GOULDS PUMPS

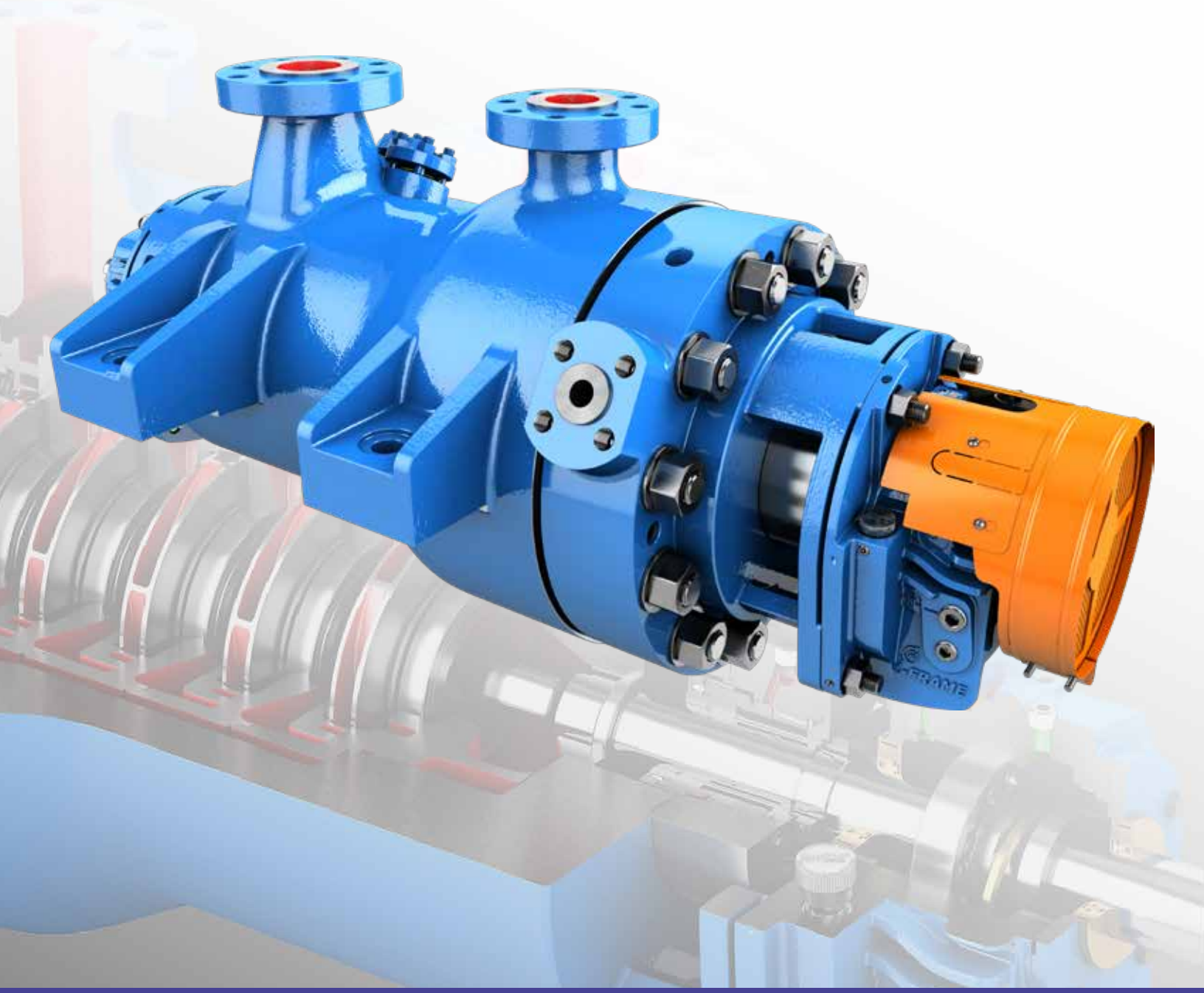
An ITT Brand

Goulds 7200SB

API 610 11th Edition

API BB5 Barrel Multistage, Radially Split

In-Line Diffuser Type



Proven API Leadership

Complete API Offering

- Over 20,000 units installed
- Over 3,000 between bearing pumps installed
- 40+ years of API expertise

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 access the impact of dynamic conditions including vibration.

