

# Centrifugal Pumps

TECHNICAL BROCHURE



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## PUMPS & ACCESORIES



### BASE MOUNTED - HORIZONTAL

Base-mounted, end-suction pumps are available in 1-1/4" through 8" sizes, 1/2 HP to 150 HP at 1750 RPM and 2 HP - 150 HP at 3500 RPM. Bronze-fitted and all iron material configurations are available with flows to 4000 GPM, heads to 500 feet.

### VERTICAL IN LINE PUMPS

Close-coupled in line mounted pump available 1-1/2" - 8" sizes. From 1/4 to 50 HP at 1750 RPM and 5 to 60 HP at 3500 RPM. Available in bronze fitted and all-iron construction. Flows to 2500 GPM, heads to 380 feet  
Pumps are designed for horizontal and Vertical in line mounted



### CIRCUIT SETTER

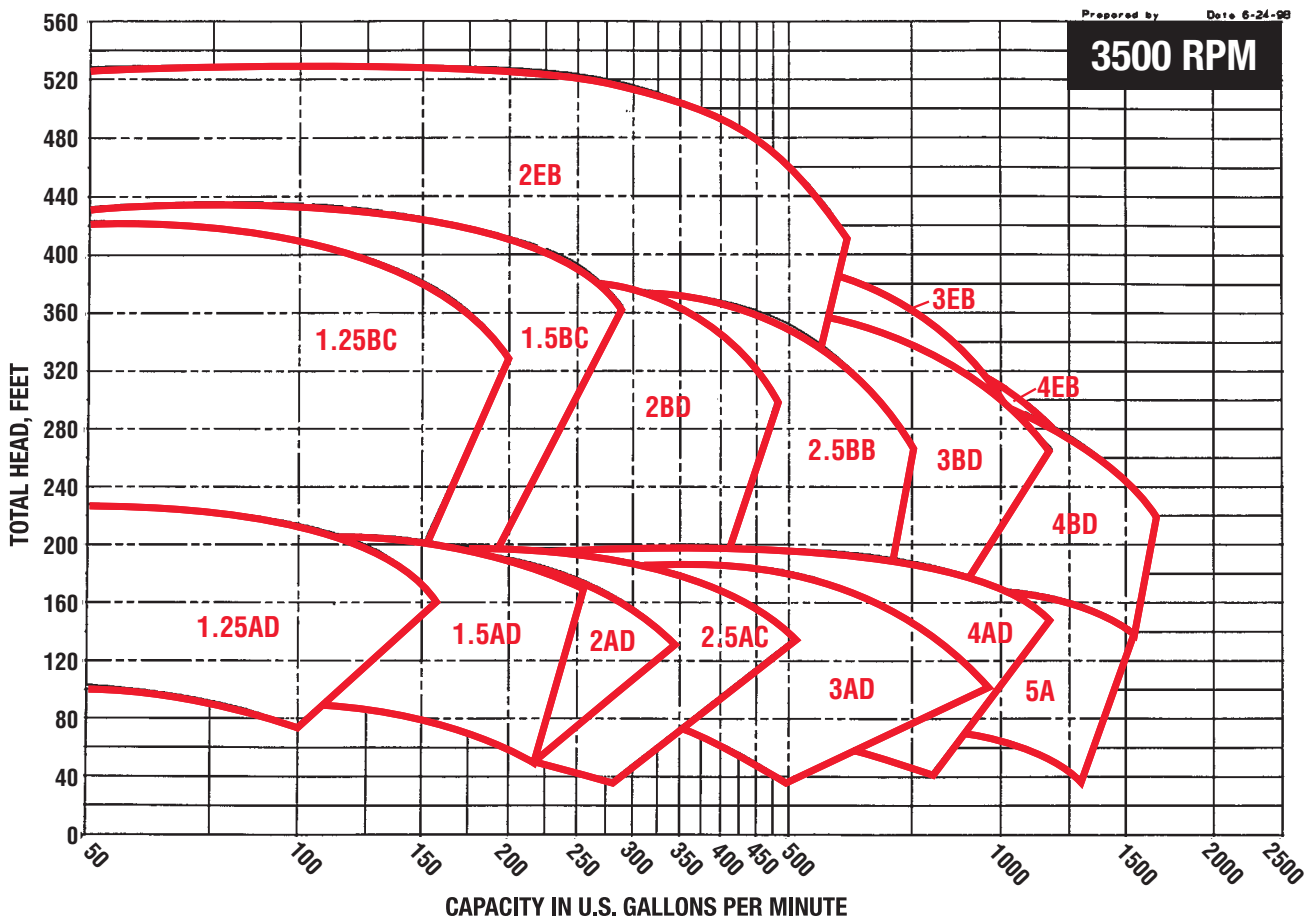
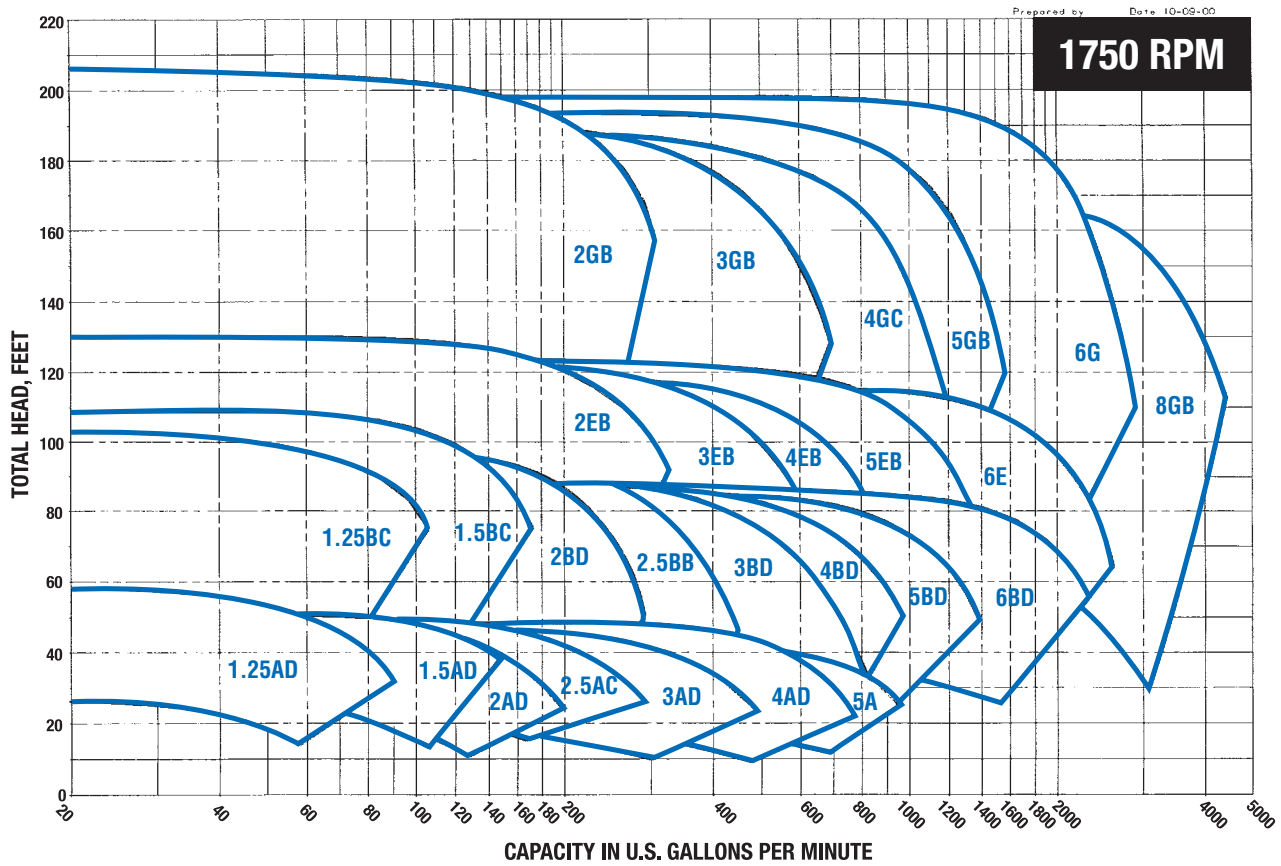
For larger sized systems, Circuit Setters are available in ball style (2½" - 4") and globe style (4" - 12"). Our globe style valves include a multi-turn stem, calibrated nameplate, memory button for easy re-setting of the valve position after shut-off/isolation, and integrated pressure/temperature ports.



