SM15-01 STEEL MANIPULATOR
Specifications

Specifications and Options for the
SM15-01 Steel Manipulator

Issue 2

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Introduction

The SM15-01 Steel Manipulator is a unique grab designed for handling square box section, rectangular box section I-beam and fabricated section steelwork.

Steel sections can be grabbed from any side and the SM15-01 automatically adjusts itself to suit the shape and size of the material, carefully gripping the section with a controlled and even pressure through durable pads which protect delicate surface coatings.

Any section size from 200mm to 650mm can be accommodated by the gripping mechanism of the SM15-01 Steel Manipulator.

A worm drive rotator allows precision positioning of the steelwork and, when combined with one of the optional tilt heads, the operator has full control of the material to position it accurately in every direction.

A pendulum safety lock valve is incorporated into the adapter head. This allows the operator to freely handle masts lying horizontally but, when the mast is tilted upwards, the jaws of the device are locked to prevent inadvertent release of the load.

Once the mast is in position and secured, the pendulum safety valve of the SM15-01 Steel Manipulator can be released by the machine controller allowing the operator to open and release the grab.

Use the SM15-01 to handle square box sections, rectangular box sections, I-Beam sections and fabricated steelwork

Steelwork can be positioned precisely and manipulated in all directions using the SM15-01 Steel Manipulator
Specifications

Weight with typical 60 degree tilt head 1,765 kg
Weight with typical 25 degree tilt head 1,665 kg
Weight with typical rigid head 1,510 kg
Max Load Capacity 3,750 kg

Section Capacity: Square Steel
Minimum: 200 x 200mm
Maximum: 650 x 650mm

Section Capacity: Rectangular Steel
Minimum: 300 x 200mm*
Maximum: 600 x 400mm*

*Note that any rectangular section with a minimum dimension of 200mm and not exceeding 650mm can be held by the SM15-01 Steel Manipulator

Rotator type
Worm Drive
Rotator Hyd Pressure (max). 160 Bar

Grab Hydraulic Pressure
Minimum: 90 Bar
Maximum: 210 Bar

Tilt Pressure
Minimum: 90 Bar
Maximum: 210 Bar

Grip force:
Per Leg lateral 10 kN
Per Leg longitudinal 10 kN

Safety Valve Lock Angle 15 deg
Each SM15-01 Steel Manipulator is factory equipped with an adapter head to suit your host machine.

Three options of adapter head are available: Fixed, 25 Degree Tilt and 60 Degree Tilt.

Tilting adapter heads require an extra hydraulic service but they allow the operator to rotate the mast to align with bolted flanges without slewing the machine.

This facility is very useful where heavy masts must be placed close to the track line.

The weight and dimensions of the adapter head will depend on the fixing dimensions of the host machine but, for comparison, typical specifications are given below:

<table>
<thead>
<tr>
<th>Head Type</th>
<th>Fixed</th>
<th>25 Degree Tilt</th>
<th>60 Degree Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>125kg</td>
<td>280kg</td>
<td>380kg</td>
</tr>
<tr>
<td>Pin Rake Angle</td>
<td>24 deg</td>
<td>24 deg</td>
<td>36 deg</td>
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<tr>
<td>Height Offset</td>
<td>225mm</td>
<td>310mm</td>
<td>485mm</td>
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<tr>
<td>Max Pressure</td>
<td>N/A</td>
<td>210 Bar</td>
<td>210 Bar</td>
</tr>
<tr>
<td>Min Pressure</td>
<td>N/A</td>
<td>90 Bar</td>
<td>90 Bar</td>
</tr>
</tbody>
</table>
The full movement of the 60 degree tilt head option

The tilt heads allow the operator to rotate the mast about its base plate to align bolted flanges very accurately.
Contact Details

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PLEASE NOTE

Whilst every care is taken to ensure that the contents of this document are true and accurate, the specifications of our products and the scope of our services are constantly changing as part of our policy of continuous improvement.

We strongly recommend contacting the factory to ensure that details given are still current.

More than half our business comes from special products designed and built as one-off’s and we are always pleased to discuss amended specifications should the product detailed here not meet your exact requirements.