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SIDE ENTERING MIXERS

Side entering mixers are well suited for blending, storage and off-bottom solid suspension applications. They are commonly used in industries such as asphalt, petroleum, crude oil, gasoline, chemical, edible oil and paper mills. Because of their low initial cost and easy installation, side entering mixers are often preferred for larger tanks where mixing is easily accomplished or for large storage tank applications.

PROVEN PERFORMANCE

Performance has been our doctrine for five decades because we understand that our users’ profits are adversely affected when mixer problems lead to substandard products or production downtime.

Consequently, we build every MixMor mixer to the highest design and manufacturing standards, which enable us to guarantee its performance when used in accordance with our recommendations. Here are some of the reasons behind our confidence in our mixers.
Process Performance
We provide the optimum energy efficient mixer for each application while, at the same time, providing the degree of agitation necessary for the required process results. We do not oversize the mixer to protect our process warranty. In today's energy-conscious world, our recommended mixers conserve energy while minimizing your operating cost. Our representatives will provide engineering assistance to define the application requirements and accurately outline the process.

Performance in Design
All designs are based on conservative engineering standards, simplicity, and ease of maintenance. Modified or special mixers are designed and manufactured to the same standards.

Manufacturing Performance
We manufacture all MixMor mixer components at our own plant rather than trust them to outside job shops. All work is performed under strict quality control procedures and every mixer is test-run before final approval for shipment.

After-the-Sale Performance
Comprehensive service instructions and spare parts lists are furnished with every mixer. All commercially available parts, such as, standard NEMA frame motors, bearings, belts, and sheaves can be replaced from our stock or purchased from your local power transmission parts house. When requested, MixMor representatives will provide start-up assistance.

These are just a few of the reasons why MixMor mixers stay on the job when the going gets tough...and why satisfied users consistently come back to MixMor for their mixer requirements. They know they can count on MixMor for dependable performance.
MODEL HV
Belt Driven - 1 to 60 HP

1. Self-locking Nut
2. Impeller
3. Shaft
4. Seal-off Collar
5. Tie Rod & Turnbuckle
6. Belt Adjustment Screw
7. Motor
8. Drive Sheave
9. Guard
10. ANSI Mounting Flange
11. Shaft Bearing
12. Welding Housing
13. Shaft Bearing
14. Pedestal Base (optional)
15. Shaft Bearing
16. Driven Sheave
17. "V" Belts
RUGGED & VERSATILE

The MixMor Model HV is an all-welded construction, “V” belt driven mixer which simplifies maintenance. It is extensively used in asphalt, chemical, food and other processing industries. Its heavy-duty construction assures long life with minimum maintenance. Standard output speeds are 280 and 420 rpm; however, other speeds are available as required by the application.

Standard Components
Contributing to the success of the Model HV is the fact that many of its components, such as motors, “V” belts, bearings, and sheaves are commercially available and can be purchased locally.

Built-in Reliability
All components are selected for maximum reliability and durability. Motors are NEMA standard 1800 and 1200 rpm foot mounted manufactured by well-known companies and furnished in all enclosures. Bearings are heavy-duty, deep-grove ball bearings which provide high radial and thrust load capacity. Every Model HV is run during final inspection before shipment.

Impellers
Mixing applications have different process requirements and that is why MixMor uses a variety of impeller types. PloTmor FM3 and FM3W high-efficiency foil impellers, Square Pitch PS3, and Hi-Pitch PH3 propellers are utilized to suit the process.

Safety
The Model HV runs quietly, meeting or exceeding noise level standards. Belts and sheaves are enclosed in guards designed to comply with safety standards.

Seals
Mixers can be furnished with single or double mechanical seals or conventional packed stuffing boxes with quenching, flushing or water jacket options. Optional designs facilitate seal maintenance with a full tank.

