1.5x1.5x9.5B
Series e-80SC
In-Line Mounted Centrifugal Pumps

SPECIFICATIONS

- FLOW ___________________ HEAD ___________________
- HP ___________________ RPM ___________________
- VOLTS ___________________ INPUT ___________________
- CYCLE ___________________ 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 Utilized (EPR/Carbon-Tungsten Carbide)-250#
☐ Inside Utilized (FKM/Carbon-Ceramic)
☐ Inside Utilized (EPR/SilCar/SilCar/SS)
☐ Other seal, see description
☐ Outside (EPR/Carbon-Ceramic)-250#
☐ Outside (FKM/Carbon-Ceramic)-250#
1.5x1.5x9.5BC
Series e-80SC
In-Line Mounted Centrifugal Pumps

SPECIFICATIONS
FLOW ________ HEAD ________
HP ________ RPM ________
VOLTS ________ INPUT ________
CYCLE ________ PHASE ________
ENCLOSURE ________
APPROX. WEIGHT ________
SPECIALS ________

MATERIALS OF CONSTRUCTION
☐ Stainless Steel Fitted

MAXIMUM WORKING PRESSURE
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MOUNTING
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☐ Integrated Technologic® Sensorless Control (ITSC)
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☐ Inside Unitized (EPR/Carbon-Tungsten Carbide)-250#
☐ Inside Unitized (FKM/Carbon-Ceramic)
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☐ Other seal, see description
☐ Outside (EPR/Carbon-Ceramic)-250#
☐ Outside (FKM/Carbon-Ceramic)-250#

Series e-80SC
Bell & Gossett
1.5x1.5x9.5B
1750 RPM
1.5x1.5x9.5B
Series e-80SC
In-Line Mounted Centrifugal Pumps

SPECIFICATIONS
FLOW ___________ HEAD ___________
HP ___________ RPM ___________
VOLTS ___________ INPUT ___________
CYCLE ___________ 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)
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☐ 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#
## Dimensions - Inches (mm)

<table>
<thead>
<tr>
<th>MOTOR FRAME</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E (max)</th>
<th>F</th>
<th>G</th>
<th>H (max)</th>
<th>125# ANSI</th>
<th>250# ANSI</th>
<th>R</th>
<th>V (min)</th>
<th>Suct/Disch Gauge Taps (NPT)</th>
<th>Drain Tap (NPT)</th>
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<tbody>
<tr>
<td>143TC</td>
<td>9.50</td>
<td>19.00</td>
<td>5.86</td>
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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.
**1.5x1.5x9.5B Series e-80SC**
Centrifugal Pump Submittal - Flange Support Mounting

