

# **Upgrades for Single Case Vertical Pumps**



# Split Stuffing Box Extension Bearing

Axially split stuffing box bearing can be replaced without disturbing the motor.

#### Optimized Shaft Length

Reduce lead times and spare parts inventory by standardizing on shorter shaft sections.

#### Journal Sleeves

Reduce total life cycle costs

### Variable Speed Motor

# **Rigid Adjustable Drive Coupling**

Features a recessed adjusting nut which allows for more accurate alignment of the pump and the motor to increase reliability.

# **Split Ring Lineshaft Coupling**



Split ring lineshaft couplings provide reduced maintenance

by eliminating shaft wear and extending bearing life.

#### Composite Bearings

Allow for dry start capability and higher resistance to suspended solids in the liquid. The result is extended mean time between repair and reduced life cycle costs. Materials selected to suit application requirements.

# Materials Upgrades

- Seawater bolting
- Abrasion- or corrosionresistant coatings
- *Component material upgrades*

#### Flanged and Bolted Bearings

Unlike straight press-in bearings which are often difficult and time consuming to remove during maintenance, flanged and bolted bearing assemblies are easily



0



costs as compared to threaded couplings, which are prone to seizure as a result of overtorquing, galling and corrosion.

# Flanged Inner Column (optional)



Threaded inner columns are often difficult to disassemble due to corrosion and galling, increasing *pump maintenance* costs. Flanged *inner columns* 

reduce pump life cycle costs by providing a more stable joint and easing disassembly.

# **Optimized Hydraulics**

Horsepower is wasted when the actual system operating requirements are less than design. Energy consumption and efficiency can be improved by modifying impeller hydraulics to meet the actual system requirements.

removed using the provided jack bolts and do not require heating or cooling for installation.

#### **Optimized Pump Submergence**

Optimizing the size and shape of the suction bell effectively reduces the pump's submergence requirement, allowing the pump to operate more effectively.



USA and Canada **Flowserve Corporation** 5215 North O'Connor Blvd. Suite 2300 Irving, Texas 75039-5421 USA elephone: 1 937 890 5839

Europe, Middle East, Africa I atin America Flowserve Corporation Flowserve Corporatio Boulevard del Cafetal Edificio Ninina, Local 7 El Cafetal - Caracas Venezuela 1061 Telephone: 31 76 502 8920 Telephone: 58 212 985 3092 Telefax: 58 212 985 1007

Gebouw Hagepoint

Westbroek 39-51

4822 ZX Breda

Netherlands

Asia Pacific Flowserve Pte. Ltd. 200 Pandan Loop #06-03/04 Pantech 21 Singapore 12838 Telephone: 65 6775 3003 Telefax: 65 6779 4607

FPD-1231 (E) Printed in U.S.A December 2007 © Flowserve Corporation

# **Experience In Motion**

