Goulds LP3400 Series Low Pulse Fan Pumps
Standard Design Features for Reliable Low Pulse Headbox F

Goulds Fa

RENWEABLE CASING WEAR RINGS
Eliminate casing wear and permit easy maintenance of proper running clearances for maximum efficiency operation. Positively locked in place in the lower casing half to prevent rotation during pump operation.

HEAVY DUTY SHAFTS
Designed for minimum deflection in the toughest services means extended shaft seal and bearing life. Available as double ended shaft design as required, in either left-hand or right-hand rotation.

DOUBLE SUCTION IMPELLER
Minimizes axial thrust for longer bearing life. Dynamically balanced as standard to ISO 1940, G2.5 tolerances for smooth operation. Split and staggered design for low pulsation pumping. “Cotton Ball” finish to Ra 2.5 available for fine paper applications.

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. “Cotton Ball” finish to Ra 2.5 available for fine paper applications.

BALANCED DESIGN
Dual volute casing design (not used on all sizes). Ideal when pumps must periodically operate at capacities above or below design capacity or at interrupted high head. LP3400 Fan Pumps are designed for high reliability and low maintenance.

Model LP3410 pump shown.
LARGE INLET AREAS
Reduce NPSH requirements and assure smooth, quiet flow to the impeller. Matched inlet and outlet connectors available as required.

STUFFING BOX
Packing is standard on LP3400 Fan Pumps. A wide variety of mechanical seals, including cartridge and split type, are also available to suit the application.

RENEWABLE SHAFT SLEEVES
Sleeves are sealed at the impeller and sleeve nuts to prevent liquid contact with the shaft extending life and reliability. Renewable shaft sleeves are available in a variety of materials (including hardened metals and hard metal coated) to protect shaft from liquid.

RENEWABLE IMPELLER WEAR RINGS
Positively locked on impeller hubs permit easy renewal of running clearances and protect impeller hubs from wear. Standard on large and extra large capacity pump sizes. Optional on all others. "Flashed" as standard to prevent paper stock build-up.

DOUBLE ROW THRUST BEARING
Double row thrust bearing for high axial thrust capability is standard on all Goulds Fan Pumps. Locked on shaft in bearing housing positively positions rotating element and easily carries any residual axial thrust.

LABYRINTH BEARING PROTECTION
Standard on all Goulds Fan Pumps. Significantly reduces the risk for bearing contamination in harsh mill environments, and greatly improves mean time between failure.
The Most Complete Line of Fan Pumps In The Industry

Goulds LP3400 Fan Pumps

A Fan Pump for Every Service...

Small Capacity
Flow to 1817 m/hr. Ideal for dilution headbox and smaller paper machines.

High Heads
Heads to 259 m. Ideal for modern high speed tissue machines.

Large Capacity
Flows to 14,800 m/hr. Heavy duty long life service for board and large paper machines.

Extra Large Capacity
Inlet size to 2000 mm. Flow to 51,000 m/hr. Fan Pump design for the largest machines of tomorrow.
Goulds Fan Pumps in Modern Approach Systems

Low Pressure Pulsations by Design

Pressure pulsations are harmful to machine direction basis weight quality. Goulds fan pumps are designed for the rigorous tolerances of modern paper machine headboxes with tested pulsations measuring less than 1000 Pascals (0.0102 kilograms/cm²).
Low pulse pump operation is obtained through the exceptional design characteristics present in every fan pump manufactured by Goulds. Over the past 25 years we have perfected fan pump manufacturing using the following criteria for impeller manufacturing:

- Impeller casting are formed to a specific quality standard
  - equal vane passage volume
  - maintaining of vane angles, concentricity of inlet / outlet angles
  - maintaining of vane thickness
- Impeller machining has a strict tolerance quality
  - Surface symmetry and run-out is optimized
  - Balancing is dynamically performed to ISO 1940 class 2.5 tolerances
  - Surface finish is machined without blemish

In addition, our trained applications personnel select pumps with impellers trimmed to less than maximum diameter, and within a range of 75% to 105% of the pump’s best efficiency point. They also ensure suction conditions provide adequate NPSHA for the system. Why? To ensure your headbox receives the lowest possible pressure pulsations. This is the hallmark of a Goulds Fan Pump installation. Operation trouble free for a lifetime.
Goulds uses the latest foundry methods to produce fan pumps with robust materials to meet demanding services in modern paper machines.

### Materials of Construction

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Iron Pump</th>
<th>Acid Proof Stainless Steel</th>
<th>Duplex</th>
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<tr>
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<td>Cast Iron</td>
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<td>Pump Housing</td>
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<tr>
<td>Impeller</td>
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<td>Shaft</td>
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<tr>
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<tr>
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### Material Equivalents

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<td>G-X 3Cr Ni Mo N 26 63</td>
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Contract Services ✧ Turnkey Service

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PRO Services engineers and technicians are experienced with servicing all types of pumps and rotating equipment. Customers utilize PRO Services for commissioning, troubleshooting, and field repairs of pumps, pumping systems and other pieces of rotating equipment.

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- Factory Trained Service Personnel
- Fast Turnaround
- Emergency Service – 24 hours/day, 7 days/week, 365 days/year
- Quality
- ISO and Safety Certified

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