



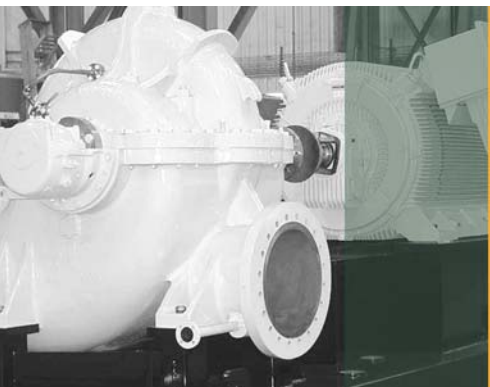
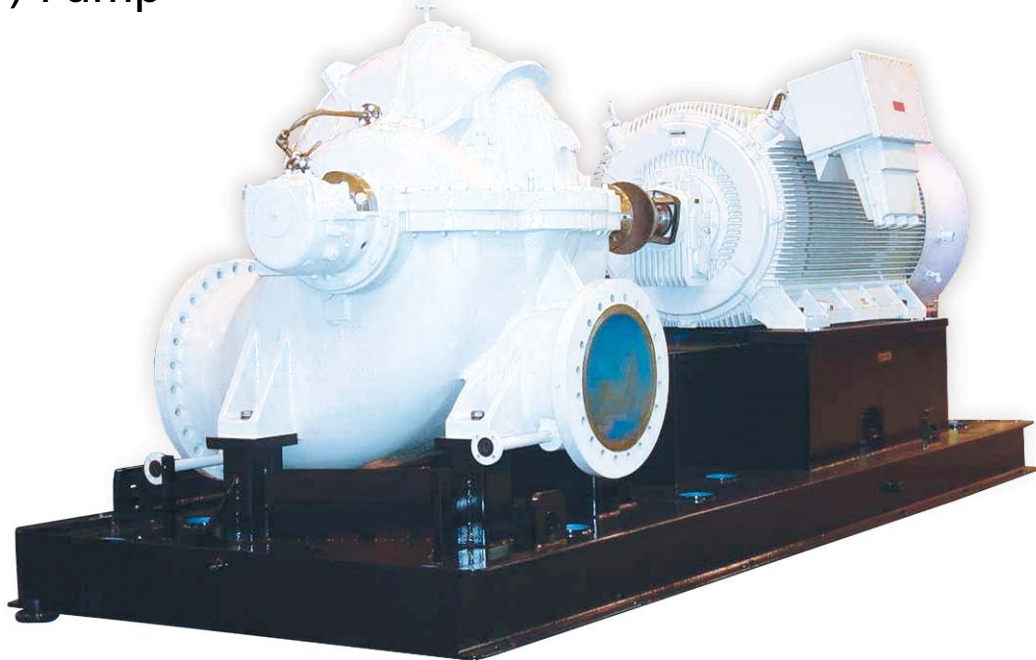
**ITT**

**Goulds Pumps**

# Goulds 3610

API 610/ISO 13709

Axially-Split, Between-Bearing,  
(BB1) Pump



*Engineered for life*

**Packaging - Processing**  
**Bid on Equipment**

1-847-683-7720

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# A Leader in API Engineered Pump Package Solutions...

## Proven API Leadership

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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

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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

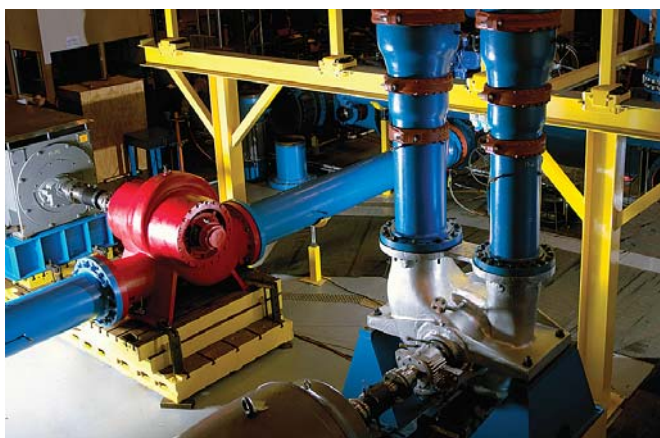
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ITT Goulds Pumps has the global coverage needed to serve multi-national companies in any region.

