



JOB:

REPRESENTATIVE:

UNIT TAG:

ORDER NO.

DATE:

ENGINEER:

SUBMITTED BY:

DATE:

CONTRACTOR:

APPROVED BY:

DATE:



## 4x4x11B Series e-80SC In-Line Mounted Centrifugal Pumps

### SPECIFICATIONS

FLOW \_\_\_\_\_ HEAD \_\_\_\_\_  
HP \_\_\_\_\_ RPM \_\_\_\_\_  
VOLTS \_\_\_\_\_  
CYCLE \_\_\_\_\_ INPUT PHASE \_\_\_\_\_  
ENCLOSURE \_\_\_\_\_  
APPROX. WEIGHT \_\_\_\_\_  
SPECIALS \_\_\_\_\_

### MATERIALS OF CONSTRUCTION

☐ Stainless Steel Fitted

### MAXIMUM WORKING PRESSURE

☐ 175 psi (12 bar) with  
125# ANSI flange drilling  
☐ 250 psi (17 bar) with  
250# ANSI flange drilling (requires 250# Seal)

### MOUNTING

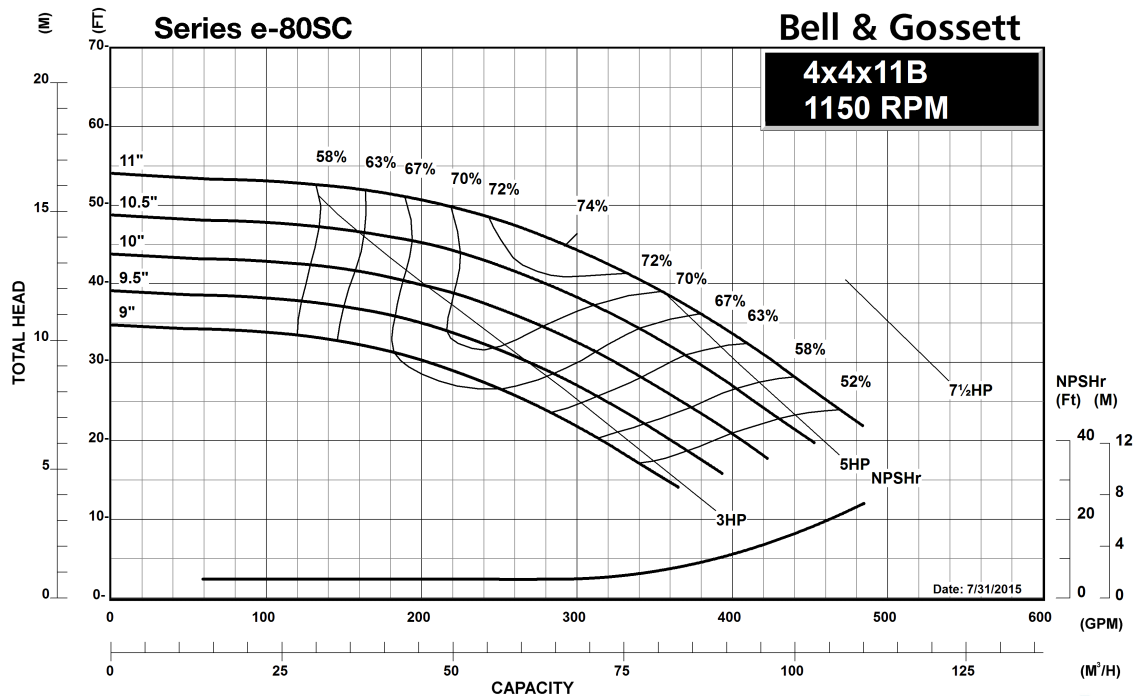
☐ In-Line Piping ☐ Flange Supports

### 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#





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### 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#

### SPECIFICATIONS

FLOW \_\_\_\_\_ HEAD \_\_\_\_\_  
HP \_\_\_\_\_ RPM \_\_\_\_\_  
VOLTS \_\_\_\_\_  
CYCLE \_\_\_\_\_ INPUT PHASE \_\_\_\_\_  
ENCLOSURE \_\_\_\_\_  
APPROX. WEIGHT \_\_\_\_\_  
SPECIALS \_\_\_\_\_