Highly Adaptable
Wetted parts can be furnished in special alloys as required. Mixer is furnished with tie rods and turnbuckles for mounting; however, pedestals of special supports including special mounts including types suitable for fiberglass tanks are available.
1. Self-locking Nut
2. Impeller
3. Tie Rod & Turnbuckle
4. Flexible Coupling
5. Guard
6. Motor
7. Motor Cover
8. Seal-off Collar
9. ANSI Mounting Flange
10. Welding Housing
11. Shaft Seal
12. Pedestal Base (optional)
13. Shaft Bearing
14. Gear Reducer
The MixMor Model HG is a dependable, rugged, gear driven side entering mixer which will provide years of continuous trouble-free service while efficiently handling a wide range of applications. Standard output speeds are 280 to 420 rpm; however, other speeds are available as required by the application.

**Motors**

All motors are NEMA standard 1800 and 1200 rpm manufactured by well known companies and furnished in all enclosures to suit the environment.

**Frame**

The frame is an all-welded fabricated steel assembly guaranteeing accurate alignment of all components. The gear reducer and shaft bearing have rabbet fits to ensure ease of maintenance and concentric running shafts through the seal area.

**Gear Reducer**

All reducers are heavy-duty spiral bevel. They are designed and manufactured specifically for high loads, which are found in mixer service. Housings are cast iron and the shafts run on oversize, heavy-duty bearings. Lubrication oil in the housing reservoir is automatically directed by splash to bearings and gears. The reducer is manufactured toAGMA standards and is conservatively applied to assure extended gear and bearing life.

**Seals**

Mixers can be furnished with single or double mechanical seals or conventional packed stuffing boxes with quenching, flushing or water jacket options. Optional designs facilitate seal maintenance with a full tank.

**Impellers**

Mixing applications have different process requirements and that is why MixMor uses a variety of impeller types. FloMor FM3 and FM3W high-efficiency foil impellers, Square Pitch PS3 and Hi-Pitch PH3 propellers are utilized to suit the process.

**Flexibility**

The Model HG, as all MixMor Mixers, can be furnished with a large variety of options and special modifications to meet any process, mechanical or environmental condition. Shafts and impellers are available in any machinable alloy.

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**280 RPM OUTPUT**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>H.P.</th>
<th>SHAFT DIA.</th>
<th>PROP. DIA.</th>
<th>FLANGE SIZE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>WT. LBS.</th>
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<tbody>
<tr>
<td>HG-1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>8-150#</td>
<td>24</td>
<td>8.5</td>
<td>23</td>
<td>27.5</td>
<td>6</td>
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<td>508</td>
</tr>
<tr>
<td>HG-1.5</td>
<td>1.5</td>
<td>2</td>
<td>1</td>
<td>8-150#</td>
<td>24</td>
<td>8.5</td>
<td>23</td>
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<td>1</td>
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<td>12-150#</td>
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<td>11</td>
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<td>16</td>
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<td>28</td>
<td>56</td>
<td>9</td>
<td>17.5</td>
<td>18</td>
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</tr>
</tbody>
</table>

Dimensions, Inches. Dimensions are approximate.
Certified dimensional prints furnished upon request. Weights are less motor.
Model HFG
Efficient & Compact

The MixMor Model HFG occupies a minimum of space utilizing a single reduction helical reducer. The reducer is grease lubricated for life with output speeds of 280, 350 & 420 rpm. Motors are NEMA "C" face available in all enclosures. The Model HFG offers the same impellers, seals and high quality as our other models.

