

# Modulift®

Spreader Beams • Lifting Beams • Lifting and Spreader Frames



# Modulift: Working Between the Hook and the Load

## Our Vision

To be renowned globally as specialist engineers operating in a niche market, concentrating on the provision of custom and complex lifting solutions and exceeding our customers expectations by providing an all round service on the delivery of value for money and quality products.

## Our Mission

To globally deliver our expertise through innovative design, quality of products and customer satisfaction whilst ensuring a safe lifting environment.

## Our Values

- Leadership
- Passion
- Accountability
- Innovation
- Quality
- Integrity

At Modulift, we pride ourselves on being able to offer you a complete lifting engineering service from start to finish. We are here to help you solve your lifting problems, advise on rig planning, design custom lifting equipment, or manufacture quality assured products to the highest specifications.

**Modulift are there every step of the way to ensure your lift runs smoothly, on time and to budget.**



### Standard Off-the-Shelf Range

<b>QJ2</b> Up to 2t at 1.2m/4ft	<b>MOD 34</b> Up to 34t at 6m/19ft Up to 10m/32ft at a lower capacity.
<b>MOD 6</b> Up to 6t at 3.6m/148" Up to 4.5m/176" at a lower capacity.	<b>MOD 50</b> Up to 50t at 8m/26ft Up to 13m/42ft at a lower capacity.
<b>MOD 12</b> Up to 12t at 4.75m/15ft Up to 6.5m/21ft at a lower capacity	<b>MOD 70</b> Up to 70t at 10.5m/33ft Up to 14m/45ft at a lower capacity.
<b>MOD 24</b> Up to 24t at 5m/17ft Up to 8m/26ft at a lower capacity.	<b>MOD 70H</b> Up to 100t at 8.5m/28ft Up to 14m/45ft at a lower capacity.

### Heavy Off-the-Shelf Range

<b>MOD 110</b> Up to 110 t at 14m/46ft Up to 18m/59ft at a lower capacity	<b>MOD 250/300</b> Up to 300t at 13m/40ft Up to 21m/68ft at a lower capacity.	<b>MOD 400/600</b> Up to 600t at 14m/44ft Up to 24m/78ft at a lower capacity.
<b>MOD 110H</b> Up to 170t at 11.5m/37ft Up to 18m/59ft at a lower capacity.	<b>MOD 250/400</b> Up to 400t at 11m/36ft Up to 21m/68ft at a lower capacity.	<b>MOD 600/600</b> Up to 600t at 21m/70ft Up to 26m/85ft at a lower capacity.
<b>MOD 110SH</b> Up to 240t at 10.5m/34ft Up to 17m/55ft at a lower capacity.	<b>MOD 400/400</b> Up to 400t at 17m/58ft Up to 24m/78ft at a lower capacity.	<b>MOD 600/800</b> Up to 800t at 18m/60ft Up to 26m/85ft at a lower capacity
<b>MOD 250/250</b> Up to 250t at 14m/46ft Up to 21m/68ft at a lower capacity.	<b>MOD 400/500</b> Up to 500t at 15m/50ft Up to 24m/78ft at a lower capacity.	<b>MOD 600/1000</b> Up to 1000t at 15m/51ft and up to 26m/85ft at a lower capacity.

# Modulift Spreader Beams

Modulift offer a wide range of Modular Spreader Beam components, offering a variety of different spans for all your lifting needs.

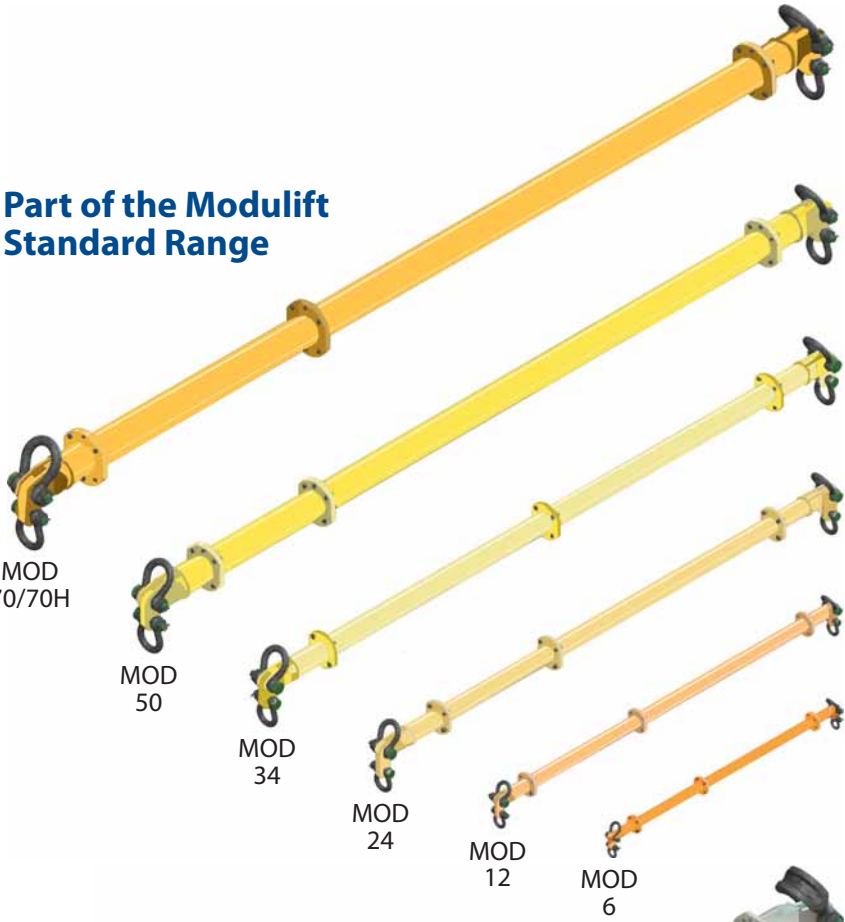
The sizes range from 2 to 5,000t with spans available from 0.4m/1'4"-100m/300'.

The flexibility of the modular configuration enables our Spreader Beams to be reused time and time again, providing a cost-effective solution.

### What Size Beam Do I Need?

Simple! First select the span you require, then select the SWL you need for that span.

**Please see tables on pages 6 & 7 to select your beam.**



### Part of the Modulift Heavy Range



### Range Classification

Range	Modulift Sizes
Standard	6, 12, 24, 34, 50, 70, 70H
Heavy	110, 110H, 110SH, 250, 400, 600

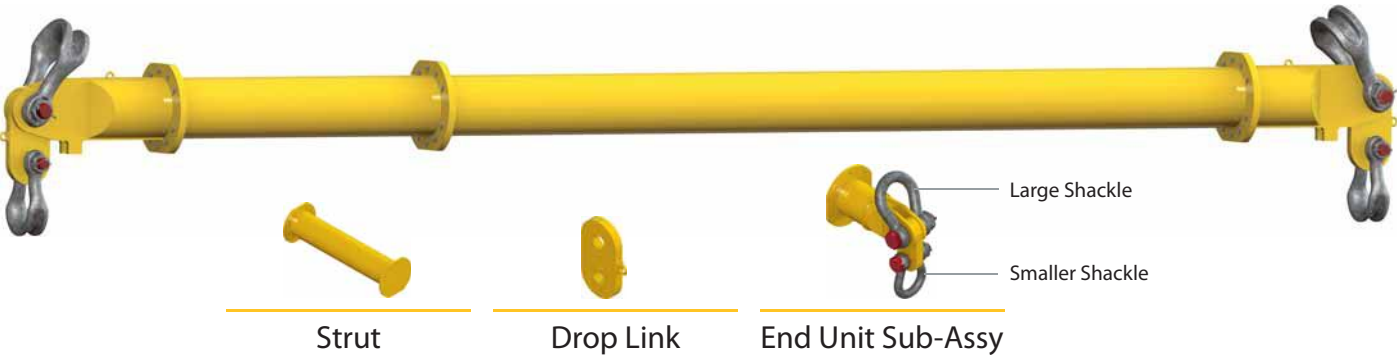


# Modular Spreader Beams

Modular Spreader Beams provide the ideal solution for most lifting requirements – versatile and cost-effective, the Modulift range has capacity from 2 to 5000t with spans up to 100m/330'. The modular configuration and interchangeable components enable Modulift Spreaders to be reused over many lifts. Designed by our engineering experts and manufactured in our own specialist facilities; the Modulift range are the leading Modular Spreader Beams on the market.

Spreader Beams for up to 400t are in stock and available worldwide for distribution – please contact Modulift for an immediate quote or further details.

Every Modulift Modular Spreader Beam consists of a pair of End Units and a pair of Drop Links, with interchangeable struts that can be bolted into the assembly between the End Units to either lengthen or shorten the beam to suit the requirements of the lift, making them reusable at different spans.



## Why is Modulift the leading Spreader Beam on the Market?

Quality Engineering	Modulift are a team of specialist engineers designing innovative products to optimum specification to ensure a safe lifting environment around the world.
Interchangeable	The modular struts allow for multiple lengths to be configured for a variety of lifts. Mix and match End Units with struts when long length, yet light weight lifts are required.
Economical	One Modulift Spreader Beam can be used over and over again for years.
Portable	Our heaviest and longest strut is only 6m/20' – small enough for the back of a truck! Many of our Spreader Beam components can be handled by one person. Our QJ2 even comes in a handy carrying case complete with Shackles!
Lightweight	Our Spreader Beams are specially designed to provide you with a lightweight solution so your cranes can work at maximum capacity without the weight of heavy lifting gear.
Easy to Store and Transport	For improved inventory control, organized components, quick retrieval and mobilization, ask about our storage systems, including logistics cradles and stillages.
Adaptability	Drop Links provide plus or minus 6° of rotation to allow for lower sling misalignment.
Quick Ship	Call us today – we have most standard sizes in stock and ready to ship!
Custom Applications	Have one of our engineers custom design a Spreader Beam for virtually any lift. Please ask a member of our team about this service.

