

# Horizontal Split Case HVAC Pumps



## Flex-Coupled Configuration

Patterson EnviroFlo™ horizontal split case pumps offer a high-efficiency design that minimizes energy consumption, and provides easy serviceability without disturbing piping connections.

### BENEFITS

- Gauge taps at the suction and discharge connections for complete monitoring flexibility
- Durable flex coupling absorbs vibration
- Variable speed rated coupling
- Heavy c-channel base aids in pump alignment
- Precision-cast, dynamically balanced bronze impeller minimizes vibration and maximizes bearing life
- Precision bearings and machining limit shaft deflection to only 0.002" at the seal face

### FEATURES

- Flows to 6,000 GPM, heads to 160' TDH
- OSHA coupling guard accessible from both sides
- Class 30 cast iron body
- Standard case wear ring and grease-lubricated bearings
- Standard silicon carbide mechanical seal (optional: tungsten carbide) with external seal water flush line
- Every pump hydrostatically pressure-tested
- Optional 325 psi working pressure model with 250-lb discharge flanges @ 250°F
- Bronze fitted construction with bronze shaft sleeves standard; optional stainless steel shaft and stainless steel sleeve available



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## SPECIFICATIONS: FLEX-COUPLED

Pumps shall be high efficiency, horizontal split case design; base mounted with OSHA approved coupling guard. The pumps shall be single stage, class 30 cast iron and capable of being serviced without disturbing piping connections. Pumps should be suitable for 175 psi working pressure (std.) or 325 psi (optional). Flanges shall be 125 lb. ANSI (std.) or 250 lb. ANSI (optional).

The pumps shall have case wear rings and grease lubricated bearings. The impeller shall be of the enclosed double suction type, bronze construction and shall be hydraulically and dynamically balanced. The impeller shall be keyed to the shaft and secured by lock nuts.

The pumps shall have a replaceable bronze or stainless steel shaft sleeve and shall cover the liquid area under the seal. The pump shall have a mechanical seal type carbon vs. silicon carbide with seal water flush line (optional: tungsten carbide). Seal shall be suitable for continuous operation at 250°F.

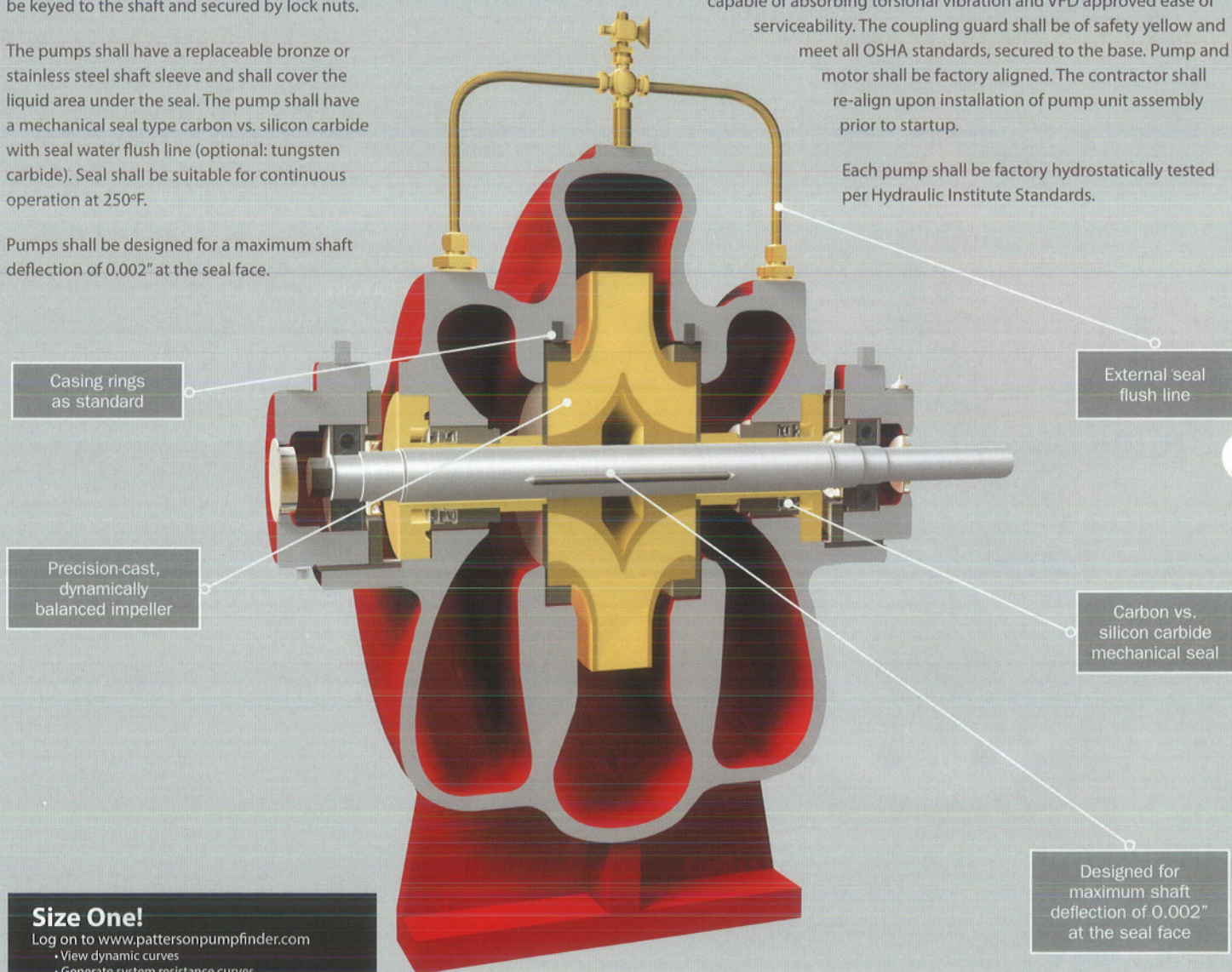
Pumps shall be designed for a maximum shaft deflection of 0.002" at the seal face.

