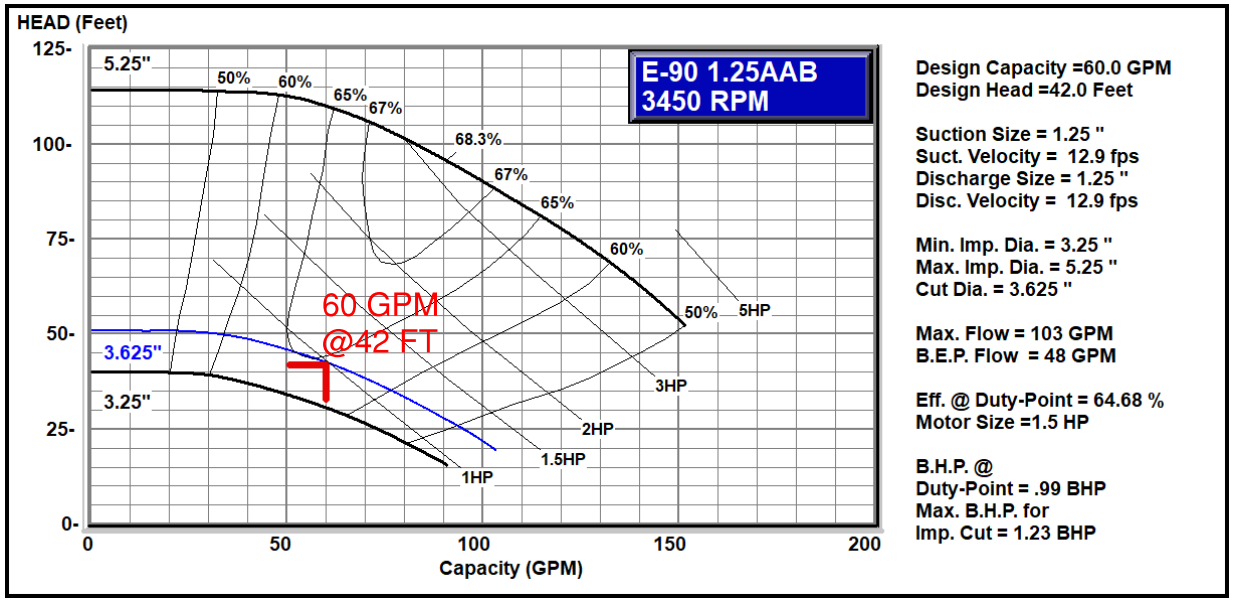
SPECIFICATIONS

FLOW	60	HEAD	42
HP	1.5	RPM	3600
VOLTS	575		
CYCLE	60	PHASE	3
ENCLOSURE	ODP Standard Efficient		
APPROX. WEIGHT	63		
SPECIALS			

MATERIALS OF CONSTRUCTION
☒ BRONZE FITTED

MAXIMUM WORKING PRESSURE
☒ 175 psi (12 bar) W.P.

TYPE OF SEAL
☒ Standard Seal
EPR/Carbon/Silicon Carbide
-10 to 250°F (-23 to 121°C)



Design Capacity =60.0 GPM
Design Head =42.0 Feet

Suction Size = 1.25 "
Suct. Velocity = 12.9 fps
Discharge Size = 1.25 "
Disc. Velocity = 12.9 fps

Min. Imp. Dia. = 3.25 "
Max. Imp. Dia. = 5.25 "
Cut Dia. = 3.625 "

