



Cable Working Equipment Catalogue



World Leaders in the **design, manufacture,**
repair and **calibration** of **shear pin load**
cells to the **offshore** and **subsea** industry

Dynamic Load Monitoring (UK) Ltd

Specialists in the design, manufacture, repair and calibration of load cells and load monitoring equipment.

Successfully supplying equipment for more than 20 years **DLM** have proved to be industry leaders in finding a solution to your load monitoring requirements. Internationally known for an unprecedented high quality, reliable standard product range, **DLM** are also the world leaders in the design and manufacture of Shear pin Loadcells to the Offshore and Subsea industry.

All **DLM** Loadcells are manufactured in the UK to the highest quality standards, **DLM** are approved and work to ISO9001:2008 quality management system and ISO14001:2004 Environmental management system.

Our expert in house Engineers are capable of designing Loadcells and load monitoring systems for wide ranging applications, working closely with clients from project inception through to completion and even installation.

“ *DLM always provide us with top quality solutions combined with a helpful and efficient service, which is why we only use DLM Shear Pin Loadcells.* ”

Calibration and Repair

We offer an unrivalled worldwide Calibration and Repair service, based onsite in Southampton we combine highly competitive prices with quality workmanship. All calibrations are carried out by qualified Calibration Engineers.



Everything we sell, is also available to hire.



Load Cells:

Our range of standard products includes Standard Tensile Links, Telemetry Links, ILD's, Compressive Cells and Shear pin Loadcells.



Specialised Load Monitoring:

Our long involvement within the Offshore and Subsea industry led to our development of Line Monitoring solutions and cable working equipment, now used in cable laying and winch monitoring applications across the globe.

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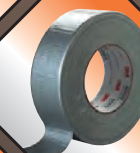
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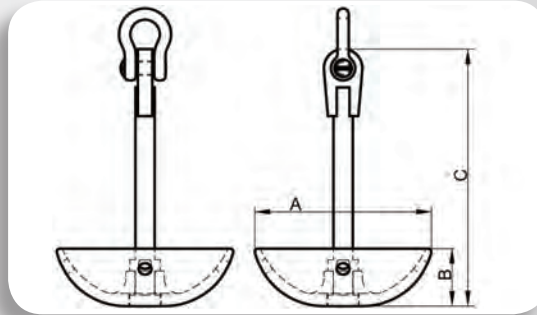
Grappels

Mushroom Anchor

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A mushroom anchor is delivered assembled and with 1 shackle.



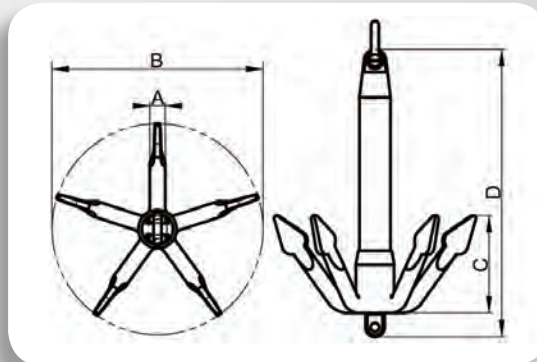
Part number	Product name	Dimensions (mm)			Suitable shackle
		A	B	C	
49098297	Mushroom anchor 50kg / 1CWT	Ø430 mm	115 mm	680 mm	SWL 13.5T Bow with flush head
49098298	Mushroom anchor 100kg / 2CWT	Ø550 mm	180 mm	802 mm	SWL 13.5T Bow with flush head
49098299	Mushroom anchor 150kg / 3CWT	Ø655 mm	210 mm	968 mm	SWL 13.5T Bow with flush head
49098300	Mushroom anchor 250kg / 5CWT	Ø730 mm	245 mm	988 mm	SWL 13.5T Bow with flush head
49098301	Mushroom anchor 350kg / 7CWT	Ø750 mm	265 mm	988 mm	SWL 13.5T Bow with flush head
49098302	Mushroom anchor 500kg / 10CWT	Ø750 mm	330 mm	988 mm	SWL 13.5T Bow with flush head

Spearpoint Grapnel

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A spearpoint grapnel is delivered assembled and with 1 shackle.



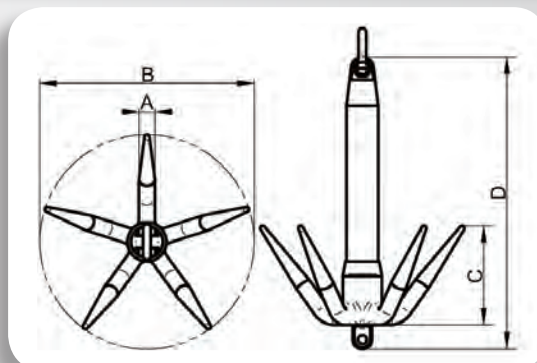
Part number	Product name	Dimensions (mm)				Suitable shackle
		A	B	C	D	
49098275	Spearpoint grapnel 250kg	Ø65 mm	Ø882 mm	407 mm	1400 mm	SWL 12T Bow with flush head
49098277	Spearpoint grapnel 180kg	Ø65 mm	Ø882 mm	407 mm	1200 mm	SWL 12T Bow with flush head
49098280	Spearpoint grapnel 115kg	Ø65 mm	Ø882 mm	407 mm	900 mm	SWL 12T Bow with flush head

Sand Grapnel

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A sand grapnel is delivered assembled and with 1 shackle.



Part number	Product name	Dimensions (mm)				Suitable shackle
		A	B	C	D	
49098307	Sand grapnel 250kg	Ø65 mm	Ø882 mm	407 mm	1400 mm	SWL 12T Bow with flush head
49098310	Sand grapnel 180kg	Ø65 mm	Ø882 mm	407 mm	1200 mm	SWL 12T Bow with flush head
49098352	Sand grapnel 115kg	Ø65 mm	Ø882 mm	407 mm	900 mm	SWL 12T Bow with flush head

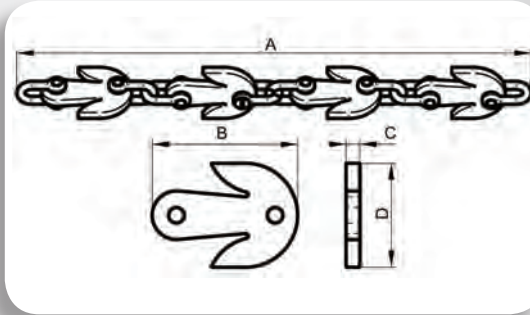
Grapnels

Jamming Grapnel

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A jamming grapnel is delivered fully assembled.



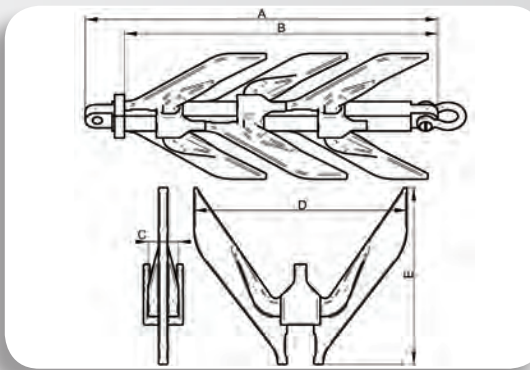
Part number	Product name	Dimensions (mm)				Working load
		A	B	C	D	
49098305	Jamming grapnel (4 PCS)	2400 mm	420 mm	40 mm	285 mm	SWL 13T - PL 26T
99098305	Spare Jamming grapnel (1 PCS)					
32000175	Spare suitable shackle					

Sliding Prong

Material: High tensile steel

Finish: Painted (red oxide)

Remark: All types of sliding prong are delivered fully assembled and with 1 shackle. Spare prongs and shanks may be ordered separately.



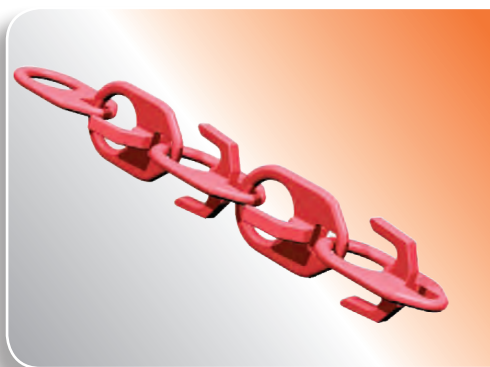
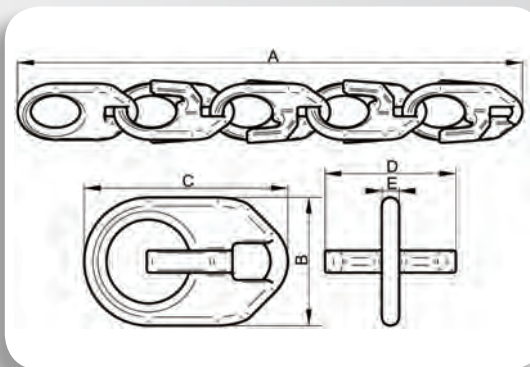
Part number	Product name	Dimensions (mm)					Suitable shackle
		A	B	C	D	E	
49098311	Sliding prong assembly type A (4x)	1440 mm	1280 mm	80 mm	406 mm	368 mm	SWL 13.5T Bow with flush head
49098314	Sliding prong assembly type B (3x)	1440 mm	1280 mm	100 mm	700 mm	590 mm	SWL 13.5T Bow with flush head
49098315	Sliding prong assembly type C (2x)	1440 mm	1280 mm	110 mm	1052 mm	830 mm	SWL 13.5T Bow with flush head
49098312	Spare sliding prong type A only						
49098313	Spare sliding prong type B only						
49098316	Spare sliding prong type C only						
49098317	Spare shank & 1 shackle						

Grapple Rennie Small

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A grapple Rennie large is delivered fully assembled. No spare parts can be ordered.



Part number	Product name	Dimensions (mm)					Working Load
		A	B	C	D	E	
49098331	Grapple Rennie large (4 PCS)	1440 mm	260 mm	410 mm	270 mm	35 mm	SWL 9T - PL 18T

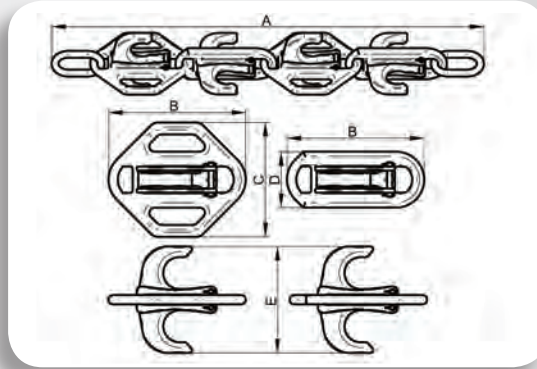
Grapnels

Grapnel Rennie Large

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A grapnel Rennie small is delivered fully assembled.



