

 **GOULDS PUMPS**

Goulds 3620

API 610 11th Edition / ISO 13709 2nd Edition
API BB2 Single-Stage, Between-Bearing, Radially Split



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ITT

ENGINEERED FOR LIFE

Goulds 3620

A Leader in API Engineered Pump Package Solutions...

Proven API Leadership

ITT Goulds Pumps is a proven leader in API Pumps

- Over 20,000 units installed
 - Over 17,000 OH2 / OH3s
 - Over 3,000 BB1 / BB2 / BB3 pumps
- 40+ 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
- Multistage between-bearing pumps – axially split
- Barrel multistage - radially split
- 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 extensive coverage to meet your process needs.
- Better hydraulic fits can mean improved efficiency and long-term reliability and parts life.

8000 HP / 6000 kW Testing Capability

- Our expanded test facility can test your pump in the most demanding 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 design 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 3620



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



High Temperature and Pressure Process Pumps that Meet or Exceed 610 API 11th Edition / ISO 13709 2nd Edition

Safety, reliability, and versatility are the key words for our single stage, centerline mounted, between-bearing, radially split API 610 process pump (API BB2).

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 20,000 GPM (4,540 m³/h)
- Total Dynamic Head to 1,500 feet (455 m)
- Temperature to 850° F (455° C)
- Pressure to 1,000 psig (70 bar)

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.

Applications

- **Refinery:** Tower bottoms, process feed, column reflux, circulation and pump around, process booster
- **Power Plant:** Boiler feed booster, boiler circulation, ash sluice

Goulds 3620 (API BB2)

API 610 11th Edition / ISO 13709 2nd Edition

API BB2 Single-Stage, Between-Bearing, Radially Split

HEAVY DUTY RADIAL BEARINGS STANDARD

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

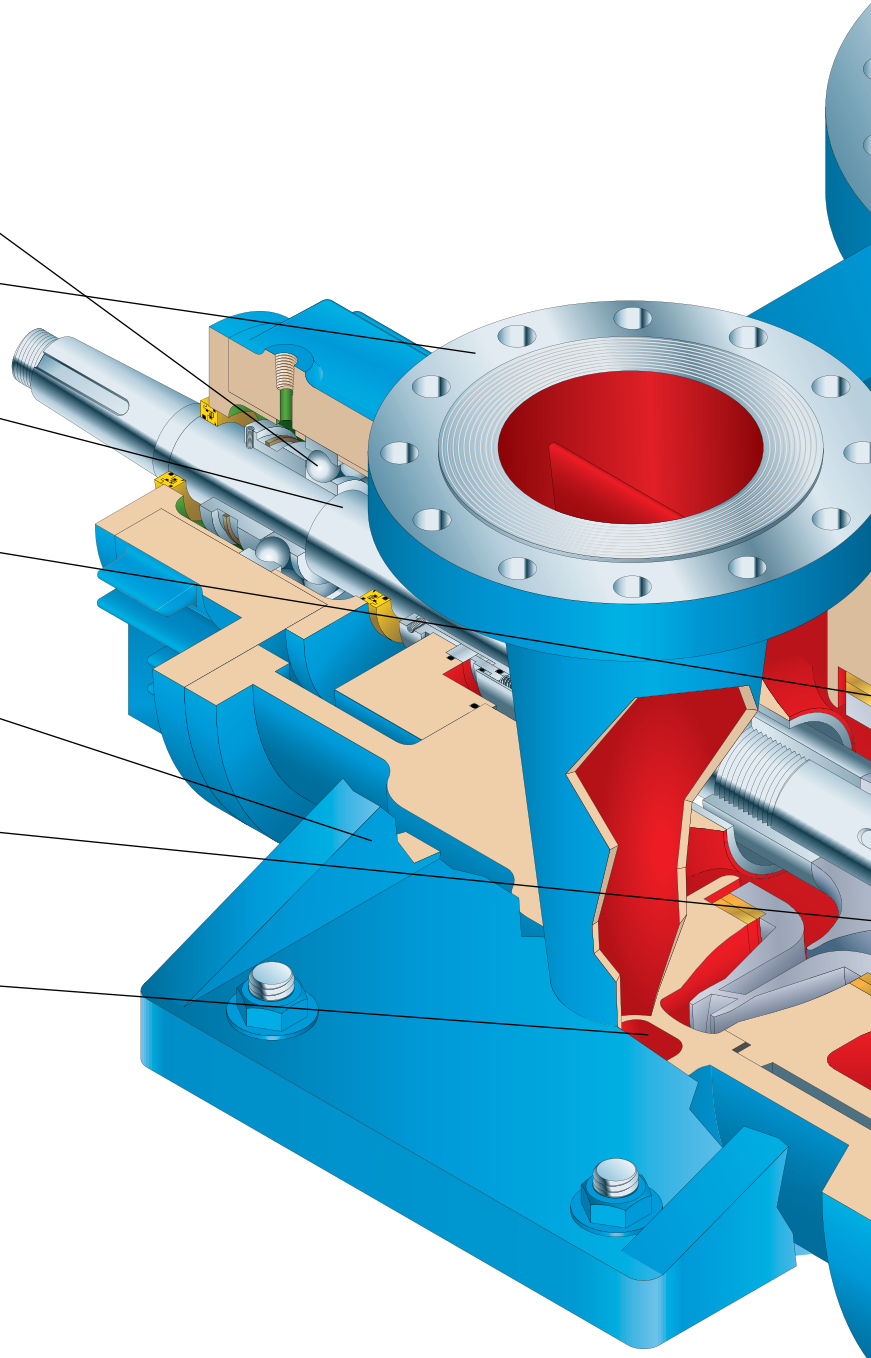
Heavy duty mounting extensions accept API 610 / ISO 13709 nozzle loads and maintain pump alignment under extreme service conditions.