Casing shall have tapped holes on the suction and discharge to accommodate gauges, fittings and drain ports.

Motors shall be EPAC/Nema rated and shall be of the size, voltage, and enclosure (ODP/TEFC) as outlined in the plans and specifications. The motor shall be non-overloading throughout the entirety of the pump performance curve (optional: Premium efficiency motor).

A flexible coupling shall be sized for non-overloading conditions and capable of absorbing torsional vibration and VFD approved ease of serviceability. The coupling guard shall be of safety yellow and meet all OSHA standards, secured to the base. Pump and motor shall be factory aligned. The contractor shall re-align upon installation of pump unit assembly prior to startup.

Each pump shall be factory hydrostatically tested per Hydraulic Institute Standards.



### Size One!

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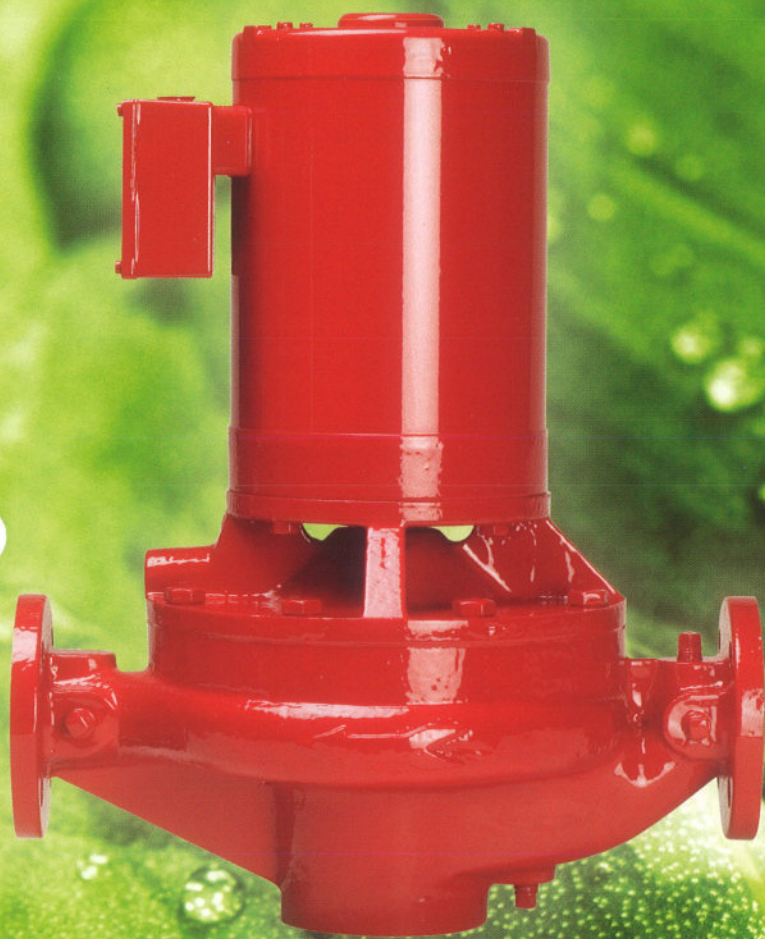
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# Vertical In-line HVAC Pumps



## Close-Coupled Configuration

Patterson EnviroFlo™ vertical in-line HVAC pumps, with a legacy of quality and durability, offer reliability and full flexibility to serve all applications and overcome constraints.

### BENEFITS

- High-efficiency design minimizes energy consumption
- Back pullout configuration for easy access and maintenance
- Gauge taps at the suction and discharge connections for complete monitoring flexibility
- Annular pressure reducing clearance with impeller balance holes to reduce axial thrust
- Precision-cast, dynamically balanced impeller minimizes vibration and maximizes bearing life
- Precision bearings and machining limit shaft deflection to only 0.002" at the seal face

### FEATURES

- Flows to 2,500 GPM, heads to 400' TDH
- Split coupling design above 5 HP optional
- Double suction impeller on largest sizes (12" and 14")
- Machined mounting support surface
- Standard case wear ring
- Grease-lubricated motor bearing
- Mechanical seal is standard in carbon vs. silicon carbide (optional: tungsten carbide) with seal flush lines
- Every pump hydrostatically pressure-tested
- Optional 250-lb discharge flanges and external seal flush lines available on many models
- Bronze fitted construction with bronze shaft sleeves standard; optional stainless steel shaft and stainless steel sleeve available



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## SPECIFICATIONS: CLOSE-COUPLED

Pumps shall be high efficiency vertical in-line close-coupled design. The pumps shall be of the pullout design, single stage, and capable of being serviced without disturbing piping connections.

The pump volute case shall be class 30 cast iron. The pumps shall have case wear rings. The pumps shall be rated for a minimum of 175 psi working pressure (optional: 250 psi, many models). Casing shall have tapped holes on the suction and discharge to accommodate gauges, fittings, and drain ports.