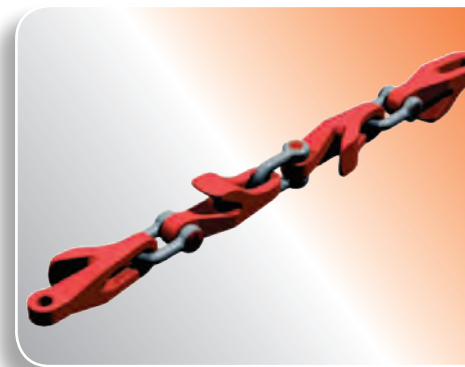
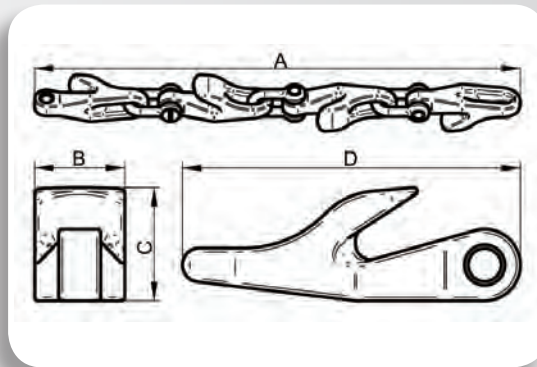
Part number	Product name	Dimensions (mm)					Working Load
		A	B	C	D	E	
49098152	Grapnel Rennie small (4 PCS)	2205 mm	515 mm	430 mm	210 mm	400 mm	SWL 13T - PL 26T

Gifford Assembly Small

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A Gifford assembly small is delivered fully assembled. Spare Gifford hooks and shackles may be ordered separately.



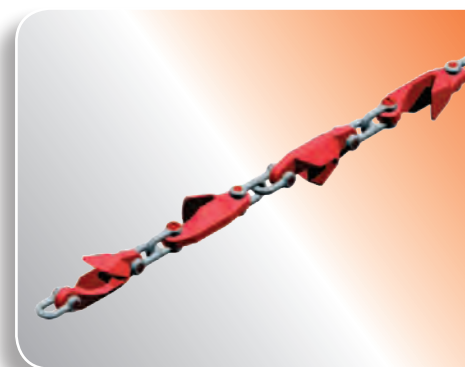
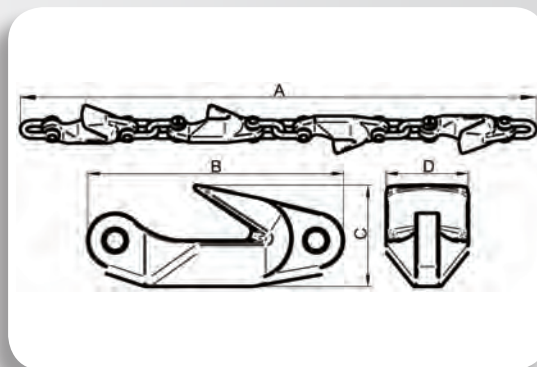
Part number	Product name	Dimensions (mm)				Suitable shackle
		A	B	C	D	
49098303	Gifford assembly small (4 PCS)	1967 mm	120 mm	152 mm	450 mm	SWL 17T - PL 34T
99098303	Spare Gifford hook (1 PCS)					
32000175	Spare suitable shackle					

Gifford Assembly Large

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A Gifford assembly large is delivered fully assembled. Spare Gifford hooks and shackles may be ordered separately.



Part number	Product name	Dimensions (mm)				Suitable shackle
		A	B	C	D	
49098304	Gifford assembly large (4 PCS)	2945 mm	560 mm	210 mm	180 mm	SWL 13T - PL 26T
99098304	Spare Gifford hook (1 PCS)					
32000175	Spare suitable shackle					

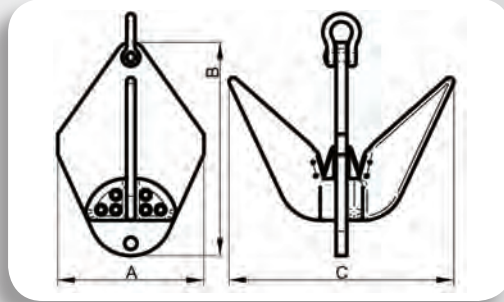
Grappels

Flatfish Prong Type

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A flatfish prong type is delivered fully assembled, with 2 blades No.1 and 1 shackle.
Spare prongs, spare base and spare blades may be ordered separately.



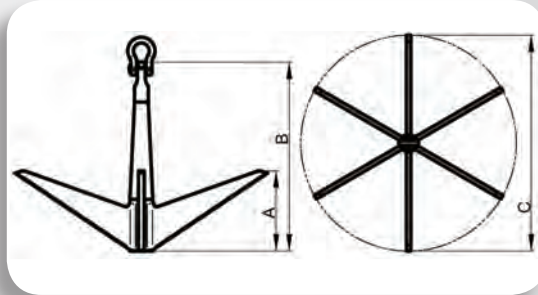
Part number	Product name	Dimensions (mm)			Standard blade	Working load
		A	B	C		
49700500	Flatfish long prong	914 mm	1232 mm	966 mm	Blade No.1	SWL 17T Bow with flush head
49700400	Flatfish short prong	914 mm	1232 mm	660 mm	Blade No.1	SWL 17T Bow with flush head
49700502	Spare blade No.1 Flat Blade					
49700503	Spare blade No 2 Curved Blade					
49700505	Cable glove for flatfish The cable gloves will replace the blades on the flatfish.					

Son of Sammy

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A Son of Sammy grapnel is delivered fully assembled.



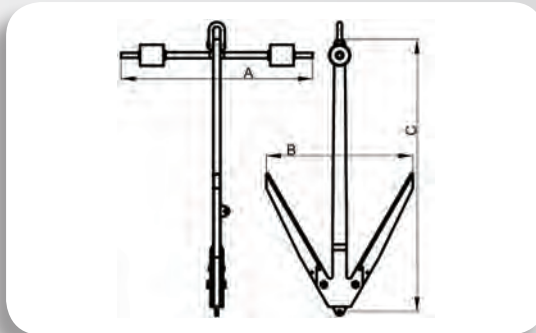
Part number	Product name	Dimensions (mm)			Suitable shackle
		A	B	C	
49098326	Son of Sammy	700 mm	1650 mm	Ø2525 mm	SWL 35T Bow with flush head

Detrenching Grapnel

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A detrenching grapnel is delivered fully assembled. Spare parts may be ordered separately.



Part number	Product name	Dimensions (mm)			Remarks
		B	C	A	
49700670	Detrenching grapnel small	1540 mm	2832 mm	1820 mm	670 mm penetration length
49701070	Detrenching grapnel large	2340 mm	3836 mm	2730 mm	1070 mm penetration length
49700671	Spare fluke small				
49701071	Spare fluke large				
49701075	Spare fastener set				
31353920	Spare lift shackle				
31657220	Spare main shackle				

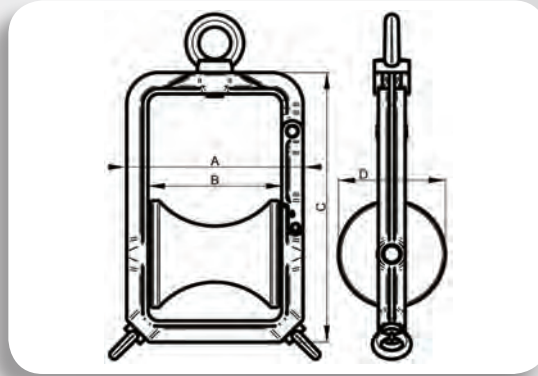
Cable Sheave and Repeater Trolley

Cable Sheave

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A cable sheave is delivered fully assembled, including nylon roller and necessary eye bolts.



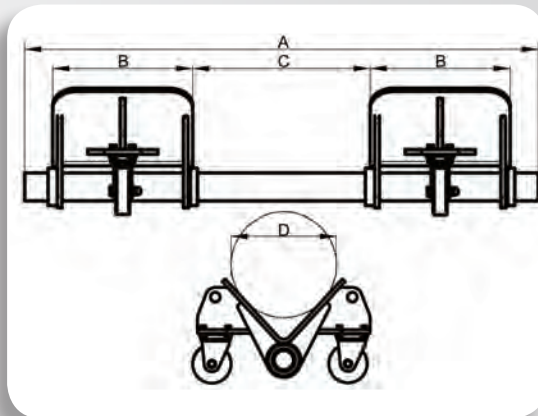
Part number	Product name	Dimensions (mm)				Working Load
		A	B	C	D	
49098153	Cable sheave 1000kg	330 mm	250 mm	505 mm	Ø200 mm	Nylon cable roller
49098154	Cable sheave 0800kg	235 mm	155 mm	515 mm	Ø200 mm	Nylon cable roller

Repeater Trolley

Material: High tensile steel

Finish: Painted (red oxide)

Remark: A Repeater Trolley is delivered fully assembled.



Part number	Product name	Dimensions (mm)				Remarks
		A	B	C	D	
49098140	Repeater trolley	1100 mm	300 mm	380 mm	Ø275 mm	Total weight 1000KG

Suitable Shackles

Part number	Product name	Part number	Product Name
37000125	SWL 12.0T Bow shackle with flush head	32000125	SWL 12.0T Dee shackle with flush head
37000135	SWL 13.5T Bow shackle with flush head	32000135	SWL 13.5T Dee shackle with flush head
37000175	SWL 17.5T Bow shackle with flush head	32000175	SWL 17.5T Dee shackle with flush head
37000355	SWL 35.0T Bow shackle with flush head	32000355	SWL 35.0T Dee shackle with flush head

Wheeled Detrenching Grapnel WDTG



Fig 1 - Wheeled Detrenching Grapnel

The **Detrenching Grapnel** comprises a prefabricated Steel shank with a skid secured by a pin at the front end and a pivoted wheel support and Grapnel crown on the rear end. The fluke is bolted to either side of the Grapnel Crown. The rear of the Grapnel is supported on wheels. These reduce friction and allow for the free flow of the soil being pushed up by the fluke. They also keep the overall towing force as low as possible and allow steady control of the Grapnels working depth. The wheels are mounted on a wheel support axle containing two fibre bushes with a thrust washer at either end of the housing. *Fig 1 - Wheeled Detrenching Grapnel*

Two types of flukes can be mounted on the Grapnel crown depending on the application, they are as follows

- For detrenching work (cable recovery), a 0.8metre narrow tip fluke.
- For B.A.S. a wide replaceable fluke tip identical to the plough share tip is fitted to a heavy duty fluke.

The standard fluke penetration is 0.8m and at this setting, the grapnel will maintain a full working depth in all uniformly friable seabeds. It will however ride over hard underlying layers that it cannot penetrate. The grapnel is designed to withstand towing forces up to 25 tonnes at the fluke tip. To protect the grapnel from permanent damage, forces in excess of 25 tonnes cause a shear pin to fail, allowing the fluke to rotate over the obstruction. The grapnel can then be recovered to the ship and a new shear pin fitted.

