



Forge Construction LLC
 1307 Union Ave
 Kansas City, Missouri 64101
 P: (816) 608-1800

Project: 25-004 Platte City ASC
 1101 Kentucky Avenue
 Platte City, Missouri 64079

Submittal #104.1 - REV1 Hydronic Pumps

Revision	1	Submittal Manager	Alex O'Laughlin (Forge Construction LLC)
Status	In Review	Date Created	Jun 6, 2025
Issue Date	Jun 11, 2025	Spec Section	
Responsible Contractor	Temp-Con, Inc.	Received From	Phillip Garcia (Temp-Con, Inc.)
Received Date	Jun 11, 2025	Submit By	
Final Due Date	Jun 18, 2025	Lead Time	
		Cost Code	
Location		Type	
Submittal Package			
Approvers	Rebecca Eubanks (Smith & Boucher), Jared Langenfield (Smith & Boucher)		
Ball in Court	Rebecca Eubanks (Smith & Boucher), Jared Langenfield (Smith & Boucher)		
Distribution			
Description	REV1 cut sheets for hydronic pumps		

Submittal Workflow

Name	Sent Date	Due Date	Returned Date	Response	Attachments
General Information					23-15 Hydronic Pumps REV1.pdf
Attachments					
Rebecca Eubanks	Jun 11, 2025	Jun 18, 2025		Pending	
Jared Langenfield	Jun 11, 2025	Jun 18, 2025		Pending	

**CONTRACTOR REVIEW ONLY
FORGE CONSTRUCTION**

Contractor's review is for general compliance with the information provided in the Contract Documents and for general conformance with the design concept of the project. Any action noted herein is subject to the requirements set forth in the Contract Documents. Subcontractor and/or Supplier shall be responsible for all dimensions and techniques of construction; the coordination of Subcontractor's work with that of all other trades; and the performance of Subcontractor's work in accordance with Contract Documents.

PROJECT #: 25-004

SUBMITTAL #: 23-15 Rev 1

BY: MICHAEL DAVIDSON

DATE: 06.11.2025

FORGE NOTES:

- Mechanical engineers please review.



- Reviewed no exceptions.
- Make corrections noted; resubmittal not required.
- Make corrections noted; revise and resubmit indicated items only.
- Revise and resubmit entire submittal.
- Reviewed for coordination/information only; refer to comments if any.

Review of this submittal is only for general conformance with the design concept of the project and-for general compliance with those portions of the Contract Documents prepared by Smith & Boucher. Notes, corrections or comments made on the submittals during this review do not relieve the Contractor from responsibility for: Compliance with the requirements of the plans and specifications; Dimensions to be confirmed and correlated at the jobsite; Information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; Coordination of the Work with that of all other trades; Assemblies of which a specific reviewed item is a component; and performance of all work in a safe and satisfactory manner.

Received: 06/11/2025 2:39:11 PM

Returned: 06.19.2025 By: Jared Langenfeld, PE

TEMP-CON

A TRIPLEPOINT COMPANY

15670 S. Keeler
Olathe KS 66062
(913) 768-4888

Submittal

Submittal#: 23.21.23 REV1

Submittal Date: 06/3/2025

To: FORGE CONSTRUCTION
1307 Union Avenue
Kansas City, MO 64101

Project: 250017
Platte City ASC - NueHealth
1101 Kentucky Avenue
Platte City, Missouri 64079

Prepared By: Phillip Garcia

Item	Description	Action Required	Date Required
001	Hydronic Pumps	For Approval	06/17/2025

Please sign and date this form as proof that you are in receipt of the above listed items.
Return form to Temp-Con, LLC

Signed: _____ Date: _____



- ReSubmittal -

Date: 6/10/25

Order No.:

Job: Platte City ASC Nue Health

Contractor: Temp-Con

Engineer: Smith & Boucher

By: Nick Boehler

Equipment:

