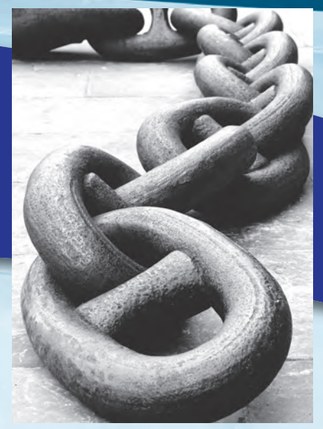

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MEP SYSTEMS PTE LTD

2010

Marine And Offshore Turnkey
Project Contractor

APPROVAL CERTIFICATE NO. SING 0160521/A

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CONTENTS

Our Mission: "To design and build Quality Deck Machinery Systems for the Stringent Marine and Offshore requirements"

Our Vision: "To be a Professional Turnkey Manager of New Shipbuilding Projects"

MEP (Marine Equipment Product) Systems is a Total System Solution Provider. With extensive contacts and resources available at our disposal, we are able to provide value-added services, quality products and equipment, all at competitive prices. MEP Systems consist mainly of 3 main divisions; Deck Machinery, Product Agencies & New Product Development and Shipbuilding & Turnkey Procurement Management.

Our Expertise

Deck Machinery Division

MEP System, a manufacturer of quality Deck Machinery, offers warranty and technical support on our MEP™ A.T.M. (Anchoring, Towing, Mooring) Systems anytime anywhere. As an integrated provider of various products and services, MEP Systems strives to provide customers with Mooring and Towing System solutions that best meets their needs. With our extensive network of facilities in Singapore and China, and global business partners, we are able to reach out to a global market both efficiently and effectively. Our areas of expertise includes engineering consultancy, designing and manufacturing of various deck top-side equipment such as winch, windlass, cranes, hull fittings, anchors, chains, ropes and other accessories. As such, we are able to assist customers in achieving their technical requirements within their budgets, while incorporating customization requests.

OUR DECK MACHINERY TEAM

MEP's Design Engineers have been in the industry for more than 10 years. MEP's team of experienced in-house engineers are specialists in Hydraulic, Mechanical and Electrical Deck Machinery Solutions. They are able to design the entire system, and provide detailed technical specifications drawings of the entire systems which clearly define all the components in its proper arrangement. In their years of designing deck machinery in the market, they have been involved in major projects like designing Pipe Laying Barge Systems, 8-point Mooring Systems with Auto-tensioning features for Work Barges, etc. They will design the deck machinery according to customer's operational requirement and upon the confirmation of every project, they will generate the production drawings for class submission and/or hand to our factories' production team for manufacturing.

MEP's Service Engineers, qualified to perform commissioning, servicing, modifications and repairs, endeavor to provide strong after-sales technical support anytime anywhere, solving our customers' problem promptly, thus ensuring that we are a reliable Anchoring, Towing, Mooring System Provider.

Fabrication and Engineering Services Division

Striving for excellence in our products and services, MEP Systems constantly reviews current products and conducts Research & Development for new products, with innovation and perfection as our main objectives. Under our very own MEP™ brand are products such as the M-Buoy Fabricated Foam-filled Pendant Buoys, MEP™ Back-tension Spooling Machine, MEP™ Next Generation Chain Solution and MEP™ series of Hull Fittings, which we manufacture with state-of-the-art manufacturing technology. MEP also provide customize Fabrication and Engineering Services, producing special products like Ladders, Wire Rope Stands, Storage Bins, etc. to customers' request and illustration. Customers are assured of product quality as these products were meticulously selected with our customers in mind.

MORDEC Supply Chain Division

Striving for business and Quality Assurance in the Marine & Offshore, Oil and Gas, Shipping and Construction Industry, MORDEC Innovative System, UK specializes in deck-side Mooring & Towing Products, including Marine & Offshore Anchors, Chain & Fittings, High Performance Steel Wire Ropes & Synthetic Ropes and Rigging & Lifting Gears. MORDEC UK through its marketing & sales office MORDEC International Pte Ltd, Singapore emphasizes on customer satisfaction, efficiency in providing products and services to customers at competitive cost and fostering strong partnership/cooperation with customers and suppliers. To achieve ISO 14000 by Year 2011, MORDEC shall strive to improve and update our resources, designs, expertise, skills, equipment and facilities to offer a modular approach and solution that will greatly reduce our clients' task, effort and cost.

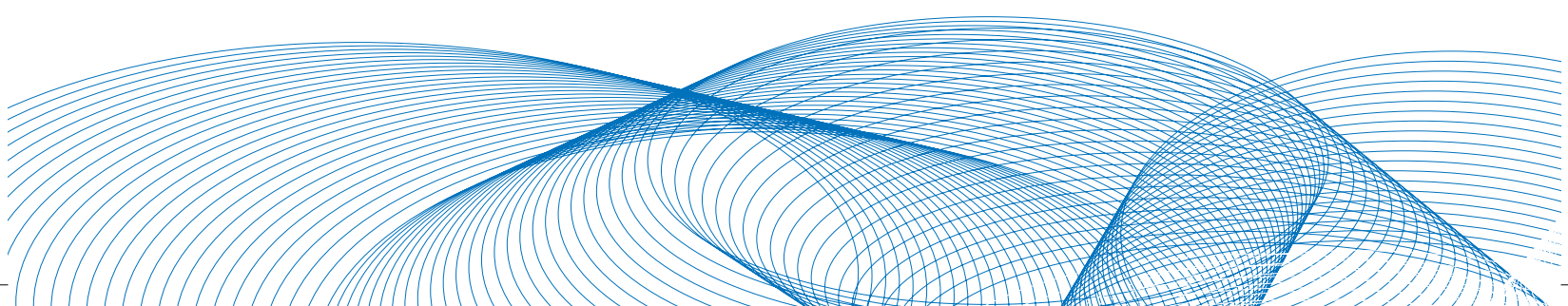
MORDEC has a team of efficient consultative engineers and marketing staff to train its distributors on all correct application and lifting requirements. With full commitment towards quality excellence, MORDEC benchmarks standards, practices, and systems in marine, oil and gas products, systems, and engineering services for all technical supports and expertise for safe and continuous operations.

MORDEC is constantly expanding distribution network into countries like China, Malaysia, India, Middle East, Turkey, Italy, Spain & U.S. of America etc. With our distribution network and strategic alliances with leading manufacturers, and with the expertise from our team of experience engineers & managers in all facets of marine & offshore industry.

Shipbuilding & Turnkey Procurement Management Division

We have also since expanded into the Shipbuilding industry by establishing an experienced team of Naval Architects and Marine Engineers, all well-versed in the classification and regulation of offshore and commercial vessels. These include building projects involving anchor handling tugs, supply vessels and product tankers. All these achieved through collaboration with various contracted shipyards including CNOOC Bohai Shipbuilding, Fujian Mawei Shipbuilding and Fujian Shenghai Shipbuilding. With MEP's supervision and control of the entire shipbuilding process, customers can be ensured of quality, safety and of course, a prompt delivery.

Turnkey Procurement Management was recently introduced into our portfolio in a bid to achieve our goal as a prime vendor of marine services. In this changing global environment, we acknowledge the rising technical demands involved in shipbuilding and are psyched to rise up to the challenge. We are confident of being able meet demands and expectations with our holistic approach of studying, qualifying, recommending and even designing entire systems from the deck to engine rooms and the super-structure.



OUR SHIPBUILDING TEAM

MEP's Naval Architect, Mr. Thomas Chan, is a veteran in the Marine and Offshore industry and widely acclaimed for his technical competence and professionalism provides technical supervision to ensure that all technical specifications of the turnkey projects undertaken by MEP are in conformance with various classification society standards. He will provide consultancy to customers on new build/turnkey projects, assess and choose suitable shipyards for the projects undertaken by MEP, and follow through all major projects to ensure smooth production and delivery of the new builds.

MEP's Project Managers have taken major appointments such as Project Engineer, Project Manager, Class Surveyor, and Shipyard Manager and has worked with many major marine companies. Upon the confirmation of every project, they will join the Builder's Representative as the Project Manager to manage and supervise the shipbuilding project in the shipyard.

MEP's Collaborative Partners

MEP is constantly appointing representatives in other regions to promote our product and services. In addition, MEP Group is also working closely with reputable companies, ranging from naval architectural firms, shipyards and product manufacturers, to provide customers with the utmost assurance of quality results for all our products and services as they will be backed by detailed specifications and technical drawings adhering to stringent MEP standards and official marine regulations. Our competent team of technical personnel coupled with the wide variety of products and services we can provide, MEP is confident in meeting our marine and offshore customers' needs.

In summary, our business activities includes: -

- Mooring & Towing System Consultancy, Design & Manufacturing
- Deck Machinery Manufacturing & Accessories Stockist
- New Shipbuilding Project & Turnkey Procurement Management
- Marine & Offshore Equipment Product Development & Representation
- After-Sales Service Centre for all Represented Products & Equipments

In sum, MEP assures you our commitment to utilize our depth of experience and technical expertise with facilities that adhere to the most rigorous Marine & Offshore quality standards.

Thank You.