# One Beam Many Lifts

## Interchangeable Components

### For Larger Lighter Loads

For longer spans and lighter loads, additional components are available allowing you to optimise the weight of our higher capacity range of Modular Spreader Beams to carry out these lifts. These struts provide the backbone of our Spreader Beams when trying to achieve longer spans. We have two solutions that can make the system more flexible and cheaper for you by interchanging smaller capacity End Units and Drop Links.

- Step-Down End Units are designed for smaller sizes, up to the MOD 70
- Cone Adaptors accommodate the larger sizes

These additional components allow your existing Spreader Beam to become even more versatile over a number of lifts so you can remain cost-effective with your rigging and crane capacity requirements.

By stepping down the End Units to a more suitable capacity, you can optimise your Shackles and Slings to provide a lighter system overall.

### There are a number of ways you can utilise our Modular Spreader Beams, for example:

**Need a span of 20m/66' but are only lifting 70t** – we can provide you with a MOD 250/70 giving you Cone Adaptors and MOD 70 End Units to bolt to MOD 250 struts to achieve the required overall Spreader Beam system.

**Need to lift 24t but at 12m/40'** – change our standard MOD 70 Spreader Beam End Units to Step-Down End Units and decrease the SWL to 24t allowing you to use smaller Shackles and Slings with the MOD 70 struts.

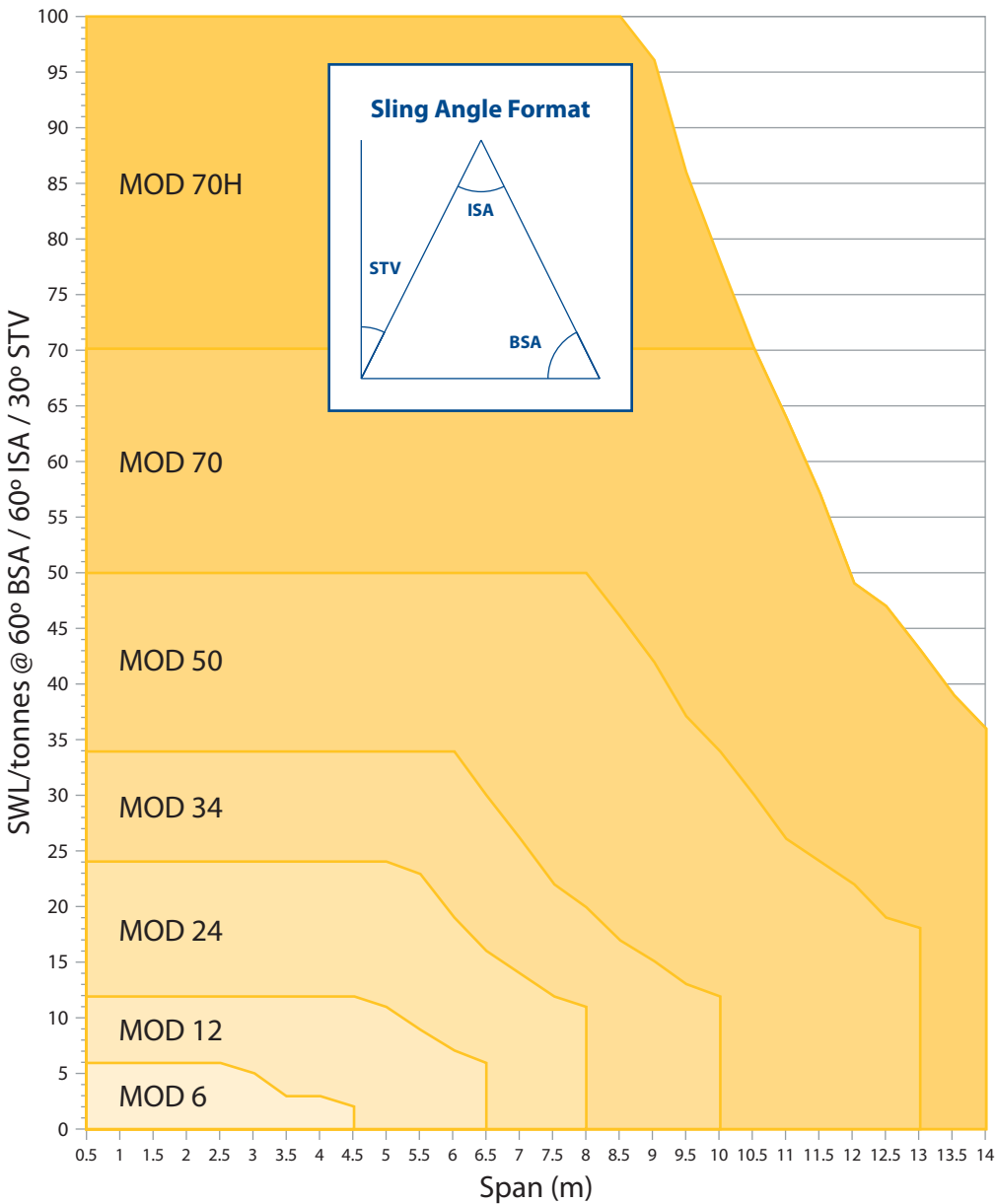
**Need to lift 100t** – if you already have a MOD 70 Spreader Beam, by changing the End Units to the MOD 70H End Units you can increase the SWL to 100t negating the need to buy a completely brand new Spreader Beam.

**Using one of our Modular Spreader Beams enables you to be more flexible over a number of lifts without needing to buy a new Spreader Beam every time, our lightweight design also minimises the overall weight of the lifting equipment and the costs incurred whilst working between the hook and the load.**

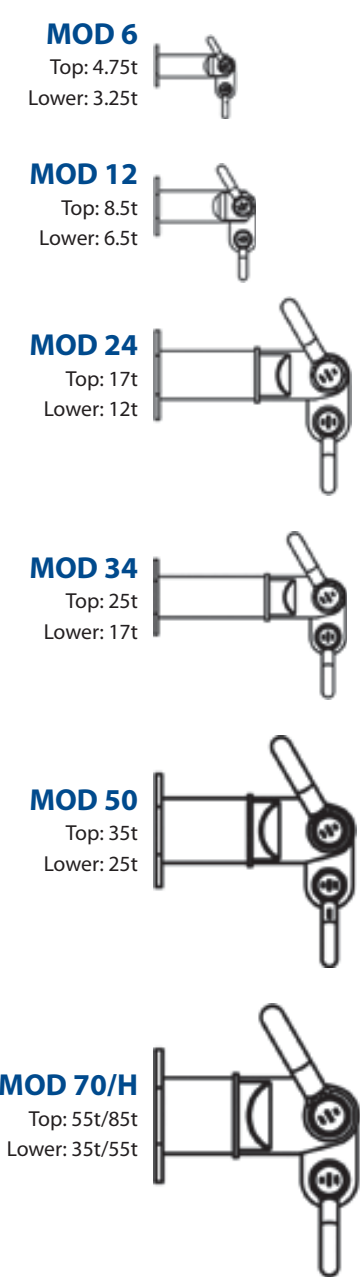


# The Standard Range

Load v Span Chart - Modulift Spreader Beam Standard Range



What size shackle do I need?