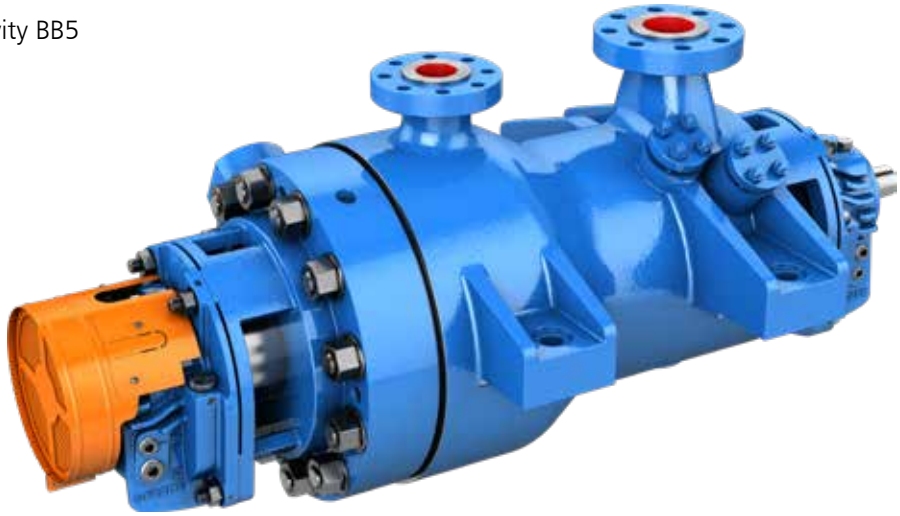
API Engineering Expertise

- We package engineered pumps to meet your demanding applications — that fully conform to the latest API specifications.
- Engineered Packaging with a wide range of drivers, seals, piping, nozzle conformance, flanges, baseplates and QC testing.
- ITT is a world leader in technology and engineering, including hydraulics, materials science, mechanical design and fluid dynamics.

Goulds 7200SB

High Temperature, High Pressure Low Specific Gravity BB5 Barrel Pumps for Critical Services.

- Capacity to 2,200 GPM (600 m^3/h)
- Total Dynamic Head to 8,000 feet (2430 m)
- Temperature to 800° F (425° C)
- Pressure to 4,000 PSIG (275 Bar)
- Operating Speed to 3,600 RPM