## Industry Leading Hydraulic Coverage

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- ◆ 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

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- ◆ 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

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- ◆ 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

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



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Model 3610

**Double Suction API-610/ISO 13709 Process Pump**

- ◆ Designed for optimum reliability
- ◆ State-of-the-art mechanical design features
- ◆ 48 casing sizes—choice of impellers with most casings.



Motor Driven Unit



Typical Installation

## Goulds 3610

### 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 double suction API 610 between-bearing (BB1) pump.

### Safety and Reliability

We provide engineered solutions with true conformance to the latest API specifications.

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

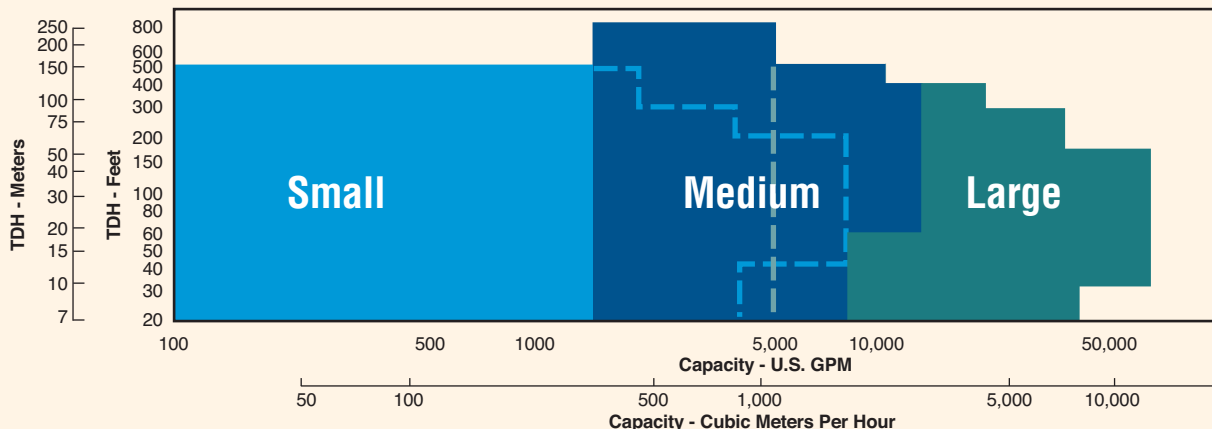
### Versatility

- ◆ Capacity to 50,000 GPM (11,355 m<sup>3</sup>/h)
- ◆ Total Dynamic Head to 700 feet (215m)
- ◆ Temperature to 300°F (149°C)
- ◆ Pressure vacuum to 300 PSIG (21 kg/cm<sup>2</sup>)

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

**Engineered Hydraulics:** Industry-leading hydraulic combinations 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.





# Goulds 3610

API 610/ISO 13709

Axially-Split, Between-Bearing (BB1) Pump

Fully compliant to API 610/  
ISO 13709 10th Edition.

## RENEWABLE CASING WEAR RINGS

API 610/ISO 13709 clearances. Positively locked.

## HEAVY DUTY SHAFTS

Designed for minimum deflection in the toughest services means excellent shaft seal and bearing life. Sized to meet deflection and rotor dynamic requirements of API 610/ISO 13709.

## DOUBLE SUCTION IMPELLER

Minimizes axial thrust for longer bearing life. Polished waterways and fully machined exterior surfaces assure highly efficient performance. Dynamically balanced as standard for smooth operation.

## AXIALLY-SPLIT HEAVY-DUTY CASINGS

Rugged foot-mounted design to resist external forces and vibration. Casings designed to withstand high working pressures with minimum distortion and are 100% hydrostatically tested. Suction and discharge connections are in the lower half casing, allowing removal of upper half casing for inspection or removal of complete rotating element without disturbing piping or driver.

## CLASS 300 RF FLANGES STANDARD

## FOOT-MOUNTED CASINGS

Heavy-duty mounting to accept API 610/ISO 13709 nozzle loads and maintain pump alignment.

