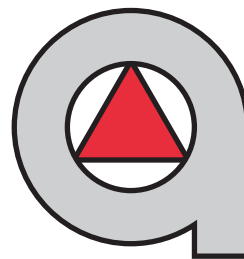
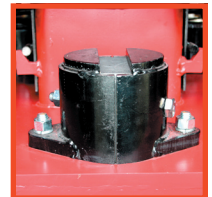
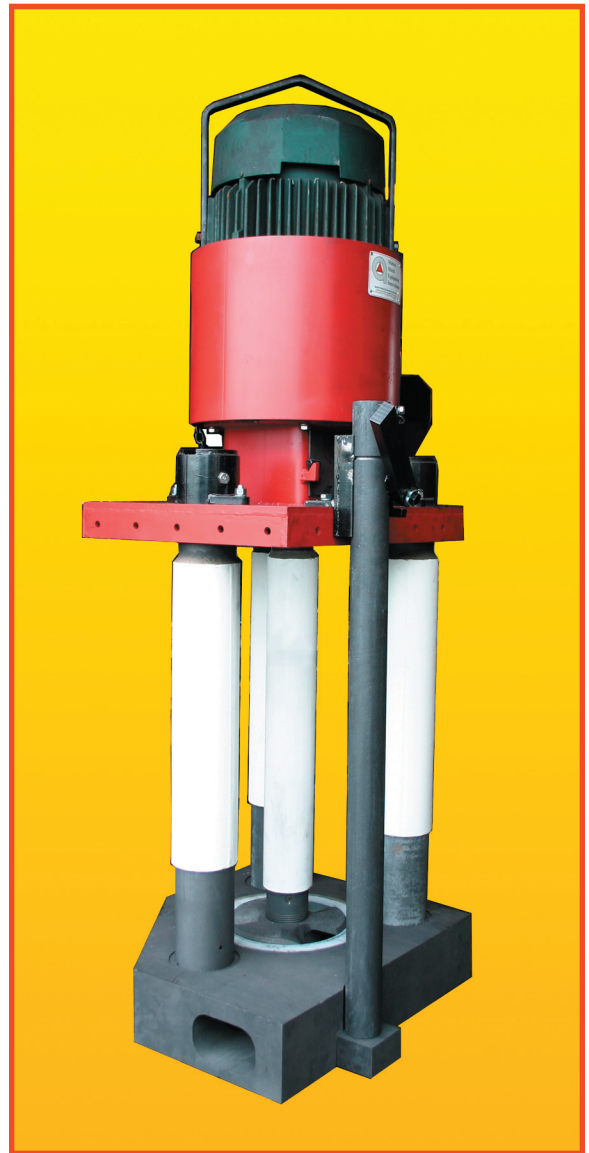




# THOR

Circulation and  
Gas Injection Pumps



**Molten  
Metal  
Equipment  
Innovations**



## Description

The new THOR Circulation and Gas Injection Pump is our most advanced pump design ever. Built around a new, super-charged rotor, the THOR offers 20% more metal flow for increased furnace circulation and productivity. THOR also uses a new gas injection method built around our proven Foot & Tube design to increase gas injection rates and mixing for superior metal treatment.

The robust 12" diameter rotor is rich in advanced features. Using advanced modeling techniques, we have improved the tried-and-tested mixed-flow rotor design and dramatically increased the efficiency of this rotor to generate 20% more metal flow. The advanced design cuts efficiently through the metal to provide a quiet, non-turbulent pump well. It still uses open passage ways to allow debris to pass through the pump rather than clog it. We have also increased the strength of this rotor to improve service life. All these advances take this new rotor to a higher level of performance.

The 4" diameter shaft is engineered to provide maximum strength and optimum service life. The THOR uses our latest coupling design to improve strength while maintaining ease of replacement. Support for the pump is built around three rugged 5" diameter posts, symmetrically placed for structural stability. The shaft and posts are protected by field proven RHINO sleeves for maximum protection from oxidation and wear.

Leading the improvements is a new, advanced Foot & Tube method for injecting gas into the molten metal. Using the flow of metal, the THOR creates an aspirator effect to actually pull the gas into the flowing metal. The resulting turbulence created is very effective at shearing and mixing the gas for superior metal treatment at lower pump speeds. Gas leakage is eliminated. Unlike angled tube designs which can be broken by passing debris, the Foot & Tube method does not obstruct the flow of metal and, therefore, cannot be broken by passing debris. The new Foot & Tube method promises to revolutionize gas injection performance.

Like all MMEI pumps, THOR is easy to assemble and is self-aligning. The THOR uses a new post clamp that makes it even easier and faster to build!

