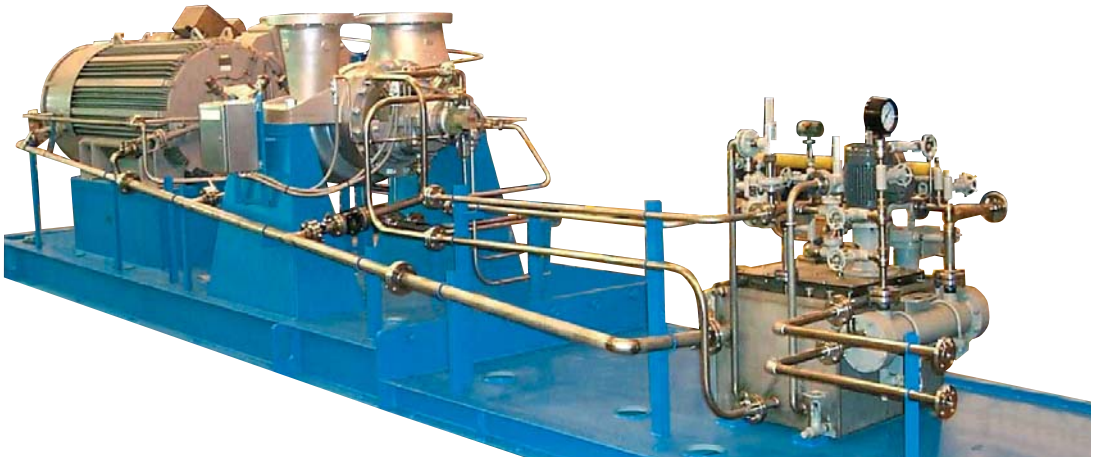
ITT

Goulds Pumps

Goulds 3620

API-610 10th Edition/ISO 13709
API BB2 Single-Stage, Between-Bearing, Radially Split



Engineered for life

A Leader in API Engineered Pump Package Solutions…

Proven API Leadership

ITT Goulds Pumps is a proven leader in API Pumps

- Over 18,000 units installed
  - Over 15,500 OH2/OH3's
  - Over 2,500 BB1/BB2/BB3 pumps
- 50+ years of API expertise
- Participating member on API 610 and API 682 committees

Family of API Pumps

ITT Goulds Pumps has a family of proven API pumps

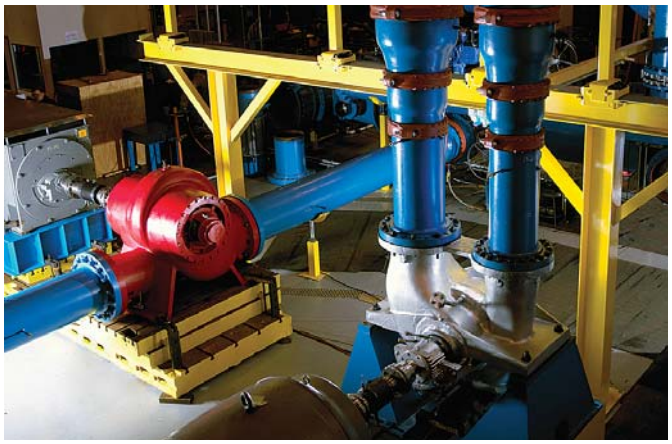
- Overhung pumps
- Single and two-stage between-bearing pumps
- Multi-stage between-bearing pumps
- Vertical, double casing pumps
- Specialty pumps

Global Coverage

ITT Goulds Pumps has the global coverage needed to serve multi-national companies in any region.

Industry Leading Hydraulic Coverage

- We offer dense hydraulic coverage to meet your process needs.
- Better hydraulic fits can mean improved efficiency and long-term reliability and parts life.