### MATERIALS OF CONSTRUCTION

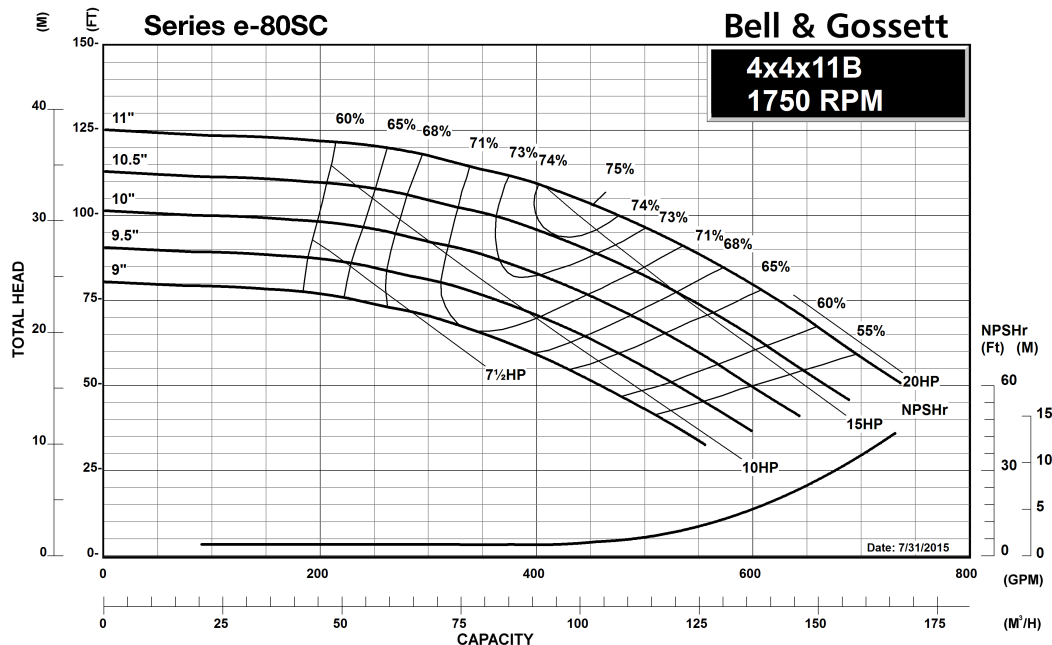
- ☐ Stainless Steel Fitted

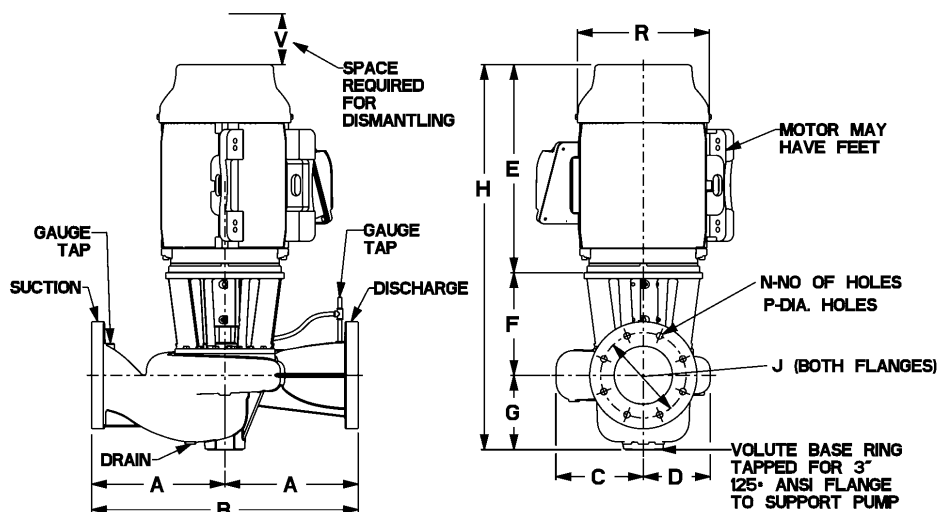
### MAXIMUM WORKING PRESSURE

- ☐ 175 psi (12 bar) with 125# ANSI flange drilling
- ☐ 250 psi (17 bar) with 250# ANSI flange drilling (requires 250# Seal)