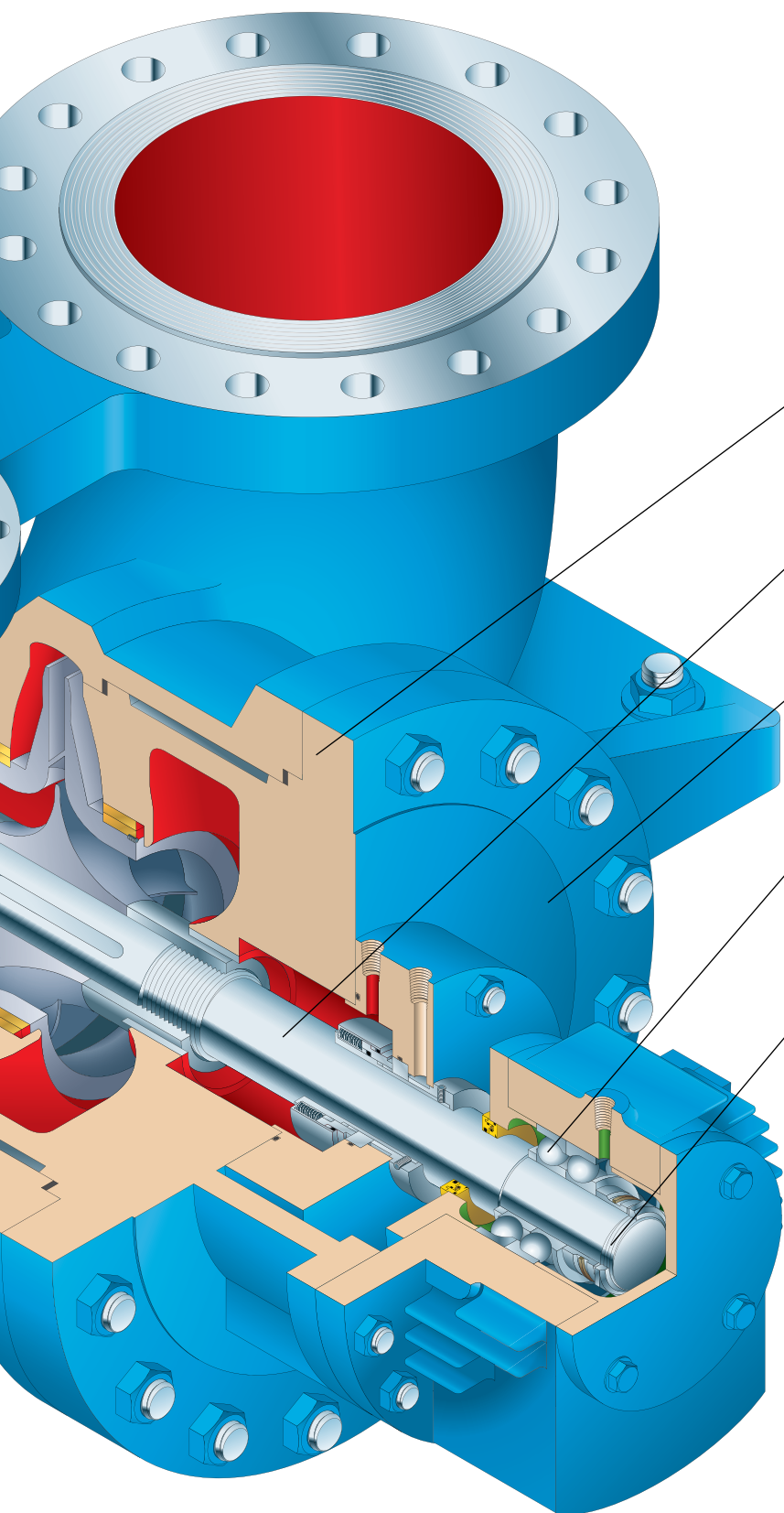
DOUBLE SUCTION IMPELLER

Designed for low NPSH services. Hydraulically designed to balance axial loads for increased bearing life. Rotor and impeller balanced to stringent ISO 1940 Grade 1.0 (exceeds API minimum).

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. Single head standard. Double head design optional.