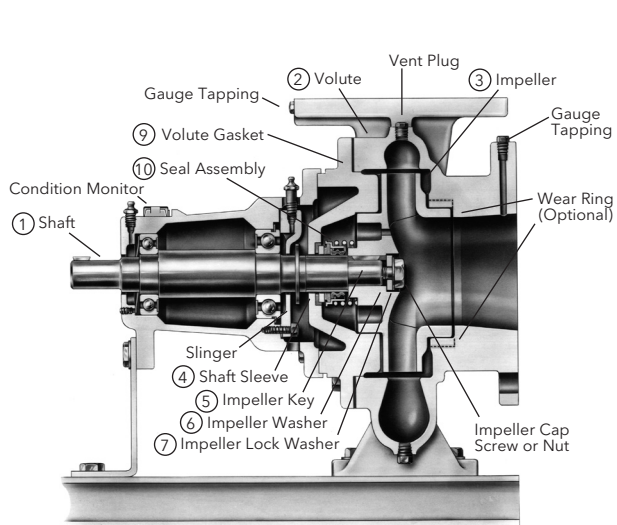
### AIR SEPARATOR

As system fluid enters through the inlet, (either straight or angle) the diffuser distributes flow evenly across the stainless steel, wire brush-like medium. Air bubbles, even micro air bubbles, stick to the brush filaments. Trapped air rises above the diffuser through a baffle where the air is then released through an opening at the top. Treated water then goes back into the system. Is very easy and convenient to install