Max. Flow = 103 GPM
B.E.P. Flow = 48 GPM

Eff. @ Duty-Point = 64.68 %
Motor Size =1.5 HP

B.H.P. @
Duty-Point = .99 BHP
Max. B.H.P. for
Imp. Cut = 1.23 BHP

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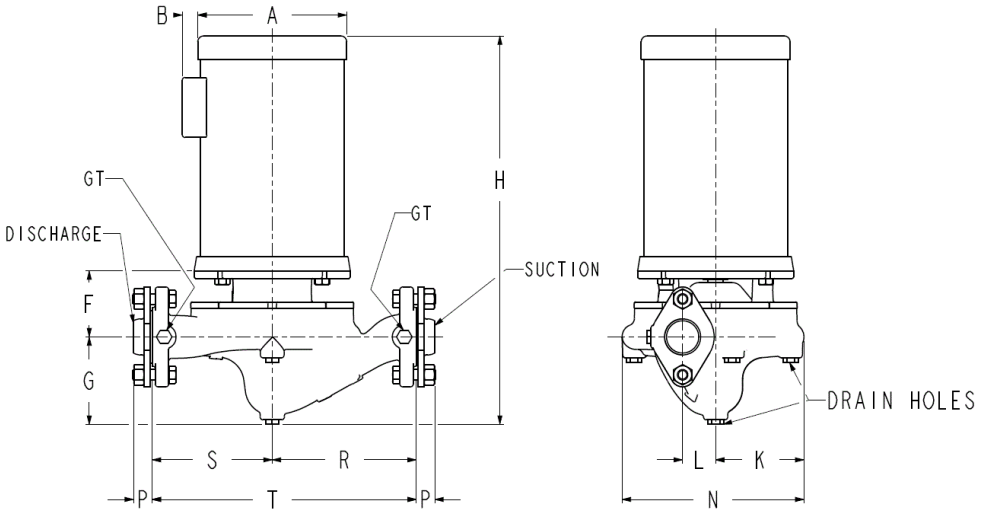

PUMP SIZE	SUCTION AND DISCHARGE SIZE - INCHES NPT	PUMP DIMENSIONS IN INCHES (MM)								
		F	G	K	L	N	P	R	S	T
1-1/4AAB	1-1/4	2-3/4 (70)	4 (102)	3-5/8 (92)	1-3/8 (35)	7-1/2 (190)	3/4 (19)	5 (127)	6 (152)	11 (279)

Maximum working pressure 175psi (12bar)
GT=Gauge Tap 1/8" NPT

DIMENSIONS - Inches (mm)

MOTOR HP			A MAX.	B	H MAX.
1725	3450	PHASE			
1/4		1	7-1/2 (190)	1-1/2 (38)	15-1/2 (394)
1/3		1	7-1/2 (190)	1-1/2 (38)	16 (406)
1/2		1	7-1/2 (190)	1-1/2 (38)	16 (406)
1/2		3	7-1/2 (190)		15-5/8 (397)
3/4		1	7-1/2 (190)	1-1/2 (38)	16-1/2 (419)
3/4		3	7-1/2 (190)		16-1/4 (413)
	1	1	7-1/2 (190)	1-1/2 (38)	16-1/2 (419)
	1	3	7-1/2 (190)		17-3/4 (451)
	1-1/2	1	7-1/2 (190)	1-1/2 (38)	17-3/4 (451)
➡	1-1/2	3	7-1/2 (190)		17-1/4 (438)
	2	1	7-1/2 (190)	1-1/2 (38)	18 (457)
	2	3	7-1/2 (190)		17-1/4 (438)
	3	1	7-1/2 (190)	1-1/2 (38)	18-1/2 (470)
	3	3	7-1/2 (190)		18 (457)
	5	3	7-1/2 (190)		21 (533)

Dimensions are subject to change. Not to be used for construction purposes unless certified.
Companion Flanges furnished for Suction and Discharge.

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Phone: (847)966-3700 Fax: (847)965-8379
www.bellgossett.com

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PH-01-19 PH-22

Bell & Gossett
a xylem brand

SUBMITTAL
B-551E

JOB: 22006063 Chris Gibson Conv

REPRESENTATIVE: HTS Engineering

UNIT TAG:
ENGINEER:
CONTRACTOR:

ORDER NO.
SUBMITTED BY:
APPROVED BY:

DATE: 2023-11-29
DATE:
DATE:

