



# Goulds API 3171

ISO 13709 / API 610

VS4 Vertical Sump Pump



# ITT

ENGINEERED FOR LIFE

# API 3171

## ISO 13709 / API 610 11<sup>th</sup> edition, compliant VS4 sump pump

- Capacities to 680 m<sup>3</sup>/h (3000 GPM)
- Heads to 290 m (950 feet)
- Temperatures to 232° C (450° F)
- Pit Depths to 6 m (20 feet)

## Design features

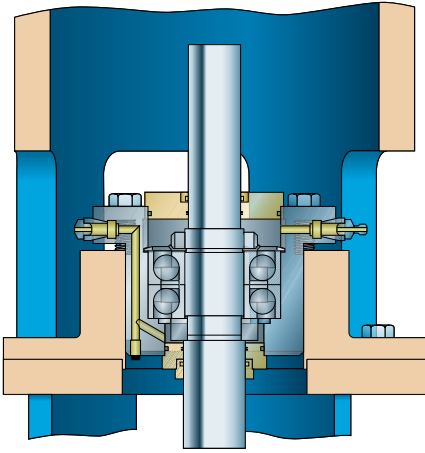
- Compliant thrust bearing arrangement
  - Grease, Flood oil, or pure oil mist lubrication
  - Duplex back to back angular contact bearings
  - Labyrinth Bearing Isolators
- Compliant disc coupling balanced to AGMA 9
- 300# discharge flanges as standard
- One piece shaft design
- Open impeller
- Replaceable suction liner & strainer plate
- Swivel hoist rings for handling provided as standard
- External Impeller adjustment
- Available in API material classes

The API3171 is designed to comply with ISO13709 / API610 VS4 standards. It is part of the "Veteran" 3171 product group which has decades of reliable performance in thousands of installations worldwide. It also shares many components with the standard 3171 for maximum interchangeability and is a true sump pump design. With numerous sizes and two hydraulic designs ITT Goulds can offer the ideal pump to meet your service requirements.



API3171 with optional flood oil lubrication

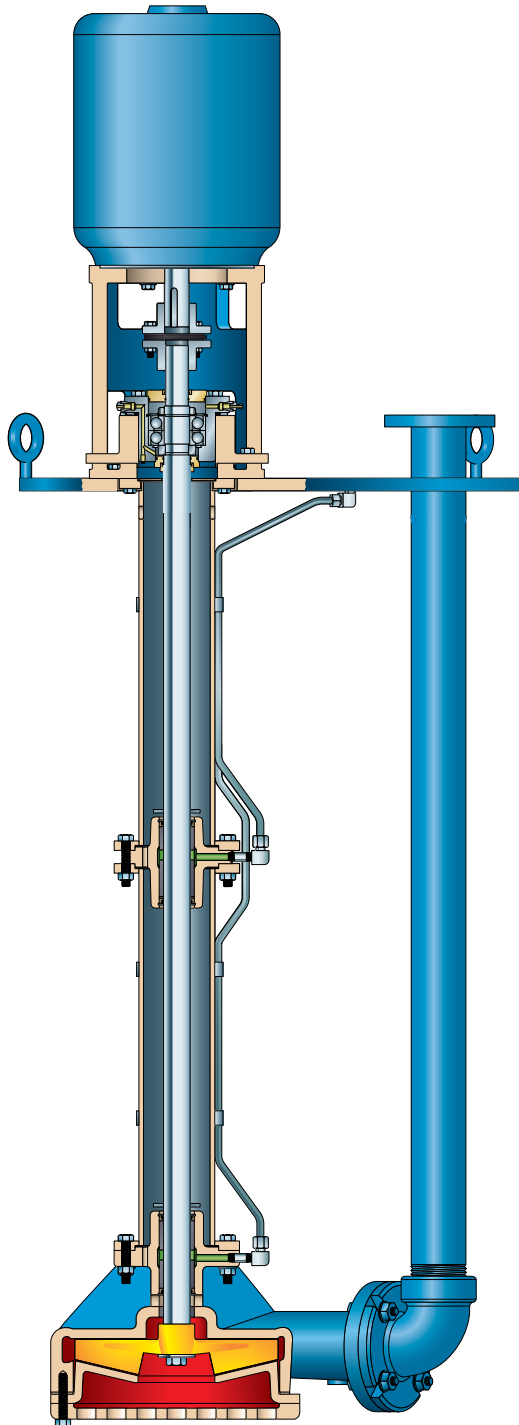
# API 3171 – ISO 13709 / API 610 VS4 Compliant Vertical Sump Pump



Standard Thrust Bearing Arrangement  
Back to Back angular contact bearing  
with machined brass cage. Grease  
lubricated as standard

OPTIONAL UPPER STUFFING BOX  
Available with options to fit specific  
application:

- Packing
- Single Mechanical Seals
- Double Mechanical Seals
- Dry running gas seals



## C-FACE MOTOR MOUNTING

Accommodates readily available  
C-face motors.