A

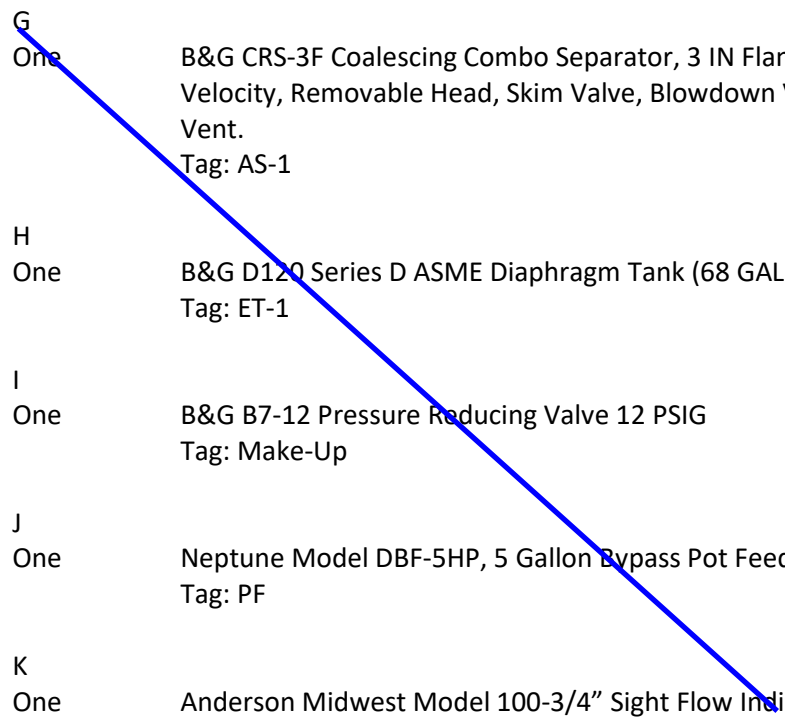
Two Fulton Endura EXE-399, ASME, Natural Gas Fired Boilers, 8:1 Turndown.
- Integral Boiler Control Panel included for cascade control
- BACnet Gateway included for BAS Interface
- E-Stop Switches for boiler room doors by others
- Condensate Neutralizer provided for each boiler
- Electrical: 120 Volt, 1 Phase
- Vent and Combustion Air: 4"
Tag: B-1, 2

B

Two 4" Polypro Flue Pipe Systems
- Estimated at 30 feet of run per boiler, (2) elbows, termination tee with screens, boiler starter piece
Tag: B-1, 2

C

Two B&G In-Line Pump Series Model e-80, 1.5 x 1.5 x 7C, SS,
1.5 HP, 1800 RPM, with 145JM Frame with 7" Impeller, STD-
Buna/Carbon/Ceramic/SS/Bronze Seal, ODP, NEMA Premium w/Shaft
Grounding Rings, Inverter Suitable, 230/460/3/60 Motor
Capacity: 35 GPM @ 50 FT TDH
Tag: HWP-1, 2

- D
Two B&G DA-3X Suction Diffuser Plus 3 IN. NPT x 1.5 IN. NPT
Tag: HWP-1, 2
- E
Two Metraflex Model 700-3" Cast Iron Wafer Check Valve.
Tag: HWP-1, 2
- F
Four Metraflex Model MMCC-3" Flexible Connector, Stainless Steel Hose and
Braid with Carbon Steel Flanged Ends.
Tag: HWP-1, 2
- G
One B&G CRS-3F Coalescing Combo Separator, 3 IN Flange, 150# WP, Standard
Velocity, Removable Head, Skim Valve, Blowdown Valve and Automatic Air
Vent.
Tag: AS-1
- H
One B&G D120 Series D ASME Diaphragm Tank (68 GAL)
Tag: ET-1
- I
One B&G B7-12 Pressure Reducing Valve 12 PSIG
Tag: Make-Up
- J
One Neptune Model DBF-5HP, 5 Gallon Bypass Pot Feeder, 300 PSI W.P. with Legs.
Tag: PF
- K
One Anderson Midwest Model 100-3/4" Sight Flow Indicator.
Tag: PF
- 

Job/Project: 25-02735 Platte City ASC Nuehealth Budget	Representative: Blackmore & Glunt	
ESP-Systemwize: WIZE-8AE6335B	Created On:	Phone: 913-469-5715
Location/Tag: HWP-1,2	Email: nboehler@b-g.com	
Engineer: Smith & Boucher	Submitted By:	Date:
Contractor: None Selected	Approved By:	Date:

Close Coupled In-Line Centrifugal Pump

Series: e-80

Model: 1.5x1.5x7C

Features & Design

- Best in Class Hydraulic Performance
- Low Operating and Maintenance Cost
- Horizontal or Vertical Installation



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.

<http://bellgossett.com/pumps-circulators/in-line-pumps/series-e-80/>

Pump Selection Summary

Duty Point Flow	35 US gpm
Duty Point Head	50 ft
Control Head	15 ft
Duty Point Pump Efficiency	54.7 %
Part Load Efficiency Value (PLEV)	45.8 %
Impeller Diameter	7 in
Motor Power	1.5 hp
Duty Point Power	0.806 bhp
Motor Speed	1800 rpm
RPM @ Duty Point	1694 rpm
NPSHr	5.81 ft
Minimum Shutoff Head	50.9 ft
Minimum Flow at RPM	10.4 US gpm
Flow @ BEP	69.3 US gpm
Fluid Temperature	68 °F
Fluid Type	Water
Weight (approx. - consult rep for exact)	170 lbs
Pump Floor Space Calculation	1.33 ft ²