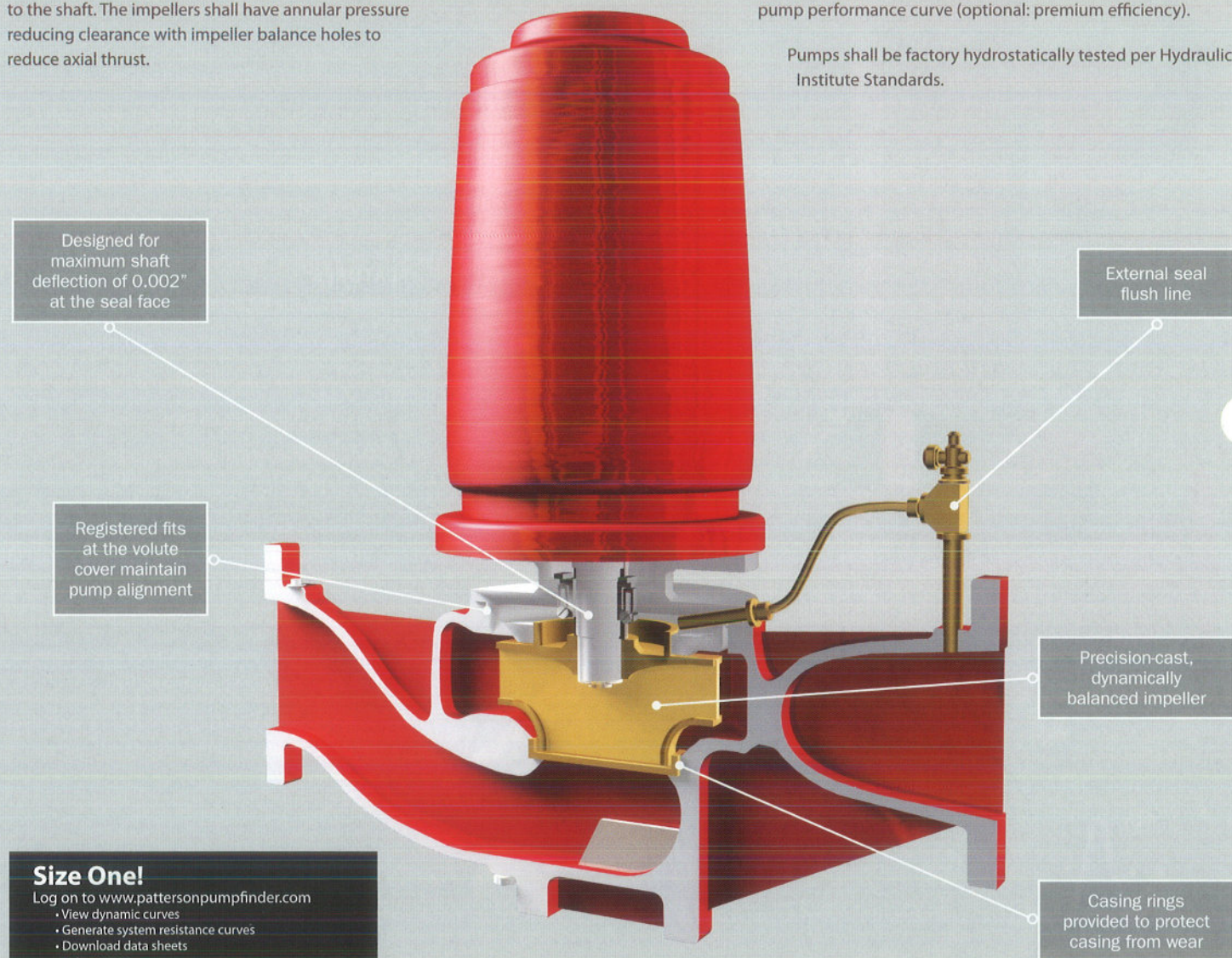
Impellers shall be precision-cast and dynamically balanced and shall be of the enclosed type, non-leaking brass and keyed to the shaft. The impellers shall have annular pressure reducing clearance with impeller balance holes to reduce axial thrust.

Pumps shall be designed for a maximum shaft deflection of 0.002" at the seal face.

The pumps shall have a replaceable bronze or stainless steel shaft sleeve and shall cover the liquid area under the seal. The pump shall have a mechanical seal type carbon vs. silicon carbide with seal water flush line (optional: tungsten carbide).

Motors shall be EPAC/Nema rated and shall be of the size, voltage, and enclosure (ODP/TEFC) as outlined in the plans and specifications. The motor shall be non-overloading throughout the entirety of the pump performance curve (optional: premium efficiency).

Pumps shall be factory hydrostatically tested per Hydraulic Institute Standards.



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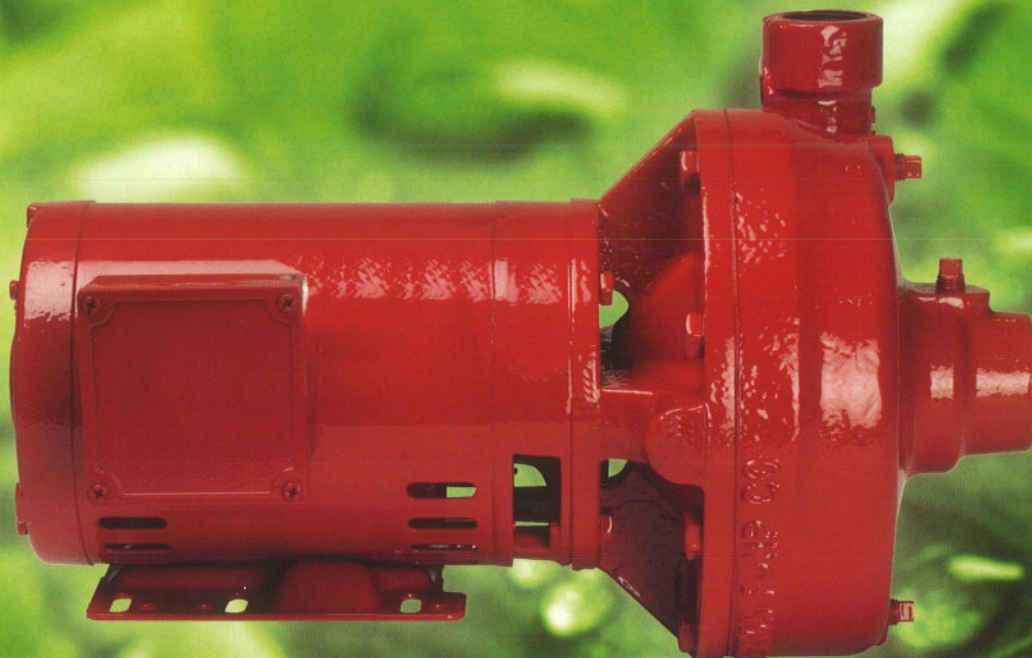
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# End Suction HVAC Pumps



## Close-Coupled Configuration

Patterson EnviroFlo™ end suction HVAC pumps offer a high-efficiency design that minimizes energy consumption, and their back pullout configuration provides easy access for maintenance without disturbing piping connections.

