

# **SERIES M MIXER MASTS**

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**VENDOR DATA**

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## **MATERIAL DATA SHEET**

### Mixer Mast Assemblies

1. 2-in., 3-in., or 4-in. mast material shall be either Type 304 or Type 316 stainless steel.
2. All wall, floor and extension brackets, if required, shall be either Type 304 or Type 316 stainless steel.
3. All polymer bushings shall be Kynar®.
4. All fastening hardware shall be Type 304 or Type 316 stainless steel.
5. All wedge anchor bolts shall be Type 316 stainless steel.
6. All hoist socket liners shall be PVC.

Kynar® is a Registered Trademark of Elf Atochem North America, Inc.

## **Series M - 4-in. Mixer Mast Assembly**

### **STANDARD FEATURES:**

- All welded stainless steel construction
- Lined hoist socket for easy rotation
- Positioner plate with pin
- Pivoting base bracket
- Custom fit for each installation
- Static cable assembly
- Wedge anchor bolts

### **SPECIFICATION:**

The Halliday Products mixer mast assemblies shall be manufactured in Type 304 or Type 316 stainless steel and shall be sized at the factory to fit the tank depth. The mast shall be a 4-inch square tube with a 1/8-in. wall thickness and shall accommodate the mixer sliding bracket. The mast shall be supplied with factory welded rotation sockets at the top, bottom and intermediate levels and shall work in conjunction with wall mounted brackets that secure the unit to the tank wall with 5/8" x 6" stainless steel wedge anchor bolts. Each socket shall be lined with a Kynar® insert to insure easy mast rotation and shall be spaced at a minimum of 10-ft. intervals. The mast assembly shall be supplied with a positioner plate to facilitate mixer directioning. The positioner plate shall have a minimum of 14 settings with a total of 167 degrees of rotation. The mast assembly shall include a lined hoist socket, static cable assembly, and a pivoting base bracket designed to allow for slope in the tank floor. If required, a wall bracket extension shall be supplied by the mast manufacturer and shall be custom fit to insure a straight and true installation.

## **Series M - 3-in. Mixer Mast Assembly**

### **STANDARD FEATURES:**

- All welded stainless steel construction
- Lined hoist socket for easy rotation
- Positioner plate with pin
- Pivoting base bracket
- Custom fit for each installation
- Static cable assembly
- Wedge anchor bolts

### **SPECIFICATION:**

The Halliday Products mixer mast assemblies shall be manufactured in Type 304 or Type 316 stainless steel and shall be sized at the factory to fit the tank depth. The mast shall be a 3-inch square tube with a 1/8-in. wall thickness and shall accommodate the mixer sliding bracket. The mast shall be supplied with factory welded rotation sockets at the top, bottom and intermediate levels and shall work in conjunction with wall mounted brackets that secure the unit to the tank wall with 5/8" x 6" stainless steel wedge anchor bolts. Each socket shall be lined with a Kynar® insert to insure easy mast rotation and shall be spaced at a minimum of 10-ft. intervals. The mast assembly shall be supplied with a positioner plate to facilitate mixer directioning. The positioner plate shall have a minimum of 14 settings with a total of 167 degrees of rotation. The mast assembly shall include a lined hoist socket, static cable assembly, and a pivoting base bracket designed to allow for slope in the tank floor. If required, a wall bracket extension shall be supplied by the mast manufacturer and shall be custom fit to insure a straight and true installation.

## **Series M - 2-in. Mixer Mast Assembly**

### **STANDARD FEATURES:**

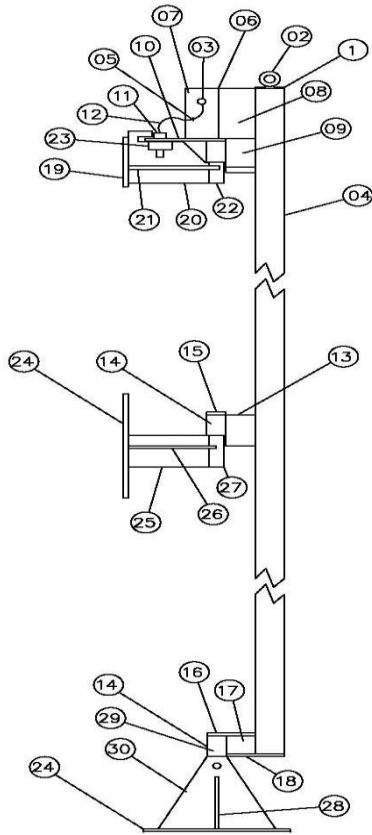
- All welded stainless steel construction
- Lined hoist socket for easy rotation
- Positioner plate with pin
- Pivoting base bracket
- Custom fit for each installation
- Static cable assembly
- Wedge anchor bolts