## CONTINUOUS HIGH PERFORMANCE

Original high efficiency maintained  
by simple external adjustment  
resulting in long-term energy savings.

## STEADY BEARING HOUSING

Precision machined register fit of  
column, bearing housing and casing  
assures positive bearing and shaft  
alignment. Completely  
interchangeable with all lineshaft  
bearing options.

## HEAVY DUTY ONE-PIECE SHAFT

With closely spaced steady bearings  
assures long life and low  
maintenance.

## HEAVY DUTY CASING

Provides rigid support for shaft –  
closer to impeller load – resulting in  
longer steady bearing life.

## REMOVABLE SUCTION COVER

Replaceable wear part for low  
operational costs.

## HEAVY COLUMN PIPE

Provides rigid support for pump and  
bearings.

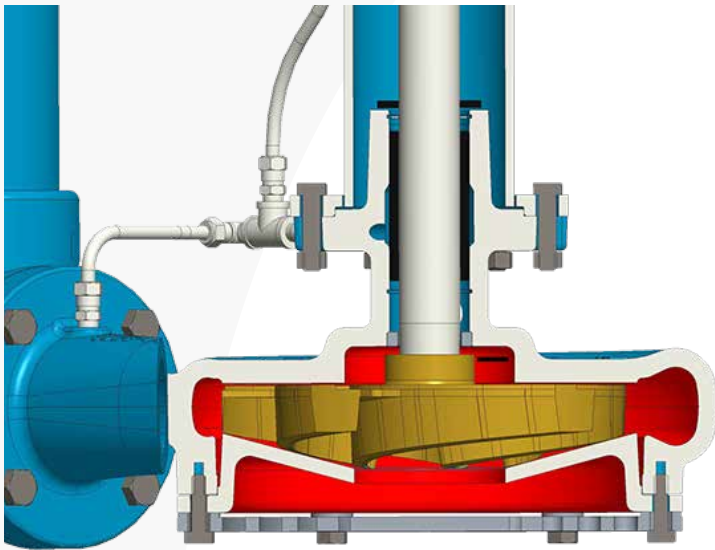
## LINESHAFT STEADY BEARING

Self-lubricating carbon/graphite  
bearing furnished as standard – best  
for handling water, corrosives,  
solvents and high temperature liquids

## FULLY OPEN IMPELLER WITH BACK PUMP-OUT VANES

Acknowledged best design for  
process services.

# Hydraulic Designs



## 3171

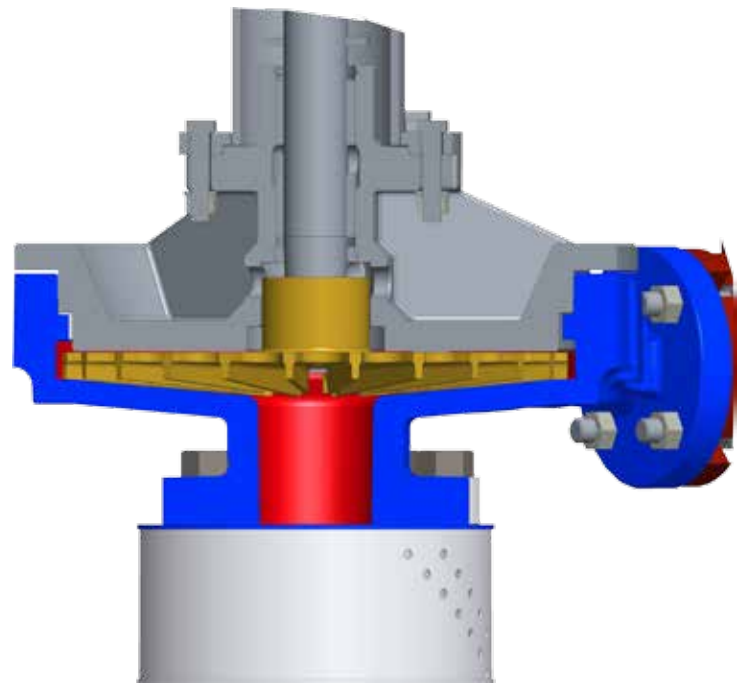
True sump design with fully open impeller, replaceable, suction liner with integral strainer. Standard design suitable for most applications.

