**5x5x13.5**

Series e-80SC

In-Line Mounted Centrifugal Pumps

**SPECIFICATIONS**

- **FLOW**
- **HEAD**
- **HP**
- **RPM**
- **VOLTS**
- **CYCLE**
- **ENCLOSURE**

**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

**MATERIALS OF CONSTRUCTION**

- Stainless Steel Fitted

**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)

**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

**Flow vs. Head Diagram:**

- Series e-80SC
- Bell & Gossett
- 5x5x13.5
- 1180 RPM

**Graph:**

- Total Head vs. Capacity
- NPSHr
- Date: 7/31/2015
- Date: 7/31/2015

**Diagram:**

- Series e-80SC
- Bell & Gossett
- 5x5x13.5
- 1180 RPM
**5x5x13.5 Series e-80SC**

*In-Line Mounted Centrifugal Pumps*

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**SPECIFICATIONS**

- **FLOW**
- **HEAD**
- **RPM**
- **VOLTS**
- **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

---

**TYPE OF SEAL**

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

---

**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

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**Series e-80SC**

*1750 RPM*

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**Bell & Gossett**

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**xylem**

Let's Solve Water
## 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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<tr>
<td>284TC</td>
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</table>

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.
**5x5x13.5 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>125# ANSI</th>
<th>250# ANSI</th>
<th>R</th>
<th>V (min)</th>
<th>Suct/Disch</th>
<th>Drain Tap</th>
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</thead>
<tbody>
<tr>
<td>284TC</td>
<td>16.50</td>
<td>34.42</td>
<td>37.92</td>
<td>21.50</td>
<td>25.00</td>
<td>1.00</td>
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<td>34.42</td>
<td>37.92</td>
<td>21.50</td>
<td>25.00</td>
<td>1.00</td>
<td>23.56</td>
<td>13.81</td>
<td>8.50</td>
<td>21.50</td>
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<td>0.88</td>
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<td>0.88</td>
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<td>1.00</td>
<td>26.13</td>
<td>13.81</td>
<td>8.50</td>
<td>21.50</td>
<td>8.50</td>
<td>8.50</td>
<td>8.08</td>
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<td>9.25</td>
<td>0.88</td>
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NOTE: For TEFC add 1-1/2" to dimensions E & H.
# 5x5x13.5
## Series e-80SC
### In-Line Mounted Centrifugal Pumps
#### With Integrated Technologic Control

## TECHNOLOGIC STANDARD FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTROL METHOD WITH INTEGRATED TECHNOLOGIC® SENSORLESS CONTROL (ITSC)</td>
<td>Factory configured for sensorless operation.</td>
</tr>
<tr>
<td>CONTROL METHOD WITH INTEGRATED TECHNOLOGIC® (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  5x5x13.5
Centrifugal Pump Submittal
with Integrated Technologic Control

#### DIMENSIONS - Inches (mm)

<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>284TC</td>
<td>B1</td>
<td>17.58</td>
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<td>9.50</td>
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<td>(446)</td>
<td>(393)</td>
<td>(241)</td>
<td>(1127)</td>
<td>(28)</td>
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<tr>
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<td>B2</td>
<td>17.58</td>
<td>15.45</td>
<td>9.50</td>
<td>48.84</td>
<td>1.11</td>
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<td>(446)</td>
<td>(393)</td>
<td>(241)</td>
<td>(1241)</td>
<td>(28)</td>
</tr>
<tr>
<td></td>
<td>C1</td>
<td>19.55</td>
<td>18.65</td>
<td>12.10</td>
<td>51.61</td>
<td>4.31</td>
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<td>(497)</td>
<td>(474)</td>
<td>(307)</td>
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<td>(109)</td>
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<tr>
<td></td>
<td>C2</td>
<td>20.33</td>
<td>20.95</td>
<td>14.60</td>
<td>54.76</td>
<td>6.61</td>
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<td>(516)</td>
<td>(532)</td>
<td>(371)</td>
<td>(1391)</td>
<td>(168)</td>
</tr>
</tbody>
</table>

| 286TC       | B2  | 17.58 | 15.45 | 9.50 | 49.21 | 1.11 |
|             |     | (446) | (393) | (241) | (1250) | (28) |
|             | C1  | 19.55 | 18.65 | 12.10 | 51.98 | 4.31 |
|             |     | (497) | (474) | (307) | (1320) | (109) |
|             | C2  | 20.33 | 20.95 | 14.60 | 55.13 | 6.61 |
|             |     | (516) | (532) | (371) | (1400) | (168) |

| 324TSC      | B1  | 18.58 | 16.16 | 9.50 | 47.66 | 0.39 |
|             |     | (472) | (410) | (241) | (1211) | (10) |
|             | C1  | 20.58 | 18.33 | 12.09 | 52.46 | 1.81 |
|             |     | (523) | (466) | (307) | (1332) | (46) |

| 326TSC      | B2  | 18.58 | 16.16 | 9.50 | 53.61 | 0.39 |
|             |     | (472) | (410) | (241) | (1362) | (10) |
|             | C1  | 20.58 | 18.33 | 12.09 | 53.96 | 1.81 |
|             |     | (523) | (466) | (307) | (1370) | (46) |

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

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

TECHNOLOGIC ANALOG SENSOR WIRING

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

B&G PART NUMBERS

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
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

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
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

<table>
<thead>
<tr>
<th>B&amp;G Part No.</th>
<th>Pipe Size</th>
<th>Max. Flow</th>
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<tbody>
<tr>
<td>137411</td>
<td>3&quot; Sch 40</td>
<td>250 gpm (16 l/sec)</td>
</tr>
<tr>
<td>137412</td>
<td>4&quot; Sch 40</td>
<td>400 gpm (25 l/sec)</td>
</tr>
<tr>
<td>137413</td>
<td>6&quot; Sch 40</td>
<td>850 gpm (54 l/sec)</td>
</tr>
<tr>
<td>137414</td>
<td>8&quot; Sch 40</td>
<td>1750 gpm (110 l/sec)</td>
</tr>
<tr>
<td>137415</td>
<td>10&quot; Sch 40</td>
<td>3150 gpm (199 l/sec)</td>
</tr>
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<td>137416</td>
<td>12&quot; Sch 40</td>
<td>5000 gpm (315 l/sec)</td>
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<td>137417</td>
<td>14&quot; Sch 40</td>
<td>6400 gpm (404 l/sec)</td>
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<td>137418</td>
<td>16&quot; Sch 40</td>
<td>9100 gpm (574 l/sec)</td>
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<td>137419</td>
<td>18&quot; Sch 40</td>
<td>12400 gpm (782 l/sec)</td>
</tr>
<tr>
<td>137420</td>
<td>20&quot; Sch 40</td>
<td>16500 gpm (1041 l/sec)</td>
</tr>
</tbody>
</table>

Consult factory for custom flow range calibration.