## LARGE INLET AREAS

Reduce NPSH requirements and assure smooth, quiet flow to the impeller.

## RENEWABLE IMPELLER WEAR RINGS

Positively locked on impeller hubs permit easy renewal of API 610/ISO 13709 running clearance and protect impeller hubs from wear.

## ENLARGED SEAL CHAMBERS

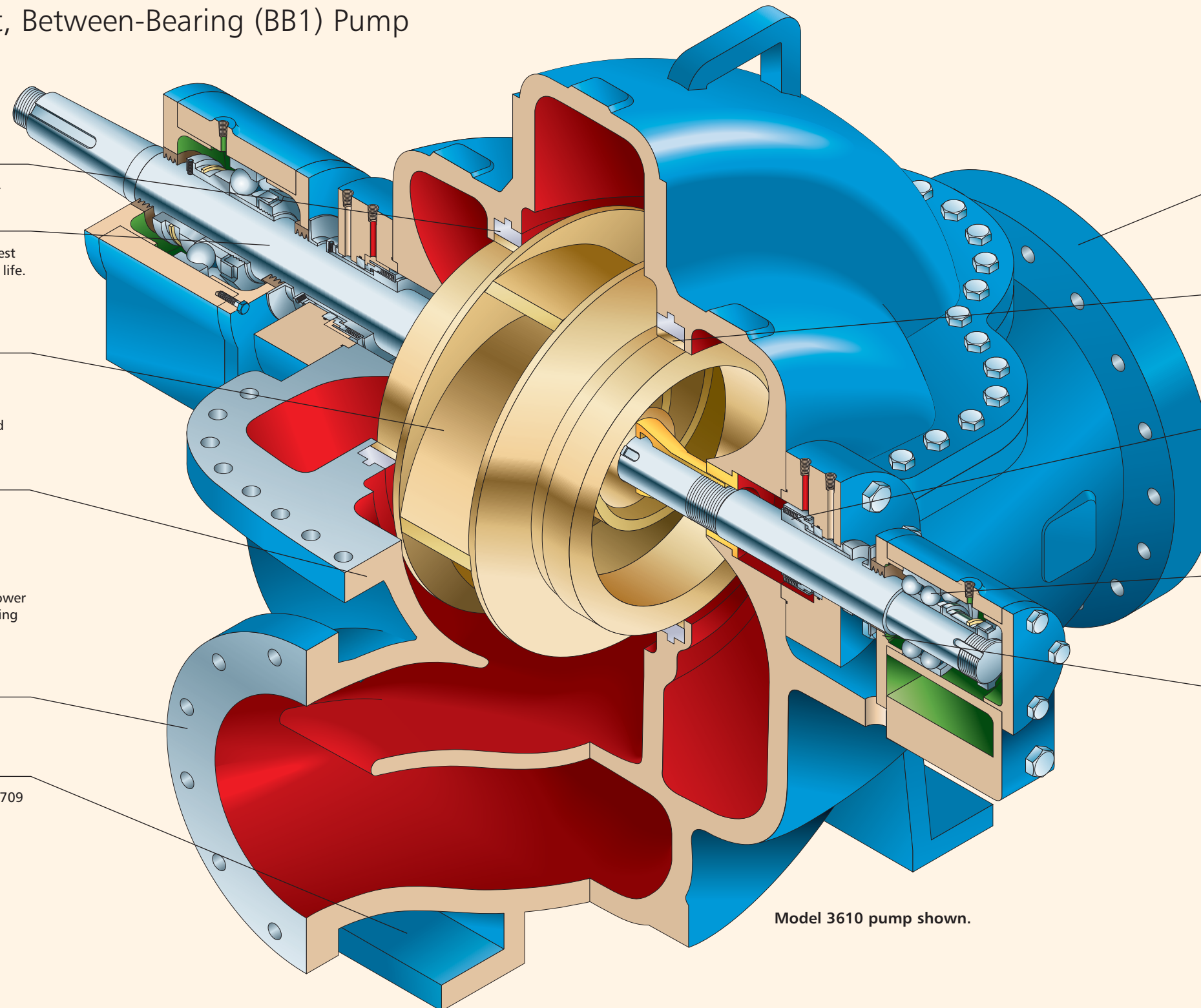
Conforms to API 610/13709 dimensional requirements. Allows use of a wide variety of API 610/ISO 13709 cartridge mechanical seals.