1 Gear Reducer
2 Tie Rod & Turnbuckle
3 ANSI Mounting Flange
4 Seal-off Collar
5 Self-locking Nut
6 Motor
7 Pedestal Base (optional)
8 Flange Coupling
9 Shaft Seal
10 Shaft
11 Impeller

<table>
<thead>
<tr>
<th>MODEL</th>
<th>H.P.</th>
<th>SHAFT DIAMETER</th>
<th>IMPPELLER DIAMETER</th>
<th>FLANGE SIZE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>WT.,lbs</th>
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</thead>
<tbody>
<tr>
<td>HFG-1</td>
<td>1</td>
<td>11/2</td>
<td></td>
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<td>150</td>
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<td>HFG-1.5</td>
<td>1.5</td>
<td>11/2</td>
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<td>8-150#</td>
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<td>23</td>
<td>30</td>
<td>155</td>
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<tr>
<td>HFG-2</td>
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<td>11/2</td>
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<td>8-150#</td>
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<td>24</td>
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<td>163</td>
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<td>HFG-3</td>
<td>3</td>
<td>11/2</td>
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<td>8-150#</td>
<td>22</td>
<td>24 1/2</td>
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<td>HFG-5</td>
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<td>22</td>
<td>24 1/2</td>
<td>31</td>
<td>202</td>
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</table>

To Suit Application

Dimensions, inches. Dimensions are approximate. Certified dimensional prints furnished upon request.
Mixers can be furnished with single or double mechanical seals or a conventional packed stuffing box. Customer preference to the manufacturer or type of mechanical seal or packing can normally be accommodated. A seal-off device to permit replacement of the seal, while the tank is full, is standard with packed stuffing boxes, optional with mechanical seals.

**Packed Stuffing Box**

Packed stuffing box uses 7 rings of packing, a lantern ring for lubricant distribution and follower for packing adjustment. Packing can be replaced while the tank is full. Different packing types and designs are available for practically any application.

**Mechanical Seal**

Single balanced outside mechanical seals can be furnished on any of the mixer models. Models HV and HG are available with a seal design which permits their replacement without the need to empty the tank, double mechanical seals are also available.

**Waterflush Stuffing Box**

This seal design is the same as the packed stuffing box with the addition of a waterflush feature. It is designed to assist in keeping solids that are in the product from entering the stuffing box and causing premature shaft and/or packing failure due to abrasion.

**Stuffing Box Lubricators**

Either of these optional lubricators are available on any of the mixer models. They maintain constant pressure on the packing lubricant, forcing it into the lantern ring for the best possible packing/shaft life. The weight loaded lubricator gives an inherent visual aid in checking the amount of lubricant in the cup.
MECHANICAL MOUNTING DETAILS

**Model HV**

<table>
<thead>
<tr>
<th>MIXER MODEL</th>
<th>420 RPM</th>
<th>290 RPM</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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</thead>
<tbody>
<tr>
<td>HV-1 thru HV-3</td>
<td>20</td>
<td>14</td>
<td>6.5/8</td>
<td>11</td>
<td>5/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-5 thru HV-30</td>
<td>26</td>
<td>17 1/2</td>
<td>6.5/8</td>
<td>11</td>
<td>5/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-40</td>
<td>30</td>
<td>21 1/2</td>
<td>9 1/4</td>
<td>13</td>
<td>3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HV-50 thru HV-60</td>
<td>32</td>
<td>23 1/2</td>
<td>9 1/4</td>
<td>13</td>
<td>3/4</td>
<td></td>
<td></td>
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</table>

Dimensions, Inches

**Model HG**

<table>
<thead>
<tr>
<th>MIXER MODEL</th>
<th>420 RPM</th>
<th>290 RPM</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>HG-1 thru HG-3</td>
<td>11 1/2</td>
<td>8 1/2</td>
<td>6.5/8</td>
<td>11</td>
<td>5/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HG-5 thru HG-30</td>
<td>11 1/2</td>
<td>8 1/2</td>
<td>6.5/8</td>
<td>11</td>
<td>5/8</td>
<td></td>
<td></td>
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<tr>
<td>HG-40 thru HG-60</td>
<td>14</td>
<td>11</td>
<td>9 1/4</td>
<td>13</td>
<td>3/4</td>
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Dimensions, Inches

