

API 3171

ISO 13709 / API 610 VS4 Vertical Sump Pump



API 3171

ISO 13709 / API 610 11th edition, compliant VS4 sump pump

- Capacities to 680 m³/h (3000 GPM)
- Heads to 290 m (950 feet)
- Temperatures to 232° C (450° F)
- Pit Depths to 6 m (20 feet)

Design features

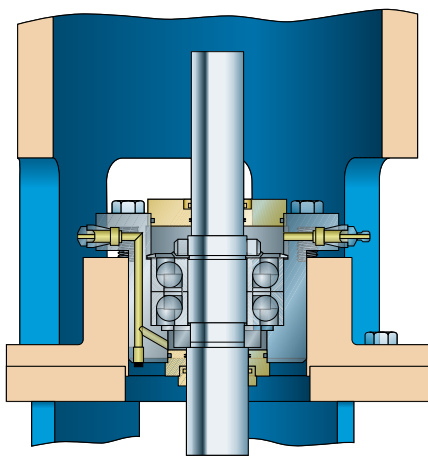
- Compliant thrust bearing arrangement
 - Grease, Flood oil, or pure oil mist lubrication
 - Duplex back to back angular contact bearings
 - Labyrinth Bearing Isolators
- Compliant disc coupling balanced to AGMA 9
- 300# discharge flanges as standard
- One piece shaft design
- Open impeller
- Replaceable 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

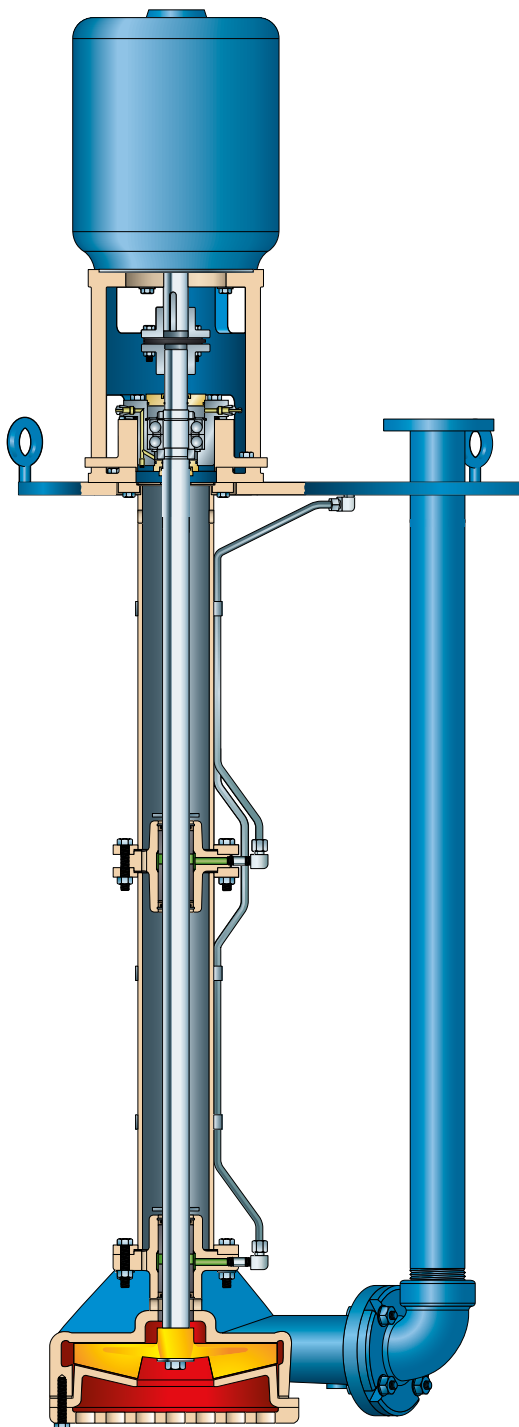
API 3171 – ISO 13709 / API 610 VS4 Compliant Vertical Sump Pump



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.