Goulds API Portfolio

Goulds 3700

Goulds 3600

Goulds 3610

Goulds 3620

Goulds 3640

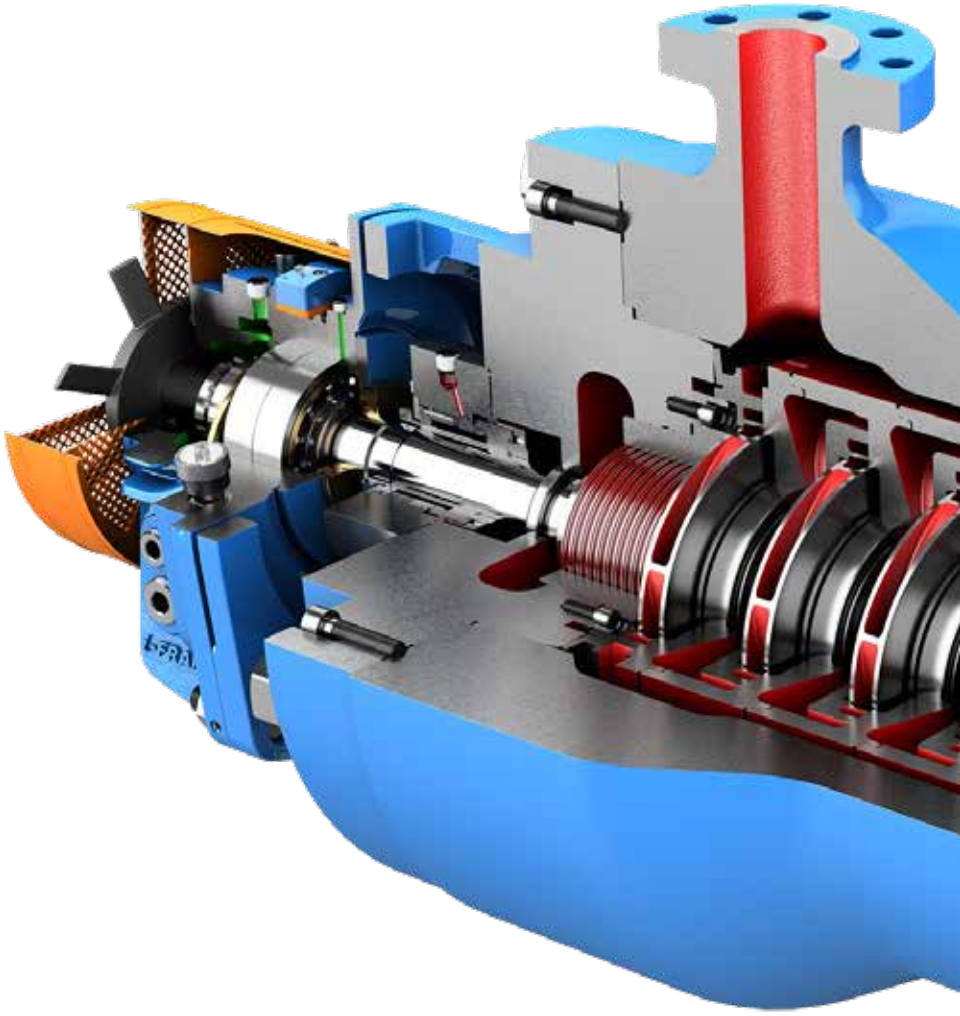
API Type	Goulds Model	Capacity GPM (m^3/Hour)	TDH Feet (Meters)	Temperature °F (°C)	Pressure PSIG (kg/cm^2)
OH-2	3700	8500 (1930)	1200 (360)	800 (425)	870 (60)
OH-3	3910	6000 (1360)	750 (230)	650 (340)	600 (42)
BB-1	3610	50000 (11355)	700 (215)	300 (150)	300 (21)
BB-2	3640	7500 (1700)	2500 (760)	850 (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)
BB-5	7200SB	2200 (600)	8000 (2430)	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)

