



Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
LittleRock, AR 72231
Phone 501-834-3320
Fax 501-834-5416

Date: 9/1/2025

Return Request: 9/15/2025

Project: Hot Springs National Park – Rehabilitate Bathhouses – Maurice Bathhouse

Supplier: Boone & Boone

Manufacturer: Bell & Gossett

Submittal: HVAC Pumps

Submittal Number: 232123.001

Spec Section: 232123

Drawing # and Installation Location: MP4.0

ARCHITECT

Strata Architecture
1701 Oak Street, Suite 100
Kansas City, Missouri 64108
(816)474-0900

GENERAL CONTRACTOR

Tepa, LLC
2345 Grand Blvd, Suite 700
Kansas City, Missouri 64108
(816)708-1110

ENGINEER

IMEG Corp.
1600 Baltimore Street, Suite 300
Kansas City, Missouri 64108
(816)842-8437

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.
9924 Landers Road
North Little Rock, Arkansas 72117
(501)834-3320

Comments:

CSUSA PROJECT NO.

25-7065

joe@comfortar.com

9924 Landers Road
No. LittleRock, AR 72117

Job/Project: Maurice Bathhouse - Rehabilitate Bathhouses	Representative: Mark Eley	
ESP-Systemwize: WIZE-30485582	Created On: 08/14/2025	Phone: 9186649756
Location/Tag: CWP-1M	Email: laurac@2boonesales.com	
Engineer: IMEG Corp.	Submitted By:	Date:
Contractor: Comfort Systems USA	Approved By:	Date:

Split-Coupled In-Line Centrifugal Pump

Series: e-80SC

Model: 2.5x2.5x7B

Features & Design

- Best in Class Hydraulic Performance
- Shaft Jacking Coupling
- Optional Flange Mounting Supports



*The Bell & Gossett Series e-80SC is available in stainless steel fitted construction, with flows to 8500 GPM, heads to 202 ft.

Pump Selection Summary

Duty Point Flow	220.0 US gpm
Duty Point Head	75.0 ft
Control Head	22.5 ft
Duty Point Pump Efficiency	65.4 %
Part Load Efficiency Value (PLEV)	66.1 %
Impeller Diameter	5.375 in
Motor Power	7.5 hp
Duty Point Power	6.52 bhp
Motor Speed	3600 rpm
RPM @ Duty Point	3475 rpm
NPSHr	11 ft
Minimum Shutoff Head	109 ft
Minimum Flow at RPM	37 US gpm
Flow @ BEP	185 US gpm
Fluid Temperature	68 °F
Fluid Type	30% Propylene glycol
Weight (approx. - consult rep for exact)	280 lbs
Pump Floor Space Calculation	1.77 ft²