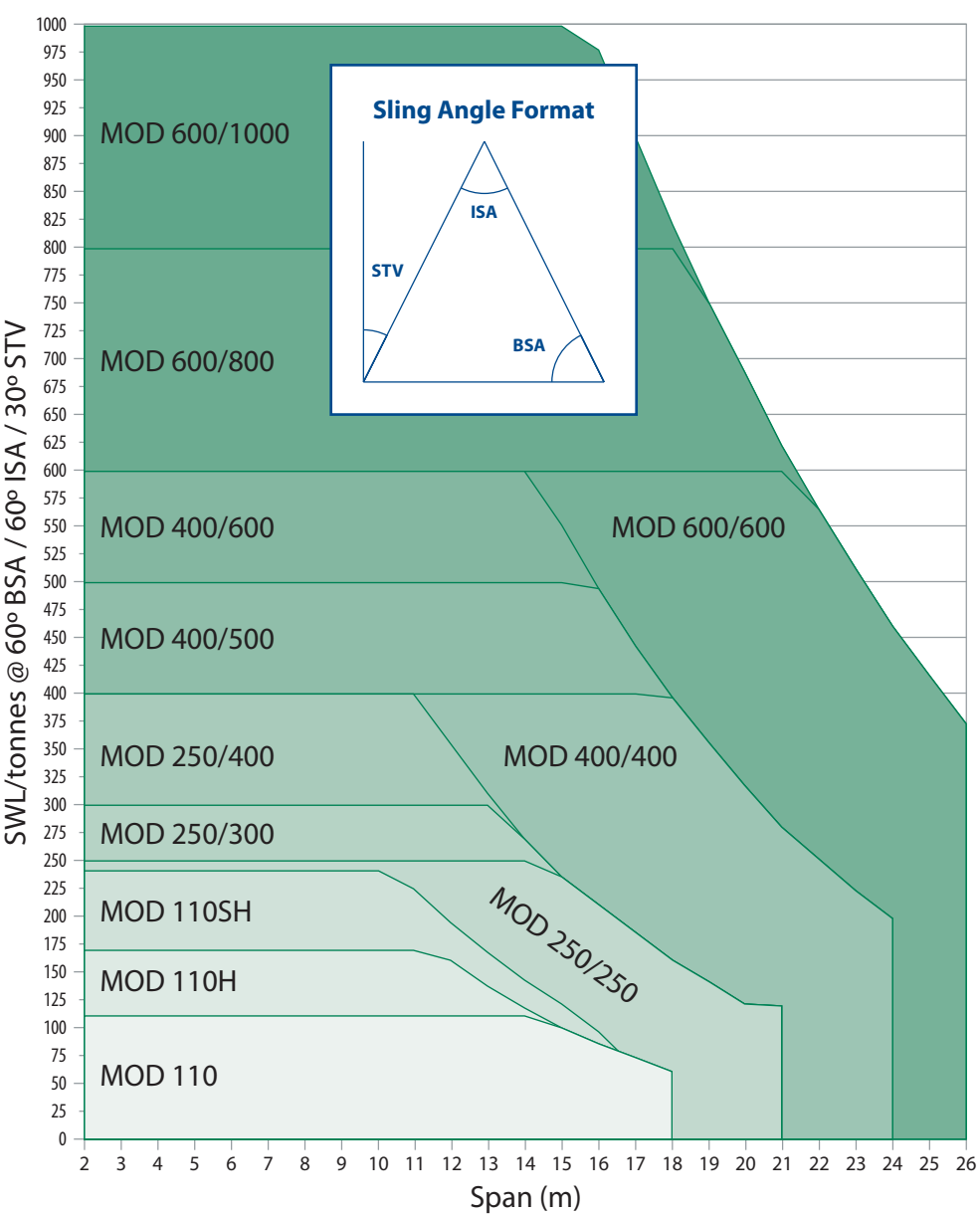
## Components per Set

\* Please note: Custom length Struts are available on request

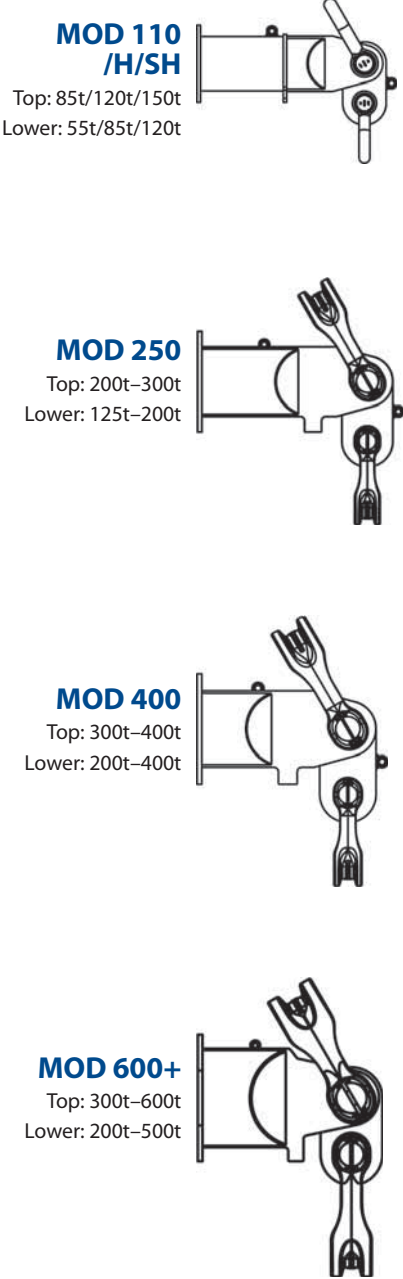
Spreader System	Strut														End unit	Drop link
	0.1m	0.2m	0.25m	0.3m	0.5m	0.6m	0.75m	1.0m	1.5m	2.0m	3.0m	4.0m	6.0m			
MOD 6	1	1		1		1		4						2	2	
MOD 12			1		1		1	1	3					2	2	
MOD 24					1			1		3				2	2	
MOD 34					1			1		4				2	2	
MOD 50					1			2		1		2		2	2	
MOD 70/70H					1			1		2		2		2	2	
MOD 110/110H					1			1		2		3		2	2	
MOD 110SH					1			1		1		3		2	2	
MOD 250-250 / 250-300 / 250-400								1		2	1		2	2	2	
MOD 400-400 / 400-500 / 400-600					1			1		1	1		3	2	2	
MOD 600-600 / 600-800 / 600-1000					1			1		1	1		3	2	2	

# The Heavy Range

Load v Span Chart - Modulift Spreader Beam Heavy Range



What size shackle do I need?



## Weight per Set (kgs)

\* Weight based on heaviest spreader in series using configuration recommended in user instructions

Weight	MOD 6	MOD 12	MOD 24	MOD 34	MOD 50	MOD 70, 70H	MOD 110, 110H	MOD 110SH	MOD 250	MOD 400	MOD 600
Max. Component Weight	8.1	19	41	51	140	240	367	444	860	1365	2665
Min. Component Weight	0.6	1.3	5	7	11	17 / 32	44 / 55	63	90	135	135
Weight at Max. Span	32	75	178	290	532	972/1090	1970/2130	2628	4895	8260	17260



# The Trunnion Modular Spreader Beam

The trunnion Spreader Beam provides a shackle free lifting solution that revolutionises the rigging industry by offering an efficient, lightweight and economic below-the-hook solution.

The shackle free lifting solution is a standard modular spreader beam, using the same struts and bolting configurations and is fully compatible with current and legacy equipment. The Trunnion Spreader Beam reduces the cost on the price of rigging by up to 50% and by using this innovative system compared to similar applications the rigging up phase can take up to half the duration therefore saving you time and money.



The trunnion spreader is initially available in three sizes up to 1000t capacity. TRUN MOD250, TRUN MOD400 and TRUN MOD600 – covering a range of capacities from 250t to 1000t.

## System Benefits

- Reduce your rigging weight
- Reduce your health and safety concerns
- Save time and money on rigging

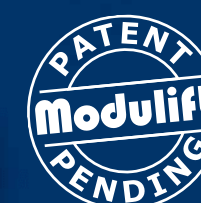
The current range has been developed according to BS EN 1993-1, and further sizes can be designed on a custom basis and additions to the range may be manufactured in future if demand is sufficient.



# Modulift®

working between the hook and the load

## Introducing the Trunnion Modular Spreader Beam



- Shackle free lifting
- Reduced rigging weight
- Compatible with our existing spreader beam systems
- Up to 1000t capacities
- Reduce your health and safety concerns

**Save time, save money**

**For more information call today**

**Head Office:**  
+44 (0) 1202 621511

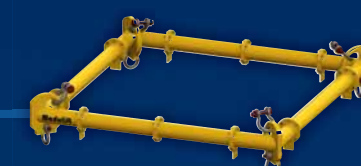
**Email:**  
sales@modulift.com

**www.modulift.com**

**Modulift are the experts in the design and manufacture of standard and custom designed lifting equipment**

- Modular Spreader Beams up to 400t in stock and available for worldwide distribution
- Modular Spreader Beams for 2-5000t and spans up to 100m/330ft
- Experts in Custom Lifting Solutions and projects requiring high QA standards
- Quality assured products, all fully tested and certified
- DNV Type Approval as standard

