

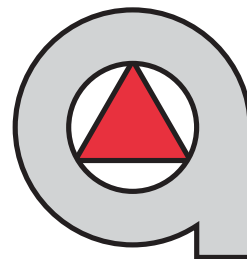
# MOLTAQ



## Circulation and Gas Injection Pumps



**Go with the Flow!**



**Molten  
Metal  
Equipment  
Innovations**



## Description

Step aside KING KONG, there's a new king in the molten metal pump world! Introducing MOLTAR, the new circulation and gas injection pump from MMEI. MOLTAR features a mammoth 16" diameter rotor for generating tidal waves of metal flow and a multitude of improvements for increasing performance and service life.

The 16" diameter rotor is the heart of the MOLTAR. This huge rotor dwarfs all other rotors in the market in terms of metal flow generated as well as strength and longevity. It features a dual-flow design engineered to provide more flow per revolution and large pathways to allow debris and metal to flow through easily. With over two times the flow of any other rotor, it sets a new standard for metal flow.

The shaft on the MOLTAR is 5" diameter for increased strength and service life. We have also developed a new coupling design to improve strength while maintaining ease of replacement. Support for the pump is built around three rugged 6" diameter posts. Both the shaft and posts are protected by RHINO sleeves for improved protection from oxidation and wear.

The MOLTAR also features a new, advanced method for injecting gas into the molten metal. The MOLTAR uses the flow of metal to pull the gas into the metal. This allows the gas to be injected with minimum pressure, reducing leakage and ensuring more gas is injected into the metal. The gas is injected through a 4" diameter tube made from a premium graphite which is inserted vertically for easy replacement. The result is a dramatic increase in demagging performance and service life.

Like all MMEI pumps, the MOLTAR is easy to assemble and self-aligning. In fact, the MOLTAR features a new post clamp that makes it even easier and faster to build!

Although the MOLTAR is more powerful than any pump on the market, it's footprint is about the size of the KING KONG. Like the KONG, we recommend a pump well of 48" x 48". Other size pump wells can be accommodated; contact us for more information. In addition, the MOLTAR is available in different lengths to fit your application.

As with all MMEI pumps, the MOLTAR is backed by our outstanding technical support for as long as you operate the MOLTAR!

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

## Product HighLIghts

- ◆ **The world's largest molten metal pump!**
- ◆ **Huge 16" Rotor generates highest flow rate in the industry.**
  - Achieve same flow rate or more with lower RPM's
  - Less turbulence in pump well
  - Less breakage, longer service life
- ◆ **Maximize production rates with higher flow rates**
  - Higher melt rates, lower energy consumption
  - Lower melt losses, less dross
  - Increased circulation of furnace
- ◆ **New post clamps make it easier than ever to assemble - assembles in less than one hour!**
- ◆ **Self-aligning design eliminates need for an alignment fixture required - simplifies assembly and repair.**
- ◆ **Larger, more robust parts (5" diameter shaft and 6" diameter posts) improve reliability for less downtime and more uptime!**
- ◆ **Shaft and posts are protected with RHINO Sleeves for longer service life.**
- ◆ **Thru-drilled post holes for fast, easy replacement of posts.**
- ◆ **Open top inlet, no baffle plates to clean out.**
- ◆ **New, advanced method for injecting gas. Flow of metal pulls gas into metal while shearing gas into small bubbles, improving the demagging performance.**

## Comparison of Rotors



The above picture shows the dramatic increase in size of the MOLTAR rotor compared with the KING KONG Rotor, previously the largest rotor on the market. At 16" in diameter, the MOLTAR rotor features a our dual-flow design for superior metal flow.