7200SB

API 610 11th Edition

API BB5 Barrel Multistage, Radially Split In-Line Diffuser Type

integral auxiliary flange



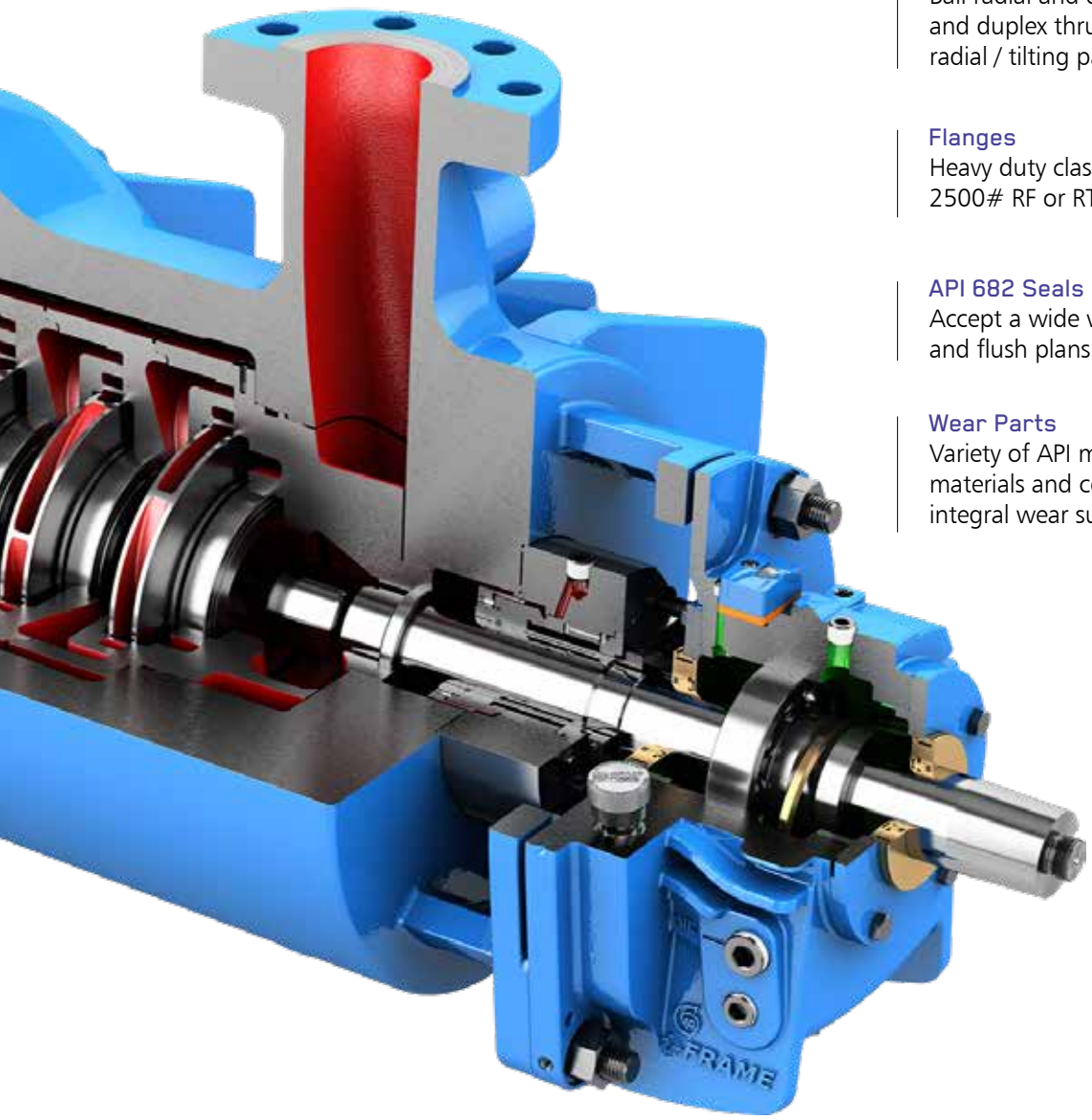
Impeller Arrangements
In-line diffuser type design.

Diffusers / Impellers
Metal to metal stage casing fits. Key driven and shrink fit impellers secured against axial movement in both directions.

Low Vibration Design
Precision investment impeller castings and dynamically balanced rotor for low vibration.

Robust Rotor Design
With large stepped shaft and lower L3 / D4 ratios.

Barrel Outer Casing
Centerline mount, radial split, full design pressure. Cast barrel and nozzles.
Custom nozzle locations / orientation available.



Balance Drum
Designed over allowable flow range and clearances to reliably balance axial forces.

Rigid 360˚ Bearing Bracket
Ball radial and duplex thrust; Sleeve radial and duplex thrust; pressure lubricated sleeve radial / tilting pad thrust; INPRO™ isolators

Flanges
Heavy duty class 900#, 1500#, and 2500# RF or RTJ flanges.

API 682 Seals
Accept a wide variety of seals, seal options and flush plans per API 610 and API 682.

Wear Parts
Variety of API metallic and API non-metallic materials and coatings available. Impellers with integral wear surface available.




Bearings & Bearing Housings

To get superior MTBF you need two things: Optimum pump hydraulics and a robust pump structure. The new i-FRAME housings delivers on the second point by providing a premium robust housing with unique new and improved features that raises the bar on what you can expect from your pump's long term performance. These i-FRAME bearing housings include the new patented one piece design bearing housing for the ball-ball bearing arrangement, as well as the patent pending split bearing housing for the sleeve-ball and sleeve-tilt pad bearing arrangement.