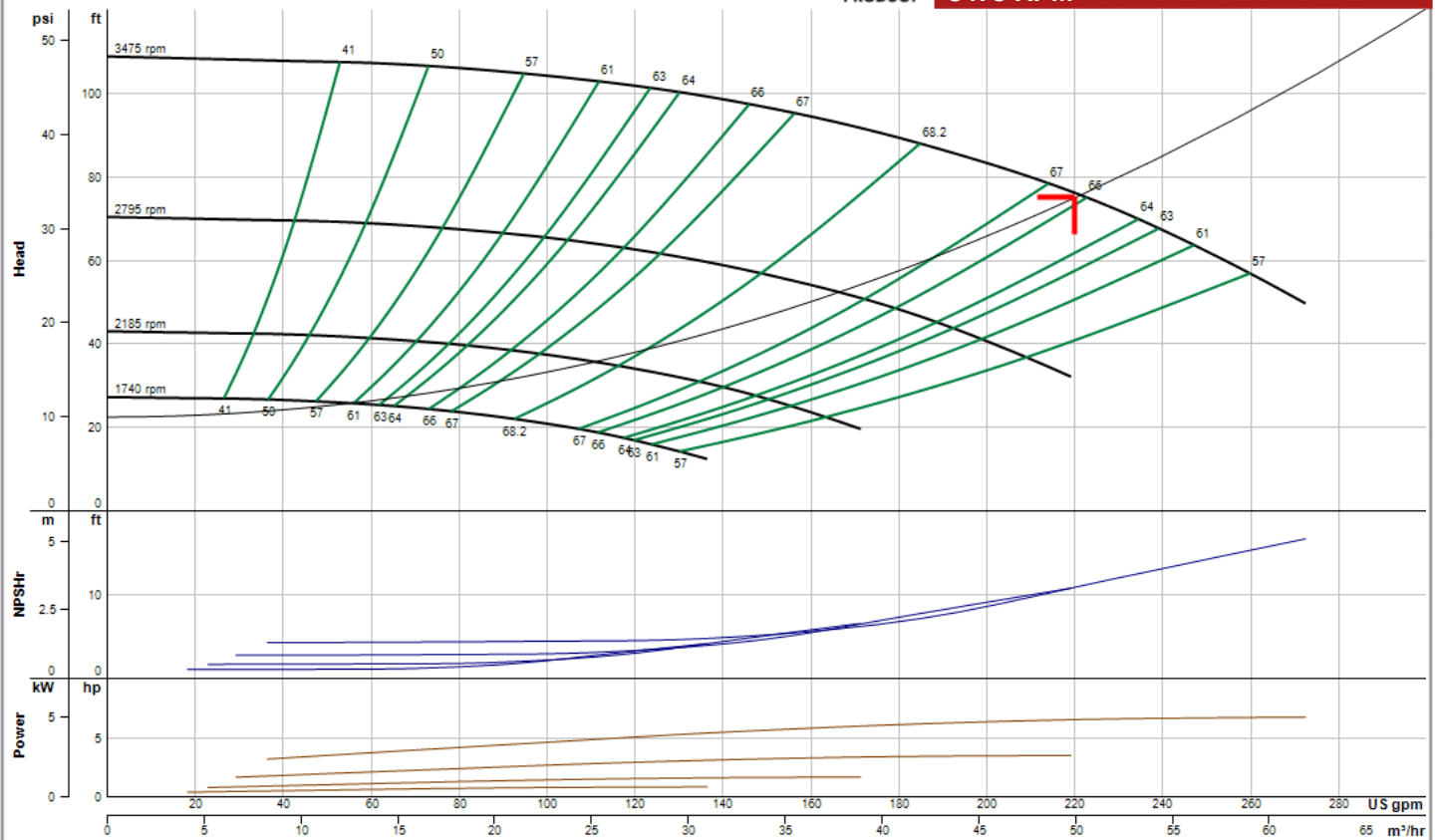
Performance Curve

Energy Efficiency Ratings:

Pump & Motor PEIcl: 0.89 ERcl: 11
Pump, Motor & Drive: PEIvl: 0.45 ERvl: 55

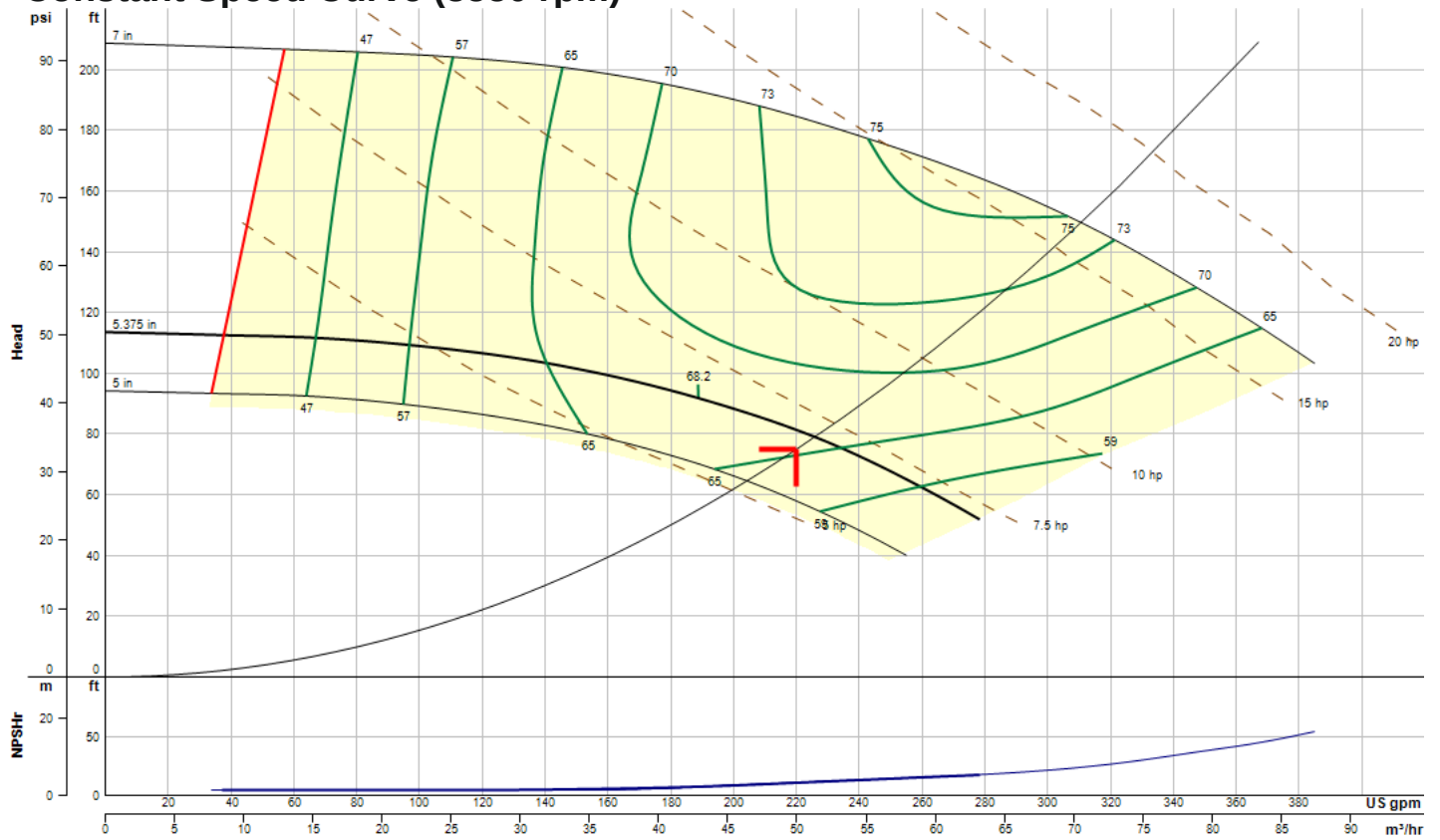


e-80SC
2.5x2.5x7B
3475 RPM



Specific Gravity: 1.0255, Viscosity: 2.9301 | Performance curve meets 14.6 / ISO 9906 acceptance criteria

Constant Speed Curve (3550 rpm)



Operating Point

Flow: 221 US gpm Head: 75.3 ft Speed: 3475 Efficiency: 65.4% Point BHP: 6.52 End Of Curve: 81%

Maximum Duty Point (at rated motor speed)

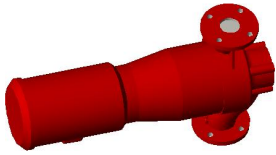
Flow: 225 US gpm Head: 78.7 ft Speed: 3550 Efficiency: 65.6% Point BHP: 6.95 NOL Flow: 278 US gpm Runout Flow: 278 US gpm NOL (BHP): 7.18

Materials Of Construction

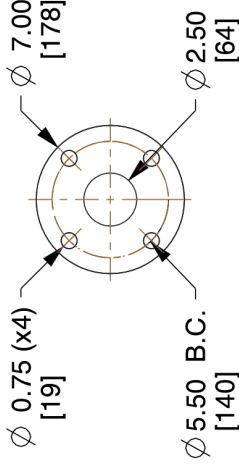
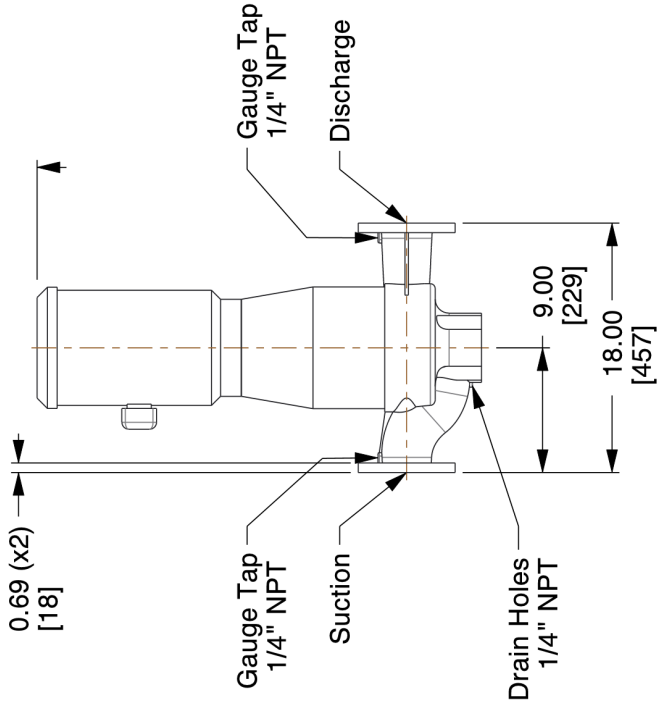
Pump Information\Construction	
Pump Series	e-80SC
Pump Size	2.5 x 2.5 x 7B
Seal Type	Stuffing Box
Seal Material	Standard Internal EPR/Carbon/Ceramic/SS
Material of Construction	Stainless Steel Fitted
Impeller Diameter	5.375 inches
Sleeve Material	Standard