### **SPECIFICATION:**

The Halliday Products mixer mast assemblies shall be manufactured in Type 304 or Type 316 stainless steel and shall be sized at the factory to fit the tank depth. The mast shall be a 2-inch square tube with a 1/8-in. wall thickness and shall accommodate the mixer sliding bracket. The mast shall be supplied with factory welded rotation sockets at the top, bottom and intermediate levels and shall work in conjunction with wall mounted brackets that secure the unit to the tank wall with 5/8" x 6" stainless steel wedge anchor bolts. Each socket shall be lined with a Kynar® insert to insure easy mast rotation and shall be spaced at a minimum of 10-ft. intervals. The mast assembly shall be supplied with a positioner plate to facilitate mixer directioning. The positioner plate shall have a minimum of 10 settings with a total of 162 degrees of rotation. The mast assembly shall include a lined hoist socket, static cable assembly, and a pivoting base bracket designed to allow for slope in the tank floor. If required, a wall bracket extension shall be supplied by the mast manufacturer and shall be custom fit to insure a straight and true installation.



**SERIES M**



**STANDARD COMPONENT PARTS**

- ① MAST TOP CAP
- ② MAST LIFTING EYE BOLT
- ③ QUICK RELEASE PIN
- ④ MAST
- ⑤ CABLE RETAINER LOOP
- ⑥ HOIST SOCKET
- ⑦ HOIST SOCKET LINER
- ⑧ SOCKET UPPER CONNECTING PLATE
- ⑨ SOCKET LOWER CONNECTING PLATE
- ⑩ PIVOT POSITIONING PLATE
- ⑪ POSITIONING BOLT
- ⑫ PIVOT PIN CABLE
- ⑬ PIVOT CONNECTION PLATE
- ⑭ PIVOT SOCKET
- ⑮ PIVOT SOCKET CAP
- ⑯ BOTTOM PIVOT SOCKET CAP
- ⑰ BOTTOM PIVOT CONNECTION PLATE
- ⑱ BOTTOM PIVOT SOCKET BRACE
- ⑲ UPPER MOUNTING PLATE
- ⑳ UPPER BRACKET RIB
- ㉑ UPPER GUSSET
- ㉒ UPPER PIVOT PIN
- ㉓ LOCKING PLATE
- ㉔ MOUNTING PLATE
- ㉕ INTERMEDIATE RIB
- ㉖ INTERMEDIATE GUSSET
- ㉗ INTERMEDIATE PIVOT PIN
- ㉘ PIVOT FLOOR BASE GUSSET
- ㉙ FLOOR BASE PIVOT PIN
- ㉚ FLOOR BASE RIB

## **STORAGE:**

Prior to installation, mixer mast assemblies should be stored in a dry area on the original shipping pallets. Loose brackets, anchor bolts and cable assemblies should be inventoried and remain in their original shipping container.

## **HANDLING:**

Standard practice precautions should be taken whenever handling or moving palletized mixer mast assemblies.

## **INSTALLATION:**

Although it is not difficult to install Series M mixer mast assemblies, it is highly recommended that all installing personnel be experienced in the use of drill motors, concrete anchors and hand tools commonly used when performing installation work. When installing mixer mast assemblies, it is very important to employ all necessary safety measures commonly used when installing similar equipment. Recommended safety measures for all installation personnel include but are not limited to the use of hardhats, safety glasses, and safety belts or harnesses with the lanyards secured to an adjacent structure capable of supporting 500 pounds. Prior to the installation, safety lanyards and harnesses should be inspected to insure that they are in good working order. Frayed lanyards or harnesses must be replaced before proceeding.

Along with the above referenced safety equipment, the following tools will be required to safely and efficiently install Series M mixer mast assemblies.

1/2" Hammer Drill  
Extension Cords  
5/8" Masonry Drill Bit  
Ratchet set with 3/4", 5/8" and 7/16" sockets  
Tape Measure  
Hammer  
Level  
Rope



After installation personnel have been outfitted with safety harnesses or belts and the lanyards have been secured, the area must be cleared of unnecessary personnel not involved in the installation. Safety glasses must be worn at all times by all installation personnel.