Best regards,

Ricky Lau

Managing Director

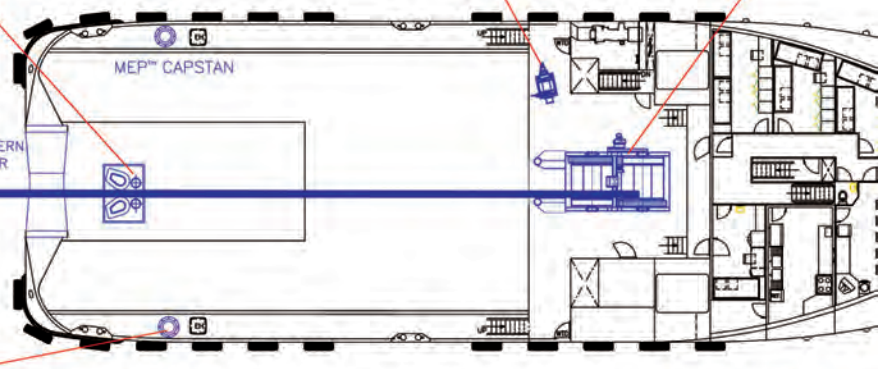
MEP Systems Pte Ltd

MEP™ Deck Machinery

MEP™ Anchoring Towing Mooring System

MEP™ TOWING PIN & SHARK JAW

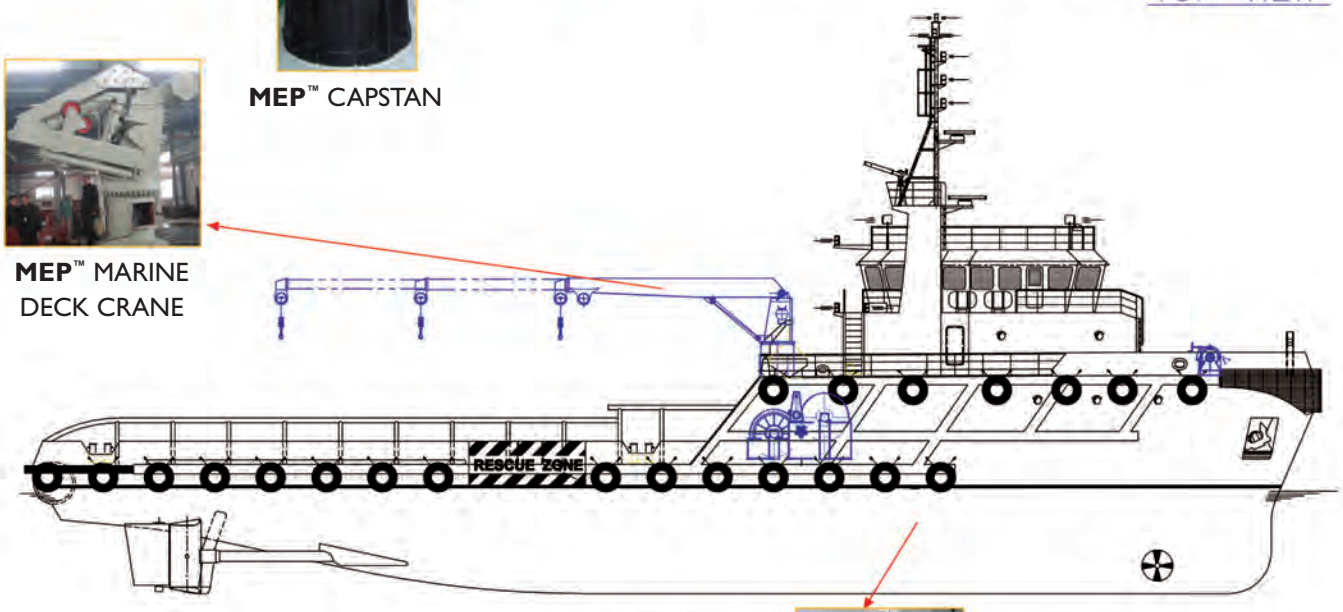
MEP™ TUGGER WINCH



TOP VIEW

MEP™ CAPSTAN

MEP™ MARINE DECK CRANE



SIDE VIEW

MEP™ HYDRAULIC POWER PACK

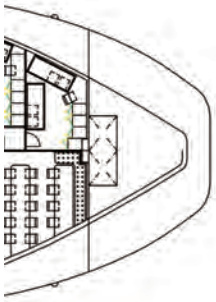
MEP™ Anchoring Towing Mooring System

MEP™ ANCHOR HANDLING TOWING WINCH

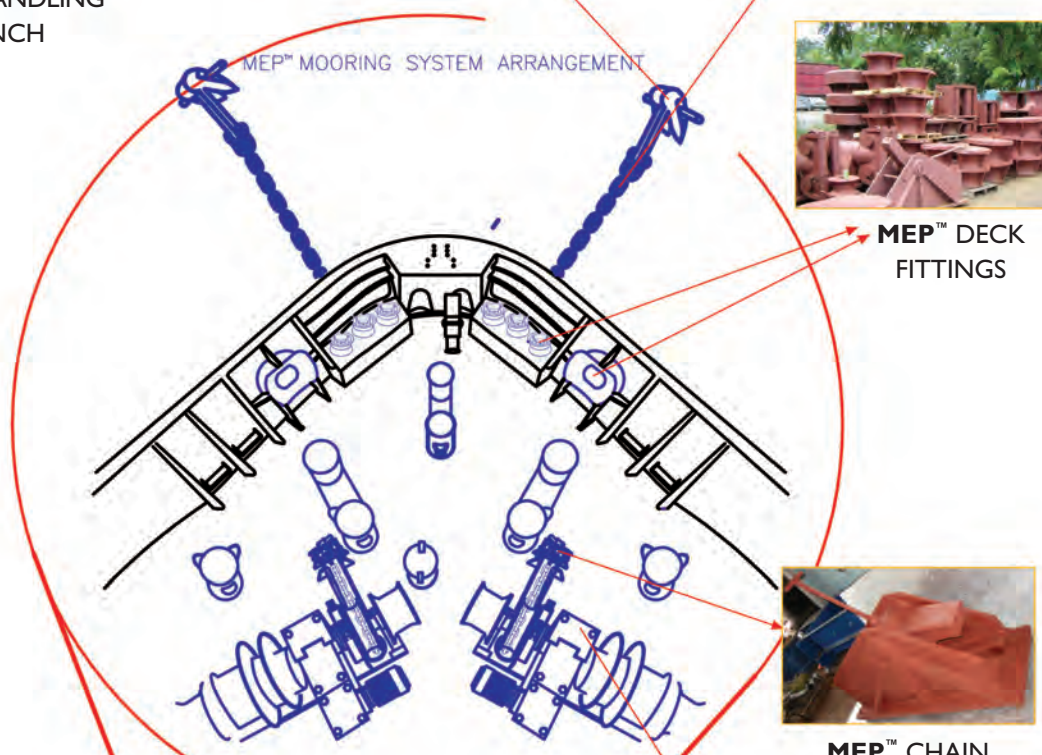
MEP™ ANCHOR

MEP™ ANCHOR CHAIN

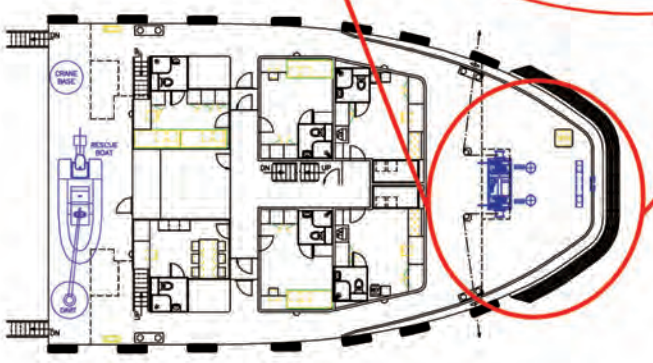
MEP™ DECK FITTINGS



– DECK



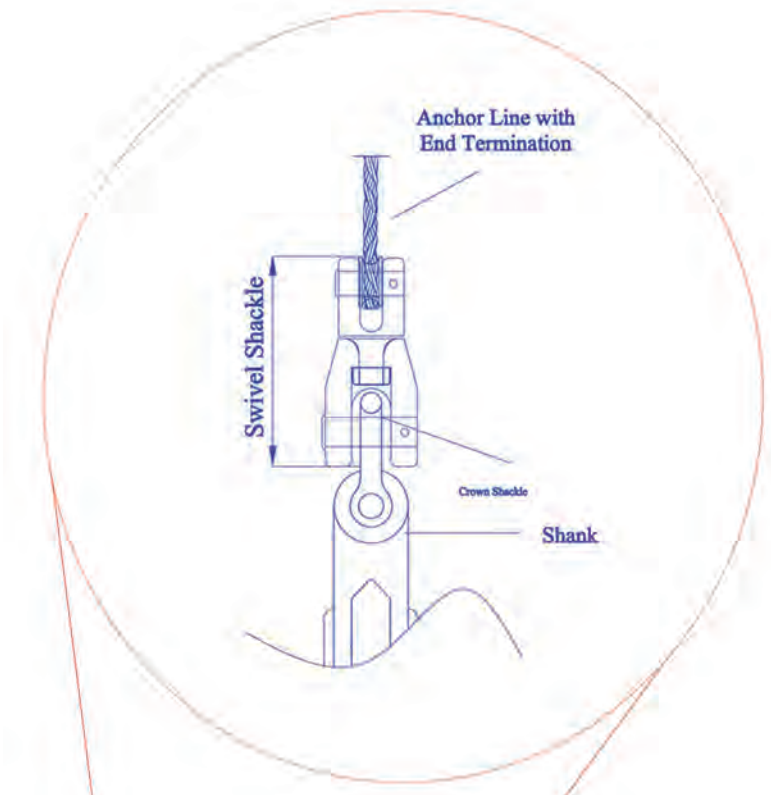
MEP™ CHAIN STOPPER

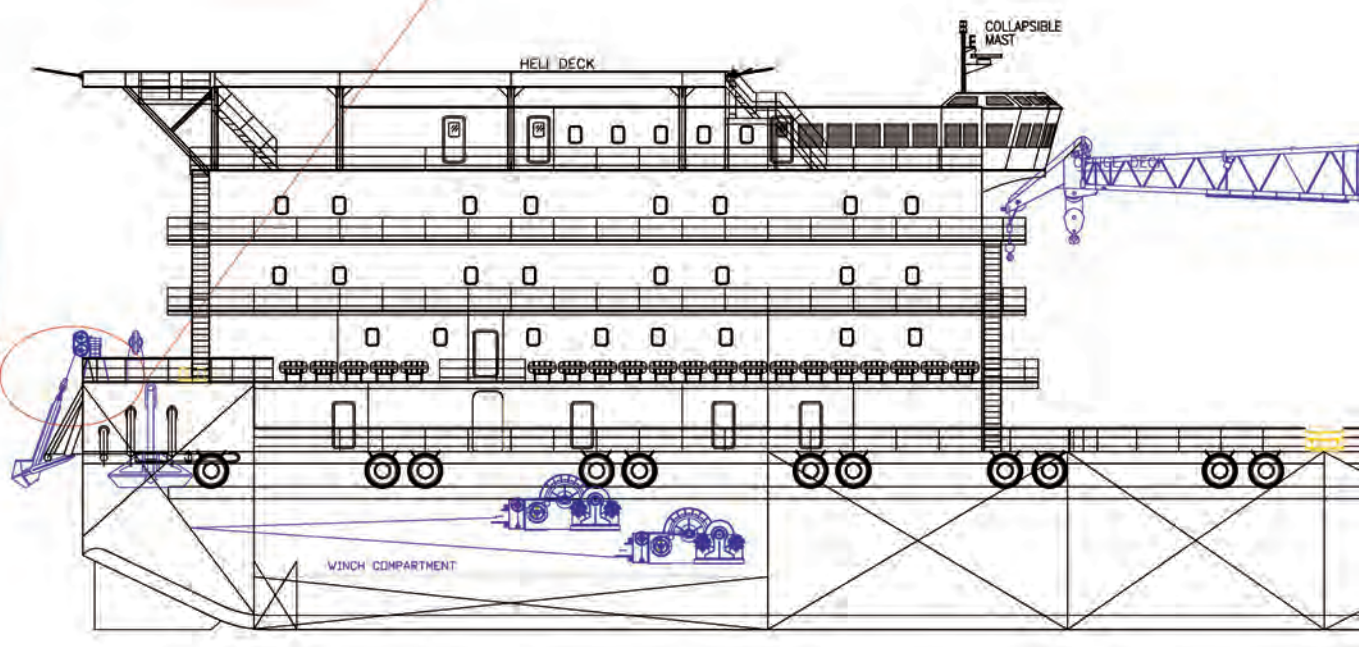


TOP VIEW – FORECASTLE

MEP™ COMBINATION ANCHOR WINDLASS / MOORING WINCH

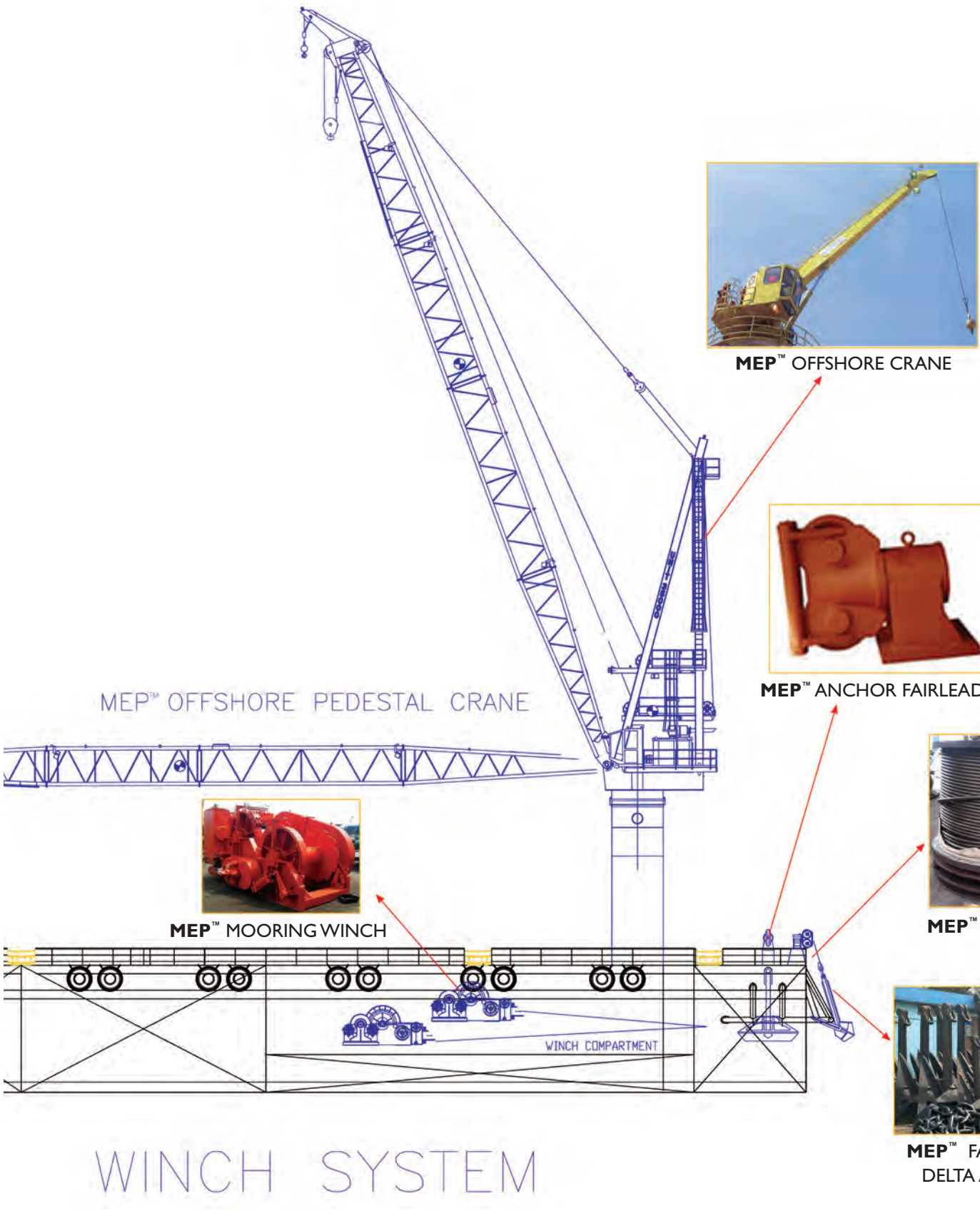
MEP™ Anchoring Towing Mooring System





MEP™ 8 PT MOORING

MEP™ Anchoring Towing Mooring System



MEP™ OFFSHORE CRANE

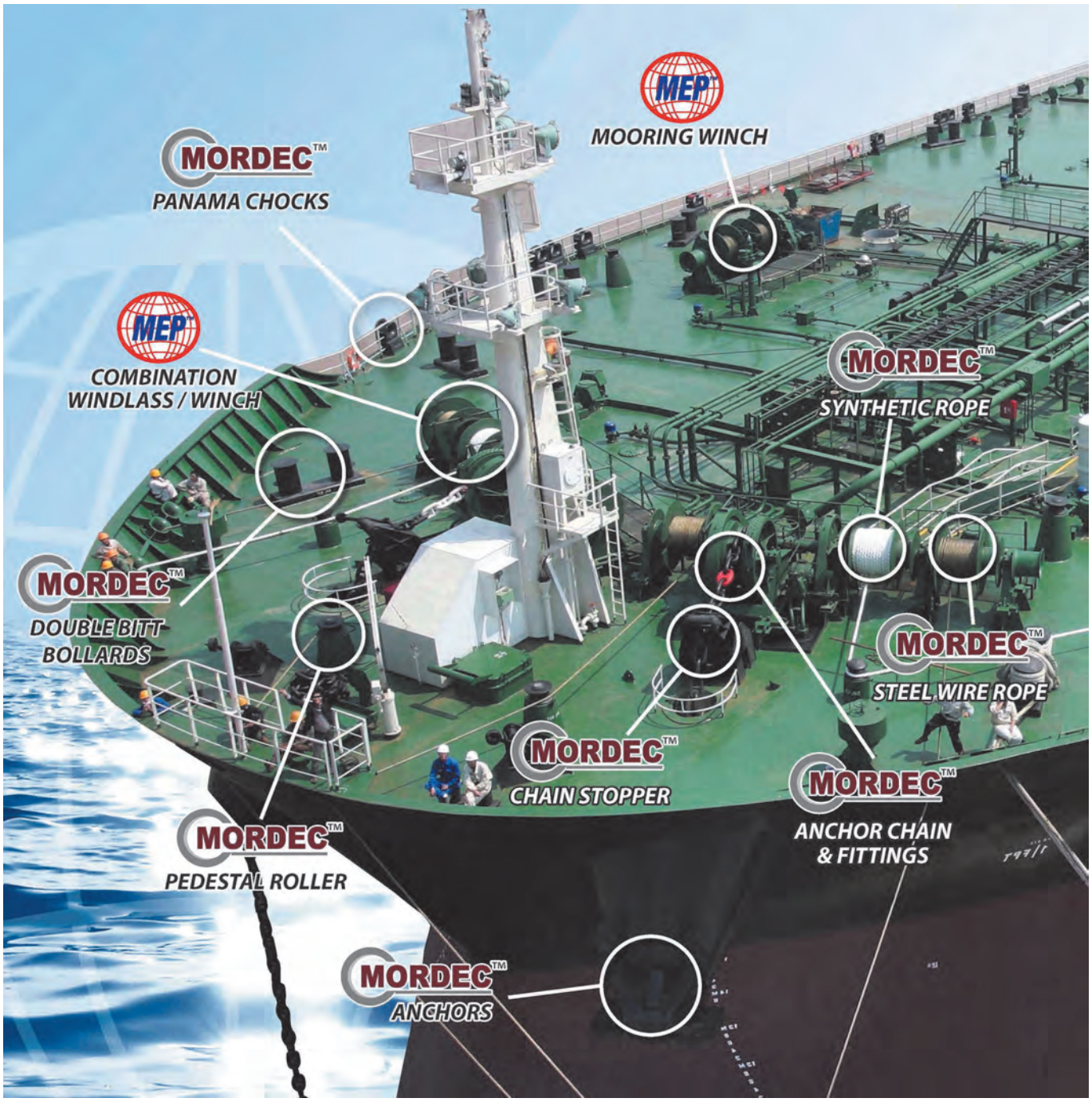
MEP™ ANCHOR FAIRLEADER

MEP™ MOORING WINCH

MEP™ WIRE ROPE

MEP™ FABRICATED DELTA ANCHOR

Anchor Towing Mooring Systems Provider



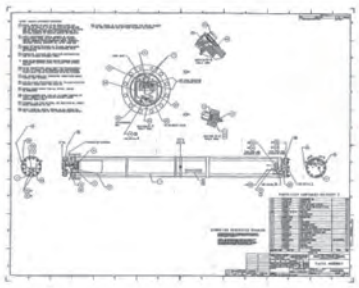
MEP™ CAPACITY

- Combination Windlass/Winch
- Anchor Windlass: up to 81mm U3
- Towing / Mooring Winch: up to 300ton
- AHT Winch: up to 300ton
- Tugger Winch & Capstan : up to 25ton
- Shark Jaw & Towing Pin: up to 300ton SWL
- Deck Crane: up to 20ton SWL
- Offshore Pedestal Crane: up to 50ton SWL
- Accessories
  - Anchor, Chain
  - Wire Rope
  - Hull Fittings

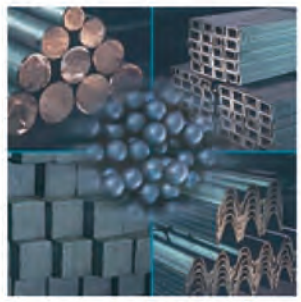
Manufacturing Process

Technical Team
- Requirement Study
- Technical Proposal
- Order Confirmation

Production Dwg



Purchase of raw material



Fabrication

Welding

Casting

Machining

Blasting

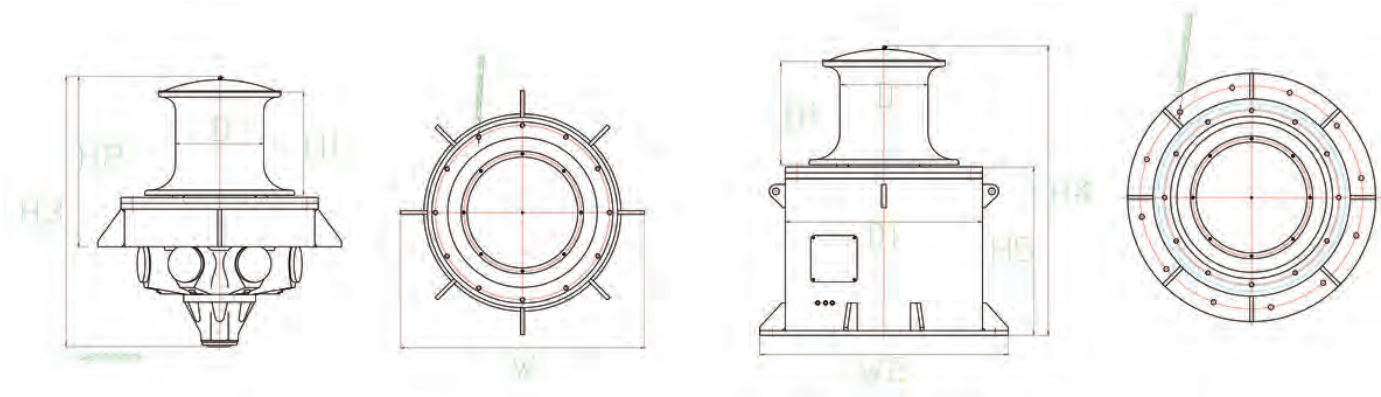
Assembly

Testing

Painting & Delivery

Capstan

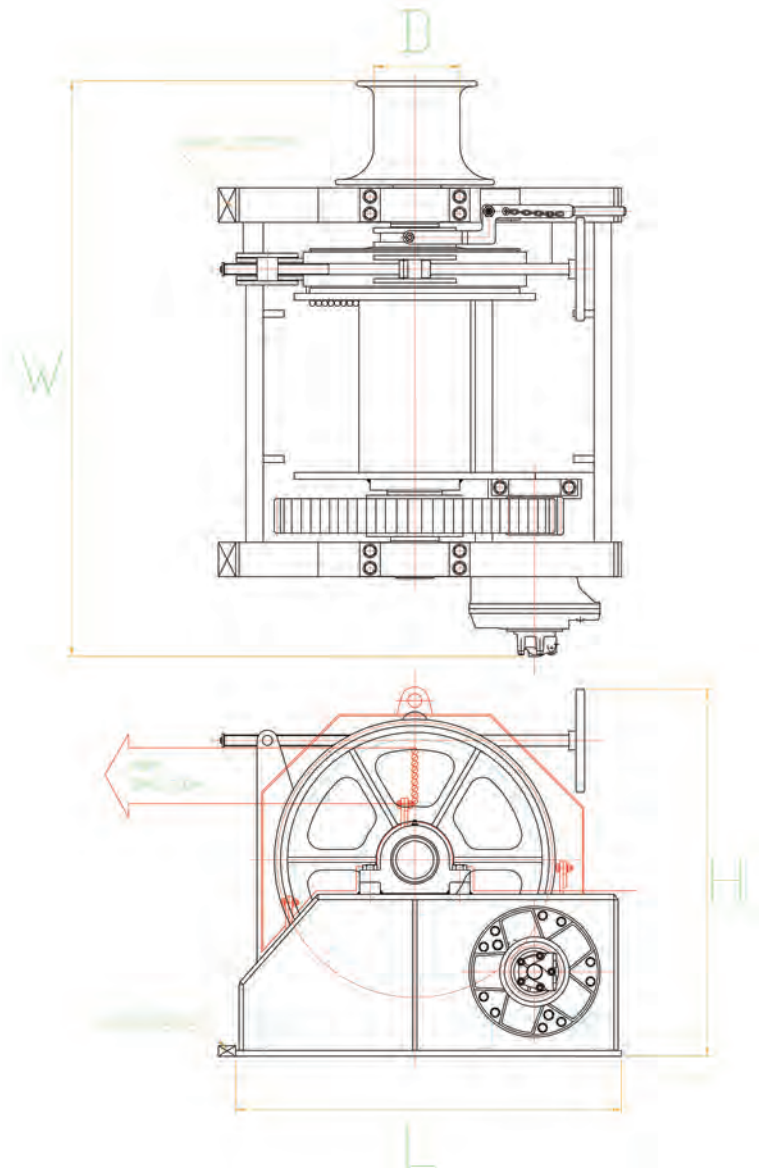
- **Capacity: Up to 20 Ton**
- **Configuration: Vertical / Horizontal**
- **Drive: Electrical / Electro-hydraulic / Diesel-hydraulic**



Type	Pull Tons	Speed (Ton/Min)	Overrall Dimensions mm.					
			D	H1	H2	W	D1	No. Of Holes
MEP-VCH-010	1	15	180	220	535	610	450	4
MEP-VCH-015	1.5	15	220	240	555	750	600	4
MEP-VCH-020	2	15	250	260	625	970	750	6
MEP-VCH-030	3	15	300	320	685	970	750	6
MEP-VCH-040	4	15	340	400	715	1100	880	6
MEP-VCH-050	5	15	400	450	915	1150	920	8
MEP-VCH-060	6	15	400	450	915	1150	920	8
MEP-VCH-080	8	15	500	600	1125	1500	1250	8
MEP-VCH-100	10	15	500	600	1125	1500	1250	8
MEP-VCH-120	12	15	600	680	1210	1500	1250	12
MEP-VCH-150	15	15	600	680	1210	1500	1250	12

Tugger Winch

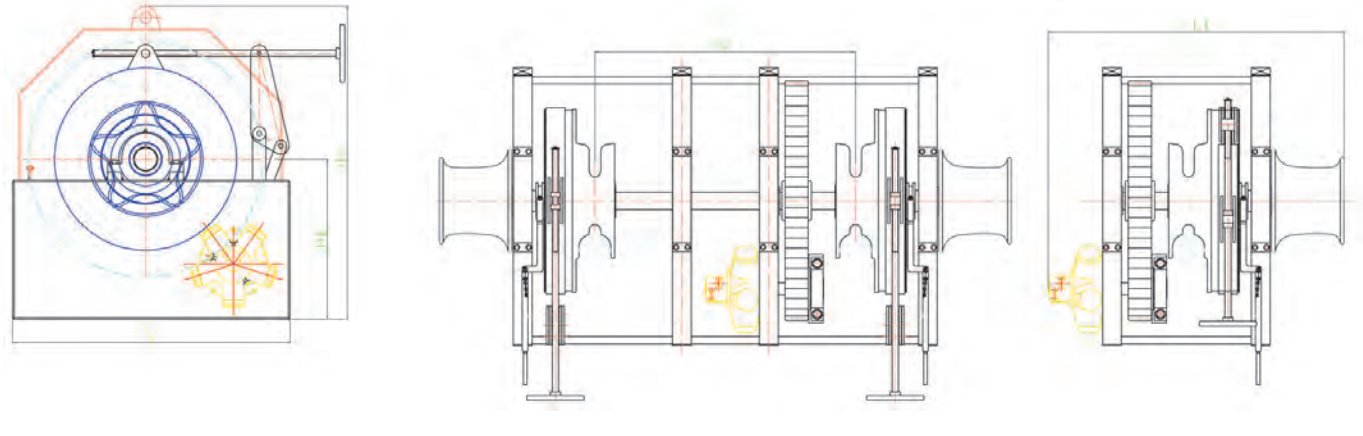
- **Capacity: Up to 20 Ton**
- **Drive: Electrical / Electro-hydraulic / Diesel-hydraulic**

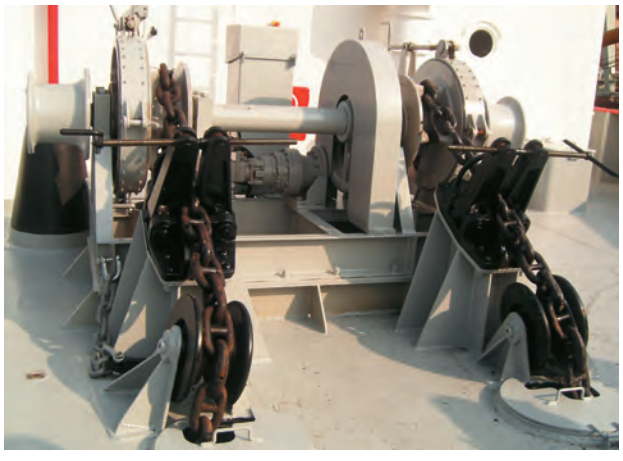


Model No.	Drum Capacity	Rated Pull @ 1st Layer	Brake Holding	Main Dimension			Weight	Power Required
				L	W	H		
MEP-TGH-003-005-SD	ø18MM DIA. X 220MTR	350KN X 15M/MIN	45KN	1546	1120	1060	1.1 Ton	11KW
MEP-TGH-005-008-SD	ø18MM DIA. X 220MTR	50KN X 10M/MIN	75KN	1671	1120	1060	1.5 Ton	11KW
MEP-TGH-008-012-SD	ø20MM DIA. X 250MTR	80KN X 10M/MIN	120KN	1985	1120	1360	1.5 Ton	11KW
MEP-TGH-010-015-SD	ø22MM DIA. X 250MTR	100KN X 10M/MIN	150KN	1985	1450	1360	2.3 Ton	22KW
MEP-TGH-015-023-SD	ø28MM DIA. X 350MTR	150KN X 12M/MIN	225KN	2350	1950	1923	4.4 Ton	45KW
MEP-TGH-020-030-SD	ø32MM DIA. X 500MTR	200KN X 10M/MIN	300KN	1760	2000	1923	4.6 Ton	55KW

Anchor Windlass

- **Capacity: Up to 120mm dia Chain**
- **Configuration: Single / Double Gypsy**
- **Drive: Electrical / Electro-hydraulic / Diesel-hydraulic**

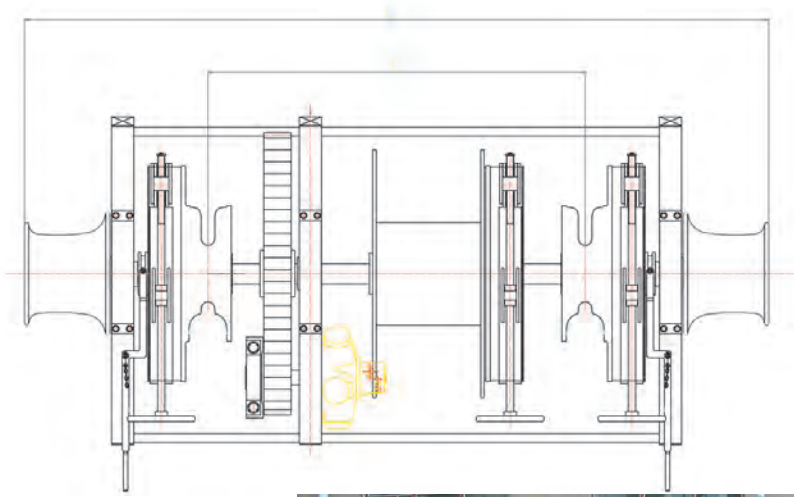


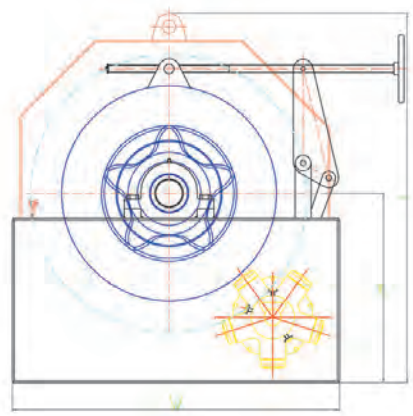


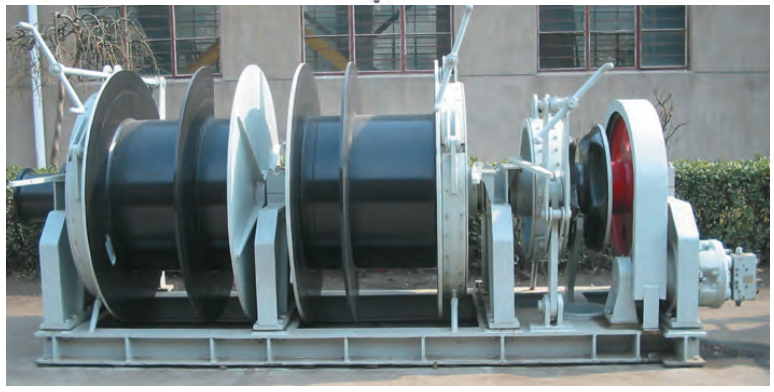
Model No.	Chain Size mm	Pull Rate kN x m/min	Over Load kN	Brake Holding kN	Main Dimension				
					Ctr Dis. C (mm)	Length L1 (mm)	Length L (mm)	Width W (mm)	Height H (mm)
MEP-AWH-017	17.5	13.0 x10	19.5	82.2	1000	1190	2380	900	990
MEP-AWH-019	19	15.0 x 10	23	95.5	1000	1190	2380	900	990
MEP-AWH-020	20.5	18.0 x 10	27	110	1000	1190	2380	900	990
MEP-AWH-022	22	20.5 x 10	31	126	1000	1190	2380	900	990
MEP-AWH-024	24	24.5 x 10	36.5	149.5	1000	1215	2430	900	990
MEP-AWH-026	26	28.5 x 10	43	175	1000	1250	2500	900	1050
MEP-AWH-028	28	33.5 x 10	50	202	1000	1300	2600	900	1100
MEP-AWH-030	30	38.5 x 10	57.5	231.5	1000	1350	2700	900	1200
MEP-AWH-032	32	43.5 x 10	65.5	262.5	1000	1350	2700	1050	1200
MEP-AWH-034	34	49.0 x 10	73.5	295	1000	1450	2900	1050	1350
MEP-AWH-036	36	55.0 x 10	82.5	329.5	1000	1450	2900	1050	1350