### BENEFITS

- Gauge taps at the suction and discharge connections for complete monitoring flexibility
- Annular pressure reducing clearance with impeller balance holes to reduce axial thrust
- Precision-cast, dynamically balanced impeller minimizes vibration and maximizes bearing life
- Precision bearings and machining limit shaft deflection to only 0.002" at the seal face

### FEATURES

- Flows to 2,500 GPM, heads to 450' TDH
- Standard case wear ring and grease-lubricated bearings
- Standard silicon carbide mechanical seal (optional: tungsten carbide) external seal flush line
- Every pump hydrostatically pressure-tested
- Bronze fitted construction with bronze shaft sleeves standard
- Machined mounting surfaces (optional: c-channel base)



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## SPECIFICATIONS: CLOSE-COUPLED

Pumps shall be high efficiency, end suction, close-coupled design. The pumps shall be of the back pullout design, single stage, and capable of being serviced without disturbing piping connections.

The pump volute case shall be class 30 cast iron. The pumps shall have bronze case wear rings and grease lubricated bearings.

Impellers shall be precision-cast and dynamically balanced and shall be of the enclosed type, non-leaking brass and keyed to the shaft. The impellers shall have annular pressure reducing clearance with impeller balance holes to reduce axial thrust.

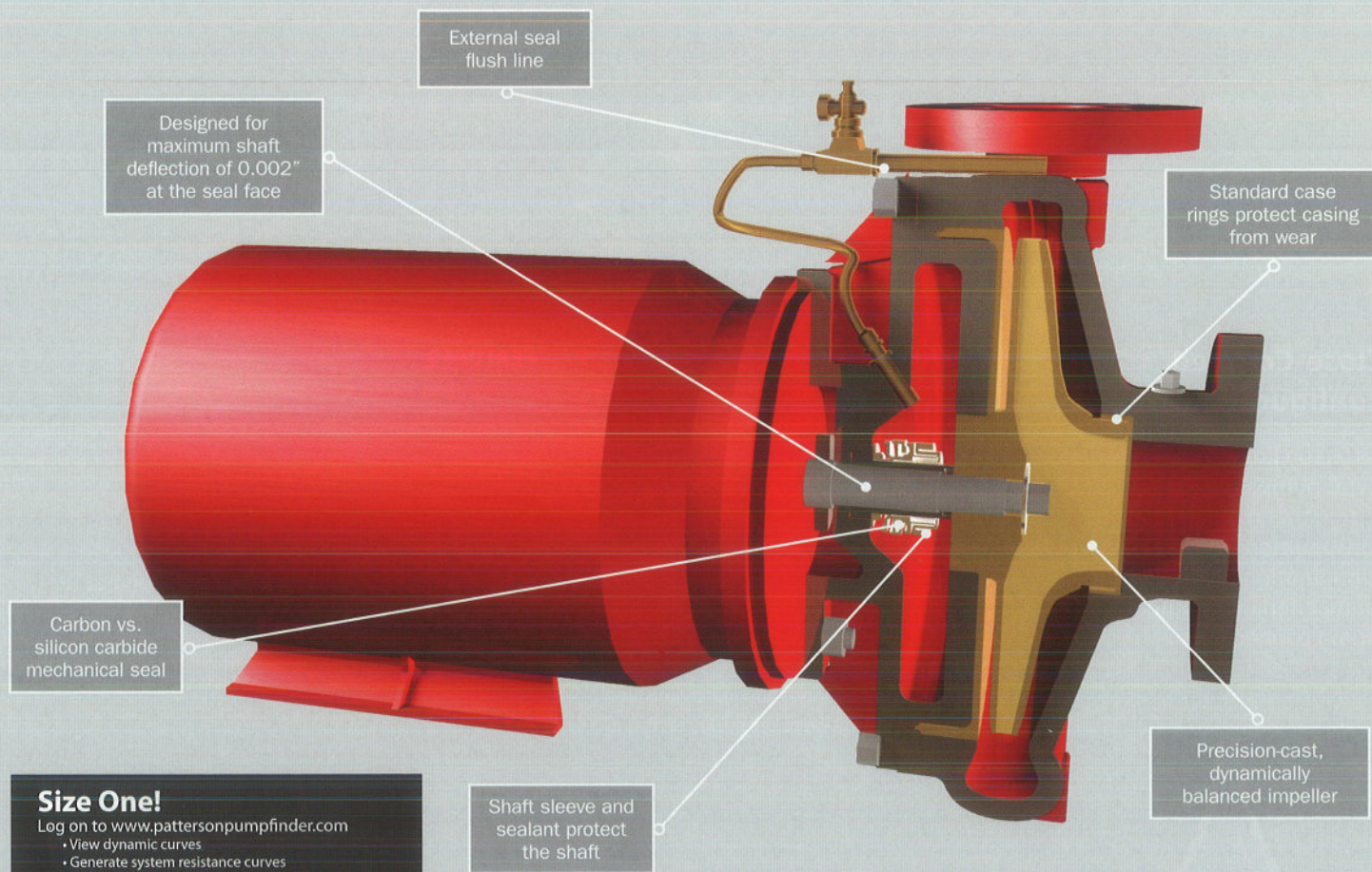
The pumps shall have a replaceable bronze or stainless steel shaft sleeve and shall cover the liquid area under the seal. The pump shall have a mechanical seal type carbon vs. silicon carbide with seal water flush line (optional: tungsten carbide).

Pumps shall be designed for a maximum shaft deflection of 0.002" at the seal face.

