



**STERLING**  
PUMPS (I) PVT. LTD.

# Centrifugal Pump Selection Guide

## INDUSTRIES WE SERVE

- CHEMICAL INDUSTRIES
- OIL & GAS INDUSTRIES
- GENERAL INDUSTRIES
- PULP AND PAPER INDUSTRIES



ITT Brands

## Goulds IC i-FRAME®\*

### ISO Process

This series is designed in accordance with ISO 5199 and ISO 2858, making it ideal for worldwide chemical or industrial process applications. IC pumps are fitted with a patented seal chamber design called the Cyclone seal chamber, which has been proven to provide the optimum sealing environment for extended mechanical seal life. Optional inducer reduces NPSHr.

- Capacities to 450 m<sup>3</sup>/h | 1,980 GPM
- Heads to 160 m | 525 ft
- Temperature ranges from -40 °C to 280 °C | -40 °F to 530 °F
- Pressures to 25 bar | 360 PSIG

#### Applications:

- Chemical
- Petrochemical
- Pulp & Paper
- Primary Metals
- Food & Beverage
- General Industries

#### Materials:

- Ductile Iron, Carbon Steel, 316SS, Duplex SS, Alloy 20, Hastelloy C, Titanium



## Goulds 3171

### Vertical Sump and Process

The "Veteran" vertical sump and process pump. Thousands of installations – industrial process, sump drainage, corrosive liquids, pollution control, molten sulfur. Rugged, heavy construction, Simple mounting.

- Capacities to 722 m<sup>3</sup>/h | 3,180 GPM
- Heads to 95 m | 344 ft
- Temperatures to 232 °C | 450 °F
- Pit Depths to 6 m | 20 ft

#### Applications:

- Industrial Process
- Industrial Sump Wastes
- Molten Sulfur
- Tank Unloading
- Corrosive and Non-Corrosive Liquids

#### Materials:

- Cast Iron, Bronze-fitted, Carbon Steel, 316SS, Alloy 20, Hastelloy B and C, Duplex SS

## Goulds ICM

### ISO Metallic Magnetic Drive Process

The ICM pump is the optimum metallic sealless pump for process fluid services in the chemical, paper and general industries where ISO dimensions are preferred. The ICM is specifically designed to pump difficult fluids such as corrosives, high purity and toxic liquids. Its sealless, sturdy design combines with a wide variety of wet end materials. The bearings are chemical and abrasion resistant Silicon Carbide (SSiC). Optional Dryguard™ dry-run protection can be provided.

- Capacities to 400 m<sup>3</sup>/h | 1,760 GPM
- Heads to 210 m | 685 ft at 3,500 rpm
- Temperature ranges from -40 °C to 180 °C | -40 °F to 360 °F
- Pressures to 16 bar | 232 PSIG

#### Applications:

- Batch Chemical Process
- Rail Car or Tank Unloading
- Specialty Chemicals

#### Materials:

- Stainless Steel, Hastelloy, Ductile Iron, Alloy 20



## Goulds 3196 i-FRAME®\*

### ANSI Process

This is the original ANSI pump that has become the standard of the industry. Over 1,000,000 installations attest to the remarkable performance of the 3196. Available with a wide range of features for handling difficult applications, i-FRAME® power ends maximize reliability and MTBF (Mean Time Between Failure).

- Capacities to 1,364 m<sup>3</sup>/h | 7,000 GPM
- Heads to 223 m | 730 ft
- Temperatures to 371 °C | 700 °F
- Pressures to 26 bar | 375 PSIG

#### Applications:

- Pchemical
- Petrochemical
- Pulp & Paper
- Primary Metals
- Food & Beverage
- General Industries

#### Materials:

- Ductile Iron, 316SS, CD4MCu, Alloy 20, Monel, Nickel, Hastelloy B and C, Titanium



## Goulds 3296 EZMAG Magnetic Drive ANSI Process

Robust, simple sealless design ideal for difficult liquids such as corrosives, pollutants, ultra-pure liquids and toxics. Meets ANSI dimensional specifications. Features a bearing cartridge for ease of maintenance and improved reliability.