**Model HFG**

<table>
<thead>
<tr>
<th>MIXER MODEL</th>
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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFG-1 thru HFG-1.5</td>
<td>16 1/2</td>
<td>23</td>
<td>4 1/4</td>
<td>9 3/4</td>
<td>3/8</td>
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<tr>
<td>HFG-2</td>
<td>16 1/2</td>
<td>24</td>
<td>4 1/4</td>
<td>9 3/4</td>
<td>3/8</td>
</tr>
<tr>
<td>HFG-3 thru HFG-5</td>
<td>16 1/2</td>
<td>24 1/2</td>
<td>4 1/4</td>
<td>9 3/4</td>
<td>3/8</td>
</tr>
</tbody>
</table>

Dimensions, Inches
Side-entering mixers must be positioned correctly to insure top to bottom circulation and elimination of dead areas. Multiple mixers are used on large tanks. Two alternate methods of location are shown, angle and offset mount. Maximum efficiency is achieved when these parameters are followed.

<table>
<thead>
<tr>
<th>&quot;D&quot; TANK DIAMETER</th>
<th>&quot;O&quot; OFFSET INCHES</th>
<th>&quot;A&quot; ANGLE</th>
<th>&quot;H&quot; BOTTOM CLEARANCE</th>
<th>&quot;C&quot; SIDEWALL CLEARANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 40'</td>
<td>D/16</td>
<td>7°</td>
<td>1 Impeller Diameter</td>
<td>.75 Impeller Diameter</td>
</tr>
<tr>
<td>41' to 60'</td>
<td>D/14</td>
<td>8°</td>
<td>Note 3</td>
<td>Minimum</td>
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<tr>
<td>61' to 90'</td>
<td>D/12</td>
<td>9°</td>
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<td></td>
</tr>
<tr>
<td>91' &amp; Larger</td>
<td>D/11</td>
<td>10°</td>
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<td></td>
</tr>
</tbody>
</table>

Notes:
1) Angle is to left of tank centerline with right-hand impeller in clockwise rotation.
2) Distance from liquid level to mixer shaft centerline should be at least 2 impeller diameters.
3) Measured from tank bottom or tangent line to shaft centerline.
For Every Industrial Application

**Laboratory Mixers**
- Variable Speed
- Constant Speed
- Speed Ranges 2 to 6000 rpm
- Air and Electric
- Clamp and Stand Mounted

**Portable Clamp-on Mixers**
- 1/4 to 5 HP, Electric, Air and Hydraulic Motors
- Direct Drive...1150 & 1750 rpm
- Gear Drive...230, 290, 330 & 420 rpm
- Constant and Variable Speed
- Clamp & Cap Mounted
- UL/CE Approved

**Fixed Mount-Top Entering Mixers**
- 1/4 to 5 HP, Electric, Air and Hydraulic Motors
- Direct Drive...1150 & 1750 rpm
- Gear Drive...230, 290, 330 & 420 rpm
- Constant & Variable Speed
- Baseplate & Flange Mounted
- Low and High Pressure Stuffing Boxes
- Mechanical Seal Design

**Turbine Mixers**
- 1/4 to 150 HP, Electric and Hydraulic Motors
- Constant & Variable Speed...
- 1 to 3600 rpm
- Worm Gear, Helical Worm...
- All Helical, Helical/Spiral
- Baseplate & Flange Mounted
- High & Low Pressure Stuffing Boxes
- Single & Double Mechanical Seals

**Side Entering Mixers**
- Chemical & Petrochemical Plant Design
- 1 to 75 HP, Electric & Hydraulic Motors
- Belt & Gear Drives...230, 330 & 420 rpm
- Constant & Variable Speed
- Fixed & Swivel Flange & Cover Plate Mounted
- Stuffing Box & Mechanical Shaft Seals

**Custom Mixers**
- Pilot Plant Mixers
- High Temperature & Pressure Laboratory Reactors
- Reactor Agitators, Dispersers & Gate Mixers
- Inline Mixers
- Bottom Entering Mixers