The pumps shall be rated for a minimum of 175 psi working pressure (optional: 250 psi, many models). Casing shall have tapped holes on the suction and discharge to accommodate gauges, fittings, and drain ports.

Motors shall be EPAC/Nema rated and shall be of the size, voltage, and enclosure (ODP/TEFC) as outlined in the plans and specifications. The motor shall be non-overloading throughout the entirety of the pump performance curve (optional: premium efficiency).

Each pump shall be factory hydrostatically tested per Hydraulic Institute Standards.



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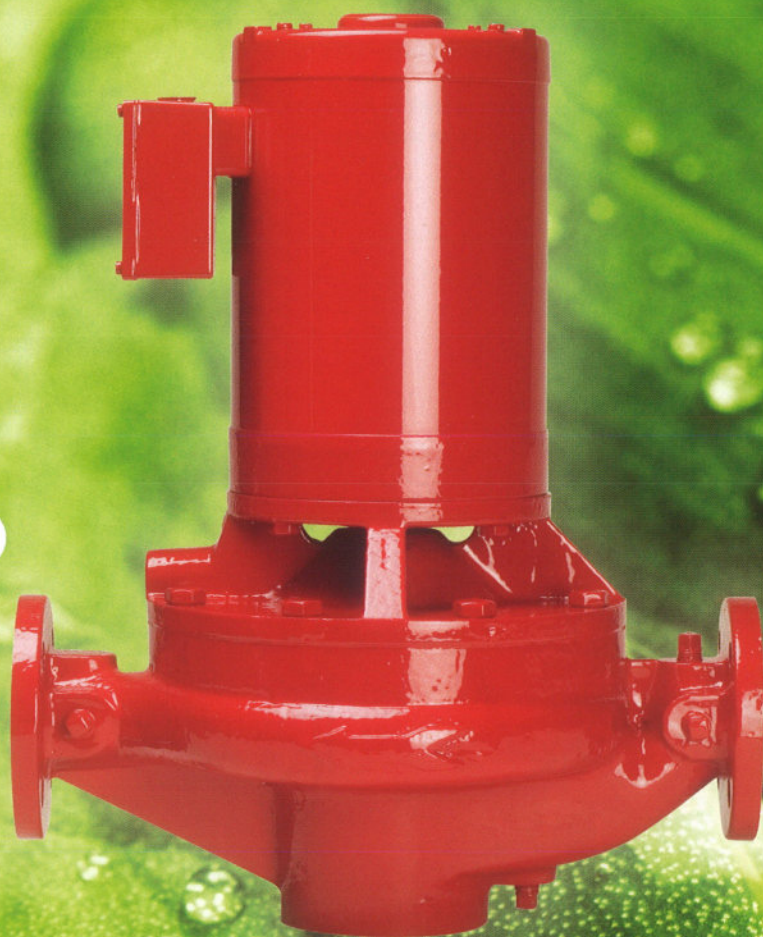
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# Vertical In-line HVAC Pumps



## Close-Coupled Configuration

Patterson EnviroFlo™ vertical in-line HVAC pumps, with a legacy of quality and durability, offer reliability and full flexibility to serve all applications and overcome constraints.

### BENEFITS

- High-efficiency design minimizes energy consumption
- Back pullout configuration for easy access and maintenance
- Gauge taps at the suction and discharge connections for complete monitoring flexibility
- Annular pressure reducing clearance with impeller balance holes to reduce axial thrust
- Precision-cast, dynamically balanced impeller minimizes vibration and maximizes bearing life
- Precision bearings and machining limit shaft deflection to only 0.002" at the seal face

### FEATURES

- Flows to 2,500 GPM, heads to 400' TDH
- Split coupling design above 5 HP optional
- Double suction impeller on largest sizes (12" and 14")
- Machined mounting support surface
- Standard case wear ring
- Grease-lubricated motor bearing
- Mechanical seal is standard in carbon vs. silicon carbide (optional: tungsten carbide) with seal flush lines
- Every pump hydrostatically pressure-tested
- Optional 250-lb discharge flanges and external seal flush lines available on many models
- Bronze fitted construction with bronze shaft sleeves standard; optional stainless steel shaft and stainless steel sleeve available



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## SPECIFICATIONS: CLOSE-COUPLED

Pumps shall be high efficiency vertical in-line close-coupled design. The pumps shall be of the pullout design, single stage, and capable of being serviced without disturbing piping connections.

The pump volute case shall be class 30 cast iron. The pumps shall have case wear rings. The pumps shall be rated for a minimum of 175 psi working pressure (optional: 250 psi, many models). Casing shall have tapped holes on the suction and discharge to accommodate gauges, fittings, and drain ports.