### MOUNTING

- ☐ In-Line Piping
- ☐ Flange Supports





## 4x4x11B Series e-80SC

Centrifugal Pump Submittal -  
In-Line Piping

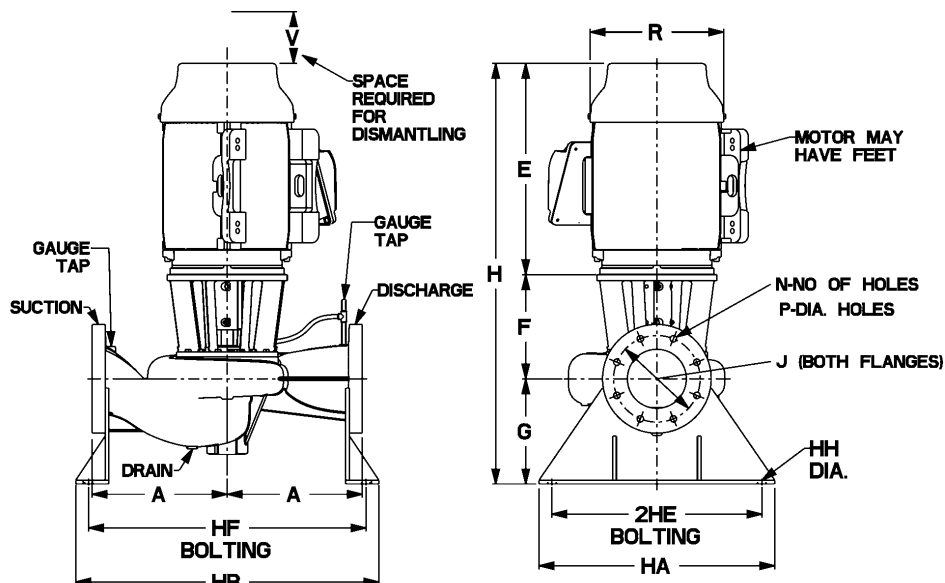
### DIMENSIONS - Inches (mm)

### TC SHAFT MOTORS

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

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

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



## 4x4x11B Series e-80SC

Centrifugal Pump Submittal -  
Flange Support Mounting

### DIMENSIONS - Inches (mm)

### TC SHAFT MOTORS

| MOTOR<br>FRAME | A              | HF<br>BOLTING  | HB             | 2HE<br>BOLTING | HA             | HH<br>DIA    | E (max)        | F              | G             | H (max)         | 125# ANSI     |           |              | 250# ANSI     |           |              | R              | V (min)       | Suct/Disch<br>Gauge Taps<br>(NPT) | Drain Tap<br>(NPT) |
|----------------|----------------|----------------|----------------|----------------|----------------|--------------|----------------|----------------|---------------|-----------------|---------------|-----------|--------------|---------------|-----------|--------------|----------------|---------------|-----------------------------------|--------------------|
|                |                |                |                |                |                |              |                |                |               |                 | J             | N         | P            | J             | N         | P            |                |               |                                   |                    |
| 213TC          | 13.00<br>(330) | 27.66<br>(703) | 31.16<br>(791) | 21.50<br>(546) | 25.00<br>(635) | 0.88<br>(22) | 14.88<br>(378) | 11.44<br>(291) | 7.50<br>(191) | 33.81<br>(859)  | 7.50<br>(191) | 8<br>(19) | 0.75<br>(19) | 7.88<br>(200) | 8<br>(22) | 0.88<br>(22) | 10.63<br>(270) | 5.75<br>(146) | 0.25                              | 0.25               |
| 215TC          | 13.00<br>(330) | 27.66<br>(703) | 31.16<br>(791) | 21.50<br>(546) | 25.00<br>(635) | 0.88<br>(22) | 14.88<br>(378) | 11.44<br>(291) | 7.50<br>(191) | 33.81<br>(859)  | 7.50<br>(191) | 8<br>(19) | 0.75<br>(19) | 7.88<br>(200) | 8<br>(22) | 0.88<br>(22) | 10.63<br>(270) | 5.75<br>(146) | 0.25                              | 0.25               |
| 254TC          | 13.00<br>(330) | 27.66<br>(703) | 31.16<br>(791) | 21.50<br>(546) | 25.00<br>(635) | 0.88<br>(22) | 19.44<br>(494) | 11.44<br>(291) | 7.50<br>(191) | 38.38<br>(975)  | 7.50<br>(191) | 8<br>(19) | 0.75<br>(19) | 7.88<br>(200) | 8<br>(22) | 0.88<br>(22) | 12.31<br>(313) | 5.75<br>(146) | 0.25                              | 0.25               |
| 256TC          | 13.00<br>(330) | 27.66<br>(703) | 31.16<br>(791) | 21.50<br>(546) | 25.00<br>(635) | 0.88<br>(22) | 21.19<br>(538) | 11.44<br>(291) | 7.50<br>(191) | 40.13<br>(1019) | 7.50<br>(191) | 8<br>(19) | 0.75<br>(19) | 7.88<br>(200) | 8<br>(22) | 0.88<br>(22) | 12.31<br>(313) | 5.75<br>(146) | 0.25                              | 0.25               |
| 284TC          | 13.00<br>(330) | 27.66<br>(703) | 31.16<br>(791) | 21.50<br>(546) | 25.00<br>(635) | 0.88<br>(22) | 22.06<br>(560) | 13.50<br>(343) | 7.50<br>(191) | 43.06<br>(1094) | 7.50<br>(191) | 8<br>(19) | 0.75<br>(19) | 7.88<br>(200) | 8<br>(22) | 0.88<br>(22) | 14.13<br>(359) | 5.75<br>(146) | 0.25                              | 0.25               |