4600 Horsepower Testing Capability

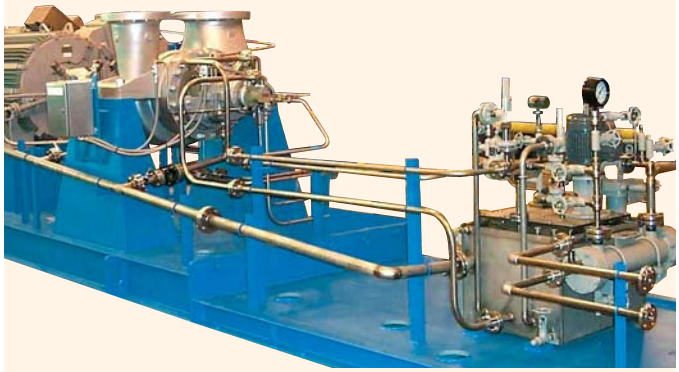
- Our expanded test facility can test your pump in the most demanding of conditions.
- Testing at rated speeds is critical to assess the impact of dynamic conditions including vibration.

API Engineering Expertise

- We are experts in packaging engineered pumps that meet your demanding applications — with true conformance to the latest API specifications.
- We have extensive experience in nearly every type of driver, bearing, seal, piping configuration, nozzle configuration, flange and baseplate designs to meet your application needs.
- ITT is a world leader in technology and engineering including hydraulics, materials science, mechanical design, and fluid dynamics.

Broad Applications

- Petroleum refining, production, and distribution
- Petrochemical and demanding chemical processing
- High temperature applications including boiler circulation
- General industrial requiring high temperature or high pressures



Goulds Model 3620 between-bearings radially split process pumps are designed for smooth, reliable operation and fully meet the specification requirements of API-610/ISO 13709 to assure extended service life.

Goulds 3620

High Temperature and Pressure Process Pumps that Meet or Exceed API-610 and ISO 13709 10th Edition

Safety, reliability, and versatility are the key words for our single stage, centerline mounted, between-bearing, radially split API 610 process pump.

Safety and Reliability

We provide engineered solutions with true conformance to the latest API specifications including the stringent emissions containment per API 682.

The result is a safe and rugged API process pump designed for a 20-year life.

Versatility

- **Capacity** to 20000 GPM (4540 m3/h)
- **Total Dynamic Head** to 1500 feet (455 m)
- **Temperature** to 850˚F (455˚C)
- **Pressure** vacuum to 1000 PSIG (70 kg/cm^2)

Materials: Available in a wide range of materials including all API 610 constructions and custom application needs.

Engineered Hydraulics: Dense hydraulic coverage to better match your process for efficiency and reliability. Custom hydraulics are available.