HEAVY DUTY THRUST BEARING

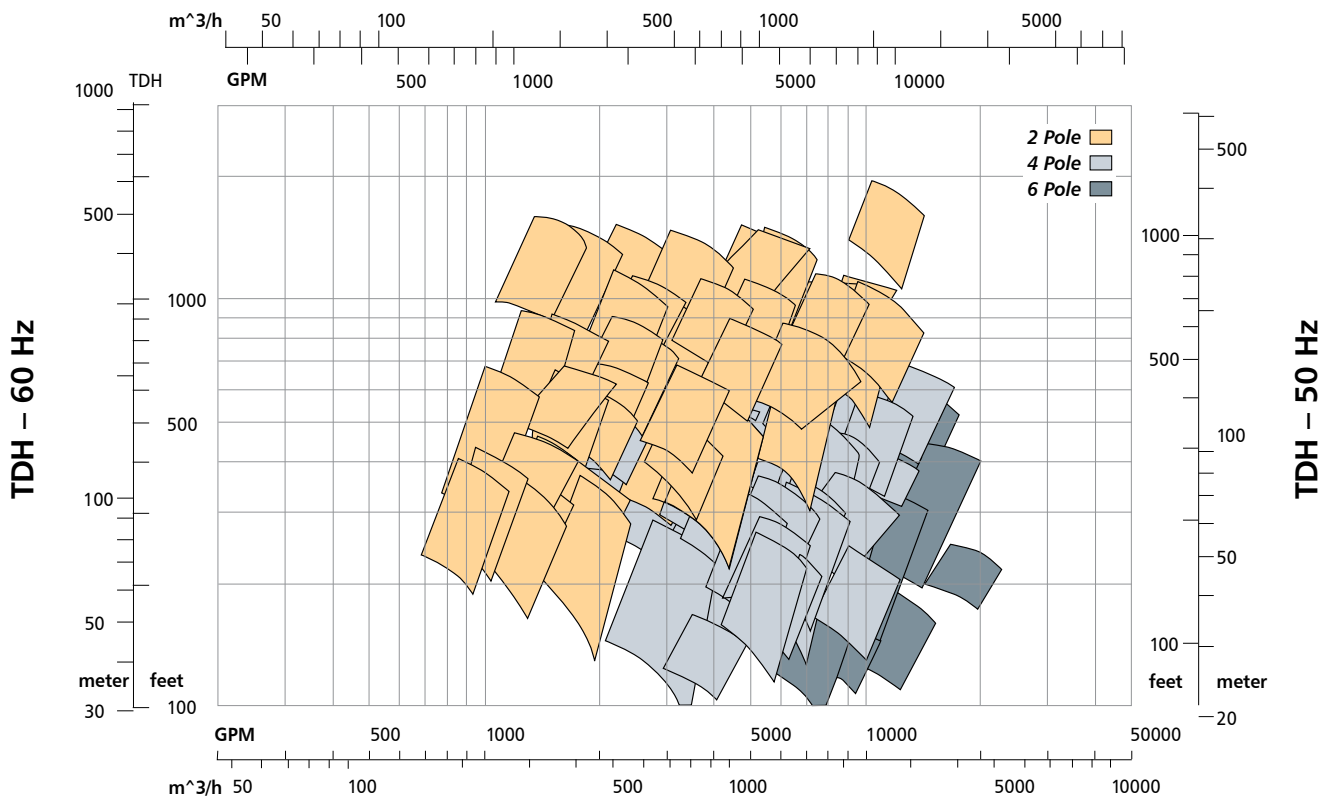
Duplex 40° angular contact thrust bearings and deep-groove (Conrad) radial bearings sized for minimum three (3) year bearing life under most severe operating conditions. Exceeds API 610 / ISO 13709 requirements.