**Spreader and Lifting Frames**



**Spreader Beams**



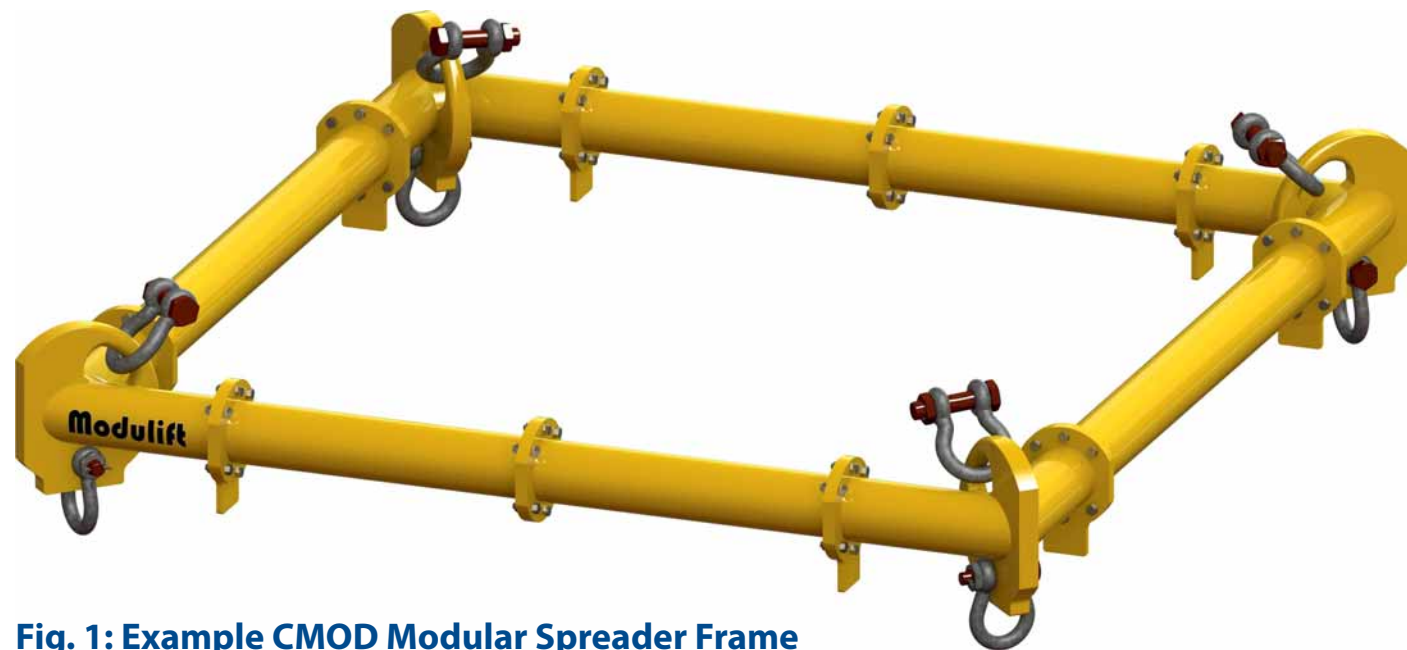
**Lifting Beams**





# CMOD Spreader Frames

**Modulift Modular Spreader Frames work with existing struts from our Modular Spreader Beam range**



**Fig. 1: Example CMOD Modular Spreader Frame**



## System Benefits

- Cheaper and easier to transport than a fixed system
- Easy to set up, handle and manoeuvre
- Re-configure the frame to any size to allow for multiple uses
- The corner plate has a bow (like the shackle). This means that a reversed Shackle can contact the plate 'bow to bow' allowing it to easily rotate to suit any angle of sling and setup of frame without de-rating the Shackle

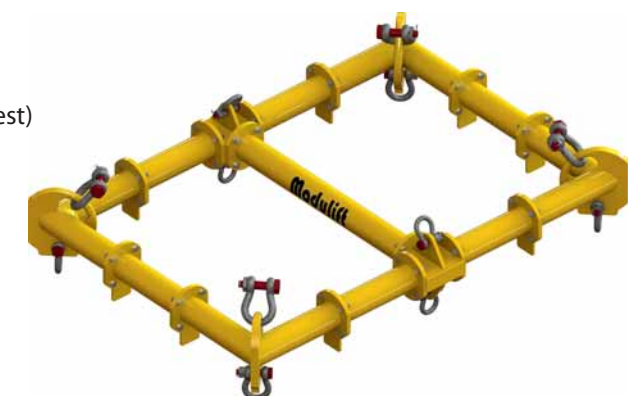
## Design Strengths

The plate is made of high strength carbon steel and is specifically designed to withstand any bending, and transfers the compression to the strut in an almost purely axial form. The system was designed to BS EN 13155 – Non Fixed Lifting Load Attachments and the method of Shackle connection has been approved by Van Beest.

## CMOD T-pieces

Elaborating on this popular concept Modulift has now developed a T-Piece to work in conjunction with the CMOD. This allows the frame to become a 6-point lift, (8-point, 10-point and so forth on request) adding yet another dimension to your Modulift equipment.

Spans of up to 40m x 16m and capacities of up to 200t are available as standard.



**Modulift, the market leaders in Spreader Beam design and manufacture**, have extended their modular offering, by launching the CMOD Modular Spreader Frame! A truly adaptable frame that maintains its engineering principles as its configuration adapts. Designed with ease and economy in mind - the CMOD is simple to set up, manoeuvre, and reconfigure to any size frame - allowing for multiple uses and diverse application.

The CMOD is a modular frame utilising Corner Units which are compatible with our existing Spreader Beam Struts and is modular in length and width. Every CMOD Spreader Frame consists of 4 x Corner Units, with intermediate Struts that can be bolted into the assembly to achieve different spans. Existing customers can adapt their Spreader Beam into a frame, by simply bolting on the corresponding Corner Units and any additional Struts required.

Even the largest CMOD can be easily transported as the frame is broken down into modular parts, saving the cost of specialist transportation.

## System Specifications

The CMOD comes in the following sizes:

CMOD 6, CMOD 12, CMOD 24, CMOD 34, CMOD 50, CMOD 70, CMOD 110 and CMOD 250

It spans from 0.5m/1'6" x 0.5m/1'6" to 16m/52' x 16m/52', whilst adapting to all rectangular shapes in between.

The systems will lift up to 140t\*

\* The system's SWL will de-rate as the shape of the frame becomes 'more rectangular'. Higher capacities and longer spans in development.

# CMOD Load Charts

## Load vs Span Charts – CMOD 6 to CMOD 24

CMOD 6: SWL / tonnes @ 60° ISA / 30° STV / 60° BSA

2.5					8
2				8	8
1.5			8	8	8
1		8	8	8	6
0.5	8	8	8	6	6
Span (m)	0.5	1	1.5	2	2.5

CMOD 6: SWL / tonnes @ 90° ISA / 45° STV / 45° BSA

2.5					6
2				6	6
1.5			6	6	6
1		6	6	6	4
0.5	6	6	6	4	4
Span (m)	0.5	1	1.5	2	2.5

CMOD 12: SWL / tonnes @ 60° ISA / 30° STV / 60° BSA

4								16
3.5							16	16
3						16	16	15
2.5					16	16	15	14
2				16	16	16	14	13
1.5			16	16	16	16	14	12
1		16	16	16	16	16	14	12
0.5	16	16	16	16	16	16	14	12
Span (m)	0.5	1	1.5	2	2.5	3	3.5	4

CMOD 12: SWL / tonnes @ 90° ISA / 45° STV / 45° BSA

4								9
3.5							9	9
3						9	9	8
2.5					9	9	8	8
2				9	9	9	8	7
1.5			9	9	9	9	8	6
1		9	9	9	9	9	8	6
0.5	9	9	9	9	9	9	8	6
Span (m)	0.5	1	1.5	2	2.5	3	3.5	4

CMOD 24: SWL / tonnes @ 60° ISA / 30° STV / 60° BSA

6						23
5					30	21
4				30	24	19
3			30	30	24	18
2		30	30	30	24	17
1	30	30	30	24	22	16
Span (m)	1	2	3	4	5	6

CMOD 24: SWL / tonnes @ 90° ISA / 45° STV / 45° BSA

6						13
5					17	12
4				19	13	10
3			19	19	13	10
2		19	19	17	13	9
1	19	19	19	13	12	9
Span (m)	1	2	3	4	5	6

## Load vs Span Charts – CMOD 34 to CMOD 70\*

\*CMOD 110 and CMOD 250 graphs available on request

CMOD 34: SWL / tonnes @ 60° ISA / 30° STV / 60° BSA

8								24
7							32	23
6						40	31	22
5					40	40	28	20
4				40	40	34	26	19
3			40	40	40	34	24	18
2		40	40	40	40	32	23	17
1	40	40	40	40	34	30	22	16
Span (m)	1	2	3	4	5	6	7	8

CMOD 34: SWL / tonnes @ 90° ISA / 45° STV / 45° BSA

8								13
7							18	13
6						22	17	12
5					27	22	16	11
4				27	27	19	15	10
3			27	27	25	19	13	10
2		27	27	27	22	18	13	9
1	27	27	27	27	19	17	12	9
Span (m)	1	2	3	4	5	6	7	8

CMOD 50: SWL / tonnes @ 60° ISA / 30° STV / 60° BSA

11											32
10										41	31
9									50	39	29
8								50	48	37	28
7							60	50	45	35	27
6						60	60	50	43	33	26
5					60	60	60	50	40	32	25
4				60	60	60	50	49	38	31	24
3			60	60	60	60	50	47	37	30	23
2		60	60	60	60	60	50	45	36	29	23
1	60	60	60	60	60	60	50	44	35	28	22
Span (m)	1	2	3	4	5	6	7	8	9	10	11

CMOD 50: SWL / tonnes @ 90° ISA / 45° STV / 45° BSA

11											18
10										23	17
9									28	21	16
8								28	27	20	15
7							34	28	25	19	14
6						40	34	28	24	18	14
5					40	40	34	28	23	17	13
4				50	40	40	28	28	21	17	13
3			50	50	40	40	28	26	21	16	12
2		50	50	50	40	34	28	25	20	16	12
1	50	50	50	50	40	34	28	25	20	15	12
Span (m)	1	2	3	4	5	6	7	8	9	10	11

CMOD 70: SWL / tonnes @ 60° ISA / 30° STV / 60° BSA

12											63	
11										70	60	
10									80	70	58	
9								80	80	70	55	
8							80	80	80	67	53	
7						80	80	80	70	65	51	
6					80	80	80	70	60	62	49	
5				80	80	80	80	70	60	60	47	
4			80	80	80	80	80	70	60	58	46	
3		80	80	80	80	80	80	70	60	56	45	
2		80	80	80	80	80	80	70	70	60	55	44
1	80	80	80	80	80	80	80	70	70	60	54	44
Span (m)	1	2	3	4	5	6	7	8	9	10	11	12

CMOD 70: SWL / tonnes @ 90° ISA / 45° STV / 45° BSA

12												36
11											40	34
10									40	40	33	
9								46	40	40	31	
8							57	46	40	38	30	
7						60	57	46	40	37	29	
6					60	60	57	40	34	35	28	
5				60	60	60	50	40	34	34	27	
4			60	60	60	60	50	40	34	33	26	
3		60	60	60	60	60	50	40	34	32	26	
2		60	60	60	60	60	60	50	40	34	31	25
1	60	60	60	60	60	60	60	50	40	34	31	24
Span (m)	1	2	3	4	5	6	7	8	9	10	11	12



