



# Series e-80SC

## Split-Coupled Vertical In-Line Centrifugal Pump

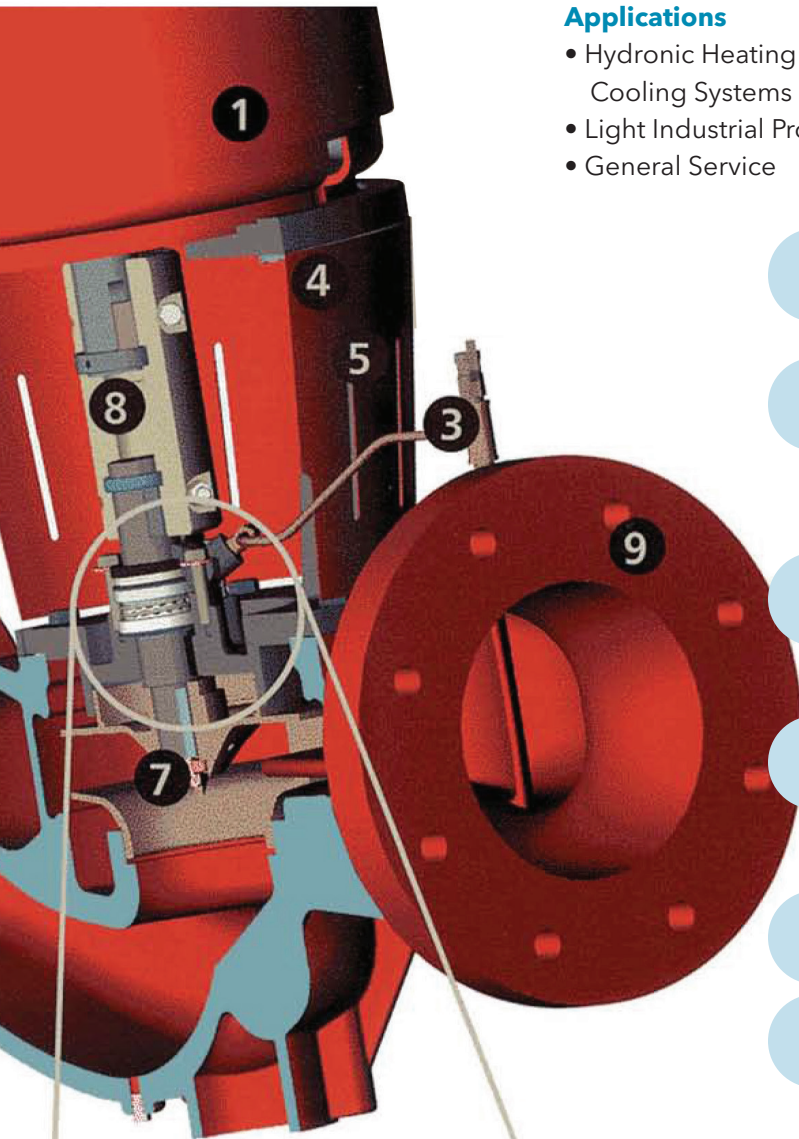
# Series e-80SC Split-Coupled Vertical In-Line Centrifugal Pump

## Applications

- Hydronic Heating and Cooling Systems
- Light Industrial Process
- General Service

## Advantages

- Best in Class Hydraulic Performance
- Patent-Pending Shaft Jacking Coupling
- Easy Maintenance
- Optional Flange Mounting Supports



- 1 Motor**

The Series e-80SC can be fitted with 50 Hertz IEC motors that meet International Standards IEC 6034. In addition, the Series e-80SC will accept 50 and 60 Hertz TC-face NEMA motors.
- 2 Mechanical Seal**

The seal has a compact Rotating Unitized Seal Head design for easier seal replacement. The positive metal-to-metal drive system reduces the torsional stress on the bellows. The bellows are pressure supported without creases or folds, creating lower stress, and resulting in longer seal life.
- 3 External Flush**

The external flush line has a manual valve to remove air from the seal chamber to ensure cooling liquid at the seal for fast initial start-up. The flush line is a durable braided hose material which helps to prevent damage during shipment.
- 4 Motor Bracket**

Brackets are designed for a wider access area for easier seal removal. The combination motor bracket/volute coverplate assures positive concentric alignment of the motor to the pump casing. The motor bracket will accept 50 Hertz IEC and 50/60 Hertz TC motors.
- 5 Coupler Guard**