Combination Windlass / Winch

- **Windlass Capacity: Up to 120mm dia Chain**
- **Winch Capacity: Up to 20 Ton**
- **Configuration: Single / Double Gypsy and Single / Double Drum**
- **Drive: Electrical / Electro-hydraulic / Diesel-hydraulic**



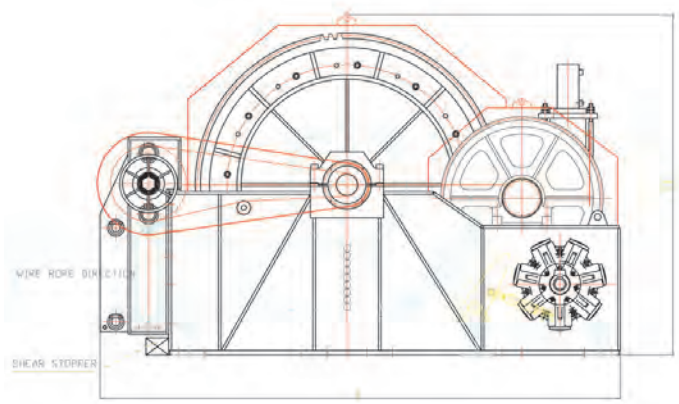


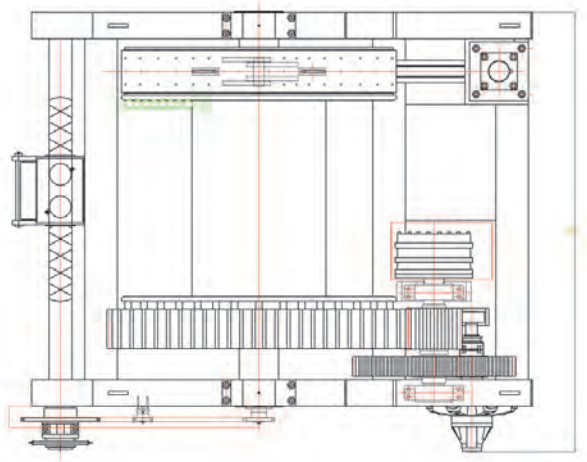


Model No.	Chain Size mm	Drum Cap. ϕ x m	Pull Rate kN x m/min	Brake Holding kN	Main Dimension			
					Ctr Dis. C (mm)	Length L (mm)	Width W (mm)	Heigth H (mm)
MEP-WWH-019	19	72 x 110	30 x 15	600	1850	3500	1800	1750
MEP-WWH-020	20.5	72 x 110	30 x 15	600	1850	3500	1800	1750
MEP-WWH-022	22	90 x 110	50 x 15	900	2000	3700	2200	1950
MEP-WWH-024	24	90 x 110	50 x 15	900	2000	3700	2200	1950
MEP-WWH-026	26	90 x 110	50 x 15	900	2000	3700	2200	1950
MEP-WWH-028	28	90 x 110	50 x 15	900	2000	3700	2200	1950
MEP-WWH-030	30	110 x 110	50 x 15	1100	2100	3800	2400	2250
MEP-WWH-032	32	110 x 110	50 x 15	1100	2100	3800	2400	2250
MEP-WWH-034	34	110 x 110	50 x 15	1100	2200	3950	2400	2250
MEP-WWH-036	36	110 x 110	50 x 15	1500	2200	3950	2400	2250

Mooring Winch

- **Capacity: Up to 200 Ton**
- **Configuration: Single Drum / Double Drum / Waterfall**
- **Drive: Electrical / Electro-hydraulic / Diesel-hydraulic**

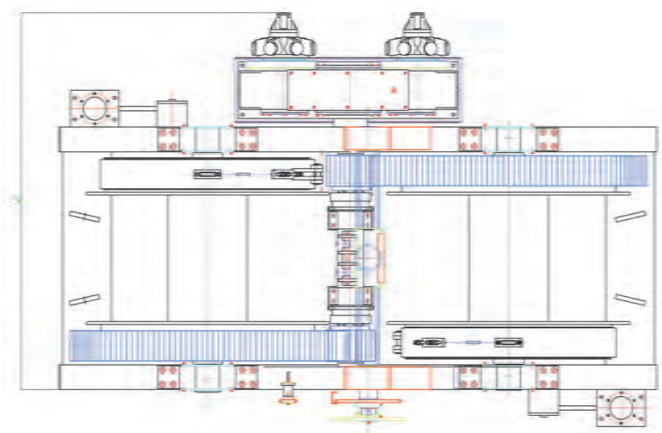


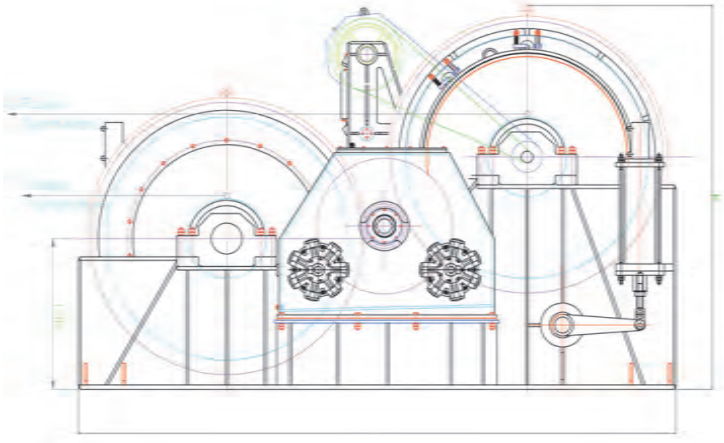


Model No.	Drum Capacity	Rated Pull @ 1st Layer	Brake Holding	Main Dimension			Weight	Power Required
				L	W	H		
MEP-MWH-005-008-SD	ϕ18 x 300m	500KN X 18M/MIN	75KN	1730	1120	1060	1.5 Ton	22KW
MEP-MWH-010-015-SD	ϕ25 x 370m	1000KN X 15M/MIN	150KN	1985	1450	1360	2.3 Ton	37KW
MEP-MWH-015-023-SD	ϕ28 x 700m	150KN X 12M/MIN	225KN	2350	1950	1923	4.4 Ton	45KW
MEP-MWH-020-030-SD	ϕ34 x 600m	200KN X 10M/MIN	300KN	2760	2000	1923	4.6 Ton	55KW
MEP-MWH-030-045-SD	ϕ38 x 100m	300KN X 9M/MIN	450KN	3270	3180	2050	11.5 Ton	75KW
MEP-MWH-040-060-SD	ϕ42 x 1500m	400KN X 10M/MIN	600KN	3480	3456	2420	16 Ton	110KW
MEP-MWH-050-075-SD	ϕ50 x 1200m	500KN X 10M/MIN	750KN	3347	3640	2420	16 Ton	150KW
MEP-MWH-060-090-SD	ϕ53 x 1000m	600KN X 8M/MIN	900KN	3350	3975	2600	19 Ton	150KW
MEP-MWH-070-105-SD	ϕ56 x 1000m	700KN X 13M/MIN	1000KN	3500	4725	2823	22 Ton	225KW
MEP-MWH-085-130-SD	ϕ56 x 1000m	850KN X 12M/MIN	1200KN	3500	4725	2823	22 Ton	270KW
MEP-MWH-100-150-SD	ϕ64 x 1000m	1000KN X 10M/MIN	1500KN	3520	5090	3145	26.5 Ton	270KW

Anchor Handling / Towing Winch

- Capacity: Up to 300 Ton
- Configuration: Single Drum / Double Drum / Waterfall
- Drive: Electrical / Electro-hydraulic / Diesel-hydraulic

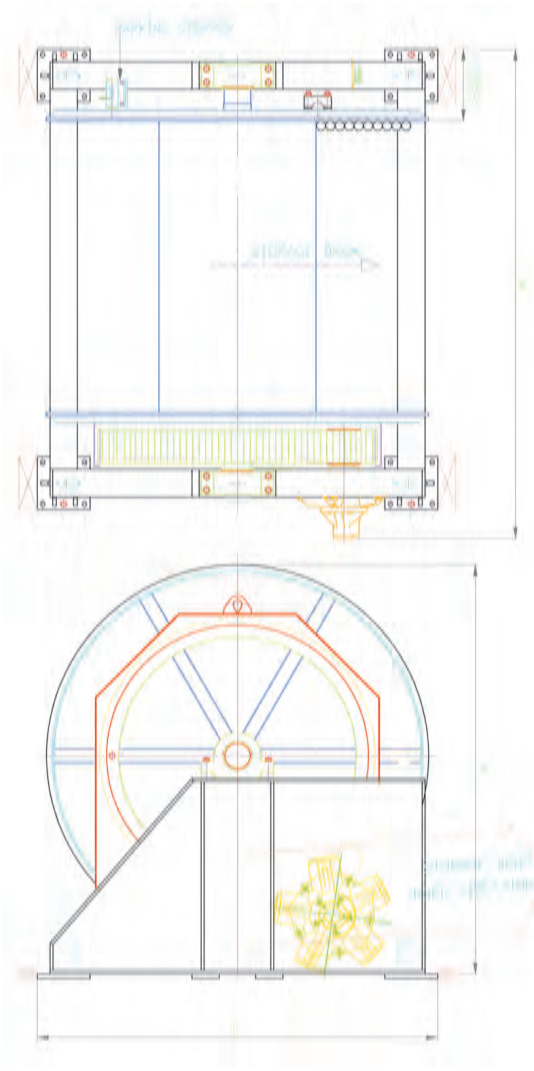


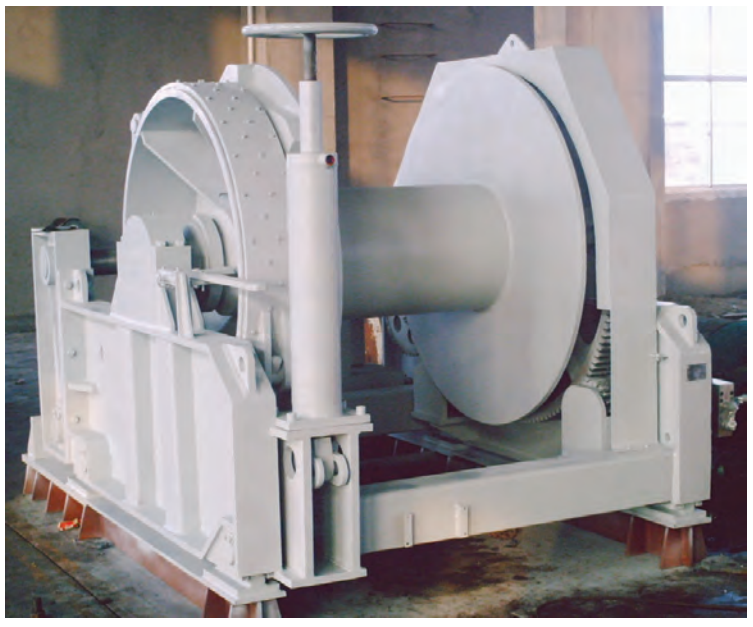


Model No.	Drum Capacity	Rated Pull @ 1st Layer	Brake Holding	Main Dimension			Weight	Power Required
				L	W	H		
MEP-ATH-040D	þ42MM DIA. X 1000MTR	40 TON X 8M/MIN	90KN	5320	3240	3860	32 Ton	90KW
MEP-ATH-060D	þ48MM DIA. X 1000MTR	60 TON X 9M/MIN	120KN	5700	3335	3860	35 Ton	150KW
MEP-ATH-075D	þ52MM DIA. X 1000MTR	75 TON X 8M/MIN	150KN	5700	3415	3860	36 Ton	150KW
MEP-ATH-100D	þ52MM DIA. X 1200MTR	100 TON X 6M/MIN	180KN	5700	3640	3860	39 Ton	180KW
MEP-ATH-150D	þ58MM DIA. X 1500MTR	150 TON X 6M/MIN	200KN	5700	4200	3860	42 Ton	270KW
MEP-ATH-200D	þ64MM DIA. X 1500MTR	200 TON X 6M/MIN	300KN	5700	5600	3860	45 Ton	360KW
MEP-ATH-250D	þ76MM DIA. X 1800MTR	250 TON X 6M/MIN	350KN	8000	4500	5138	50 Ton	440KW
MEP-ATH-300D	þ76MM DIA. X 2000MTR	300 TON X 6M/MIN	400KN	8000	4800	5138	56 Ton	500KW

Storage Steel

- **Capacity: Up to 20 Ton**
- **Drive: Electro-Hydraulic**

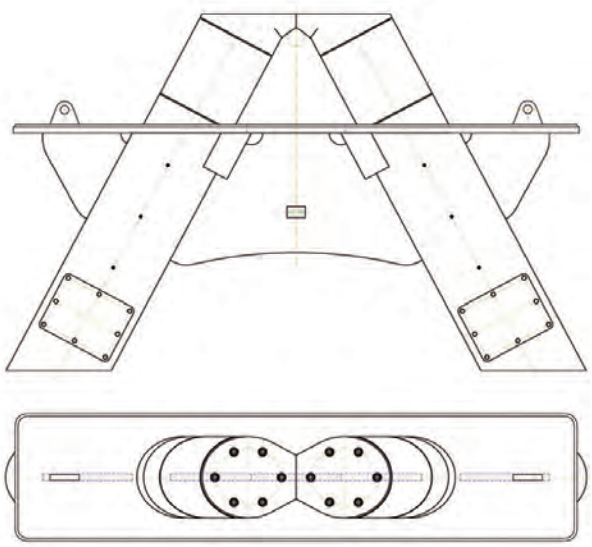




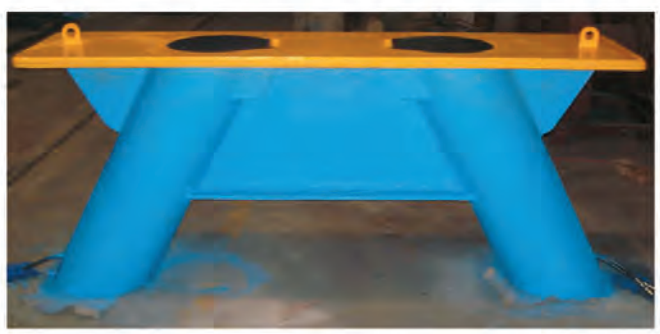
Model No.	Drum Capacity	Rated Pull @ 1st Layer	Brake Holding	Main Dimension			Weight	Power Required
				L	W	H		
MEP-SRH-005-008-SD	ϕ52MM DIA. X 1000MTR	50KN X 15M/MIN	75KN	2100	2450	2250	4.3 Ton	18.5KW
MEP-SRH-008-012-SD	ϕ56MM DIA. X 1200MTR	80KN X 15M/MIN	120KN	2100	2550	2250	4.6 Ton	30KW
MEP-SRH-010-015-SD	ϕ76MM DIA. X 1500MTR	100KN X 15M/MIN	150KN	2200	2610	2250	5.0 Ton	45KW

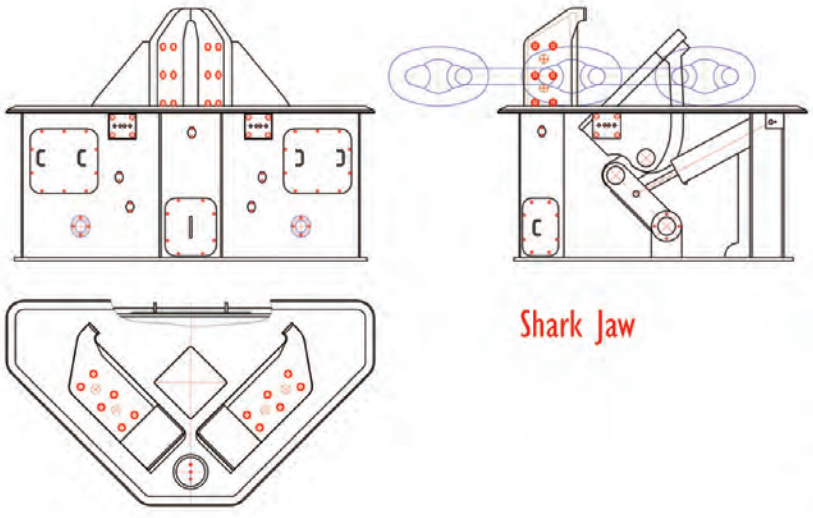
Towing Pin / Shark Jaw

- **Capacity: Up to 500 Ton SWL**
- **Drive: Electro-hydraulic**



Towing Pin



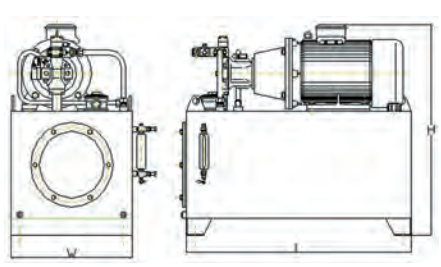


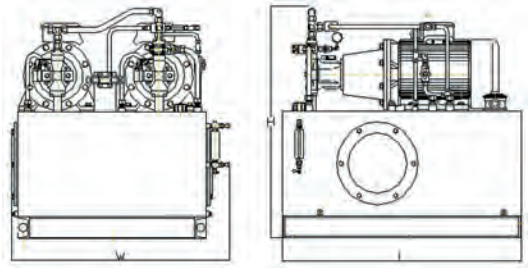
Shark Jaw

Power Pack

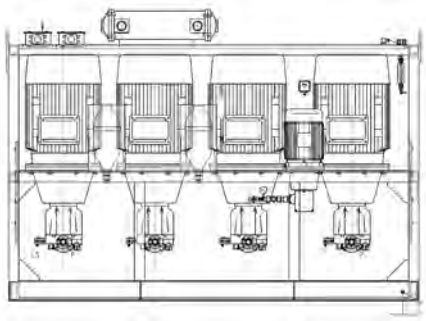
- **Power Pack: Up to 500KW**
- **Configuration: Single / Double / Triple / Quaduple Motors**

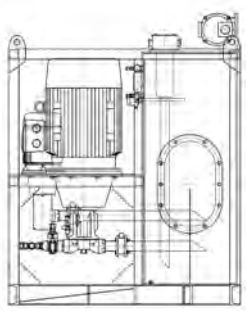
A Type Power Pack





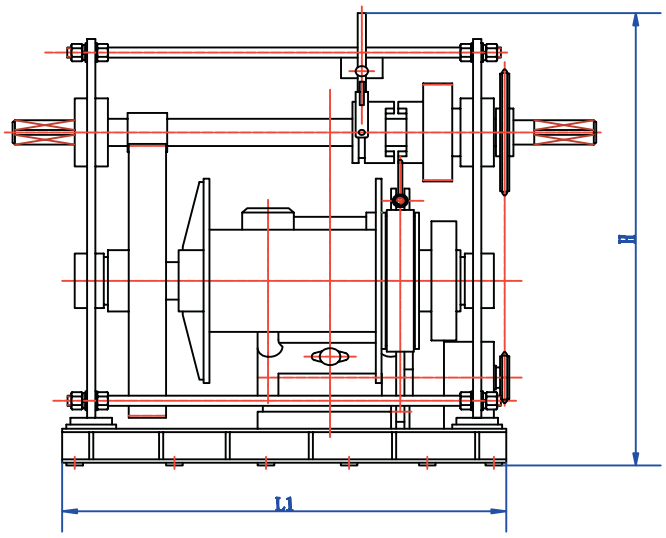
B Type Power Pack

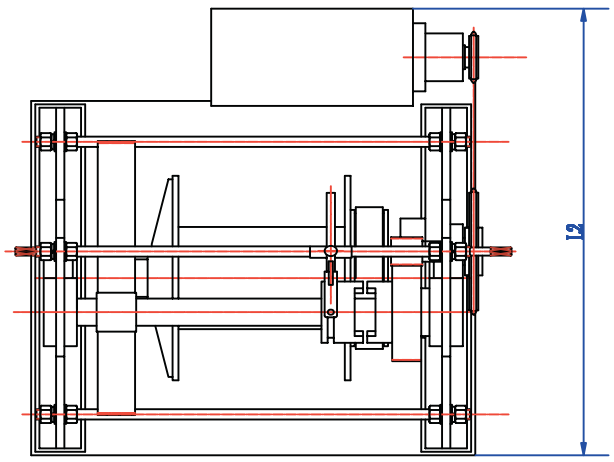




Model No.	Oil Tank Capacity (L)	Hydraulic Pump	Main Dimension			Weight
			L	W	H	
MEP-HPU-1x18.5	300	max45cc	1150	600	1100	0.65 TON
MEP-HPU-1x22	475	max100cc	1300	700	1210	0.7 TON
MEP-HPU-1x30	475	max100cc	1300	700	1250	0.7 TON
MEP-HPU-1x45	750	max140cc	1500	850	1550	1.0 TON
MEP-HPU-1x55	850	max140cc	1600	850	1600	1.1 TON
MEP-HPU-1x75	1100	max140cc	1800	1000	1600	1.4 TON
MEP-HPU-2x11	750	max28cc	1200	1200	1300	1.0 TON
MEP-HPU-2x15	750	max28cc	1200	1200	1300	1.0 TON
MEP-HPU-2x22	680	max45cc	1200	1100	1300	1.1 TON
MEP-HPU-2x30	800	max71cc	1400	1100	1500	1.35 TON
MEP-HPU-2x45	1250	max140cc	1600	1500	1550	1.6 TON
MEP-HPU-2x55	1500	max140cc	2000	1830	2000	2.5 TON
MEP-HPU-2x75	1600	max140cc	2000	1830	2100	2.6 TON
MEP-HPU-2x90	1600	max190cc	2000	1830	2100	2.7 TON
MEP-HPU-3x75	2600	max140cc	2500	1830	2300	3.2 TON
MEP-HPU-3x90	2600	max190cc	2500	1830	2300	3.5 TON
MEP-HPU-4x75	3100	max140cc	3000	1700	2300	4.3 TON
MEP-HPU-4x110	3600	max190cc	4500	1900	2600	5.5 TON