- Capacities up to 159 m<sup>3</sup>/h | 700 GPM
- Heads to 213 m | 700 ft
- Temperatures to 280 °C | 535 °F
- Pressures to 19 bar | 275 PSIG

#### Applications:

- Batch Chemical Process
- Rail Car or Tank Unloading
- Specialty Chemicals

#### Materials:

- 316SS, others upon request

## Goulds 3180

### Paper Stock / Process

All customer requirements were considered in this line of paper stock / process pumps: excellent hydraulic coverage, high efficiency, extreme ease of maintenance, and mechanical reliability. The Model 3185 pump furnished with ISO or JIS flange drilling, metric fasteners, dimensions. Open, enclosed or Shearpeller™ impellers available. Features i-ALERT® 2 condition monitoring as standard. Model 3180 standard with ANSI flanges.

- Capacities to 9,000 m<sup>3</sup>/h | 40,000 GPM
- Heads to 125 m | 410 ft
- Temperatures to 230 °C | 446 °F
- Pressures to 16 bar | 232 PSIG

#### Applications:

- Paper Stock
- Black Liquor
- Chemical Process
- Wastewater

#### Materials:

- Al/CD4MCuN, CD4MCuN, 316SS, 317SS, Hast-C, Alloy 20, Super Duplex. Other materials available upon request.



## Goulds 3700 API 610 (OH2)

### Overhung Process

High temperature and high pressure process pumps designed to fully meet the requirements of API 610. Center line support for high temperature stability, maximum rigidity. Features tangential discharge for maximum hydraulic efficiency.

Available in top suction design (Model 3710).

- Capacities to 1930 m<sup>3</sup>/h | 8,500 GPM
- Heads to 360 m | 1,200 ft
- Temperatures to 425 °C | 800 °F
- Pressures from full vacuum to 60 bar | 870 PSIG

#### Applications:

- Column Reflux
- Column Bottoms
- Reboiler
- Injection
- Fuel Blending
- Heat Transfer
- Strip Gas Oil Transfer
- Heavy Gas Oil
- Stripper Overhead
- Hot Oil
- Column Charge
- Reactor Feed
- Stabilizer Overhead
- Scrubber Circulation
- Tower Bottoms
- Offsite Hydrocarbon

#### Materials:

- All API materials, custom materials available



## Goulds API 3171 (VS4)

### API 610 Vertical Sump and Process

API 610 Vertical Sump and Process For all refinery services requiring tank mount or sump duties. Fully compliant with 10th and 11th editions ISO 1370/API 610.

- Capacities to 722 m<sup>3</sup>/h | 3,180 GPM
- Heads to 160 m | 525 ft
- Temperatures to 232 °C | 450 °F
- Pit depths to 6 m | 20 ft

#### Applications:

- Industrial Process
- Industrial Sump Wastes
- Molten Sulfur
- Tank Unloading
- Corrosive & Non-Corrosive Liquids

#### Materials:

- Carbon Steel, 316SS, 12% Chrome Fitted, Duplex SS

## Goulds 3610 API 610 (BB1)

### Horizontal Split Case, Double Suction

Designed for a wide range of industrial, municipal and marine services.

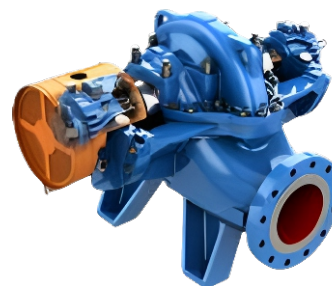
- Capacities to 11,355 m<sup>3</sup>/h | 50,000 GPM
- Heads to 215 m | 700 ft
- Temperatures to 205 °C | 400 °F
- Pressures to 42 bar | 600 PSIG

#### 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

#### Materials:

- All API materials, custom materials available



## Goulds 3620i\* and 3640i®\* API 610 (BB2) Single and Two-Stage Between Bearings

Between bearings, radially split process pumps designed for smooth, reliable operation. Fully meets requirements of API 610.