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

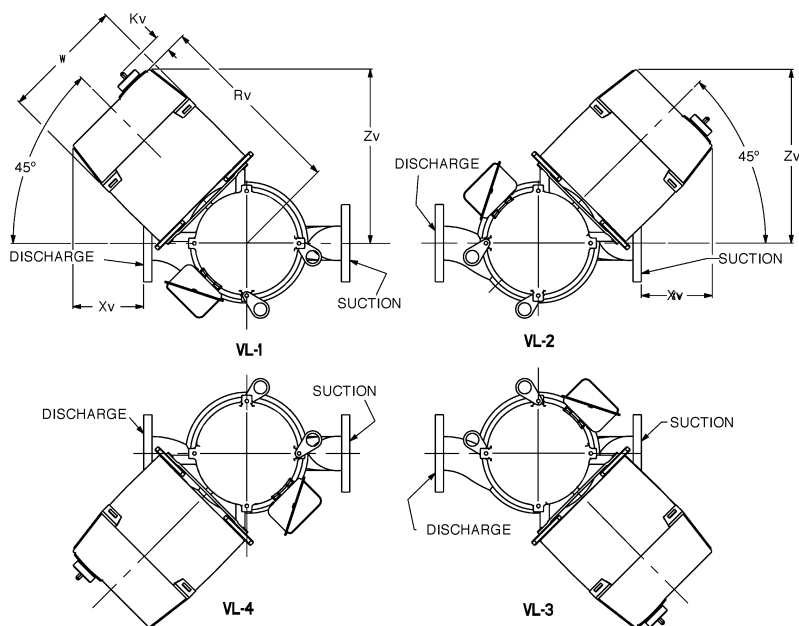
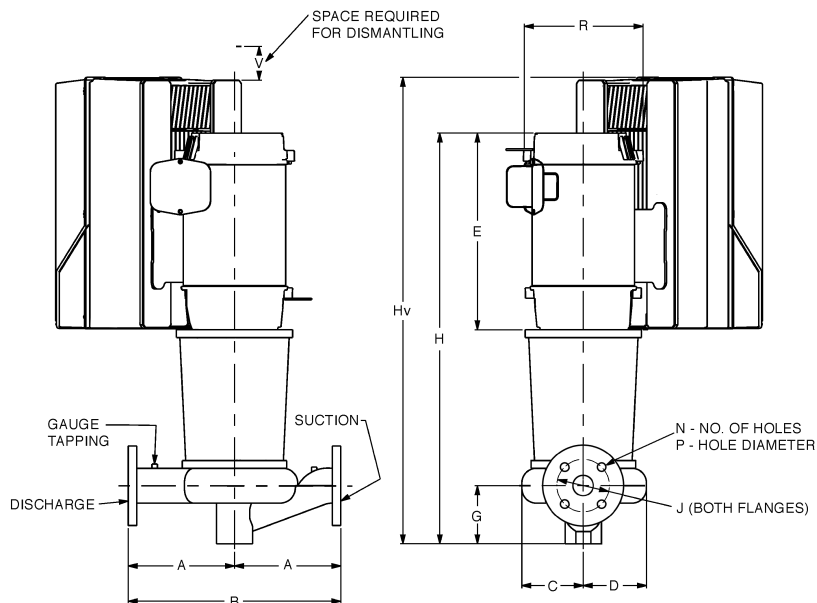
NOTE: For TEFC add 1-1/2" to dimensions E & H.