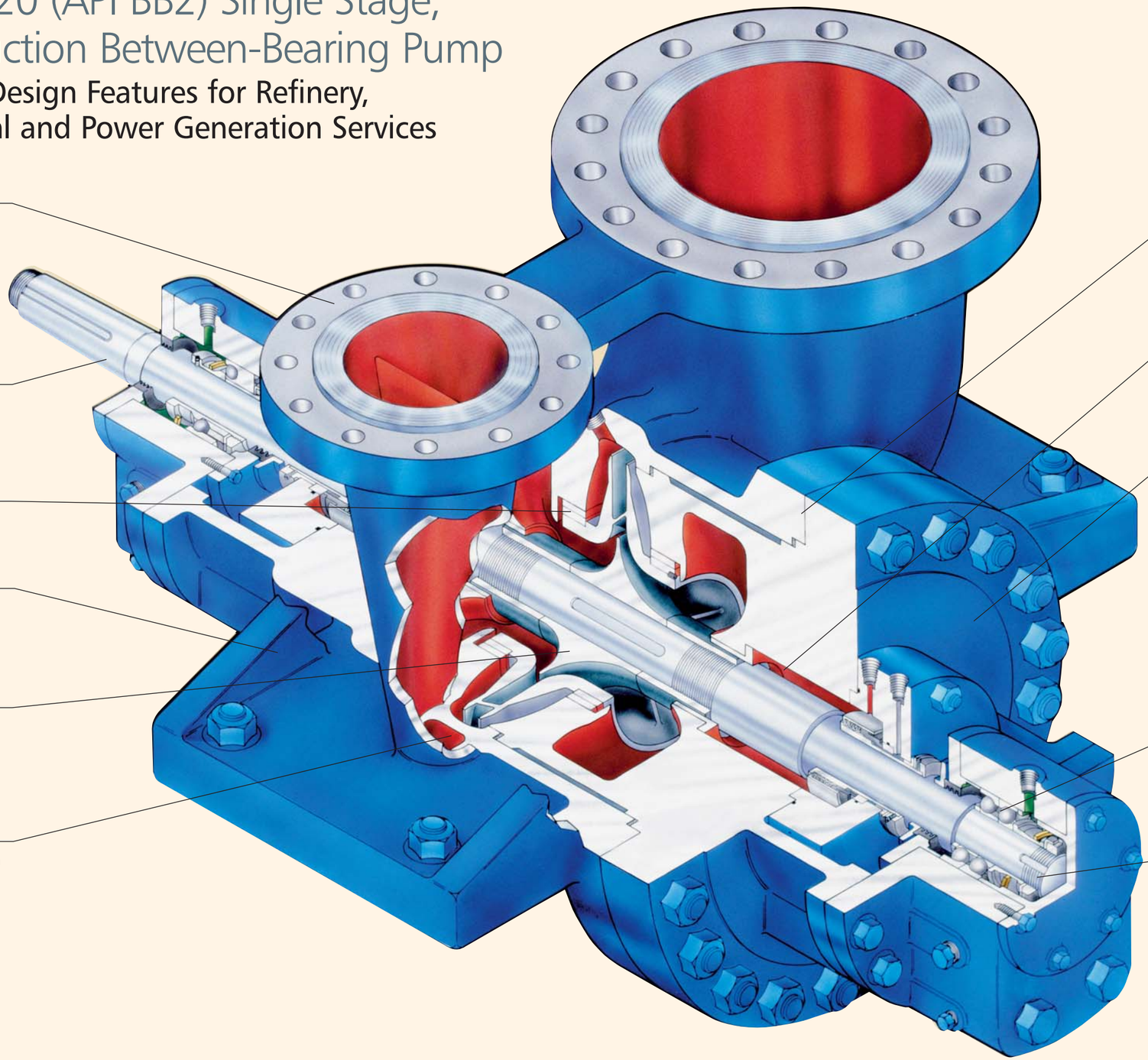
Engineered Packaging with a wide range of drivers, seals, piping, nozzle configurations, flanges, baseplates, and QC testing.

Services

- **Refinery** — tower bottoms, process feed, column reflux, circulation and pump around, process booster
- **Power Plant** — boiler feed booster, boiler circulation, ash sluice

Model 3620 (API BB2) Single Stage, Double Suction Between-Bearing Pump

Heavy-Duty Design Features for Refinery, Petrochemical and Power Generation Services



CLASS 300 RF FLANGES STANDARD
Other classes and facings optional.

HEAVY DUTY SHAFT
Minimum shaft deflection for extended seal and bearing life. Sized to meet deflection and rotordynamics requirements of API-610/ISO 13709.

RENEWABLE WEAR RINGS
API-610/ISO 13709 clearances. Positively locked. Standard feature.

CENTERLINE MOUNTED CASING
Heavy duty mounting extensions accept API-610/ISO 13709 nozzle loads and maintain pump alignment under extreme service conditions.

DOUBLE SUCTION IMPELLER
Designed for low NPSH services. Hyraulically designed to balance axial loads for increased bearing life. Rotor and impeller balanced to stringent API grade 1.0.

DUAL VOLUTE CASING
Evenly balances radial forces for minimum shaft deflection, increased bearing and seal life.

RADIALLY SPLIT CASING
Designed specifically for high pressure/ high temperature services. Fully confined controlled compression gasket assures leak-proof sealing.