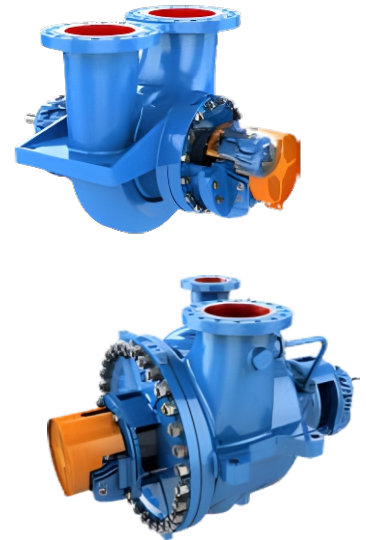
- Capacities to 4,540 m<sup>3</sup>/h | 20,000 GPM
- Heads to 455 m | 1,500 ft
- Temperatures to 455 °C | 850 °F
- Pressures to 70 bar | 1,000 PSIG

### Applications:

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

### Materials:

- All API materials, custom materials available



## Goulds 3600 i-FRAME®\* API 610 (BB3) Heavy Duty Multistage

Advanced design with proven operating history. Axially split, with many enhanced features that make it an extremely reliable, high performance pump well-suited to a wide range of services.

- Capacities to 1,930 m<sup>3</sup>/h | 8,500 GPM
- Heads to 2,740 m | 9,000 ft
- Temperatures to 205 °C | 400 °F
- Pressures to 275 bar | 4,000 PSIG

### Applications:

- Refineries
- Injection offshore platforms
- Pipeline
- Boiler feed
- Descaling
- Mine dewatering
- Process transfer
- Desalination
- Water injection
- CO<sub>2</sub> injection

### Materials:

- All API materials, custom materials available



## Goulds VIC/VICR (VS6) Vertical Can-Type / Vertical Multistage Low Flow, High Head

**VIC:** A wide range of hydraulic conditions allows meeting requirements of virtually every pumping service. Designed to meet custom specifications of the user. Model VIC can-type turbine meets API 610 specifications.

**VICR:** A wide range of hydraulic conditions with a competitive advantage due to its compact design and reduced number of stages from the radial impeller configuration that can produce more head per stage. Model VICR can vertical multistage low flow, high head meets API 610 specifications.

- Capacities to 15,900 m<sup>3</sup>/h | 70,000 GPM
- Heads to 1,372 m | 4,500 ft
- Bowl sizes from 152.4 mm to 1,400 mm | 6" to 55"
- Temperatures to 204 °C | 400 °F
- Horsepower to 3730 KW | 5,000 HP

### Applications:

- Pipeline Booster
- Product Transfer, Refinery Blending
- Injection-Secondary Recovery
- Chemical Transfer
- Boiler Feed
- Condensate
- Cryogenics
- LNG Transfer
- Light Hydrocarbons
- Water Services
- Pentane, Propane, LPG and other light hydrocarbons with specific gravities ranging from 0.2 to 1.0
- Hotwater applications such as Boiler feed water

### Materials:

- Any Machinable Alloy



## Goulds VIT (VS1) Vertical Turbine

A wide range of hydraulic conditions allows meeting requirements of virtually every pumping service. Designed to meet custom specifications of the user. Model VIT can-type turbine meets API 610 specifications.

- Capacities to 15,900 m<sup>3</sup>/h | 170,000 GPM
- Heads to 1,067 m | 3,500 ft
- Pressures to 176 kg/cm<sup>2</sup> | 2,500 psi
- Bowl sizes from 152.4 mm to 1,400 mm | 6" to 55"
- Temperatures to 204 °C | 400 °F
- Horsepower to 3,730 KW | 5,000 HP

### Applications:

- Cooling Water
- Seawater & River Water Intake
- Industrial Process Pumps
- Utility Circulating Water
- Condenser Circulating Water Pumps
- Fire Service
- Reclaimed Water

### Materials:

- Any Machinable Alloy



## Goulds BB5 7200

11th edition API compliant, severe service, barrel pumps, in-line diffuser style. For high temperatures, pressures and low specific gravities.

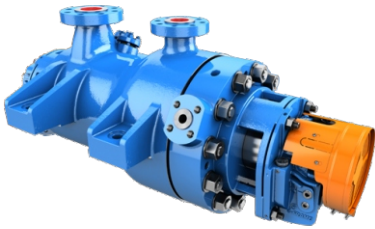
- Capacity: 910 m<sup>3</sup>/h | 4,000 GPM
- Head: 2,740 m | 9,000 ft
- Temperature: 425°C | 800°F
- Pressure: 275 bar | 4,000 PSIG