# 4x4x11B Series e-80SC

## In-Line Mounted Centrifugal Pumps With Integrated Technologic Control

| 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)                                                    |



# Series e-80SC 4x4x11B

B-552.22A

Centrifugal Pump Submittal  
with Integrated Technologic Control

DIMENSIONS - Inches (mm)

TC SHAFT MOTORS

| MOTOR FRAME | VFD | Rv             | Zv             | W              | Hv              | Xv            |
|-------------|-----|----------------|----------------|----------------|-----------------|---------------|
| 213TC       | A5  | 13.53<br>(344) | 12.56<br>(319) | 9.50<br>(241)  | 33.81<br>(859)  | 2.14<br>(54)  |
|             | B1  | 15.84<br>(402) | 14.22<br>(361) | 9.50<br>(241)  | 35.25<br>(895)  | 3.75<br>(95)  |
|             | B2  | 15.84<br>(402) | 14.22<br>(361) | 9.50<br>(241)  | 40.99<br>(1041) | 3.75<br>(95)  |
| 215TC       | A5  | 13.53<br>(344) | 12.56<br>(319) | 9.50<br>(241)  | 33.81<br>(859)  | 2.14<br>(54)  |
|             | B1  | 15.84<br>(402) | 14.22<br>(361) | 9.50<br>(241)  | 35.23<br>(895)  | 3.75<br>(95)  |
|             | B2  | 15.84<br>(402) | 14.22<br>(361) | 9.50<br>(241)  | 40.97<br>(1041) | 3.75<br>(95)  |
|             | C1  | 17.81<br>(452) | 17.42<br>(442) | 12.10<br>(307) | 42.99<br>(1092) | 6.95<br>(177) |
| 254TC       | B1  | 16.83<br>(427) | 14.92<br>(379) | 9.50<br>(241)  | 44.89<br>(1140) | 4.45<br>(113) |
|             | B2  | 16.83<br>(427) | 14.92<br>(379) | 9.50<br>(241)  | 49.35<br>(1254) | 4.45<br>(113) |
|             | C1  | 18.80<br>(477) | 18.12<br>(460) | 12.10<br>(307) | 50.61<br>(1286) | 7.65<br>(194) |
| 256TC       | B1  | 16.83<br>(427) | 14.92<br>(379) | 9.50<br>(241)  | 40.44<br>(1027) | 4.45<br>(113) |
|             | B2  | 16.83<br>(427) | 14.92<br>(379) | 9.50<br>(241)  | 44.89<br>(1140) | 4.45<br>(113) |
|             | C1  | 18.83<br>(478) | 17.09<br>(434) | 12.09<br>(307) | 45.80<br>(1163) | 4.98<br>(127) |
|             | C2  | 19.61<br>(498) | 19.39<br>(493) | 14.59<br>(371) | 50.46<br>(1282) | 7.28<br>(185) |
| 284TC       | B1  | 17.58<br>(446) | 15.45<br>(393) | 9.50<br>(241)  | 43.06<br>(1094) | 4.45<br>(113) |
|             | B2  | 17.58<br>(446) | 15.45<br>(393) | 9.50<br>(241)  | 47.52<br>(1207) | 4.45<br>(113) |
|             | C1  | 19.55<br>(497) | 17.63<br>(448) | 12.09<br>(307) | 48.80<br>(1239) | 5.52<br>(140) |
|             | C2  | 20.33<br>(516) | 19.93<br>(506) | 14.59<br>(371) | 51.95<br>(1319) | 7.82<br>(199) |

Kv=2 (50)



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**Bell & Gossett**

a xylem brand

D-171A

# Pressure Sensor/Transmitter For Pumps with TECHNOLOGIC® Drives

## FEATURES

- 4-20mA output
- 10-28 VDC supply voltage
- Operating Temperature -40 to 85°C (-40 to 185°F)
- Storage Temperature -40 to 100°C (-40 to 212°F)
- Enclosure IP-66 (housing only)
- High Strength Stainless Steel Construction
- No Oil, Welds or Internal O-rings
- Wide Operating Temperature
- Low Static and Thermal Errors
- Compatible with Wide Variety of Liquids and Gases
- EMI/RFI Protection
- UL/cUL 508 Approved (with housing)
- 1lb. (0.45 kg) approximate weight



## B&G PART NUMBERS

S13203 Pressure range: 0-100 psi (0-689 kPa)

S13204 Pressure range: 0-300 psi (0-2068 kPa)

Consult factory for other ranges.

