

HI SB 110

Modular spreader system
User Manual

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Introduction

The HI SB 110 is a spreader system 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 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.

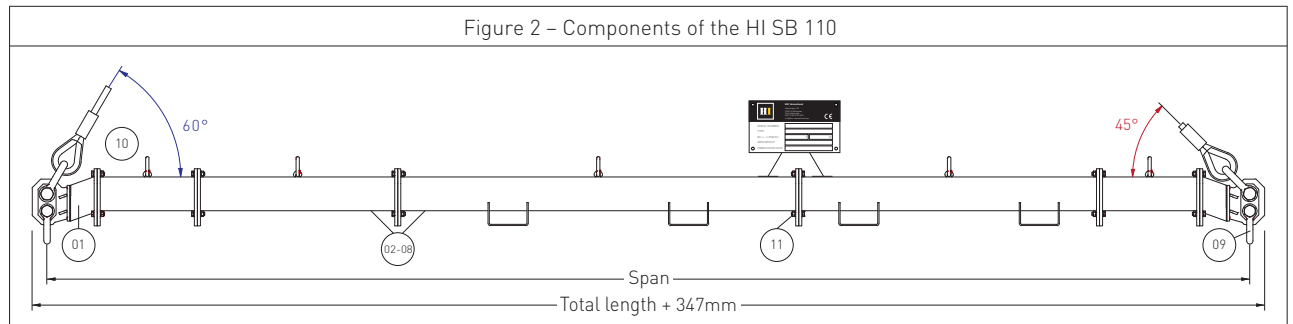
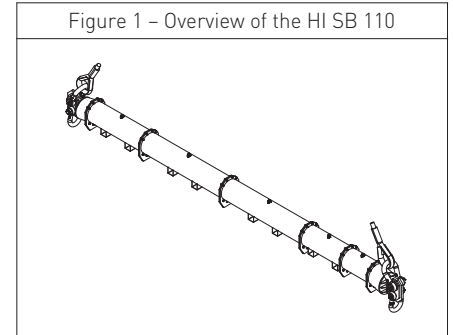


Table 1 - Components	#	Type	Description	Specifications	Weight (kg)	Qty
	01	HI SB 110 00	HI End unit	0,75m	187	2
	02	HI SB 110 05	HI Strut	0,50m	90	*
	03	HI SB 110 10	HI Strut	1m	134	*
	04	HI SB 110 20	HI Strut	2m	236	*
	05	HI SB 110 30	HI Strut	3m	325	*
	06	HI SB 110 40	HI Strut	4m	431	*
	07	HI SB 110 50	HI Strut	5m	502	*
	08	HI SB 110 60	HI Strut	6m	591	*
	09	G-5263	Green Pin Super Shackle	WLL 85t	45,1	2
	10	P-6036	Green Pin shackle	WLL 120t	114	2
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 end unit 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 for additional information.
- Never use less than the mandatory minimum sling length. See Table 2 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.

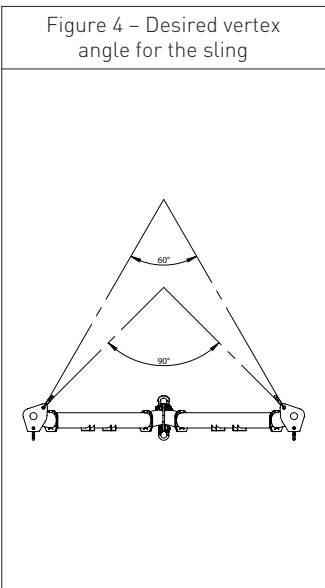
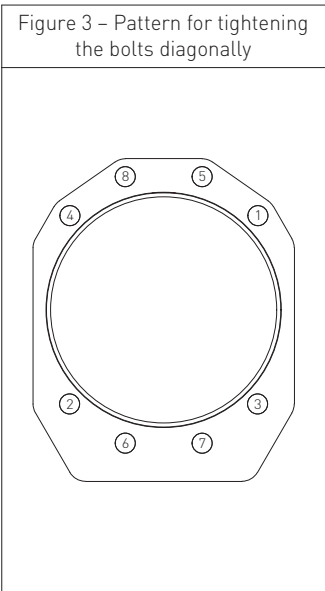