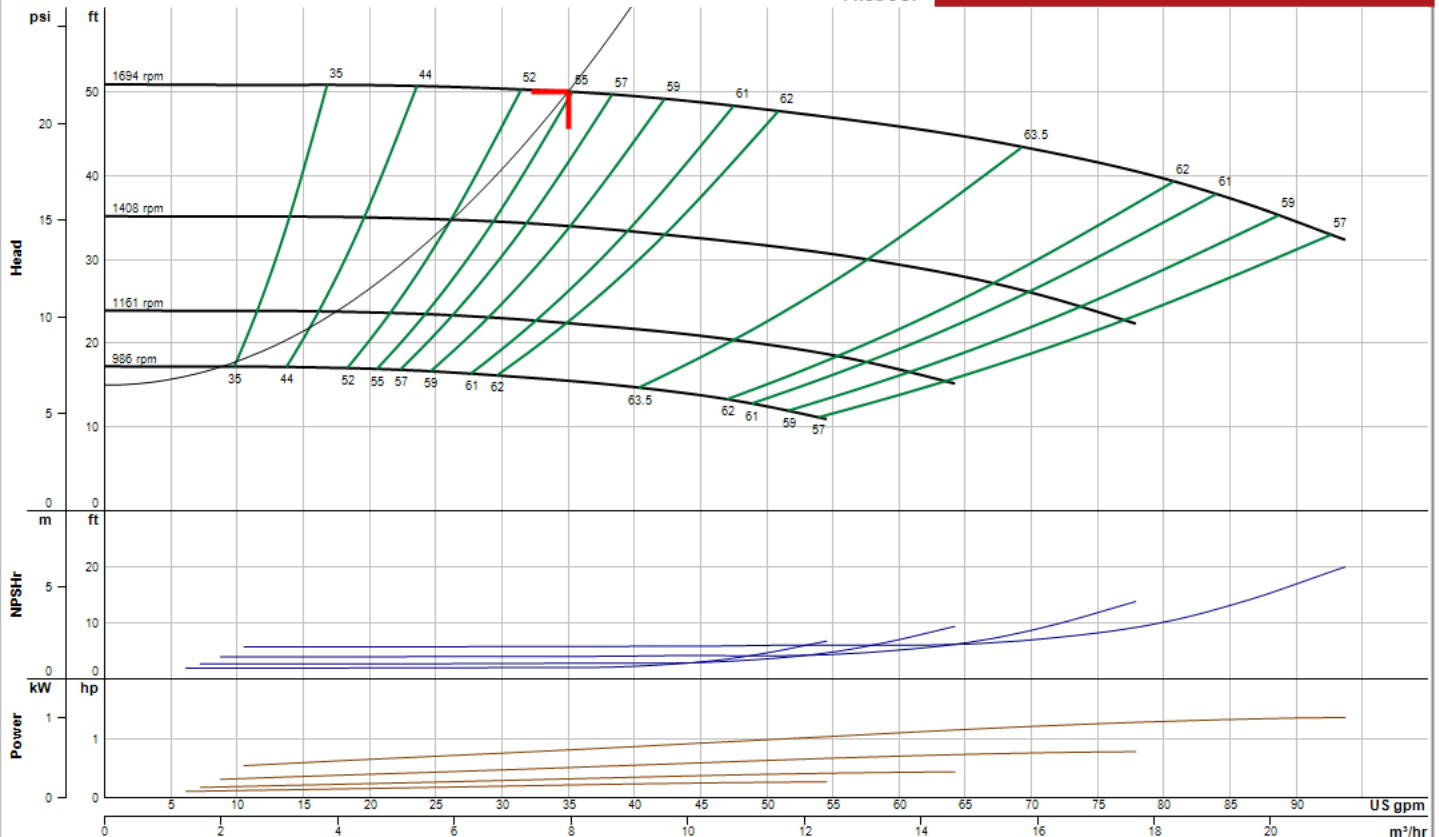
Performance Curve

Energy Efficiency Ratings:

Pump & Motor PEIc: 0.83 ERcI: 17
Pump, Motor & Drive: PEIv: 0.47 ERvI: 53



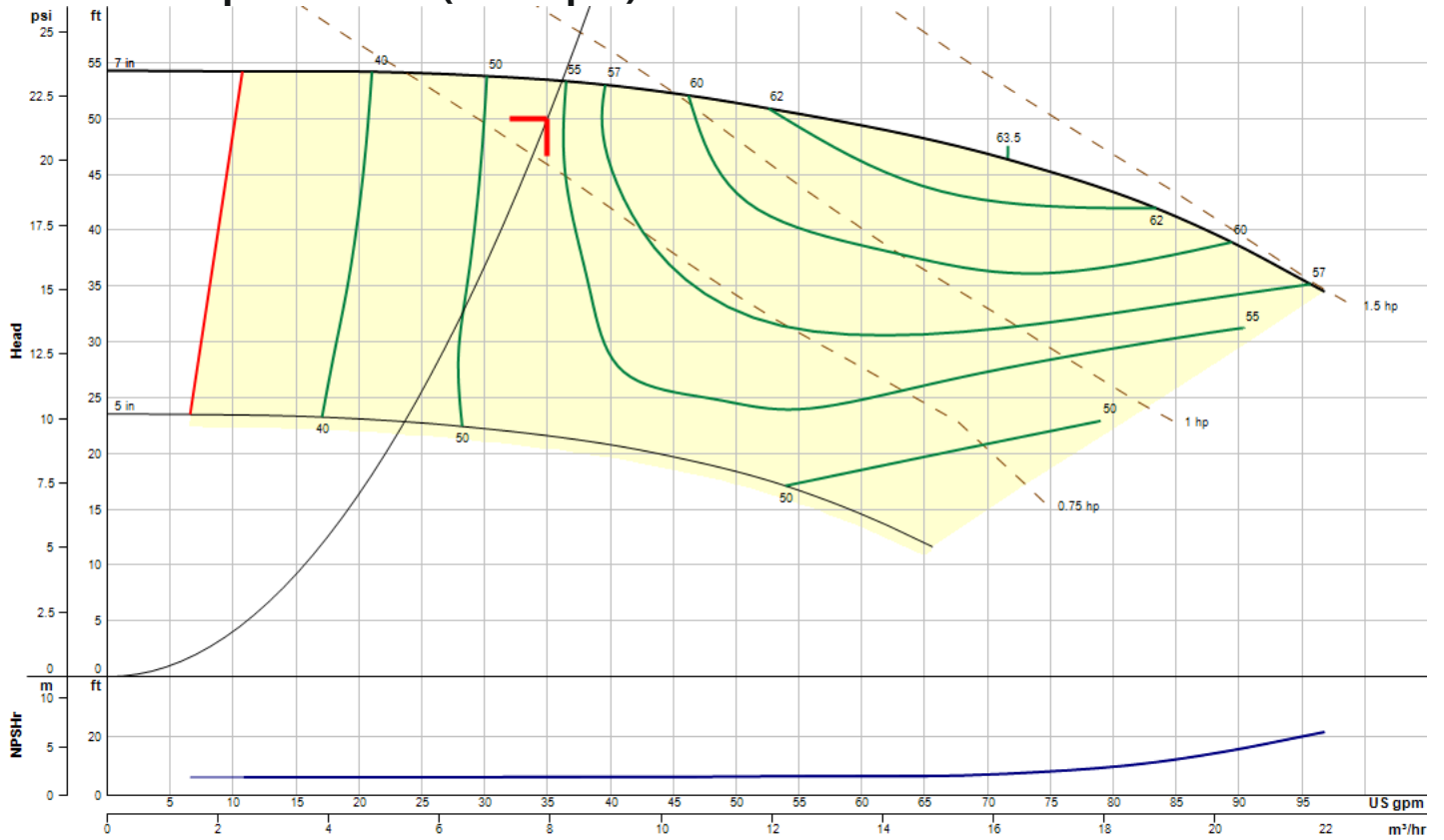
e-80
1.5x1.5x7C
1694 RPM



Performance curve meets 14.6 / ISO 9906 acceptance criteria

WIZE-C806746C

Constant Speed Curve (1750 rpm)

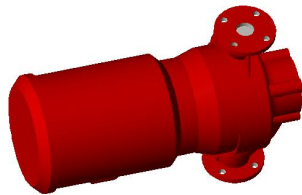


Operating Point

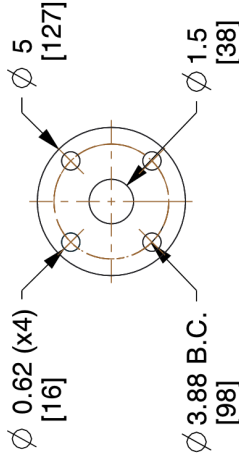
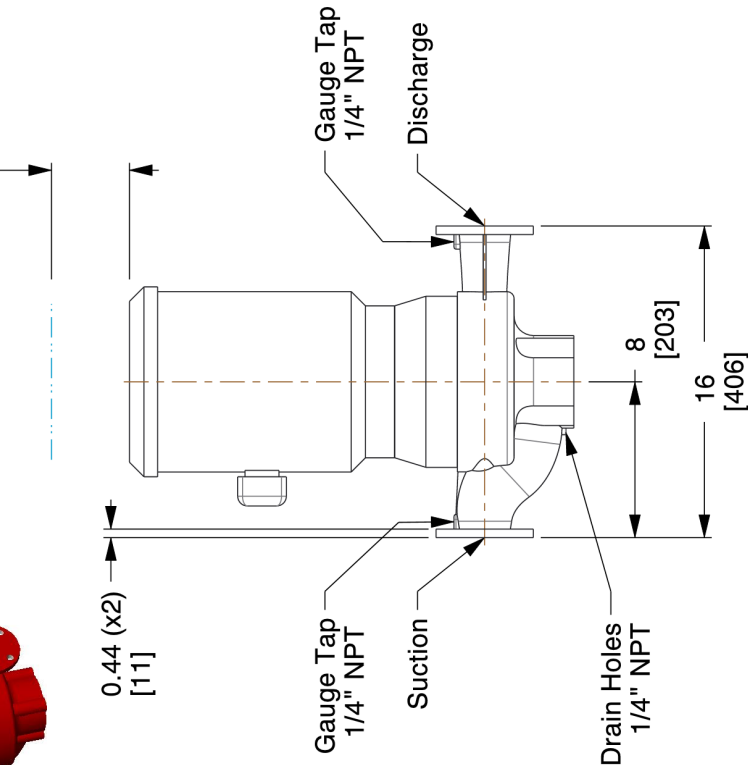
Flow: 35 US gpm Head: 50 ft Speed: 1694 Efficiency: 54.7% Point BHP: 0.806 End Of Curve: 37.4%

