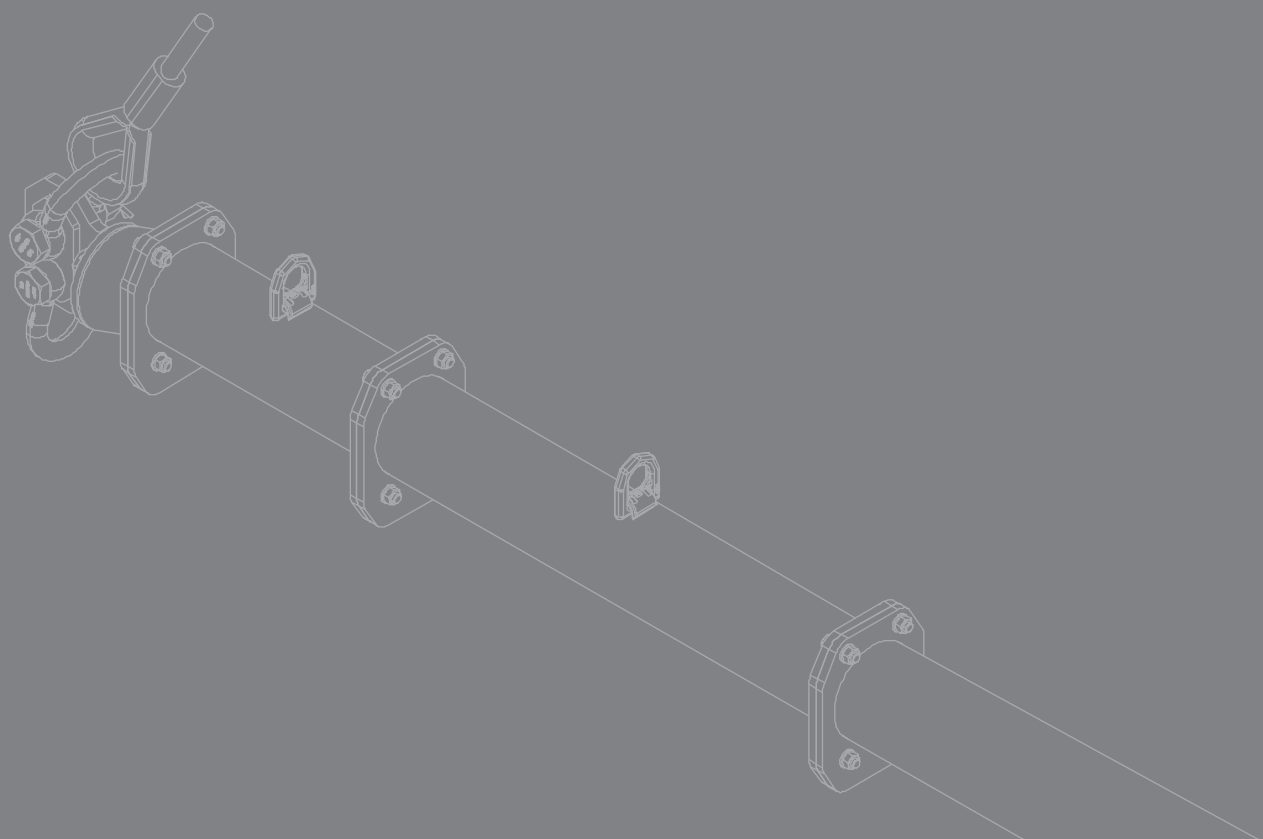




# HI SB 070

Modular spreader system

User Manual

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## Modular spreader system

### User Manual



#### Introduction

The HI SB 070 is a spreader system designed for carrying loads. The HI SB 070 may only be assembled and used by suitably skilled staff. This user manual tells you the correct way to assemble the HI SB 070 in the desired configuration and how you can use it safely. Always keep this user manual in a safe place near the HI SB 070.

#### Product Description

The HI SB 070 has a modular construction and it comprises a set of end units, associated shackles and various struts. The lengths of the struts vary from half a meter to six metres. See Figure 1, Figure 2 and Table 1 for more information about the various parts.

