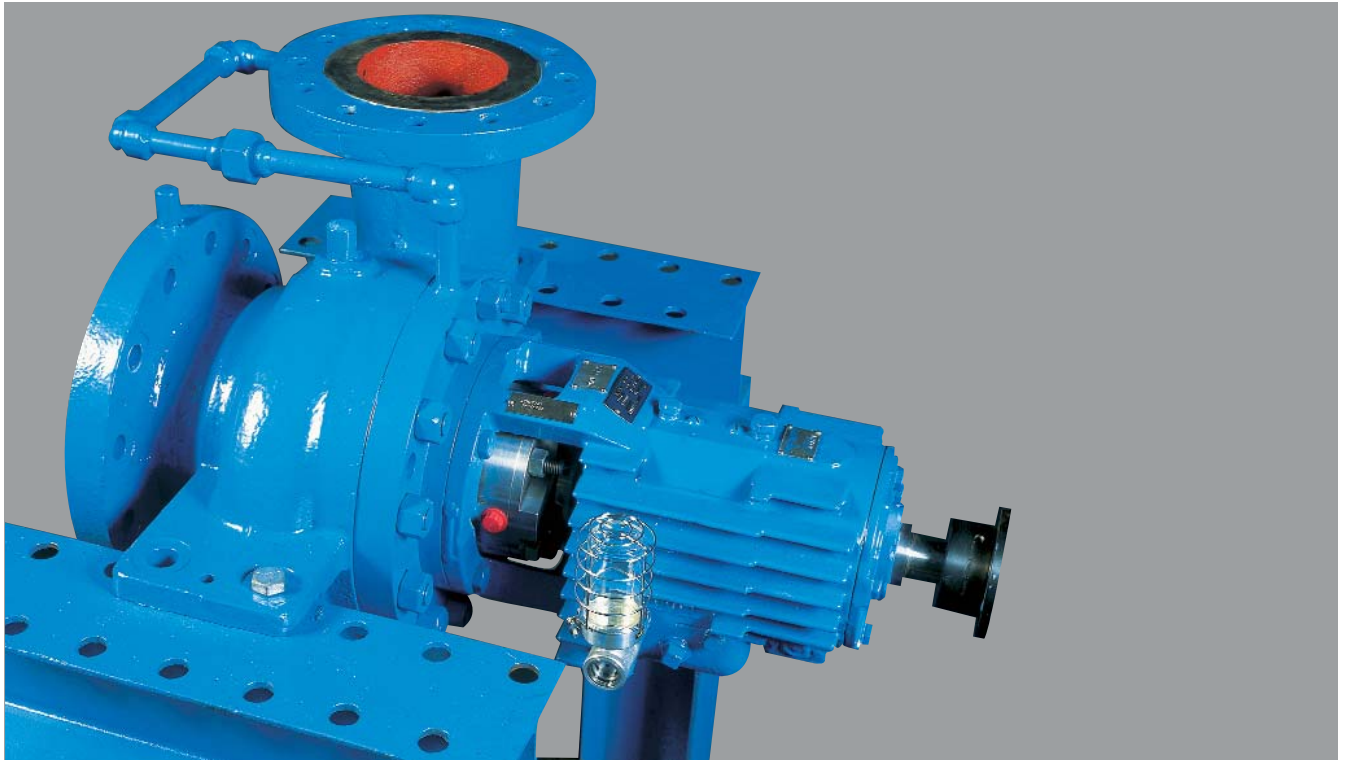


# PRO



## SERVICES

# API Overhung Process Pump Upgrades for Pre- 8th Edition Pumps



Your local PRO Services™ Centers offer solutions to lowering **Total Cost of Ownership** of your pumping systems. This can be achieved by *upgrading your older style API process pumps to today's high performance standard of API 8th edition.*

The question of whether to Replace or Upgrade your existing equipment is a challenge faced by most end users today. When casing, piping, and foundation are in good shape, upgrading your existing pump to comply with 8th edition performance usually is economically attractive compared to new pump installation. By exploring all options available, a better decision can be made in this area.

Upgrades may involve hydraulic modifications and/or power end conversions. PRO Services™ Centers are experienced with all manufactures including IDP (Pacific, Worthington, IR), Flowserve (Byron Jackson, United Centrugal, Wilson Snyder), Sulzer (Bingham), and ITT (Goulds).