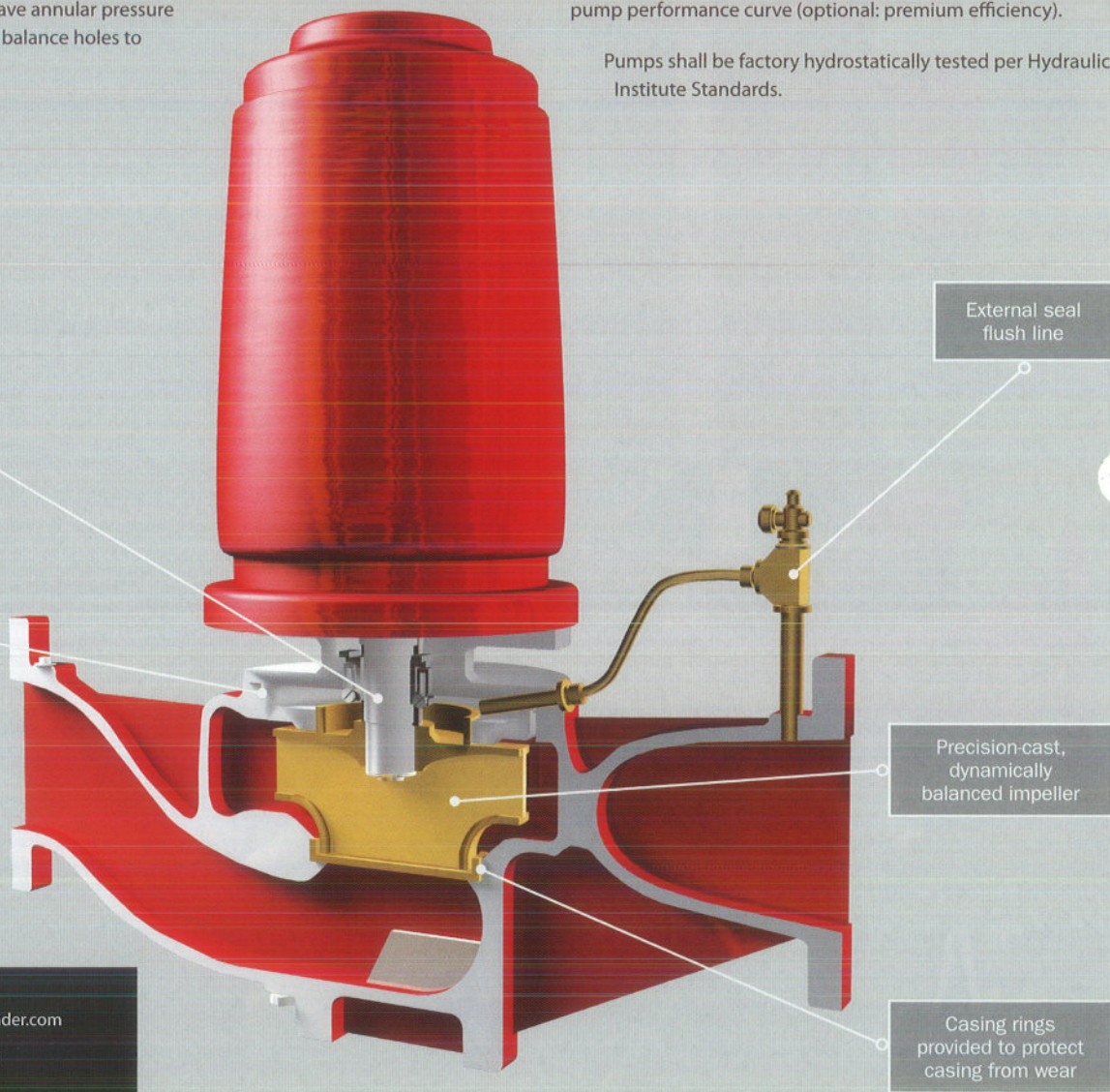
Impellers shall be precision-cast and dynamically balanced and shall be of the enclosed type, non-leaking brass and keyed to the shaft. The impellers shall have annular pressure reducing clearance with impeller balance holes to reduce axial thrust.

Pumps shall be designed for a maximum shaft deflection of 0.002" at the seal face.

The pumps shall have a replaceable bronze or stainless steel shaft sleeve and shall cover the liquid area under the seal. The pump shall have a mechanical seal type carbon vs. silicon carbide with seal water flush line (optional: tungsten carbide).

Motors shall be EPAC/Nema rated and shall be of the size, voltage, and enclosure (ODP/TEFC) as outlined in the plans and specifications. The motor shall be non-overloading throughout the entirety of the pump performance curve (optional: premium efficiency).

Pumps shall be factory hydrostatically tested per Hydraulic Institute Standards.



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# Vertical In-line HVAC Pumps



## Split-Coupled Configuration

Patterson EnviroFlo™ vertical in-line HVAC pumps, with a legacy of quality and durability, offer reliability and full flexibility to serve all applications and overcome constraints.

### BENEFITS

- High-efficiency design minimizes energy consumption
- Back pullout configuration for easy access and maintenance
- Gauge taps at the suction and discharge connections for complete monitoring flexibility
- Annular pressure reducing clearance with impeller balance holes to reduce axial thrust
- Precision-cast, dynamically balanced impeller minimizes vibration and maximizes bearing life
- Precision bearings and machining limit shaft deflection to only 0.002" at the seal face
- Mechanical seal replaceable without removing motor

### FEATURES

- Flows to 10,000 GPM, heads to 400' TDH
- Split coupling design above 5 HP
- Double suction impeller on largest sizes (12" and 14")
- Machined mounting support surface (optional: c-channel base for floor mount)
- Standard case wear ring
- Grease-lubricated motor bearing
- Mechanical seal is standard in carbon vs. silicon carbide (optional: tungsten carbide) with external seal flush line
- Every pump hydrostatically pressure-tested
- Optional 250-lb discharge flanges and seal flush lines available on many models
- Bronze fitted construction with bronze shaft sleeves standard; optional stainless steel shaft and stainless steel sleeve available



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## SPECIFICATIONS: SPLIT-COUPLED

Pumps shall be high efficiency vertical in-line design with rigid coupling. The pumps shall be of the pullout design, single stage, and capable of being serviced without disturbing piping connections.

The pump volute case shall be class 30 cast iron. The pumps shall have bronze case wear rings and grease lubricated bearings.

Pumps shall be designed for a maximum shaft deflection of 0.002" at the seal face.

