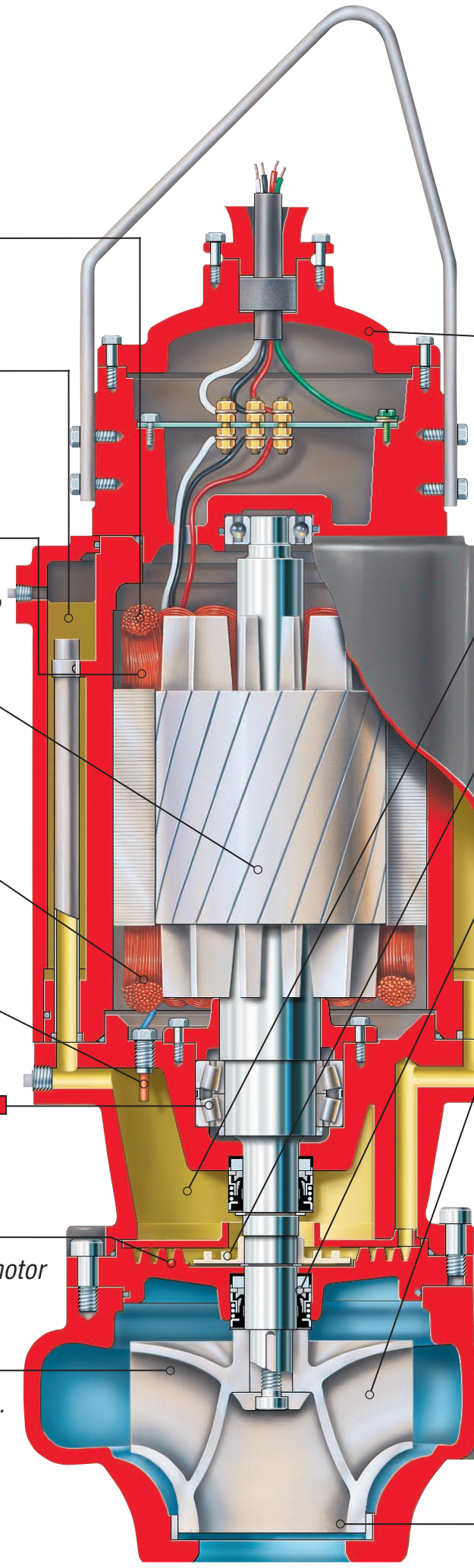
MSX-Series 2/3 Design Features



EPACT Rated Motor*
Offers high efficiency performance for impressive energy savings.

Closed-Loop Cooling Design
Avoids clogging and hot spots associated with pumped media cooling arrangements.

Spike-Resistant Windings
This feature permits the handling of voltage spikes associated with variable frequency drive applications.

Shaft and Rotor
Are dynamically balanced for reduced vibration to assure smooth operation and long service life.

Class H Rated Insulation System
Significantly extends motor life.

Moisture-Protection Probe
Provides constant monitoring and motor protection.

Long-Life, Tapered Roller Bearings
Support axial and radial thrust loads for superior bearing and seal life.

Heat Exchanger
Effectively transfers heat to keep the motor running cool.

Solids-Handling Size
Minimum 80 mm (3 in) spherical solids.

MSX Models
Are available in both wet-pit and dry-pit arrangements.

Easy-Access Terminal Chamber
Allows quick power connection - disconnection without entirely removing the pump from service.

Sealing and Cooling Oil
Are environmentally friendly to eliminate contamination concerns.

Circulating Impeller
Effectively circulates the cooling fluid within the closed loop system.

Silicon Carbide Seal Faces
In the lower mechanical seals provide durability and reliability.

High-Efficiency Hydraulics
Reduce energy consumption and operating costs.

Casing Wear Ring
Supplied in hardened stainless steel as a standard for extended casing life. Impeller wear rings standard on all 8-inch models and larger and available on 3- to 6-inch models.

High Overall Wire-to-Water Efficiencies
* *First motor to meet U.S. Energy Policy Act's (EPACT) efficiency regulations.*