Maximum Duty Point (at rated motor speed)

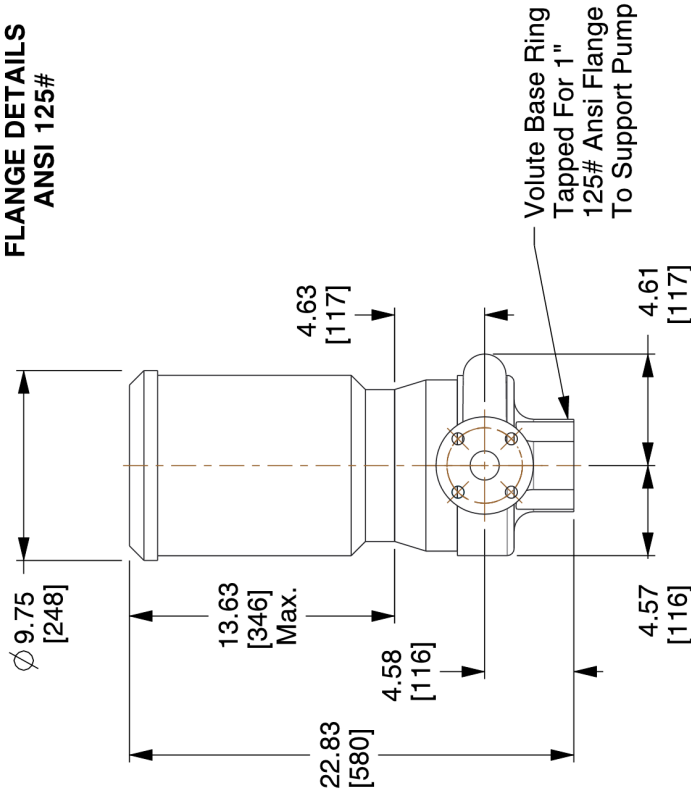
Flow: 36.2 US gpm Head: 53.4 ft Speed: 1750 Efficiency: 54.7% Point BHP: 0.889 NOL Flow: 96.8 US gpm Runout Flow: 96.8 US gpm NOL (BHP): 1.49



4 [102]
Space Required
For Dismantling



**1.5" SUCTION & DISCHARGE
FLANGE DETAILS
ANSI 125#**



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Dimensions are subject to change

Not to be used for construction unless certified

BG-E80-1.5x1.5x7C-SS145JM-1-IN

Series e-80 Close Coupled In-Line Centrifugal Pump

Seal Type: Standard Seal | Motor Frame: 145JM | Flange: ANSI 125#

Dimensions : IN (mm)

Scale : N.T.S.

Submittal # : B-139B



a xylem brand

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

Standard Materials of Construction

Construction:	Stainless Steel Fitted Pump
1 Shaft:	Carbon Steel
2 Volute:	Cast Iron ASTM A48 Class B
3 Impeller:	ASTM A743 Grade CF8 - 304 Stainless Steel
4 Shaft Sleeve:	Stainless Steel
5 Impeller Key:	#304 Stainless Steel
6 Impeller Washer:	Carbon Steel
7 Impeller Lock Washer:	#304 Stainless Steel
8 Impeller Cap Screw:	#304 Stainless Steel
9 Volute Gasket:	Cellulose Fiber

Pump Options *contact your local rep to configure

TECHNOLOGIC STANDARD FEATURES

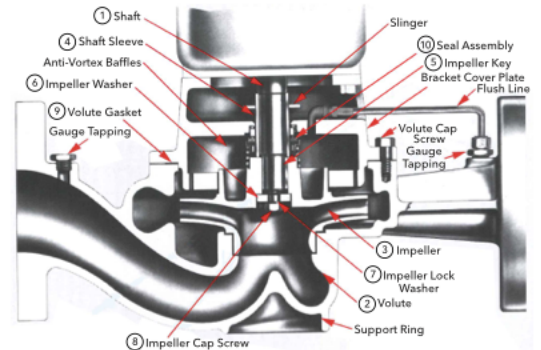
CONTROL METHOD WITH INTEGRATED TECHNOLOGIC® SENSORLESS CONTROL (ITSC)	Factory configured for sensorless operation.
CONTROL METHOD WITH INTEGRATED TECHNOLOGIC® (IT)	Field configurable for sensor by others, building management system input, or optional sensor(s) provided.
ENCLOSURE	NEMA 12 (same as IP55 & UL type 12)
POWER DISCONNECT SWITCH	Included standard. Fused Disconnect Switch optional with three phase input voltage.
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, FLN Apogee
ANALOG INPUTS	2 configurable for either voltage (0 to 10VDC) or 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
MINIMUM CONTROL HEAD	_____ ft (default set to 40% of design head if not unknown)

10 Standard Mechanical Seal Assembly

Bellows	Buna N
Faces	Carbon-Ceramic
Metal Parts	Brass or Stainless Steel
Spring	Stainless Steel

Maximum Working Pressure

Max Working Pressure (standard)	175 psi (12 bar)
Max Working Pressure (optional)	175#, 250#, and 300# working pressure designs.