### Dimensions - Inches (mm)

<table>
<thead>
<tr>
<th>MOTOR FRAME</th>
<th>A</th>
<th>HF BOLTING</th>
<th>HB</th>
<th>2HE BOLTING</th>
<th>HA</th>
<th>HH DIA</th>
<th>E (max)</th>
<th>F</th>
<th>G</th>
<th>H (max)</th>
<th>12S# ANSI</th>
<th>25S# ANSI</th>
<th>R</th>
<th>V (min)</th>
<th>Suct/Disch Gauge Taps (NPT)</th>
<th>Drain Tap (NPT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>143TC</td>
<td>9.50</td>
<td>21.75 (241)</td>
<td>16.50</td>
<td>20.00</td>
<td>0.88</td>
<td>12.05</td>
<td>11.53</td>
<td>4.50</td>
<td>28.08</td>
<td>3.88</td>
<td>4.0.63</td>
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<td>4.0.88</td>
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<td>4.00</td>
<td>0.25</td>
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<tr>
<td>145TC</td>
<td>9.50</td>
<td>21.75 (241)</td>
<td>16.50</td>
<td>20.00</td>
<td>0.88</td>
<td>12.05</td>
<td>11.53</td>
<td>4.50</td>
<td>28.08</td>
<td>3.88</td>
<td>4.0.63</td>
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<td>7.19</td>
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<td>0.25</td>
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<td>21.75 (241)</td>
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<td>184TC</td>
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<td>21.75 (241)</td>
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<td>0.25</td>
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NOTE: For TEFC add 1-1/2" to dimensions E & H.
# TECHNOLIGIC STANDARD FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTROL METHOD WITH INTEGRATED TECHNOLOGIC&lt;sup&gt;®&lt;/sup&gt; SENSORLESS CONTROL (ITSC)</td>
<td>Factory configured for sensorless operation.</td>
</tr>
<tr>
<td>CONTROL METHOD WITH INTEGRATED TECHNOLOGIC&lt;sup&gt;®&lt;/sup&gt; (IT)</td>
<td>Field configurable for sensor by others, building management system input, or optional sensor(s) provided.</td>
</tr>
<tr>
<td>ENCLOSURE</td>
<td>NEMA 12 (same as IP55 &amp; UL type 12)</td>
</tr>
<tr>
<td>POWER DISCONNECT SWITCH</td>
<td>Included standard. Fused Disconnect Switch optional with three phase input voltage.</td>
</tr>
<tr>
<td>HARMONIC SUPPRESSION</td>
<td>Integrated non-saturating dual DC link reactors provide better harmonic performance than a 5% AC line reactor.</td>
</tr>
<tr>
<td>COOLING</td>
<td>Fan-cooled through temperature controlled and easy replacement.</td>
</tr>
<tr>
<td>AMBIENT TEMPERATURE RATING</td>
<td>14°F to 113°F (-10°C to 45°C)</td>
</tr>
<tr>
<td>COMMUNICATION PROTOCOLS</td>
<td>BACnet, Modbus RTU, N2 Metasys, FLN Apogee</td>
</tr>
<tr>
<td>ANALOG INPUTS</td>
<td>2 configurable for either voltage (0 to 10VDC) or current(0/4 to 20mA)</td>
</tr>
<tr>
<td>ANALOG OUTPUTS</td>
<td>1 (0/4 to 20mA) up to 500 ohm load accurate to 1% of full scale</td>
</tr>
<tr>
<td>DIGITAL INPUTS</td>
<td>4 (0 to 24VDC), NPN or PNP, 0 to 24VDC, on 5 msec scan interval. Up to 2 can be configured as pulse inputs.</td>
</tr>
<tr>
<td>DIGITAL OUTPUTS</td>
<td>2 (0 to 24VDC), 40mA max current, configurable as pulse outputs.</td>
</tr>
<tr>
<td>RELAY OUTPUTS</td>
<td>2 programmable, 240VAC or 400VAC up to 2 A</td>
</tr>
<tr>
<td>MINIMUM CONTROL HEAD</td>
<td>ft (default set to 40% of design head if not unknown)</td>
</tr>
</tbody>
</table>
### Series e-80SC  1.5x1.5x9.5B
Centrifugal Pump Submittal
with Integrated Technologic Control

<table>
<thead>
<tr>
<th>MOTOR FRAME</th>
<th>VFD</th>
<th>Rv</th>
<th>Zv</th>
<th>W</th>
<th>Hv</th>
<th>Xv</th>
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<td>(305)</td>
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<td>145TC</td>
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<td>(305)</td>
<td>(318)</td>
<td>(241)</td>
<td>(789)</td>
<td>(16)</td>
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<tr>
<td></td>
<td>B1</td>
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<td>9.50</td>
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<td>(241)</td>
<td>(845)</td>
<td>(55)</td>
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</table>

Kv=2 (50)
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

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

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.

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.

1/4 Male NPT
0.875" (22 mm) HEX

TECHNOLOGIC ANALOG SENSOR WIRING

Parameters:
Group 6-**
Group 20-**
A53 = I for 4-20mA

AO
4-20mA
Transducer Feedback

Digital I/O

Parameter: 5-10
Start/Stop Control Device
Start: Closed
Stop: Open

Analog I/O

Digital I/O

12
13
18
19

+24V
+24V
+24V

A IN
A IN
COM

D IN
D IN

D I

D I

A53 = I for 4-20mA
Differential Pressure Sensor/Transmitter for Pumps with TECHNOLOGIC® Drives

### 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

### 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)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Measurement</th>
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<tbody>
<tr>
<td>1</td>
<td>Process connection 1/4-18NPT for absolute pressure (+) side</td>
</tr>
<tr>
<td>2</td>
<td>Mounting thread 7/16-20 UNF to EN 61518</td>
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<tr>
<td>3</td>
<td>Dummy plug</td>
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<tr>
<td>4</td>
<td>Electrical connection: Screwed gland 1/2-14 NPT</td>
</tr>
<tr>
<td>5</td>
<td>Connection side</td>
</tr>
<tr>
<td>6</td>
<td>Electronic side, no digital display</td>
</tr>
<tr>
<td>7</td>
<td>Access cover over magnetic pushbuttons</td>
</tr>
<tr>
<td>8</td>
<td>Sealing screw with vent shown (optional)</td>
</tr>
<tr>
<td>9</td>
<td>Side vent for measuring liquid</td>
</tr>
<tr>
<td>10</td>
<td>Side vent for measuring gas (supplement H02)</td>
</tr>
<tr>
<td>11</td>
<td>Mounting bracket (2 shackles, 4 nuts, 4 U-plates, 1 angle) made of steel</td>
</tr>
</tbody>
</table>

### 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.
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.

<table>
<thead>
<tr>
<th>CALIBRATION CHART</th>
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</tbody>
</table>

Consult factory for custom flow range calibration.