### Optional Features

- Variety of steady bearing materials available
- Sealed steady bearings
- Steam jacketed column and discharge
- Optional Soleplate (pit cover)
- Tank flange support plate

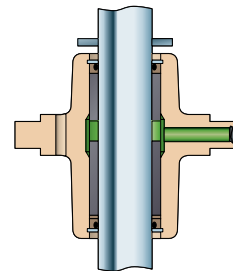
### Vapor Proof Construction

- Seals sump vapors
- Used for hazardous and noxious gases
- Available with packing, single or double mechanical seals



## LF3171

Designed for trouble free operation at low flows and high heads. Precision machined concentric casing with radial vane impeller. Radial loads reduced as much as 85%. Heads to 290 m (950 ft).



Sealed Bearing Arrangement



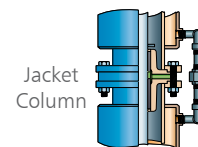
Lineshaft steady Bearings



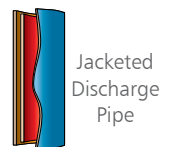
Pit Cover



Tank Mount Flange



Jacket Column



Jacketed Discharge Pipe

# Optional Flood Oil Lubrication

Spacer Coupling with minimum 125mm (5") shaft separation for quick and easy removal of bearing cartridge and mechanical seal without removing motor.

One piece carbon steel upper stuffing box and motor support. Reduces components, provides accurate alignment, and reduces maintenance.

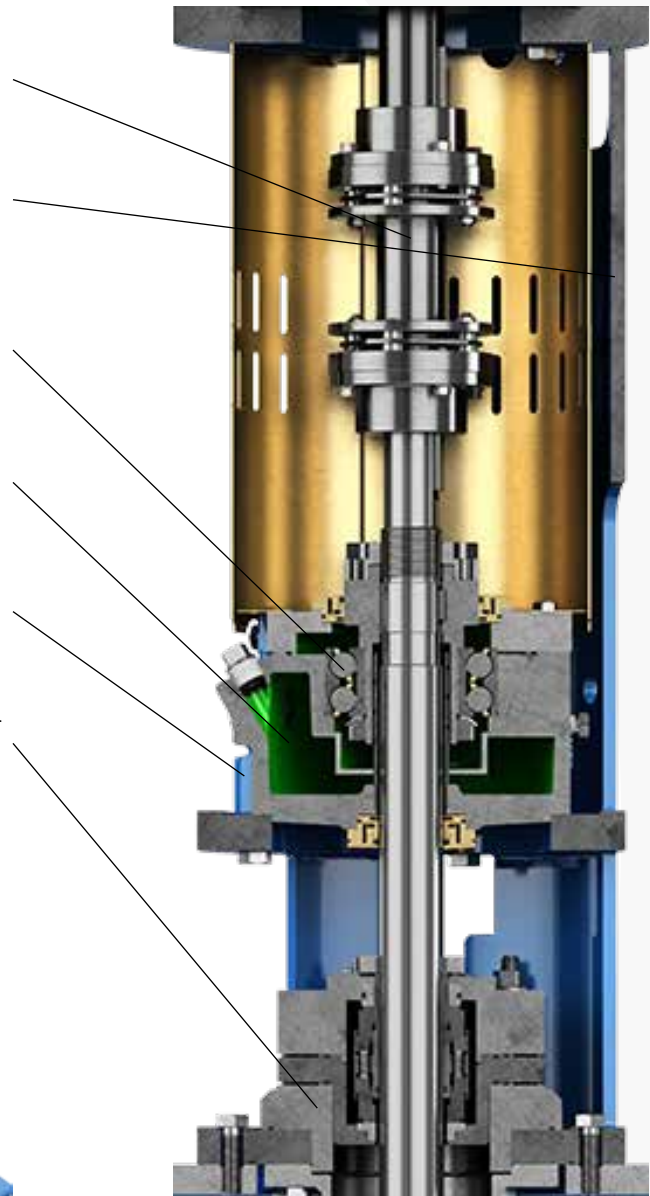
Confined rotating element to reduce oil reservoir turbulence.

Largest oil capacity available. Provides reduced operating temperature for extended bearing life and reliable operation.