Job/Project: 25-02735 Platte City ASC Nuehealth Budget		Representative: Blackmore and Glunt, Inc.	
ESP-Systemwize: WIZE-8AE6335B	06/02/2025	Phone: (314) 878-4313	
Location/Tag: HWP-1,2		Email: sblackmore@b-g.com	
Engineer: Smith & Boucher		Submitted By:	Date:
Contractor: None Selected		Approved By:	Date:

Suction Diffuser Plus

Bell & Gossett Model: DA-3X

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. Type X-For Closed Systems

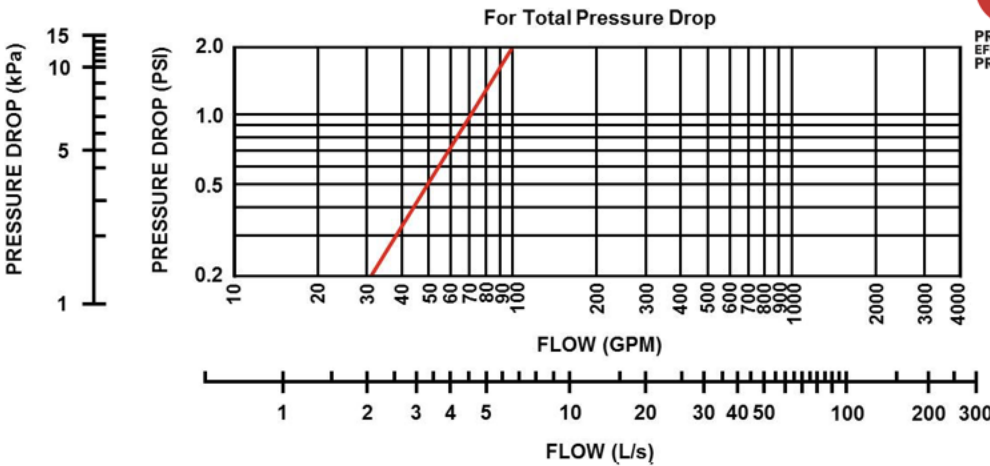
<http://bellgossett.com/hydronic-plumbing-accessories/pump-accessories/suction-diffuser/>



Suction Diffuser Selection

Model	DA-3X
System Size	3.0 in
Pump Size	1.5 in
Pressure Drop @ Design Flow	0.0'
Connection Type	NPT/NPT
Cv	68
Fluid Type	Water
Fluid Temp	68 °F

Performance characteristics:



DA-3X

Materials of construction

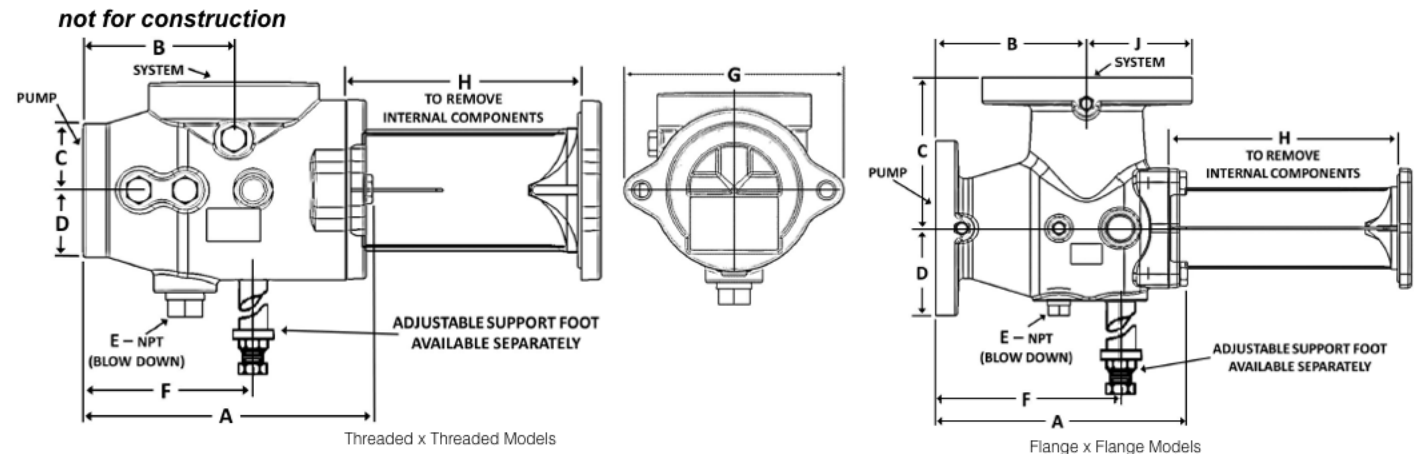
Body	Cast Iron
Inlet Vanes	Steel
Orifice Cylinder	Steel
Start-up Strainer	16 Mesh Bronze

