The Tobee slurry pump spare parts, namely the pump parts, have a direct connection with slurries. They are very crucial to the service life of slurry pumps. The wetted parts include impeller, liner, throatbush, frame plate liner insert, casing etc. These parts are very easily worn-out components because they work under long-time impact of abrasive and corrosive slurries in the high speed. For the long service life of pump parts, the material plays an important role here.

Tobee Products

Horizontal Pumps
The Tobee horizontal pumps provide a comprehensive range of centrifugal slurry pumps for use in mining, chemical and industrial applications.

Vertical Pumps
The Tobee Vertical pumps provide a simple yet rugged range of sump pumps specially developed for rugged cleanup and abrasive slurry applications.

Submersible Pumps
The Tobee Submersible pumps provide heavy duty all chrome wet end coupled with a submersible motor designed for the most demanding applications.

Series TH, THH, TM and TL Slurry Pumps

Metal Parts
Rubber Parts
Polyurethane Parts

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HEBEI TOBEE PUMP CO., LIMITED
ADD: Hi-tech Development Zone | Shijiazhuang City | Hebei Province | China.

INTERNATIONAL DEPT.
Email: Sales@tobee-pump.com | Skype: Tobee-pump | Mob: +86-18032034573 | Web: www.tobee-pump.com

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Tobee Series TH Pumps: Design Features

Cartridge-type Shaft and Bearing Assembly
A large diameter shaft with a short overhang minimizes deflection and vibration. Heavy-duty, grease-lubricated cylindrical and/or taper roller bearings are enclosed in a cartridge-type housing protected at both ends by a rotating labyrinth with double piston ring and patented -10 grease purged lip seal (see Figure 1 on page 6). Only four through bolts are required to hold the “cartridge” assembly in the frame.

Pump Frame
A rigid, one-piece casting cradles the “cartridge” shaft and bearing assembly. A minimal number of through bolts hold the pump casing to the frame. An easy means of external impeller adjustment is provided in a convenient position below the bearing housing.

Slip-Fit Shaft Sleeve
A reversible, 420 stainless steel shaft sleeve, through hardened to Rockwell 55C, with O-rings at both ends, completely protects the shaft.

Interchangeable Shaft Seal
Tobee pumps provide complete interchangeability of seal arrangements. Full flush, low-flow centrifugal, or mechanical seals can be fitted to any size pump.

Centrifugal Shaft Seal
Tobee’s centrifugal seal eliminates the need for a gland-water system and potential slurry contamination. More than 70% of all Tobee pumps are equipped with this seal arrangement.

Impeller
Front and rear shrouds have pump-out vanes. This design reduces recirculation and seal contamination. Hard metal and molded elastomer impellers are interchangeable. Cast-in impeller threads require no impeller insert or nuts.

EASE OF MAINTENANCE FEATURES:
- Through-Bolt Design
- Minimum Number of Casing Bolts
- Zinc Chromate and Stainless Steel Nuts and Bolts
- Slip-Fit Shaft Sleeve
- Cartridge-Type Shaft and Bearing Assembly
- Cast-In Impeller Threads
- Impeller-Release Collar on Large Models
- Liners Positively Attached

Outer Casing
Casing halves of cast or ductile iron with external reinforcing ribs contain the wear liners and provide high operating pressure capabilities.

Positively Attached Liner
Hard metal liners are interchangeable with pressure molded elastomers. The elastomer liners are bolted, not bonded, to the outer casing. Elastomer seal rings back all liner joints.
A leader in manufacturing heavy-duty slurry pumps

Tobee’s leadership in slurry pump design and performance assures you the highest possible return on your investment. Throughout the world, Tobee pumps have established records for minimal maintenance. A wide selection of sizes, with several liner and impeller materials, permits Tobee pumps to be tailored to meet your specific requirements. This means maximum pump efficiency and productivity for your particular application.

Tobee’s investment in slurry pump development is your assurance of continued efficiency, dependability and profitability.

1. 4, 5, & 6 Vane Enclosed Impellers
   - 4 Vane Enclosed Impeller – For coarser particle slurry handling
   - 5 Vane Enclosed Impeller – Standard for heavy-duty slurry applications
   - 6 Vane Enclosed Impeller – For higher efficiency slurry pumping

2. 4, 5, & 6 Vane Differential Impellers
   For effective dry shaft sealing in high suction head slurry duties

3. 4, 5, & 6 Vane Semi Open Impellers
   For larger particle clearances and wood tramp handling capabilities in slurries

Typical Applications

Abrasion, Erosion and Chemical Resistant Polymers
All wear materials are produced in Tobee’s own metal, rubber shop and foundries. Various grades of high chrome alloys, natural rubbers, synthetic elastomers, and polyurethanes have been developed to yield optimum service lives in Tobee pumps for a wide range of applications. The operating range for polymeric materials is being expanded by continuous research and development programs.

Clockwise from upper left: Tobee TH14/12 ST Pump in heavy media service at a coal preparation plant. Tobee TL550 TU Pump in absorber recycle service in a FGD scrubber system. Tobee TH20/18 TU in granular slag transportation service. Tobee 14/12G first stage with five 12/10G pumps in series for shiploading at an iron sand mine (two systems shown).
**Elastomer Lined, Gland Sealed**

All impellers and liners are available in alloy or elastomer materials.

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**VARIATIONS OF THE TOBEE CENTRIFUGAL SHAFT SEAL**

Available with standard or optional centrifugal seals.

**METAL LINED**

The expeller ring is interchangeable with a gland sealed stuffing box. The expeller and expeller rings are made of 650 BHN high chrome iron as a standard but can be provided in other materials suitable for specific applications.

**ELASTOMER LINED**

RULE OF THUMB: If the suction pressure of the pump is no greater than 10% of the discharge pressure, the application is suitable for a centrifugal shaft seal. For variations from this general rule, consult Tobee pump.

**UNIQUE TOBEE IMPELLER DESIGN**

Outward spiral of slurry in conventional pumps causes serious recirculation and consequent wear at the close impeller clearances. The pump-out vanes and concave impeller vane of a Tobee pump force the slurry to form a double inward spiral. This results in uniform wear, a greater utilization of wearing parts, an increased shaft seal life, and sustained high efficiency.
For installation, refer to certified drawings.
Series “TH” Use this coverage chart as a first guide only.

The Series “TH” slurry pumps are designed for continuous pumping of highly abrasive, high-density slurries at maximum heads.

Series “TL” Use this coverage chart as a first guide only.

The Series “TL” pumps are designed for continuous pumping of highly abrasive, medium-density slurries at medium heads.

DRIVE ARRANGEMENTS

Reverse Overhead Mounted Motor V-Belt Drive (ZV)  
Overhead Mounted Motor V-Belt Drive (CV)  
Direct Coupled Gear Reducer Drive (DC)