Separate steel bearing frame with bearing carrier and clamped bearing. Bearings are not mounted directly to the shaft for superior reliability and ease of maintenance.

Replaceable seal cover provides ISO 2149/API682 seal chamber for installation of single and double cartridge seals or packing to meet safety and environmental requirements.

- Oil Site Glass – constant level oiler capability
- Mounting pad standard for i-ALERT®2 for continuous vibration and temperature monitoring
- Simple split non-sparking brass guard per ISO/API/OSHA standards



i-ALERT®2

EZ-Adjust Impeller Setting – Patent pending calibrated adjustment ring provides simple accurate impeller adjustment to maintain optimum efficiency without jackscrews, nuts or measuring equipment.



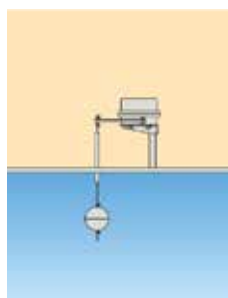
# Parts List and Materials of Construction

Part Name	S-1	S-3	S-4/5-5	S-6	S-8	A-8	D-1	D-2
Casing	A216 WCB					A743 CF8M	A890 Gr. 4A	A890 Gr. 5A
Impeller	A536 65-45-12	A436 Type 2	A216 WCB	A487 CA6NM	A743 CF8M	A743 CF8M	A890 Gr. 4A	A890 Gr. 5A
Thrust Bearings	40° Angular Contact w/ Machined Brass Cage							
Bearing Shell	A216 WCB							
Bearing Frame	A216 WCB*							
Bearing Carrier	A108 Gr. 1213*							
Seal Chamber	A276 Type 316SS*							
Shaft	A582S41600					A276 S31600	A276 S31803	A479 S32750
Suction Cover	A216WCB					A743 CF8M	A890 Gr. 4A	A890 Gr. 5A
Strainer	3211						A890 Gr. 4A	A890 Gr. 5A
Support Plate	3201							
Flush Tubing	As Specified							
Head Column	Carbon Steel					A312 316L	A790 S31803	A790 S32750
Discharge Pipe	A53 Gr. F					A312 316L	A790 S31803	A790 S32750
Steady Bearings	Carbon or as Specified							
Steady Bearing Hsg.	A216 WCB					A743 CF8M	A890 Gr. 4A	A890 Gr. 5A
Motor Support	A48 Cast Iron / A283 Gr. D*							
Column Extension	A53 Gr. F (6501)					A312	A790	A790
Dishcharge Elbow	A216 WCB (1212)					A351 CF3M	A890 Gr. 4A	A890 Gr. 5A
Labyrinth Seal	Bronze Labyrinth Bearing Isolators							

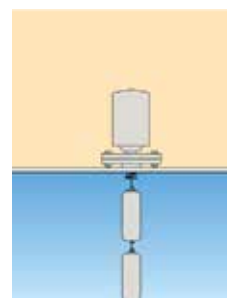
\*Flood oil bearing lubrication only

## Float Controls

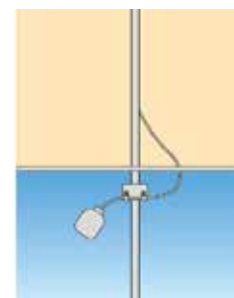
A wide range of float controls are offered to suit individual requirements of every installation. (Most common types shown).



