**LiftMate™**

Ball-and-Socket Hinge System

For Lids, Grates and Trench Covers

*Improved Safety • Easier Operation • Rugged Durability*

Neenah Foundry®'s LiftMate™ Hinge System features our patented controlled-motion pivot.
Neenah Foundry’s LiftMate™ Hinge System features our patented controlled-motion pivot

- Unique mechanical design delivers true one-person operation
- Eliminates many traditional hazards of working with covers
- Simplifies and eases operational access
- Available with a range of high-quality manholes, grates and trenches

Innovative Engineering and Casting Expertise Create a Better Hinge

Patent Number 7,094,000
LiftMate™ Hinge System
Innovative Functionality that Sets the Standard

Neenah Foundry’s LiftMate™ Hinge System outperforms competing products on all important counts.
LiftMate™ Hinge System Features & Benefits

- Gray iron delivers fatigue-resistant durability plus noise suppression
- Superior gasket design and material resist water inflow
- Solid flange improves resistance to inflow
- No deadlifting required to close cover
- Optional lettering or logo casting available
- Ball-and-Socket Hinge provides full support when opening and closing
- Available hinge-sealing plug helps prevent inflow
- Precise tolerances help prevent dirt and debris accumulation
- Automatic “hold-open” arm helps prevent accidental closure
- “Made in USA” ensures acceptability with federally funded projects
- Hinge easily disengages for complete lid removal — no tools required

**Premium, Made in USA Quality and Performance**

- Strong, yet light, platen gray iron lids exceed AASHTO’s M306-07, 40,000# proof load
- Superior traffic sound mitigating properties
- Excellent strength and wear resistance — almost indestructible
- Standard neoprene self-sealing T-gasket
- Compatible with most internal chimney seals
- High-quality precision castings in a full range of sizes
- True custom lettering or logo lids available

**Ergonomic Ball-and-Socket Hinge**

- Handhole allows opening with a lever or pickaxe to significantly reduce lifting effort
- Unique design increases stability when opening or closing cover
- “Hold-open” arm automatically locks to help prevent accidental closure
- Tested to more than 13,000 open-and-close cycles
- Cover easily disengages for removal or replacement
- Allows closure without having to lift full weight of cover
- Helps prevent back injuries, physical strain and lost time

**MATERIAL**

- The proven strength, economics and sound-dampening properties of gray iron

**OPERATION**

- One-man-operable lids are easier to open and close — no deadlifting full lid weight

**SAFETY**

- Gravity-driven mechanism automatically locks when opened, easily unlocks when closing

**WATER RESISTANCE**

- Superior T-seal gasket is standard

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1 Conforms to ASTM A48 Class 33B
2 Meets or exceeds 40,000-pound proof loading requirements of AASHTO M-306:07
Grates and Trench Covers
The benefits of the LiftMate™ Hinge System are available with the proven strength and performance of Neenah Foundry grates and trench covers. Grates meet or exceed all applicable strength and traffic loading requirements. Hydraulic performance information is available on request.

LiftMate™ Hinge System
LiftMate™ Hinge System grates and trench covers, cast from high-strength gray iron or Ductile Iron as appropriate, offer exceptional durability and hydraulic performance.

Available Security Options
In addition to high-strength camlock mechanisms, Neenah offers a wide range of bolt options. For further information, visit www.nfco.com/literature/brochures/bolting.html

Countersunk bolts for security furnished standard
Optional camlock mechanism for added security

LiftMate™ Hinge System

<table>
<thead>
<tr>
<th>Model</th>
<th>Clear Opening (Diameter)</th>
<th>Frame Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1550-LM</td>
<td>21&quot;</td>
<td>9&quot;</td>
</tr>
<tr>
<td>R-1642-LM</td>
<td>24-⅜&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>R-1650-LM</td>
<td>24-⅜&quot;</td>
<td>4&quot;</td>
</tr>
<tr>
<td>R-1743-LM</td>
<td>30&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>R-1753-ALM</td>
<td>27-⅜&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>R-1755-F2LM</td>
<td>25&quot;</td>
<td>7&quot;</td>
</tr>
</tbody>
</table>

Also Available:
LiftMate™ Trench Frames and Grates Rated for Airport & Container Port Use

Manufactured using high-strength Ductile Iron to meet or exceed airport and container port guidelines. Hydraulic performance information is available on request. For complete listings of systems rated for these applications, refer to the Neenah Foundry Airport and Port-Type Castings catalog.

<table>
<thead>
<tr>
<th>Model</th>
<th>Clear Opening (Trench)</th>
<th>Frame Height</th>
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</thead>
<tbody>
<tr>
<td>R-4994-HALM</td>
<td>24&quot;</td>
<td>6&quot;</td>
</tr>
</tbody>
</table>

LiftMate™ Inlet Frame, Grate

<table>
<thead>
<tr>
<th>Model</th>
<th>Clear Opening</th>
<th>Frame Height</th>
<th>Free Open Area (sq ft)</th>
<th>Weir Perimeter (lineal ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-3210-ALM</td>
<td>22” x 22”</td>
<td>6”</td>
<td>1.5</td>
<td>8.0</td>
</tr>
<tr>
<td>R-3210-LLM</td>
<td>22” x 22”</td>
<td>6”</td>
<td>1.4</td>
<td>8.0</td>
</tr>
<tr>
<td>R-3222-1ALM</td>
<td>22” x 19-⅜”</td>
<td>7”</td>
<td>1.5</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Contact your Neenah Representative for complete details. Neenah Foundry can also custom make sizes according to your specifications.

*Capable of withstanding minimum 100,000-pound loads and other criteria as specified in applicable FAA Advisory Circulars.

**SURGE RELIEF**
Hinge allows pressure relief but prevents lid blow-off

**TRAFFIC RATED**
Exceeds 40,000-pound proof loading requirements of AASHTO-M-306-07

**WORKER PROTECTION**
Reduces operators’ risk of excess physical strain and off-balance maneuvering

**SECURITY**
Available bolt and camlock options effectively resist unauthorized access
Neenah Foundry
Since 1872, Neenah Foundry has been known for consistent quality, functional performance and design aesthetics. We’re also proud of our reputation for responsive support and service. When you choose Neenah Foundry, you’ve chosen the best.

Neenah offers an extensive selection of castings for construction and municipal use including manhole covers and frames, catch basins and curb inlets, cast iron downspouts, airport and port castings, bridge scuppers, detectable warning plates and many other specialty products.

Contact any Neenah Foundry office for more information or a copy of our Construction Castings catalog. Our catalog is also available online at www.neenahfoundry.com.

In support of the Green Initiative, Neenah Foundry is pleased to report that our products contain a minimum of 85% recycled content in the form of a minimum of 35% consumer-generated scrap metal and a minimum of 50% industrial-generated scrap metal.

Neenah Foundry Company
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800-558-5075  www.neenahfoundry.com
920-725-7000  Fax: 920-729-3661

These products are to be specified and used under the guidance of qualified design professionals.