

HI SB 110

Modular spreader frame
User Manual

HI SB 110

Modular spreader frame

User Manual



Introduction

The HI SB 110 is a spreader frame designed for carrying loads. The HI SB 110 may only be assembled and used by suitably skilled staff. This user manual tells you the correct way to assemble the HI SB 110 in the desired configuration and how you can use it safely. Always keep this user manual in a safe place near the HI SB 110.

Product Description

The HI SB 110 has a modular construction and it comprises a set of corner sections, 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.

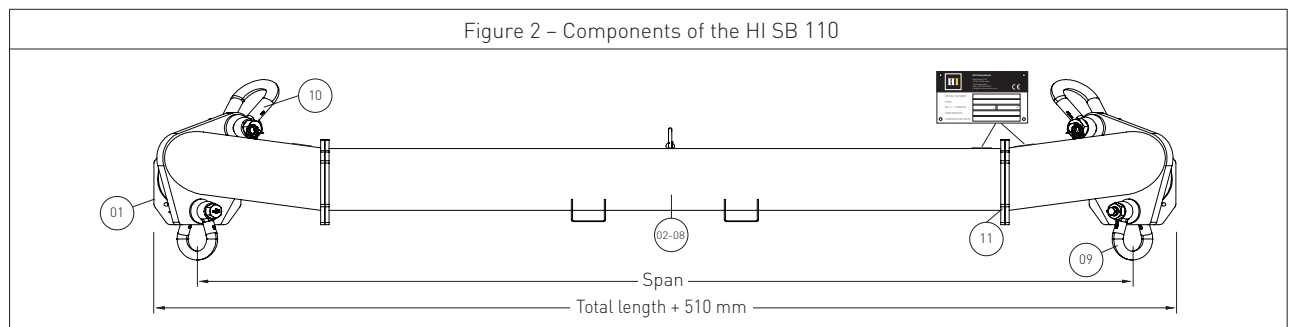
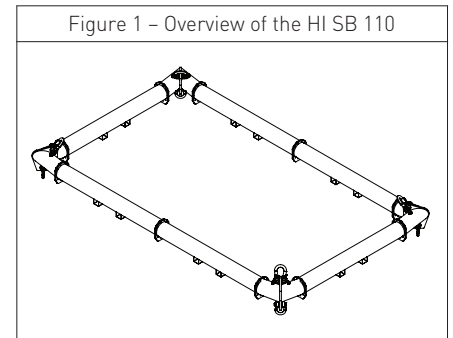


Table 1 - Components	#	Type	Description	Specifications	Weight (kg)	Qty
	01	HI SB 110 01	HI Corner section	0,75m	350	4
	02	HI SB 110 05	HI Strut	0,50m	90	*
	03	HI SB 110 10	HI Strut	1m	134	*
	04	HI SB 110 20	HI Strut	2m	236	*
	05	HI SB 110 30	HI Strut	3m	325	*
	06	HI SB 110 40	HI Strut	4m	431	*
	07	HI SB 110 50	HI Strut	5m	502	*
	08	HI SB 110 60	HI Strut	6m	591	*
	09	G-4163	Green Pin shackle	WLL 55t	39,6	4
	10	G-4163	Green Pin shackle	WLL 85t	62	4
11	Grade 8.8	Bolts, Nuts and Washers	M24x90	8 pcs per connection		

*Depending on the configuration.



Safety Instructions

- Use the hoisting eyes at the tops of the strut or corner section only for moving a single component.
- Never use the HI SB 110 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 and Table 3 for additional information.
- Never use less than the mandatory minimum sling length. See Table 4 for more information.
- Never use the HI SB 110 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 110 for lifting people.
- Never use the HI SB 110 if the annual inspection has not taken place or if it has expired. Make sure that the HI SB 110 is inspected and declared to be safe at least annually by a certified inspector of hoisting equipment.
- Never make alterations to the HI SB 110. Modifications can have consequences for safety.
- Never suspend loads from the struts or the flanges of the HI SB 110.
- Observe the locally applicable legislation and regulations about the use of the crane from which the HI SB 110 is suspended.