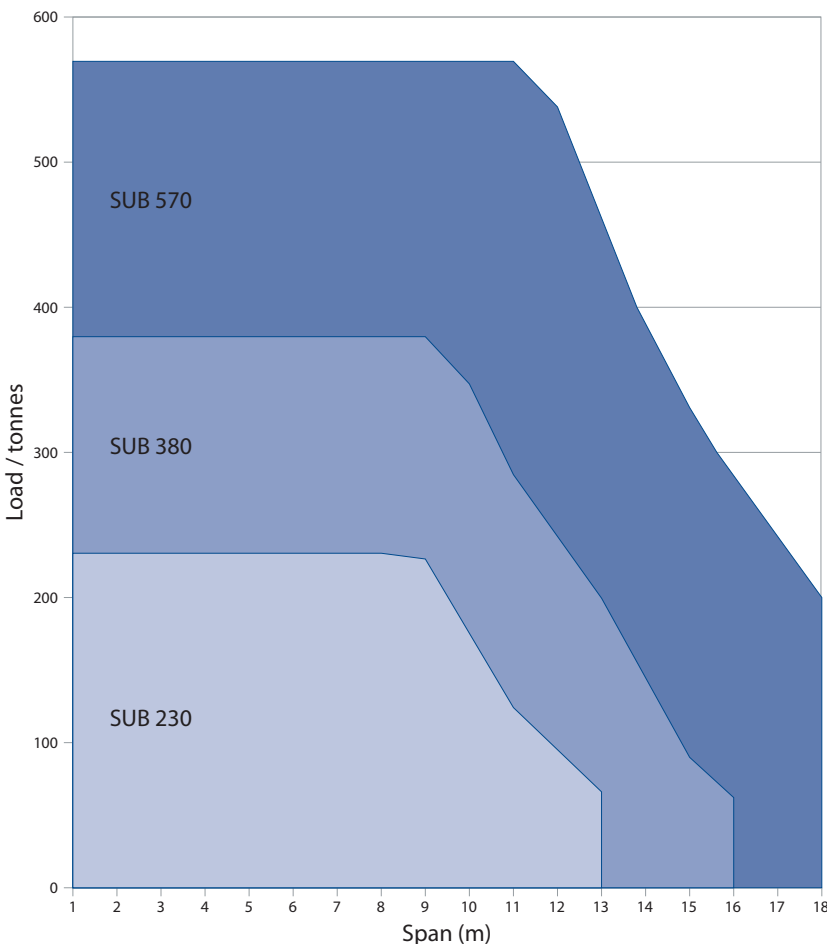
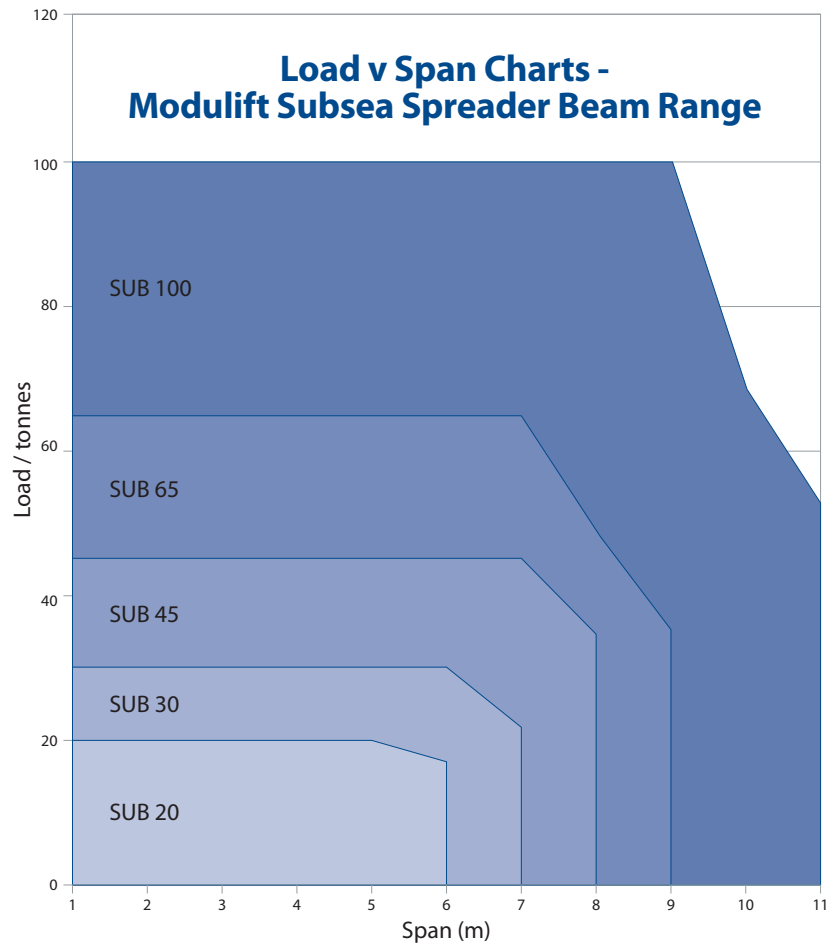
# Subsea Spreader Beams

Unlike Modulift's standard Spreader Beams that are manufactured using circular hollow sections, the Subsea range has an open section design, this being suitable for water submersion by eliminating the risks of any cavity or pressure issues. They are finished with a three-coat paint system that is based on a two-pack epoxy paint combination suitable for the marine environment.

The Subsea Spreader Beam series is available for order while for more job specific requirements or high QA lifts, the Modulift engineering team can design custom made alternatives.

Complying with DNV-OS-H206 – Loadout, Transport and Installation of Subsea Objects, the Modulift nautical range is designed to safely hold weights from 20–570 tonnes.

As with regular Spreader Beams they are fully and correctly assembled when combined with the recommended end units, drop links and shackles top and bottom, which also allows for the options to use ROV shackles where necessary too. Their unique modular elements will as with all Modulift products, provide a versatile and efficient option for deep water lifting.



Subsea Spreader Range Load vs Span Chart 30° STV

Span / m	SUB 20	SUB 30	SUB 45	SUB 65	SUB 100	SUB 230	SUB 380	SUB 570	Min. sling length / m
	SWL / tonnes								
1	20	30	45	65	100	230	380	570	1
2	20	30	45	65	100	230	380	570	2
3	20	30	45	65	100	230	380	570	3
4	20	30	45	65	100	230	380	570	4
5	20	30	45	65	100	230	380	570	5
6	17	30	45	65	100	230	380	570	6
7		22	45	65	100	230	380	570	7
8			35	49	100	230	380	570	8
9				36	100	228	380	570	9
10					69	183	345	570	10
11					53	128	285	570	11
12						100	239	535	12
13						66	198	455	13
14							140	388	14
15							90	327	15
16							63	282	16
17								238	17
18								201	18

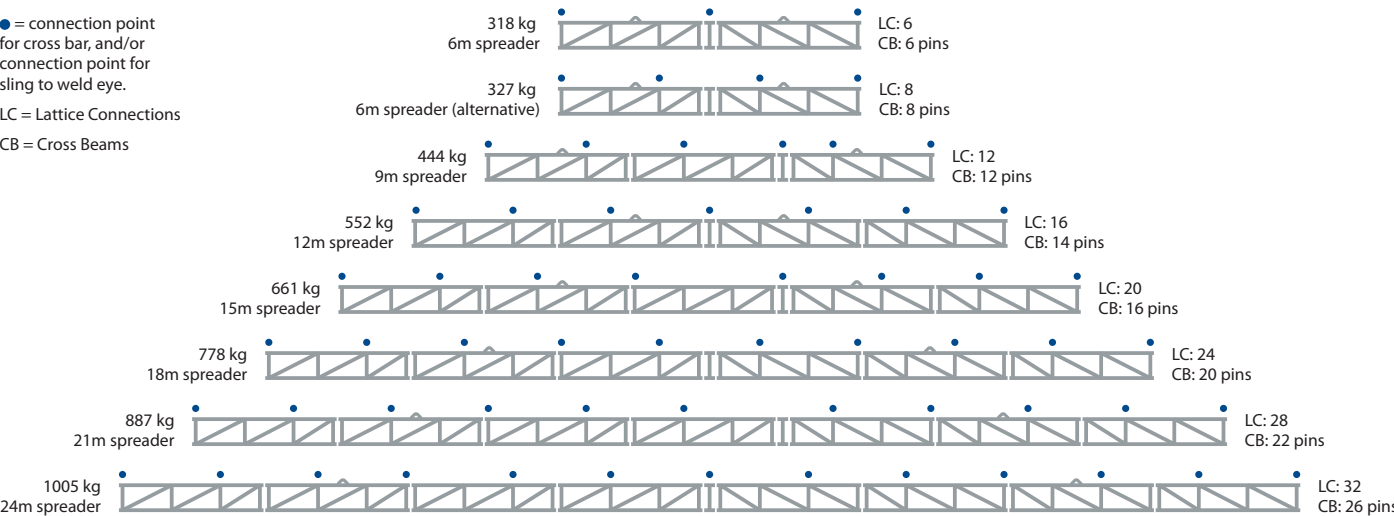


# Lattice Spreader Beams

The Modulift Lattice System (MLS) is a light-weight modular spreader suitable for long, light loads, and has been specially developed to suit roofing sheets. Maximum spans from 6m up to 42m in 3m increments are achievable using this system. Lower support slings must be attached to the frames every 2m to ensure a uniformly distributed load.

