PFE300, PF2g, and PFG4
Flexible Coupled
Base Mounted Pumps
1. The heavy cast iron bearing frame features precision bore and register surfaces to assure rigid, accurate centering of the shaft and impeller.

2. Support feet are precision machined and fitted to the pump bracket to assure better coupling alignment during variations in pumping temperature.

3. Oversized bearings provide up to 6 times ABMA-B10 minimum bearing life even under extreme conditions.

4. Precision-machined carbon steel shaft allows for maximum loading with less than .002 inch deflection at sealing surfaces.

5. Elastomer gaskets seal both the shaft sleeve and impeller capscrew to prevent shaft corrosion and isolate shaft from pumped liquid.

**Performance Features of the PFE300, PF2g, and PFG4 Series**

Increased efficiency over greater portion of performance range. When selecting a Thrush base mounted pump, there is a larger portion of the pump curve in which selection can be made at or near the best efficiency point, resulting in lower horsepower requirements. For a given flow and head condition, the selected pump is likely to be a size smaller than conventional pumps. Because the Thrush pump is likely to be one flange size smaller at the suction and discharge, the water velocity increases at these points.
The Features You Demand.

6. Long-life mechanical seal is supplied with EPT elastomers, 303 stainless steel parts, carbon rotating washer, and Ni-Resist stationary seat. It is pre-assembled on a bronze shaft sleeve (cartridge seal assembly) to ensure correct mechanical seal positioning and easy servicing.

7. The slip-fitted, pinlocked bronzed shaft sleeve, extending through the seal box, prevents shaft wear and corrosion.

8. Impeller is designed to stabilize flow and reduce turbulence. It is manufactured by a vacuum-cast foundry process that provides smooth waterways and dimensional control not found in sand castings.

9. Impeller-volute matching minimizes volute losses. The matching of internal pressures and velocities improves hydraulic efficiency and allows the impeller to produce its certified design flow and head minimizing wasted horsepower.

10. Extra large bearing housing and grease reservoir allows for generous oil supply with outstanding heat dissipation.

11. Conveniently located grease zerk fittings provide positive flush-through lubrication.

12. Lips seal and slinger, located at each outboard bearing, prevent dirt, water, etc. from contaminating the lubricant, even when washed down with a hose.

13. Bracket design incorporates a diverging seal chamber that creates a vortex action to stimulate seal chamber circulation. This eliminates air and foreign particle build-up and carries off frictional heat from seal faces. An internal flush line increases recirculation in seal chamber, provides manual venting, and, if required, can be adapted to an external flush line. This design eliminates the need for strainers, filters, or cyclone separators, since the pumping action does the job.


15. Suction and discharge gauge tappings.

16. Back pull-out design allows for maintenance work without disturbing piping.

However, when compared to the internal velocities, the water velocity of the flanges is relatively low. In 2-4-8, parallel, and series part-load pumping application, the use of Thrush pumps results in minimum operating costs.

Rugged, durable construction assures long life. Overall design and construction of Thrush pumps assures a long-dependable service life. Even when used by the contractor during the construction stage, Thrush pumps will continue operating efficiently and mechanically sound when the building is ready for occupancy and use.

Certified performance. An individually certified performance test curve will be provided when proof of performance is requested. This test will be conducted in accordance with the Thrush pump performance guarantee.

Thrush’s Guarantee: Thrush Co., Inc. guarantees the performance of this pump as tested in accordance with Hydraulic Institute Standards, conforming to all test codes, tolerances, and procedures therein at our laboratory in Peru, Indiana. This guarantee covers the specified design condition and full range performance, guaranteeing it to be accurate and repeatable when tested under like conditions. Due to variations in the actual system condition, instrumentation, and test procedures, we cannot guarantee that field test results will equal the lab test.
Performance Curves are for reference only. Refer to individual submittal data sheets for proper selections.

For online selections, go to www.thrush.pump-flo.com
Special Seals for High PFE300, PF2g, and PFG4 Series Temperature Applications.

Figure 1 illustrates the bronze shaft sleeve cartridge seal assembly (pre-assembled). The pre-assembled shaft sleeve seal assures proper seal placement. It also saves time and eliminates seal damage when servicing the pump.