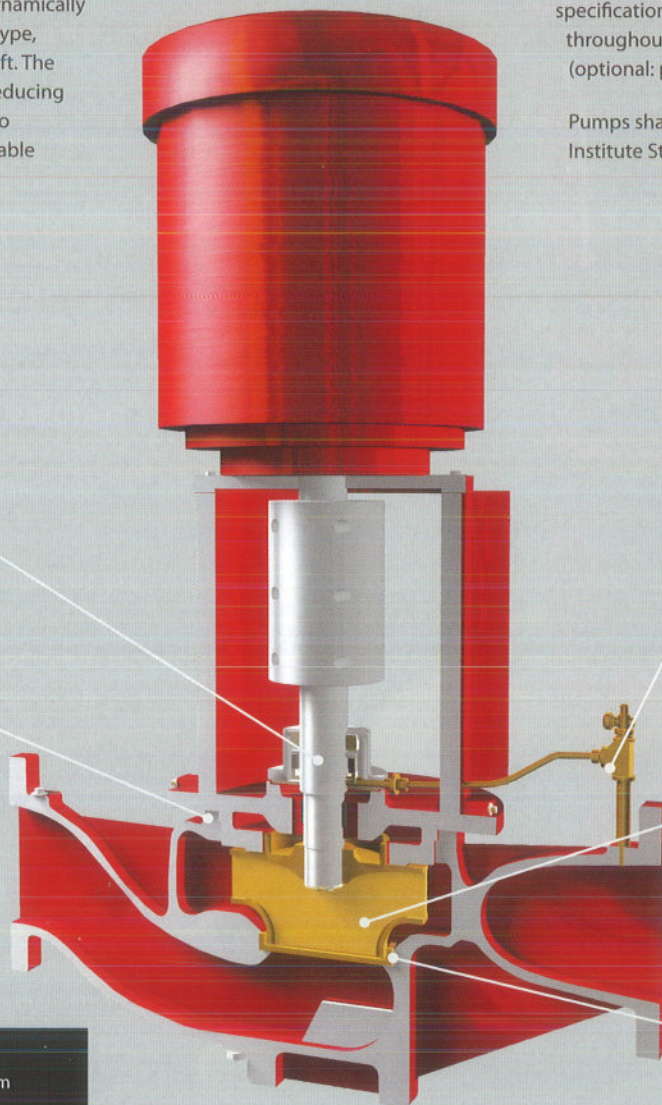
Impellers shall be precision-cast and dynamically balanced and shall be of the enclosed type, non-leaking brass and keyed to the shaft. The impellers shall have annular pressure reducing clearance with impeller balance holes to reduce axial thrust. Seal shall be removable without removing the motor.

The pumps shall have a replaceable stainless steel shaft and shall cover the liquid area under the seal. The pump shall have a mechanical seal type carbon vs. silicon carbide with seal water flush line (optional: tungsten carbide).

The pumps shall be rated for a minimum of 175 psi working pressure (optional: 325 psi, many models). Casing shall have tapped holes on the suction and discharge to accommodate gauges, fittings, and drain ports.

Motors shall be EPAC/Nema rated and shall be of the size, voltage, and enclosure (ODP/TEFC) as outlined in the plans and specifications. The motor shall be non-overloading throughout the entirety of the pump performance curve (optional: premium efficiency).

Pumps shall be factory hydrostatically tested per Hydraulic Institute Standards.



Designed for maximum shaft deflection of 0.002" at the seal face

Registered fits at the volute cover maintain pump alignment

External seal flush line

Precision-cast, dynamically balanced impeller

Casing rings provided to protect casing from wear

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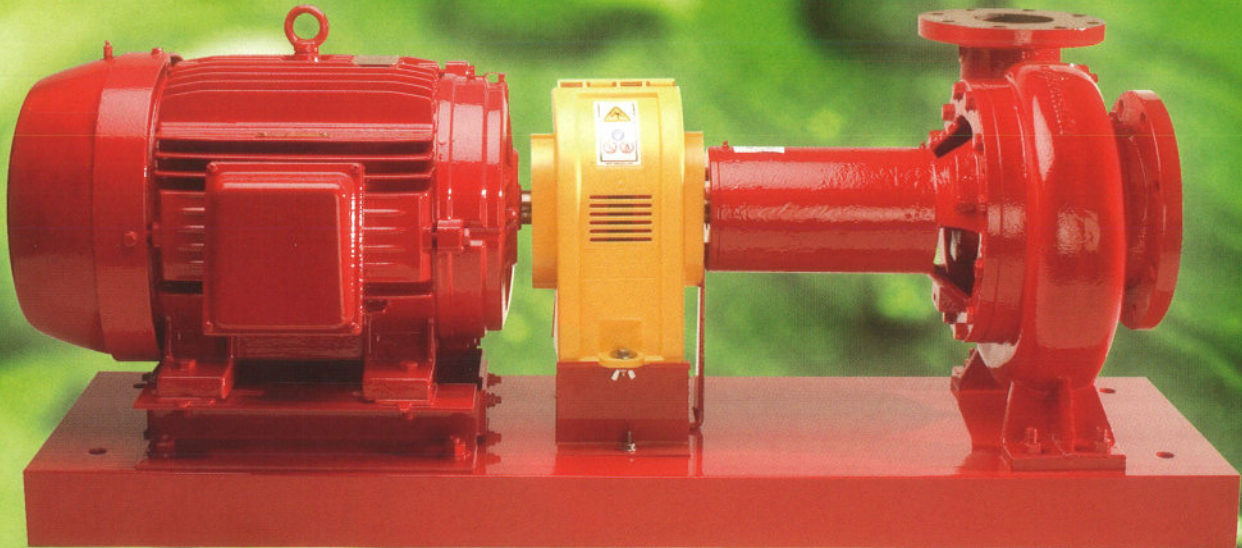
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# End Suction HVAC Pumps



## Frame-Mounted Configuration

Patterson EnviroFlo™ end suction HVAC pumps offer a high-efficiency design that minimizes energy consumption, and their back pullout configuration provides easy access and simplifies maintenance.