Grapnel Specifications

Weight:	1.9 Tonnes
Length:	4.125m
Width:	2.4m
Height:	1.25m
Maximum Towing Tension:	25 Tonnes
Shear Pin Failure Load:	25 Tonnes Approx.

Fluke Types

Detrenching:	0.8m
B.A.S.:	0.3m, 0.4m, 0.5m, 0.6m, 0.7m, 0.8m
Maximum Working Depth:	1000m

Acoustics

For ease of cable recognition, the grapnel can be fitted with an Acoustic transmitter system. The fluke has a trigger mounted near the grapnel crown. When cable rides up the fluke and forces against the trigger a sound pulse from the pinger mounted on the wheel arm changes, indicating that the cable has been located. The sound pulses can either be picked up by hull mounted transducers or by a hydrophone lowered over the ship's side. The signals are then relayed to a receiver unit.

Command Unit: Applied Acoustics PAM 3510



Pingers: Applied Acoustics Transducer
Hydrophone: Applied Acoustics PAM 3 Dunker 3190

- Water proof rugged enclosure.
- Tests beacons from many manufacturers.
- Splash proof keypad.
- Configures 1000 series beacons via serial link.
- 6 hour battery life.
- Can test all Wideband / spread spectrum channels available in the 1000 series beacon.
- Supplied with test transducer 3102.
- Will test HPR400, HPR30, Sonardyne, Trackpoint / ORE &
- Applied acoustic Tone and Spread Spectrum.
- 3000m rated.
- Heavy duty dunking transducer with cage.
- Stainless Steel body
- Hemispherical coverage
- 30m Cable

Detrenching Work

The grapnel can also be fitted with a sensor which indicates when the rear of the grapnel is riding out of the seabed. This may occur if the grapnel encounters a hard underlying layer of rock or if it engages a boulder. A second sensor can be fitted to provide an indication when the front of the grapnel lifts up, due to insufficient tow rope being deployed. The grapnel is fitted with a third sensor (trigger) to indicate when a cable rides up on the fluke. The grapnel is fitted with a fourth sensor which is connected in parallel with the third sensor to indicate when the grapnel is upside-down.

BAS Work

The grapnel is fitted with a Mercury switch to indicate when the grapnel is upside-down. The grapnel is fitted with a trigger to indicate when a cable rides up on the fluke. If the trigger is removed the fluke can be folded up and locked in position, making the grapnel stable on the flat deck.

Specification subject to product upgrade, please confirm actuals with DLM.

Acoustic Bight Release Hook

The **Acoustic Bight Release Hook** is designed to hold a bight of cable for lowering to the sea-bed and then in a response to a remote acoustic signal the hook is released and recovered for re-use.

The release hook assembly comprises of a frame with a hinged hook sited at one end and a slinging point at the other. Mounted on the frame is a protective cage into which is inserted a watertight cylinder. The hinged hook incorporates a trigger arm which holds the hook in the closed position when lowering the cable and when activated releases the hook which opens under its own weight assisted by the pull on the cable. The trigger arm mechanism consists of a motor operated spindle which incorporates a locking pin. The release motor and batteries are stored in the water tight cylinder, with the transducer positioned at the top within a protective cage.

Hook Specification

SWL:	10t
Operating Depth:	1000m
Weight in air:	90kg
Weight in water:	63kg
Overall length:	922mm
Maximum height (Protective Cage)	233mm
Operating Temperature:	-5°C to +50°C
Storage Temperature:	-40°C to +70°C
Material:	Weldox 700
Master Link Part Number:	Gunnebo M-1613-10

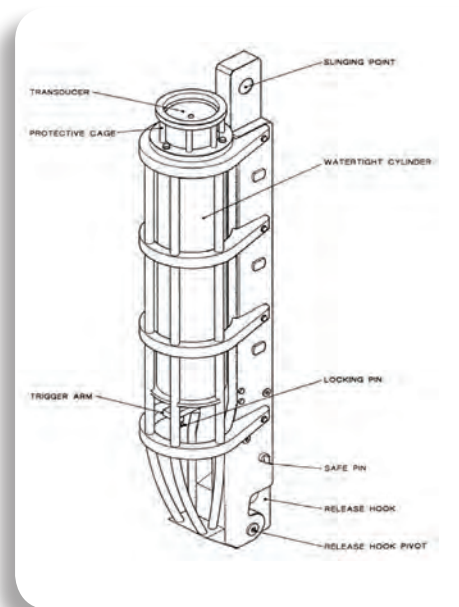
Command Unit Specification

The Command unit is a portable signal generator designed for transmission of remote signals in water. The unit is housed in a heavy duty carry case.

Dunking Transducer Specification

The acoustic signal is transmitted by a submerged transducer which is connected to the front panel by a 30 metre cable. On operation this is lowered into the water so that it is completely submerged in order to transmit the acoustic signal.

Protection:	IP68
Cable Length:	30m
Cable Connector:	Mil Spec for mating with command unit.
Cable Type:	Subsea rated signal cable



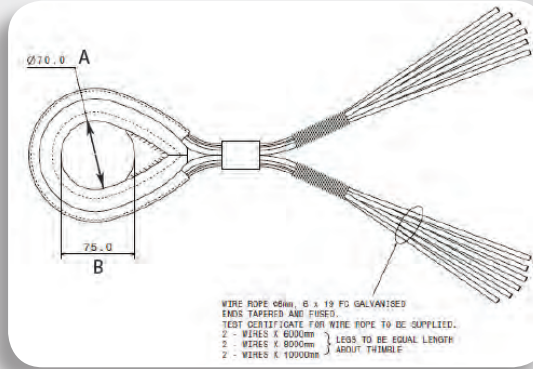
Specification subject to product upgrade, please confirm actuals with DLM.

Cable Stoppers and Stockings

BTL Stopper

Material: 6 x 19 Galvanised wire

Remark: 2 wires x 6,000mm
2 wires x 8,000mm
2 wires x 10,000mm

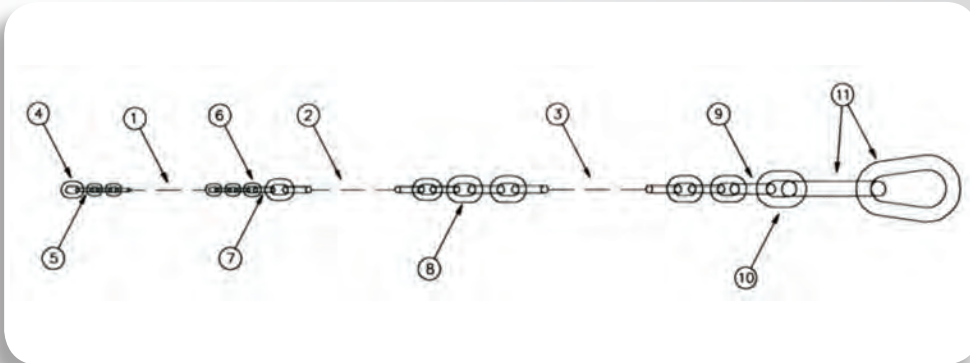


Part number	Product name	WLL	FOS	Dimensions (mm)	
				A	B
DLMBTLS	BTL Stopper	7T	6:1	70 mm	75 mm

Chain Stopper

Material: Grade 80 material

Finish: Plain oiled



Item Number	Nom. Dia.	Inside Width	Dimensions (mm)		Qty Links
			Inside Length		
1	7 mm	10.33 mm	21 mm		44
2	13 mm	19.2 mm	39 mm		22
3	16 mm	23.6 mm	48 mm		39
4	10 mm	14.75 mm	30 mm		1
5	8 mm	11.8 mm	24 mm		1
6	8 mm	11.8 mm	24 mm		1
7	10 mm	14.75 mm	30 mm		1
8	16 mm	23.6 mm	48 mm		1
9	20 mm	29.5 mm	60 mm		1
10	22 mm	32.5 mm	66 mm		1
11	32 mm	56 & 83 mm	165 mm		2

Cable Stoppers and Stockings

YaleGrip™

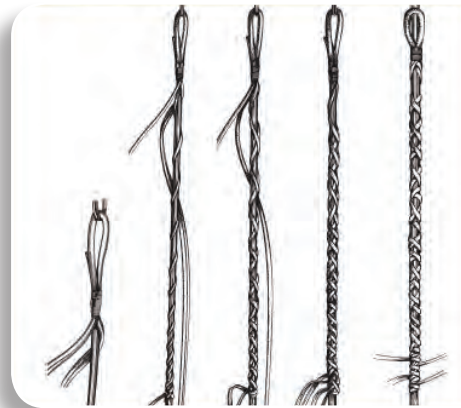
YaleGrips™ install easily on varying diameters.

YaleGrips™ are made from a Technora® flat braid, an Aramid fiber, assembled in a four-leg configuration extending from a reinforcing, securing eye. The eye is covered entirely with an extra layer of braid, which is saturated with Maxijacket™ urethane, abrasion-resistant coating for extended life.

YaleGrips™ are used as pulling and stopping grips for electrical-line construction work above and below ground, for deployment and retrieval of a variety of cables, as marine stoppers on hawsers, and for temporary or permanent strain relief. YaleGrips™ are applied quickly over a wide range of cable diameters without specialized tools. YaleGrips™ are non-corrosive, have good dielectric properties, and are compact and lightweight. Installed, the grip remains flexible and does less damage to mating surfaces than other types of grips. YaleGrips™ are far stronger than wire mesh grips and do not form dangerous “fishhooks,” as do wire mesh grips, making them safer to handle.

YaleGrips™ may be used for temporary or permanent eyes, both in mid span or on the end.

Options include urethaning the entire grip, which extends the grip’s life, especially useful in active towing applications. We call this the “marine treatment.” We also can make a grip with extended tails to accommodate larger cables. Hardware can be added to the eye, such as stainless thimbles, which enhance performance.



YaleGrip™ Data for Application on:

Part Number	Eye Diameter Inches (mm)	Minimum Cable Diameter Inches (mm)	Maximum Cable Diameter Inches (mm)	Average Break Strength 1000's of lbs (kg)	Work Load 1000's of lbs (kg)	Tail Length Ft (m)	Eye Size Inches (cm)	Colour
944504T	7/16" (11)	3/16" (5)	1/2" (12)	6 (2.7)	1.2 (.5)	4.5 (1.4)	6 (15)	Red
944505T	9/16" (14)	1/4" (6)	3/4" (18)	12 (5.4)	2.4 (1.1)	5.5 (1.7)	6 (15)	Blue
944506T	11/16" (17)	3/8" (9)	7/8" (22)	18 (8.1)	3.6 (1.6)	6.5 (2.0)	6 (15)	Green
944507T	7/8" (22)	1/2" (12)	1" (25)	30 (13.6)	6.0 (2.7)	8 (2.4)	8 (20)	Orange
944508T	1" (24)	5/8" (16)	1-1/8" (28)	48 (21.7)	9.6 (4.3)	10 (3.0)	8 (20)	Yellow
944509T	1-1/4" (30)	7/8" (22)	1-3/4" (44)	72 (32.6)	14.4 (6.5)	16 (4.9)	12 (30)	Black
944510T	1-1/2" (36)	1-1/8" (27)	3" (76)	120 (54.4)	24 (10.8)	22 (6.7)	16 (41)	Red
944511T	1-3/4" (42)	1-3/8" (33)	3-1/2" (90)	180 (81.6)	36 (16.3)	28 (8.5)	18 (46)	Blue
944512T	2" (48)	2" (48)	4" (102)	290 (131.5)	58 (26.3)	34 (10.3)	18 (46)	Green
944513T	2-1/4" (60)	3-1/4" (78)	5" (127)	365 (165.5)	73 (33.1)	40 (12.2)	20 (51)	Orange
944514T	2-1/2" (64)	4" (102)	6" (152)	450 (204.1)	90 (40.8)	52 (15.8)	24 (61)	Yellow

Cable Stoppers and Stockings

Cable Stockings

Albi-Grips are available in sizes 4.0mm to 900mm.