Confirms to ANSI and OSHA for safe operation.
- 6 Ease of Serviceability**

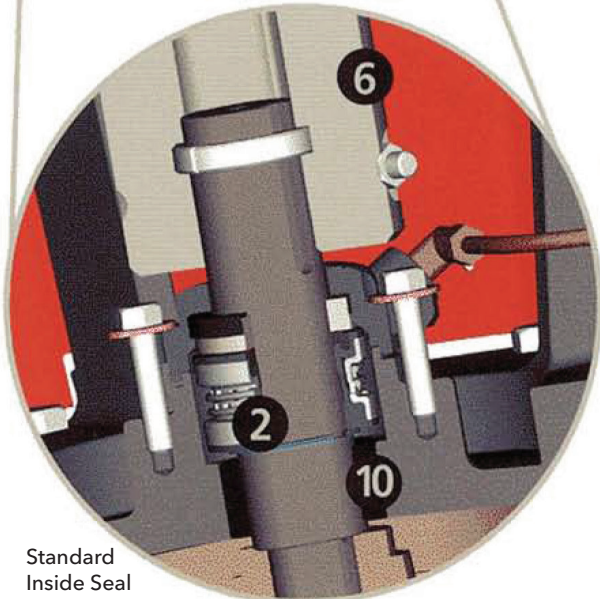
The axially-split spacer coupling permits seal maintenance without disturbing the pump or motor. The patent pending shaft jacking design enables a single person to remove and replace the mechanical seal. The seal can be removed through the gap between the pump and motor shaft when the coupler is removed.
- 7 Impeller**

The new e-80SC contains stainless steel impellers to improve sustainable hydraulic performance, chemical resistance, and reduce corrosion potential. The impellers are balanced to ANSI grade 6.3 to provide years of trouble free service.
- 8 Pump Shaft**

The carbon steel pump shaft provides high levels of corrosion resistance to the pumped fluid.
- 9 Volute**

The e-80SC delivers "best in class" hydraulic performance with proven industry leading efficiencies across Preferred Operating Regions (POR). An Anti-Swirl vane below the impeller eye keeps NPSHR to a minimum. Pumps 5" to 14" include a splitter volute to minimize radial loads for extended bearing and mechanical seal life.
- 10 Throttle Bushing**

Antimony-impregnated carbon graphite throttle bushing for longer service life.



Standard Inside Seal

## Construction Materials (for parts in contact with fluid pumped)

Description	Stainless Steel Fitted Pump
Shaft	Carbon 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
<b>Seal Assemblies</b>	
• 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.

### IT & ITSC Technology

The IT & ITSC option from Bell & Gossett can be packaged with the Series e-80SC pumps. The IT & ITSC option is the energy efficient and economical way to provide variable flow pumping for the broadest range of applications. The Integrated Technologic (IT) is designed for sensed or building automation system control. The IT package is a great alternative for applications that do not require sensorless control. The Integrated Technologic Sensorless Control (ITSC) combines the energy savings of variable flow with sensorless technology to eliminate the cost and time of using wired transducers and sensors.

## Seal Selection Guide

### 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.

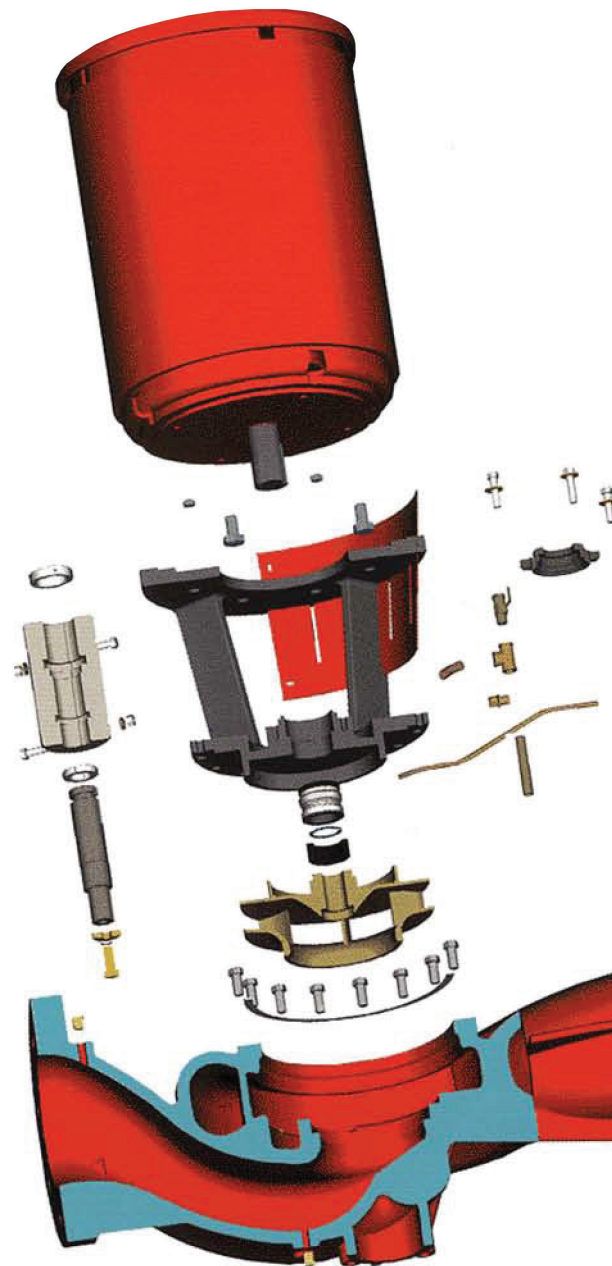
EPR/Carbon-Tungsten Carbide; Temperature Range -20° to +250°F (-29° to +121°C). \* For use on open or dosed water systems. Maximum pressure is 250 psi (17 bar).