Bearing housings constructed in ASTM A216 Grade WCB carbon steel. The bearing housing features a 360° mount. Three bearing arrangements available:

- Ball/Ball bearings
  - Duplex 40° Angular Contact Bearing Set on the Non- Drive End (NDE) to handle radial and axial loads. Bearing set is supplied with a light clearance
  - Deep Groove Ball Bearing on the Drive End (DE) to handle radial loads

- Sleeve/Ball bearings
  - Duplex 40° Angular contact Bearing Set on the Non Drive End (NDE) handle axial loads. Bearing set is supplied with a light clearance.
  - Babbitt lined Sleeve Bearings handle radial loads on NDE and DE (Non Drive End and Drive End)

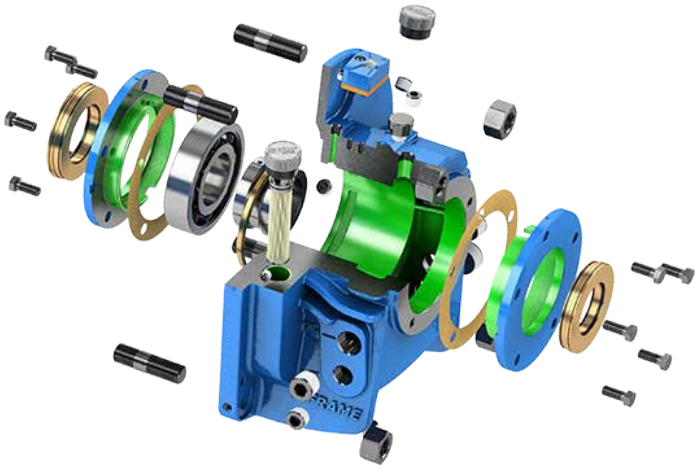
- Sleeve/Tilting pad bearings
  - Babbitt lined Sleeve Bearings handle radial loads and are installed on NDE and DE (Non Drive End and Drive End).
  - Tilting pad Bearings are installed on NDE to handle axial load.
  - This bearing configuration utilizes an external pressurized LOS to lubricate and cool the bearings. Both API, standard and custom designed systems can be offered.

All bearing housings feature a 360° bearing saddle bolted to the casing positioned with precision dowels for accurate, repeatable alignment. The 360° bearing saddle is optimized for stiffness and rigidity of connection between the pump casing and housing along with increased bolt diameters. This provides significantly increased stiffness compared to the previous design housings, resulting in reduced vibration.

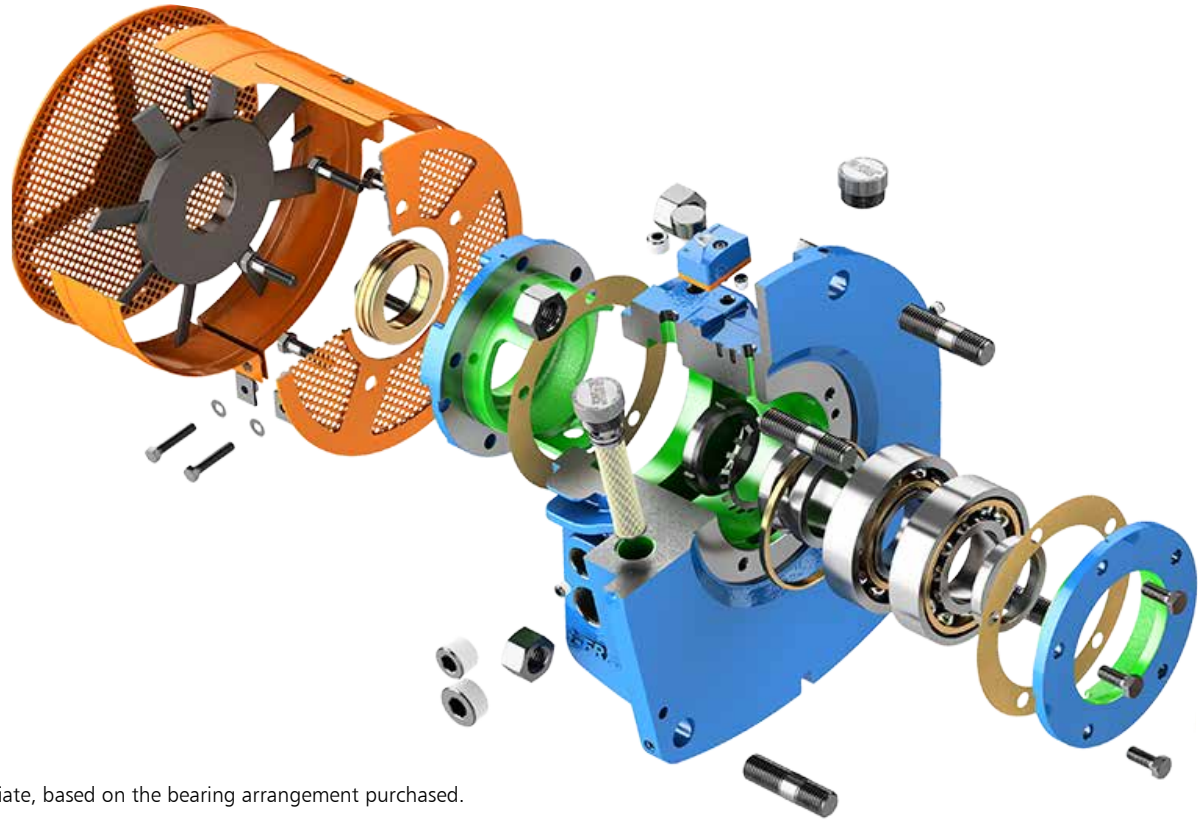
The bearing housing exterior includes distinctive cooling fins optimized by CFD/FEA analysis to aid in heat dissipation.