Standard mechanical seals on the Thrush flexible coupled, base mounted pumps are constructed with high temperature carbon Ni-Resist seat, EPT elastomer bellows and gasket, and stainless steel parts. These materials are standard and are designed for long life for pumping temperatures up to 250°F and in water with chromate concentration up to 1,250 parts per million. For open systems, an optional ceramic seat provides superior corrosion resistance and extended seal life.

The Thrush Silicon Carbide seal option is recommended for application temperatures up to 300°F and chromate concentrations to 2,000 parts per million. For even better seal life, the optional Thrush Ultiseal™ featuring a tungsten carbide seat provides the ultimate in longevity. For highly abrasive pumping applications, a hard on hard silicon carbide on silicon carbide seal option is also available.
Engineer’s Specifications

PFE300 Series, PF2g Series, and PFG4 Series

The contractor shall furnish and install as shown on prints. Thrush Model PFE300, PF2g, and PFG4 are base mounted, centrifugal pumps, flexible coupled, ball bearing, grease lubricated, and standard fitted. Pump and motor will be mounted on common steel base with open grouting area.

Pumps shall have:

**Standard**
- Bronze fitted
- Suction and discharge gauge tappings
- Single seal, carbon and Ni-Resist seal with EPT elastomer bellows with stainless steel parts
- Cartridge seal assembly with brass shaft sleeve and Ni-Resist seat
- Internal flush line
- Grease lubricated power frame
- Back pull-out design
- Cast iron bearing frame with internal foot support
- Maximum working pressure - 175 PSI
- Hydrostatic test pressure - 265 PSI
- Coupling guard (closed ends) (OSHA)

**Optional**
- Ceramic seal with EPT elastomers
- Hi-temperature Ultiseal™ - carbon with tungsten carbide seat - 300° with stainless steel parts
- Silicon Carbide seal with EPT elastomers
- Stainless steel shaft sleeve
- Electroless Nickel Plating of casing, impeller and bracket
- Drip pan
- Casing wear rings - brass
- Bracket wear rings - brass
- Stainless steel shaft

Pump(s) shall perform at:
- Ft. Hd.
- G.P.M.
- H.P.
- Voltage
- Fluid
- Temp.

### Materials of Construction

<table>
<thead>
<tr>
<th>Pump Parts</th>
<th>Standard Bronze Fitted</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing</td>
<td>Cast Iron G-3000</td>
<td>Electroless Nickel Plating</td>
</tr>
<tr>
<td>Casing Wear Rings</td>
<td>Brass C464</td>
<td></td>
</tr>
<tr>
<td>Impeller</td>
<td>Bronze C87500</td>
<td>Electroless Nickel Plating</td>
</tr>
<tr>
<td>Power Frame</td>
<td>Cast Iron G-3000</td>
<td></td>
</tr>
<tr>
<td>Power Frame Shaft</td>
<td>Steel 1045</td>
<td>Stainless Steel 316</td>
</tr>
<tr>
<td>Shaft Sleeve</td>
<td>Brass C464</td>
<td>Stainless Steel 316</td>
</tr>
<tr>
<td>Bracket</td>
<td>Cast Iron G-3000</td>
<td>Electroless Nickel Plating</td>
</tr>
<tr>
<td>Power Frame Bearing</td>
<td>Anti-Friction Ball</td>
<td></td>
</tr>
<tr>
<td>Lubrication</td>
<td>Grease</td>
<td></td>
</tr>
<tr>
<td>Seal</td>
<td>Type 21 250° Ni-Resist</td>
<td>Ceramic, Silicon Carbide</td>
</tr>
<tr>
<td>Base Plate</td>
<td>Rolled Steel Channel</td>
<td>or Ultiseal™</td>
</tr>
<tr>
<td>Coupling</td>
<td>Flange &amp; Sleeve</td>
<td>Hub &amp; Element</td>
</tr>
</tbody>
</table>

Thrush Co. Inc. has a policy of continuous product research and development and reserves the right to change design and specification without notice.