

# VPC Vertical Turbine, Double Casing Pumps ISO 13709 and API 610 (VS6), 10th Edition

#### Motor Alignment Screws

Provided for use with motors over 225 kg (500 lbs). Aids in the alignment of the motor shaft to the pump shaft. Pumps with motors under 225 kg (500 lbs) are supplied with a precision rabbet fit. (PARA. 8.3.8.3.2)

#### OSHA Non-Sparking Coupling Guards

Provide safety while allowing visual inspection of the coupling without guard removal. (PARA. 6.2.14)

#### Seal Chamber with Jackscrews

Used to separate mating parts easily during disassembly. (PARA. 5.3.13)

## Solid Shaft Motor with Thrust Bearing

Motor shaft run-out of 0.025 mm (0.001 inch) total indicated run-out (TIR) contributes to the low vibration and overall pump and motor rotor balance. (PARA. 6.1.7)

#### Precision, Rigid, Adjustable Spacer Coupling

Provides proper impeller clearance adjustment and minimizes shaft runout. Allows seal removal without disturbing the motor. (PARA. 5.8.2, 8.3.8.2)

#### Cartridge Mechanical Seal with Plan 13

Seal chamber suitable for single or dual seals with various piping plans. Plan 13 provides continuous seal chamber venting. (PARA. 5.8.4, 5.8.5, 8.3.13.4)

#### Weld Neck Flanges

Used for suction and discharge connections. The full penetration weld provides superior strength. (PARA. 5.4.2.5, 5.12.3.4)

#### **Flanged Vent Connection**

(Not shown) Allows the pump to be vented upon initial operation. The vent can also be pressurized to purge liquid from the suction can when a suction can drain is supplied. (PARA 5.4.3.10, 8.3.13.3)

#### Lineshaft Bearing Spacing

Optimized to ensure long bearing life, low vibration and increased mechanical seal life. (PARA. 8.3.6.1)

#### One-Piece Shaft

Eliminates threaded shaft coupling to minimize shaft run-out and vibration. Available up to 6 m (20 ft) (PARA. 8.3.3.3)

# **Open Lineshaft Construction**

Allows lubrication of lineshaft bearings by pumped product. (PARA. 8.3.7)

#### Pressure Casing

Designed to ASME standards and able to withstand API's specified corrosion allowances. (PARA. 5.3.7, 8.3.13.1)

# API 610 Forces and Moments

Designed to withstand API nozzle loadings. (PARA. 5.5.1)

#### **Separate Sole Plate (Optional)**

Allows the removal of the suction can without disturbing the foundation. (PARA. 8.3.8.3.3)

# **Internal Suction Can Drain (Optional)**

Allows the suction can to be drained of pumping liquid prior to removing the pump. (PARA 5.4.3.10, 8.3.13.5)

## **Studs and Nuts**

Prevent thread damage common with capscrew removal. (PARA. 5.3.14)

# Keyed Impellers

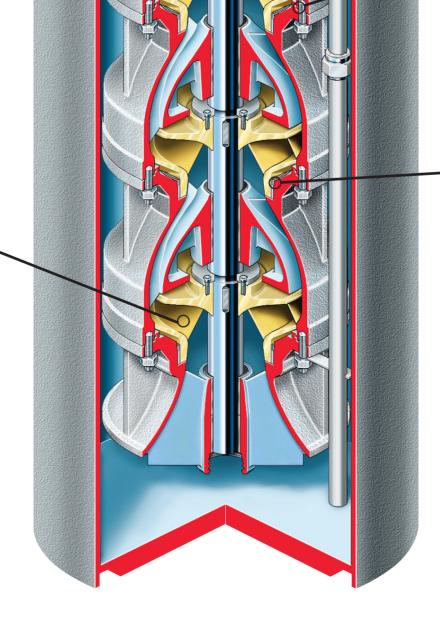
Key and split-ring design positively locks the impeller to the shaft, eliminating undesired movement. (PARA. 5.6.3, 5.6.14)

# **O-Ring Construction**

Provides a positive seal of all flanged joints. Located at rabbet fits on bowl and column joints. Also included at discharge head to suction can fit. (PARA. 5.3.10)

#### Dynamically Balanced Impellers

Enclosed impellers balanced to ISO 1940-1 grade G2.5. (PARA. 5.6.2, 5.6.4, 5.9.4.1, 8.3.3.1)



#### **Bowl and Impeller Wear Rings**

Provide a quick and easy way to renew clearances and pump efficiency. Roll pins positively lock the rings in place. Impeller wear rings are integral as standard. (PARA. 5.7.1, 5.7.2, 5.7.3)



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