Technologic® Intelligent Pump Controller

TECHNOLOGIC STANDARD FEATURES	
CONTROL METHOD	Constant Pressure, Linear Control Curve, Quadratic Control Curve, Factory configured for sensorless operation (optional). Field configurable for use with a wired transducer.
CONTROL ZONES	Up to 4 zones.
STARTUP GENIE	Quick start for programming hydraulic specific applications and pump protections.
MULTIPUMP	Up to 4 pumps via RS485.
ENCLOSURE	UL Type ☒ 1 (Bypass has type 1 and 12 only)
POWER DISCONNECT SWITCH	☒ Fused Disconnect Switch (Fused Disconnect Switch is standard for Drive-Byspass and 150-600HP Drive)
EMI/RFI CONTROL	Integrated filter to meet EN62800-3.
HARMONIC SUPPRESSION	Integrated non-saturating dual DC link reactors provide better harmonic performance than a 5% AC line reactor.
COOLING	Fan-cooled through temperature controlled and easy replacement.
AMBIENT TEMPERATURE RATING	14°F to 113°F (-10°C to 45° C)
COMMUNICATION PROTOCOLS	BACnet, Modbus RTU, N2 Metasys as standard
ANALOG INPUTS	1 configurable for either voltage (0 to 10VDC) or current (0/4 to 20mA) and 1 current (0/4 to 20mA).
ANALOG OUTPUTS	1 (0/4 to 20mA) up to 500 ohm load accurate to 1% of full scale
DIGITAL INPUTS	4 (0 to 24VDC), NPN or PNP, 0 to 24VDC, on 5 msec scan interval, Up to 2 can be configured as pulse inputs.
DIGITAL OUTPUTS	2 (0 to 24VDC), 40mA max current, configurable as pulse outputs.
RELAY OUTPUTS	2 programmable, 240VAC or 400VAC up to 2 A
BYPASS OPTION	☒ Drive-Bypass, 3 Contactor, 100 KA SCCR, Electronic Control, Fused Disconnect Switch

PH-01-19 PH-22

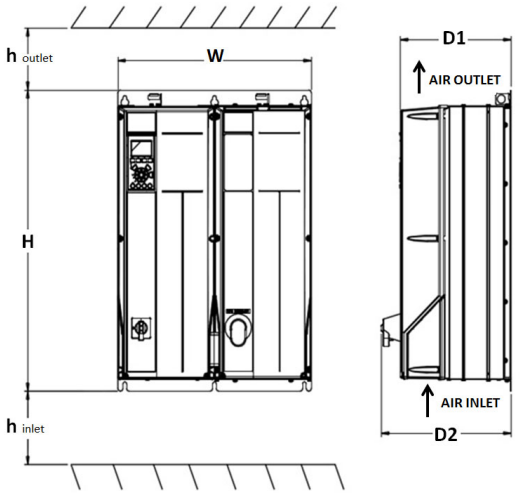
Technologic Intelligent Pump Controller Submittal **B-551E**

525 - 600 VAC 3 Phase Mains Drive 600 VAC 3 Phase Mains Drive-Bypass					
HP	Output Current (A)		TYPE 1 Frame		
	Drive 525-600 VAC	Drive-Bypass 600 VAC	Drive 525-600 VAC	Drive-Bypass 600 VAC	
0.5	N/A	0.9	N/A	A3	
0.75	N/A	1.3	N/A	A3	
1	N/A	1.7	N/A	A3	
1.5	2.4	2.4	A3	A3	PH-04/19/22
2	2.7	2.7	A3	A3	
3	3.9	3.9	A3	A3	PH-07/13/17/18
5	6.1	6.1	A3	A3	PH-10/16
7.5	9	9	A3	A3	PH-01/02/03
10	11	11	A3	A3	PH-05/06/11/12
15	18	17	B1	B3	PH-08/09/14/15
20	22	22	B1	B3	
25	27	27	B1	B3	
30	34	32	B2	B4	
40	41	41	B2	B4	
50	52	52	C1	B4	
60	62	62	C1	C3	
75	83	77	C1	C3	
100	100	99	C2	C4	
125	131	125	C2	C4	