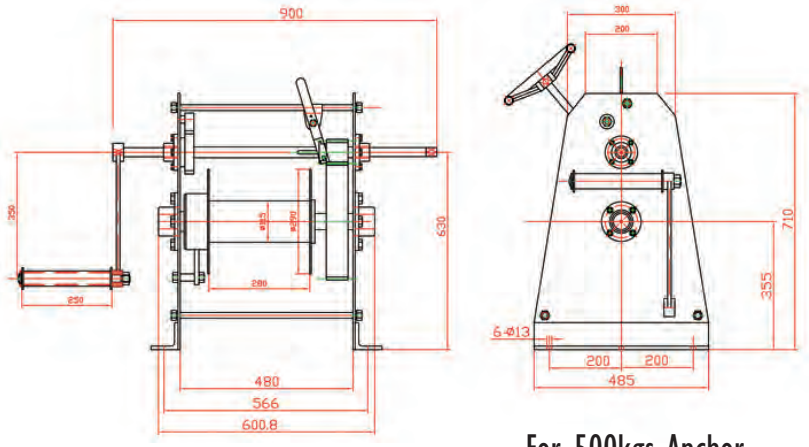
Diesel-Driven Manual Winch



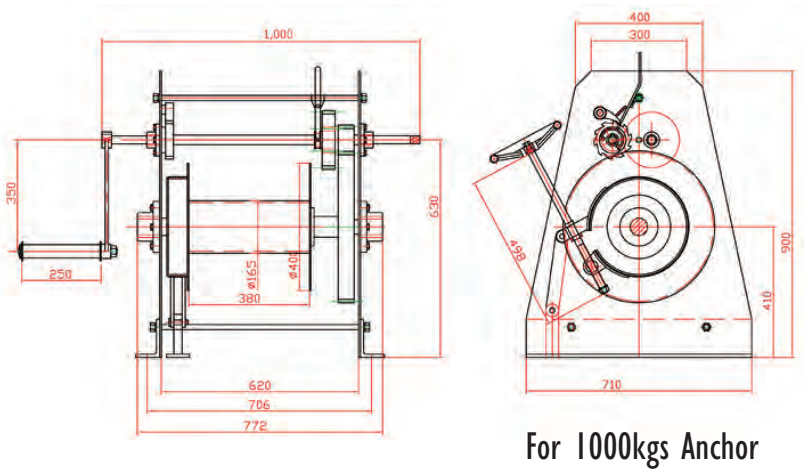


Weight Kg	200	600	800	1000
Parameter	10kN 8m / min	20kN 8m / min	25kN 8m / min	30kN 8m / min
Diesel Power	4kW / 1500rpn	6.2kW / 2400rpn	8.8kW / 2000rpn	8.8kW / 2000rpn
Diesel	D185N	D185N1	S195	S195
L1 x 12 x H	1300 x 1200 x 1000	1300 x 1200 x 1000	1500 x 1300 x 1300	1500 x 1300 x 1300
Gear Box	06A	06A	06A	06A

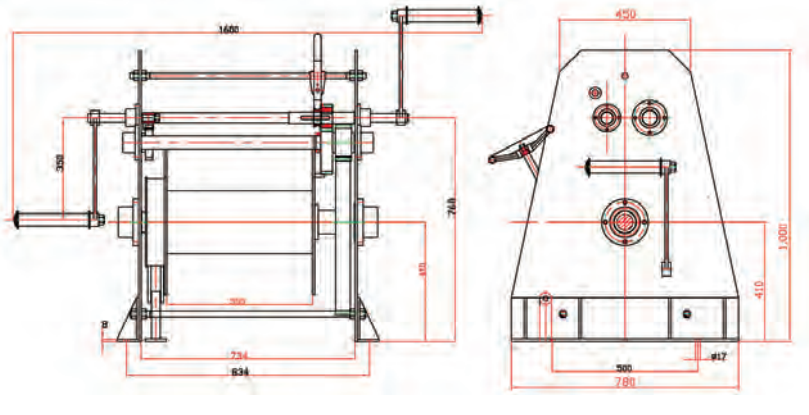
Hand Winch



For 500kgs Anchor



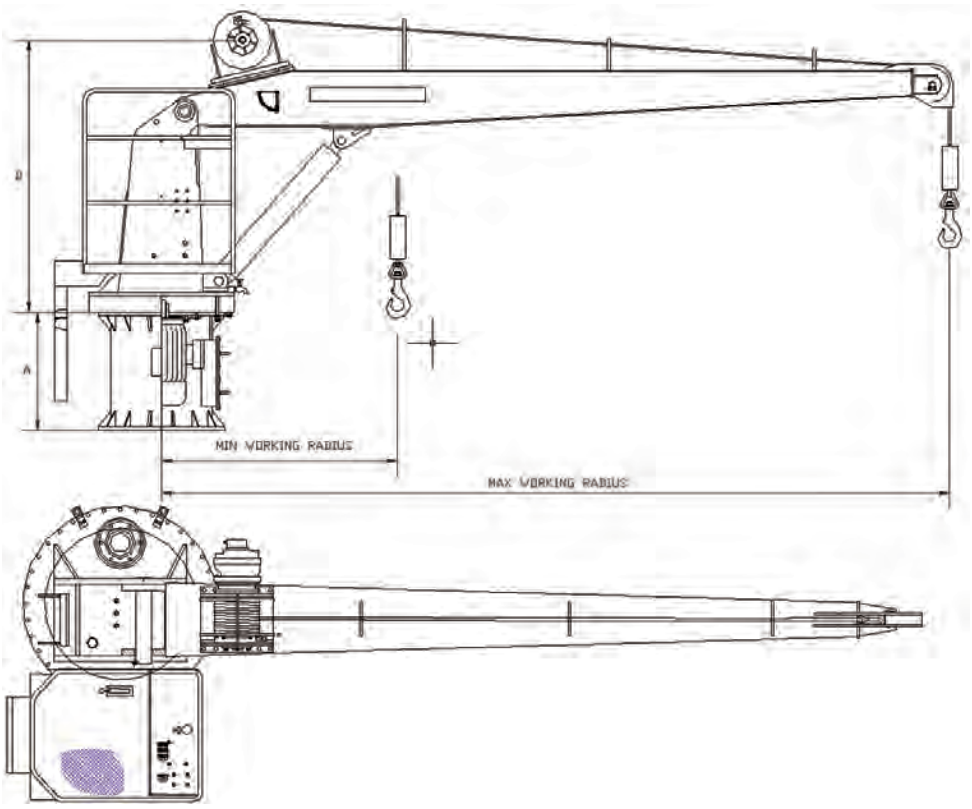
For 1000kgs Anchor



For 2000kgs Anchor

Marine Deck Crane

- **Types: Provision Crane / Flow Boom Crane / Knuckle Boom Crane / Telescopic Crane**
- **Capacity: Up to 20 Ton**
- **Large range of working radius**
- **Drive: Electrical / Electro-Hydraulic / Diesel-Hydraulic**



Marine Deck Crane

(Part 1 of 2)

MODEL	SWL (TON)	WRK RADIUS MAX (M)	WRK RADIUS MIN (M)	HOISTING SPEED (M/MIN)	LUFFING SPEED (SEC)	SLEWING SPEED (RPM)	ELECTRIC MOTOR (KW)	A (MM)	B (MM)	C (ØM)	T (MM)	WEIGHT (KG)
HPC-01-06	1	6	1.5	10	45	0.5	7.5	1500	1575	800	12	2925
HPC-01-08	1	8	1.8	10	48	0.5	7.5	1500	1575	800	12	3150
HPC-01-10	1	10	2.2	10	51	0.5	7.5	1500	1575	800	12	3375
HPC-01-10	1	12	2.5	10	54	0.5	7.5	1500	1575	800	12	3600
HPC-01-14	1	14	2.9	10	57	0.5	7.5	1500	1575	800	14	3825
HPC-01-16	1	16	3.2	10	60	0.5	7.5	1500	1950	800	14	4050
HPC-02-06	2	6	1.5	10	45	0.5	11	1500	1575	800	14	3600
HPC-02-08	2	8	1.8	10	48	0.5	11	1500	1575	800	14	4050
HPC-02-10	2	10	2.2	10	51	0.5	11	1500	1575	800	14	4500
HPC-02-12	2	12	2.5	10	54	0.5	11	1500	1575	800	14	4900
HPC-02-14	2	14	2.9	10	57	0.5	11	1500	1575	950	16	5850
HPC-02-16	2	16	3.2	10	60	0.5	15	1500	1950	950	16	6300
HPC-02-18	2	18	3.6	10	65	0.5	15	1500	1950	950	16	6750
HPC-02-20	2	20	3.9	10	70	0.5	1500	1500	2350	950	16	7200
HPC-03-08	3	8	1.8	10	53	0.5	18.5	1500	1575	800	14	4950
HPC-03-10	3	10	2.2	10	56	0.5	18.5	1500	1575	800	14	5624
HPC-03-12	3	12	2.5	10	59	0.5	18.5	1500	1575	950	16	6300
HPC-03-14	3	14	2.9	10	62	0.5	18.5	1500	1575	950	16	6750
HPC-03-16	3	16	3.2	10	65	0.5	18.5	1500	1950	950	16	7200
HPC-03-18	3	18	3.6	10	68	0.5	18.5	1500	1950	950	16	7650
HPC-03-20	3	20	3.9	10	75	0.5	18.5	1500	2350	1100	16	8100
HPC-03-22	3	22	4.3	10	80	0.5	18.5	1500	2350	1100	16	8550
HPC-04-08	4	8	1.8	10	53	0.5	22	1500	1575	950	16	6300
HPC-04-10	4	10	2.2	10	59	0.5	22	1500	1575	950	16	6750
HPC-04-12	4	12	2.5	10	62	0.5	22	1500	1575	950	16	7200
HPC-04-14	4	14	2.9	10	65	0.5	22	1500	1575	950	16	7650
HPC-04-16	4	16	3.2	10	68	0.5	22	1500	1950	1100	16	8100
HPC-04-18	4	18	3.6	10	75	0.5	22	1500	1950	1100	18	8550
HPC-04-20	4	20	3.9	10	80	0.5	22	1500	2350	1250	18	9000
HPC-04-22	4	22	4.3	10	85	0.5	22	1500	2350	1250	18	9450
HPC-05-08	5	8	1.8	10	55	0.5	26	1600	1575	950	16	7200
HPC-05-10	5	10	2.2	10	60	0.5	26	1600	1575	950	16	7985
HPC-05-12	5	12	2.5	10	65	0.5	26	1600	1575	1100	16	6775
HPC-05-14	5	14	2.9	10	70	0.5	26	1600	1575	1100	16	9565
HPC-05-16	5	16	3.2	10	77	0.5	26	1600	1950	1250	16	10350
HPC-05-18	5	18	3.6	10	84	0.5	26	1600	1950	1250	16	10800
HPC-05-20	5	20	3.9	10	91	0.5	26	1600	2350	1432	16	11250
HPC-05-22	5	22	4.3	10	98	0.5	26	1600	2350	1432	16	11700
HPC-05-24	5	24	4.6	10	105	0.5	26	1600	2630	1518	16	12150
HPC-05-26	5	26	5.0	10	110	0.5	26	1600	2650	1518	16	12600
HPC-06-08	6	8	1.8	10	55	0.5	30	1700	1575	950	16	7650
HPC-06-10	6	10	2.2	10	60	0.5	30	1700	1575	1100	16	8400
HPC-06-12	6	12	2.5	10	65	0.5	30	1700	1575	1100	16	9155
HPC-06-14	6	14	2.9	10	70	0.5	30	1700	1575	1250	16	9905
HPC-06-16	6	16	3.2	10	77	0.5	30	1700	1950	1250	16	10660

Marine Deck Crane

(Part 2 of 2)

MODEL	SWL (TON)	WRK RADIUS MAX (M)	WRK RADIUS MIN (M)	HOISTING SPEED (M/MIN)	LUFFING SPEED (SEC)	SLEWING SPEED (RPM)	ELECTRIC MOTOR (KW)	A (MM)	B (MM)	C (ØM)	T (MM)	WEIGHT (KG)
HPC-06-18	6	18	3.6	10	84	0.5	30	1700	2350	1432	16	12160
HPC-06-20	6	20	3.9	10	91	0.5	30	1700	2350	1518	18	12910
HPC-06-22	6	22	4.3	10	99	0.5	30	1700	2650	1518	18	13660
HPC-06-24	6	24	4.6	10	107	0.5	30	1700	2650	1518	18	14400
HPC-07-08	7	8	1.8	10	55	0.5	37	1800	2186	1100	16	8100
HPC-07-10	7	10	2.2	10	60	0.5	37	1800	2186	1100	16	9000
HPC-07-12	7	12	2.5	10	65	0.5	37	1800	2186	1250	16	9900
HPC-07-14	7	14	2.9	10	70	0.5	37	1800	2350	1250	16	10800
HPC-07-16	7	16	3.2	10	77	0.5	37	1800	2350	1432	16	11700
HPC-07-18	7	18	3.6	10	84	0.5	37	1800	2623	1432	16	12600
HPC-07-20	7	20	3.9	10	91	0.5	37	1800	2623	1518	16	13500
HPC-07-22	7	22	4.2	10	99	0.5	37	1800	2950	1518	18	14400
HPC-07-24	7	24	4.6	10	107	0.5	37	1800	2950	1595	18	15300
HPC-07-26	7	26	5.0	10	115	0.5	37	1800	3123	1595	18	16200
HPC-08-08	8	8	1.8	10	55	0.5	37	1800	2186	1250	16	9000
HPC-08-10	8	10	2.2	10	60	0.5	37	1800	2186	1250	16	9900
HPC-08-12	8	12	2.5	10	65	0.5	37	1800	2186	1432	16	10800
HPC-08-14	8	14	2.9	10	70	0.5	37	1800	2186	1432	16	11700
HPC-08-16	8	16	3.2	10	77	0.5	37	1800	2350	1518	16	12600
HPC-08-18	8	18	3.6	10	84	0.5	37	1800	2623	1518	16	13500
HPC-08-20	8	20	3.9	10	91	0.5	37	1800	2623	1595	16	14400
HPC-08-22	8	22	4.3	10	99	0.5	37	1800	2950	1595	18	15300
HPC-08-24	8	24	4.6	10	107	0.5	37	1800	2950	1795	18	16200
HPC-08-26	8	26	5.0	10	115	0.5	37	1800	3123	1795	18	17100
HPC-09-08	9	8	1.8	10	60	0.5	46	1800	2186	1250	16	9450
HPC-09-10	9	10	2.2	10	66	0.5	46	1800	2186	1432	16	10450
HPC-09-12	9	12	2.5	10	72	0.5	46	1800	2186	1432	16	10955
HPC-09-14	9	14	2.9	10	78	0.5	46	1800	2350	1518	16	12447
HPC-09-16	9	16	3.2	10	84	0.5	46	1800	2350	1518	16	13446
HPC-09-18	9	18	3.6	10	90	0.5	46	1800	2623	1595	16	14445
HPC-09-20	9	20	3.9	10	96	0.5	46	1800	2623	1595	16	15444
HPC-09-22	9	22	4.3	10	102	0.5	46	1800	2950	1795	18	16443
HPC-09-24	9	24	4.6	10	109	0.5	46	1800	2950	1795	18	17442
HPC-09-26	9	26	5.0	10	115	0.5	46	1800	3123	2035	18	18450
HPC-10-08	10	8	1.8	10	60	0.5	55	1900	2186	1432	16	10350
HPC-10-10	10	10	2.2	10	66	0.5	55	1900	2186	1432	16	11399
HPC-10-12	10	12	2.5	10	72	0.5	55	1900	2186	1518	16	12449
HPC-10-14	10	14	2.9	10	78	0.5	55	1900	2350	1518	16	13498
HPC-10-16	10	16	3.2	10	84	0.5	55	1900	2350	1595	16	15548
HPC-10-18	10	18	3.6	10	90	0.5	55	1900	2623	1595	16	15597
HPC-10-20	10	20	3.9	10	96	0.5	55	1900	2623	1795	16	16646
HPC-10-22	10	22	4.3	10	102	0.5	55	1900	2950	1795	18	17696
HPC-10-24	10	24	4.6	10	109	0.5	55	1900	2950	2035	18	18745
HPC-10-26	10	26	5.0	10	115	0.5	55	1900	3123	2035	18	19800
HPC-15-12	15	12	2.5	10	72	0.5	75	2000	2350	1595	16	12420

MEP™ Offshore Pedestal Crane

MEP™ Offshore Pedestal Crane matches the demanding expectations of today's offshore requirements with competitive pricing, design and engineering to adhere to exact specifications that will meet all applicable international design codes and classification society requirements including API 2C. This is part of our effort to become your professional turnkey procurement management with After-sales Service Support.

MEP™ Offshore Pedestal Crane ranges from **3 Ton to 50 Ton S.W.L.** with **4m to 50m Working Radius** with Operation up to Sea State 6, and is suitable for:

- Drilling platforms
- Production platforms
- FPSO
- Floating drilling vessels
- Accommodation platforms
- Diving support vessels
- Pipe and cable laying vessels
- Work barges

MEP is able to provide the following technical support to our customer: -

- Design for high quality products with Strict test and inspection
- Precise installation and debugging
- High quality service within the period of equipment service life
- Provides service of storing spare parts for users
- Set up complete maintenance/inspection files
- Provides annual examination/repair/maintenance
- Provides inspecting/estimating service
- Provides storage service of disassembling crane
- Develops fabrication business of rethreading crane
- Offshore crane tenancy
- Training and certificate business of offshore crane drivers
- Improve technical competence through technical cooperation with international well-known crane manufacturing companies, becoming their machining/fabricating, maintenance/service base in China
- Provides fabricating business of life boat davits (with life boats)
- Utilizes advantages of field/equipments/personnel, provides machining/fabrication business of steel structures

MEP™ Offshore Pedestal Crane

MEP™ Offshore Pedestal Crane - Product Brief Introduction

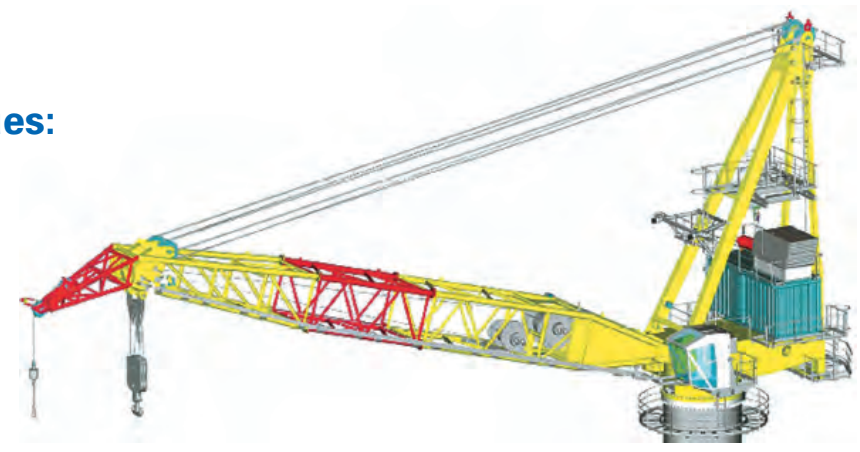
MEP™ Offshore Pedestal Cranes have two types, wire rope luffing and cylinder luffing crane according to framework style.

Wire rope luffing crane virtues:

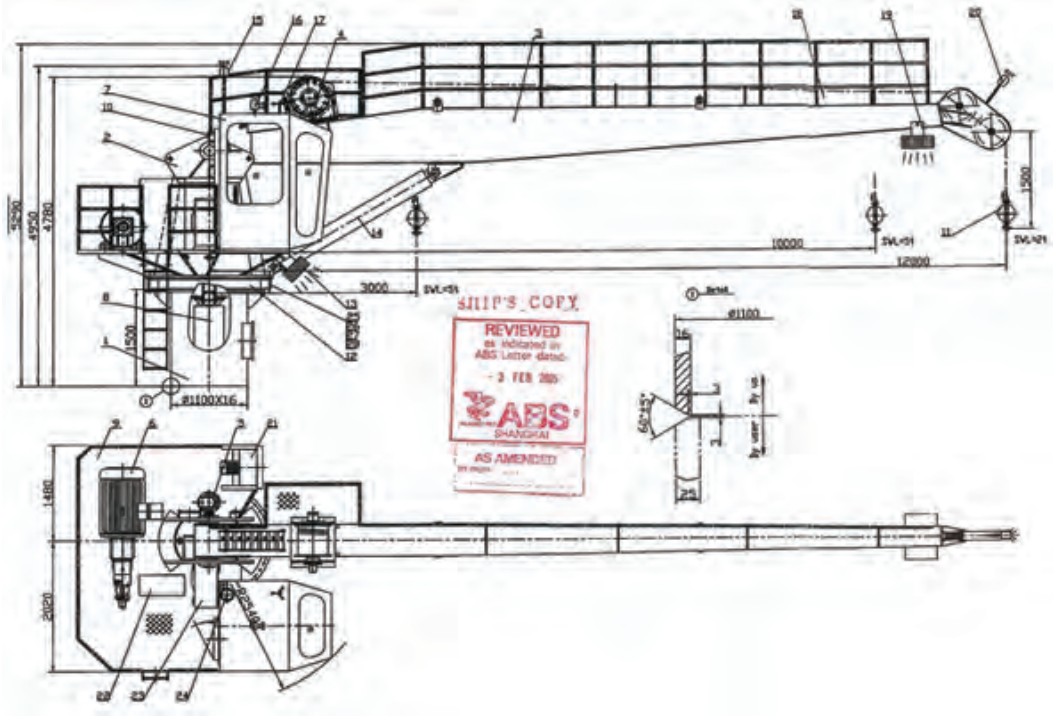
- Trust boom can reduce the total weight and wind hinder
- Settling for bigger work radius
- Lifting capacity can satisfy the more weight
- Specification serial: -
  - Work radius : 4.5m ~ 50m
  - SWL: max. 50T
  - Hoist speed : 10m/min ~ 125m/min
  - Luffing speed : 50S ~ 100S
  - Slew speed : 0.8r/min ~ 2r/min

Cylinder luffing crane virtues:

- The figuration is smaller
- Settling for smaller work radius
- The boom is tough and in all control
- Specification serial: -
  - Work radius : 4m ~ 35m
  - SWL: max. 25T
  - Hoist speed : 10m/min ~ 125m/min
  - Luffing speed : 40S ~ 100S
  - Slewing speed : 0.8r/min ~ 2r/min



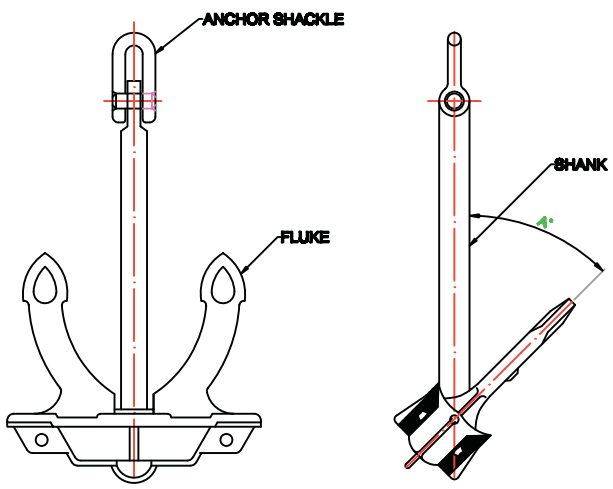
Note: We are able to custom make crane to S.W.L 200Ton x 80mtr upon customer's special request.