## INSTALLATION CONSIDERATIONS

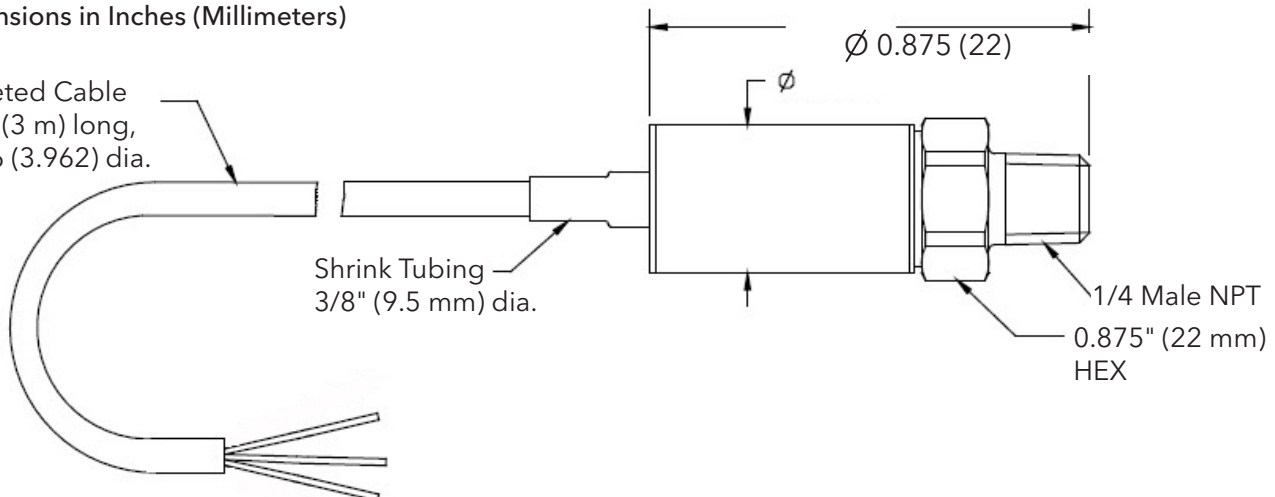
- Standard 24 AWG (0.61 mm dia.) 2 wire shielded cable located in a conduit separate from high voltage wiring
- 24 vdc power supplied from Technologic Controller

## DIMENSIONAL INFORMATION

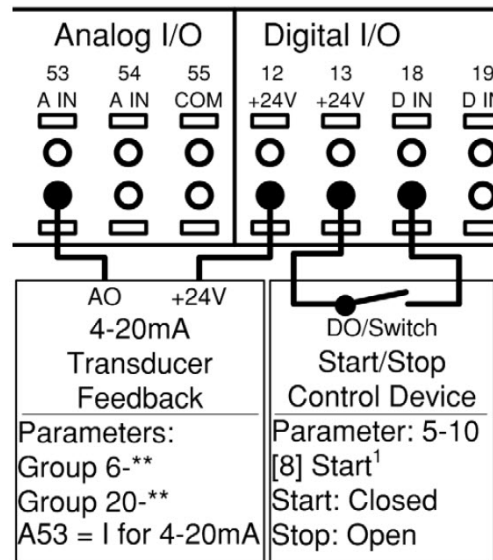
Dimensions in Inches (Millimeters)

Jacketed Cable  
10 ft. (3 m) long,  
0.156 (3.962) dia.

Shrink Tubing  
3/8" (9.5 mm) dia.