The Ball/Ball and Sleeve/Ball i-FRAME bearing housings have enhanced air cooling with axial fans and achieves metal and oil temperature reductions of up to 30° F from previous design without the need for cooling water. For the 7200SB the fan will be provided as a standard.

Bearing oil contamination by wind-blown sand and dust together with atmospheric moisture are major contributors to bearings failing well before their design life. In an industry first, all self-contained bearing housings include a cartridge filter assembly that will help safeguard the bearing oil from debris contamination. The patent pending filter cartridge will also continuously work to scrub dissolved water from the bearing oil utilizing specifically engineered moisture absorbing materials built into the filter. The design allows for easy changeover of filter cartridges even while the pump is operating – no need to stop your process. All this additional reliability is achieved ***without*** the need for additional oil pumps or piping – no additional system complexity, monitoring or control overhead.



An optional smart feature is the award winning, i-ALERT. This provides class leading continuous machine monitoring with comprehensive wireless reporting including diagnostic quality vibration FFTs and operating history to the mobile phone or tablet of your choice. The bearing housings come equipped ***as standard*** with constant level oilers*, sight window* and provisions for instrumentation including: RTD's, proximity probes*, and accelerometers. If your monitoring needs change in the future, this comprehensive approach allows field retrofitting of almost any monitoring scheme without replacing your bearing housings or relying on ad-hoc instrument mounting.



* where appropriate, based on the bearing arrangement purchased.

Patented Filters

Bearing oil contamination often discussed as black oil, caused by wind-blown sand and dust together with atmospheric moisture are major contributors to bearings failing well before their design life. In an industry first, all self-contained bearing housings include a cartridge filter assembly that will help safeguard the bearing oil from debris contamination.

The patent pending filter cartridge will also continuously work to scrub water from the bearing oil utilizing specifically engineered moisture absorbing materials built into the filter.

Oil with Particulate**

Run time = 72 hrs*	Run time = 314 hrs*
Black Oil	Result: Clean Oil

Oil with Water

Run time = 0 hrs*	Run time = 72 hrs*
Cloudy Oil	Result: Clean Oil

*Continuous operation at 3100RPM
**Test dust used is ISO 12103-1, A3 Medium test dust

The design allows for easy changeover of filter cartridges even while the pump is operating – no need to stop your process. All this additional reliability is achieved ***without*** the need for additional oil pumps or piping – no additional system complexity, monitoring or control overhead.

