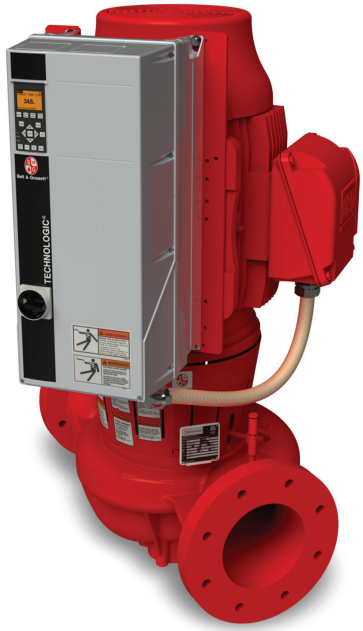
xylem
Let's Solve Water

Series e-80 & e-80SC
ITSC Option
Integrated Technologic® with Sensorless Control

B-111B

Bell & Gossett
a xylem brand

ITSC for Series e-80 & e-80SC Pumps
Integrated Technologic® with Sensorless Control



The ITSC option makes it easy to design, install, and commission a variable flow Hydronic Pumping System. Available from Bell & Gossett® on both Series e-80 closed-coupled and Series e-80SC split-coupled vertical in-line pumps, the Integrated Technologic variable frequency drive combines the energy savings of variable flow with sensorless technology to eliminate the cost and time of using wired transducers.

- Series e-80 sizes 1 1/2 x 7 to 8 x 11
- Series e-80SC sizes from 1 1/2 x 7 to 10 x 13 1/2
- ODP or TEFC motors up to 150HP
- Compatible with 200~240, 380~480 & 525~600 VAC power
- Fully supported with Bell & Gossett's ESP PLUS Pump Sizing Software

Features and benefits:

Energy savings with variable flow pumping

Many of today's systems operate at less than full capacity. By reducing motor speed to match flow and head to the system load, you can significantly reduce your electrical power as compared to full speed operation. When combined with a NEMA Premium efficiency motor, the ITSC is a best-in-class solution that fully meets the requirements of ASHRAE 90.1.

Field-proven Technologic pump controller

Bell & Gossett sets the benchmark for variable speed pumping with the Technologic series of Intelligent Pump Controls. The ITSC is configured with a NEMA 12 enclosure rating, temperature controlled cooling fan, and an advanced power system design, to ensure your HVAC pumps operate efficiently and reliably.

- Dual DC link reactors and EMI/RFI filters
- Built-in BACnet, Modbus RTU, N2 Metasys FLN
- 2 analog inputs, 1 analog output
- 4 digital inputs, 2 digital outputs
- 2 programmable relays
- Mains disconnect with optional fuses

Factory configured intelligent pump is ready to install

Given the time constraints of today's HVAC projects, why bother with the extra effort of selecting, mounting, wiring, and configuring a variable speed drive? The ITSC is mounted and configured in our factory by trained technicians. It is fully tested and optimized under load in our advanced pump testing facility.

Bell & Gossett is your one-stop shop for Intelligent Variable Speed HVAC Pumping Systems.

Hydronic sensorless control

In simple hydronic systems (**Figure 1**) with quadratic friction losses, the ITSC emulates a differential pressure transducer across the load by monitoring the pumps speed and torque characteristics.

In more substantial systems (**Figure 2**) where the differential pressure losses across the loads are more complex using a differential pressure transducer on the furthest load is the preferred solution. In challenging system designs, the ITSC is also an ideal choice because of its built-in support for wired pressure or flow transducers.

Figure 1

Sensorless control ideal for simple systems.