## TECHNOLOGIC ANALOG SENSOR WIRING



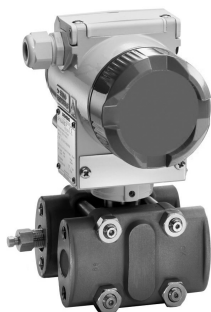


# Bell & Gossett

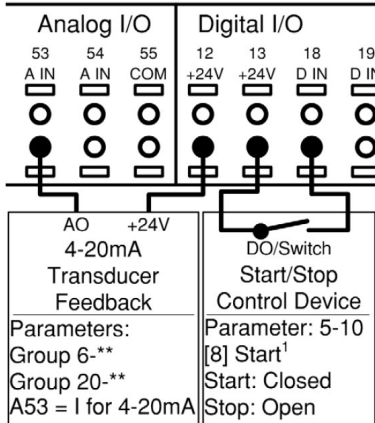
a xylem brand

D-172A

## Differential Pressure Sensor/Transmitter for Pumps with TECHNOLOGIC® Drives



### TECHNOLOGIC ANALOG SENSOR WIRING



### FEATURES

- Relays reading to the Technologic controller up to 2000 ft. (610 m) away
- All wetted parts are 316 stainless steel
- Built-in RFI filter effective from 20 to 1000 MHz
- Withstands static pressures up to 2300 PSI (15858 kPa)
- 3 Valve bypass manifold (optional)
- 10 lbs. (4.5 kg) approximate weight

### B&G PART NUMBERS

S100089 Pressure range: 0 - 40 psi (0 - 276 kPa)  
 S100091 Pressure range: 0 - 70 psi (0 - 483 kPa)  
 S100092 Pressure range: 0 - 100 psi (0 - 689 kPa)

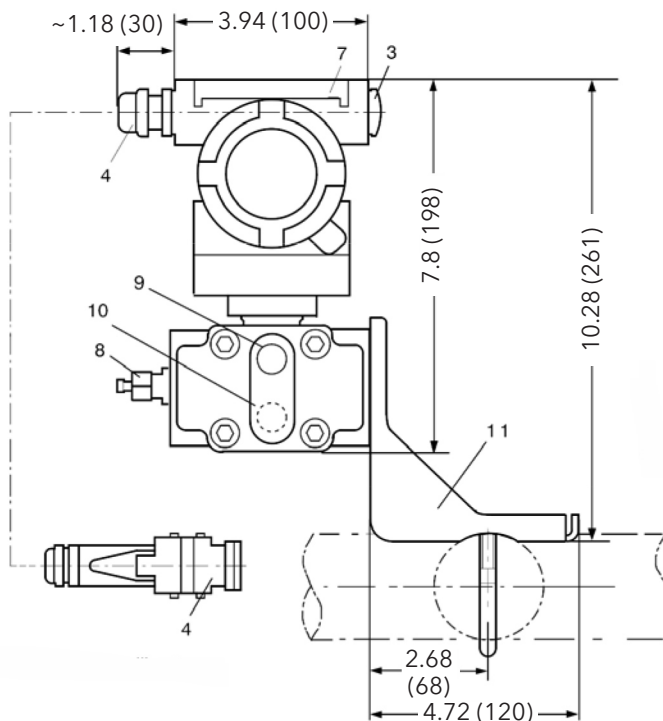
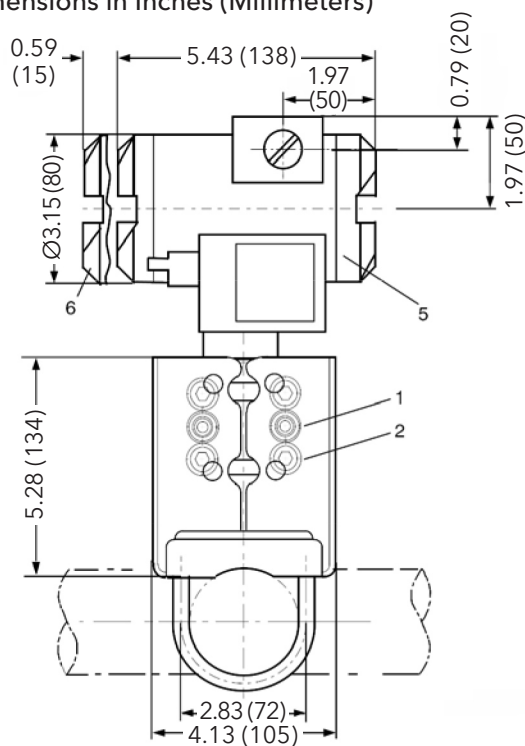
Consult factory for other ranges.