VFD Details	
VFD_Nema	None
Variable_Speed_On	True
Variable_Speed	3475

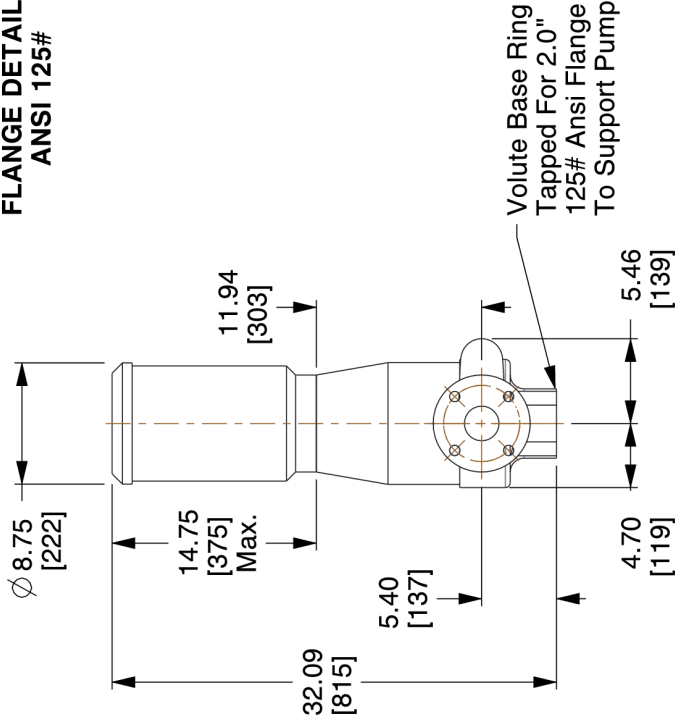
Motor Details	
Motor Power	7.5
Motor Speed	3600
Frequency	60
Phase	3
Voltage	200
Frame	184TC
Enclosure	ODP
Motor Manufacturer	Baldor
Motor Status	MO
Motor Comments	Nema Premium Efficient



4.50 [114]
Space Required
For Dismantling



2.5" SUCTION & DISCHARGE FLANGE DETAILS ANSI 125#



Bell & Gossett
a xylem brand

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-E80SC-2.5x2.5x7B-184TC-1-IN

Series e-80SC In-Line Mounted Centrifugal Pumps

Motor Frame: 184TC | Flange: ANSI 125#

Dimensions : IN (mm)

Scale : N.T.S.

Submittal # : B-552.8

Materials of Construction

Description	Stainless Steel Fitted Pump
Shaft	416 Stainless Steel
Volute	Cast Iron ASTM A48 Class 30B
Impeller	ASTM A743 Grade CF8 (304SS)
Impeller Key	Stainless Steel
Impeller Lock Washer	Stainless Steel
Impeller Capscrew	Stainless Steel
Volute Gasket	Cellulose Fiber
Throttle Bushing	Carbon Graphite
Seal Assemblies	
• Standard Seal-Inside Flushed	
Bellows	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel or Brass
Spring	Stainless Steel or Brass
• Optional Seal -Inside Flushed	
Bellows	EPR
Faces	Carbon-Tungsten Carbide
• Optional Seal-Outside Flushed	
O-Rings	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel

Standard pump construction is 175 psi working pressure with 125 ANSI flange drilling. Optional 250 psi working pressure with 250 ANSI flange drilling is available.

Seal Selection Guide - Optional Outside Seal

A. Standard Seal - Inside with flush line.

EPR/Carbon-Ceramic; Temperature Range -20° to +250°F (-29° to +121°C).

*Maximum pressure is 175 psi (12 bar).

B. Optional Seal - Inside with flush line.

EPR/Carbon-Tungsten Carbide; Temperature Range -20° to + 250°F (-29° to + 121°C). * For use on open or closed water systems. Maximum pressure is 250 psi (17 bar).

C. Optional Seal - Outside with flush line.

EPR/Carbon-Ceramic Type "8B2"; Temperature Range -20° to +250°F (-29° to + 121°C). * For use on closed or open systems where the pressure requirements exceed the limitations of the standard seal or an alternate seal design is desired. Maximum pressure is 250 psi (17 bar).

*For operating conditions above 250°F (121°C and no greater than 300°F (149°C) a cooled flush is required. On closed systems cooling is accomplished by inserting the optional heat exchanger kit in the flush line to cool the seal flushing fluid.