### C. Optional Seal - Outside with flush line.

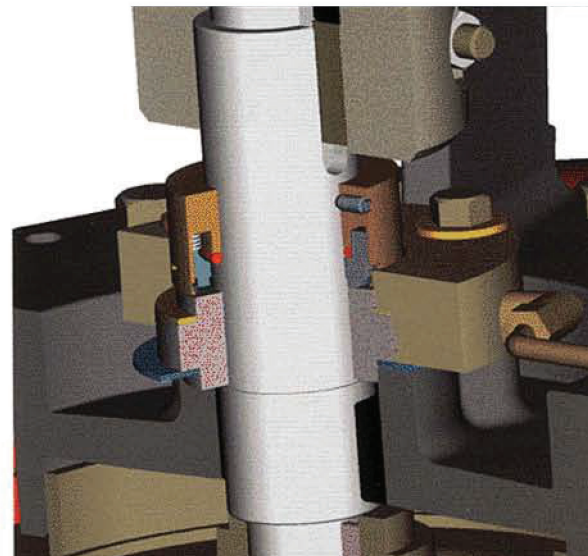
EPR/Carbon-Ceramic Type "8B2"; Temperature Range -20° to +250°F (-29° to +121°C). \* For use on closed or open systems where the pressure requirements exceed the limitations of the standard seal or an alternate seal design is desired. Maximum pressure is 250 psi (17 bar).

\*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.



## Optional Outside Seal



## Engineering Specifications

Furnish and install pumps with capacities as shown on plans. Pumps shall be split-coupled in-line, single-stage design, for installation in a vertical position motor up, capable of being serviced without disturbing piping connections.

Pump volute shall be of Class 30 cast iron. It shall be designed with a base ring matching an ANSI 125# flange for pump support. The impeller shall be of stainless steel, enclosed type, balanced to Hydraulic Institute Standards (ANSI/HI 9.6.4.5-2000, figure 9.6.4.158). The allowable residual imbalance conforms to ANSI grade 6.3, keyed to the carbon steel shaft and secured by a locking capscrew. The pump shaft shall be guided by a carbon graphite lower throttle bushing.

The combination motor bracket and volute coverplate shall be a one-piece unit to ensure concentric alignment of the motor to the pump casing.

The liquid cavity shall have a tapped flush line with manual valve to remove air from the seal chamber for fast initial start-up. The mechanical seal shall have a compact Rotating Unitized Seal Head design with EPR elastomer bellows and a positive metal-to-metal drive system to reduce the torsional stress on the bellows. The bellows will be pressure supported without creases or folds for long life.

The spacer coupling shall be of high tensile aluminum, split to allow the servicing of the seal without disturbing the pump or motor. The motor bracket shall contain a carbon steel coupler guard conforming to both ANSI 815.1 section 8 and OSHA 1910.219 standards for safety.

(Optional) The seal flush line shall be fitted with a factory installed 50 micron cartridge filter (cyclone separator when pump differential pressure exceeds 30 psig) and sight flow indicator.

Pumps shall be rated for continuous operation at a minimum of 175 psi (12 bar) working pressure (optional 250 psi (17 bar)) and 250°F (121°C). The volute shall have gauge tapings at the suction, and discharge nozzles and vent and drain tapings at the top and bottom.

Motor shall be energy efficient complying to IEC or NEMA specifications and shall be the size, voltage and enclosure called for on the plans. It shall have heavy-duty grease-lubricated ball bearings, completely adequate for the maximum load for which the pump is designed.

Each pump shall be factory tested per Hydraulic Institute standards. It shall then be thoroughly cleaned and painted with at least one coat of high-grade machinery enamel prior to shipment.

Pumps shall be Series e-80SC as manufactured by Bell & Gossett.

## Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

**For more information on how Xylem can help you, go to [www.xylem.com](http://www.xylem.com)**



Xylem Inc.  
8200 N. Austin Avenue  
Morton Grove, Illinois 60053  
Phone: (847) 966-3700  
Fax: (847) 965-8379  
[www.bellgossett.com](http://www.bellgossett.com)