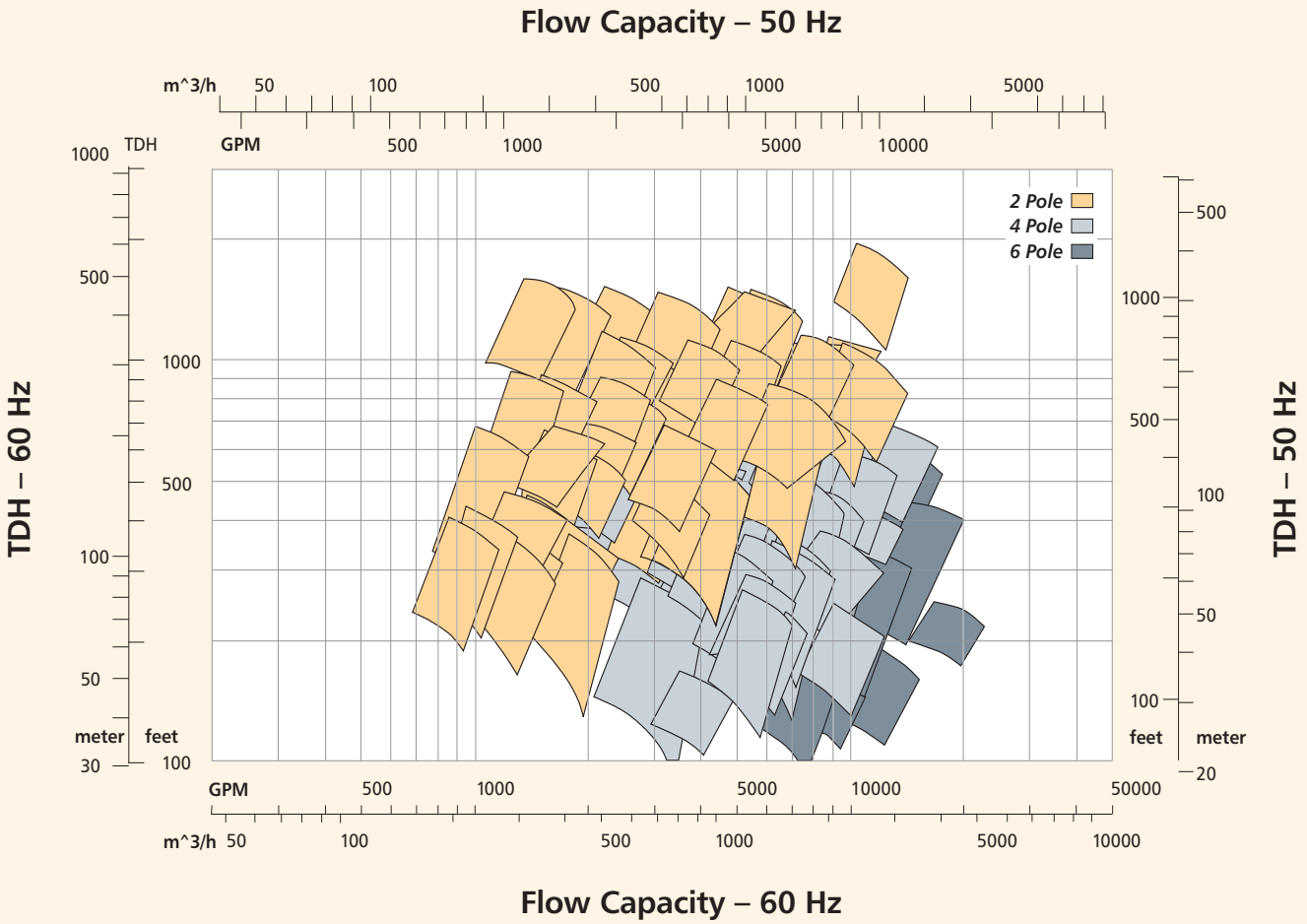
ENLARGED SEAL CHAMBERS
Conform to API-610/ISO 13709 dimensional requirements. Allows use of wide range of API-682/ISO 21049 cartridge mechanical seals to meet specific service conditions.

CASING HEAD ON OUTBOARD END
Allows removal of rotor without disturbing driver or suction and discharge piping.

HEAVY DUTY THRUST BEARING
Duplex 40° angular contact thrust bearings and deep-groove (Conrad) radial bearings sized for minimum three (3) year bearing life under most severe operating conditions. Exceeds API-610/ISO 13709 requirements.

LABYRINTH OIL SEALS
Labyrinth seal design prevents oil from leaking out and contaminants from intruding. Made from non-sparking metal.

Hydraulic Coverage



Note: Hydraulics above represent 80% to 110% of best efficiency point (BEP).