### INSTALLATION CONSIDERATIONS

- Standard 18 AWG (1.194 mm dia.) 2 wire shielded cable located in a conduit separate from high voltage wiring
- 24 vdc power supplied from Technologic Controller for distance <2000 ft (610 m)

### DIMENSIONAL INFORMATION

Dimensions in Inches (Millimeters)



- 1 Process connection 1/4-18NPT for absolute pressure (+) side
- 2 Mounting thread 7/16-20 UNF to EN 61518
- 3 Dummy plug
- 4 Electrical connection: Screwed gland 1/2-14 NPT
- 5 Connection side

- 6 Electronic side, no digital display
- 7 Access cover over magnetic pushbuttons
- 8 Sealing screw with vent shown (optional)
- 9 Side vent for measuring liquid
- 10 Side vent for measuring gas (supplement H02)
- 11 Mounting bracket (2 shackles, 4 nuts, 4 U-plates, 1 angle) made of steel





# Bell & Gossett

a xylem brand

D-164G

## Flow Sensor/Transmitter For Pumps with TECHNOLOGIC® Drives

The rugged Bell & Gossett Flow Sensor/Transmitter precisely measures system flow and transmits a proportional 4 to 20 mA DC signal to the Technologic Controller for display or program calculations.

### STANDARD FEATURES

- Optional software and cable available for field programming
- Suitable for mounting in vertical pipe
- Suitable for mounting in horizontal pipe within 45° of top dead center
- Non-magnetically sensed, non-fouling paddle wheel
- NEMA 4X Transmitter Enclosure
- Maximum Pressure Ratings:  
1000 psi @ 100°F, 900 psi @ 200°F,  
750 psi @ 300°F (6895 kPa @ 38°C, 6205 kPa @ 93°C,  
5171 kPa @ 149°C)
- Maximum Temperature Ratings:  
Fluid - 300°F (149°C) continuous service  
Electronics - 150°F (66°C)
- 9.9 lbs (4.5 kg) approximate weight

### INSTALLATION CONSIDERATIONS

- Standard 18 AWG (1.194 mm dia.) gauge 3 wire shielded cable located in conduit separate from high voltage wiring
- 24 vdc power supplied from Technologic Controller
- Takes accurate readings and relays them to the Technologic Controller up to 2,000 ft. (610 m) away, when 10 pipe diameters upstream and 5 pipe diameters downstream of straight uninterrupted flow is present.

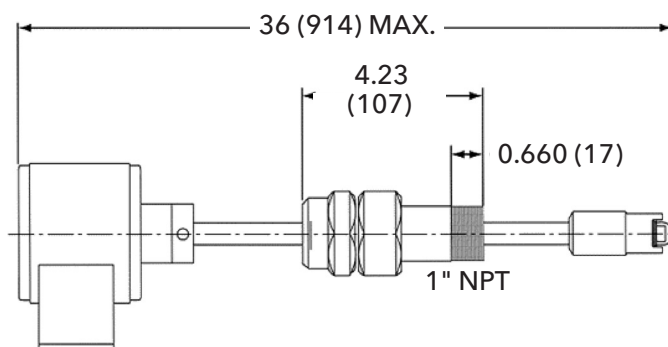
| CALIBRATION CHART |            |                        |
|-------------------|------------|------------------------|
| B&G Part No.      | Pipe Size  | Max. Flow              |
| 137411            | 3" Sch 40  | 250 gpm (16 l/sec)     |
| 137412            | 4" Sch 40  | 400 gpm (25 l/sec)     |
| 137413            | 6" Sch 40  | 850 gpm (54 l/sec)     |
| 137414            | 8" Sch 40  | 1750 gpm (110 l/sec)   |
| 137415            | 10" Sch 40 | 3150 gpm (199 l/sec)   |
| 137416            | 12" Sch 40 | 5000 gpm (315 l/sec)   |
| 137417            | 14" Sch 40 | 6400 gpm (404 l/sec)   |
| 137418            | 16" Sch 40 | 9100 gpm (574 l/sec)   |
| 137419            | 18" Sch 40 | 12400 gpm (782 l/sec)  |
| 137420            | 20" Sch 40 | 16500 gpm (1041 l/sec) |

Consult factory for custom flow range calibration.



### DIMENSIONAL INFORMATION

Dimensions in Inches (Millimeters)



### TECHNOLOGIC ANALOG SENSOR WIRING