Assembly

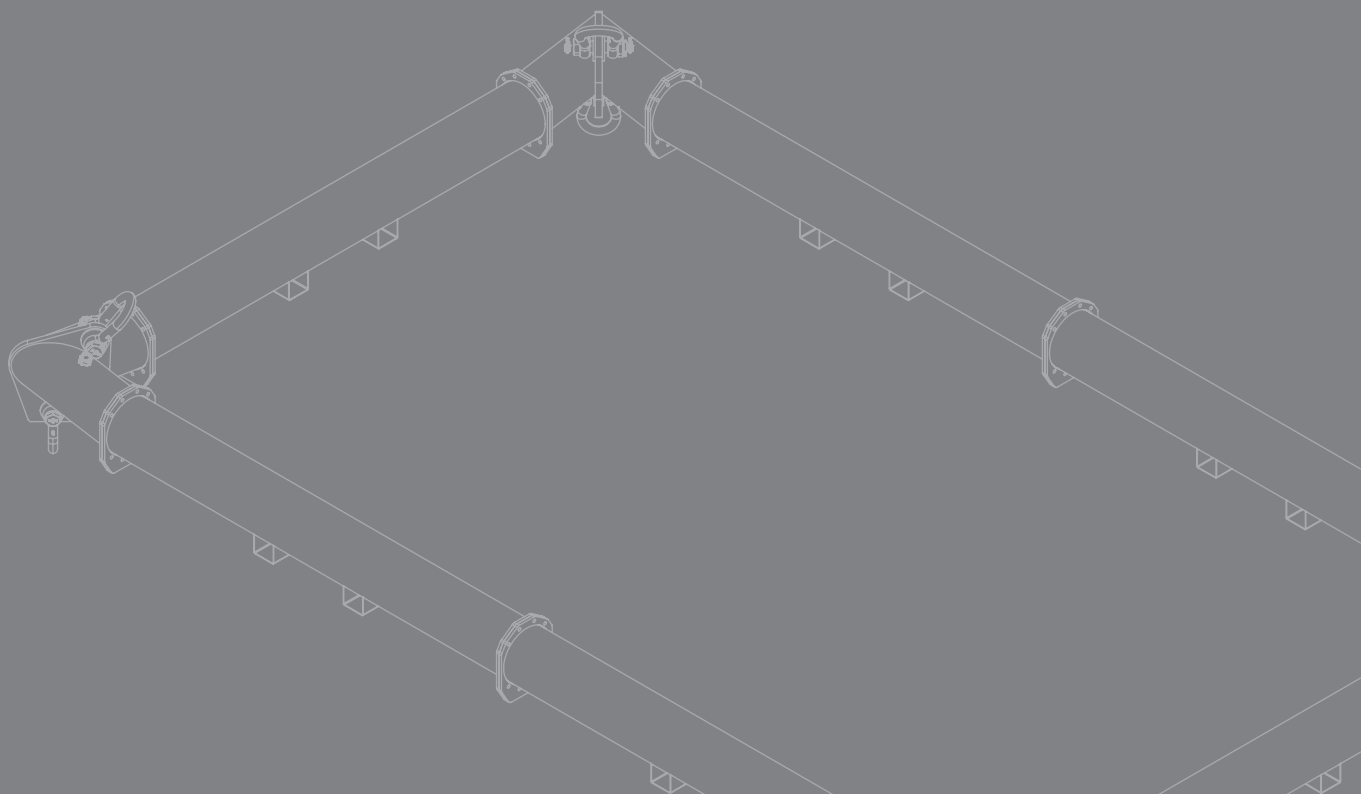
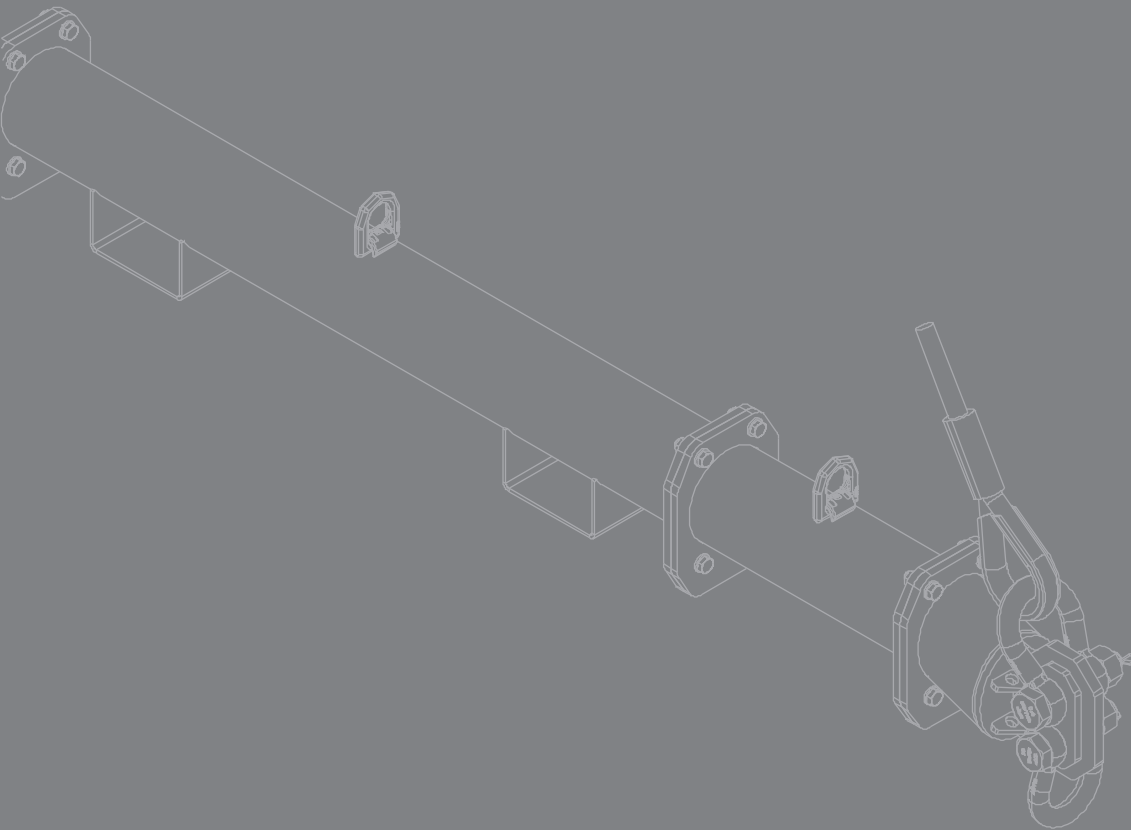
1. Lay out the struts with the longest strut in the middle in the desired configuration on a flat and clean surface.
2. Connect up each flange using 8 pcs. M24x90 8.8 bolts, nuts and washers.
3. Tighten the bolts in stages, using a diagonal pattern. See Figure 3 for additional information. Use the tightening 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 (P-6036), WLL 120 tons, in the top hole in each end unit.
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 2 for more information.
6. Fit the Green Pin Super Shackle (G-5263), WLL 85 tons, in the bottom hole in each end unit.
7. Get the HI SB 110 checked before use by a suitably competent member of staff or an external specialist.