Ball-Operated  
Float Switch

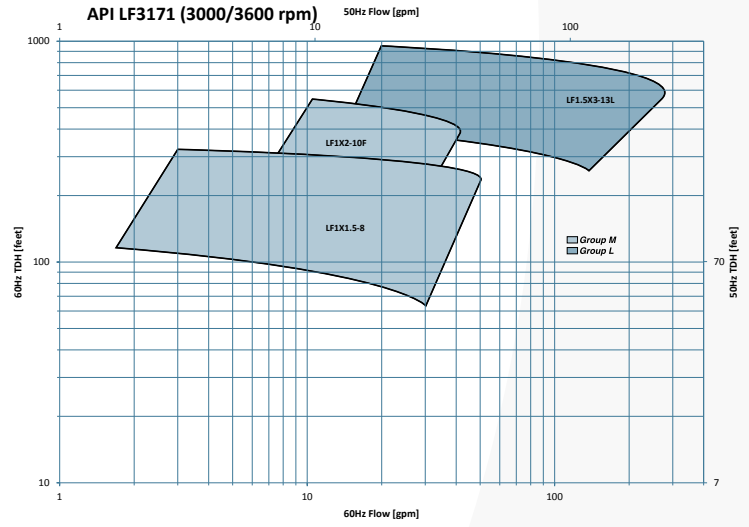
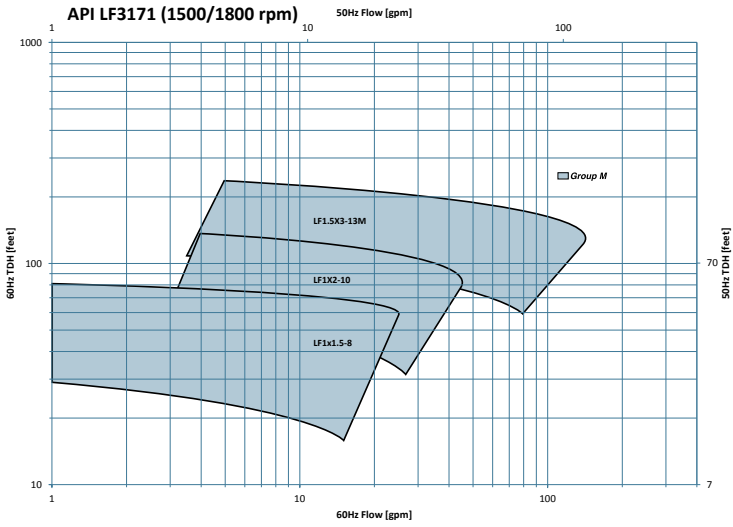
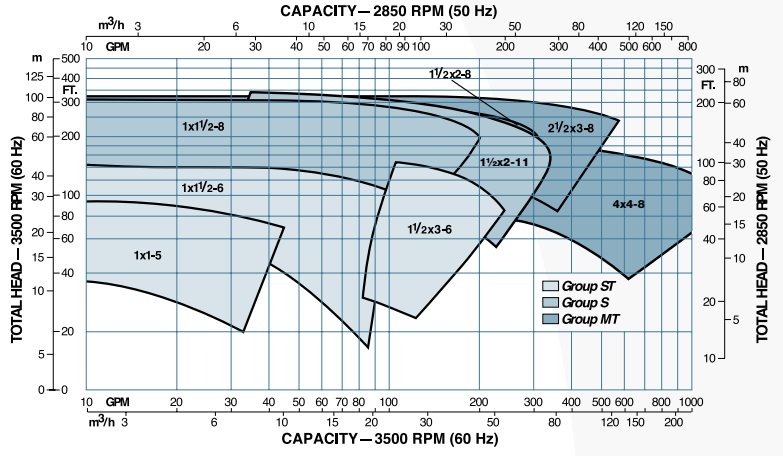
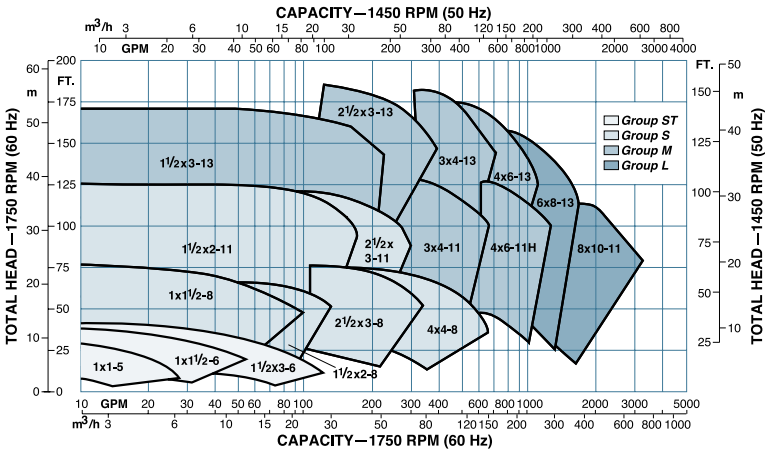