## Lifting Points/Load Connection Points 6–24m Span

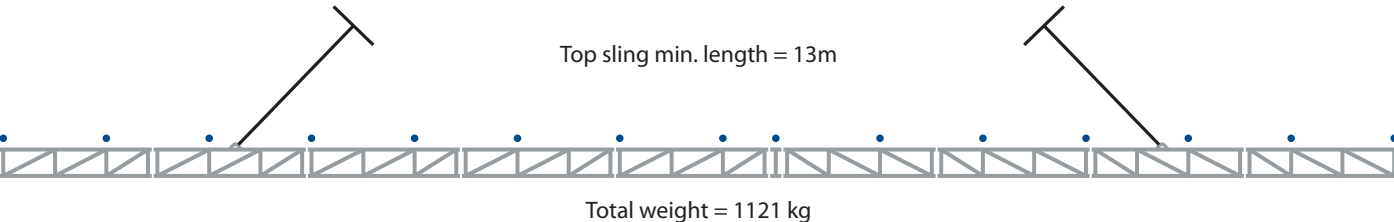
● = connection point for cross bar, and/or connection point for sling to weld eye.  
LC = Lattice Connections  
CB = Cross Beams



Spreader	Configuration (frame types)										No. of Crossbeams
6m	2	3	2								3 or 4
9m	2	1	3	2							6
12m	1	2	3	2	1						7
15m	1	2	1	3	2	1					8
18m	1	2	1	3	1	2	1				10
21m	1	2	1	1	3	1	2	1			11
24m	1	2	1	1	3	1	1	2	1		13
1=Type 1 Frame 2=Type 2 Frame 3=Type 3 Frame		Maximum 1.5m overhang of roofing sheet per end									

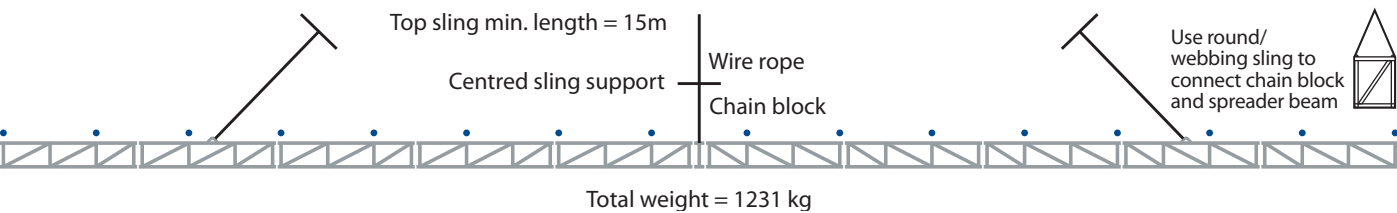


## Assembled 27m Lattice Spreader Beam



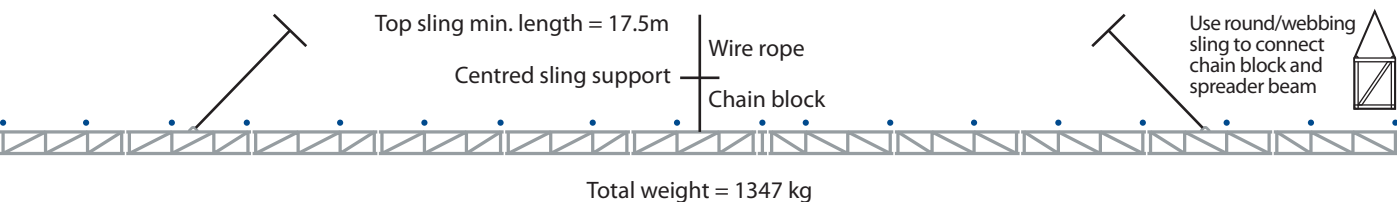
Spreader	Configuration (frame types)										No. of Crossbeams
27m	1	2	1	1	1	3	1	1	2	1	15
Type 1 Frame x7 Type 2 Frame x2 Type 3 Frame x1		Maximum 1.5m overhang of roofing sheet per end									

## Assembled 30m Lattice Spreader Beam



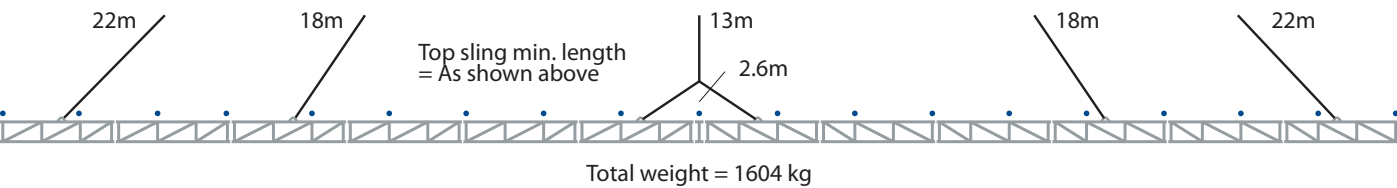
Spreader	Configuration (frame types)											No. of Crossbeams
30m	1	2	1	1	1	3	1	1	1	2	1	16
Type 1 Frame x8 Type 2 Frame x2 Type 3 Frame x1			Maximum 1.5m overhang of roofing sheet per end									

## Assembled 33m Lattice Spreader Beam



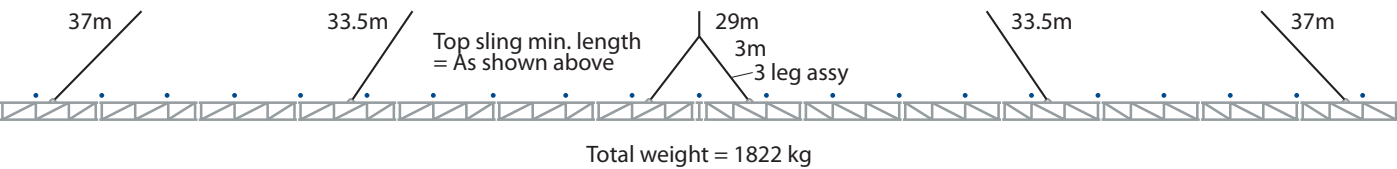
Spreader	Configuration (frame types)												No. of Crossbeams
33m	1	2	1	1	1	1	3	1	1	1	2	1	18
Type 1 Frame x9 Type 2 Frame x2 Type 3 Frame x1			Maximum 1.5m overhang of roofing sheet per end										

## Assembled 36m Lattice Spreader Beam



Spreader	Configuration (frame types)														No. of Crossbeams
36m	2	1	2	1	1	2	3	2	1	1	2	1	2	19	
Type 1 Frame x6 Type 2 Frame x6 Type 3 Frame x1	Maximum 1.5m overhang of roofing sheet per end														

## Assembled 42m Lattice Spreader Beam



Spreader	Configuration (frame types)														No. of Crossbeams
42m	2	1	1	2	1	1	2	3	2	1	1	2	1	2	21
Type 1 Frame x8 Type 2 Frame x6 Type 3 Frame x1			Maximum 1.5m overhang of roofing sheet per end												



## Modulift – Lifting Experts

Fig. 1



Fig. 2



**Fig. 1** Uprighting of a vessel which was fabricated and transported horizontally and stood up vertically when installed. The vessel was not designed with the correct lifting point at the bottom, Modulift designed and manufactured the yellow plate on the base which allowed the operation to be carried out safely.

**Fig. 2** 303t capacity Subsea Spreader Beams used for The Kraken Development.

**Fig. 3** Skid being lifted by 2 x Spreader Beams and a single Lifting Beam.

Fig. 3



## Regulations, Standards and Compliance

Each Modulift Spreader Beam series has been proven by being Proof Load Tested in the Modulift compression test rig and all products have been designed in accordance with the standards listed below:

### UK & Europe Compliance

- BS EN 13155: 2003+A2:2009: Cranes – Safety – Non-fixed load lifting attachments
- DNV Standard for Certification No. 2.22 Lifting Appliances 2011
- Mod 6 up to Mod 800/1000 Type Approved by DNV
- LOLER: 1998 (Lifting Operations and Lifting Equipment Regulations)
- PUWER: 1998 (Provision and Use of Work Equipment Regulations)
- EC Machinery Directive 2006/42/EC
- BS EN 1993-1: 2005: Eurocode 3

### USA Compliance

- ASME B30.20 - 2013: For Below-the-Hook Lifting Devices.
- ASME BTH-1 2014: Design of Below-the-Hook Lifting Devices.

### Australia Compliance

- AS 4991 - 2004: Lifting Devices.

### Worldwide Compliance

- ISO 17096 – 2015: Cranes, Safety, Load Lifting Attachments.

### DNV Standard for Certification

DNV 2.22: Modulift Spreader Beams designs conform to DNV Standard for Certification No.2.22 Lifting Appliances. Modulift is the first and only Spreader Beam Manufacturer in the world to have the globally recognised DNV Type Approval for all Spreader Beams up to 1000t capacity in accordance with DNV's standard for Certification No. 2.22 for Lifting Appliances 2011, at no extra cost to the client.

For those customers who require a higher level of quality standard, Modulift also provides further options for project specific 3rd party verification.

When a project demands the highest level of certification Modulift are able to offer our customers varying degrees of additional DNV certification depending upon their individual QA requirements, including:

- Proof Load Test Survey Report and Record of Test
- DNV Certificate of Conformity for Manufacture & Test (CG3 in accordance with ILO convention 152)



### Ask Modulift about the Level of Options Available to Ensure Your Safe Lift

**Level 1. Standard Modulift Spreader Beams:** In accordance with BS EN 13155 – 2003. Available CE Marked and supplied with a Certificate of Conformity and DNV Type Approval, up to 400t available off-the-shelf.

