Modular Air Bearing System (MLS)

Operation

Solving Modular Air Bearing Systems are designed to handle a variety of heavy loads and items of machinery.

To ensure maximum stability at least three or four modules should be placed under the load, placing the modules as far apart as possible whilst also evenly distributing the weight between them.

The modules are then connected to the control unit and the compressed air supply. Pressure regulators within the control unit are used to increase the air pressure in each module until the load is raised off the floor. A thin film of air is then formed under each module virtually eliminating friction and allowing a heavy load to be moved and positioned with ease and accuracy.

Floor surface quality

The quality of the floor surface affects the air consumption and the force required to move the load. To achieve optimum performance a level, paper-smooth surface, free of steps and cracks, is required. For occasional moves a substandard floor can be improved using thin sheet steel or PVC.
## Modular Air Bearing System (MLS)

### TECHNICAL INFORMATION

<table>
<thead>
<tr>
<th>Type</th>
<th>Capacity per set of 4</th>
<th>Air consumption</th>
<th>Air pressure</th>
<th>A mm</th>
<th>B mm</th>
<th>C mm</th>
<th>D in</th>
<th>E in</th>
<th>Control unit type</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLS 412X-S</td>
<td>7000 kg 15400 lbs</td>
<td>1120 Nl/min 39 SCFM</td>
<td>300 psi 43 kPa</td>
<td>304</td>
<td>31/51</td>
<td>15</td>
<td>1/2</td>
<td>1</td>
<td>MRB 4x15-25</td>
</tr>
<tr>
<td>MLS 415X-S</td>
<td>10000 kg 22000 lbs</td>
<td>2200 Nl/min 77 SCFM</td>
<td>300 psi 43 kPa</td>
<td>380</td>
<td>31/51</td>
<td>20</td>
<td>1/2</td>
<td>1</td>
<td>MRB 4x15-25</td>
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<tr>
<td>MLS 418X-S</td>
<td>11200 kg 24200 lbs</td>
<td>2600 Nl/min 92 SCFM</td>
<td>300 psi 43 kPa</td>
<td>457</td>
<td>58</td>
<td>20</td>
<td>3/4</td>
<td>1</td>
<td>MRB 4x20-25</td>
</tr>
<tr>
<td>MLS 421X-S</td>
<td>14000 kg 31000 lbs</td>
<td>3000 Nl/min 106 SCFM</td>
<td>210 psi 30 kPa</td>
<td>534</td>
<td>58</td>
<td>25</td>
<td>3/4</td>
<td>1</td>
<td>MRB 4x20-25</td>
</tr>
<tr>
<td>MLS 427X-S</td>
<td>24000 kg 53000 lbs</td>
<td>3400 Nl/min 120 SCFM</td>
<td>210 psi 30 kPa</td>
<td>684</td>
<td>65</td>
<td>35</td>
<td>3/4</td>
<td>1</td>
<td>MRB 4x20-40</td>
</tr>
<tr>
<td>MLS 436X-S</td>
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<td>914</td>
<td>71</td>
<td>50</td>
<td>3/4</td>
<td>1</td>
<td>MRB 4x20-40</td>
</tr>
<tr>
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<td>457</td>
<td>58</td>
<td>20</td>
<td>3/4</td>
<td>1</td>
<td>MRB 4x20-25</td>
</tr>
<tr>
<td>MLS 421X-H</td>
<td>28000 kg 62000 lbs</td>
<td>5200 Nl/min 184 SCFM</td>
<td>410 psi 59 kPa</td>
<td>534</td>
<td>58</td>
<td>25</td>
<td>3/4</td>
<td>1</td>
<td>MRB 4x20-25</td>
</tr>
<tr>
<td>MLS 427X-H</td>
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<td>684</td>
<td>65</td>
<td>35</td>
<td>3/4</td>
<td>1</td>
<td>MRB 4x20-40</td>
</tr>
<tr>
<td>MLS 436X-H</td>
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<td>400 psi 58 kPa</td>
<td>914</td>
<td>71</td>
<td>50</td>
<td>1</td>
<td>1/2</td>
<td>MRB 4x25-40</td>
</tr>
<tr>
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<td>1070</td>
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<td>2</td>
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<td>1220</td>
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<td>400 psi 57 kPa</td>
<td>1505</td>
<td>71</td>
<td>75</td>
<td>1</td>
<td>2</td>
<td>MRB 4x25-50</td>
</tr>
</tbody>
</table>

1) The modules must be placed under the load so that each one sees no more than one quarter of the full system capacity.  
2) These figures refer to good floor conditions, e.g. power-trowelled and sealed concrete surfaces.  
3) Air pressure in air bearing element at max load (100 kPa = 1 bar).  
4) Cast aluminium/Extruded aluminium construction.  
5) Supply hose ID and shut-off-valve thread size.

### The Modular Air Bearing System includes:

- 4 air bearing modules
- 4 interconnection hoses with quick release couplings
- Control unit equipped with pressure regulator and gauge for each module, supply pressure gauge and plastic support bars
- 30 m supply hose including shut-off valve
- Operating instructions

### Optional:

- Remote control unit
- Control unit for six-module system
- Control unit equipped with assembly brackets or ball casters
- 8 m or 10 m interconnection hose
- 50 m supply hose including shut-off valve
- Outlets for air jacks and external drive units

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**Creating Movement**