LABYRINTH OIL SEALS

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

Hydraulic Coverage

Flow Capacity – 50 Hz



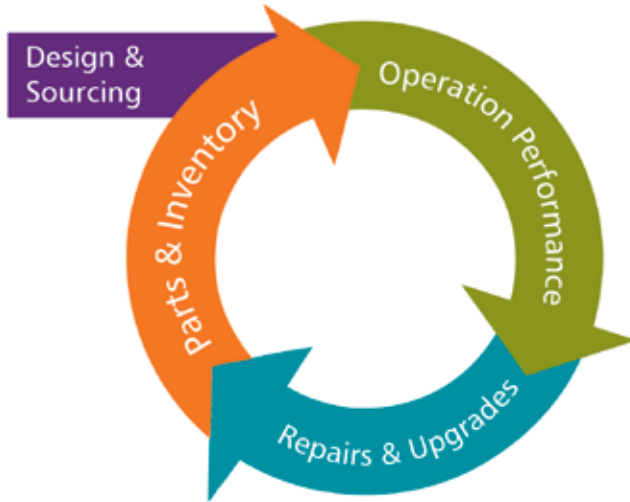
Flow Capacity – 60 Hz

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



Custom Solutions

Model 3620 6 × 10-13 custom designed with side-top nozzles for fuel oil service in Saudi Arabia.



Reliability has no quitting time.

PRO Services provides an array of services focused on reducing equipment total cost of ownership (TCO) and increasing plant output, including predictive monitoring, maintenance contracts, field service, engineered upgrades, inventory management, and overhauls for pumps and other rotating equipment.



PRO Services provides OEM parts for Goulds Pumps, Bornemann Pumps, AC, Morris, Goyne, CB, HVC, UXN and ROV in a timely manner to meet end user requirements. Significant levels of inventory and quick response capability provides the necessary programs to meet all repair needs.

PRO Services provides programs of reliability services, energy assessments, asset management and training. These can be deployed as stand-alone or integrated solutions, tailored to the needs of your company.

PRO Services provides an array of repairs and upgrades services to extend equipment life. PRO Services helps customers develop effective maintenance and asset management programs to lower maintenance costs, improve uptime, reduce inventory costs and extend equipment life.

A Leader in API Engineered Pump Package Solutions

API Family of Pumps

Model 3700
OH-2



Model 3910
OH-3

Model 3620
3640
BB-2



Model 3610
BB-1



API Type	Goulds Model	Capacity GPM (M ³ /Hour)	TDH Feet (Meters)	Temperature °F (°C)	Pressure PSIG (kg/cm ²)
OH-2	3700	8500 (1930)	1200 (360)	800 (425)	870 (60)
OH-3	3910	6000 (1360)	750 (230)	650 (340)	600 (42)
BB-1	3610	50000 (11355)	700 (215)	300 (150)	300 (21)
BB-2	3640	7500 (1700)	2500 (760)	850 (455)	1130 (75)
BB-2	3620	20000 (4540)	1500 (455)	850 (455)	1000 (70)
BB-3	3600	8500 (1930)	9000 (2740)	400 (205)	4000 (275)
BB-5	7200CB	4000 (910)	9000 (2740)	800 (425)	4000 (275)
VS4	API 3171	3180 (720)	525 (160)	450 (232)	750 (50)
VS1	VIT	70000 (14760)	3500 (1060)	500 (260)	2500 (175)
VS6	VIC	70000 (14760)	3500 (1060)	500 (260)	2500 (175)



Model 3600
BB-3



Model 7200CB
BB-5