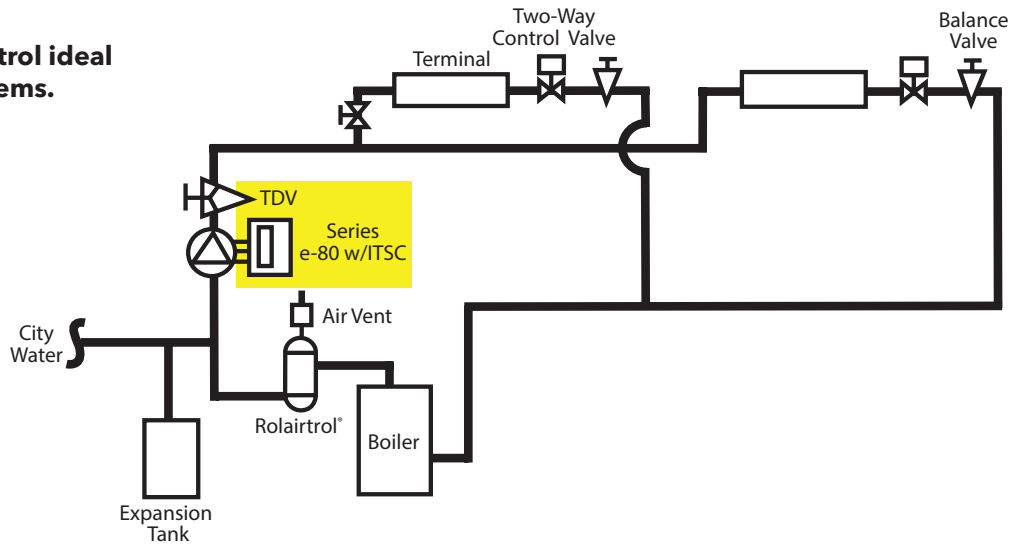
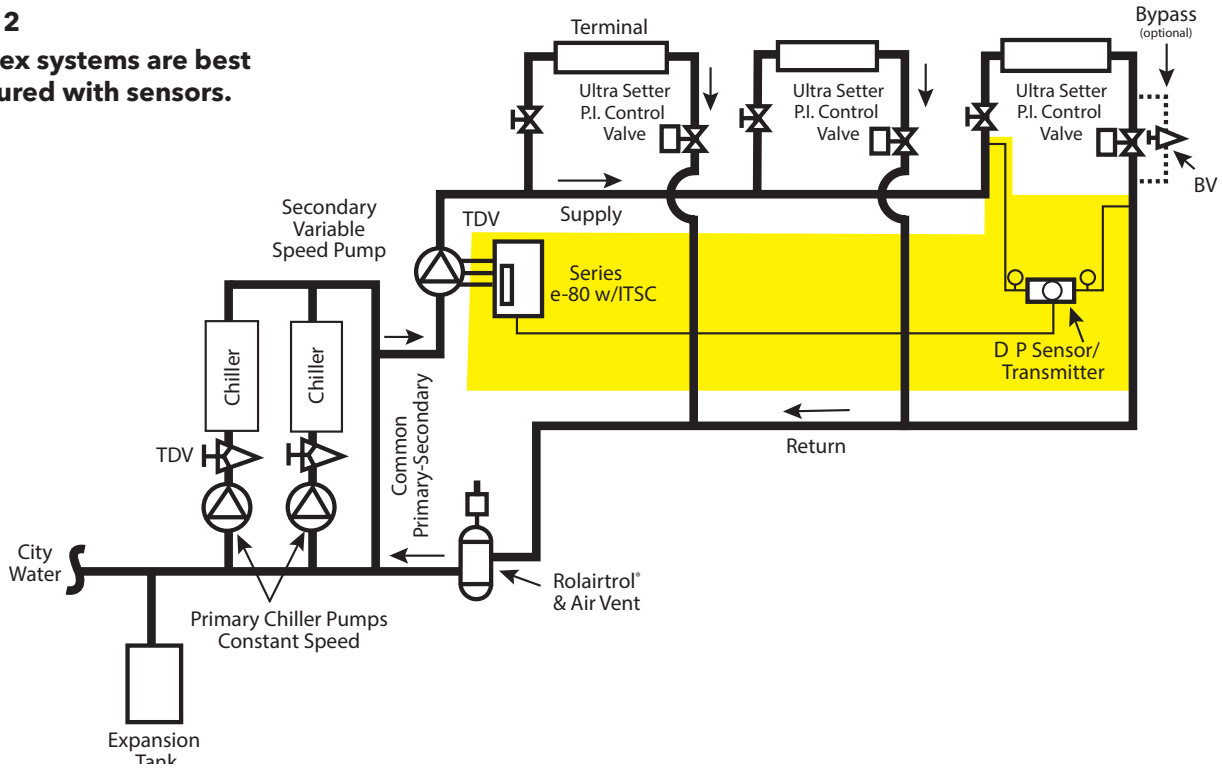


Figure 2

Complex systems are best configured with sensors.



Sensorless technology at work

The ITSC sensorless technology is made possible by two simple principles of variable flow systems. The first is the universal application of the affinity laws to centrifugal pumps. This enables the ITSC to model the pump performance very accurately.

Also essential to Sensorless control is the ability of today's variable speed drives to accurately measure and control a motor's speed and torque. By tightly integrating both of these elements the ITSC supports high performance variable flow Hydronic systems without the hassles of mounting, installing, and wiring a separate VFD on a wall or a wired transducer across the load furthest from the pump.

The right solution for any job

The ITSC ships configured for Sensorless operation out of the box. Using the advanced User Interface and pre-configured setups, an installer can readily change the mode of operation as needed for the site:

- Sensorless Pressure control
- Sensorless Flow control
- Wired Differential Pressure Transducer
- Wired Flow Transducer

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 advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. 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 with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com

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