Figure 1 – Overview of the HI SB 070

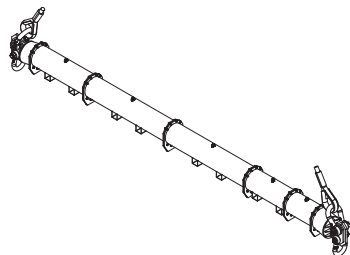
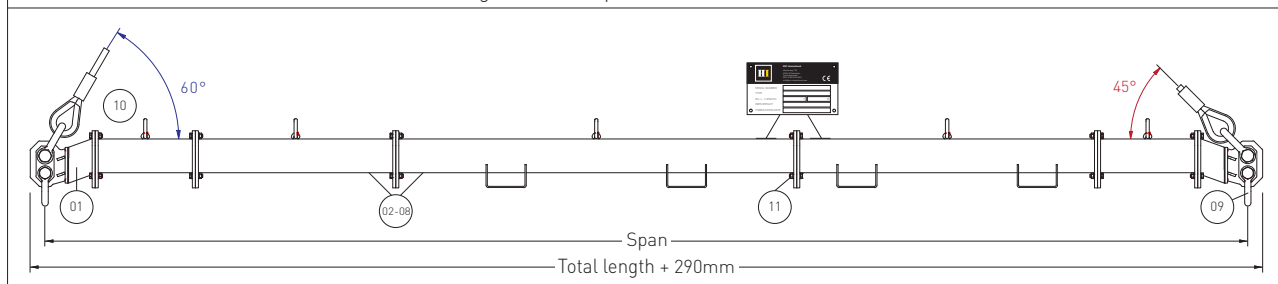


Figure 2 – Components of the HI SB 070



| Table 1 – Components | #  | Type         | Description             | Specifications | Weight (kg)          | Qty |
|----------------------|----|--------------|-------------------------|----------------|----------------------|-----|
|                      | 01 | HI SB 070 00 | HI End unit             | 0,50m          | 84                   | 2   |
|                      | 02 | HI SB 070 05 | HI Strut                | 0,50m          | 50                   | *   |
|                      | 03 | HI SB 070 10 | HI Strut                | 1m             | 75                   | *   |
|                      | 04 | HI SB 070 20 | HI Strut                | 2m             | 134                  | *   |
|                      | 05 | HI SB 070 30 | HI Strut                | 3m             | 184                  | *   |
|                      | 06 | HI SB 070 40 | HI Strut                | 4m             | 233                  | *   |
|                      | 07 | HI SB 070 50 | HI Strut                | 5m             | 282                  | *   |
|                      | 08 | HI SB 070 60 | HI Strut                | 6m             | 332                  | *   |
|                      | 09 | G-4163       | Green Pin shackle       | WLL 35t        | 18,8                 | 2   |
|                      | 10 | G-4163       | Green Pin shackle       | WLL 85t        | 62                   | 2   |
|                      | 11 | Grade 8.8    | Bolts, Nuts and Washers | M20x70         | 6 pcs per connection |     |

\*Depending on the configuration.



#### Safety Instructions

- Use the hoisting eyes at the tops of the strut or end unit only for moving a single component.
- Never use the HI SB 070 if the information on the documents supplied with it does not match the data on the identification plate.
- Never exceed the working load limit. See Table 2 for additional information.
- Never use less than the mandatory minimum sling length. See Table 2 for more information.
- Never use the HI SB 070 if the angle of the lower slings is more than 6 degrees from perpendicular.
- Always use suitable and certified slings.
- Use ropes to guide the load while it is being moved.
- Never use the HI SB 070 for lifting people.
- Never use the HI SB 070 if the annual inspection has not taken place or if it has expired. Make sure that the HI SB 070 is inspected and declared to be safe at least annually by a certified inspector of hoisting equipment.
- Never make alterations to the HI SB 070. Modifications can have consequences for safety.
- Never suspend loads from the struts or the flanges of the HI SB 070.
- Observe the locally applicable legislation and regulations about the use of the crane from which the HI SB 070 is suspended.