Custom Solutions

Model 3620 6x10-13 custom designed with side-top nozzles for fuel oil service in Saudi Arabia.

PRO Services® Extending Equipment Life...

Product Repair
- Service Center Repair
- Turnkey Repair/ Installation
- Field Service
- Emergency Service

Reliability Improvement
- Predictive Condition Monitoring
- Root Cause Failure Analysis
- Machine & System Assessment
- Engineered Upgrades
- Training

Optimization of Assets
- Inventory Management
- Replacement/Exchange
- Maintenance Management
- Contract Maintenance

- All Brands
- Factory Trained Service Personnel
- Quality
- Fast Turnaround
- Emergency Service – 24 hours/day, 7 days/week
- ISO and Safety Certified

PROSMART

Predictive Monitoring Saves Money and Down Time

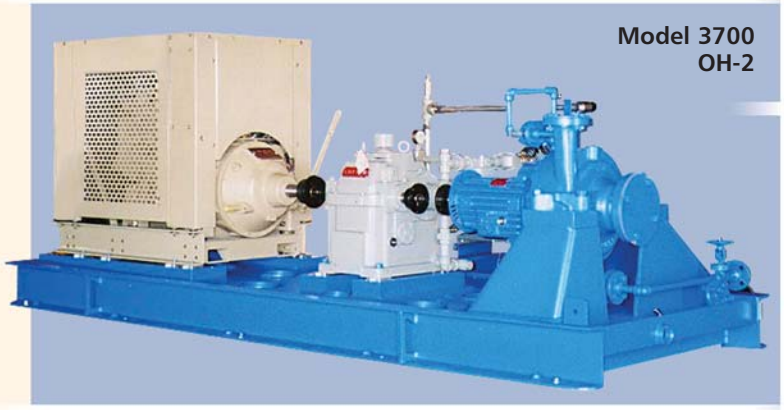
The **ProSmart** predictive condition monitoring system enables you to IDENTIFY and SOLVE problems before they impact production.

ProSmart collects and analyzes machine health every 5 seconds, automatically notifying you of changing conditions. Resources are optimized and maintenance activities are PLANNED — not REACTIVE.

A wireless architecture reduces installation costs and complexity. A web-based client eliminates software installation and maintenance costs and also enables multi-site management.

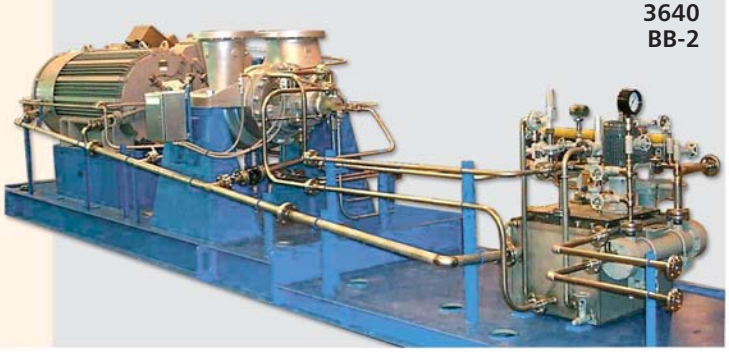
Approved for Class I, Division 2 hazardous areas.

A Leader in API Engineered Pump Package Solutions



Model 3700
OH-2

Model 3910
OH-3



Model 3620
3640
BB-2

Model
3610
BB-1

Goulds Model	API Type	Capacity GPM (M^3/Hour)	TDH Feet (Meters)	Temperature °F (°C)	Pressure PSIG (kg/cm^2)
3700	OH-2	6,500 (1475)	1,200 (360)	800 (425)	870 (60)
3910	OH-3	7,500 (1700)	750 (225)	650 (340)	600 (40)
3600	BB-3	4,500 (1020)	6,000 (1825)	400 (205)	2,500 (175)
3620	BB-2	20,000 (4540)	1,500 (455)	850 (455)	1,000 (70)
3640	BB-2	7,500 (1700)	2,500 (760)	850 (455)	1,130 (75)
3610	BB-1	50,000 (11355)	700 (215)	300 (150)	300 (20)

Model 3600
BB-3

ITT

Form B3620 2/09