Operating Data

Max Working Pressure	175 psi
Max Temp	250°F

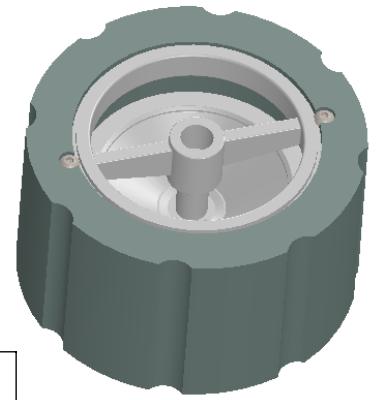
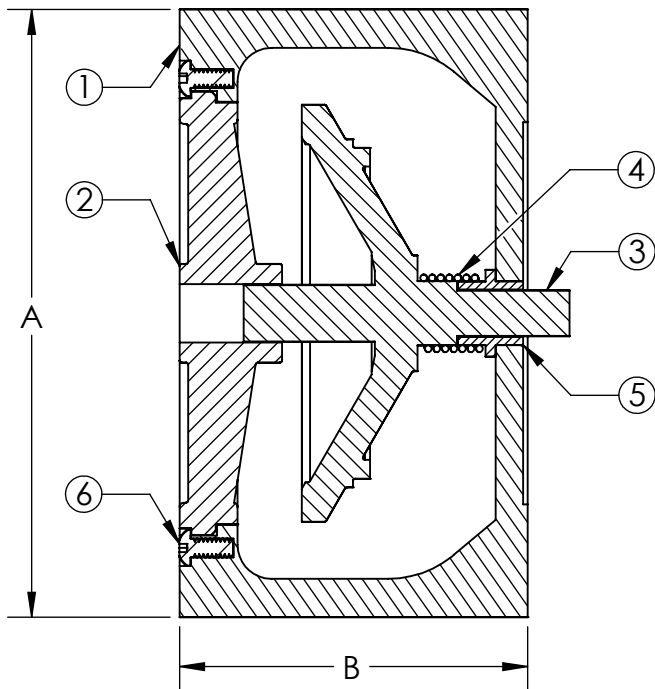
Dimensional data:

*Dimensions include orifice cylinder + 2-1/2 (64) inch clearance.



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. Shp. Wt. Lbs. (Kg)
DA-3	3 (76.2)	1-1/2 (38.1)	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)



MAX NON-SHOCK
WORKING PSI

TEMPERATURE	CLASS 125	CLASS 250
150°F	200	400
200°F	190	370

LEAD FREE

The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight. Material complies with state codes and standards, where applicable, requiring reduced lead content.

ITEM	PART NAME	MATERIAL	ASTM NO.
1	BODY	CAST IRON	A126 CL. B
2	SEAT	STAINLESS	T304
3	PLUG	STAINLESS	T304
4	SPRING	STAINLESS	T304
5	BUSHING	STAINLESS	T304
6	SCREW	STAINLESS	T304

Notes:

Valve is designed for liquid service only. Install 5 to 10 pipe diameters downstream from pump discharge or elbows to avoid flow turbulence. Valve is designed to be mated to ANSI B16.5 steel flanges.

Valve complies with MSS-SP-125-2010.

ANSI CLASS 125 & 250							
Qty.	Part Number	Size I.D. (in)	A (in)	B (in)	Cv*	Weight (Lbs)	Project Info
	CVOSS702	2	4-1/4	2-5/8	66	6	
	CVOSS7025	2-1/2	5	2-7/8	88	8	
2	CVOSS703	3	5-3/4	3-1/8	130	11	Tag: HWP-1,2
	CVOSS704	4	7	4	228	18	
	CVOSS705	5	8-3/8	4-3/4	350	28	
	CVOSS706	6	9-3/4	5-1/2	520	43	
ANSI CLASS 125 ONLY							
	CVOSS708	8	13-3/8	6-1/2	900	86	
	CVOSS710	10	16	8-1/4	1450	133	
ANSI CLASS 250 ONLY							
	CVOSS758	8	13-3/8	6-1/2	900	88	
	CVOSS760	10	16	8-1/4	1450	137	

*Cv is the number of U.S. gallons/minute of 60°F water that will flow through a valve with 1 PSI of pressure drop across the valve.