Notes

MORDEC™ Anchors

Common Terms used for Anchor



ANCHORS: Mooring anchors serves as a securing point for vessels to keep them in position off-shore or in a river. To do this, they must dig into the bed and their shape is designed for this purposed. All the principal anchors used today are stockless type.

TANDEM ANCHORING: Operation consisting of connecting one anchor to another in order to distribute the anchoring points and this strengthen a permanent anchorage.

BLOCK: Heavy block located at the base of the anchor and intended to distance the centre of gravity from the anchor shackles

CROWN SHACKLE POINT: Device provided on the anchor crown and used to trip the anchor from anchoring point or to connect a second anchor for tandem use.

PALMS OR FLUKES: Parts of the anchor connected to the main body or block on either side of the shank ensuring that the anchor penetrates the bed.

SHANK: An arm (hinged or otherwise) linking the anchor block to the mooring line.

ANCHOR SHACKLE: Shackle fixed permanently to the anchor shank.

STOCK: Bar fitted to an anchor, hinged or otherwise, to ensure stability.

A^0 = OPENING ANGLE: Angle formed by the inclination of the palms in relation to the shank (for stockless anchors only)

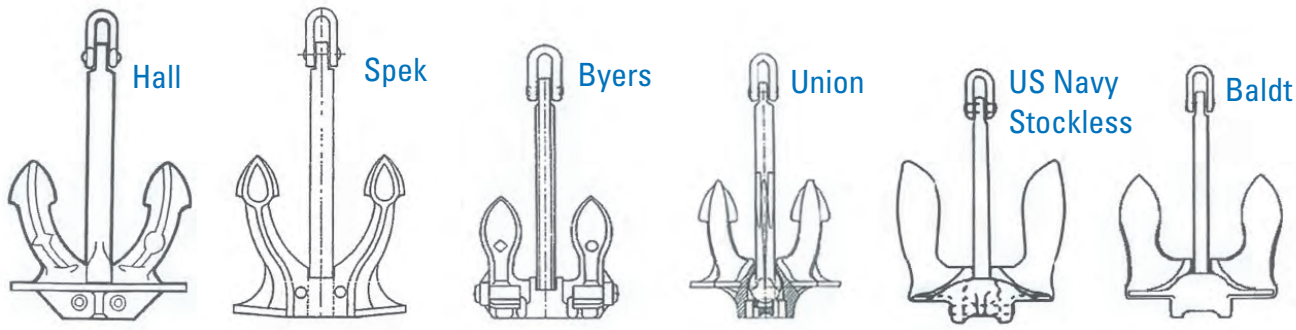
HOLDING POWER: The load needed to cause an anchor to move once it has penetrated and come to rest after dragging.

DRAGGING POWER: The maximum dragging load for a stable anchor and around which it oscillates over a sufficiently long length to allow for the elimination of variations resulting from bed undulations.

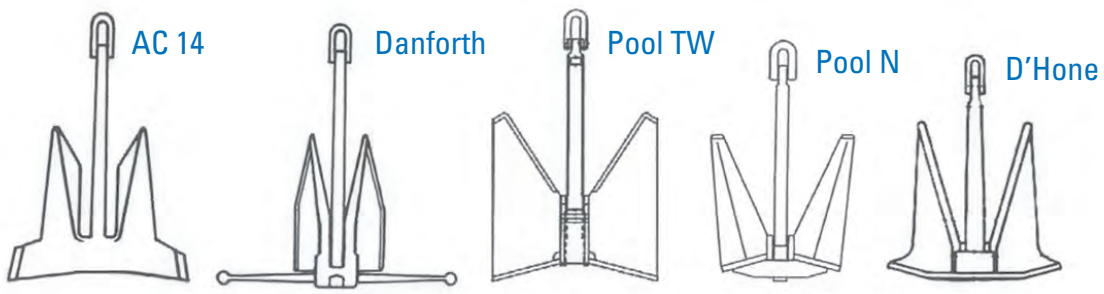
HOLDING FORCE: The force which enables one to calculate the resistance offered by an anchor dragging over a length sufficient to enable one to observe possibly several successive overturns or other anomalies resulting from the instability of the anchor (and not to variations in the bed)

MORDEC™ ANCHORS

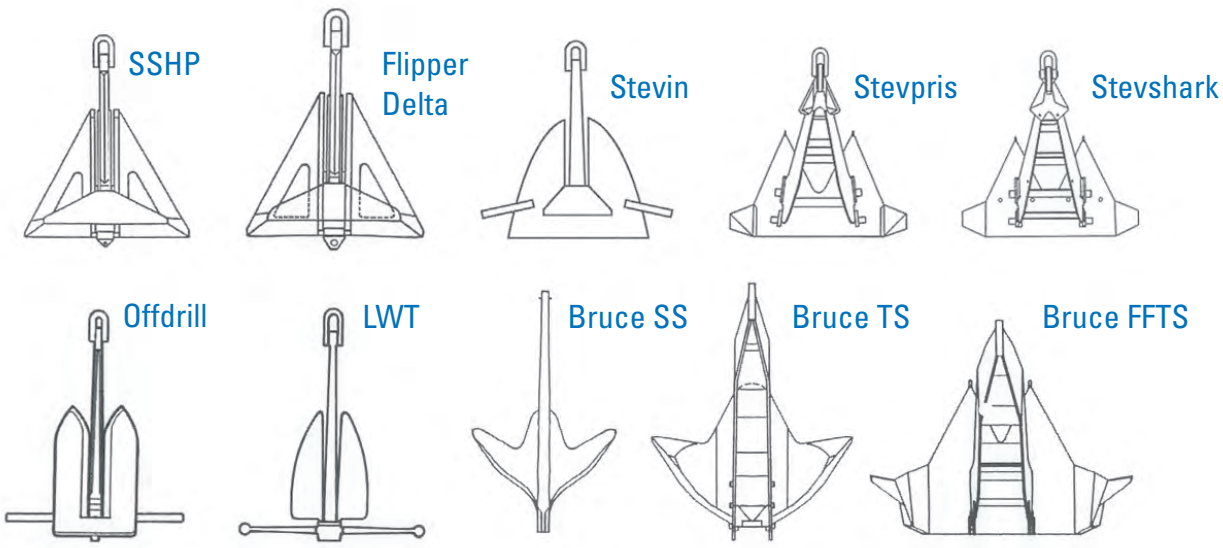
Conventional Anchors



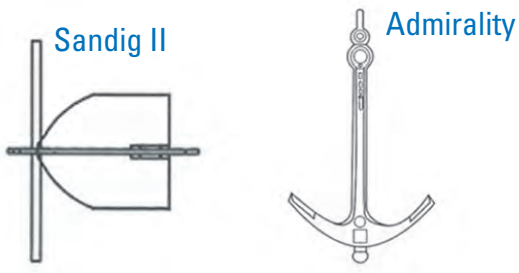
H.H.P Anchors



Offshore Anchors



Other Anchors



Proof Load Test - Conventional Anchors

Mass of anchor kg	Proof test Load tonne-f	Mass of anchor kg	Proof test Load tonne-f	Mass of anchor kg	Proof test Load tonne-f
50	3.0	2000	44.2	7000	98.9
55	3.2	2100	45.9	7200	100.6
60	3.5	2200	47.5	7400	102.1
65	3.6	2300	49.0	7600	103.8
70	3.8	2400	50.4	7800	105.4
75	4.0	2500	52.0	8000	107
80	4.2	2600	53.4	8200	108.7
90	4.5	2700	54.7	8400	109.9
100	4.8	2800	56.1	8600	111.0
120	5.4	2900	57.5	8800	112.0
140	6.0	3000	58.8	9000	113.0
160	6.5	3100	60.0	9200	114.0
180	7.0	3200	61.3	9400	115.0
200	7.5	3300	62.5	9600	117.0
225	8.1	3400	63.7	9800	119.0
250	8.7	3500	64.8	10000	120.0
275	9.4	3600	65.7	10500	123.0
300	10.0	3700	66.9	11000	126.0
325	10.6	3800	67.9	11500	129.0
350	11.2	3900	69.0	12000	133.0
375	11.8	4000	70.0	12500	137.0
400	12.4	4100	70.9	13000	141.0
425	12.9	4200	72.0	13500	144.0
450	13.5	4300	73.0	14000	148.0
475	14.0	4400	74.0	14500	151.0
500	14.6	4500	74.9	15000	155.0
550	15.8	4600	75.6	15500	158.0
600	16.9	4700	76.7	16000	162.0
650	18.0	4800	77.5	16500	165.0
700	19.2	4900	78.4	17000	169.0
750	20.3	5000	79.2	17500	172.0
800	21.5	5100	80.1	18000	175.0
850	22.5	5200	81.2	18500	179.0
900	23.5	5300	82.5	19000	181.0
950	24.7	5400	83.4	19500	183.0
1000	25.7	5500	84.3	20000	187.0
1050	26.7	5600	85.2	21000	194.0
1100	27.8	5700	86.1	22000	199.0
1150	28.8	5800	87.3	23000	206.0
1200	29.8	5900	88.3	24000	211.0
1250	30.8	6000	89.4	25000	217.0
1300	31.8	6100	90.4	26000	223.0
1350	32.7	6200	91.4	27000	229.0
1400	33.6	6300	92.6	28000	235.0
1450	34.7	6400	93.5	29000	240.0
1500	35.6	6500	94.5	30000	246.0
1600	37.4	6600	95.4	31000	251.0
1700	39.1	6700	96.3	32000	257.0
1800	40.9	6800	97.1	34000	267.0
1900	42.6	6900	98.0	36000	278.0

* Proof loads for intermediate mass are to be determined by linear interpolation.

NOTES

1. Where high holding power anchors have a mass exceeding 36000kg, the proof loads are to be taken as 0.250 (mass of anchor in kg) tonne-f, but not less than 278.0 tonne-f.
2. Where ordinary anchors have a mass exceeding 48000kg, the proof loads are to be taken as 0.210 (actual mass of anchor in kg) tonne-f, but not less than 278.0 tonne-f.

Proof Load Test — HHP Anchors

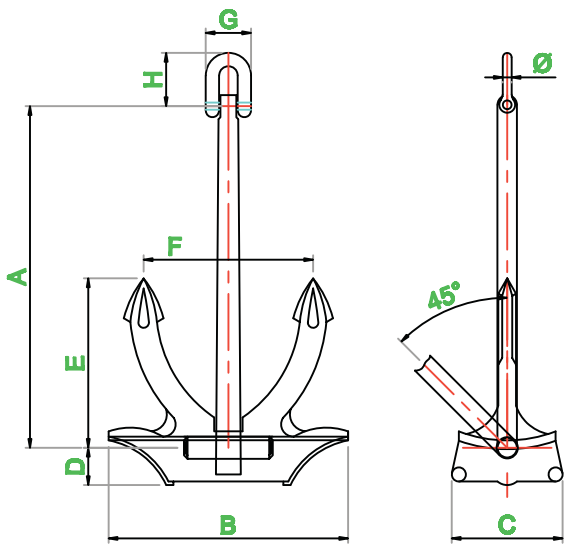
Mass of anchor kg	Proof test Load tonne-f	Mass of anchor kg	Proof test Load tonne-f	Mass of anchor kg	Proof test Load tonne-f
50	3.0	2000	44.2	7000	98.9
55	3.2	2100	45.9	7200	100.6
60	3.5	2200	47.5	7400	102.1
65	3.6	2300	49.0	7600	103.8
70	3.8	2400	50.4	7800	105.4
75	4.0	2500	52.0	8000	107
80	4.2	2600	53.4	8200	108.7
90	4.5	2700	54.7	8400	109.9
100	4.8	2800	56.1	8600	111.0
120	5.4	2900	57.5	8800	112.0
140	6.0	3000	58.8	9000	113.0
160	6.5	3100	60.0	9200	114.0
180	7.0	3200	61.3	9400	115.0
200	7.5	3300	62.5	9600	117.0
225	8.1	3400	63.7	9800	119.0
250	8.7	3500	64.8	10000	120.0
275	9.4	3600	65.7	10500	123.0
300	10.0	3700	66.9	11000	126.0
325	10.6	3800	67.9	11500	129.0
350	11.2	3900	69.0	12000	133.0
375	11.8	4000	70.0	12500	137.0
400	12.4	4100	70.9	13000	141.0
425	12.9	4200	72.0	13500	144.0
450	13.5	4300	73.0	14000	148.0
475	14.0	4400	74.0	14500	151.0
500	14.6	4500	74.9	15000	155.0
550	15.8	4600	75.6	15500	158.0
600	16.9	4700	76.7	16000	162.0
650	18.0	4800	77.5	16500	165.0
700	19.2	4900	78.4	17000	169.0
750	20.3	5000	79.2	17500	172.0
800	21.5	5100	80.1	18000	175.0
850	22.5	5200	81.2	18500	179.0
900	23.5	5300	82.5	19000	181.0
950	24.7	5400	83.4	19500	183.0
1000	25.7	5500	84.3	20000	187.0
1050	26.7	5600	85.2	21000	194.0
1100	27.8	5700	86.1	22000	199.0
1150	28.8	5800	87.3	23000	206.0
1200	29.8	5900	88.3	24000	211.0
1250	30.8	6000	89.4	25000	217.0
1300	31.8	6100	90.4	26000	223.0
1350	32.7	6200	91.4	27000	229.0
1400	33.6	6300	92.6	28000	235.0
1450	34.7	6400	93.5	29000	240.0
1500	35.6	6500	94.5	30000	246.0
1600	37.4	6600	95.4	31000	251.0
1700	39.1	6700	96.3	32000	257.0
1800	40.9	6800	97.1	34000	267.0
1900	42.6	6900	98.0	36000	278.0

* Proof loads for intermediate mass are to be determined by linear interpolation.

NOTES

1. Where high holding power anchors have a mass exceeding 36000kg, the proof loads are to be taken as 0.250 (mass of anchor in kg) tonne-f, but not less than 278.0 tonne-f.
2. Where ordinary anchors have a mass exceeding 48000kg, the proof loads are to be taken as 0.210 (actual mass of anchor in kg) tonne-f, but not less than 278.0 tonne-f.

MAK-HL Hall Type Stockless Anchor

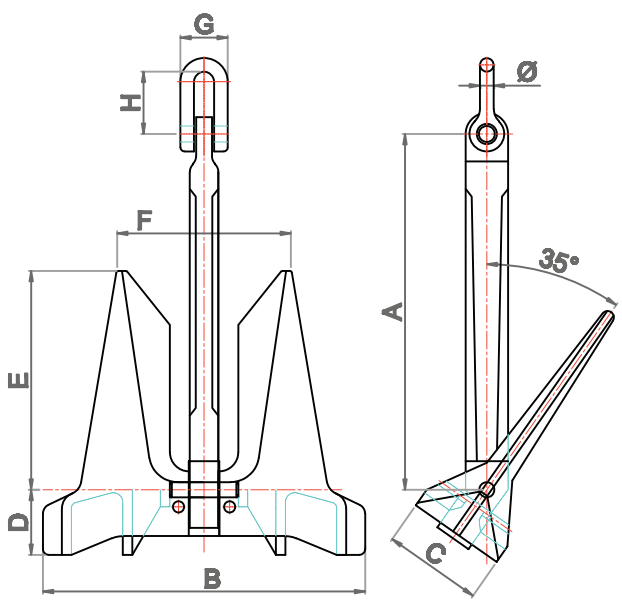


Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
10	385	270	125	42	191	191	51	60	15
16	410	316	146	49	223	223	57	72	16
25	476	367	169	57	259	259	74	84	20
35	533	411	189	64	290	290	80	98	22
50	599	464	214	71	325	325	80	98	22
65	658	505	233	78	355	355	88	115	24
75	690	530	244	82	374	374	88	115	24
100	760	582	270	90	410	410	88	115	24
125	814	629	290	97	443	443	100	130	28
150	866	670	308	103	470	470	100	130	28
200	952	735	339	114	518	518	113	145	32
220	982	759	350	117	534	534	113	1455	32
250	1019	784	361	121	552	552	125	160	36
300	1095	844	388	130	595	595	139	175	40
360	1160	898	412	138	630	630	139	175	40
420	1255	967	444	149	675	675	152	192	45
480	1300	1000	460	154	700	700	167	215	48
570	1380	1060	490	164	745	745	167	215	48
660	1422	1096	506	169	769	769	175	235	50
700	1453	1119	516	172	784	784	175	235	50
780	1506	1160	535	178	813	813	175	235	50
900	1580	1220	560	188	855	855	183	255	50

Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
1020	1645	1268	584	195	891	891	183	255	50
1290	1778	1374	630	211	965	965	216	280	62
1500	1869	1447	664	222	1015	1015	216	280	62
1740	1966	1517	698	234	1068	1068	238	310	68
2000	2058	1590	732	245	1120	1120	238	310	68
2280	2150	1657	763	255	1165	1165	260	340	74
2460	2207	1700	784	262	1194	1194	260	340	74
3000	2374	1832	841	282	1283	1283	284	360	82
3540	2490	1926	883	295	1349	1349	287	380	82
4000	2610	2008	924	309	1406	1406	310	385	90
4500	2712	2093	962	322	1465	1465	316	410	90
4890	2769	2135	984	329	1498	1498	346	415	100
5000	2790	2150	991	331	1510	1510	346	415	100
6000	2965	2284	1054	352	1605	1605	350	450	100
6900	3100	2393	1105	369	1681	1681	370	480	110
7800	3235	2493	1152	385	1752	1752	380	500	110
8775	3355	2585	1195	399	1816	1816	400	540	117
9072	3392	2615	1209	404	1837	1837	421	580	124
9900	3502	2699	1248	417	1896	1896	421	580	124
11100	3638	2803	1297	433	1970	1970	437	600	130
15400	4056	3126	1446	483	2199	2199	498	680	150
16100	4117	3173	1468	490	2232	2232	498	680	150

MAK-AC AC-14 H.H.P. Stockless Anchor

(Part 1 of 2)

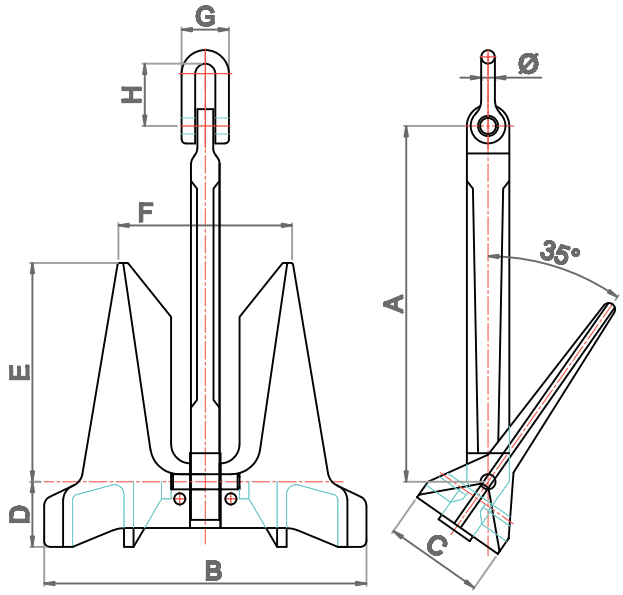


Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
50	590	529	164	107	359	283	80	98	22
75	677	605	188	122	411	324	88	115	24
90	718	643	199	130	437	344	-	-	-
100	745	666	207	135	452	357	88	115	24
135	821	737	228	143	500	394	100	130	28
180	904	811	251	157	550	434	-	-	-
225	974	874	270	169	593	468	125	160	36
270	1006	910	278	185	617	488	-	-	-
315	1072	962	297	195	653	515	139	175	40
340	1109	995	307	192	675	533	-	-	-
360	1109	995	307	192	675	553	139	175	40
430	1194	1071	331	206	727	574	152	192	45
460	1227	1101	340	212	747	590	167	215	48
495	1227	1101	340	212	747	590	167	215	48
544	1317	1172	363	237	795	627	167	215	48
585	1360	1221	378	236	828	654	167	215	48
675	1398	1254	387	242	851	672	175	235	50
750	1483	1304	404	264	885	698	175	235	50
765	1483	1267	391	244	860	679	-	-	-
855	1520	1363	423	267	925	729	183	255	50
910	1540	1385	427	270	938	740	-	-	-
970	1590	1425	440	275	968	764	-	-	-
1000	1590	1425	440	275	968	764	183	255	50

Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
1080	1590	1425	440	275	968	764	183	255	50
1140	1660	1490	460	287	1011	798	-	-	-
1195	1660	1490	465	287	1011	798	216	280	62
1305	1761	150	488	305	1072	846	216	280	62
1360	1761	1580	488	305	1072	846	-	-	-
1440	1795	1610	497	311	1093	862	216	280	62
1575	1855	1665	514	321	1130	892	238	310	68
1590	1855	1665	514	321	1130	892	238	310	68
1710	1891	1697	524	327	1152	910	-	-	-
1820	1940	1741	538	336	1182	933	238	310	68
1845	1940	1741	538	336	1182	933	238	310	68
1980	1940	1741	538	336	1182	933	238	310	68
2040	2016	1809	559	349	1227	969	-	-	-
2140	2016	1809	559	349	1227	969	-	-	-
2270	2089	1874	579	362	1272	1004	-	-	-
2295	2089	1874	579	362	1272	1004	-	-	-
2475	2150	1929	596	373	1309	1033	260	340	74
2655	2218	1991	516	384	1351	1066	-	-	-
2720	2218	1991	615	384	1351	1066	-	-	-
2835	2249	2018	623	390	1370	1081	-	-	-
3040	2302	2066	638	399	1402	1107	284	360	82
3240	2352	2110	652	407	1432	1130	287	380	82
3445	2400	2154	665	415	1462	1154	-	-	-