**Level 2. Individual Proof Load Testing of Modulift Spreader Beams:** Modulift offer an individual Proof Load Test service with or without 3rd party verification to those requiring a higher level of certification. Please ask for further information.

**Level 3. Modulift Spreader Beams with project specific DNV Certification:** Although our range Spreader Beams are now DNV Type Approved, we can also offer project specific DNV certification of individual Spreader Beams. It is the ultimate in certification and quality control for the most demanding project specification; a Modulift Spreader Beam individually certified by DNV in terms of design, manufacturing and Proof Load testing. Supplied with a design review report and Certificate of Conformity for Manufacture and Test, issued by DNV.

We now have all our  
Spreader Beams up  
to 1000t capacity  
DNV Type Approved



# Enhanced QA Options / Custom Design Solutions

Modulift recognise the high level QA requirements of the Oil & Gas, Offshore and Renewable Energy industries. In response to these high standards Modulift offer Enhanced QA Options to our standard Off-the-Shelf range of Spreader Beams – see our options list below.

Product Specification	Off-the-shelf	Enhanced QA Options
Design	BS EN 13155-2003, BS EN 1993-1-1-2005, ASME B30.20 – 2013, AS 4991 - 2004, DNV 2.22, ISO 17096	Project Specific requirements
Materials	Impact tested to -20° C/-4°F in accordance with BS EN10025/10210/10219	Impact tested to -40° C /-40°F in accordance with BS EN 10025/10225/API SL
Welding	BS EN ISO 15614.1	
Paint Finish	Standard Finish - Yellow RAL 1003 2 Pack epoxy paint system	High build systems suitable for marine environments
Markings	Engraved stainless steel ID plate	ID plate and additional labelling
Testing	–	Proof Load Testing & NDT
Bolts	Grade 8.8 HT zinc plated	Low temperature, galvanised
Shackles	Rated to -20° C /-4°F	Rated to -40° C /-40°F
Slings	Rated to -40° C/ -40°F and BS EN 13414 -1 & -3 compliant	
Verification	Off-the-shelf	Enhanced QA Options
DNV Type Approval	✓	✓
DNV Design Approval	✓	✓
Original Design Verification Proof Load Test	✓	✓
Job specific Proof Load Testing & NDT on individual beams	✗	✓
Third Party Verification of individual beams	✗	✓
Certification / Documentation	Off-the-shelf	Enhanced QA Options
EC Declaration of Conformity	✓	✓
User Instructions	✓	✓
Material Certification	✗	✓
Inspection and Test Plan (ITP)	✗	✓
Welding, NDT & Proof Load Testing documentation	✗	✓
MRB (Manufactures Record Book)	✗	✓

**We can design and manufacture a Custom Lifting Solution within 4–6 weeks – providing expert engineering, manufacturing excellence and quality assurance.**

Because not every load fits into a standard mould, our engineering team are lifting industry experts who will work with you and your team, to custom design and build the ideal solution for your lifting requirements. With innovative thinking, we can develop the right equipment to meet your needs whether they be height, environment, weight, flexibility of use, speed of assembly, or transportation requirements to name but a few – we can design a custom solution for you.

Modulift have been building and supplying lifting equipment with high level QA requirements across the Oil & Gas, Renewable Energy, Offshore, Maritime, OEM, Aerospace and Heavy Haulage industries worldwide. We have extensive experience in delivering equipment for these critical projects successfully, on time, and to meet the project’s individual requirements -we can design and manufacture a Custom Lifting Solution within 4 -6 weeks!

Our sample Case Studies describe Custom Projects where we have either designed and manufactured an entirely ‘Custom’ lifting solution; Or we have adapted our standard designs/ products -tailoring and manufacturing them to meet the highest level of QA standards. See our Case Studies to read about the individual requirements for each lifting project.



### International Standards

In addition to the compliance shown on Page 17, there are several International Standards that Modulift’s Spreader Beams can be designed to comply with, particularly in reference to offshore applications:

- DNV - OS - H205 - Lifting operations (VMO Standard - Part 2-5)
- Lloyds Register: Code for Lifting Appliances in a Marine Environment
- GL Noble Denton: Guidelines for Marine Lifting Operations 0027/ND
- API RP 2A-WSD
- OSHA CR 29 1926.251



**Modulift offer a complete Design & Manufacturing service that incorporates key deliverables such as:**

- ITP / Quality Plan
- Full material traceability – 3.1 or 3.2
- Weld Book: WPQR, WPS, WQTC & Weld Mapping
- Procedures & Reports: NDT, Proof Load Testing, and painting

Our team of welder/fabricators are qualified to BS EN 287-1, with specification & qualification of weld procedures to BS EN ISO 15614-1. Welding can also be carried out in compliance with other international standards.

# Engineering Consultancy

With over 20 years experience, Modulift's team of Lifting Engineers are able to provide expert advice in all aspects of onshore and offshore lifting. We can also provide a custom designed and engineered lifting solution for all your lifting requirements.

## Engineering Consultancy

Whether you require advocacy in safe and effective procedures for the use of heavy lifting equipment or need RFID training to enable you to remotely take complete control over your assets, Modulift are here to help.

## Custom Design Services

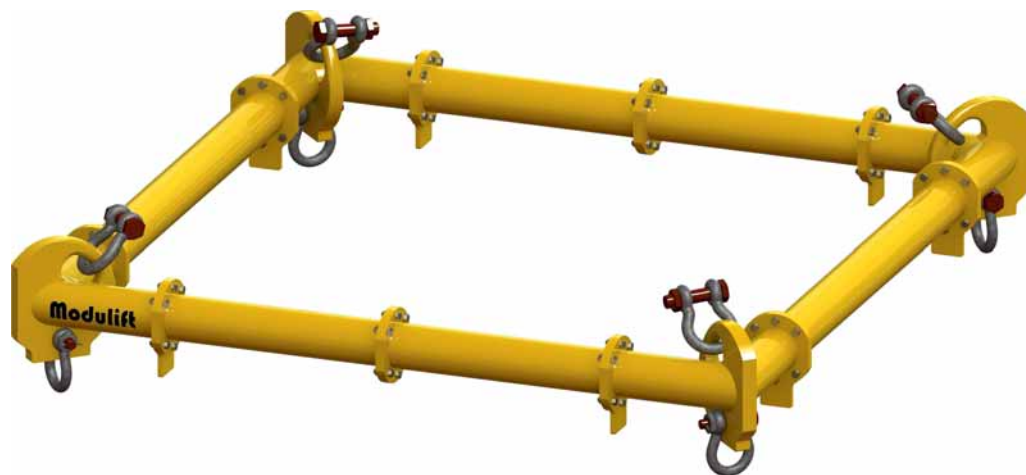
Not every load fits into a standard lifting mould. Our team of engineers are lifting industry experts capable of coming up with the ideal solution for your lifting requirements. With innovative thinking we can develop the right equipment to meet your needs whether they be height, environment, price, weight, flexibility of use, speed of assembly or transportation requirements to name but a few - we can design a solution for you.

## Rig Design

When dealing with customers who require lifts that involve more complex rigs and combinations of Modulift Spreader Beams or where the item being lifted does not have a central centre of gravity, our customers can call on our assistance. We will make available our engineering team who will assist by designing the most appropriate solution using the Modulift range of products.

## Services Available

- Engineering Design
- Lifting Consultancy
- RFID Project Management
- Engineering Drafting
- Rig Planning Services
- Lifting and Rigging Training
- Contract Lifting Management and Site Supervision



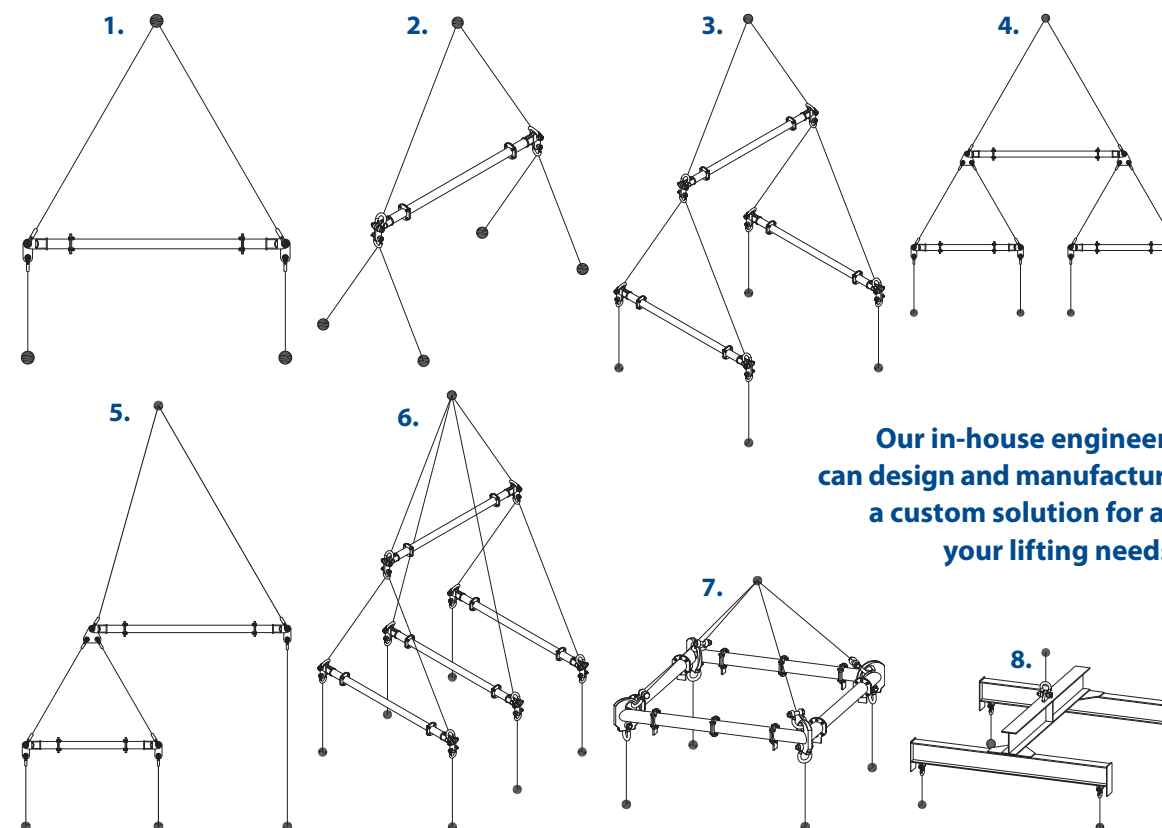
## Why Use Modulift?