## Assembly

1. Lay out the struts with the longest strut in the middle in the desired configuration on a flat and clean surface.
2. Connect up each flange using 6 pcs. M20x70 8.8 bolts, nuts and washers.
3. Tighten the bolts in stages, using a diagonal pattern. See Figure 3 for additional information. Use the tightening torques
  - Step 1: 50 per cent, i.e. 75 Nm
  - Step 2: 80 per cent, i.e. 120 Nm
  - Step 3: 100 per cent, i.e. 150 Nm
4. Fit the Green Pin shackle (G-4163), WLL 85 tons, in the top hole in each end unit.
5. Use the sling to attach the HI SB 070 to the crane hook. When doing so, take account of the desired vertex angle, the sling length and the size of the load. See Figure 4 and Table 2 for more information.
6. Fit the Green Pin shackle (G-4163), WLL 35 tons, in the bottom hole in each end unit.
7. Get the HI SB 070 checked before use by a suitably competent member of staff or an external specialist.

Table 2 - Working load of the HI SB 070

| Lifting angle top sling-vertical 60° |     |                    | Recommended configuration <sup>2</sup> |     |     |     |     |     |     |   | Lifting angle top sling-vertical 90° |     |                    |
|--------------------------------------|-----|--------------------|----------------------------------------|-----|-----|-----|-----|-----|-----|---|--------------------------------------|-----|--------------------|
| Length                               | WLL | Sling <sup>1</sup> |                                        |     |     |     |     |     |     |   | Length                               | WLL | Sling <sup>1</sup> |
| 1m                                   | 70t | 1m                 | <                                      | >   |     |     |     |     |     |   | 1m                                   | 70t | 0,7m               |
| 1,5m                                 | 70t | 1,5m               | <                                      | 0,5 | >   |     |     |     |     |   | 1,5m                                 | 70t | 1,1m               |
| 2m                                   | 70t | 2m                 | <                                      | 1   | >   |     |     |     |     |   | 2m                                   | 70t | 1,4m               |
| 2,5m                                 | 70t | 2,5m               | <                                      | 1   | 0,5 | >   |     |     |     |   | 2,5m                                 | 70t | 1,8m               |
| 3m                                   | 70t | 3m                 | <                                      | 2   | >   |     |     |     |     |   | 3m                                   | 70t | 2,1m               |
| 3,5m                                 | 70t | 3,5m               | <                                      | 2   | 0,5 | >   |     |     |     |   | 3,5m                                 | 70t | 2,5m               |
| 4m                                   | 70t | 4m                 | <                                      | 3   | >   |     |     |     |     |   | 4m                                   | 70t | 2,8m               |
| 4,5m                                 | 70t | 4,5m               | <                                      | 3   | 0,5 | >   |     |     |     |   | 4,5m                                 | 70t | 3,2m               |
| 5m                                   | 70t | 5m                 | <                                      | 4   | >   |     |     |     |     |   | 5m                                   | 70t | 3,5m               |
| 5,5m                                 | 70t | 5,5m               | <                                      | 4   | 0,5 | >   |     |     |     |   | 5,5m                                 | 70t | 3,9m               |
| 6m                                   | 70t | 6m                 | <                                      | 4   | 1   | >   |     |     |     |   | 6m                                   | 70t | 4,2m               |
| 6,5m                                 | 70t | 6,5m               | <                                      | 1   | 4   | 0,5 | >   |     |     |   | 6,5m                                 | 70t | 4,6m               |
| 7m                                   | 70t | 7m                 | <                                      | 4   | 2   | >   |     |     |     |   | 7m                                   | 70t | 4,9m               |
| 7,5m                                 | 70t | 7,5m               | <                                      | 2   | 4   | 0,5 | >   |     |     |   | 7,5m                                 | 70t | 5,3m               |
| 8m                                   | 70t | 8m                 | <                                      | 2   | 4   | 1   | >   |     |     |   | 8m                                   | 70t | 5,7m               |
| 8,5m                                 | 70t | 8,5m               | <                                      | 3   | 4   | 0,5 | >   |     |     |   | 8,5m                                 | 70t | 6m                 |