### BENEFITS

- Gauge taps at the suction and discharge connections for complete monitoring flexibility
- Annular pressure reducing clearance with impeller balance holes to reduce axial thrust
- Precision-cast, dynamically balanced impeller minimizes vibration and maximizes bearing life
- Precision bearings and machining limit shaft deflection to only 0.002" at the seal face
- Bearing housing mounts directly to the pump volute to save space and provide proper alignment

### FEATURES

- Flows to 2,500 GPM, heads to 400' TDH
- OSHA coupling guard accessible from both sides
- Variable speed rated coupling
- Heavy structural steel channel base aids in pump alignment
- Standard case wear ring and grease-lubricated bearings
- Mechanical seal is standard in carbon vs. silicon carbide (optional: tungsten carbide) external seal flush line
- Every pump hydrostatically pressure-tested
- Optional 250-lb discharge flanges and seal flush lines available on many models
- Bronze fitted construction with bronze shaft sleeves standard; optional stainless steel shaft and stainless steel sleeve available



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## SPECIFICATIONS: FRAME-MOUNTED

Pumps shall be high efficiency end suction design; base mounted with OSHA approved coupling guard. The pumps shall be of the back pullout design, single stage, and capable of being serviced without disturbing piping connections.

The flex coupling shall be rated for non-overloading conditions.

The pump volute case shall be class 30 cast iron and shall have a volute mount rear support foot. The pumps shall have case wear rings and grease lubricated bearings.

Pumps shall be designed for a maximum shaft deflection of 0.002" at the seal face.

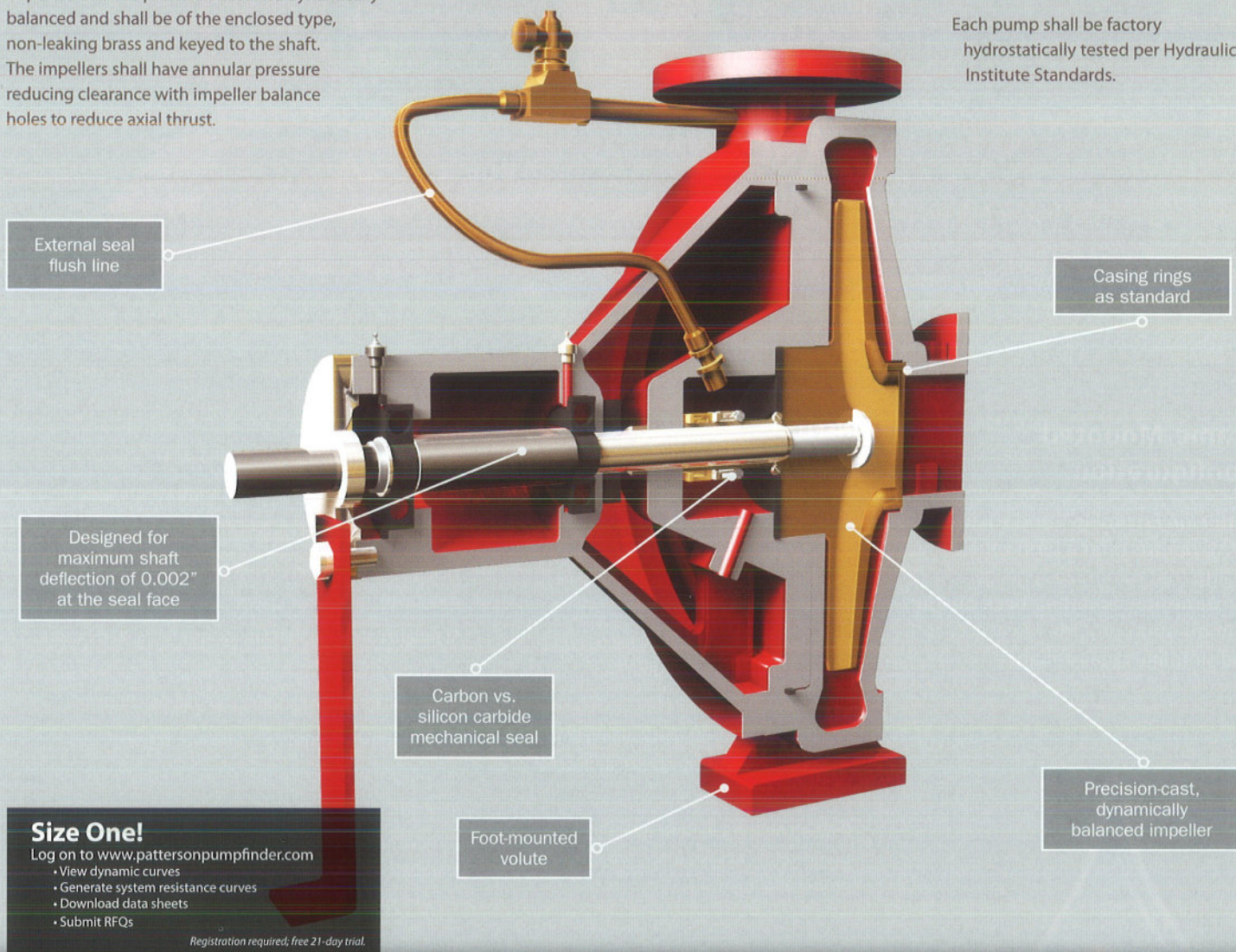
Impellers shall be precision-cast and dynamically balanced and shall be of the enclosed type, non-leaking brass and keyed to the shaft. The impellers shall have annular pressure reducing clearance with impeller balance holes to reduce axial thrust.

The pumps shall have a replaceable bronze or stainless steel shaft sleeve and shall cover the liquid area under the seal. The pump shall have a mechanical seal type carbon vs. silicon carbide with seal water flush line (optional: tungsten carbide).

The pumps shall be rated for a minimum of 175 psi working pressure. Casing shall have tapped holes on the suction and discharge to accommodate gauges, fittings, and drain ports.

Motors shall be EPAC/Nema rated and shall be of the size, voltage, and enclosure (ODP/TEFC) as outlined in the plans and specifications. The motor shall be non-overloading throughout the entirety of the pump performance curve (optional: premium efficiency).

Each pump shall be factory hydrostatically tested per Hydraulic Institute Standards.



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