You change the oil and filter in your car, and it doesn't have a sight glass

- Black oil caused by debris and moisture contaminating the oil.
- Multi-functional filter assembly captures oil and circulates down through filter and liquid absorbing beads.
- Filter captures debris and beads absorb any water that may be present.
- Moisture absorbing beads are non-toxic and biodegradable.
- New bearing housings designed so oil is thrown by oil ring to trough that leads to the oil filter assembly.

Typical oil change interval was every 3 months. That is extended to every 6 months with the filter. Pump doesn't need to be stopped in order to change the filter.

Our oil filter will be installed in each bearing housing to remove contamination and moisture from the oil during pump operation. To learn more about this feature, scan the QR-Code.

Proven Service Experience

Hydraulic Rerates

Processes often change over time – causing pumps to run far from best efficiency point (BEP) with the associated reduction in reliability (MTBF).

We can perform a "hydraulic rerate" to your existing BB5 pump – moving the BEP to the left without any hydraulic changes. The modified pump's operation is closer to the BEP with increased efficiency and reliability.

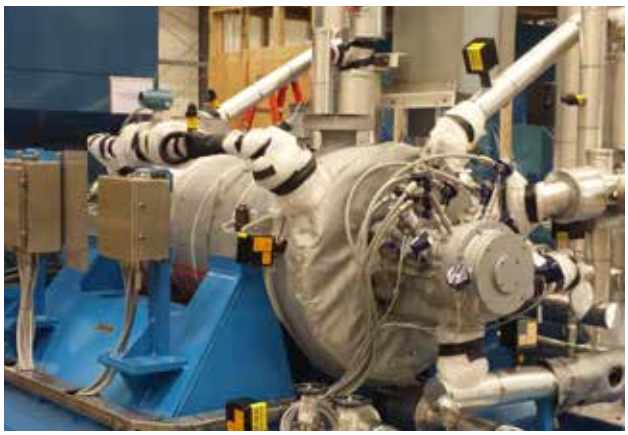
Drop-In Replacements

Our drop-in replacements allow you to get a new BB5 pump without replacing your existing piping and baseplate – saving you $10,000s in site costs while reducing emissions and improving MTBF.

We customize our BB5 casing nozzles and/or foot locations, offering you the best of both worlds – new pump with existing piping and site work.

Engineered Upgrades for All Brands

Older pumps don't comply with the more stringent latest editions of API. This causes many issues ranging from limited use of latest seal designs (API 682), potential seal emissions issues, poor reliability and MTBF, OEM parts becoming obsolete, and more. We perform engineered upgrades to your existing API Pump (any brand) - upgrading the power end, casing cover, shaft and seals to the latest API standards.



i-ALERT® Remote Monitoring Solution

Zero Unplanned Downtime

Sensor | App | Gateway | Diagnostics | Ai Platform

With unpredictability at an all-time high, the need to stay agile, proactive and productive is great. The need to do so cost-efficiently is even greater. ITT i-ALERT is a total machine health monitoring ecosystem that improves plant reliability by enabling rotating equipment to run with less unplanned downtime.

Easy Setup

Begin monitoring your equipment in minutes. No power or wires to install. Sensor installation supports threaded connection, epoxy or magnetic mounting. Download the free i-ALERT mobile app and follow the on screen instructions to get started.

Smart

i-ALERT immediately begins monitoring your equipment on activation. Built in edge computing processes vibration spectrum data to enable in-depth analysis of the equipment health. Get automated vibration analysis and diagnostics through the i-ALERT Ai Platform.

Plug & Play

For 24/7 remote monitoring the i-ALERT Gateway provides a secure connection between the i-ALERT sensors and i-ALERT Ai portal. Apply power and let the gateway automatically connect to the cellular network and configure all the i-ALERT sensors in range.

Accurate

The i-ALERT sensor was designed to accurately measure vibration in all three axes and is on par with dedicated vibration analysis tools in much higher price ranges.
Vibration diagnostics are available to anyone with a smart mobile device.

Spend less time collecting data and more time fixing problems. The i-ALERT mobile app has the ability to scan multiple i-ALERT sensors within range to quickly and safely inspect multiple machines.