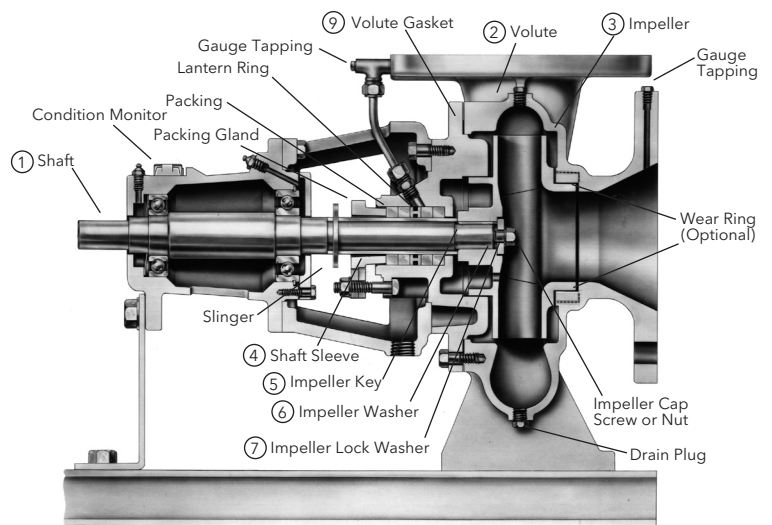
# Series e-1510 Performance Curves



# Materials of Construction



**Standard Configuration**



**Optional - S Configuration**

Description	SM, LG, & XL Bearing Frames	ES Bearing Frame
1 Shaft	ASTM 108 Grade 1144	ASTM 108 Grade 1144
2 Volute	Cast Iron ASTM A48 Class 30B	Cast Iron ASTM A48 Class 30B
3 Impeller	ASTM A743 Grade CF8 - 304 Stainless Steel	ASTM A743 Grade CF8 - 304 Stainless Steel
4 Shaft Sleeve	ASTM 312 Grade TP304 - 304 Stainless Steel	ASTM 312 Grade TP304 - 304 Stainless Steel
5 Impeller Key	#304 Stainless Steel	NA
6 Impeller Washer	Steel	NA
7 Impeller Lock Washer	#304 Stainless Steel (18-8 XL FRM)	NA
8 Impeller Cap Screw	#304 Stainless Steel	NA
8 Impeller Nut	NA	316 Stainless Steel
9 Volute Gasket	Cellulose Fiber	Cellulose Fiber
10 Seal Assembly	Reference Seal Data Tables	Reference Seal Data Tables

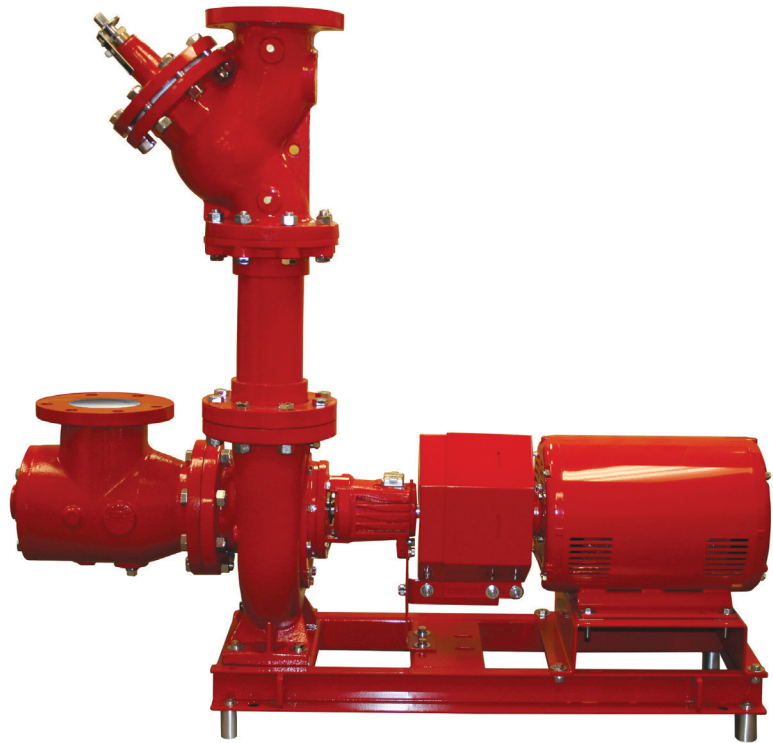
## Pump Options

- Stainless Steel Volute Wear Ring
- Galvanized Steel Drip Pan
- Stainless Steel Shaft
- Rexnord Omega Spacer Coupling
- Falk T31 Spacer Coupling
- External Flush Line
- Stuffing Box Configuration
- Epoxy Coated Internal Cast Iron Components
- Special Impeller Balancing (ISO 1940 G2.5 or G1.0)
- Certified Performance Tests (Per HI Standard 14.6)
- iALERT™ Condition Monitor
- 250 PSI Working Pressure

# The End Suction Pump System

Consists of:

Series e-1510 Pump  
Triple Duty Valve  
Suction Diffuser



## Triple Duty Valve

- Lowest Pressure Drop
- ASHRAE 90.1 Energy Efficient Design
- Three Valves in one!
  - Nonslam drip-tight check valve
  - Positive shutoff valve
  - Calibrated system balance valve
- EPDM Disc Soft Seat Design
- Repack Under Pressure
- Brass Seat & Bronze Disc
- Stainless Steel Stem
- Multi-turn Valve (8-9 turns) vs 1/4 turn range of control
- Available connections - Threaded - Flanged - Grooved
- ESP-Plus System Selection