Flush line filters and sediment separators are available on request.

Configuration Options

Contact your local rep for assistance

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

Type of Seal

- Standard Inside Unitized (EPR/Carbon-Ceramic)
- Inside Unitized (EPR/Carbon-Tungsten Carbide)-250#
- Inside Unitized (FKM/Carbon-Ceramic)
- Inside Unitized (EPR/SilCar/SilCar/SS)
- Other seal, see description
- Outside (EPR/Carbon-Ceramic)-250#
- Outside (FKM/Carbon-Ceramic)-250#



Shown with optional Technologic IPC variable frequency drive and Technologic PPS controller

Job/Project: Maurice Bathhouse - Rehabilitate Bathhouses	Representative: Mark Eley	
ESP-Systemwize: WIZE-30485582	Created On: 08/14/2025	Phone: 9186649756
Location/Tag: HWP-1M HWP-2M	Email: laurac@2boonesales.com	
Engineer: IMEG Corp.	Submitted By:	Date:
Contractor: Comfort Systems USA	Approved By:	Date:

Split-Coupled In-Line Centrifugal Pump

Series: e-80SC

Model: 1.5x1.5x7C

Features & Design

- Best in Class Hydraulic Performance
- Shaft Jacking Coupling
- Optional Flange Mounting Supports



*The Bell & Gossett Series e-80SC is available in stainless steel fitted construction, with flows to 8500 GPM, heads to 202 ft.

Pump Selection Summary

Duty Point Flow	50.0 US gpm
Duty Point Head	80.0 ft
Control Head	24.0 ft
Duty Point Pump Efficiency	53.7 %
Part Load Efficiency Value (PLEV)	48.6 %
Impeller Diameter	5.25 in
Motor Power	5 hp
Duty Point Power	1.81 bhp
Motor Speed	3600 rpm
RPM @ Duty Point	2998 rpm
NPSHr	9.06 ft
Minimum Shutoff Head	84.6 ft
Minimum Flow at RPM	14.1 US gpm
Flow @ BEP	70.5 US gpm
Fluid Temperature	68 °F
Fluid Type	Water
Weight (approx. - consult rep for exact)	225 lbs
Pump Floor Space Calculation	1.6 ft²