Albi-Grips are manufactured in three main designs - Single eyes, Double eye and open ended. **Albi-Grips** can be used as pulling grips, support grips, connecting grips etc.

Albi-Grips can also be manufactured in a split design to enable the grip to be fitted at a point some way down the cable or under a large termination, for instance.

Albi-Grips can also be manufactured in non-conductive and/or anti-magnetic materials - such as for use on power cables.

Albi-Grips are widely used for installation and maintenance work on wire rope, wire cable, electrical and power cables, overhead lines, hydraulic pipes, telephone and fibre optic cables.

Main Designs:

SINGLE EYE - CODE SE

Can only be fitted over the end of a cable. Gives high pulling strength.



DOUBLE EYE - CODE DE

Cable can be passed through the grip between the eyes allowing the load to be taken off the free end of the cable when securing to a termination. Can be used for either pulling or support applications.



FLEETING EYE - CODE FE

Details as single eye - when ordering change SE prefix to FE
Can be used either pulling or support applications.



ALL ABOVE ITEMS ARE AVAILABLE IN NON CONDUCTIVE (NC) MATERIAL

OPEN ENDED - CODE OE

For fast non positive connection of two cables, wires or ropes.



SPLIT LACE UP - CODE SL

Not single eye - all other designs add SL after code.
i.e. DESL, FESL, OESL.
Used for attachment at any point on the cable.



MULTIPLE STRENGTH - CODE MS

For high pulling loads on overhead lines, conductors, ropes etc.



Cable Stoppers and Stockings

Cable Stockings Cont.



Diameter Range mm	Lattice (weave) Length Standard	Break Load KG
SINGLE WEAVE		
4-6	120	200
6-9	160	200
10-13	200	490
14-19	350	1280
20-25	400	2400
26-38	450	3200
DOUBLE WEAVE		
39-50	525	5200
51-63	600	9400
64-90	690	9400
91-115	690	9400
116-140	1000	9400
141-165	1000	21000
166-190	1000	21000
191-215	1000	21000
216-270	1000	21000
271-290	1000	21000

Open Ended Cable Stockings

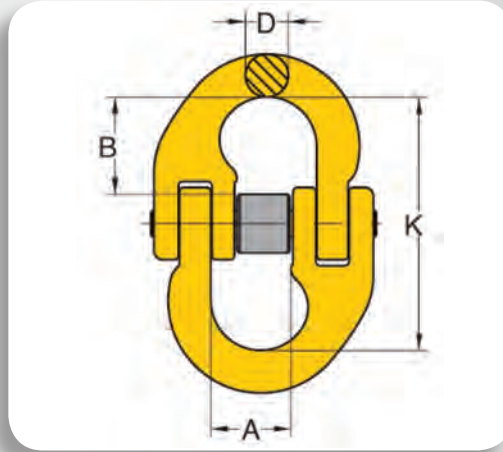
Diameter Range mm	Lattice (weave) Length Standard
6-9	180
10-13	400
14-19	700
20-25	800
26-38	1000
39-50	1100
51-63	1200
64-90	1200
91-115	1300
116-140	1300

Features:

- Thimbles can be added for extra strength.
- Factor of Safety: It is recommended that a minimum of 3:1 is used.

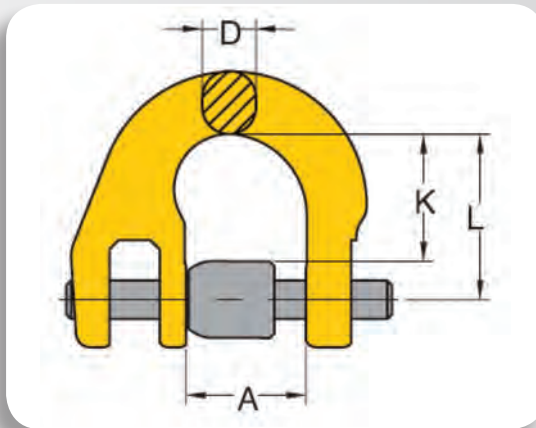
Shackles and Connectors

Grade 80 Component Connector



Chain Size (mm)	WLL	K	Dimensions (mm)			Weight (kg)
			A	D	B	
7,8	2.0	57	18	9	22	0.2
10	3.15	68	25	11	26	0.3
13	5.3	91	30	16	35	0.7
16	8.0	100	36	19	38	1.1
20	12.5	122	42	22	46	6.7
22	15.0	152	49	24	59	3.0
26	21.2	162	55	30	62	4.6
32	31.5	202	69	36	79	8.6

Grade 80 Half Coupling Link



Chain Size (mm)	WLL	L	Dimensions (mm)			Weight (kg)
			A	D	K	
7,8	2.0	28	18	9	22	0.1
10	3.15	34	25	11	26	0.2
13	5.3	45	30	16	35	0.4
16	8.0	50	36	19	38	0.6
20	12.5	60	42	22	46	1.1
22	15.5	76	49	24	59	1.7
26	21.6	80	55	30	62	2.7
32	32	100	70	36	78	4.9

Shackles and Connectors

Green Pin® Standard Shackles

Bow Shackles with Screw Collar Pin - G-4161

Material: Bow and pin high tensile steel, Grade 6, quenched and tempered

Safety Factor: MBL equals 6 x WLL

Standard: EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 2, Grade A

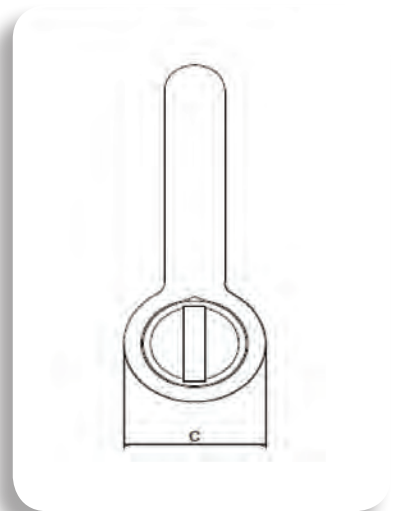
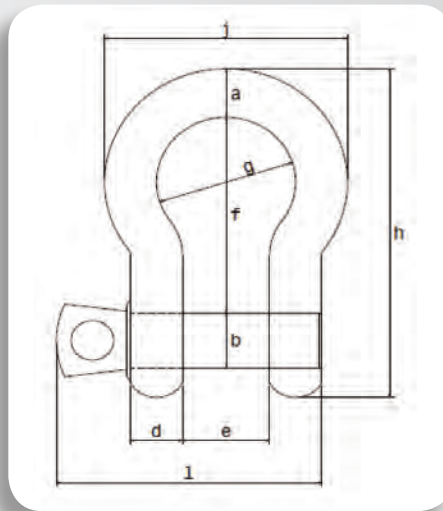
Finish: Hot dipped galvanised

Temp. Range: -20°C up to +200°C

Certification: At no extra charges this product can be supplied with a works certificate, EC Declaration of Conformity and all shackles starting from 2t can be supplied with DNV 2.7-1 Certificate.



Dimensions:



WLL t	Diameter Bow a mm	Diameter Pin b mm	Diameter Eye c mm	Width Eye d mm	Width Inside e mm	Length Inside f mm	Width Bow g mm	Length h mm	Length Bolt i mm	Width j mm	Weight Each kg
0.33	5	6	12	5	9.5	22	16	36	29.5	26	0.02
0.5	7	8	16.5	7	12	29	20	48.5	38	34	0.05
0.75	9	10	20	9	13.5	32	22	56	46.5	40	0.1
1	10	11	22.5	10	17	36.5	26	63.5	54	46	0.14
1.5	11	13	26.5	11	19	43	29	74	59.5	51	0.19
2	13.5	16	34	13	22	51	32	89	73	58	0.36
3.25	16	19	40	16	27	64	43	110	89	75	0.63
4.75	19	22	46	19	31	76	51	129	103	89	1.01
6.5	22	25	52	22	36	83	58	144	119	102	1.5
8.5	25	28	59	25	43	95	68	164	137	118	2.21
9.5	28	32	66	28	47	108	75	185	153	131	3.16
12	32	35	72	32	51	115	83	201	170	147	4.31
13.5	35	38	80	35	57	133	92	227	186	162	5.55
17	38	42	88	38	60	146	99	249	203	175	7.43
25	45	50	103	45	74	178	126	300	243	216	12.84
35	50	57	111	50	83	197	138	331	272	238	18.15
42.5	57	65	130	57	95	222	160	377	310	274	26.29
55	65	70	145	65	105	260	180	433	344	310	37.6

Shackles and Connectors

Green Pin® Standard Shackles

Dee Shackles with Screw Collar Pin - G-4151

Material: Bow and pin high tensile steel, Grade 6, quenched and tempered

Safety Factor: MBL equals 6 x WLL

Standard: EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 2, Grade A

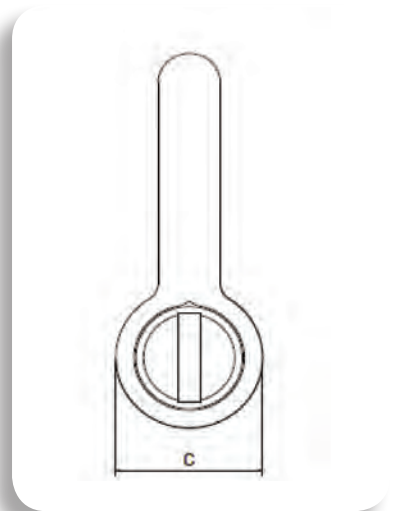
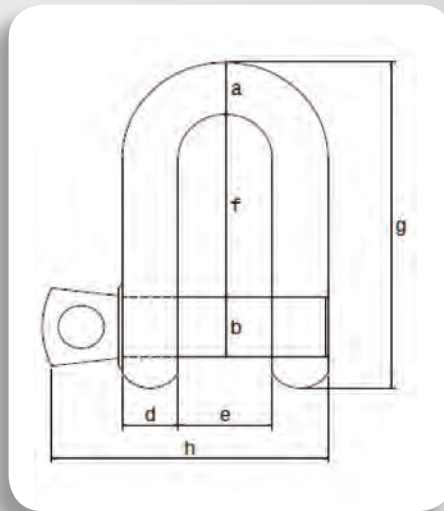
Finish: Hot dipped galvanised

Temp. Range: -20°C up to +200°C

Certification: At no extra charges this product can be supplied with a works certificate, EC Declaration of Conformity and all shackles starting from 2t can be supplied with DNV 2.7-1 Certificate.