### 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

### Materials:

- All API materials, custom materials available



## Goulds 3409 Medium Capacity

- Capacities to 2,725 m<sup>3</sup>/h | 12,000 GPM
- Heads to 259 m | 850 ft
- Temperatures to 120°C | 250°F
- Working Pressures to 2758 kPa | 400 PSIG

### Applications:

- Process – Quench water, Stripper bottoms, Reboiler circulation, Cooling tower
- Pulp & Paper – Primary and secondary cleaner, filtrate, mill water supply Fan pump, Headbox supply, Shower
- Primary Metals – Cooling water, quench and leaching
- Municipal – High lift, low lift, wash water, waste water, raw water
- Power Generation – Cooling tower, Component cooling, Service water, Ash Sluicing, Heater drain
- Marine – Bilge and ballast, cargo, cooling water, fire pump
- General – River water, Brine, Sea water

**Materials :** Cast Iron / Bronze, All Iron, Cast Iron / Stainless Steel, Cast Iron / Ni-Al-Br, All Stainless Steel. Other materials available upon request. (1724 kPa)



## Goulds 3410 Small Capacity

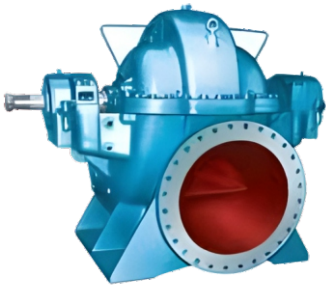
- Capacities to 1,817 m<sup>3</sup>/h | 8,000 GPM
- Heads to 174 m | 570 ft
- Temperatures to 177 °C | 350 °F
- Pressures to 1,724 kPa | 250 PSIG

### Applications:

- Process – Quench water, Stripper bottoms, Reboiler circulation, Cooling tower
- Pulp & Paper – Primary and secondary cleaner, filtrate, mill water supply shower, fan pump
- Primary Metals – Cooling water, quench and leaching
- Municipal – High lift, low lift, wash water, waste water, raw water
- Utilities – Cooling tower, component cooling, service water
- Marine – Bilge and ballast, cargo, cooling water, fire pump

### Materials:

- Cast Iron / Bronze, All Iron, Cast Iron / Stainless Steel, Cast Iron / Ni-Al-Br, All Stainless Steel. Other materials available upon request. (1724 kPa)



## Goulds 3420 Large Capacity

- Capacities to 14,762 m<sup>3</sup>/h | 65,000 GPM
- Heads to 122 m | 400 ft
- Temperatures to 135 °C | 275 °F
- Working Pressures to 1379 kPa | 200 PSIG

### Applications:

- Process – Quench water, Stripper bottoms, Reboiler circulation, Cooling tower
- Pulp & Paper – Primary and secondary cleaner, filtrate, mill water supply Fan pump, Headbox supply, Shower
- Primary Metals – Cooling water, quench and leaching
- Municipal – High lift, low lift, wash water, waste water, raw water
- Power Generation – Cooling tower, Component cooling, Service water, Ash Sluicing, Heater drain
- Marine – Bilge and ballast, cargo, cooling water, fire pump
- General – River water, Brine, Sea water

### Materials:

- Cast Iron / Bronze, All Iron, Cast Iron / Stainless Steel, Cast Iron / Ni-Al-Br, All Stainless Steel. Other materials available upon request. (1724 kPa)

## Goulds 3498 Extra Large Capacity

- Capacities to 18,000 m<sup>3</sup>/h | 80,000 GPM
- Heads to 244 m | 800 ft
- Temperatures to 135 °C | 275 °F
- Working Pressures to 200 PSIG

### Applications:

- Process – Quench water, Stripper bottoms, Reboiler circulation, Cooling tower
- Pulp & Paper – Primary and secondary cleaner, filtrate, mill water supply Fan pump, Headbox supply, Shower
- Primary Metals – Cooling water, quench and leaching
- Municipal – High lift, low lift, wash water, waste water, Raw water
- Power Generation – Cooling tower, Component cooling, Service water, Ash Sluicing, Heater drain
- Marine – Bilge and ballast, cargo, cooling water, fire pump
- General – River water, Brine, Sea water

### Materials:

- Cast Iron / Bronze, All Iron, Cast Iron / Stainless Steel, Cast Iron / Ni-Al-Br, All Stainless Steel. Other materials available upon request. (1724 kPa)





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