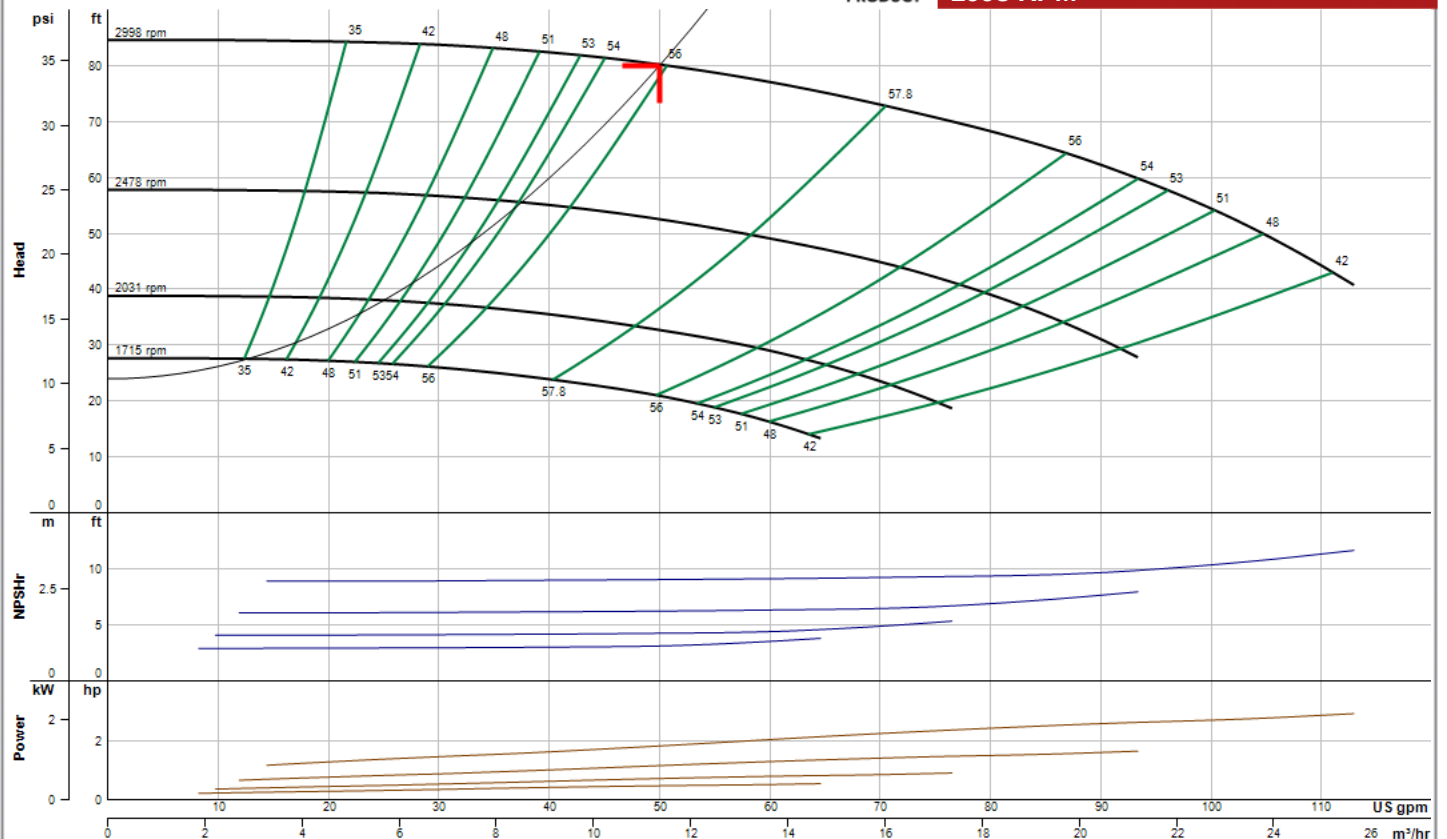
Performance Curve

Energy Efficiency Ratings:

Pump & Motor PEIcl: 0.82 ERcl: 18
Pump, Motor & Drive: PEIvl: 0.42 ERvl: 58

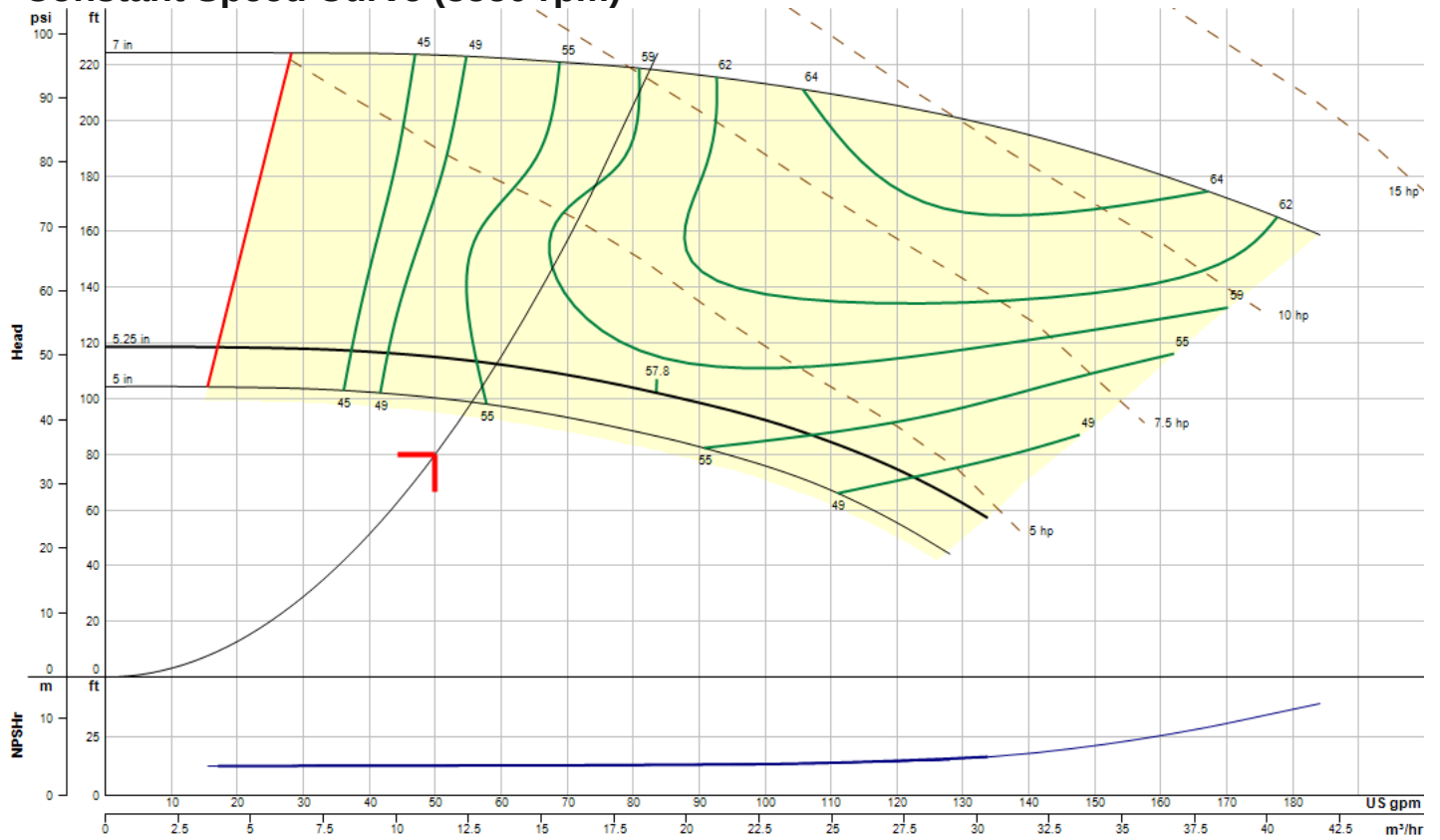


e-80SC
1.5x1.5x7C
2998 RPM



Performance curve meets 14.6 / ISO 9906 acceptance criteria

Constant Speed Curve (3550 rpm)



Operating Point

Flow: 50 US gpm Head: 80 ft Speed: 2998 Efficiency: 53.7% Point BHP: 1.81 End Of Curve: 44.3%

Maximum Duty Point (at rated motor speed)

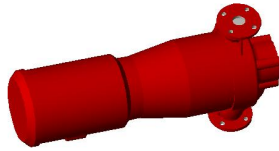
Flow: 59.2 US gpm Head: 112 ft Speed: 3550 Efficiency: 55.3% Point BHP: 3.01 NOL Flow: 134 US gpm Runout Flow: 134 US gpm NOL (BHP): 4.82

Materials Of Construction

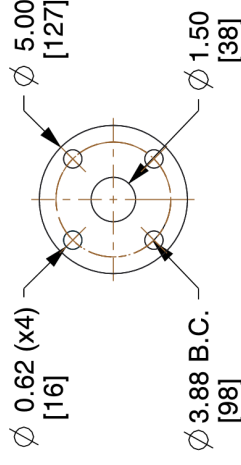
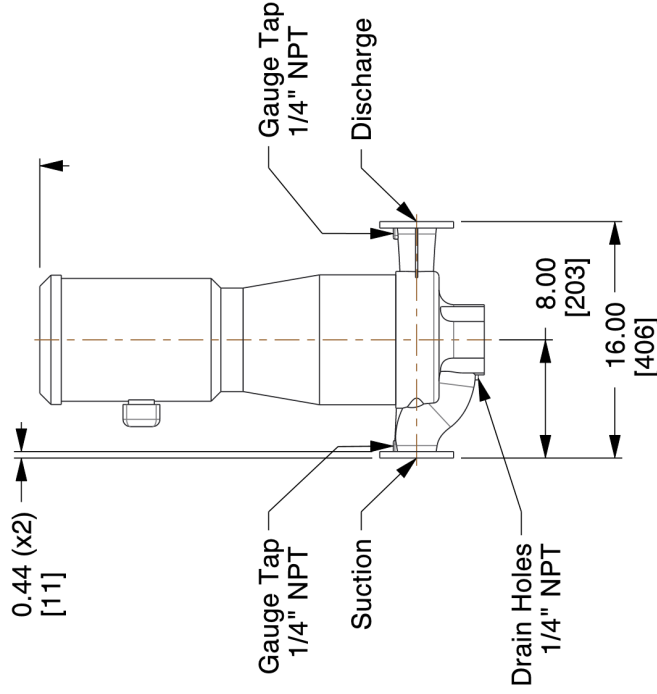
Pump Information\Construction	
Pump Series	e-80SC
Pump Size	1.5 x 1.5 x 7C
Seal Type	Stuffing Box
Seal Material	Standard Internal EPR/Carbon/Ceramic/SS
Material of Construction	Stainless Steel Fitted
Impeller Diameter	5.25 inches
Sleeve Material	Standard