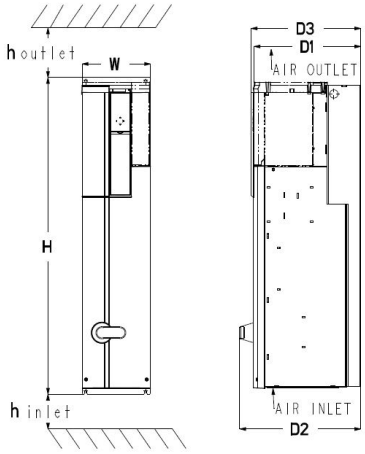
PH-01-19 PH-22

Technologic Intelligent Pump Controller Submittal **B-551E**

Bypass Drawings and Specification Table



SIDE - SIDE



TOP - BOTTOM

Frame Data	Nominal Weight lbs/Kg	Temperature Rating (°F/°C)	Enclosure Rating	Dimensions							
		NEMA 1	NEMA 1	**H** inches/mm	**W** inches/mm	**D1** inches/mm (without option A/B)	**D2** inches/mm	**D3** inches/mm (with option A/B)	**h inlet** inches/mm	**h outlet** inches/mm	Configuration
A2[1]	35/16	113/45	X	31.74/806	7.63/194	8.27/210	9.73/247	8.75/222	3.94/100	3.94/100	Top-Bottom
A3[1]	35/16	113/45	X	31.74/806	7.63/194	8.27/210	9.73/247	8.75/222	3.94/100	3.94/100	Top-Bottom
A5	55/25			18.86/479	19.18/487	8.55/217	10.30/262	8.55/217	3.94/100	3.94/100	Side-Side
B1	84/38.1			21.48/546	19.09/485	10.84/275	12.86/327	10.84/275	3.94/100	3.94/100	Side-Side
B2	105/48			28.18/716	19.09/485	10.86/276	12.81/325	10.86/276	3.94/100	3.94/100	Side-Side
B3[1]	84/38	104/40	X	41.77/1061	9.11/231	14.15/360	15.94/405	14.69/373	7.87/200	2.00/51	Top-Bottom
B4	106/48	104/40	X	43.30/1100	9.77/248	16.30/414	17.70/450	16.30/414	7.87/200	2.00/51	Top-Bottom
C1	145/66			29.94/761	24.37/619	12.74/324	14.87/378	12.74/324	3.94/100	3.94/100	Side-Side
C2	190/86			33.49/851	29.24/743	13.72/349	16.22/412	13.72/349	8.86/225	8.86/225	Side-Side
C3	167/76	104/40	X	54.38/1381	12.69/322	16.59/422	17.99/457	16.59/422	7.87/200	2.00/51	Top-Bottom
C4	248/112	104/40	X	59.64/1515	15.13/384	16.59/422	18.01/458	16.59/422	8.86/225	2.00/51	Top-Bottom

Notes:
1) A2, A3 and B3 frames require a minimum of 1.5 inch (38.1mm) clearance on either side for proper air flow and cooling
2) D1 and D3 are the same if the option A/B card does not require a new LCP frame

Xylem Inc.
8200 N. Austin Avenue, Morton Grove, IL 60053
Phone: (847)966-3700 Fax: (847)965-8379
www.xyleminc.com/bellgossett

RP-1

Bell & Gossett
a xylem brand

Submittal

Job/Project: 22006063 chris Gibson Conv	Representative:	
ESP-Systemwize: WIZE-9007C31F Created On: 11/23/2023	Phone:	
Location/Tag: RP-1	Email:	
Engineer:	Submitted By:	Date:
Contractor:	Approved By:	Date:

High Efficiency Large Wet Rotor Circulator with ECM Motor

Series: ecocirc® XL N

Model: 95-160 3ph

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.