Dimensions:



WLL t	Diameter Bow a mm	Diameter Pin b mm	Diameter Eye c mm	Width Eye d mm	Width Inside e mm	Length Inside f mm	Length g mm	Length Bolt h mm	Weight Each kg
0.33	5	6	12	5	9.5	19	33	29.5	0.02
0.5	7	8	16.5	7	12	22	41.5	38	0.05
0.75	9	10	20	9	13.5	26	50	46.5	0.09
1	10	11	22.5	10	17	32	59	54	0.14
1.5	11	13	26.5	11	19	37	68	59.5	0.19
2	13.5	16	34	13	22	43	81	73	0.32
3.25	16	19	40	16	27	51	97	89	0.54
4.75	19	22	46	19	31	59	112	103	0.87
6.5	22	25	52	22	36	73	134	119	1.34
8.5	25	28	59	25	43	85	154	137	2.08
9.5	28	32	66	28	47	90	167	153	2.77
12	32	35	72	32	51	94	180	170	3.72
13.5	35	38	80	35	57	115	209	186	5.14
17	38	42	88	38	60	127	230	203	6.85
25	45	50	103	45	74	149	271	243	11.45
35	50	57	111	50	83	171	305	272	16.86
42.5	57	65	130	57	95	190	345	310	24.61
55	65	70	145	65	105	203	376	344	32.65

Shackles and Connectors

Green Pin® Standard Shackles

Bow Shackles with Safety Bolt - G-4163

Material: Bow and pin high tensile steel, Grade 6, quenched and tempered

Safety Factor: MBL equals 6 x WLL

Standard: EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 2, Grade A

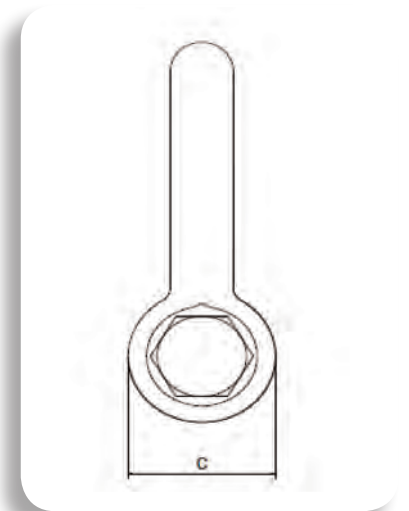
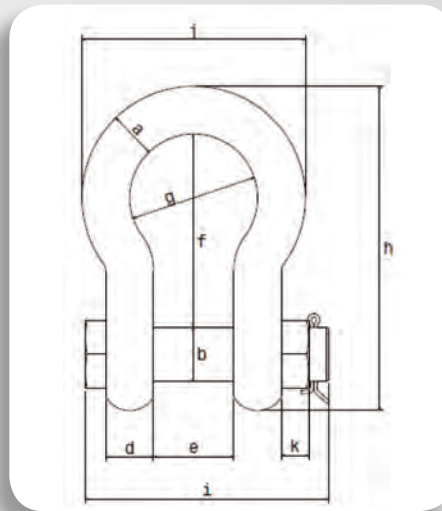
Finish: Hot dipped galvanised

Temp. Range: -20°C up to +200°C

Certification: At no extra charges this product can be supplied with a works certificate, EC Declaration of Conformity and all shackles starting from 2t can be supplied with DNV 2.7-1 Certificate.



Dimensions:



WLL t	Diameter Bow a mm	Diameter Pin b mm	Diameter Eye c mm	Width Eye d mm	Width Inside e mm	Length Inside f mm	Width Bow g mm	Length h mm	Length Bolt i mm	Width j mm	Thickness Nut k mm	Weight Each kg
0.5	7	8	16.5	7	12	29	20	48.5	42	34	4	0.06
0.75	9	10	20	9	13.5	32	22	56	50	40	5	0.11
1	10	11	22.5	10	17	36.5	26	63.5	60	46	8	0.16
1.5	11	13	26.5	11	19	43	29	74	67	51	11	0.22
2	13.5	16	34	13	22	51	32	89	82	58	13	0.42
3.25	16	19	40	16	27	64	43	110	98	75	17	0.74
4.75	19	22	46	19	31	76	51	129	114	89	19	1.18
6.5	22	25	52	22	36	83	58	144	130	102	22	1.77
8.5	25	28	59	25	43	95	68	164	150	118	25	2.58
9.5	28	32	66	28	47	108	75	185	166	131	27	3.66
12	32	35	72	32	51	115	83	201	178	147	30	4.91
13.5	35	38	80	35	57	133	92	227	197	162	33	6.54
17	38	42	88	38	60	146	99	249	202	175	19	8.19
25	45	50	103	45	74	178	126	300	249	216	23	14.22
35	50	57	111	50	83	197	138	331	269	238	26	19.85
42.5	57	65	130	57	95	222	160	377	301	274	29	28.33
55	65	70	145	65	105	260	180	433	330	310	32	39.59
85	75	83	162	73	127	329	190	527	380	340	39	62

Shackles and Connectors

Green Pin® Standard Shackles

Dee Shackles with Safety Bolt - G-4163

Material: Bow and pin high tensile steel, Grade 6, quenched and tempered

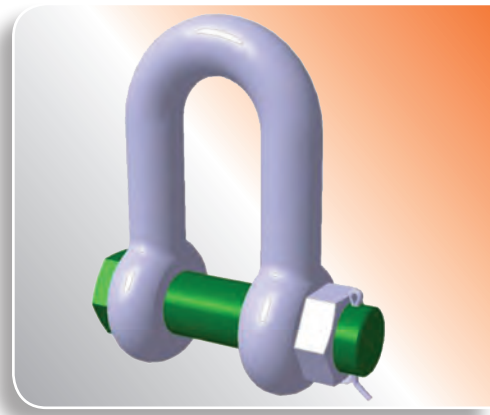
Safety Factor: MBL equals 6 x WLL

Standard: EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 2, Grade A

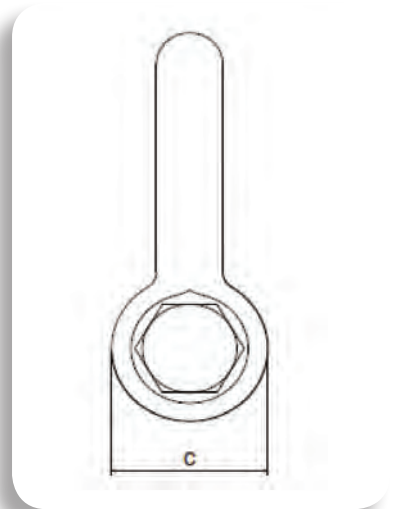
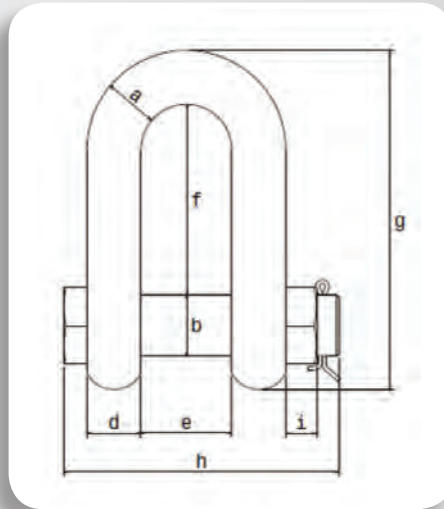
Finish: Hot dipped galvanised

Temp. Range: -20°C up to +200°C

Certification: At no extra charges this product can be supplied with a works certificate, EC Declaration of Conformity and all shackles starting from 2t can be supplied with DNV 2.7-1 Certificate.



Dimensions:



WLL t	Diameter Bow a mm	Diameter Pin b mm	Diameter Eye c mm	Width Eye d mm	Width Inside e mm	Length Inside f mm	Length g mm	Length Bolt h mm	Thickness Nut i mm	Weight Each kg
2	13.5	16	34	13	22	43	81	82	13	0.39
3.25	16	19	40	16	27	51	97	98	17	0.67
4.75	19	22	46	19	31	59	112	114	19	1.08
6.5	22	25	52	22	36	73	134	130	22	1.66
8.5	25	28	59	25	43	85	154	150	25	2.46
9.5	28	32	66	28	47	90	167	166	27	3.4
12	32	35	72	32	51	94	180	178	30	4.51
13.5	35	38	80	35	57	115	209	197	33	6.1
17	38	42	88	38	60	127	230	202	19	7.63
25	45	50	103	45	74	149	271	249	23	13.25
35	50	57	111	50	83	171	305	269	26	18.53
42.5	57	65	130	57	95	190	345	301	29	25.94
55	65	70	145	65	105	203	376	330	32	35.33
85	75	83	162	73	127	229	427	380	39	52.97

Thimbles and Links

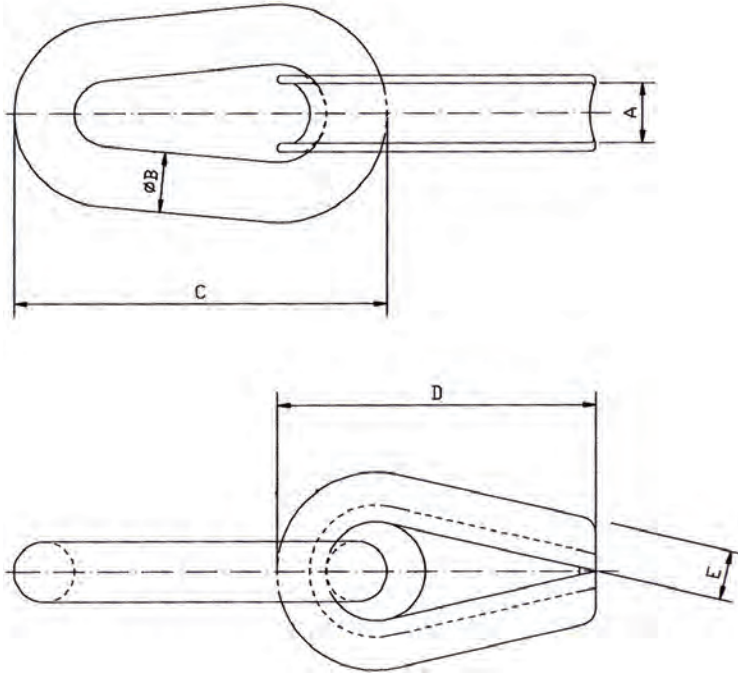
Thimbles and Links

Material: Thimble to BS464

Finish: Masterlink Grade 80

Range: Available in three sizes: 32mm, 41mm and 44mm

Dimensions:



Rope Size	Dimensions (mm)					Safe Working Load
	A	B	C	D	E	
32mm	35	35	216	184	29	6 tonne
41mm	41	35	216	203	35	9 tonne
44mm	47	38	225	254	38	9 tonne

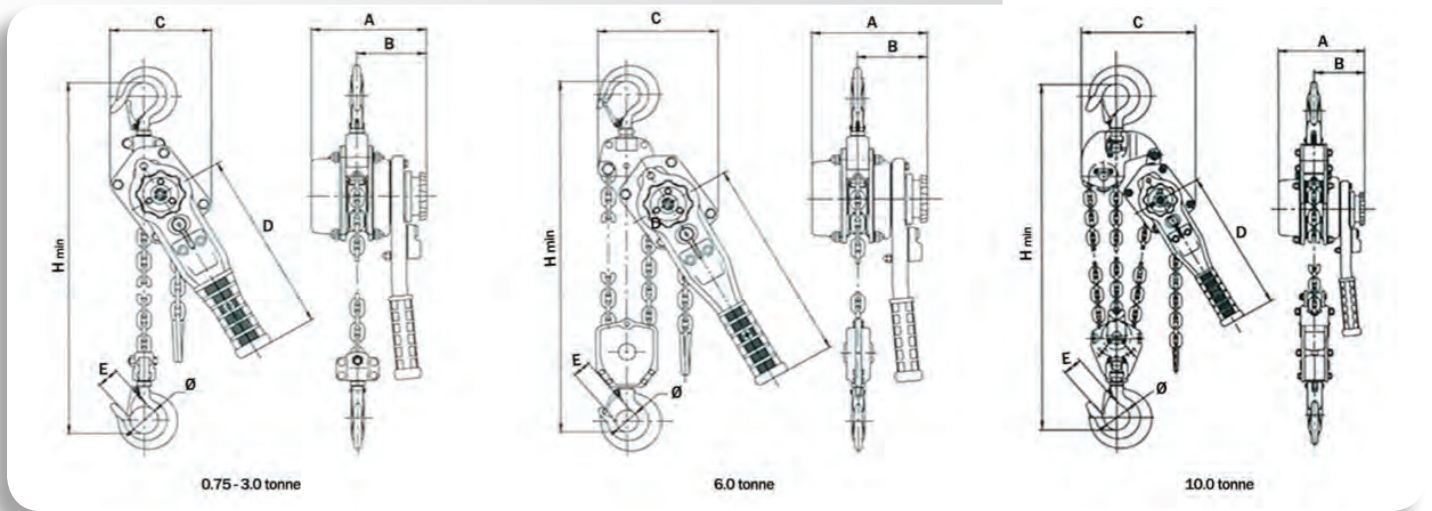
Chain Pulls

Grade 80 L3 Lever Hoist

Features:

- Rapid hook positioning via hand wheel.
- Galvanised loadchain (Grade 100 loadchain available on request).
- Pressed steel 'nibbed' safety catches.
- New end stop design.
- Pressed steel casing - low weight.
- Available up to 10t.
- Comprehensive spare parts available from stock.

Dimensions:



Capacity (tonnes)	Dimensions (mm)						Load Chain		Mass Kg
	A	B	C	Ø	E	H	Size (mm)	No. of Falls	
0.75	152	91.5	132	35.5	24	330	5.6	1	6.9
1.5	178	104	145	42.5	29.5	400	7.0	1	10.9
3.0	206	118	199	50	37	520	10.0	1	20.2
6.0	206	118	230	53	40	640	10.0	2	30
10.0	206	118	338	67	48	800	10.0	3	50

Round Lifting Slings

Round Lifting Slings

Endless Polyester Round Sling (to EN 1492-2 & AS 4497)

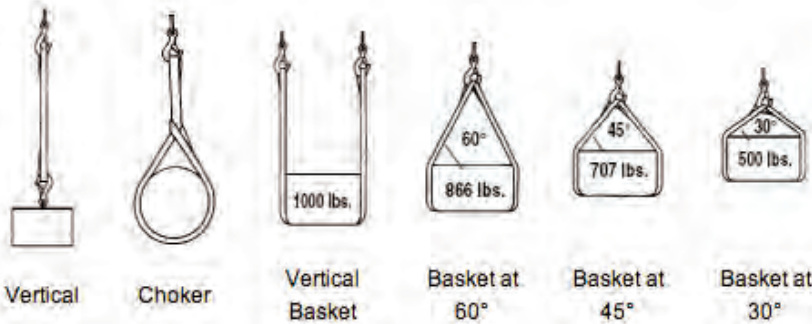
- Each Round Lifting Sling body is constructed of multiple endless loops made of 100% polyester yarns encased in a double-layer woven polyester jacket.
- Perfect for hugging and gripping many uneven and odd shaped loads.
- Light in weight, but high in strength.
- 100% polyester construction that assures low elongation 3% at rated capacity and still returns to original length. Thus minimises adjustments for stretch and reduces headroom problems of your lift.
- Polyester jacket helps protect internal load-bearing fibres from abrasion, wear, UV degradation, and harmful dirt and debris.
- All-polyester construction virtually eliminates moisture absorption, rot and mildew. It also offers good resistance to common industrial acids (except concentrated sulfuric acid), and alcohol, dry cleaning solvent, hydrocarbons, halogenated hydrocarbons, ketones, crude oil, lubricating oils, soaps, detergents, seawater and weak alkali. Caution: Never use at temperatures above 194°F (90°C) or below -40°F (-40°C). Do not expose to strong alkalis at elevated temperatures.
- Load stability and balance can be achieved by spreading sling legs.
- Wear points can be shifted to extend sling life.



Polyester Lifting Round Slings

Features:

- Safety Factor 7:1
- Colour Coding to EN 1492-2 and AS 4497
- Black stripes stitched to indicate working load limit: 1 stripe per ton
- Multiple large imprints of Working Load Limit on outer jacket
- Sealed in plastic bag with Test Certificate after production.
- CE declaration of conformity available upon request.



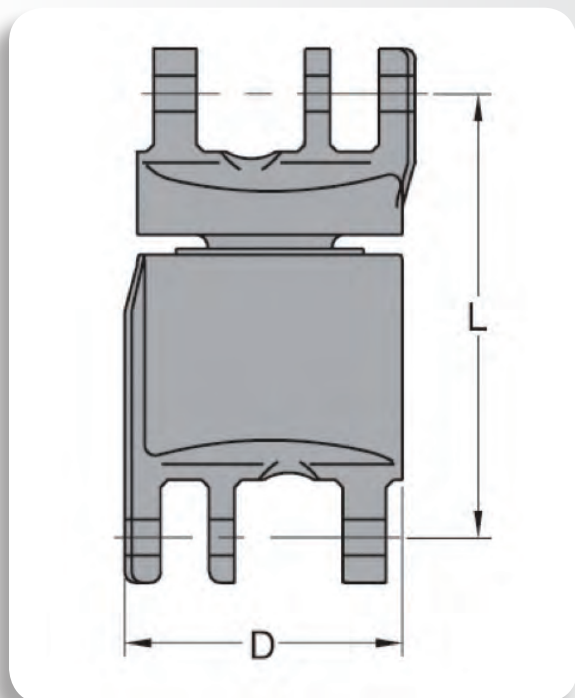
Specifications:

Product Number	Normal Jacket Colour to EN1492-2 & AS4497	Tube Thickness Under Load mm	Tube Width Under Load mm	Min. E.W.L. m	Max. E.W.L. m	Working Load Limit (Kgs)					
						Vertical	Choker	Basket Vertical	Basket 60°	Basket 45°	Basket 30°
REN1T	Purple	6	45	0.5	10	1,000	800	2,000	1,730	1,410	1,000
REN2T	Green	7	48	0.5	10	2,000	1,600	4,000	3,470	2,830	2,000
REN3T	Yellow	8	60	0.5	20	3,000	2,400	6,000	5,200	4,240	3,000
REN4T	Grey	10	65	0.5	20	4,000	3,200	8,000	6,930	5,660	4,000
REN5T	Red	10	75	0.5	20	5,000	4,000	10,000	8,670	7,070	5,000
REN6T	Brown	13	80	1.0	50	6,000	4,800	12,000	10,400	8,490	6,000
REN8T	Blue	15	80	1.5	50	8,000	6,400	16,000	13,860	11,320	8,000
REN10T	Orange	18	90	2.5	50	10,000	8,000	20,000	17,300	14,140	10,000
REN20T	Orange	25	120	2.5	50	20,000	16,000	40,000	34,700	28,300	20,000
REN30T	Orange	32	150	2.5	50	30,000	24,000	60,000	52,000	42,400	30,000
REN40T	Orange	40	170	2.5	50	40,000	32,000	80,000	69,300	56,600	40,000
REN50T	Orange	45	180	2.5	50	50,000	40,000	100,000	86,700	70,700	50,000
REN60T	Orange	65	190	2.5	50	60,000	48,000	120,000	104,000	84,900	60,000
REN80T	Orange	70	210	2.5	50	80,000	64,000	160,000	138,600	113,200	80,000
REN100T	Orange	80	320	2.5	50	100,000	80,000	200,000	173,000	141,400	100,000

Swivels

Grade 80 Insulated Blank Swivel with Ball Bearing

Dimensions:



Chain Size (mm)	D (mm)	L (mm)	WLL	Mass Kg
7,8	50	75	2t	0.5
10	62	94	3.15t	1.1
13	77	123	5.3t	2.3
16	94	143	8t	4.2
20	109	164	12.5t	6.4
22*	109	160	15.5t	9.2
26*	135	207	21.6t	18.3

• Uninsulated

Chain

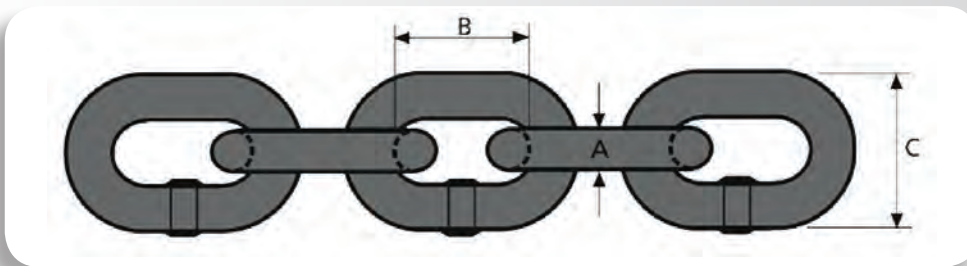
Grade 'T' (80) Chain BS EN 818-2

Max-Alloy Grade 80 Chain is manufactured specifically for use in chain slings for lifting purposes. The chain is heat treated for tensile strength and resistance to wear whilst also allowing for shock absorption. The chain is easily identifiable with "MAB" embossed at metre intervals.