VFD Details	
VFD_Nema	None
Variable_Speed_On	True
Variable_Speed	2998

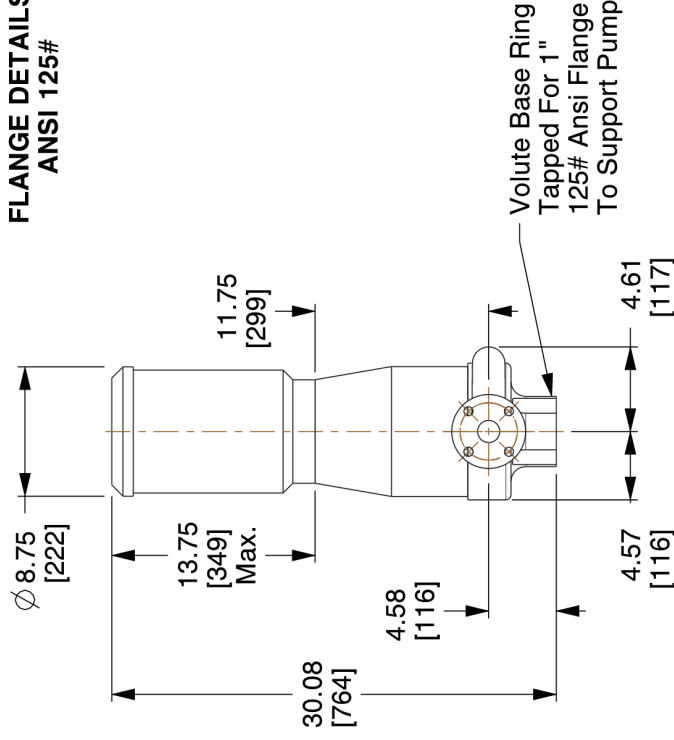
Motor Details	
Motor Power	5
Motor Speed	3600
Frequency	60
Phase	3
Voltage	200
Frame	182TC
Enclosure	ODP
Motor Manufacturer	Baldor
Motor Status	MO
Motor Comments	Nema Premium Efficient



4.00 [102]
Space Required
For Dismantling



1.5" SUCTION & DISCHARGE FLANGE DETAILS ANSI 125#



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-E80SC-1.5x1.5x7C-182TC-1-IN

Series e-80SC In-Line Mounted Centrifugal Pumps
Motor Frame:182TC | Flange:ANSI 125#

Dimensions : IN (mm)

Scale : N.T.S.

Submittal # : B-552

Materials of Construction

Description	Stainless Steel Fitted Pump
Shaft	416 Stainless Steel
Volute	Cast Iron ASTM A48 Class 30B
Impeller	ASTM A743 Grade CF8 (304SS)
Impeller Key	Stainless Steel
Impeller Lock Washer	Stainless Steel
Impeller Capscrew	Stainless Steel
Volute Gasket	Cellulose Fiber
Throttle Bushing	Carbon Graphite
Seal Assemblies	
• Standard Seal-Inside Flushed	
Bellows	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel or Brass
Spring	Stainless Steel or Brass
• Optional Seal -Inside Flushed	
Bellows	EPR
Faces	Carbon-Tungsten Carbide
• Optional Seal-Outside Flushed	
O-Rings	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel

Standard pump construction is 175 psi working pressure with 125 ANSI flange drilling. Optional 250 psi working pressure with 250 ANSI flange drilling is available.

Seal Selection Guide - Optional Outside Seal

A. Standard Seal - Inside with flush line.

EPR/Carbon-Ceramic; Temperature Range -20° to +250°F (-29° to +121°C).

*Maximum pressure is 175 psi (12 bar).

B. Optional Seal - Inside with flush line.

EPR/Carbon-Tungsten Carbide; Temperature Range -20° to + 250°F (-29° to + 121°C). * For use on open or closed water systems. Maximum pressure is 250 psi (17 bar).

C. Optional Seal - Outside with flush line.

EPR/Carbon-Ceramic Type "8B2"; Temperature Range -20° to +250°F (-29° to + 121°C). * For use on closed or open systems where the pressure requirements exceed the limitations of the standard seal or an alternate seal design is desired. Maximum pressure is 250 psi (17 bar).

*For operating conditions above 250°F (121°C and no greater than 300°F (149°C) a cooled flush is required. On closed systems cooling is accomplished by inserting the optional heat exchanger kit in the flush line to cool the seal flushing fluid.

Flush line filters and sediment separators are available on request.

Configuration Options

Contact your local rep for assistance

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

Type of Seal

- Standard Inside Unitized (EPR/Carbon-Ceramic)
- Inside Unitized (EPR/Carbon-Tungsten Carbide)-250#
- Inside Unitized (FKM/Carbon-Ceramic)
- Inside Unitized (EPR/SilCar/SilCar/SS)
- Other seal, see description
- Outside (EPR/Carbon-Ceramic)-250#
- Outside (FKM/Carbon-Ceramic)-250#



Shown with optional Technologic IPC variable frequency drive and Technologic PPS controller