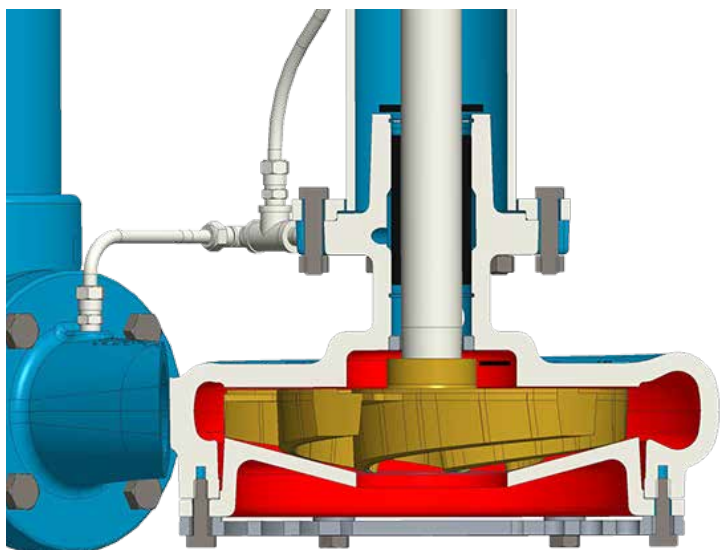
LINESHAFT STEADY BEARING

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

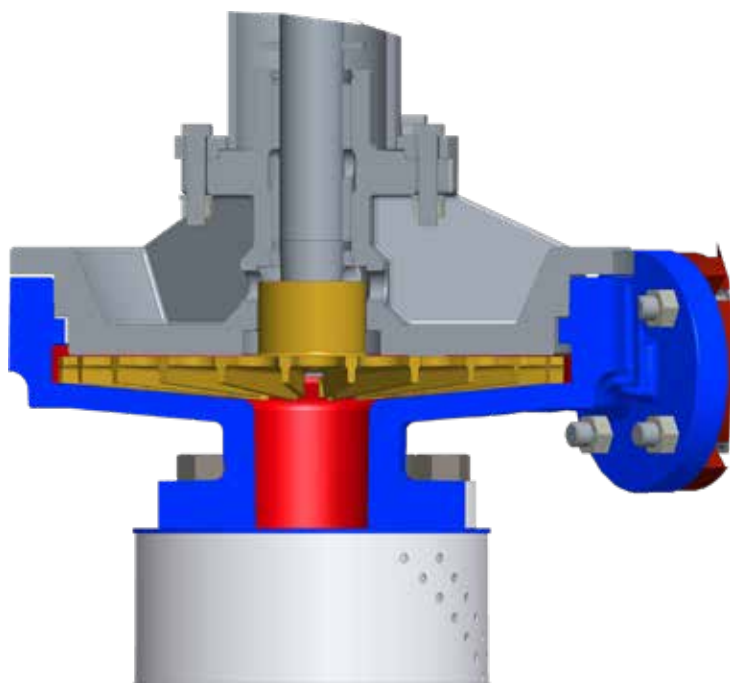
Acknowledged best design for process
services.

Hydraulic Designs



3171

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

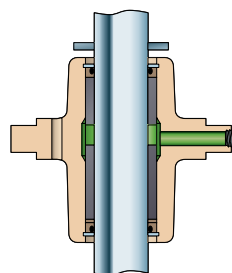


LF3171

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).

Optional Features

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



Sealed Bearing Arrangement



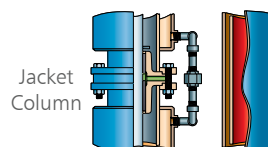
Lineshaft steady Bearings



Pit Cover



Tank Mount Flange



Jacket Column

Jacketed Discharge Pipe

Vapor Proof Construction

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

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.