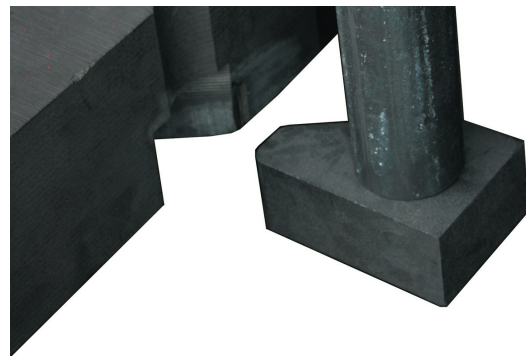
As with all MMEI pumps, THOR is backed by our unparalleled technical support for life!

Rugged design, higher metal flow, and more efficient gas injection make the THOR the right answer for circulating molten metal and demagging metal. With THOR, you'll see why we say "Go with the Flow!" For more information, please contact us!

## Product HighLights

- ◆ **Our newest molten metal pump featuring latest advances!**
- ◆ **Large 12" advanced rotor generates 20% more flow.**
  - **New, more efficient rotor design moves more metal per revolution**
  - **Generate more flow while operating at lower RPM's**
  - **Less turbulence in pump well**
  - **Reduce breakage and increase service life**
- ◆ **Maximize production rates with higher flow rates**
  - **Higher melt rates, lower energy consumption**
  - **Lower melt losses, less dross**
  - **Increased circulation of furnace**
- ◆ **Large, robust parts (4" diameter shaft and 5" diameter posts) are protected with RHINO Sleeves for longer service life!**
- ◆ **New, advanced method for injecting gas. Flow of metal pulls gas into metal while shearing gas into small bubbles, improving the demagging performance.**
- ◆ **Improved post clamps make it easier than ever to assemble - assembles in less than 30 minutes!**
- ◆ **Self-aligning design eliminates need for an alignment fixture - simplifies assembly and repair.**
- ◆ **New stronger shaft and rotor connection.**

## Advanced Gas Injection Method



*The THOR features an advanced Foot & Tube gas injection method. The gas is injected into the bottom of the outlet of the base ensuring maximum shearing. The flow of metal actually draws the gas into the flow, reducing leakage and improving mixing for faster metal treatment*



## Features and Benefits

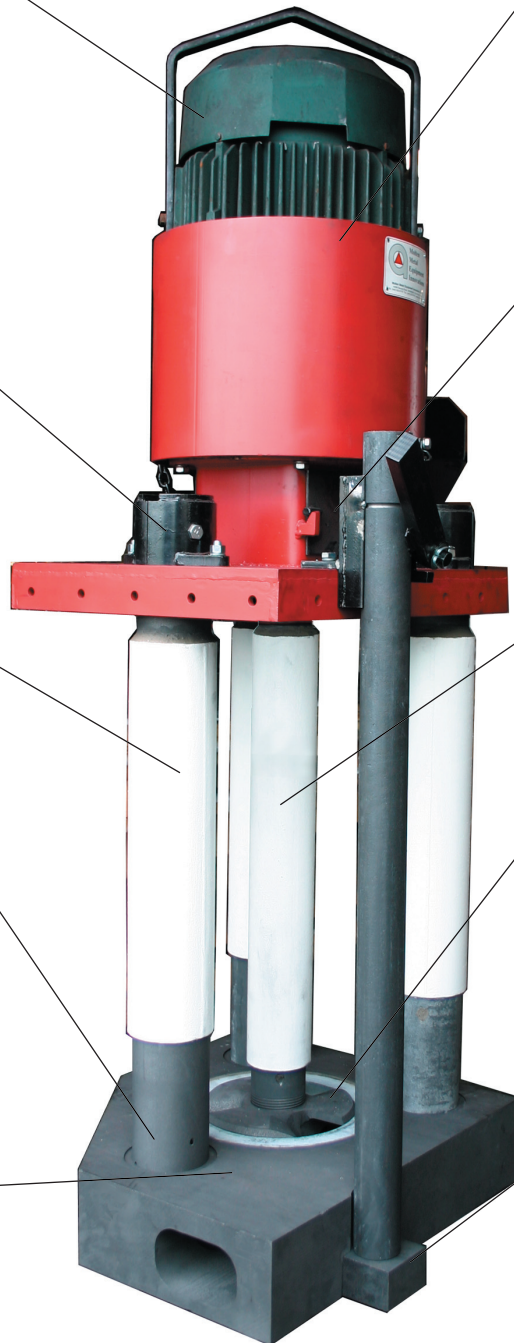
Available with a high-torque 10 HP, 600 RPM electric motor for reduced energy consumption. Premium, energy efficient, extra tuff, severe duty motor. Built to provide long service life even in harsh environments.

