

HIGH TEMPERATURE SYSTEMS, INC.



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FOR IMMEDIATE RELEASE

New Poseidon Series Molten Metal Circulation Pump Brings Radical Dross Reduction

Chagrin Falls, Ohio - May 22, 2014 - High Temperature Systems, Inc., a world leader in non-ferrous molten metal circulation and transfer technology, announces the introduction of the Poseidon Series molten metal circulation pump. The Poseidon Series pump design is essential to producing the highest quality aluminum alloys for critical applications.

The Poseidon Series enclosed shaft design completely eliminates pump well turbulence and shaft induced dross generation. The Poseidon Series features a fully enclosed shaft sleeve that, when pressurized with inert gas (either nitrogen or argon), radically reduces dross generation while increasing pump component lifespan.

Unique Patent Pending Design Features

- **Structural Shaft Sleeve** – The shaft sleeve serves the dual purposes of fully enclosing the pump shaft while providing mechanical integrity between the base and the motor mount. Fully enclosing the shaft reduces dross generation by containing the shaft vortex and associated turbulence.
- **Shaft Sleeve Gas Injection** – The shaft sleeve gas injection port is used to displace the molten metal from within the shaft sleeve. This further reduces dross generation and dross buildup on the shaft and shaft sleeve.
- **Gas Escape Ports** – The location of the gas escape ports above the metal inlet ports regulates the metal depth within the shaft sleeve. This feature prevents metal level variations within the pump well from adversely affecting pump performance.
- **Top Metal Inlet Ports** – The top inlets allow metal to flow into the top of the impeller when a top or bottom-top feed impeller is used.
- **Enclosed Motor Shaft Coupling** – Unlike open frame motor mounts, the Poseidon Series has a fully enclosed motor shaft coupling mount. This not only enables pressurizing the shaft sleeve, but also provide additional safety by full containing all coupling components in a heavy steel enclosure.



Radical Dross Reduction

Users in the Poseidon Series Beta Test Program report substantial reduction in dross generation. While dross reduction levels vary with furnace size, circulation rates, and pump size; the use of the Poseidon Series pump uniformly creates radically less dross than traditional open post pumps.

Long Operating Life

In addition to reducing dross and improving metal quality, the Poseidon Series pump design has also demonstrated superior MTBF (mean time between failures) and MTTR (mean time to repair.) By enclosing the shaft in an inert gas environment, oxidation rates are significantly reduced. This significantly extends the shaft life by up to 50%. If a shaft swap is required, the QuickCoupling motor-shaft coupling reduces MTTR to minutes instead of hours.

Metal Compatibility

The Poseidon Series pumps are manufactured from materials compatible with non-ferrous molten metals including aluminum, zinc, and lead.

Price and Availability

Poseidon Series pumps have a four week lead time and start at \$12,500.00 USD.

About High Temperature Systems, Inc.

With more than 40 years of molten metal pump expertise; High Temperature Systems has become a world leader in molten metal circulation and transfer pump systems, as well as in degas and flux injection solutions. Our customers are plant engineers and managers in the world wide primary and secondary aluminum, zinc, and lead production as well as die casting industries. The value we provide them is a combination of products for their critical metal quality requirements and a rich understanding of the applications. We help them improve the quality of their alloys while reducing cost by improving furnace efficiency, reducing metal loss and dross generation. High Temperature Systems, Inc. is a privately held corporation.