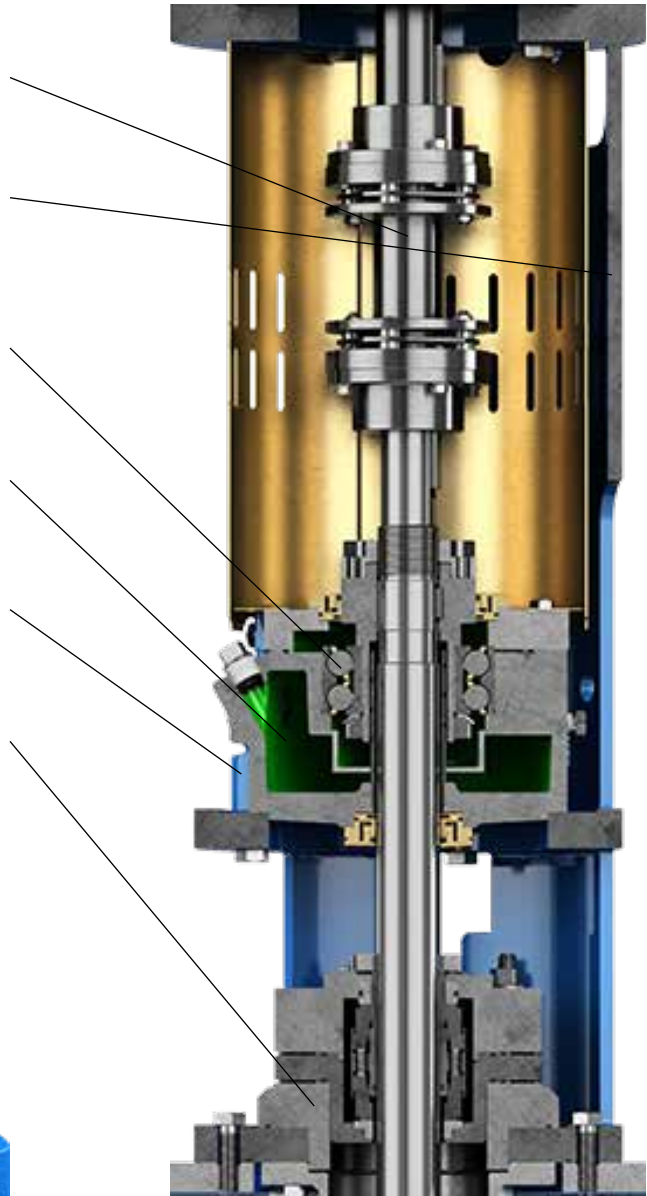
Confined rotating element to reduce oil reservoir turbulence.

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

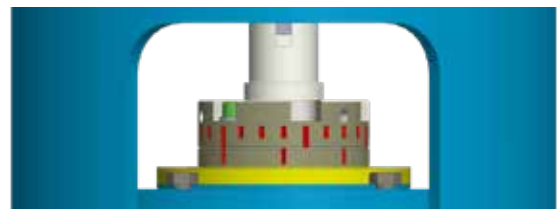
Separate steel bearing frame with bearing carrier and clamped bearing. Bearings are not mounted directly to the shaft for superior reliability and ease of maintenance.

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® for continuous vibration and temperature monitoring
- Simple split non-sparking brass guard per ISO/API/OSHA standards



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



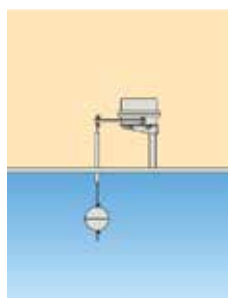
Parts List and Materials of Construction

Part Name	S-4/S-5	S-6	S-8	A-8	D-1	D-2
Casing	A216 WCB			A743 CF8M	A890 Gr. 4A	A890 Gr. 5A
Impeller	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					

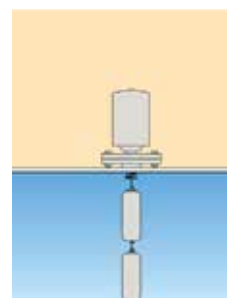
*Flood oil bearing lubrication only

Float Controls

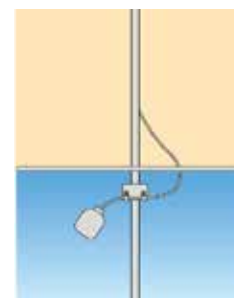
A wide range of float controls are offered to suit individual requirements of every installation.
(Most common types shown).