SUITABLE FOR USE WITH DOMESTIC WATER

NSF/ANSI 372 c UL us LISTED

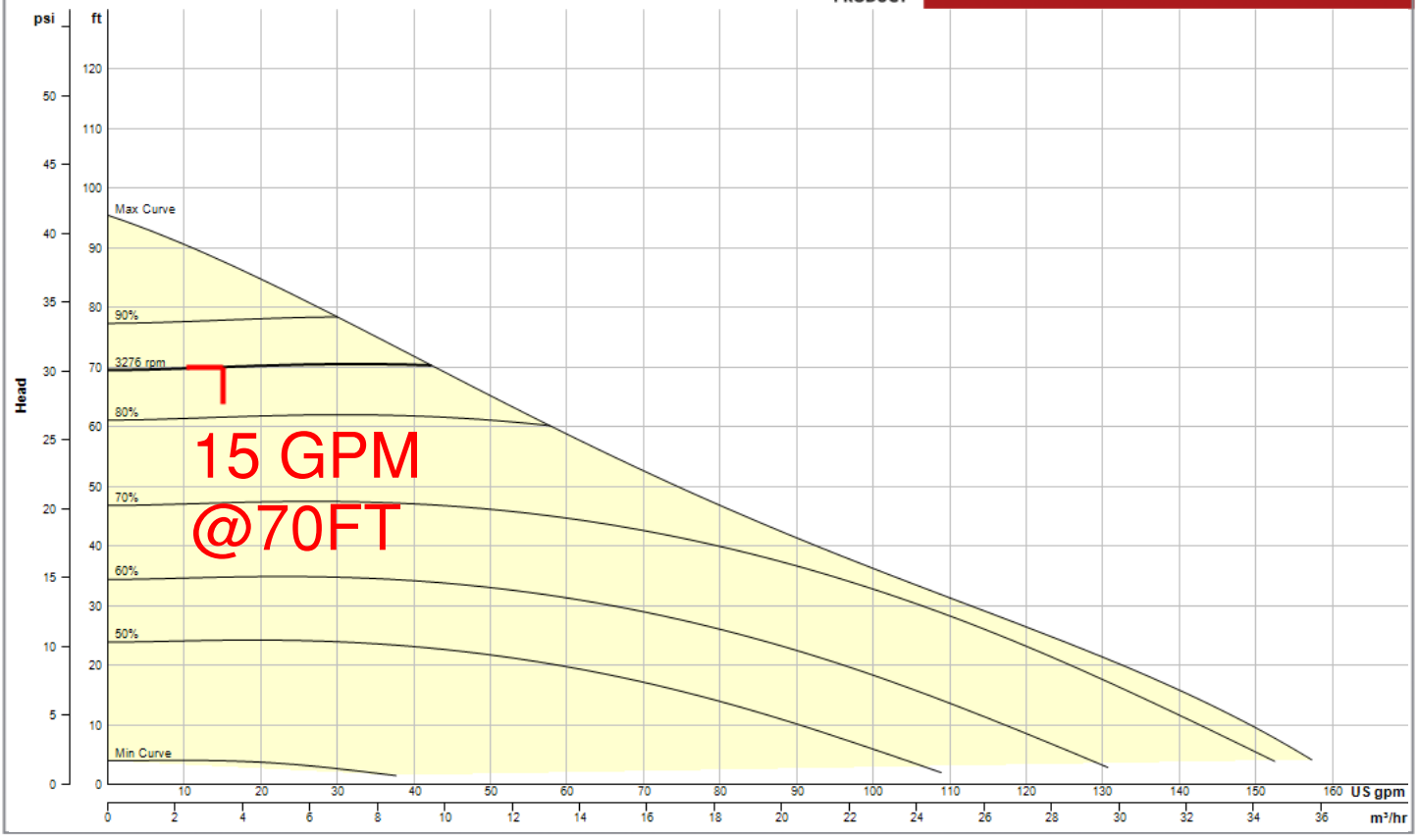
Selection Summary

		15 US gpm
		70 ft
Control Head		0 ft
WTW Efficiency at Duty Point		19.4 %
WTW PLEV Efficiency		0.0 %
		2.0
Electrical Input Power		1.36 hp
RPM @ Duty Point		3276 rpm
NPSHr		---
Minimum Shutoff Head		69.5 ft
Fluid Temperature		68 °F
Fluid Type		Water
Phase		3
Voltage	208	
Weight *(approx. - consult rep for exact)*		40 lbs