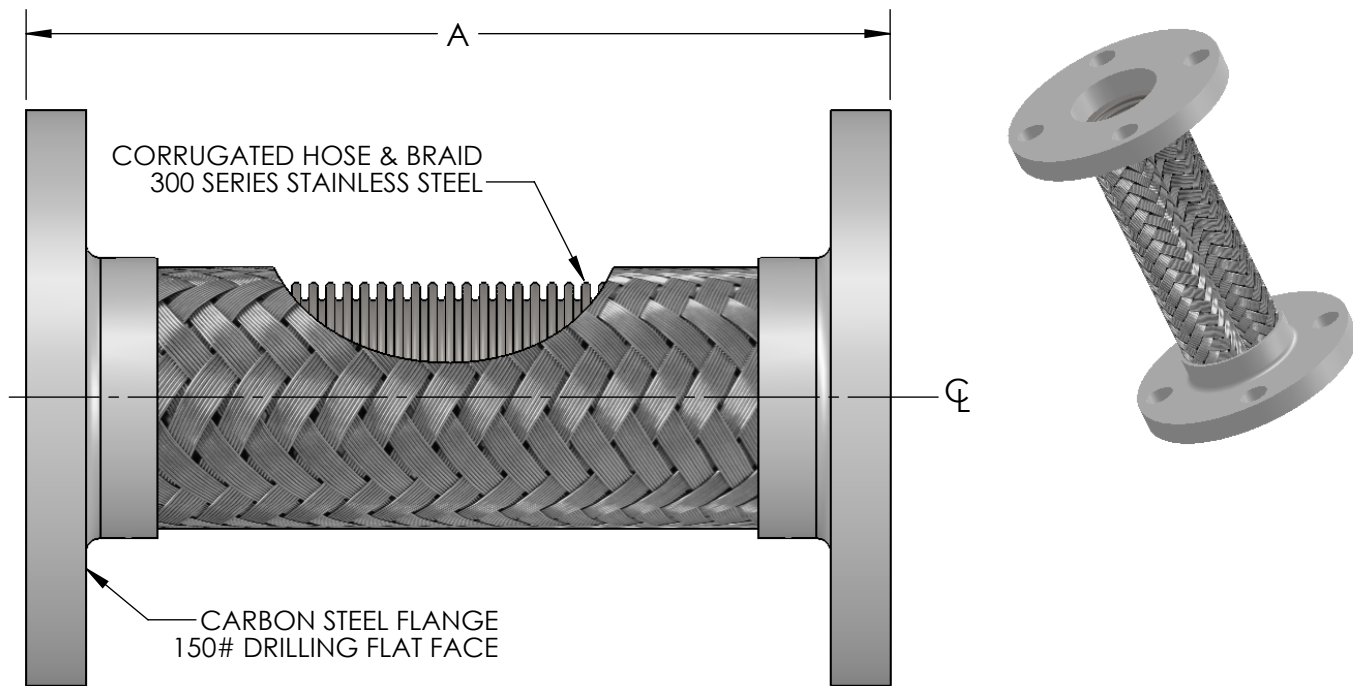
FOR ADDITIONAL FLOW STRAIGHTENING
SEE THE VANE FLEX AT
www.metroflex.com/vaneflex

CUSTOMER: _____

PROJECT: _____

ENGINEER: _____

REV.	1	DRAWING REVISED	DATE 10/11/2013
		2323 W. HUBBARD ST. CHICAGO, IL 60612 TEL: 312-738-3800 FAX: 312-738-0415 WWW.METRAFLEX.COM	
<h2>MODEL CVO700-SS</h2> <p>WAFER STYLE SILENT CHECK VALVE W/ SS TRIM</p>			
DRAWN BY: DKISH		DATE: 8/27/2013	
APPROVED: JC		DATE: 8/27/2013	
SCALE: NONE	DRAWING NUMBER: CVO700-SS		



Qty	Part Number	Size I.D. (in)	A ± 1/8 (in)	Pressure* (PSI)	Weight (Lbs)	Project Info
	MMCC0200	2	9	455	9	
	MMCC0250	2-1/2	9	345	13	
4	MMCC0300	3	9	289	14	Tag: HWP-1,2
	MMCC0400	4	9	300	18	
	MMCC0500	5	11	220	25	
	MMCC0600	6	11	200	28	
	MMCC0800	8	12	190	52	
	MMCC1000	10	13	150	75	
	MMCC1200	12	14	125	105	
	MMCC1400	14	14	105	115	

MAX INTERMITTENT OFFSET FROM CENTERLINE 1/8"
 MAX PERMANENT OFFSET FROM CENTERLINE 3/8"

*For safe working pressure above 70°F, multiply the pressure shown at 70°F times the correction factor of the required temperature.

Temperature (°F)	Factor
70	1.0
200	.92
300	.86
400	.82
500	.77
600	.73


LEAD FREE

The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight. Material complies with state codes and standards, where applicable, requiring reduced lead content.

CUSTOMER: _____

PROJECT: _____

ENGINEER: _____

REV.	DATE
	
2323 W. HUBBARD ST. CHICAGO, IL 60612 TEL: 312-738-3800 FAX: 312-738-0415 WWW.METRAFLEX.COM	
METRA - MINI STAINLESS STEEL PUMP CONNECTOR	
DRAWN BY: DKISH	DATE: 1/10/2014
APPROVED: JC	DATE: 1/10/2014
SCALE: NONE	DRAWING NUMBER: MMCC