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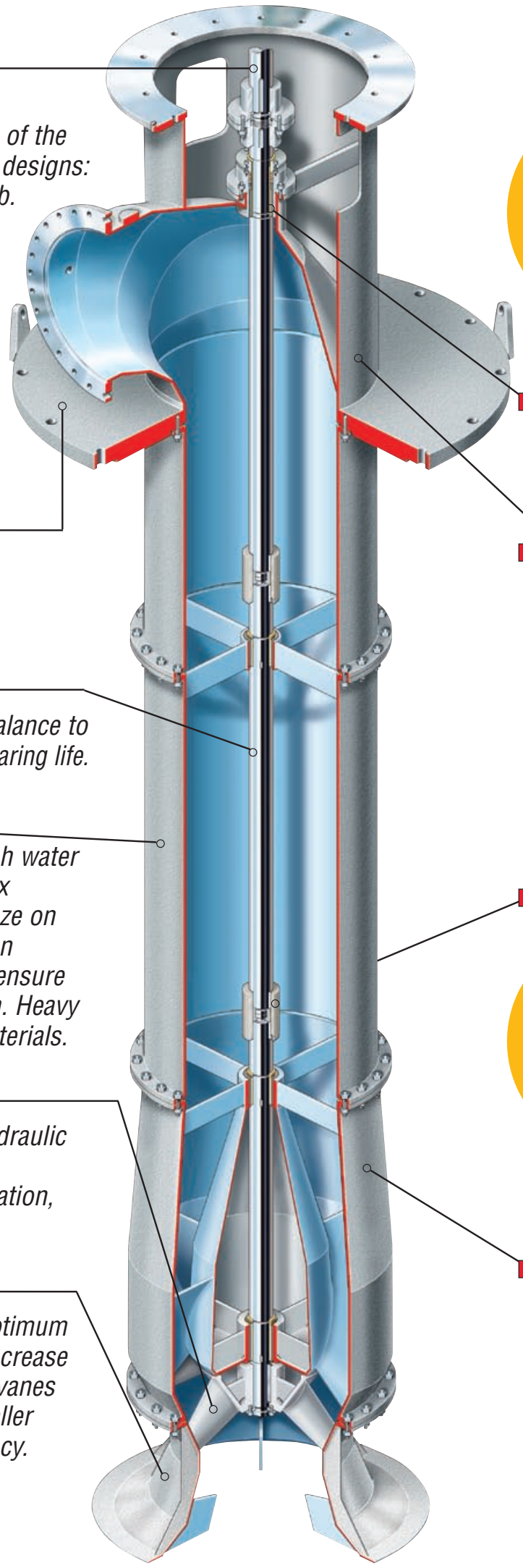
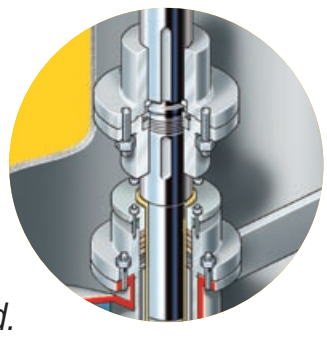
VCT Vertical Mixed Flow Pumps



Motor Coupling & Seal Bearing

The three-piece, rigid adjustable motor coupling incorporates the best features of the Byron Jackson, IDP and Stork heritage designs: motor hub, adjusting nut and pump hub. The versatile seal chamber accepts packing or mechanical seal to suit customer preference and application need.



Mounting Plate

Pump support is accompanied by a heavy-duty steel mounting plate bolted to customer foundation.

Shaft

Precision machined for trueness and balance to minimize shaft vibration and maximize bearing life.

Outer Column

Typically carbon steel is utilized on fresh water applications, with stainless steel, duplex stainless steel or nickel aluminum bronze on seawater applications. The outer column flanges feature precision rabbet fits to ensure proper alignment of each pump section. Heavy wall casting available in a variety of materials.

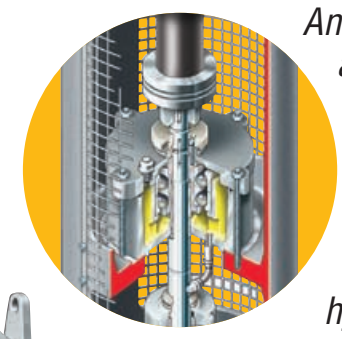
Impeller

Cast to meet customer material and hydraulic requirements. Precision molds assure subsurface quality and proper vane location, shape and finish.

Suction Bell

Heavy wall casting or fabrication with optimum shape and finish for efficient velocity increase and vortex suppression. Straightening vanes minimize flow disturbances at the impeller eye to assure high design point efficiency.

Integral Thrust Bearing Design Option



An axial thrust bearing assembly is available for use with IEC motors. Integral to the pump, the bearing assembly is designed to withstand total hydraulic thrust and rotor weight.

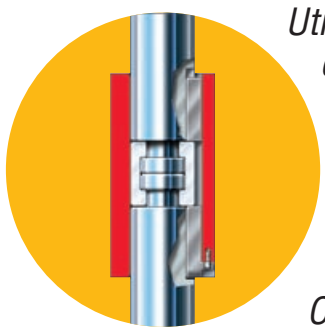
Bearing

Cutless rubber with metal backing featuring dry start capability.

Discharge Head

One-piece fabrication on non pullout pump with a standard five-piece mitered elbow. Optional pullout pump features two-piece discharge head; the discharge elbow and the discharge head liner, integral with the pullout cover, efficiently change the direction of flow from the column to the discharge nozzle.

Shaft Coupling



Utilizes keys and lock collars to ensure accurate alignment and to efficiently transmit torque and axial thrust between shaft sections. Optional axially split design is available for services requiring strict tolerances.

Bowl

Fabricated or cast to meet customer material or construction specifications. Fabricated bowl ensures extended life due to conservative design stresses. Cast bowl is a one-piece casting with heavy walls and vanes.

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