- All our equipment conforms to the highest engineering standards and meets or exceeds government and industry regulations such as AS 4991 - 2004 and BS13155, and Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)
- Modulift have ISO 9001: 2008, 14001:2004 & 18001:2007 and are members of LEEA
- Using a specialist engineering company gives you peace of mind for a safe lift with engineers on hand to ensure everything runs smoothly
- We can design a solution specifically designed for your needs minimising potential problems associated with using incorrect equipment
- Reduced costs associated with: over engineering; excessive design times, individual fabrication requirements, testing and liability insurance; and damaged loads

# Rig Planning Services

At Modulift we understand that organising a lift can be a complicated process with many factors that need to be considered. On top of all the other considerations is the rig planning for the lift. With our highly trained specialist Lifting Engineers, Modulift can help you.

It may be a simple configuration or it may be a more complicated rig. Send us details of your lift including weight, lifting point and position, height restrictions, load type, centre of gravity (COG) position, crane type and lifting environment and we can help advise the best solution for you.



**Our in-house engineers can design and manufacture a custom solution for all your lifting needs!**

## Your Guide to Some of the Configurations Available to You

**1. Simple Single Beam 2 point Lift** A single Spreader Beam is the simplest configuration and is suitable for 2 point lifts. The Spreader Beam absorbs the compression forces to protect the load being lifted.

**2. Single Beam 4 Point Lift** This configuration again used a single beam where the load being lifted has four individual lifting points.

**3. 1-Over-2 Rig** We use this configuration when vertical slings are essential for 4 point lifts. By varying the sling lengths, we can also take into account an offset center of gravity.

**4. 1-Over-2 Inline Rig** Ideal for those lifts where the span is long and potential bending of the load is a problem. Further cascading layers are available to increase the number of lifting points

**5. 1-Over-1** Where there are an uneven number of points to lift from a 1 over 1 system can be used to lift the load whilst still providing a balanced rig.

**6. Various Multi Spreader Beam Rigs** With our expert help we can address most lifting issues using a combination of our products to fit the application and the circumstances.

**7. CMOD Spreader Frame** The CMOD spreader frame uses corner units to connect existing Modulift struts into a 4 point modular spreader frame. This uses less headroom than a 1 over 2 rig.

**8. Lifting Frame (H Frame)** For extremely low headroom applications, Modulift can design and fabricate a bespoke lifting frame to suit your exact requirements.



### Modulift Lifts the Worlds Largest Gas Turbine!



#### In January 2013, global spreader beam manufacturer, Modulift, designed and built spreaders to lift the world's most powerful gas turbine

The Rolls-Royce MT30 turbine was installed into the Royal Navy's new aircraft carrier HMS Queen Elizabeth, at Babcocks Rosyth Shipyard in Scotland. Rolls Royce viewed the lifting of the gas turbine as a "significant milestone" in the Queen Elizabeth shipbuilding programme.

Having worked together on a number of heavy lift projects, Rolls-Royce approached lifting experts Modulift to custom design and manufacture the lifting solution for the 50 tonne MT30 turbines. For Modulift, the pinnacle of this project was the successful lift and installation of the steel housed turbine onto the ships structure.

In order to design the rig to lift the 50 tonne MT30 turbines, Modulift took key information that was provided such as the centre of gravity position, and created detailed rig drawings - the aim was to achieve a level lift using 3 spreader beams in a 'one over two' formation, and ensuring that the slings were vertical at each corner. This was achieved by firstly specifying custom length struts so that the Modulift spreader beams were each of an exact length, and secondly by providing unequal length top slings to take into account the CoG position.

Sue Caples, Operations Manager and Head Engineer at Modulift said "The Gas Turbine had a 75/25 offset centre of gravity which meant that we had to design a lifting rig that would enable the turbine to be lifted level despite the extreme offset CoG. We achieved this by designing a '1 over 2' Lifting Rig that had different length top slings so that the crane hook would be directly over the centre of gravity during the lift. It is important for loads to be lifted level particularly for installations such as this one, and it was a great success because the load was level within 0.2 degrees from horizontal. We are very pleased to have provided the lifting equipment for such a prestigious project"

#### ...Rolls Royce viewed the lifting of the gas turbine as a "significant milestone" in the Queen Elizabeth shipbuilding programme.

Manufacture of the spreader beams was carried out to exacting standards and procedures which captured the need for all aspects of the manufacturing process to be controlled and compliant with order requirements. Prior to painting the spreader beams, Modulift conducted Proof Load Testing using its purpose built Compression Test Rig. All of the spreader beams were individually assembled and loaded one at a time into the compression test rig. The designated proof load was applied, (for this project the proof load factor was SWL + 25%). Testing of all of the spreader beams was successfully completed without any issues and a final post-test MPI examination verified that there were no weld defects after testing. The drop links for the spreader beams were then proof load tested in Modulift's own tensile test rig using the same proof load factor as the spreader beams. Richard Charlton of Rolls-Royce commented "All went to plan with not a single problem. The Babcock shipyard had lots of Modulift beams on site and assembled and rigged the beams very easily. Many thanks for Modulift's hard work."





## Modulift Custom Design

### Modulift provide a record first lifting solution for the Wind Energy Industry and Harland and Wolff

Modulift have designed and manufactured the giant lifting rig used for the fast and efficient lifting and assembly of the Repower's 5MW giant wind turbines at Harland and Wolff in N. Ireland.



Responsible for the unloading and assembly of the clean power generators for Vattenfall's Ormonde Offshore Wind Farm Project in the Irish Sea, Harland and Wolff also have to load them back onto the barges when assembled, for installation in the Irish Sea, creating a need for a rig that could multi-task.

Modulift's remit was to design a rig which could not only lift the individual turbines and towers separately and assembled, but also lift three wind turbine blades in one go enabling the blades to stay in their calibrated sets for each turbine, at all times. Using the same principles of their existing standard products, Modulift succeeded in engineering a safe, lightweight, and cost-effective solution allowing Harland and Wolff to continuously store and load from January until the end of July.

To provide a solution which achieved the objectives required, Modulift designed a rig consisting of two elements which could be used in various configurations for the transportation and installation process of the various wind turbine components. The first is a giant 500t lifting beam, 16 metres long. Due to the nature of the lift and the need for minimizing the overall weight of the rig itself, Modulift had to be able to design and build the beam to weigh less than 40 tonnes without compromising its capabilities. The lifting beam was also designed to include inspection hatches and was built to ensure that these hatches would not compromise the strength of the beam. The beam was an exciting milestone for Modulift, proving their technical achievements in designing highly engineered lifting equipment to provide the ultimate solution for lifts of this size.

The second was another feat of engineering for Modulift in the design and fabrication of a 48.5m spreader that weighed no more than 9.6 tonnes to maximise the capacity of the cranes. The beam had to be easy to assemble in situ and capable of lifting the wind turbine blades, which in their set of three weigh 75 tonnes and span 61.5 metres.

'We are proud to be able to say that we designed and manufactured this solution for Harland and Wolff. We spent a lot of time planning the best solution for their requirements and still needed to be able to turn this project around in record time. With the barges already on their way from Germany we had to battle against the weather to get the components finished and transported to Belfast on time to enable the project to stay on schedule, with the first barge arriving in early January. The components were taken by ferry to Belfast on several trucks and with Belfast experiencing its coldest winter in 16 years, snow storms threatened to delay delivery. Luckily the dedication of all parties involved enabled both the Lifting Beam and the Lattice Spreader to be delivered before Christmas, and tested and commissioned in time for its first use in early January,' said Sue Caples, Operations Director and Head of Engineering at Modulift.

As demand for heavy lifting is set to increase, with Modulift receiving a record number of orders for its MOD 400, Harland and Wolff are expecting to use their new 500 tonne lifting beam on many projects to come. In addition Modulift are now standardizing their new 'giant' Lattice Spreaders for future customers looking to lift very long loads up to 100 tonnes, keeping the same passion, accountability, and quality of their existing products.



**"We are proud to be able to say that we designed and manufactured this solution for Harland and Wolff. We spent a lot of time planning the best solution for their requirements and still needed to be able to turn this project around in record time."**



# Modulift®

working between the hook and the load



AUTHORIZED DISTRIBUTOR

**Liftek FZC**, PO Box 41850,  
Hamriyah Free Zone, Sharjah, UAE  
Tel: +971 6 5250088, Fax +971 6 5250089  
Email: [info@liftek-intl.com](mailto:info@liftek-intl.com) [www.liftek-intl.com](http://www.liftek-intl.com)