Table 2 - Working load of the HI SB 110

Lifting angle top sling-vertical 60°			Recommended configuration ²							Lifting angle top sling-vertical 90°			
Length	WLL	Sling ¹	<	>						Length	WLL	Sling ¹	
1,5m	126t	1,5m	<	>						1,5m	110t	1,2m	
2m	126t	2m	<	0,5	>					2m	110t	1,6m	
2,5m	126t	2,5m	<	1	>					2,5m	110t	2m	
3m	126t	3m	<	1	0,5	>				3m	110t	2,4m	
3,5m	126t	3,5m	<	2	>					3,5m	110t	2,8m	
4m	125t	4m	<	2	0,5	>				4m	110t	3,2m	
4,5m	125t	4,5m	<	3	>					4,5m	109t	3,6m	
5m	125t	5m	<	3	0,5	>				5m	109t	4m	
5,5m	125t	5,5m	<	4	>					5,5m	109t	4,4m	
6m	125t	6m	<	4	0,5	>				6m	109t	4,8m	
6,5m	125t	6,5m	<	4	1	>				6,5m	109t	5,2m	
7m	125t	7m	<	1	4	0,5	>			7m	109t	5,6m	
7,5m	125t	7,5m	<	4	2	>				7,5m	109t	6m	
8m	125t	8m	<	2	4	0,5	>			8m	109t	6,4m	
8,5m	125t	8,5m	<	2	4	1	>			8,5m	109t	6,8m	
9m	124t	9m	<	3	4	0,5	>			9m	109t	7,2m	
9,5m	124t	9,5m	<	4	4	>				9,5m	109t	7,6m	
10m	124t	10m	<	4	4	0,5	>			10m	108t	8m	
10,5m	124t	10,5m	<	4	4	1	>			10,5m	108t	8,4m	
11m	124t	11m	<	1	4	4	0,5	>		11m	108t	8,8m	
11,5m	124t	11,5m	<	2	4	4	>			11,5m	108t	9,2m	
12m	124t	12m	<	2	4	4	0,5	>		12m	108t	9,6m	
12,5m	124t	12,5m	<	3	4	4	>			12,5m	108t	10m	
13m	124t	13m	<	3	4	4	0,5	>		13m	108t	10,4m	
13,5m	124t	13,5m	<	4	4	4	>			13,5m	108t	10,8m	
14m	123t	14m	<	4	4	4	0,5	>		14m	108t	11,2m	
14,5m	123t	14,5m	<	4	4	4	1	>		14,5m	108t	11,6m	
15m	123t	15m	<	1	4	4	4	0,5	>	15m	108t	12m	
15,5m	123t	15,5m	<	2	4	4	4	>		15,5m	107t	12,4m	
16m	123t	16m	<	2	4	4	4	0,5	>	16m	107t	12,8m	
16,5m	123t	16,5m	<	3	4	4	4	>		16,5m	107t	13,2m	
17m	123t	17m	<	3	4	4	4	0,5	>	17m	107t	13,5m	
17,5m	123t	17,5m	<	4	4	4	4	>		17,5m	107t	13,9m	
18m	123t	18m	<	4	4	4	4	0,5	>	18m	107t	14,3m	
18,5m	123t	18,5m	<	1	4	4	4	4	>	18,5m	107t	14,7m	
19m	122t	19m	<	1	4	4	4	4	0,5	>	19m	100t	15,1m
19,5m	122t	19,5m	<	2	4	4	4	4	>	19,5m	94t	15,5m	
20m	122t	20m	<	2	4	4	4	4	0,5	>	20m	88t	15,9m
20,5m	122t	20,5m	<	3	4	4	4	4	>	20,5m	82t	16,3m	
21m	122t	21m	<	3	4	4	4	4	0,5	>	21m	77t	16,7m
21,5m	122t	21,5m	<	4	4	4	4	4	>	21,5m	72t	17,1m	
22m	117t	22m	<	4	4	4	4	4	0,5	>	22m	67t	17,5m
22,5m	110t	22,5m	<	3	4	6	4	4	>	22,5m	63t	17,9m	
23m	103t	23m	<	3	4	6	4	4	0,5	>	23m	59t	18,3m
23,5m	97t	23,5m	<	4	4	6	4	4	>	23,5m	55t	18,7m	
24m	90t	24m	<	4	4	6	4	4	0,5	>	24m	51t	19,1m
24,5m	85t	24,5m	<	3	6	6	4	4	>	24,5m	48t	19,5m	
25m	79t	25m	<	3	6	6	4	4	0,5	>	25m	45t	19,9m
25,5m	74t	25,5m	<	4	6	6	4	4	>	25,5m	42t	20,3m	
26m	69t	26m	<	4	6	6	4	4	0,5	>	26m	39t	20,7m
26,5m	65t	26,5m	<	3	6	6	6	4	>	26,5m	36t	21,1m	
27m	60t	27m	<	3	6	6	6	4	0,5	>	27m	33t	21,5m
27,5m	56t	27,5m	<	4	6	6	6	4	>	27,5m	31t	21,9m	
28m	52t	28m	<	4	6	6	6	4	0,5	>	28m	29t	22,3m
28,9m	49t	28,5m	<	3	6	6	6	6	>	28,9m	26t	23m	
29m	45t	29m	<	3	6	6	6	6	0,5	>	29m	2t	23,1m
29,5m	42t	29,5m	<	4	6	6	6	6	>	29,5m	22t	23,5m	
30m	39t	30m	<	4	6	6	6	6	0,5	>	30m	20t	23,9m



¹⁾ Top sling - minimum sling length measured from inside eye to inside eye.
²⁾ 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.



KSC International BV

Moezelweg 128

3198 LS Europoort Rotterdam

Tel. 0031 88 25 00 999

info@ksc-international.com

www.ksc-international.com