Assembly

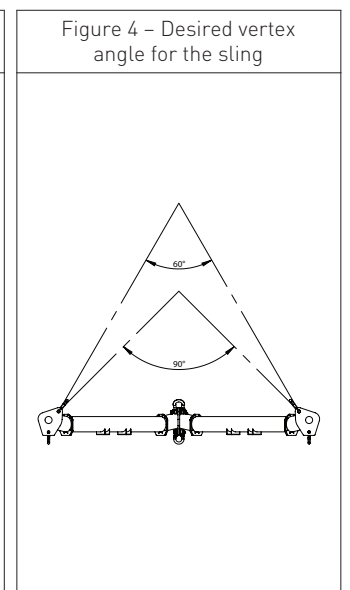
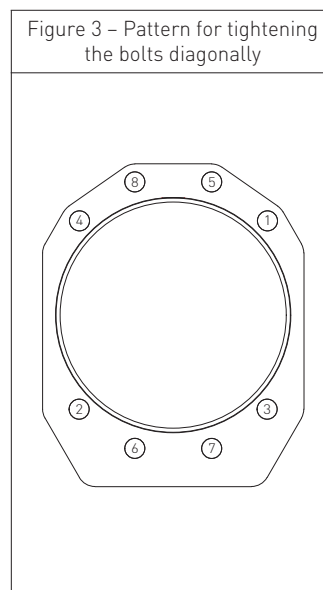
1. Lay out the struts with the longest strut in the middle in the desired configuration on a flat and clean surface.
2. Connect up each flange using 8 pcs. M24x90 8.8 bolts, nuts and washers.
3. Tighten the bolts in stages, using a diagonal pattern. See Figure 3 for additional information. Use the tightening torques
 - Step 1: 50 per cent, i.e. 125 Nm
 - Step 2: 80 per cent, i.e. 200 Nm
 - Step 3: 100 per cent, i.e. 250 Nm
4. Fit the Green Pin shackle (G-4163), WLL 85 tons, in the top hole in each corner section.
5. Use the sling to attach the HI SB 110 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 4 for more information.
6. Fit the Green Pin shackle (G-4163), WLL 55 tons, in the bottom hole in each corner section.
7. Get the HI SB 110 checked before use by a suitably competent member of staff or an external specialist.

Length in metres	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
20																			100
19																		147	117
18																176	169	141	
17																176	176	176	166
16															176	176	176	176	176
15															176	176	176	176	176
14															176	176	176	176	176
13															176	176	176	176	176
12															176	176	176	176	176
11															176	176	176	176	176
10															176	176	176	176	170
9															176	176	176	176	170
8															176	176	176	176	161
7															176	176	176	176	161
6															176	176	176	176	142
5															176	176	176	176	126
4															176	176	176	176	113
3															176	176	176	176	101
2	176	176	161	128	112	102	96	91	88	85	83	81	80	78	77	76	75	74	73

Length in metres	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
20																			117
19																		153	95
18																	170	136	79
17																	176	152	68
16																	176	166	59
15																	176	176	52
14																	176	176	46
13																	176	176	41
12																	176	176	37
11																	176	176	34
10																	176	176	32
9																	176	176	30
8																	176	176	28
7																	176	176	27
6																	176	176	26
5																	176	176	25
4																	176	176	25
3																	176	176	24
2	176	124	84	71	65	61	59	57	55	54	53	53	52	51	51	50	48	36	24

*Other configurations are possible (see data sheet).

Length in metres	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
20																			27.4
19																		25.9	26.7
18																	24.5	25.2	26
17																	23.1	23.8	25.3
16																	21.7	22.4	23.9
15																	20.3	21	22.5
14																	18.9	19.6	21.1
13																	17.5	18.2	20.5
12																	16	16.8	19.1
11																	14.6	15.4	17.7
10																	13.2	13.9	16.3
9																	11.8	12.5	14.7
8																	10.4	11.1	13.5
7																	9	9.7	12.1
6																	7.6	8.3	10.8
5																	6.1	6.9	9.4
4																	4.7	5.5	8.1
3																	3.3	4.1	6.8
2	1.9	2.7	3.6	4.6	5.5	6.5	7.5	8.5	9.5	10.4	11.4	12.4	13.4	14.4	15.4	16.4	17.4	18.4	19.4



*When using $\beta = 90^\circ$, multiply the stated sling length by 0.707