Ball-Operated
Float Switch

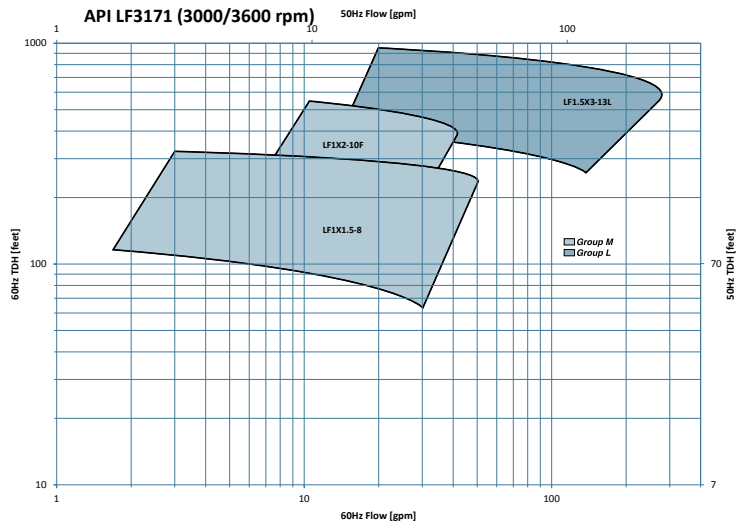
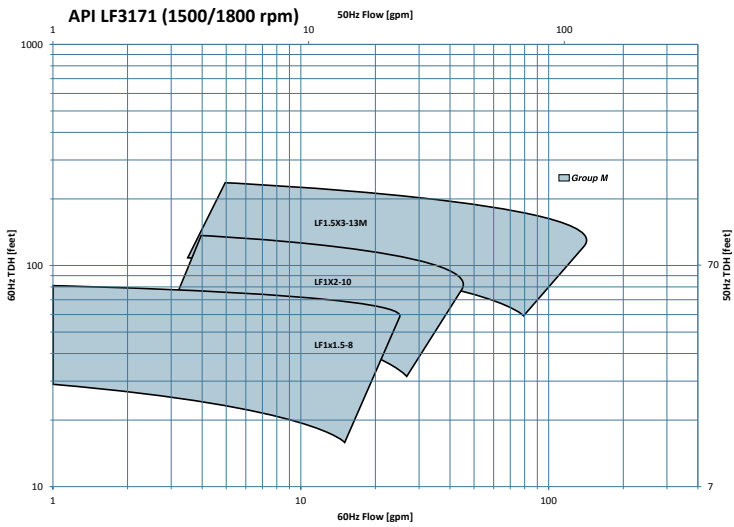
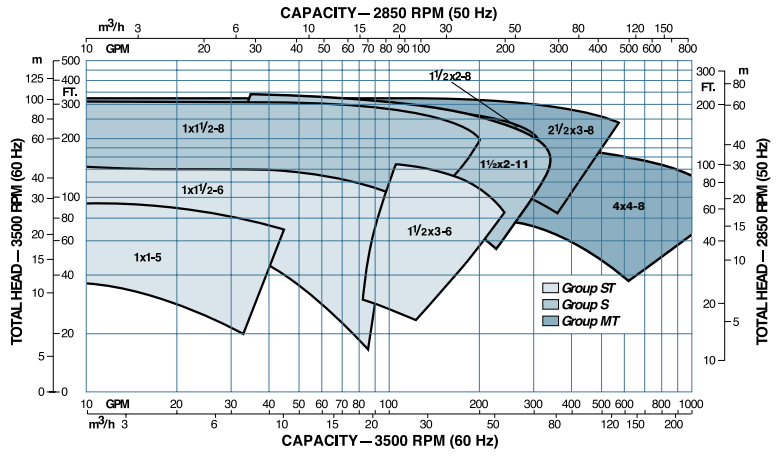
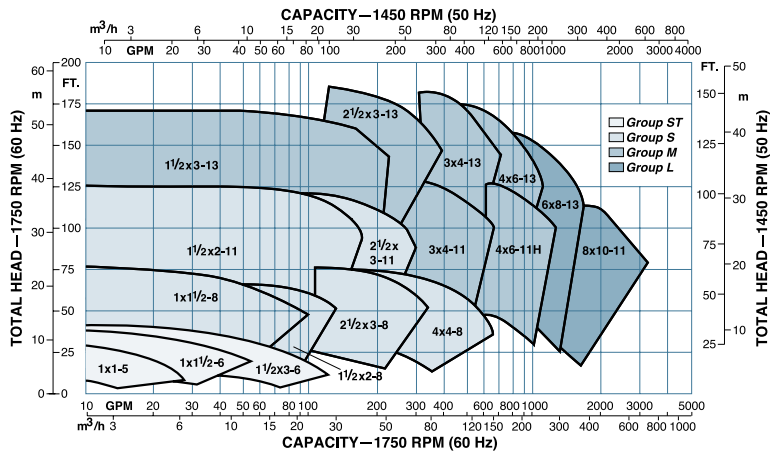


Displacer Type
Liquid Level Switch



Pipe-Mounted,
Direct Acting
Float Switch

Hydraulic Coverage



3171 family of pumps



3171



CV 3171



LF 3171



API 3171



NM 3171

Pump Type	Goulds Model	Capacity M ³ /Hr (GPM)	TDH Meters (Feet)	Temperature °C (°F)	Pit Depth Meters (Feet)
VS4	3171	722 (3180)	95 (344)	232 (450)	6 (20)
	API 3171	722 (3180)	160 (525)	232 (450)	6 (20)
	CV 3171	295 (1300)	126 (230)	232 (450)	6 (20)
	LF 3171	50 (220)	290 (950)	232 (450)	6 (20)
	NM 3171	284 (1250)	92 (300)	93 (200)	5 (16)



— An ITT Brand

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