## Suction Diffuser

- Full length stainless steel straightening vanes
- Oversize cylinder assures minimum strainer pressure drop
- Pressure gauge tap
- Space saving design reduces the "footprint" size of the unit
- Available connections - Threaded - Flanged - Grooved
- Reducer and elbow provide multiple combinations of inlet and pump suction configurations which eliminate the need for reducer fittings
- ESP-Plus System Selection

# Typical Specification for Series e-1510

## Base Mounted, Flexible Coupled, End-Suction Pumps

Furnish and install pumps with performance characteristics as shown on plans. Pumps shall be base mounted, single stage, end suction design with a foot mounted volute to allow removal and service of the entire rotating assembly without disturbing the pump piping, electrical motor connections or pump to motor alignment.

Pump volute shall be Class 30 cast iron with integrally-cast pedestal support feet. The impeller shall be a cast stainless steel enclosed type, balanced to ANSI/HI 9.6.4-2009 balance grade G6.3 and secured to the shaft by a locking capscrew or nut.

The liquid cavity shall be sealed off at the pump shaft by an internally-flushed mechanical seal with ceramic seal seat and carbon seal ring, suitable for continuous operation at 225°F (107°C). A replaceable stainless steel shaft sleeve shall completely cover the wetted area under the seal.

Pump shall be rated for minimum of 175 psi (12 bar) working pressure. Volute shall have gauge tapings at the suction and discharge nozzles and vent and drain tapings at the top and bottom.

The pump(s) vibration limits shall conform to Hydraulic Institute ANSI/HI 9.6.4-2009 for recommend acceptable unfiltered field vibration limits (as measured per ANSI/ HI 9.6.4-2009 Figure 9.6.4.2.3.1) for pumps with rolling contact bearings.

Baseplate shall be of structural steel or fabricated steel channel with fully enclosed sides and ends, and securely welded cross members. Grouting area shall be fully open. The combined pump and motor baseplate shall be sufficiently stiff as to limit the susceptibility of vibration. The minimum baseplate stiffness shall conform to ANSI/ HI 1.3.8.2.1-2009 for grouted Horizontal Baseplate Design standards.

A flexible type, center drop-out design coupling, capable of absorbing torsional vibration, shall be employed between the pump and motor. Pumps for variable speed application shall be provided with a suitable coupling

sleeve. The coupling shall be shielded by a dual rated ANSI B15.1 & OSHA 1910.219 compliant coupling guard and contain viewing windows for inspection of the coupling.

Motor shall meet NEMA and EISA 2007 (where applicable) specifications and shall be of the size, voltage and enclosure called for on the plans. Pump and motor shall be factory aligned, and shall be realigned by the contractor per factory recommendations after installation.

The pump(s) selected shall conform to ANSI/HI 9.6.3.1-2012 standards for Preferred Operating Region (POR) unless otherwise approved by the engineer.

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

The pump(s) shall be manufactured, assembled and tested in an ISO 9001 approved facility.

A pump condition monitoring system should be provided on the pump power end to continuously measure pump vibration and temperature at the outboard bearing. The system shall record the baseline vibration at start-up and have local alarm indication at the pump when the vibration levels are double the baseline values or when alarm limits are reached for vibration and temperature. Vibration modes shall be based on ANSI/HI 9.6.4-2009 and ISO 101816 recommended levels. The sensors and condition monitors' electronics shall be provided in a stainless steel enclosure potted in epoxy for protection from the environment. A battery powered system is preferred with no external power source required. The acceptable ambient temperature range shall be -40°F to 212°F (-40°C to 100°C). CSA certification is required.

Pumps shall be Series e-1510 as manufactured by Xylem Bell & Gossett or equal.