| 9m                                   | 70t | 9m                 | <                                      | 4   | 4   | >   |     |     |     |   | 9m                                   | 70t | 6,4m               |
| 9,5m                                 | 70t | 9,5m               | <                                      | 4   | 4   | 0,5 | >   |     |     |   | 9,5m                                 | 70t | 6,7m               |
| 10m                                  | 70t | 10m                | <                                      | 4   | 4   | 1   | >   |     |     |   | 10m                                  | 70t | 7,1m               |
| 10,5m                                | 70t | 10,5m              | <                                      | 1   | 4   | 4   | 0,5 | >   |     |   | 10,5m                                | 70t | 7,4m               |
| 11m                                  | 70t | 11m                | <                                      | 2   | 4   | 4   | >   |     |     |   | 11m                                  | 70t | 7,8m               |
| 11,5m                                | 70t | 11,5m              | <                                      | 2   | 4   | 4   | 0,5 | >   |     |   | 11,5m                                | 70t | 8,1m               |
| 12m                                  | 70t | 12m                | <                                      | 3   | 4   | 4   | >   |     |     |   | 12m                                  | 70t | 8,5m               |
| 12,5m                                | 70t | 12,5m              | <                                      | 3   | 4   | 4   | 0,5 | >   |     |   | 12,5m                                | 70t | 8,8m               |
| 13m                                  | 70t | 13m                | <                                      | 4   | 4   | 4   | >   |     |     |   | 13m                                  | 66t | 9,2m               |
| 13,5m                                | 70t | 13,5m              | <                                      | 4   | 4   | 4   | 0,5 | >   |     |   | 13,5m                                | 61t | 9,5m               |
| 14m                                  | 70t | 14m                | <                                      | 4   | 4   | 4   | 1   | >   |     |   | 14m                                  | 56t | 9,9m               |
| 14,5m                                | 70t | 14,5m              | <                                      | 1   | 4   | 4   | 4   | 0,5 |     |   | 14,5m                                | 52t | 10,3m              |
| 15m                                  | 70t | 15m                | <                                      | 2   | 4   | 4   | 4   | >   |     |   | 15m                                  | 48t | 10,6m              |
| 15,5m                                | 70t | 15,5m              | <                                      | 2   | 4   | 4   | 4   | 0,5 | >   |   | 15,5m                                | 44t | 11m                |
| 16m                                  | 70t | 16m                | <                                      | 3   | 4   | 4   | 4   | >   |     |   | 16m                                  | 40t | 11,3m              |
| 16,5m                                | 64t | 16,5m              | <                                      | 3   | 4   | 4   | 4   | 0,5 | >   |   | 16,5m                                | 37t | 11,7m              |
| 17m                                  | 60t | 17m                | <                                      | 4   | 4   | 4   | 4   | >   |     |   | 17m                                  | 34t | 12m                |
| 17,5m                                | 55t | 17,5m              | <                                      | 4   | 4   | 4   | 4   | 0,5 | >   |   | 17,5m                                | 32t | 12,4m              |
| 18m                                  | 50t | 18m                | <                                      | 1   | 4   | 4   | 4   | 4   | >   |   | 18m                                  | 29t | 12,7m              |
| 18,5m                                | 47t | 18,5m              | <                                      | 1   | 4   | 4   | 4   | 4   | 0,5 | > | 18,5m                                | 27t | 13,1m              |
| 19m                                  | 43t | 19m                | <                                      | 2   | 4   | 4   | 4   | 4   | >   |   | 19m                                  | 25t | 13,4m              |
| 19,5m                                | 40t | 19,5m              | <                                      | 2   | 4   | 4   | 4   | 4   | 0,5 | > | 19,5m                                | 23t | 13,8m              |
| 20m                                  | 36t | 20m                | <                                      | 3   | 4   | 4   | 4   | 4   | >   |   | 20m                                  | 21t | 14,1m              |

<sup>1)</sup> Top sling - minimum sling length measured from inside eye to inside eye.

<sup>2)</sup> Other configurations are possible. However, the configuration should consist as less struts as possible.  
NB! The longest strut should always be in the middle of the spreader beam.