Dashboard

Simple, intuitive dashboard to track vibration, temperature, run-time & battery life.

www.i-alert.com

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

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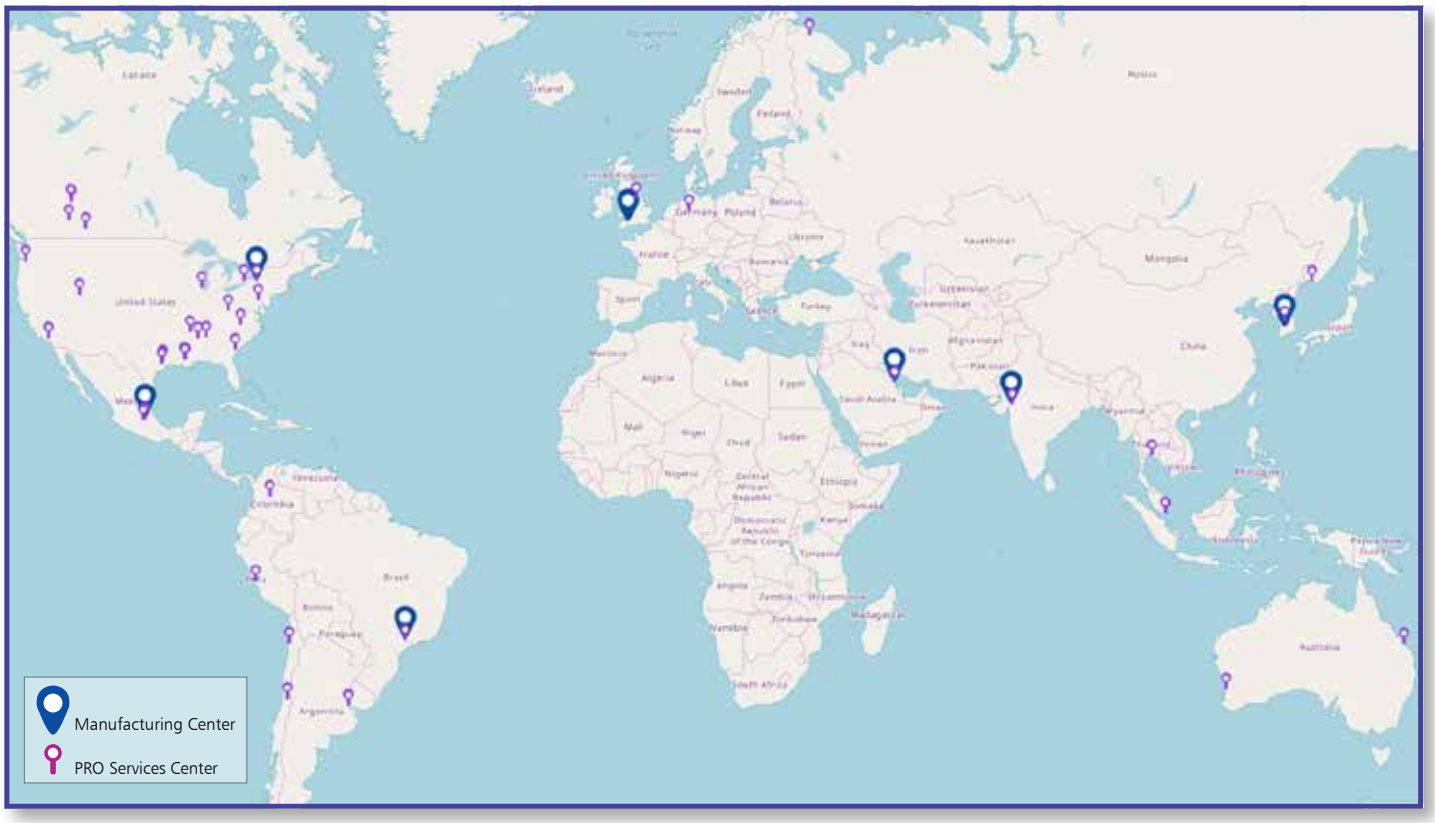
Model 3600
BB-3

Model 7200SB
BB-5

Locations



For more information Please Visit:
www.gouldspumps.com | www.ittproservices.com

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