## HEAVY-DUTY THRUST BEARING

Duplex 40 degree angular contact standard with ring oil lube.

## LABYRINTH BEARING PROTECTION

Standard on all 3610 pumps. Significantly reduces the chance for bearing contamination and greatly improves mean time between failure.



Model 3610 pump shown.

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# Materials of Construction



20 x 30-40 1500 HP

Part Description	S-4	S-6	C-4	A-8
Casing	Carbon Steel	Carbon Steel	12% Chrome	316 SS
Impeller	Carbon Steel	12% Chrome	12% Chrome	316 SS
Shaft	Carbon Steel	Carbon Steel	12% Chrome	316 SS
Shaft Sleeve <sup>1</sup>	C1	12% Chrome Hard	12% Chrome Hard	316 SS Hard
Casing Wear Ring <sup>1</sup>	C1	12% Chrome Hard	12% Chrome Hard	316 SS Hard
Bearing Housings	Carbon Steel			
Impeller Wear Ring <sup>1</sup>	C1	12% Chrome Hard	12% Chrome Hard	316 SS Hard

<sup>1</sup> Also available in hardened/hard metal coated materials.

Refinery Crude Oil Service (Middle East)



Refinery Cooling Tower Service (South America)



Offshore Platform Service (Gulf of Mexico)



Cooling Water Service (Canadian Oil Sands)

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## 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**.

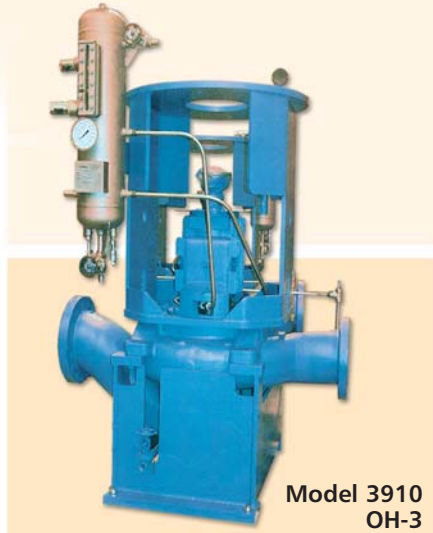
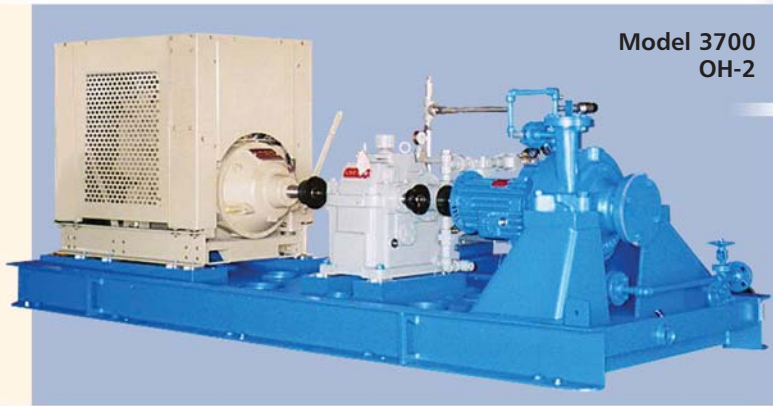
A wireless architecture reduces installation costs and complexity. A web-based client eliminates software installation and maintenance costs and also enables multi-site management.

Approved for Class I, Division 2 hazardous areas.



# A Leader in API Engineered Pump Package Solutions

## API Family of Pumps



Goulds Model	API Type	Capacity GPM (M <sup>3</sup> /Hour)	TDH Feet (Meters)	Temperature °F (°C)	Pressure PSIG (kg/cm <sup>2</sup> )
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)



Visit our Web site at [www.gouldspumps.com](http://www.gouldspumps.com)



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