MAK-AC AC-14 H.H.P. Stockless Anchor

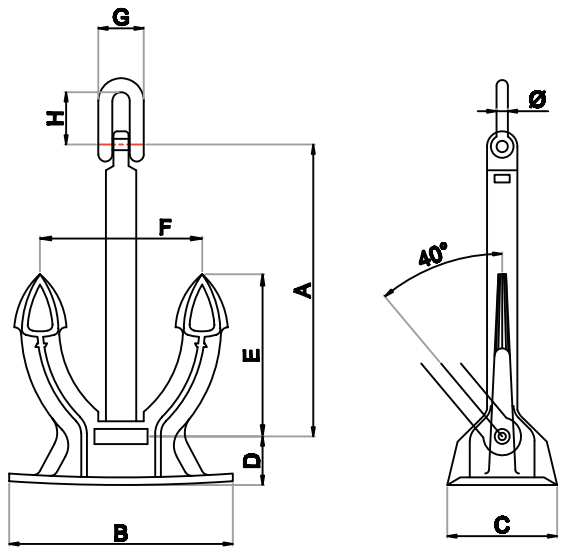
(Part 2 of 2)



Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
3670	2451	2200	680	424	1493	1178	-	-	-
3940	2510	2252	696	434	1529	1207	310	385	90
4210	2566	2303	711	444	1563	1234	-	-	-
4500	2624	2355	727	454	1598	1261	316	410	90
4840	2688	2412	745	465	1637	1292	346	415	100
5175	2749	2467	762	476	1674	1321	350	450	100
5515	2808	2520	778	486	1710	1350	-	-	-
5575	2808	2520	778	486	1710	1350	-	-	-
5850	2864	2570	794	496	1744	1376	350	450	100
6225	2923	2623	810	506	1780	1405	370	480	110
6525	2970	2665	823	514	1808	1428	-	-	-
6600	2981	2675	827	516	1815	1433	-	-	-
6975	3042	2730	843	527	1853	1462	380	500	110
7015	3042	2730	843	527	1853	1462	-	-	-
7425	3100	2782	859	537	1888	1490	-	-	-
7875	3162	2837	876	547	1925	1520	380	500	110
8325	3221	2890	893	558	1961	1548	400	540	117
8775	3278	2942	909	567	1996	1576	400	540	117
9225	3333	2991	924	577	2030	1602	-	-	-
9675	3386	3039	939	586	2062	1628	421	580	124

Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
10125	3438	3085	953	595	2094	1653	-	-	-
10575	3488	3130	967	604	2124	1677	-	-	-
10695	3501	3141	970	606	2132	1683	-	-	-
11025	3537	3174	981	612	2154	1700	-	-	-
11250	3561	3196	987	616	2169	1712	-	-	-
11550	3592	3224	996	622	2188	1727	452	620	135
11850	3623	3251	1004	627	2206	1742	-	-	-
12075	3646	3272	1011	631	2220	1753	452	620	135
12525	3691	3312	1023	639	2248	1774	-	-	-
12675	3705	3325	1027	641	2256	1781	468	648	148
13200	3756	3370	1041	650	2287	1805	-	-	-
13350	3770	3383	1045	653	2296	1812	-	-	-
13875	3819	3426	1059	661	2326	1836	-	-	-
14100	3839	3445	1064	665	2338	1846	-	-	-
15000	3919	3517	1086	678	2387	1884	-	-	-
16125	4015	3603	1113	695	2445	1930	-	-	-
17250	4106	3685	1138	711	2501	1974	-	-	-
18375	4194	3763	1163	726	2554	2016	-	-	-
19500	4278	3839	1186	740	2605	2056	534	730	160
24750	2150	1929	596	373	1309	1033	260	340	740

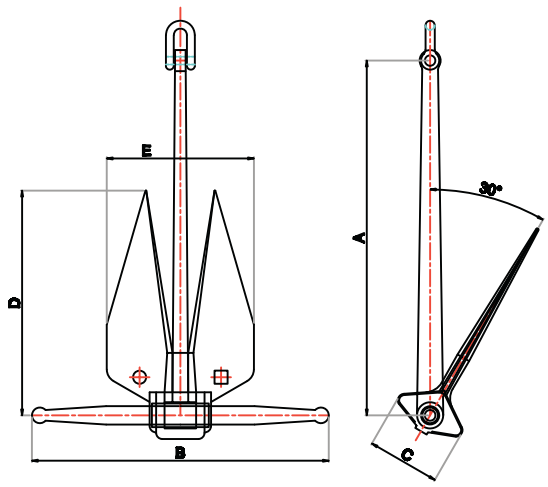
MAK-SP Spek Anchor



Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
50	537	411	185	89	298	298	80	98	22
240	900	690	300	150	500	500	125	160	36
300	990	760	330	166	550	550	139	175	40
360	1080	828	360	180	600	600	139	175	40
420	1080	828	360	180	600	600	152	192	45
570	1170	900	390	196	650	650	167	215	48
600	1260	962	420	210	700	700	167	215	48
660	1260	962	420	210	700	700	175	235	50
780	1350	1032	450	225	750	750	175	235	50
900	1440	1100	480	240	800	800	183	255	50
1020	1530	1170	510	252	850	850	183	255	50
1140	1620	1240	540	268	900	900	216	280	62
1290	1710	1420	540	268	900	900	216	280	62
1440	1710	1300	570	279	950	950	216	280	62
1740	1800	1454	600	300	1000	1000	238	310	68
2100	1890	1454	630	312	1050	1050	260	340	74
2280	-	-	-	-	-	-	-	-	-
2460	2010	1514	660	324	1100	1100	260	340	74
2640	2070	1584	690	352	1150	1150	284	360	82
2850	2070	1584	690	352	1150	1150	284	360	82
3060	2160	1650	720	360	1200	1200	284	360	82
3300	2160	1650	720	360	1200	1200	287	380	82

Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
3540	2350	1650	720	360	1200	1200	287	380	82
3780	2430	1850	810	393	1350	1350	310	385	90
4050	2430	1850	810	393	1350	1350	310	385	90
4590	2520	1926	852	413	1400	1400	346	415	100
4890	2520	1926	852	413	1400	1400	346	415	100
5250	2610	2000	870	414	1450	1450	350	450	100
5610	2610	2000	870	414	1450	1450	350	450	100
6000	2700	2060	900	446	1500	1500	350	450	100
6450	2700	2060	900	446	1500	1500	370	480	110
6900	2890	2138	930	456	1550	1550	370	480	110
4500	2920	2138	930	456	1550	1550	380	500	110
8300	2754	2332	1020	530	1680	1700	-	-	-
8700	3060	2332	1020	510	1700	1700	400	540	117
9300	3060	2332	1020	510	1700	1700	421	580	124
9900	3160	2332	1020	510	1700	1700	421	580	124
10500	3190	2440	1060	531	1770	1770	437	600	130
13500	3440	2632	1146	573	1910	1910	468	640	140
15400	3690	2824	1230	615	2050	2050	498	680	150
17800	3920	2922	1270	636	2120	2120	515	700	155
20000	4070	3028	1314	657	2190	2190	534	730	160
29000	4621	3438	1494	748	2494	2494	611	820	185

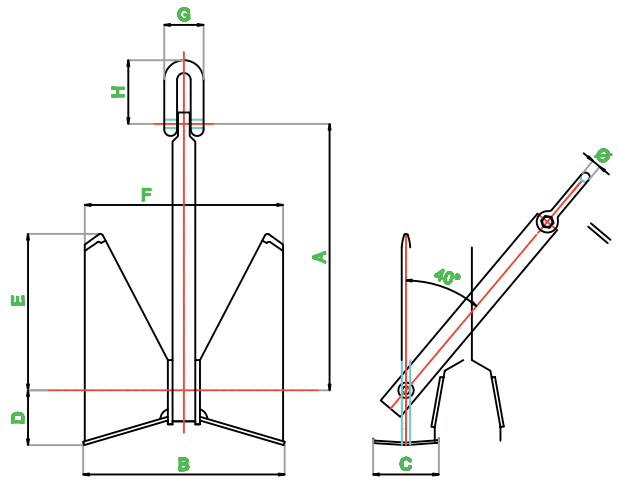
MAK-DF Danforth Anchor



Weight		Dimension				
lbs	kgs	A mm	B mm	C mm	D mm	E mm
300	135	1350	1130	275	820	560
500	225	1600	1340	325	975	665
750	340	1720	1480	370	1000	720
1000	455	1830	1580	410	1100	760
1500	680	1955	1690	475	1180	815
2000	910	2100	1820	525	1275	900
2500	1135	2260	2140	5960	1350	930
3000	1360	2390	2260	595	1440	990
4000	1820	2640	2550	660	1590	1050
5000	2270	2780	2700	710	1650	1170
6000	2730	2960	2810	720	1780	1200
7000	3180	3120	2960	790	1880	1260
8000	3635	3260	3090	825	1960	1320
9000	4080	3380	3210	860	2040	1370
10000	4540	3510	3330	890	2100	1420
12000	5445	3730	3540	945	2240	1510
14000	6350	3920	3720	995	2360	1590
16000	7260	4100	4000	1040	2470	1660
18000	8165	4270	4080	1080	2560	1730
20000	6075	4370	4150	1110	2620	1770
25000	11345	4710	4470	1195	2820	1910
30000	13610	5000	4750	1270	3000	2025

MAK-TW Pool TW Anchor

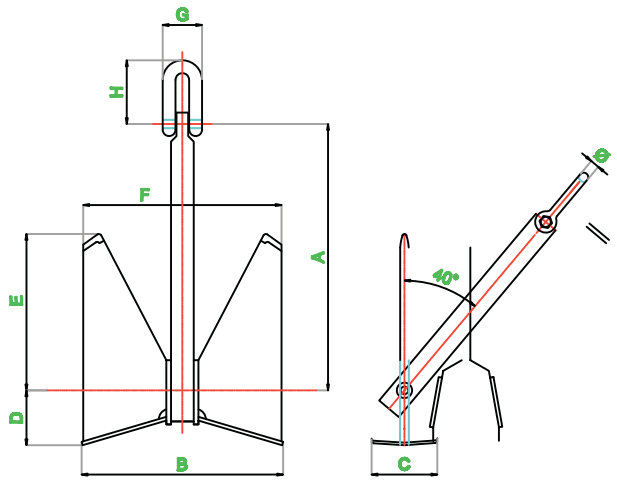
(Part 1 of 2)



Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
60	650	539	203	140	420	650	90	120	22
75	700	581	215	151	452	700	90	120	22
90	712	594	224	160	458	712	90	120	22
105	771	637	239	169	501	771	105	142	28
135	815	674	255	178	528	815	105	142	28
160	895	747	286	194	581	895	115	157	32
180	937	780	297	201	610	937	115	157	32
225	982	821	312	224	641	982	125	174	36
270	1080	895	335	230	700	1080	125	174	36
300	1080	898	336	235	701	1080	125	174	36
360	1175	980	370	258	766	1175	140	201	40
430	1260	1040	393	274	818	1260	140	201	40
495	1295	1078	402	283	842	1295	140	201	40
585	1388	1149	436	302	899	1388	175	236	50
675	1465	1205	454	315	943	1456	175	236	50
765	1518	1256	470	328	984	1518	175	236	50
855	1575	1306	496	340	1020	1575	225	306	60
970	1642	1360	513	351	1064	1642	225	306	60
1080	1703	1410	530	368	1103	1703	225	306	60
1195	1730	1435	537	377	1123	1730	255	306	60
1305	1814	1490	558	390	1175	1490	225	306	60
1440	1875	1554	585	402	1218	1554	225	306	60

MAK-TW Pool TW Anchor

(Part 2 of 2)

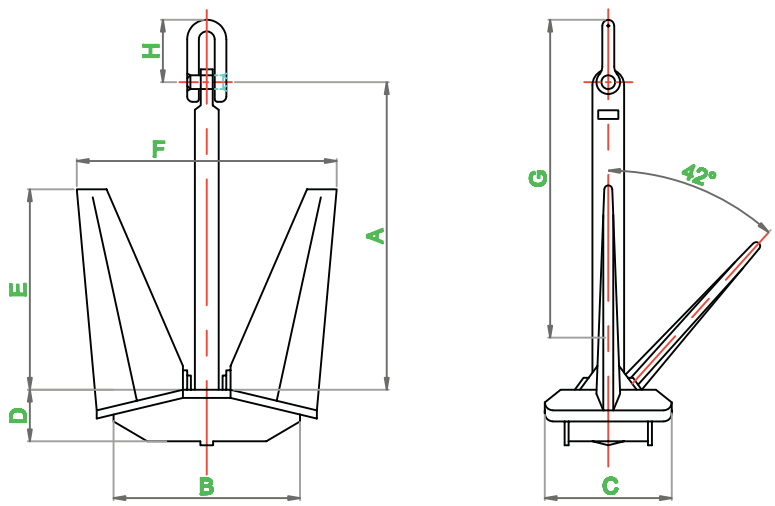


Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
1575	1931	1594	600	418	1250	1594	255	361	75
1710	1985	1635	614	429	1285	1635	255	361	75
1845	2035	1684	638	443	1315	1684	255	361	75
1980	2088	1733	652	451	1359	1733	255	361	75
2140	2138	1765	664	463	1385	1765	255	361	75
2295	2190	1802	678	473	1418	1802	255	361	75
2475	2240	1860	705	487	1453	1860	290	400	80
2655	2998	1900	716	497	1486	1900	290	400	80
2835	2350	1945	730	510	1521	1945	290	400	80
3040	2404	1984	744	520	1558	1984	290	400	80
3240	2456	2036	768	531	1590	2036	290	400	80
3445	2507	2070	782	540	1628	2070	290	400	80
3670	2560	2110	795	556	1658	2110	360	500	90
3940	2621	2152	802	563	1697	2152	360	500	90
4210	2680	2218	838	585	1735	2218	360	500	90
4500	2740	2264	854	596	1775	2264	360	500	90
4840	2800	2316	868	610	1812	2316	400	550	100
5175	2829	2334	876	615	1832	2334	400	550	100

Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
5515	2921	2412	911	631	1893	2412	400	550	100
5850	2948	2439	918	642	1909	2439	400	550	100
6225	3033	2509	940	659	1964	2509	400	550	100
6975	3145	2623	990	675	2047	2623	400	550	100
7875	3264	2695	1012	709	2114	2695	470	660	130
8325	3340	2757	1041	724	2163	2757	470	660	130
8775	3381	2797	1052	737	2190	2797	470	660	130
9225	3453	2865	1092	756	2236	2865	470	660	130
9675	3497	2905	1109	768	2272	2905	500	700	140
10125	3552	2941	1126	780	2307	2941	500	700	140
10575	3591	2979	1142	791	2341	2979	500	700	140
11025	3658	3027	1158	802	2374	3027	540	750	150
12075	3784	3121	1174	813	2407	3121	540	750	150
12675	3829	3161	1196	826	2446	3161	540	750	150
13350	3903	3221	1214	840	2489	3221	570	800	160
14100	4010	3295	1236	855	2535	3295	570	800	160
15000	4057	3357	1262	873	2588	3357	570	800	160
16125	4170	3443	1293	894	2651	3443	625	870	175

The measurements may vary between different models.

MAK-PN Pool N Anchor

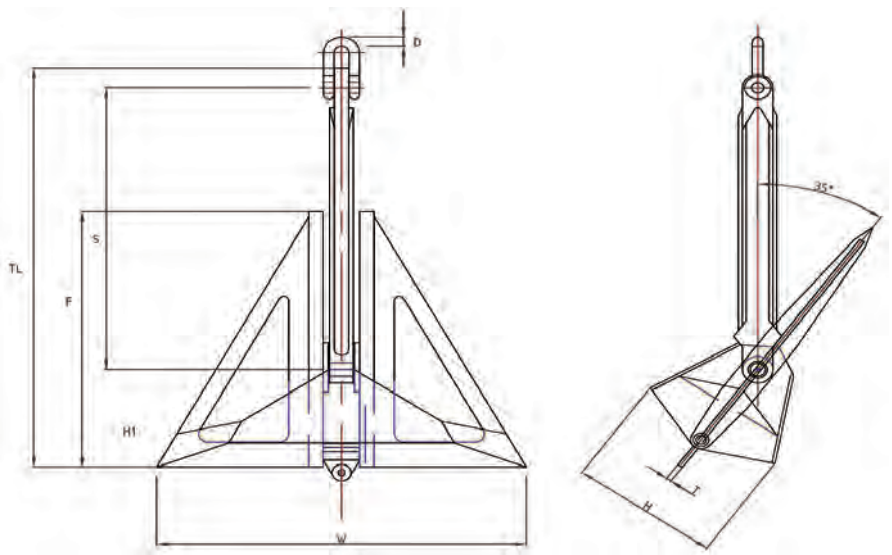


Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
320	1140	820	465	190	745	965	1110	200	38
360	1190	840	480	195	780	1005	1150	200	38
400	1230	885	500	205	805	1040	1190	200	38
440	1270	900	510	201	830	1075	1230	240	45
480	1305	940	535	215	855	1110	1260	240	45
520	1340	960	555	225	875	1140	1300	240	45
560	1375	975	565	230	900	1165	1330	240	45
600	1410	1000	575	235	920	1185	1360	250	50
640	1440	1035	585	240	940	1220	1390	250	50
720	1495	1065	610	250	960	1270	1450	250	50
800	1550	1100	615	255	1015	1310	1490	250	50
900	1615	1145	645	270	1050	1365	1590	300	60
1000	1670	1200	670	275	1090	1410	1635	300	60
1125	1730	1240	730	288	1135	1465	1670	300	60
1250	1775	1275	730	295	1160	1505	1710	300	60
1500	1910	1370	765	315	1250	1615	1840	300	60
1750	2000	1440	830	335	1310	1700	1930	350	70
2000	2090	1500	840	345	1370	1770	2100	350	70
2100	2090	1490	770	320	1360	1780	2040	350	70
2350	2160	1540	800	330	1410	1850	2140	400	80
2600	2240	1600	830	340	1460	1910	2210	400	80
2900	2320	1650	855	350	1510	1980	2270	400	80

Weight	A	B	C	D	E	F	G	H	Ø
kgs	mm	mm	mm	mm	mm	mm	mm	mm	mm
3200	2390	1700	885	360	1560	2040	2330	400	80
3500	2470	1760	910	380	1610	2110	2440	450	90
3900	2580	1820	945	390	1670	2190	2540	450	90
4300	2650	1890	980	400	1730	2260	2590	450	90
4750	2730	1950	1010	420	1780	2330	2700	500	100
5250	2820	2010	1040	430	1840	2410	2780	500	100
5800	2910	2080	1080	450	1900	2490	2900	550	110
6400	3010	2150	1110	460	1960	2570	2980	550	110
7050	3110	2220	1150	470	2030	2660	3110	600	120
7800	3250	2290	1190	490	2100	2750	3280	650	130
8600	3320	2370	1225	510	2160	2840	3330	650	130
9500	3430	2450	1270	520	2240	2930	3470	700	140
10500	3550	2530	1310	540	2310	3030	3610	750	150
11600	3670	2610	1355	560	2390	3130	3710	750	150
12800	3790	2700	1400	580	2470	3240	3860	800	160
14200	3920	2790	1450	600	2550	3350	3960	800	160
15700	4030	2880	1490	610	2630	3450	4120	870	175
17200	4150	2960	1540	630	2710	3550	4220	870	175
18900	4280	3050	1580	650	2800	3660	4320	870	175
20800	4420	3150	1630	670	2890	3780	4520	930	185
22800	4570	3260	1690	700	2980	3900	4620	930	185

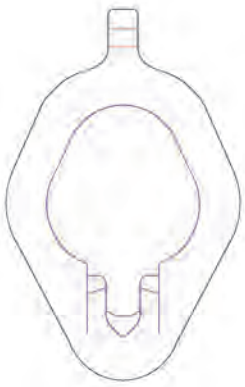
The measurements may vary between different models.

MAK-DT Delta Anchor



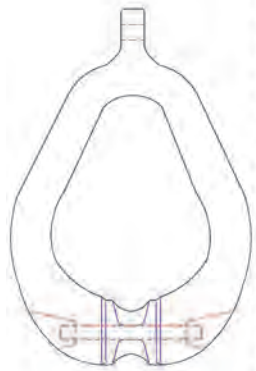
Weight Kg	Width W	Fluke F	Height H	Shank S	Total Length TL	Shackle Dia D	Eye T
500	1500	1200	570	1350	1800	52	30
750	1720	1375	650	1550	2060	52	40
1000	1960	1560	740	1755	2305	52	50
1500	2250	1800	840	2025	2660	60	50
2000	2470	2000	930	2250	2960	70	60
2500	2660	2130	1005	2395	3150	70	60
3000	2830	2285	1070	2565	3380	80	60
3500	3000	2400	1120	2700	3550	80	70
4000	3180	2560	1190	2880	3790	90	70
5000	3300	2660	1260	2995	3945	100	70
6000	3560	2870	1345	3230	4250	100	80
7000	3750	2995	1405	3365	4440	110	90
7500	3850	3080	1435	3465	4565	110	90
9000	4130	3320	1550	3735	4925	125	100
10000	4270	3400	1600	3825	5040	125	100
12000	4530	3600	1705	4050	5335	130	110
13500	4670	3730	1765	4195	5535	140	110
15000	4845	3875	1830	4355	5735	140	120
18000	5165	4120	1935	4635	6110	150	120
20000	5410	4320	2010	4860	6405	160	130
22500	5490	4360	2060	4905	6470	170	140
27500	5980	4785	2245	5385	7095	180	140
32500	6200	4930	2310	5540	7320	165 GP	150
40000	6650	5290	2480	5945	7850	175 GP	150
50000	7150	5690	2670	6390	8440	195 GP	180
60000	7600	6040	2830	6800	9000	210 GP	190
75000	8200	6560	3100	7380	9430	220 GP	220

Accessories for Anchor Retrieval



The Permanent Chain-Lock Chaser

Increased rig dimensions and anchor forces lead to higher requirements for the breaking-out force. Whilst the greater force may be available with the large ahv's, the need was seen for a chaser which could breake-out an anchor without having to contend with the force in the mooring which opposes breaking out.
The chain-lock Chaser, currently under development and field trials, fulfills this requirement. By locking on the chain ahead of the anchor shackle, the mooring tension can be completely relaxed, and the ahv has to deal only with the weight of the anchor and its resistance to break-out.