## Features and Benefits

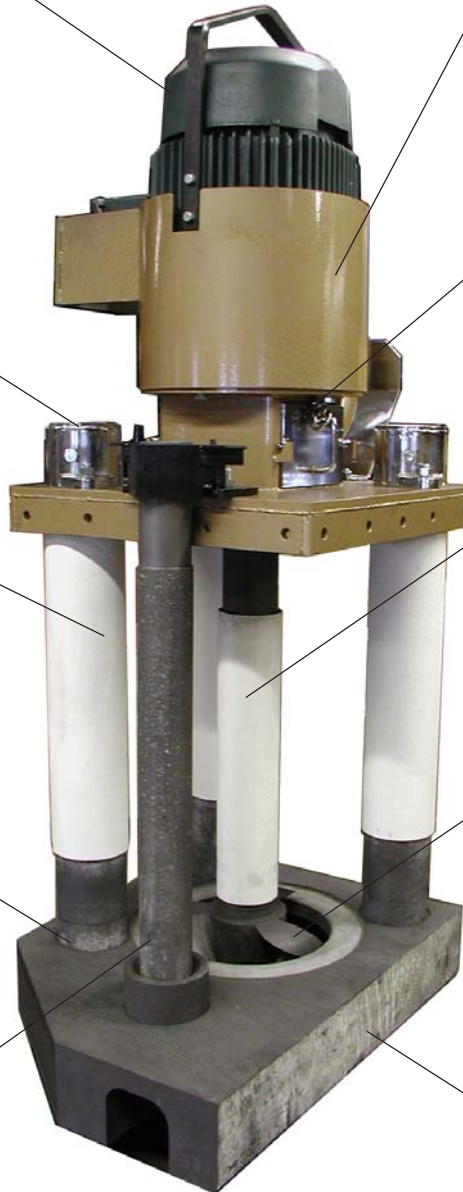
Driven by a powerful 25 HP, 900 RPM electric motor. Premium, energy efficient, extra tuff, severe duty motor. Engineered to provide long service life even in harsh environments.

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

Posts cemented into through-holes in base for secure fit with easier assembly and replacement.

New gas injection method uses the flow of metal to pull the gas into the metal ensuring better shearing and more efficient demagging. Uses a large 4" diameter injection tube for greater strength and longer service life.



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.

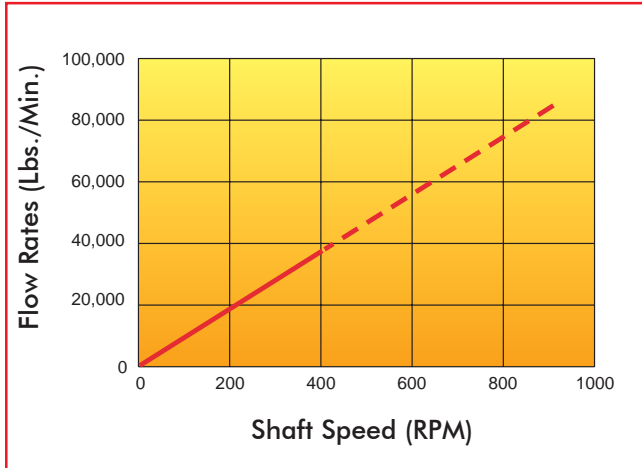
Shaft is 5" in diameter for superior strength and life. It is protected with our RHINO sleeve for maximum protection from oxidation and wear.

A **huge** 16" diameter rotor generates tidal waves of metal flow! Dual flow design provides more flow per revolution. Large pathways allow metal and debris to flow through easily.

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



## Flow Chart



## 16" Diameter Dual-Flow Rotor



The MOLTAR Rotor generates the highest metal flow rates in the industry due to its large size and its advanced dual-flow design. Unlike single-flow rotors which push the metal only radially, the dual-flow design pushes the metal 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 MOLTAR rotor can be used to achieve metal flow rates never imagined at low RPM's to achieve longer service life.

## Additional Advancements

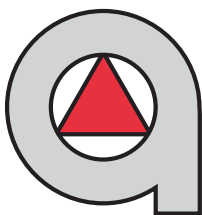


New post clamps are designed with a new flat on top to make it easier to assemble the MOLTAR. As the motor mount is lowered onto the posts, the flats allow the motor mount to rest on the posts as the clamp assemblies are tightened. Tighter tolerances ensure self-alignment of the entire pump.



New injection tube clamp allows easy replacement of the injection tube. The 4" diameter tube is held securely in place with simple but secure locking device. Tube inserts vertically for easy installation - allows easier replacement in the molten metal without removing the pump. And because the tube is on the front of the pump, it helps reduce breakage from buildup between the tube and the shaft or posts.

## Who to Contact for More Information



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