Displacer Type  
Liquid Level Switch



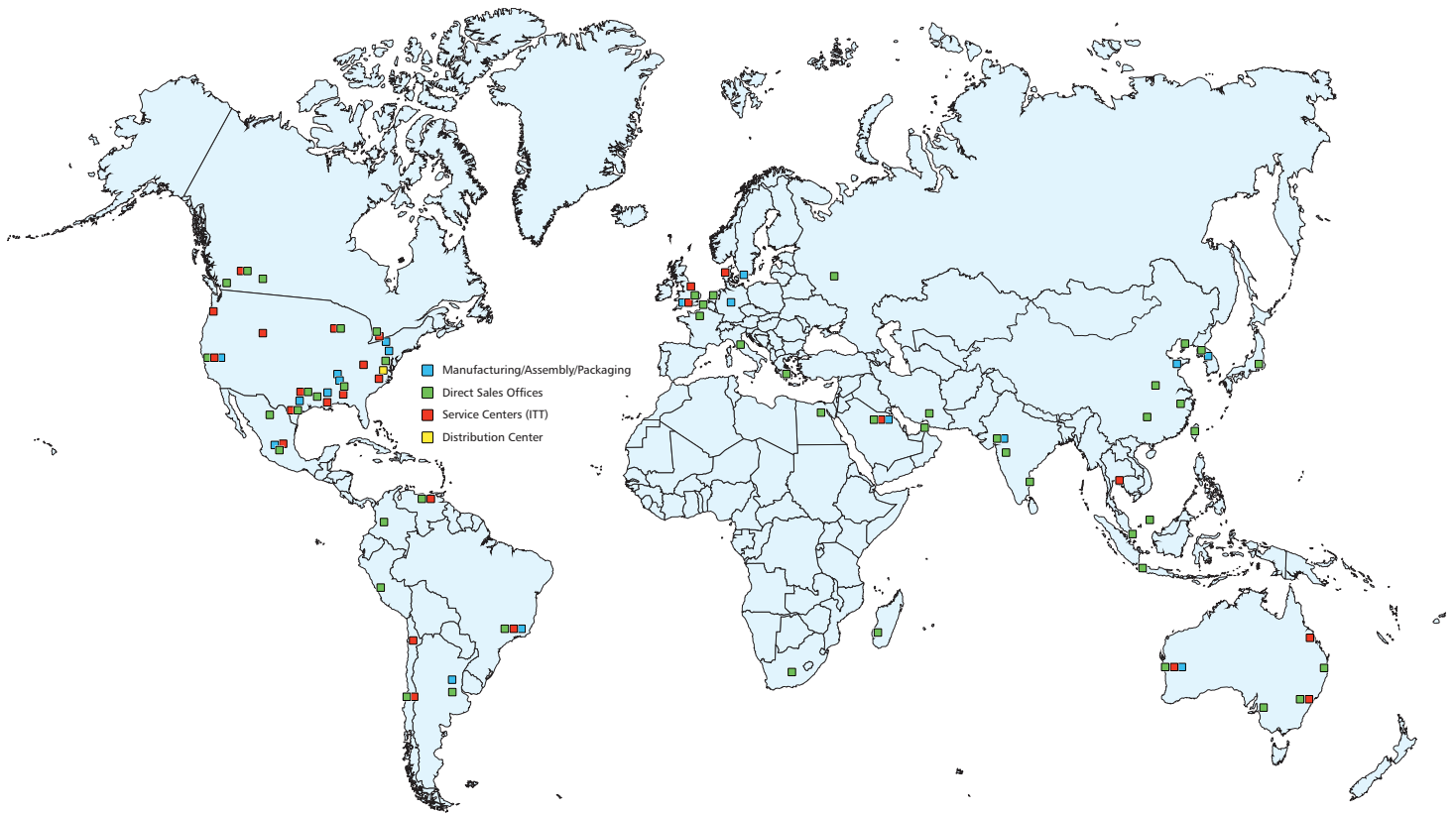
Pipe-Mounted,  
Direct Acting  
Float Switch

# Hydraulic Coverage



Visit our website at  
www.gouldspumps.com

# Wherever you are, we're there too.

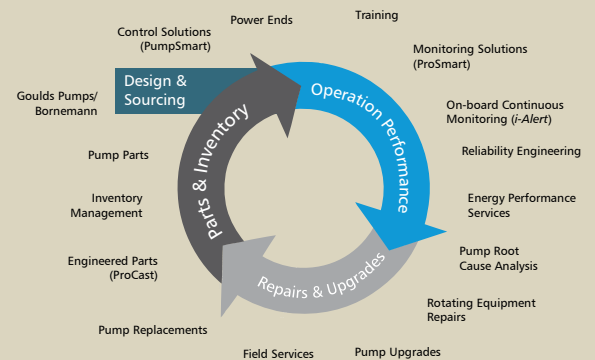


## PRO services

Reliability has no quitting time.

Building on over 160 years of Goulds Pumps experience, 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.

### Your Total Solution For Equipment Life Cycle Optimization



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240 Fall Street  
Seneca Falls, NY 13148  
www.itt.com

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