Experienced engineering and production staff are equipped with the latest technology and training for upgrades and performance enhancements quickly and professionally.

PRO Services™ Centers provide a thorough AS FOUND report of components and a complete workscope for repairs with a firm price. Also provided is a complete owners manual at shipment that includes cross sectional of upgrade, spare parts stock sheet, and standard owners manual. Additional documentation can be provided as required.

***We welcome your inspection  
of our facility and processes.***

PRO Services



**ITT Industries**  
*Engineered for life*

## Features

### Hydraulic Re-rate

- Pump hydraulics match process requirements

### Power End Conversion

- Upgrade pre- 8th Edition API pumps to meet API 8th Edition design requirements

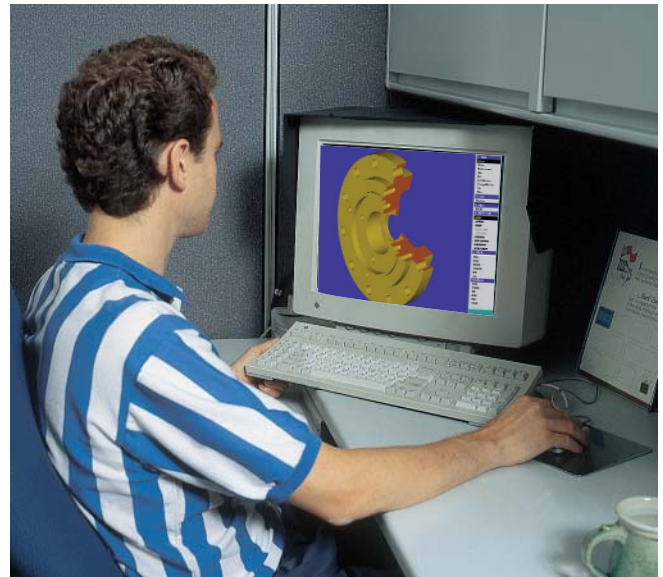
## Benefits

- Reduced energy consumption
- Reduced vibration
- Increased reliability

- Improved bearing arrangement (back to back duplex)
- Improved seal chamber design allows for 682 cartridge or lesser seals to be utilized
- Lower  $L^3/D^4$  ratios
- Improved reliability

## Typical Overhung Process Pump Upgrade Procedure

1. The pump is received. The casing and impeller are disassembled, cleaned and inspected.
2. Digital photography can be used to capture specific conditions or damage for customer inspection.
3. Seal chamber cover, seal chamber cover wear ring, and shaft are engineered and manufactured.
4. Impeller and wear rings are replaced for hydraulic re-rate. Impeller is dynamically balanced to API 8th edition standards.
5. Casing wear ring will be replaced.
6. Casing volute will have area reduced to match hydraulics of new impeller selection by welding in volute tongue extensions.
7. Casing will be machined on feet, face, register fit, gasket fit, and flanges to reclaim and guarantee squareness and perpendicularity. Grooved flanges will have grooves reclaimed.
8. Basic bearing bracket assembly is pulled from stock.
9. Pump will be completely assembled and all run outs checked to insure unit meets requirements. All bolting will be replaced with B-7 bolting.
10. Pump will be pressure tested to ensure mechanical seals integrity and then it will be painted.
11. Pump will be secured horizontally on a skid for shipment.
12. Documentation is completed for disassembly, parts replacement, modifications, reassembly and compiled in a REPAIR REPORT.
13. Complete maintenance records are maintained in our totally integrated PRO-APP System for future reference and tracking Mean Time Between Events.



**Engineered for Accuracy & Reliability.**

## PRO Advantages

- One (1) year warranty on material and workmanship.
- Full Engineering support.
- Field service available to assure proper installation and start-up.
- Experience with all manufacturers' equipment provides best available practices and designs in all upgrades.
- We recognize problems and address *root causes* of failure, not just mechanical symptoms.
- Twenty-four hour, seven-days-a-week *emergency service*.



### Typical adders could include:

- Non-standard metallurgy.
- Cylindrical roller radial bearings.
- Triple thrust bearings (Pumpac AAB arrangement).
- Oil mist lubrication provision.
- Bearing Isolators.
- Fan cooled bearing bracket.
- Water cooled bearing bracket.

## PRO Services



**For more information, call your nearest PRO Services™ Center, or visit our website at [www.ittproservices.com](http://www.ittproservices.com).**