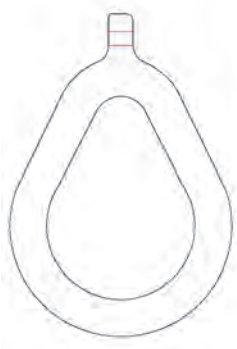


The Permanent Wire Chaser

The permanent wire chaser was introduced when the rigs moved to yet deepere waters, and composite wire/chain mooring systems became necessary.
The chaser incorporates a ' rocker' which is centrally mounted on a hinge bolt. The rocker has two opposing wire grooves, and when the chaser is engaged with the mooring cable, the wire slides through one of these grooves irrespective of the angle which the chaser makes with the mooring.
The large radius at the base of the wire groove assists in reducing wear of the rocker and avoids severe 'opening' of the lay of the wire if a loop of wire is pulled during the handling process. The material of the rocker is not hard as the material of the wire. This means that wear is taken by the rocker without damage to the wire and, because the rocker is easily removable, replacement is relatively inexpensive.
The permanent wire chaser is easily detachable by withdrawal and re-assembly of the hinge bolt and rocker.
Some designs of wire chaser incorporate fully rotating rollers over which the mooring wire passes. To be effective such rollers need to be of large diameter and required and require more power at the ahv to penetrate the sea bed and reach the anchor.

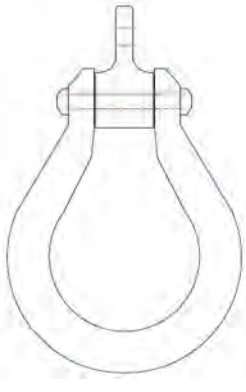
The J-Lock Chaser

The J-lock chaser is based on the same principle as the permanent lock chaser. However, the J-shape permits catching the anchor chain after the anchor has been installed. This means that this chaser can be used to assist in unforeseen circumstances. The well-balanced and 'guiding' design of the chaser enables catching the chain when the chaser enables catching the chain when the chaser approaches a mooring at the point where the catenary angle is as high as 45 degrees.



The Permanent Chain Chaser

As a practical alternative to the buoy and pennant, permanent chain chasers were introduced. Originally, simple shackles were used; these were followed by special cast oval rings which were attached to a pennant by a 'bight' of chain and shackle.
Very soon afterwards the pear-shaped chaser with shackle eye was introduced. The design of these chasers offered superior sliding and penetration properties.



The Detachable Chain Chaser

For rigs in service it is sometimes preferred to equip the mooring with a chaser which a chaser which does not require the anchor chain to be broken and re-made. Detachable chain chaser were introduced to satisfy this need. The withdrawal and replacement of the single hinge bolt permits easy assembly of the chaser on the mooring cable.

The J-Chaser

The 'J' chain chaser is developed over the stern roller of an ahv at approximately 1/3 of the water depth. The chaser is towed across the mooring catenary until it catches the chain. It is then towed into contact with the anchor shank/fluke for the anchor break-out and retrieval.

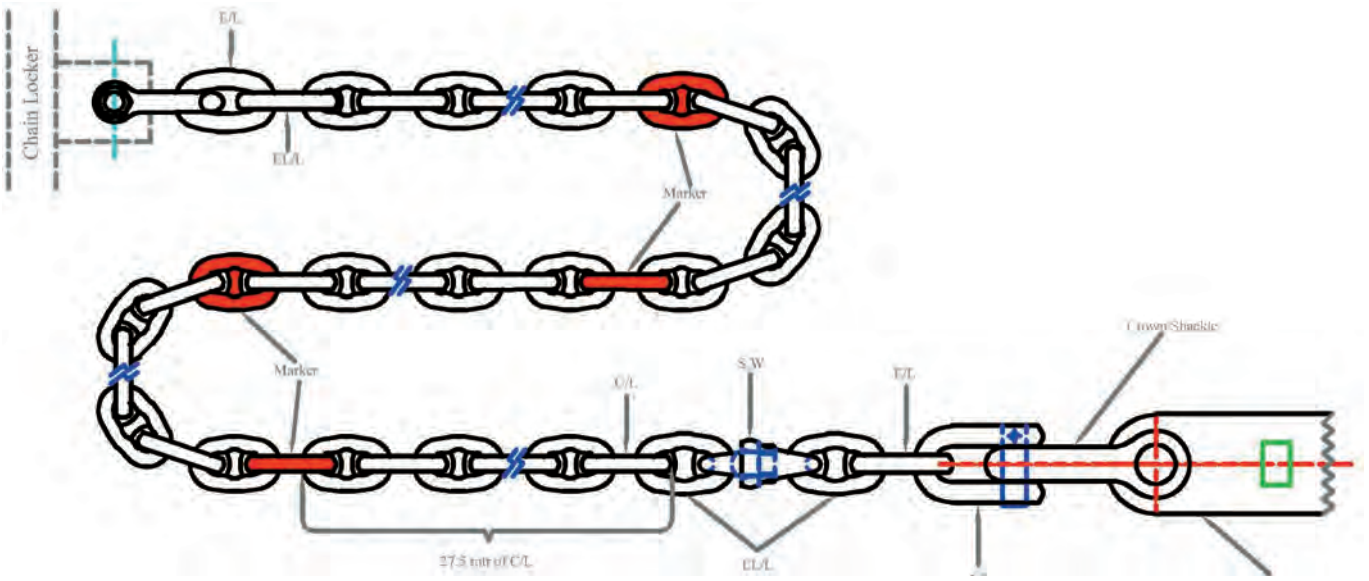
MORDEC™ Anchor Chain & Fittings

MORDEC™ Next Generation Chain Solution

The proportion and configurations of our present day stud link chain systems was adopted by Lloyds in 1858, after years of usage, that it would be maintained at 15 fathom (Imperial measurement) or 27.5mtrs as a standard length to be connected by connecting elements. However, many chain systems failed due to the high fatigue rate of the connecting elements. Thus, according to offshore standards, connection elements are considered as “weak” links and not recommended in long term mooring systems. In fact, longer lengths have been in use widely in the marine market all along although not strongly promoted.

After much research and development by MEP Systems, we are pleased to introduce MORDEC™ Next Generation Chain Solution to the marine industry to reduce the number of connecting elements in anchor chain arrangement, thus *“Reducing the risk of possibility of failure in your vessel’s mooring system, and resulting in obstructions in vessel operations.”*

An illustration of “MORDEC™ Next Generation Chain Solution”



The objective of MORDEC™ Next Generation Chain Solution is to reduce the number of "weak" links; thus, reducing the risk of chain system failure.

Features and Advantages:

- Reduce risk of failure in Mooring Systems with reduced number of "Weak" Links
- 27.5mtr length Marker: Common link at the end of every standard length will be marked with a different (red) colour and a unique identifier traceable to appropriate certification
- Improve operational efficiency due to easy handling onboard - Length of chain cable supplied will depend on its total weight
- Reduce installation and labor cost for ship owners
- Reduce metal fatigue of the Anchor Windlass (Gypsy) thus longer life span of machinery
- Chain configuration is available in various lengths - 55mtr / 82.5mtr / 110mtr / 137.5mtr / 165mtr (Longer length is available on request)

Mechanical Properties

MECHANICAL PROPERTIES						
	GRADE 1		GRADE 2		GRADE 3	
Quality Assurance	N.R.		N.R.		N.R.	
Heat Treatment	Normalised		Normalised		Quenched & Tempered	
Ultimate Tensile Strength	45 Ksi	310 MPa	71 Ksi	490 MPa	100 Ksi	690 MPa
Reduction of area	—		—		40%	
Elongation	25% ①		22%		17% ④	
Impact values average in base material charpy V-notch	— ②		— ③		0 °C ⑤	
					43.5 ftlbs	59 J

1. When tensile strength is between 310 MPa and 400 MPa elongation 30%.
2. For DNV at room temperature 27 Joules.
3. For DNV at 0 °C 27 Joules.
4. For DNV Weld zone 14%.
5. For DNV Weld zone 49 Joules.
6. MPa = N/mm2.

MECHANICAL PROPERTIES			
		RQ3	RQ4
Quality Assurance		Required	Required
Ultimate strength MPA		641	862
Reduction of area %		40	40
Elongation %		17	12
Desing temperature °C		0	-20
Impact value Joules Average of three	B	58	41
	W	49	34
Stud welding		—	Not permited

Chemical Composition

		Grade 2	Grade 3
1.1.	C	0.24	0.28
1.2.	Si	0.15-0.55	0.15-0.35
1.3.	Mn	1.00-1.60	1.35-1.90
1.4.	P	0.001-0.035	0.01-0.035
1.5.	S	0.01-0.035	0.01-0.035
1.6.	A1	0.02	0.02-0.065
1.7.	N	N.A.	0.015 max
1.8.	Cr	N.A.	0.25 max
1.9.	Cu	N.A.	0.35 max
1.10.	Nb	N.A.	0.05 max
1.11.	Ni	N.A.	0.4 max
1.12.	V	N.A.	0.1 max
1.13.	Mo	N.A.	0.08 max
1.14.	Bar Stocking Code	TBA	TBA
1.15.	Additional unintentional Element	Other impurities	Other impurities

Ship Chain IACS Equipment Tables

(Part 1 of 2)

Equipment Number		Equipment Letter				Stud Link Cables for Bower Anchor				Stockless Bower Anchor		
Exceeding	Not Exceeding	LR	ABS	DNV	GL	Total Length	Diameter			Number	Weight Conv. Anchor	Weight HHP Anchor
							Grade1	Grade2	Grade3			
						m.	mm.	mm.	mm.		kg.	kg.
50	70	A	-	a	102	220	14	12.5	-	2	180	135
70	90	B	-	b	103	220	16	14	-	2	240	180
90	110	C	-	c	104	247.5	17.5	16	-	2	300	225
110	130	D	-	d	105	247.5	19	17.5	-	2	360	270
130	150	E	-	e	106	275	20.5	17.5	-	2	420	315
150	175	F	U6	f	107	275	22	19	-	2	480	360
175	205	G	U7	g	108	302.5	24	20.5	-	2	570	430
205	240	H	U8	h	109	302.5	26	22	20.5	3	660	495
240	280	I	U9	i	110	330	28	24	22	3	780	585
280	320	J	U10	j	111	357.5	30	26	24	3	900	675
320	360	K	U11	k	112	357.5	32	28	24	3	1020	765
360	400	L	U12	l	113	385	34	30	26	3	1140	855
400	450	M	U13	m	114	385	36	32	28	3	1290	970
450	500	N	U14	n	115	412.5	38	34	30	3	1440	1080
500	550	O	U15	o	116	412.5	40	34	30	3	1590	1195
550	600	P	U16	p	117	440	42	36	32	3	1740	1305
600	660	Q	U17	q	118	440	44	38	34	3	1920	1440
660	720	R	U18	r	119	440	46	40	36	3	2100	1575
720	780	S	U19	s	120	467.5	48	42	36	3	2280	1710
780	840	T	U20	t	121	467.5	50	44	38	3	2460	1845
840	910	U	U21	u	122	467.5	52	46	40	3	2640	1980
910	980	V	U22	v	123	495	54	48	42	3	2850	2140
980	1060	W	U23	w	124	495	56	50	44	3	3060	2295
1060	1140	X	U24	x	125	495	58	50	46	3	3300	2475
1140	1220	Y	U25	y	126	522.5	60	52	46	3	3540	2655
1220	1300	Z	U26	z	127	522.5	62	54	48	3	3780	2835
1300	1390	A	U27	A	128	522.5	64	56	50	3	4050	3040
1390	1480	B	U28	B	129	550	66	58	50	3	4320	3240
1480	1570	C	U29	C	130	550	68	60	52	3	4590	3445
1570	1670	D	U30	D	131	550	70	62	54	3	4890	3670
1670	1790	E	U31	E	132	577.5	73	64	56	3	5250	3940
1790	1930	F	U32	F	133	577.5	76	66	58	3	5610	4210
1930	2080	G	U33	G	134	577.5	78	68	60	3	6000	4500

LR = Lloyd's Register of Shipping ABS = American Bureau of Shipping DNV = Det Norske Veritas GL = Germanischer Lloyd

Ship Chain IACS Equipment Tables

(Part 2 of 2)

Equipment Number		Equipment Letter				Stud Link Cables for Bower Anchor				Stockless Bower Anchor		
Exceeding	Not Exceeding	LR	ABS	DNV	GL	Total Length	Diameter Grade1	Diameter Grade2	Diameter Grade3	Number	Weight Conv. Anchor	Weight HHP Anchor
						m.	mm.	mm.	mm.		kg.	kg.
2080	2230	H	U34	H	135	605	81	70	62	3	6450	4840
2230	2380	I	U35	I	136	605	84	73	64	3	6900	5175
2380	2530	J	U36	J	137	605	87	76	66	3	7350	5520
2530	2700	K	U37	K	138	632.5	90	78	68	3	7800	5850
2700	2870	L	U38	L	139	632.5	92	81	70	3	8300	6225
2870	3040	M	U39	M	140	632.5	95	84	73	3	8700	6525
3040	3210	N	U40	N	141	660	97	84	76	3	9300	6975
3210	3400	O	U41	O	142	660	100	87	78	3	9900	7425
3400	3600	P	U42	P	143	660	102	90	78	3	10500	7875
3600	3800	Q	U43	Q	144	687.5	105	92	81	3	11100	8325
3800	4000	R	U44	R	145	687.5	107	95	84	3	11700	8775
4000	4200	S	U45	S	146	687.5	111	97	87	3	12300	9225
4200	4400	T	U46	T	147	715	114	100	87	3	12900	9675
4400	4600	U	U47	U	148	715	117	102	90	3	13500	10125
4600	4800	V	U48	V	149	715	120	105	92	3	14100	10575
4800	5000	W	U49	W	150	742.5	122	107	95	3	14700	11025
5000	5200	X	U50	X	151	742.5	124	111	97	3	15400	11550
5200	5500	Y	U51	Y	152	742.5	127	111	97	3	16100	12075
5500	5800	Z	U52	Z	153	742.5	130	114	100	3	16900	12675
5800	6100	A*	U53	A*	154	742.5	132	117	102	3	17800	13350
6100	6500	B*	U54	B*	155	742.5	137	120	107	3	18800	14100
6500	6900	C*	U55	C*	156	770	-	124	111	3	20000	15000
6900	7400	D*	U56	D*	157	770	-	127	114	3	21500	16125
7400	7900	E*	U57	E*	158	770	-	132	117	3	23000	17250
7900	8400	F*	U58	F*	159	770	-	137	122	3	24500	18375
8400	8900	G*	U59	G*	160	770	-	142	127	3	26000	19500
8900	9400	H*	U60	H*	161	770	-	147	132	3	27500	20625
9400	10000	I*	U61	I*	162	770	-	152	132	3	29000	21750
10000	10700	J*	U62	J*	163	770	-	157	137	3	31000	23250
10700	11500	K*	U63	K*	164	770	-	157	142	3	33000	24750
11500	12400	L*	U64	L*	165	770	-	162	147	3	35500	26625
12400	13400	M*	U65	M*	166	770	-	-	152	3	38500	28875
13400	14600	N*	U66	N*	167	770	-	-	157	3	42000	31500
14600	16000	O*	U67	O*	168	770	-	-	162	3	46000	34500

LR = Lloyd's Register of Shipping ABS = American Bureau of Shipping DNV = Det Norske Veritas GL = Germanischer Lloyd

Proof and Breaking Load Chart

(Part 1 of 2)

LOAD (in kN) = c x d2 x (44 - 0.08 x d) (d in mm)

SI UNITS

Diameter	Proof load				Breaking load				Approx. mass		Number of links per 27.5 m
	Grade 2 c = 0.0098	Grade 3 c = 0.0137	ORQ/RQ3 c = 0.014	Grade 4 c = 0.0216	Grade 2 c = 0.0137	Grade 3 c = 0.0196	ORQ/RQ3 c = 0.0211	Grade 4 c = 0.0275	27.5m 0.6292xd2	100 m	
mm	kN	kN	kN	kN	kN	kN	kN	kN	kg	kg	
16	107	150	-	-	150	216	-	-	160	582	429
17.5	127	179	-	-	179	256	-	-	190	691	391
19	150	211	215	331	211	301	324	421	225	819	357
20.5	175	244	249	385	244	349	376	490	264	975	329
22	200	280	286	442	280	401	431	562	305	1166	305
24	237	332	339	524	332	376	511	667	362	1318	285
26	278	389	397	612	389	556	598	779	425	1538	259
28	321	449	458	707	449	642	691	900	493	1775	245
30	368	514	524	809	514	735	790	1030	566	2028	225
32	417	583	594	917	583	833	895	1167	644	2298	213
34	468	655	668	1030	655	937	1007	1312	727	2584	195
36	523	732	746	1150	732	1050	1120	1465	815	2967	187
38	581	812	828	1280	812	1160	1250	1630	909	3292	179
40	640	896	910	1410	896	1280	1380	1800	1007	3634	171
42	703	981	1000	1550	981	1400	1510	1970	1110	3992	165
44	769	1080	1100	1690	1080	1540	1650	2160	1218	4368	153
46	837	1170	1190	1840	1170	1680	1800	2350	1331	4761	147
48	908	1280	1290	2000	1280	1810	1950	2540	1450	5170	143
50	981	1370	1400	2160	1370	1960	2110	2750	1573	5596	137
52	1060	1480	1510	2330	1480	2110	2270	2960	1701	6040	129
54	1140	1590	1620	2500	1590	2270	2440	3180	1835	6500	125
56	1220	1710	1740	2680	1710	2430	2620	3410	1973	6976	123
58	1290	1810	1850	2860	1810	2600	2800	3640	2117	7596	119
60	1380	1940	1980	3040	1940	2770	2980	3870	2265	8110	113
62	1470	2060	2100	3240	2060	2940	3170	4120	2419	8642	111
64	1560	2190	2230	3430	2190	3130	3360	4380	2577	9191	107
66	1660	2320	2360	3640	2320	3310	3560	4630	2741	9757	105
68	1750	2450	2500	3850	2450	3500	3760	4900	2909	10339	99
70	1840	2580	2630	4060	2580	3690	3970	5170	3083	10938	97
73	1990	2800	2850	4390	2800	3990	4290	5580	3353	11869	93
76	2150	3010	3070	4730	3010	4300	4620	6010	3634	12837	89
78	2260	3160	3220	4950	3160	4500	4850	6310	3828	13504	87

Proof and Breaking Load Chart

(Part 2 of 2)

LOAD (in kN) = c x d2 x (44 - 0.08 x d) (d in mm)

SI UNITS

Diameter	Proof load				Breaking load				Approx. mass		Number of links per 27.5 m
	Grade 2 c = 0.0098	Grade 3 c = 0.0137	ORQ/RQ3 c = 0.014	Grade 4 c = 0.0216	Grade 2 c = 0.0137	Grade 3 c = 0.0196	ORQ/RQ3 c = 0.0211	Grade 4 c = 0.0275	27.5m 0.6292xd2	100 m	
mm	kN	kN	kN	kN	kN	kN	kN	kN	kg	kg	
81	2410	3380	3450	5320	3380	4820	5190	6760	4128	14536	85
84	2580	3610	3680	5680	3610	5160	5550	7230	4440	15605	81
87	2750	3860	3920	6050	3860	5500	5920	7700	4762	17090	79
90	2920	4090	4170	6440	4090	5840	6290	8190	5097	18250	77
92	3040	4260	4340	6690	4260	6080	6540	8520	5326	19040	73
95	3230	4510	4600	7090	4510	6440	6930	9030	5679	20260	71
97	3350	4680	4770	7360	4680	6690	7200	9370	5920	21100	71
98	3400	4770	4860	7490	4770	6820	7330	9540	6043	21520	69
100	3530	4940	5040	7770	4940	7060	7600	9890	6292	22380	67
102	3660	5120	5220	8040	5120	7320	7870	10240	6546	23260	65
105	3860	5400	5500	8470	5400	7700	8280	10780	6937	24610	63
107	3980	5570	5680	8760	5570	7960	8560	11140	7204	25530	61
108	4040	5660	5770	8900	5660	8090	8700	11330	7339	26000	59
111	4250	5940	6060	9340	5940	8480	9130	11890	7752	27420	57
114	4440	6230	6350	9780	6230	8900	9570	12450	8177	28880	57
117	4650	6510	6640	10230	6510	9300	10010	13030	8613	30380	57
120	4860	6810	6940	10690	6810	9720	10450	13610	9060	31920	55
122	5000	7000	7140	11000	7000	9990	10750	14000	9365	32970	55
124	5140	7200	7340	11310	7200	10280	11060	14390	9675	34030	53
127	5350	7490	7640	11780	7490	10710	11520	14990	10148	35660	53
130	5570	7800	7950	12250	7800	11140	11980	15600	10635	37320	51
132	5720	8000	8160	12590	8000	11420	12290	16020	10965	38450	51
137	6080	8520	8680	13390	8520	12160	13090	17050	11810	41360	49
142	6450	9040	9210	14220	9040	12910	13890	18100	12690	44360	47
147	6840	9560	9750	15050	9560	13660	14700	19160	13600	47480	47
152	7220	10100	10300	15890	10100	14430	15520	20230	14500	50690	45
157	7600	10640	10850	16740	10640	15200	16350	21310	15510	54020	43
162	7990	11170	11400	17600	11170	15970	17190	22400	16510	57440	43
167	8370	11710	11960	18460	11710	16750	18030	23500	17550	60980	41
172	8720	12260	12520	19320	12260	17530	18880	24600	18620	64620	39
177	9160	12810	13090	20190	12810	18320	19730	25710	19710	68360	39

Weight of Anchor Chain & Fittings

(Part 1 of 2)

Chain Diameter (Ø) mm.	Studlink Chain (27.5mtr) Kg.	Common Link Kg.	Enlarge Link Kg.	End Link Kg.	Kenter Shackle Kg.	Joining Shackle Kg.	Achor Shackle Kg.	Swivel Piece Kg.	Complete Swivel Set Kg.	Swivel Shackle Kg.	Three-link Adapter Kg.
16	160	0.2	0.5	0.5	0.6	1.1	1.6	1.7	3.6	-	1.5
17.5	193	0.2	0.7	0.7	0.8	1.4	2.0	2.1	4.7	-	2.8
19	223	0.4	0.9	0.9	1	1.7	2.5	2.5	5.8	9	2.4
20.5	275	0.5	1.1	1.1	1.4	2.2	3.3	3.1	7.2	11	3
22	305	0.6	1.3	1.3	1.6	2.7	4	3.5	8.2	14	4
24	366	0.8	1.7	1.8	2	3.5	5	5	11	18	5
26	432	0.9	2.2	2.2	2.7	4.2	6	6	14	24	6
28	503	1.2	2.8	2.9	3.3	5.8	8	7.5	18	30	8
30	578	1.6	3.2	3.3	3.9	6.8	9.5	9.0	21	35	10
32	657	1.9	3.9	4	4.6	7.8	12	11	26	45	12
34	743	2.4	4.7	5	5.8	9.4	14	13.5	31	54	14
36	831	2.9	5.5	5.9	6.6	12	17	16	37	63	17
38	927	3.4	6.1	6.8	7.8	14	20	19	43	72	19
40	1020	4	7.1	8	9.1	16	23	23	51	86	22
42	1114	4.7	8.4	9.6	11	18	26	27	60	100	25
44	1218	5.5	10	11	13	22	29	32	71	114	29
46	1334	6.4	12	13	14	24	33	37	82	128	34
48	1452	7.4	13	15	16	27	37	44	95	148	39
50	1568	8.5	15	17	18	33	41	57	115	167	44
52	1705	9.8	17	20	20	36	45	57	124	187	49
54	1815	11	19	22	20	40	50	67	141	206	55
56	1953	13	21	23	24	43	54	67	148	233	61
58	2118	14	23	25	28	50	65	80	168	259	68
60	2283	16	25	27	28	56	70	95	191	286	75
62	2420	17	28	30	33	60	76	95	202	312	81
64	2585	19	31	34	38	64	82	112	231	345	89
66	2750	21	34	38	38	74	94	130	261	379	101

Conversion from Kg. to pounds 1 kg. = 2.2 Lbs.