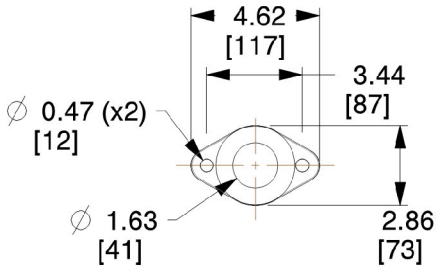
Performance Curve

PREMIUM EFFICIENCY PRODUCT

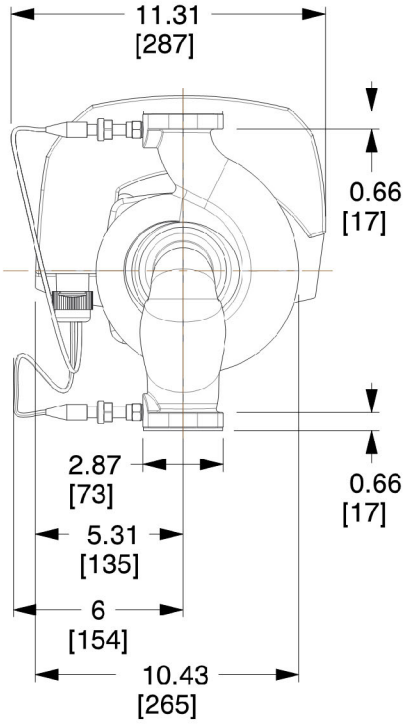
ecocirc XL
Ecocirc XL 95-160 3ph

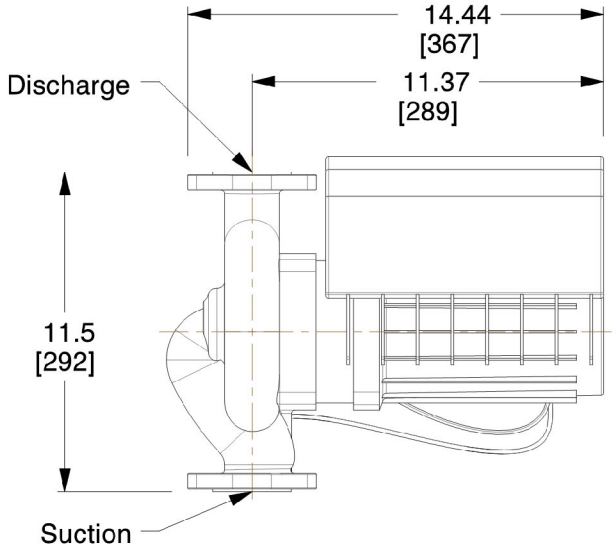


Performance curve meets 14.6 / ISO 9906 acceptance criteria



SUCTION & DISCHARGE FLANGE DETAILS





RP-1

Bell & Gossett
a xylem brand
8200 N. Austin Ave.
Morton Grove, IL 60053, USA

Dimensions are subject to change

Not to be used for construction unless certified

BG-104321 ECOCIRC XL 95-160

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

Motor Hp:2 | Voltage:208-230 | Phase:3 | Watts Range:90-1250 | Amp Range:0.6-4.4

Dimensions : IN (mm)	Scale : N.T.S.	Submittal # : A-429C

RP-1

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)

NSF/ANSI 372

c UL us LISTED

STANDARD OPERATING MODES

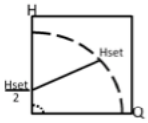
CONSTANT SPEED

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 deceases 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 TEMPERTURE (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 TEMPERTURE (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.

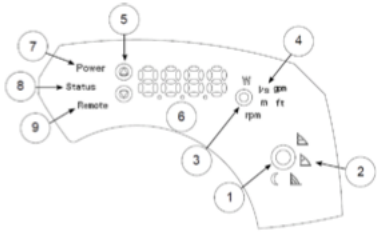
REMOTE BUILDING MANAGEMENT SYSTEM CAPABILITIES

- 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

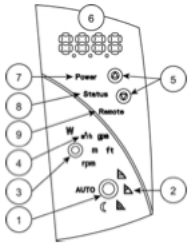
START/STOP CONNECTIONS: Connect to external dry contact relay or use with a thermostat.

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



1. Control mode button
2. Control mode indicators
3. Parameter button
4. Parameter indicators
5. Setting buttons
6. Numeric display
7. Power indicator
8. Status / Fault indicator
9. Remote control indicator



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