Figure 3 – Pattern for tightening the bolts diagonally

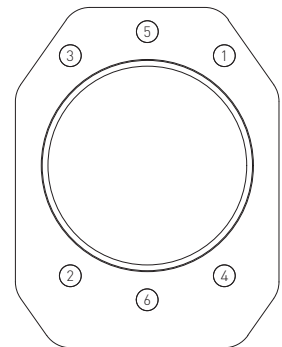
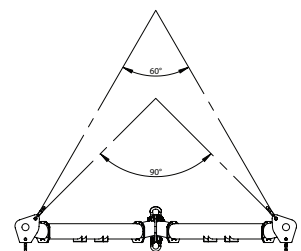
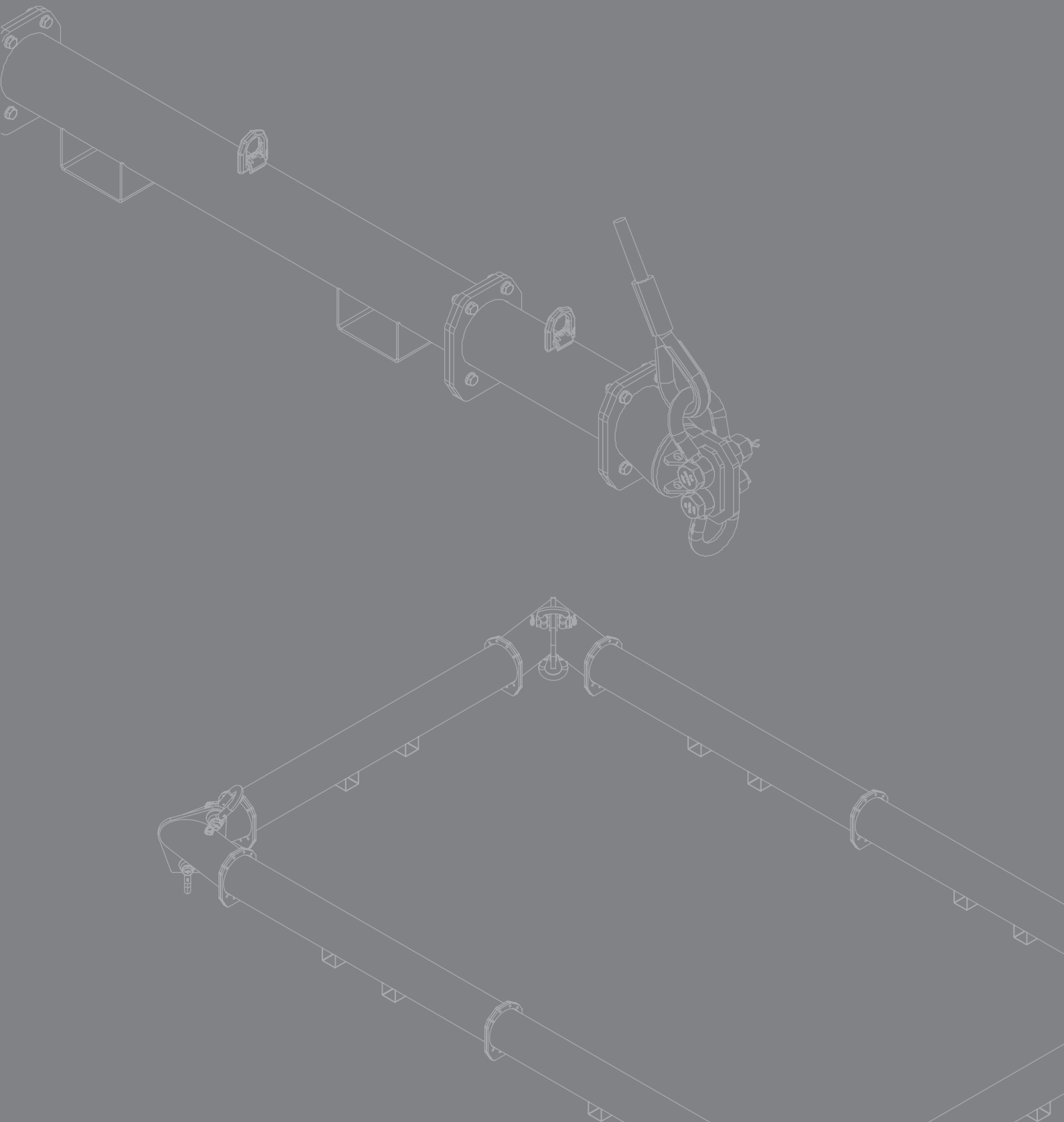


Figure 4 – Desired vertex angle for the sling





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