Properties:

- Working Load Limited (W.L.L.) is the maximum load which chain or components are designed to sustain in lifting use. The mean stress at this load is 200n/mm^2 (MPA) and is based on a factor of safety of 4:1.
- Manufacturing Proof Force (M.P.F.) is the force to which during manufacture chain or components are subjected. The mean stress at this load is 500n/mm^2 (MPA) which is 2.5 times the working load limit.
- Minimum Breaking Load (M.B.L.) is the minimum force which chain or components must withstand before failure. The mean stress at this load is 800n/mm^2 (MPA). The minimum elongation before failure is 20%.

Dimensions:



Dimensions (mm)			W.L.L. (Tonnes)	Kgs per metre
A	B	C		
7	21	25.9	1.5	1.1
8	24	29.6	2.0	1.5
10	30	37.0	3.15	2.2
13	39	48.1	5.3	3.8
16	48	59.2	8.0	5.8
20	60	74.0	12.5	9.1
22	66	81.4	15.0	11.0



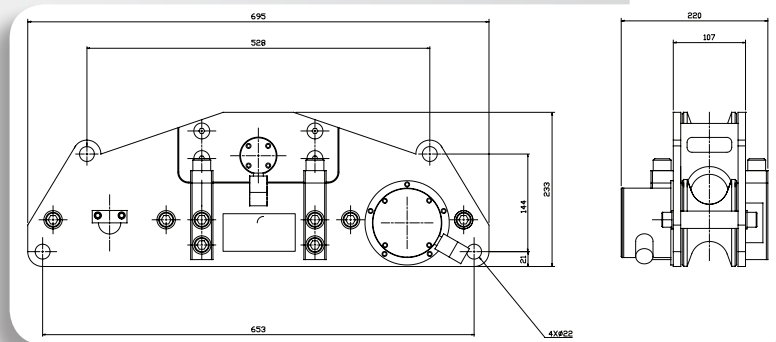
Small Running Line Monitor RLM80T

The new DLM **80t Running Line Monitor** measures the tension on a rope passing through its three wheels. Typically used in cable laying and Winch operations to measure and record line tension its robust design has become an industry standard.

- Designed to be used in harsh environments, its modular design allows for easy setup, installation and servicing. Can be supplied with various diameter wheels to suit particular rope.
- The centre wheel axle is a gauged shear pin load cell with a subsea rated connector for connection to the sealed integrated 4-20mA amplifier.
- Line speed and distance is measured using an integrated rotary encoder mounted onto the bottom encoder wheel, in a sealed IP68 housing.
- The monitor can be supplied as a separate item for integration with customers existing PLC's or with a DLM digital display/TFT touch screen display.



Dimensional Data



Standard Available Wheel Sizes

Rope Diameters (mm) 16 18 19 22 24 26 28 30 32 33 38 40 44 48 52

Features

Note: Others available upon request.

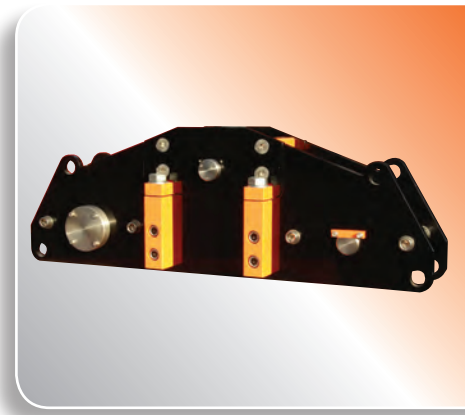
- | | |
|--------------------------------------|--|
| Frame Construction: | <ul style="list-style-type: none"> • CNC machined side plates. • Side plates fixed together using high tensile Stainless Steel Bolts and supporting spacers. No welded joints. • Dual frame construction (Upper and Lower) for easy rigging and rope insertion. • IP68 O Ring sealed Encoder protection casing, located to the side of the encoder on lower frame. • Upper and Lower Frames attached together using high tensile Stainless Steel bolts. • Marine Grade DP4B Bearings used on all wheels. |
| Frame Finish: | <ul style="list-style-type: none"> • Colour to suit customer requirements (Orange and Black as standard) • Epoxy Powder Coat (170u thickness as standard). • Optional Zinc plating prior to Powder coat for extra protection. |
| Wheel Material: | <ul style="list-style-type: none"> • EN24T alloy Steel (Hardened to 40 Rockwell upon request) |
| Axles and Shear Pin Material: | <ul style="list-style-type: none"> • 17-4PH H1150 + 1150 Stainless Steel. |
| Shear Pin Load Cell Axle: | <ul style="list-style-type: none"> • Suitable for Line Tensions up to 60t. • Connection through MCBH-3-FS and MCIL-3-MP Subsea connectors and IP68 gland to sealed Encoder casing. • O Ring Sealed. |
| Amplifier: | <ul style="list-style-type: none"> • 3 Wire 4-20mA current source. • 11-24VDC Powered. • Mounted in Shear Pin Load Cell head, signal and power connection through MCBH-8-MP Bulkhead Connector shared with Encoder output/input, mounted on Encoder protective casing. |
| Encoder: | <ul style="list-style-type: none"> • Mounted inside O Ring sealed Encoder casing bolted to frame. • Push-Pull Quadrature output. • 11-24VDC Powered. • Signal and Power Connection through MCBH-8-MP Bulkhead connector shared with Amplifier output/input. • Located in bottom Encoder casing mounted to wheel axle by encoder coupling. |
| RLM Mounting: | <ul style="list-style-type: none"> • Eight machined eyes located on each side plate for easy rigging to spooling gear or for use as lifting points. • Machined stainless steel spacers double as lifting/carrying points. |
| Optional Extras: | <ul style="list-style-type: none"> • Fleeting Gear • Mounting posts • Mounting brackets |

Specification subject to product upgrade, please confirm actuals with DLM.

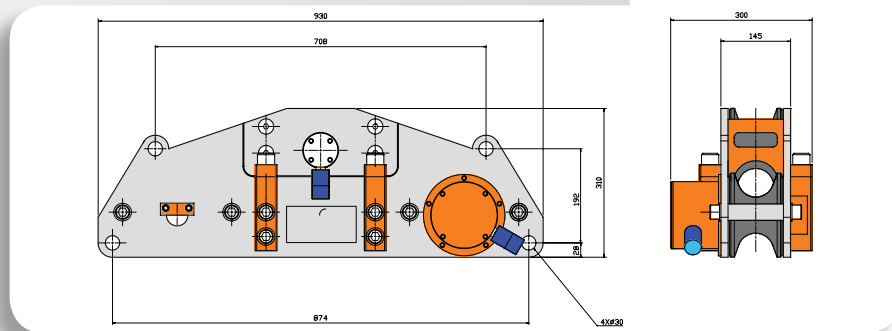
Large Running Line Monitor RLM200T

The new DLM **200t Running Line Monitor** measures the tension on a rope passing through its three wheels. Typically used in Cable Laying and Winch operations to measure and record line tension its robust design make it the industry leading line tension monitor.

- Designed specifically for harsh Marine type environments its modular easy to rig design allows for quick setup, installation and servicing.
- Can be supplied with various diameter wheels to suit particular rope diameters.
- Light weight, machined flat plate design.
- The centre wheel axle is a gauged shear pin load cell with integrated 4-20mA amplifier and subsea rated connector all sealed to IP68.
- Line speed and distance is measured using an integrated rotary encoder mounted onto the bottom encoder wheel, in a sealed IP68 housing.
- The monitor can be supplied as a separate item for integration with customers existing PLC's or with a DLM digital display cabinet/TFT touch screen.



Dimensional Data



Standard Available Wheel Sizes

Rope Diameters (mm)	38	40	42	44	48	52	56	58	60	64	76	78
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Features

Note: Others available upon request.

Frame Construction:	<ul style="list-style-type: none"> • CNC machined side plates. • Side plates fixed together using high tensile Stainless Steel Bolts and supporting spacers. No welded joints. • Dual frame modular construction (Upper and Lower) for easy rigging and rope insertion. • IP68 O Ring sealed Encoder protection casing, located to the side of Encoder wheel on lower frame • Upper and Lower Frames attached together using high tensile Stainless Steel bolts. • Marine grade DP4B Bearings used on all wheels.
Frame Finish:	<ul style="list-style-type: none"> • Colour to suit customer requirements (Orange and Black Standard) • Epoxy Powder Coat (170u thickness as standard). • Optional Zinc plating prior to Powder coat for extra protection.
Wheel Material:	<ul style="list-style-type: none"> • EN24T alloy Steel (Hardened to 40 Rockwell upon request)
Axles and Shear Pin Material:	<ul style="list-style-type: none"> • 17-4PH H1150 + 1150 Stainless Steel.
Shear Pin Load Cell Axle:	<ul style="list-style-type: none"> • Suitable for Line Tensions up to 200t. • Connection through MCBH-3-FS and MCIL-3-MP Subsea Connectors and IP68 gland to sealed Encoder casing. • O Ring Sealed.
Amplifier:	<ul style="list-style-type: none"> • 3 Wire 4-20mA current source. • 11-24VDC Powered. • Mounted inside Shear Pin Load Cell head signal and power connection through MCBH-8-MP Bulkhead Connector shared with Encoder output/input, mounted on Encoder protective casing.
Encoder:	<ul style="list-style-type: none"> • Mounted inside O Ring sealed Encoder casing bolted to frame. • Push-Pull Quadrature output. • 11-24VDC Powered. • Signal and Power Connection through MCBH-8-MP Bulkhead Connector shared with Amplifier output/input. • Located in bottom Encoder casing mounted to wheel axle by Encoder Coupling.
RLM Mounting:	<ul style="list-style-type: none"> • Eight machined eyes located on each side plate for easy rigging to spooling gear or for use as lifting points. • Machined stainless Steel spacers double as lifting/carrying points
Optional Extras:	<ul style="list-style-type: none"> • Fleeting Gear • Mounting posts • Mounting brackets

Specification subject to product upgrade, please confirm actuals with DLM.

Standard Cable Counter SCC

The DLM **Standard Cable Counter**, is as its name suggests a widely used and highly effective cable measuring device. Frequently used on cable laying vessels it combines durable, robust design with high reliability. The counter is fitted with a measuring wheel which supplies data via the sealed rotary quadrature shaft encoder. The counter can be supplied with a DLM display cabinet or as a stand alone unit supplying just the quadrature encoder output for integration into clients existing systems.

Counter Frame Specification

Frame height range:	1 metre
Wheel width:	230mm
Wheel Circumference:	1 metre
Suitable for cable diameters:	17mm to 230mm
Pass objects:	Repeaters up to 350mm
Track roller width:	400mm
Total Length:	1.2metre
Cable guidance arms max opening:	420mm
Encoder output:	Push Pull Quadrature

Display Specification

Enclosure:	Rugged Polyglass Enclosure
Speed/distance Meter:	Bright Red Digital LED Red Lion PAXI Meter
Exterior Switches:	IP67 rated On/Off switch IP67 rated Reset Switch
Re-transmission:	RS232, RS485
Power Supply:	90-250VAC power supply
Counter Cable Connector:	IP67 Brass LMG
Counter Accuracy:	1% (assuming clean roller and no cable slip)
Signal Cable:	20 metres as standard



Features:

- Wheel provides excellent traction with 70-80 Durometer Polyurethane cover.
- Adjustable frame height.
- Sealed rotary enclosure with IP67 Brass connector.
- Supplied with signal cable and displays as required.