1. Select the location where the mast is to be located. Place the pivoting base bracket on the tank floor near the area where the mast will be mounted. The base bracket is designed to pivot in the direction of a sloped tank floor. Rotate the base bracket so that the 1" diameter pin can pivot perpendicular to the tank wall. Do not drill mounting holes at this time.
2. Secure a rope to the eye ring located at the top of the assembly. Carefully lower the mast assembly into the tank placing the lower mast socket onto the pivoting base bracket pin. Inspect the pin/socket connection to insure the pin is completely inserted into the socket. Do not drill mounting holes at this time.
3. With the mast assembly completely seated onto the pivoting base bracket pin, insert the upper mounting bracket pin onto the upper mast socket from either side of the mast assembly. The upper mast socket is located beneath the positioner plate, with the pin fully inserted into the upper socket; rotate the upper bracket toward the mounting surface. When properly inserted, the positioner plate should be located in the recess of the upper bracket and the mounting plate with (4) holes should be against the mounting surface. Move the mast assembly with the upper bracket and base bracket inserted to the desired mounting location. Place a level on the mast and plumb the unit in both directions. **IMPORTANT:** The mast and mounting brackets must be plumbed in both directions to insure proper mast rotation. Grouting or shims may be necessary.
4. Once the location has been determined and the assembly has been plumbed in both directions with the pins fully inserted into both the upper mast socket and the base mast socket, line-drill the four holes in the upper bracket. Insert the supplied 5/8" X 6" wedge

anchor bolts through the bracket hole and into the mounting surface. Do not tighten the anchor bolts as slight movement of the bracket may be necessary. Line drill the four holes in the base bracket and insert the supplied anchor bolts. All anchor bolts in the base bracket and the upper bracket must be tightened at this time.

5. If an intermediate mast socket is present, an intermediate wall bracket must be mounted to the tank wall. Begin by inserting the 1" diameter bracket pin completely into the intermediate mast socket located on the mast tube. With the wall bracket mounting plate positioned against the wall, line-drill the four holes provided in the mounting plate. Install and tighten the anchor bolts.

**IMPORTANT:** The intermediate bracket must be installed with the 1" diameter pin plumb in both directions. Shims or grouting may be necessary.

6. *If* the desired installation location is in a tank with an overhang, such as a "T" wall or "Y" wall, an extension bracket will be required and should be supplied with the mast package. First, attach the intermediate wall bracket to the extension bracket using the supplied (4) 5/8" X 2" hex head bolts with nuts & lock washers. Be sure to tighten the attaching hardware. The intermediate bracket/extension bracket assembly can now be installed by inserting the 1" diameter intermediate bracket pin into the intermediate mast socket. With the pin inserted completely into the intermediate mast socket, line-drill the four mounting holes in the intermediate wall bracket mounting plate. Install and tighten the attaching hardware. **IMPORTANT:** The intermediate bracket assembly must be plumb in both directions. Shims or grouting may be necessary.

Please call 800-298-1027 with any installation questions.

## **MAINTENANCE:**

Because Halliday Products mixer mast assemblies are of all stainless steel construction, they require very little maintenance. For optimum product life the manufacturer recommends the following be performed annually:

1. Inspect static cable assembly.
2. Inspect lifting cable assembly.
3. Inspect and tighten any loose anchor bolts.
4. Remove any debris from hoist socket.
5. Inspect and tighten anti-lift clip attaching bolt.



## LIMITED WARRANTY

Halliday Products, Inc., a Florida Corporation (“Company”) warrants to the original customer the stainless steel mixer mast assembly will be free from defective material or faulty workmanship for a period of three (3) years from date of purchase by Customer. In the event of malfunction or other indication of failure attributable directly to defective material or faulty workmanship, Company will, upon receipt of a written notification from customer of such defective material or faulty workmanship at its option and expense, repair or replace the defective mast assembly, or a component thereof, to whatever extent Company shall deem necessary to restore the mast assembly, or a component thereof, to proper operating condition. Company may replace the defective mast assembly, or a component thereof, with either a new or remanufactured, functionally equivalent mast assembly or component thereof at the Company’s option. **THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER OR NOT STATUTORY, OR EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE EXCLUSIVE REMEDY FOR DEFECTIVE MAST ASSEMBLY SHALL BE ONLY IN CONTRACT, WHETHER OR NOT CAUSED BY A DEFECTIVE MAST ASSEMBLY, OR NEGLIGENCE. COMPANY’S LIABILITY FOR LOSS OR DAMAGES SHALL NOT EXCEED THE PRICE PAID BY CUSTOMER FOR THE MAST ASSEMBLY, REGARDLESS OF THE FORM OF ANY CLAIM. IN NO EVENT SHALL COMPANY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, OR PUNITIVE DAMAGES WHATSOEVER RESULTING FROM A DEFECTIVE MAST ASSEMBLY OR COMPONENT THEREOF. IF MODIFICATION OR ALTERATION IS MADE TO THE MAST ASSEMBLY OR COMPONENT THEREOF BY OTHER THAN COMPANY AUTHORIZED PERSONS, OR IF IT IS INSTALLED IMPROPERLY, OR MISUSED, ABUSED AND/OR NEGLECTED, THIS LIMITED WARRANTY IS NULL AND VOID AND OF NO EFFECT. THIS LIMITED WARRANTY DOES NOT APPLY AND THE COMPANY WILL HAVE NO RESPONSIBILITY HEREUNDER FOR NORMAL WEAR AND TEAR.**

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