Posts attach at motor mount with a new, improved clamp - no cementing required. New design and tighter tolerances make the pump self-aligning and easier to assemble.

Posts are 5" in diameter for greater strength and stability. Each post is protected by a RHINO sleeve for increased protection and service life.

Posts cemented into self-aligning through-holes in base provide a secure fit with easier assembly and replacement.

Non-volute pumping chamber provides superior flow rates while eliminating internal pinch points which can prematurely damage a rotor.



External blower supplies cooling air through shroud to cool motor from exterior. Prevents dirt from getting into motor while eliminating need for filtered air.

New shaft coupling (not seen) allows faster, easier replacement of the shaft while providing accurate, secure spinning of the shaft.

Shaft is 4" in diameter for superior strength and life. It is protected with our RHINO sleeve for maximum protection from oxidation and wear.

A large 12" diameter, high efficiency rotor generates high metal flow! Mixed-flow design provides more flow per revolution. 20% higher flow rates than King Kong.

New gas injection method uses the flow of metal to pull the gas into the metal ensuring better shearing and more efficient demagging. An easily installed foot and tube is used to deliver the gas into the metal.



## Flow Chart

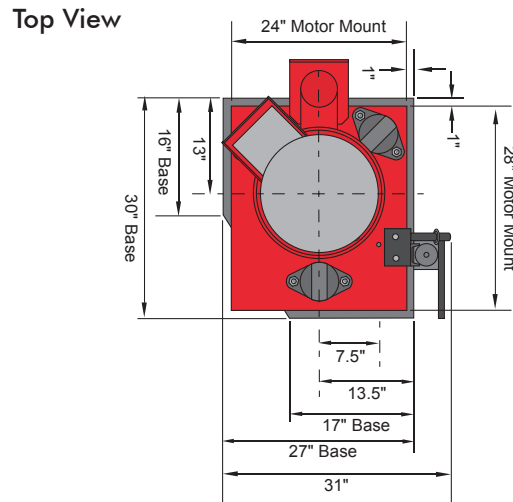
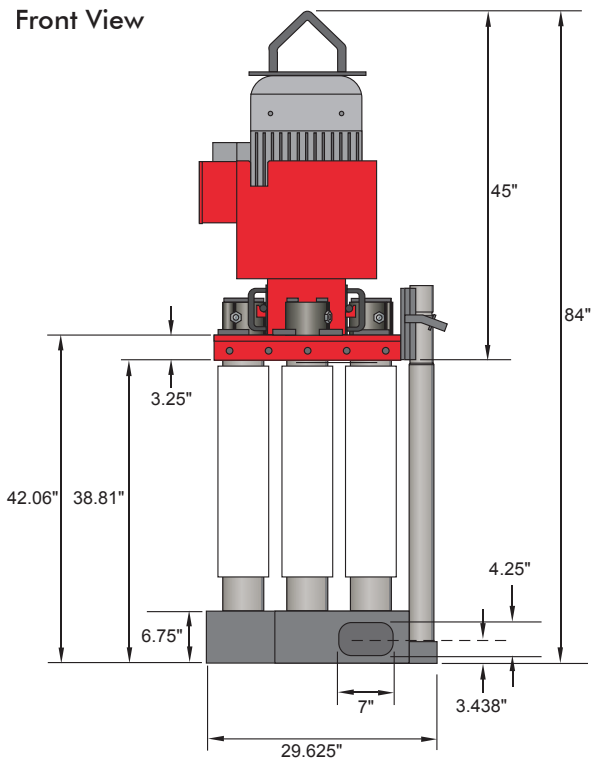


## 12" Diameter Mixed-Flow Rotor

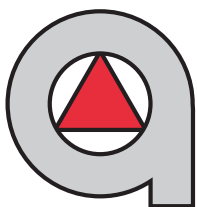


Using advanced design methods, the new THOR rotor is more efficient to provide 20% more flow. Measuring 12" in diameter, the THOR rotor features 3 blades based on our mixed-flow design. Unlike single-flow rotors which push the metal only radially, the mixed-flow design pushes the metal both axially and radially. The leading edge on each wing of the rotor pushes the metal axially into the rotor while the vertical edges push the metal outward radially. The result is more metal flow per revolution of the rotor. The open passageways allow debris to pass through the rotor rather than clogging it.

## Dimensions



## Contact Us for More Information:



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