Roller Arm Cable Counter RCC

The DLM **Roller Arm Cable Counter**, is as its name suggests a widely used and highly effective cable measuring device. Frequently used on cable laying vessels it combines durable, robust design with high reliability. The counter is fitted with a heavy duty roller arm which supplies data via the sealed rotary quadrature shaft encoder. The counter can be supplied with a DLM display cabinet or as a stand alone unit supplying just the quadrature encoder output for integration into clients existing systems.

Counter Frame Specification

Frame height range:	1 metre
Roller Wheel width:	585mm
Track roller width:	400mm
Total Length:	1.2metre
Cable guidance arms max opening:	420mm
Wheel distance per revolution:	0.5 metre
Suitable for cable diameters:	17mm to 350mm
Pass objects:	Repeaters up to 390mm
Encoder output:	Push Pull Quadrature

Display Specification

Enclosure:	Rugged Polyglass Enclosure
Speed/distance Meter:	Bright Red Digital LED Red Lion PAXI Meter
Exterior Switches:	IP67 rated On/Off switch IP67 rated Reset Switch
Re-transmission:	RS232, RS485
Power Supply:	90-250VAC power supply
Counter Cable Connector:	IP67 Brass LMG
Counter Accuracy:	1% (assuming clean roller and no cable slip)
Signal Cable:	20 metres as standard



Features:

- Heavy duty roller arm spanning the width of the frame.
- Cable guidance arms.
- Adjustable frame height.
- Sealed rotary enclosure with IP67 Brass connector.
- Supplied with signal cable and displays as required.

Saddleback Monitor SBM

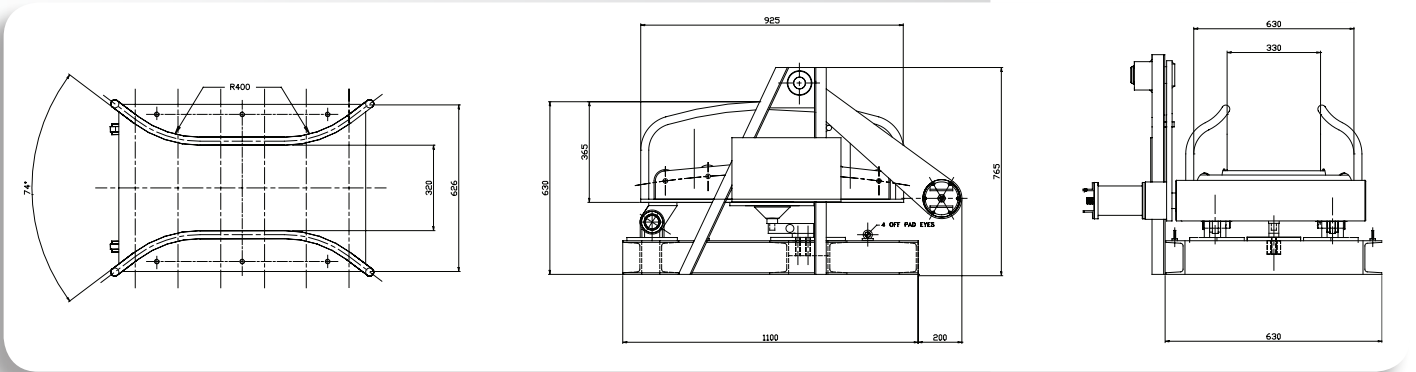
The DLM **Saddleback** is a line tension monitor suited for more delicate cable, including telecommunication cables or large cable where a Running Line Monitor is unsuitable.

The line tension is measured by the cable passing over the chute and deflecting the Load Cell mounted beneath.

As with the Running Line Monitors, the speed or distance of the cable pay out can be measured by the roller arm incorporated within the Saddleback.



Dimensional Data



Features

Frame Construction:

- Welded Steel Fabrication.
- Integral Encoder box located on the side frame.
- Sealed Needle Roller Bearings used throughout.
- Robust design for harsh environments
- Large or small capacities available

Frame Finish:

- Epoxy Powder Coat 170u thickness.

Chute Option:

- Static • Roller

Load Cell Specification:

- Stainless Steel • IP68 sealed • Shear Beam Load Cell

Saddleback Variants:

Note: all Saddleback dimensions remain the same the only difference is the Load Cell SWL which is fitted to the Saddleback.

Type	Load Cell	Expected Line Tension Min	Expected Line Tension Max
Size 1	2.5t	5t	10t
Size 2	5t	10t	20t
Size 3	10t	20t	40t

All expected line tension ratings are calculated under the assumption that the Saddleback is mounted such that the cable running over the Chute is at 7° (wrap of 166°). Line tensions seen will vary if different mounting arrangements are employed.

Amplifier:

- 3 Wire 4-20mA current source.
- 11-24VDC Powered.
- Potted for high environmental protection.
- Mounted in IP66 sealed marshalling box.
- Signal and Power connection through IP67 LMG Bulkhead Connector shared with Encoder output/input.

Encoder:

- Mounted inside Gasket sealed Roller Arm.
- Push-Pull Quadrature output.
- 11-24VDC Powered.
- Signal and Power Connection through IP67 LMG Bulkhead Connector shared with Amplifier output/input.

Saddleback Mounting:

- Welded base frame suitable for welding to ships deck.

Display:

- Optional Master and Slave displays with Serial and Analogue retransmission.

Optional Extras:

- Cradles with goal posts • Wear plates • Fleeting gear

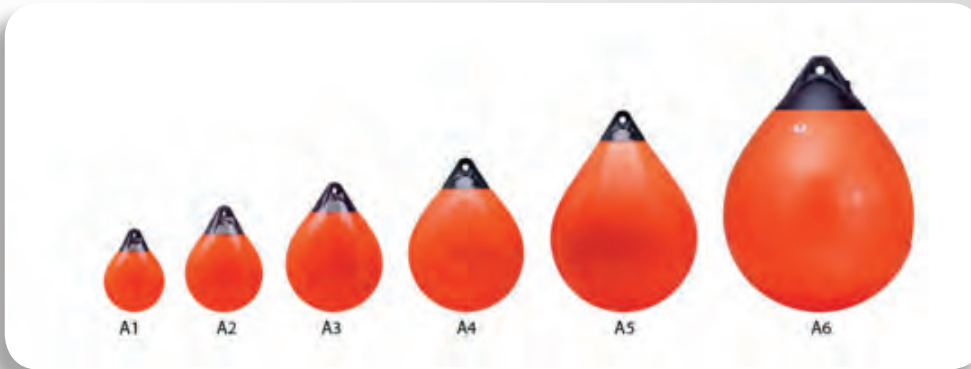
Specification subject to product upgrade, please confirm actuals with DLM.

Floats

Polybuoys

Produced in a variety of sizes in accordance with the data sheet shown below. Ideal for floating cable and marine applications.

Specification



Part number	Buoyancy kg	Length mm	Diameter mm	Eye Diameter mm	Weight Kg
A1	13,0	380	295	22	1,15
A2	32,0	500	390	25	2,10
A3	52,0	575	460	28	3,10
A4	90,0	710	550	28	4,10
A5	215,0	940	710	28	8,30
A6	405,0	1120	850	35	11,30

Rope

3 Strand Polypropylene

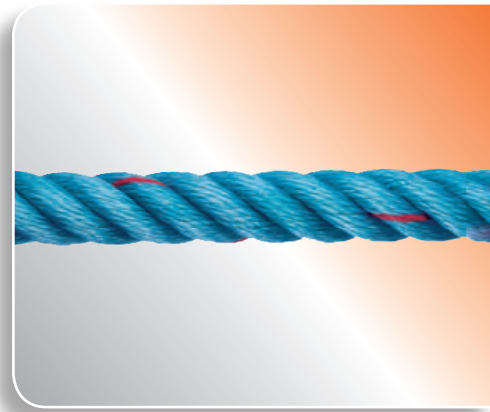
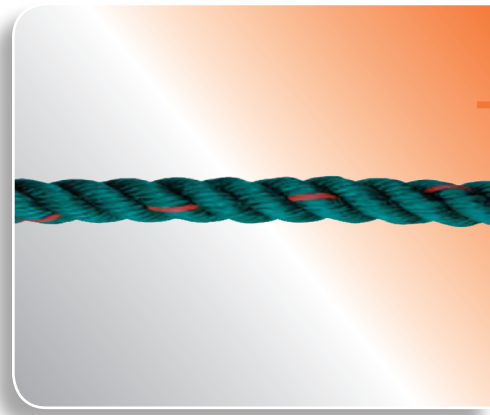
- 3 Strand polypropylene rope, colour green.
- Rope made following EN and ISO standards, for all purposes.

Diameter (mm)	Weight (Kg/100m)	MBF (kN)
6	1,5	5,9
8	2,7	10,4
10	4	15,3
12	5,7	21,7
14	9	19,9
16	11,5	37
18	14,8	47,2
20	18	56,9

4 Strand Polypropylene

- 4 Strand rope, made of polyethylene.
- Widely used in the inland shipping industry for mooring.
- Compact and robust construction makes rope suitable for mooring.
- This rope characterises itself by combining high abrasion resistance with reasonable breaking strength.

Diameter (mm)	Put Up (m)	Weight (Kg/100m)	MBF (kN)
24	220	26,6	53,8
28	220	35,4	72,4
32	220	47,2	94,5
36	220	59,4	119
40	220	70,6	144



Tools

Tool Box



Shovel



Crowbar



Sledge Hammer



Hacksaw



Hacksaw Blades



Wire Cutters



Knives



Bolt Cutters

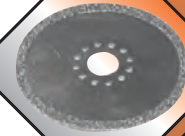


Disc Cutter



Tools

Disc Cutter Discs



Chain Block



Tirfor



Extension Lead



Tape Measure



Bandit Machine



Safety

First Aid Box



Hard Hat



Gloves



Fire Extinguishers



Hand Cleaner



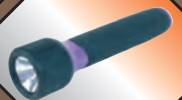
Life Jacket



Face Shield



Torch



Flood Lighting



Ear Defenders

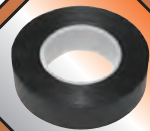


Consumables

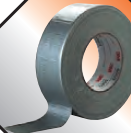
Insulation Tape



Self-Amalgamating



Duck Tape



Waste Sacks



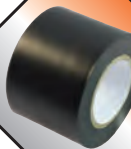
Rags



Cable Ties



Woolwich Tape



Bandit Clips



Bandit Tape



Glow Lights



Notes

Notes



Dynamic Load Monitoring

Product Catalogue



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World Leaders in the design, manufacture,
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cells to the offshore and subsea industry



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