Weight of Anchor Chain & Fittings

(Part 2 of 2)

Chain Diameter (Ø) mm.	Studlink Chain (27.5mtr) Kg.	Common Link Kg.	Enlarge Link Kg.	End Link Kg.	Kenter Shackle Kg.	Joining Shackle Kg.	Achor Shackle Kg.	Swivel Piece Kg.	Complete Swivel Set Kg.	Swivel Shackle Kg.	Three-link Adapter Kg.
68	2943	23	37	42	44	79	101	130	273	412	109
70	3135	25	40	45	44	84	108	152	307	451	119
73	3410	27	45	52	51	98	124	172	348	510	133
76	3713	30	50	59	58	110	141	194	392	575	153
78	3905	34	55	63	65	117	150	194	409	623	161
81	4235	39	61	70	74	133	171	220	458	696	184
84	4565	42	68	78	84	149	193	242	508	776	202
87	4895	46	75	86	94	168	218	270	564	868	230
90	5198	52	82	95	105	186	243	300	623	959	251
92	5473	58	88	100	105	195	256	325	669	1020	271
95	5803	64	98	112	115	215	290	350	733	1123	296
97	6050	68	102	120	135	229	305	350	754	1196	315
100	6435	75	112	130	150	251	335	385	827	1310	347
102	6683	80	120	138	150	262	350	420	891	1397	359
107	7315	88	140	158	175	316	410	495	1042	1616	424
111	7893	93	160	175	200	343	445	535	1150	1792	471
114	8360	109	173	193	225	377	475	570	1239	1959	516
117	8718	120	185	210	225	407	505	610	1332	2126	563
122	9488	130	210	235	267	479	550	650	1465	2405	609
127	10313	142	235	260	315	514	600	720	1632	2683	642
132	11000	160	260	305	370	597	675	760	1790	3095	670
137	11990	182	305	390	390	638	750	900	2030	3508	715
142	12843	205	325	375	450	734	900	1100	2380	3920	814
147	13723	230	395	410	505	781	1055	1200	2680	4333	-
152	14713	255	410	460	545	890	1200	1400	2990	4745	-
157	15675	280	455	510	605	1009	1340	1550	3315	5158	-
162	16775	310	500	560	660	1067	1450	1700	3635	5570	-

Conversion from Kg. to pounds 1 kg. = 2.2 Lbs.

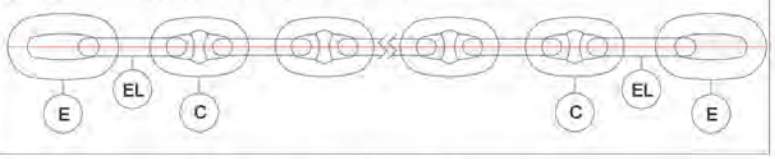
Chain Cable & Fittings For Ships

Grade 2

MCN-21 GRADE 2 STUD LINK CHAIN

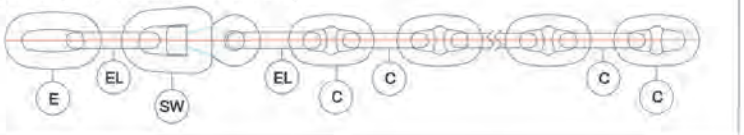
L-1 CONFIGURATION : CL X 27.5MTR
(length with normal links only)

L-2 CONFIGURATION : E + EL + CL X 27.5MTR + EL + E
(length with enlarged & end link at both ends)



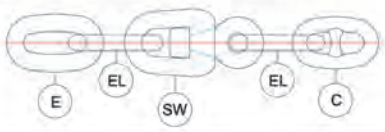
L-3 CONFIGURATION : E + EL + CL X 27.5MTR
(length with enlarged & end link at one end)

L-4 CONFIGURATION : E + EL + SW + EL + CL X 27.5MTR
(length with swivel with end link at one end)



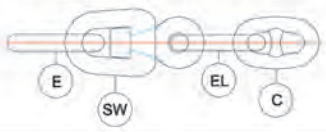
SWIVEL FORERUNNER

MCF-2F1 CONFIGURATION : E+EL+SW+EL+CL



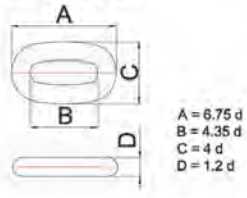
MCF-2F2 CONFIGURATION : E+EL+SW+EL+E

MCF-2F3 CONFIGURATION : E+SW+EL+CL



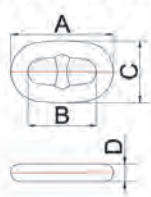
CHAIN FITTINGS

END LINK (E)



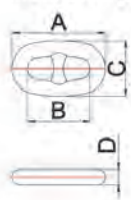
A = 6.75 d
B = 4.35 d
C = 4 d
D = 1.2 d

ENLARGED LINK (EL)



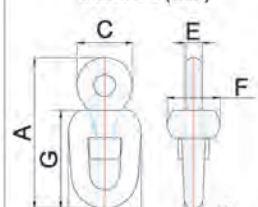
A = 6.6 d
B = 4.4 d
C = 4 d
D = 1.1 d

COMMON LINK (C)



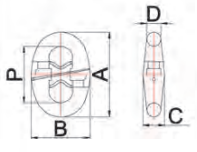
A = 6 d
B = 4 d
C = 3.6 d
D = 1 d

SWIVEL (SW)



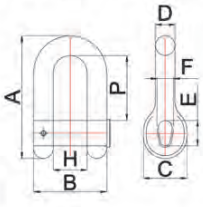
A = 9.7 d
B = 4.7 d
C = 3.8 d
D = 1.2 d
E = 1.2 d
F = 3.8 d
G = 6.3 d
I = 1.4d

MCF-2KS MORDEC
KENTER SHACKLE



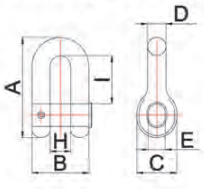
A = 6 d
B = 4.2 d
C = 1.52 d
D = 1 d
P = 4 d

MCF-2AS MORDEC
ANCHOR SHACKLE



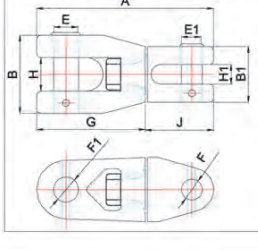
A = 8.2 d
B = 5.0 d
C = 3.0 d
D = 1.4 d
E = 1.9 d
F = 1.3 d
H = 2.2 d
P = 4.0 d

MCF-2JS MORDEC
JOINING SHACKLE



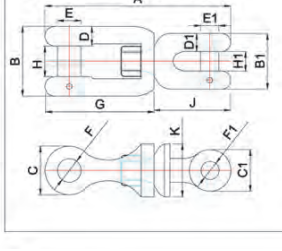
A = 6.6 d
B = 3.8 d
C = 3.0 d
D = 1.2 d
E = 1.4 d
H = 1.4 d
I = 5.9 d

MCF-2SS MORDEC
SWIVEL SHACKLE (A)



A = 14.3 d
B = 5.6 d
B1 = 4.1 d
D = 1.6 d
D1 = 1.4 d
E = 1.9 d
E1 = 1.3 d
F = 2.1 d
F1 = 1.6 d
G = 9.1 d
H = 2.4 d
H1 = 1.4 d
J = 5.2 d

MCF-2SS MORDEC
SWIVEL SHACKLE (B)



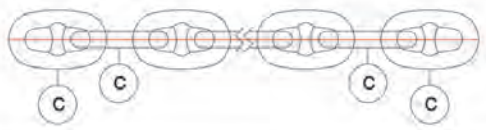
A = 13.4 d
B = 5.0 d
B1 = 4.0 d
C = 3.5 d
C1 = 3.0 d
D = 1.4 d
D1 = 1.3 d
E = 1.7 d
E1 = 1.3 d
F = 2.1 d
F1 = 1.6 d
G = 8.4 d
H = 2.2 d
H1 = 1.4 d
J = 5.0 d
K = 3.8 d

Chain Cable & Fittings For Ships

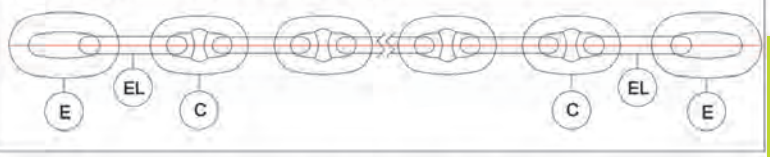
Grade 3

MCN-31 GRADE 3 STUD LINK CHAIN

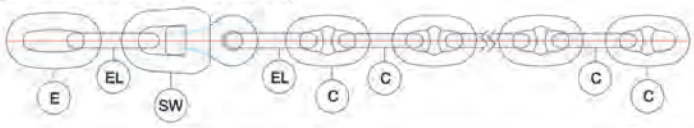
L-1 CONFIGURATION : CL X 27.5MTR
(length with normal links only)



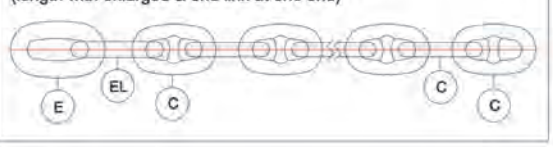
L-2 CONFIGURATION : E + EL + CL X 27.5MTR + EL + E
(length with enlarged & end link at both ends)



L-4 CONFIGURATION : E + EL + SW + EL + CL X 27.5MTR
(length with swivel with end link at one end)

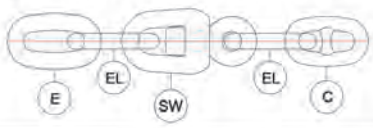


L-3 CONFIGURATION : E + EL + CL X 27.5MTR
(length with enlarged & end link at one end)

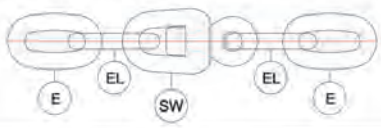


SWIVEL FORERUNNER

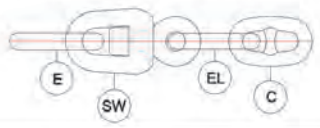
MCF-2F1 CONFIGURATION : E+EL+SW+EL+CL



MCF-2F2 CONFIGURATION : E+EL+SW+EL+E

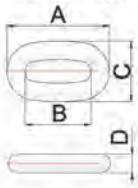


MCF-2F3 CONFIGURATION : E+SW+EL+CL



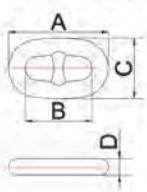
CHAIN FITTINGS

END LINK (E)



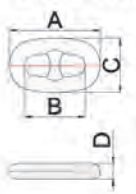
A = 6.75 d
B = 4.35 d
C = 4 d
D = 1.2 d

ENLARGED LINK (EL)



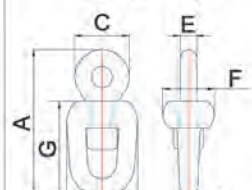
A = 6.6 d
B = 4.4 d
C = 4 d
D = 1.1 d

COMMON LINK (C)



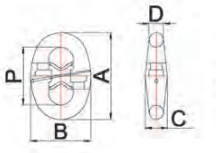
A = 6 d
B = 4 d
C = 3.6 d
D = 1 d

SWIVEL (SW)



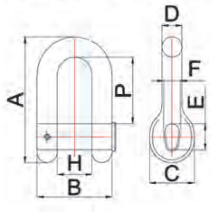
A = 9.7 d
B = 4.7 d
C = 3.8 d
D = 1.2 d
E = 1.2 d
F = 3.8 d
G = 6.3 d
I = 1.4d

MCF-3KS MORDEC
KENTER SHACKLE



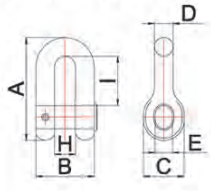
A = 6 d
B = 4.2 d
C = 1.52 d
D = 1 d
P = 4 d

MCF-3AS MORDEC
ANCHOR SHACKLE



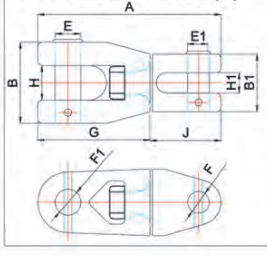
A = 8.2 d
B = 5.0 d
C = 3.0 d
D = 1.4 d
E = 1.9 d
F = 1.3 d
H = 2.2 d
P = 4.0 d

MCF-3JS MORDEC
JOINING SHACKLE



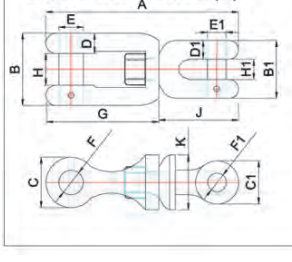
A = 6.6 d
B = 3.8 d
C = 3.0 d
D = 1.2 d
E = 1.4 d
H = 1.4 d
I = 5.9 d

MCF-3SS MORDEC
SWIVEL SHACKLE (A)



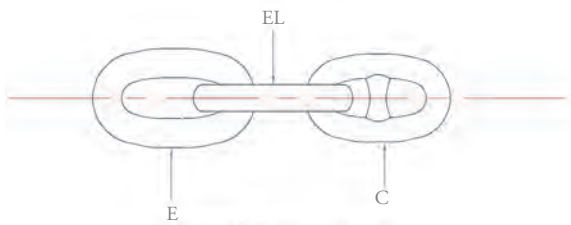
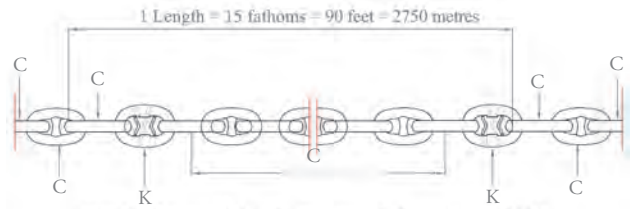
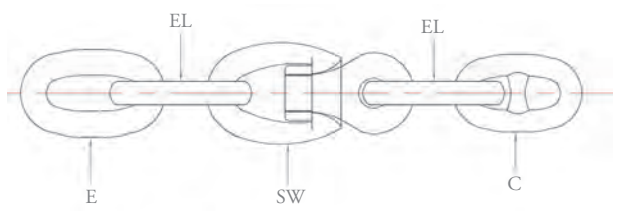
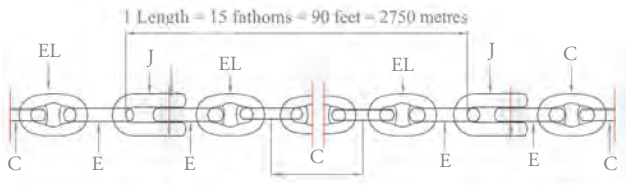
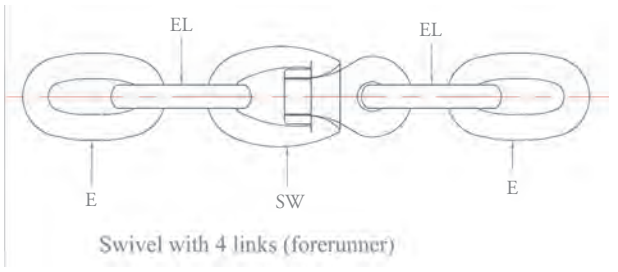
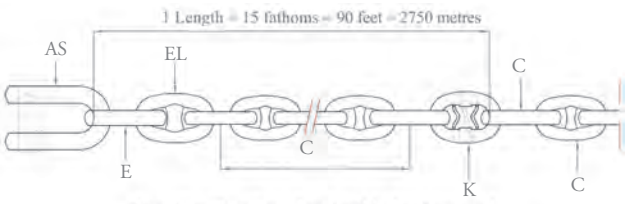
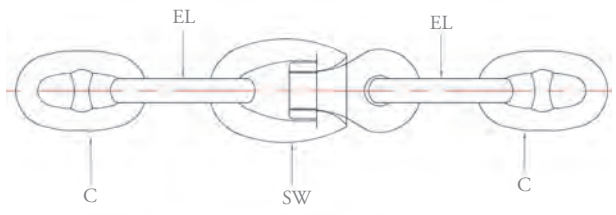
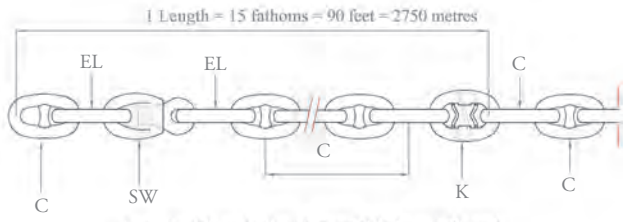
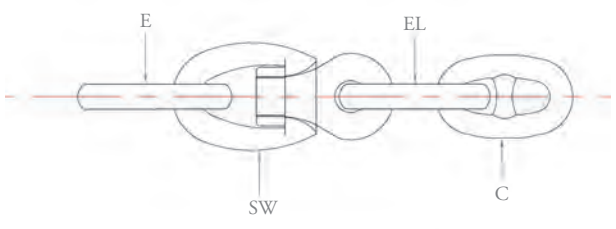
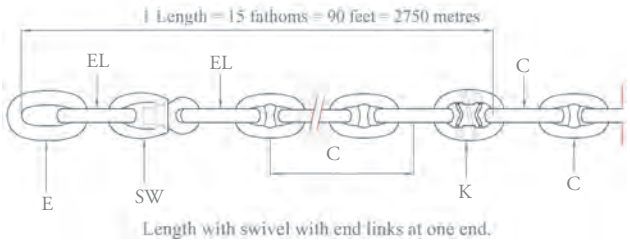
A = 14.3 d
B = 5.6 d
B1 = 4.1 d
D = 1.6 d
D1 = 1.4 d
E = 1.9 d
E1 = 1.3 d
F = 2.1 d
F1 = 1.6 d
G = 9.1 d
H = 2.4 d
H1 = 1.4 d
J = 5.2 d

MCF-3SS MORDEC
SWIVEL SHACKLE (B)

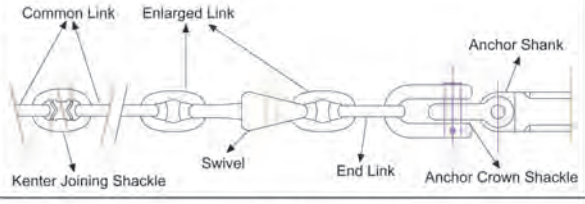
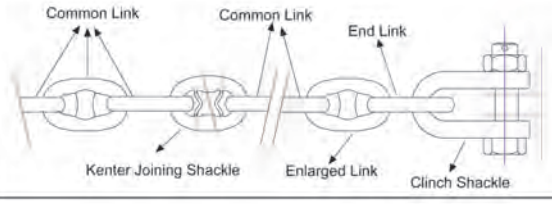
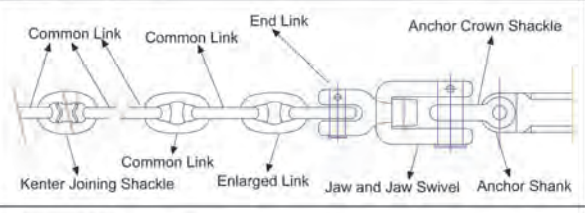
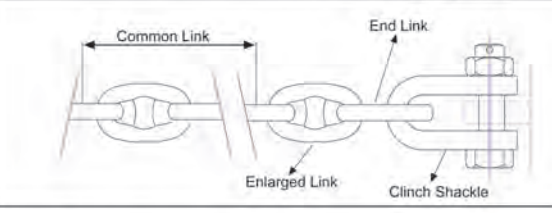
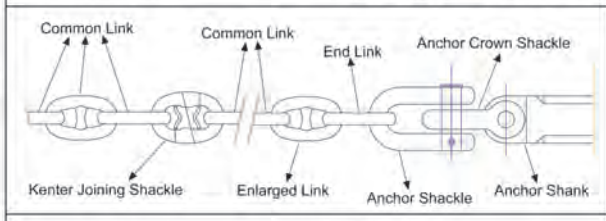
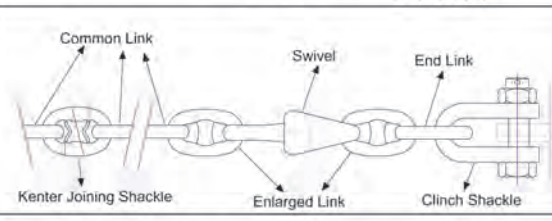
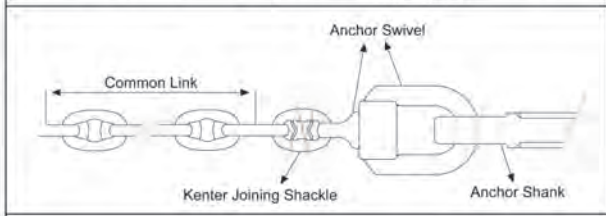
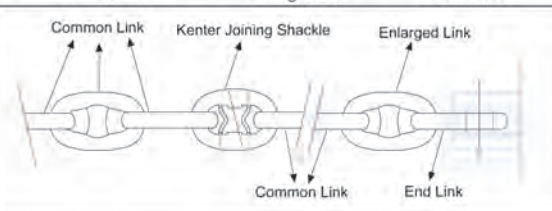
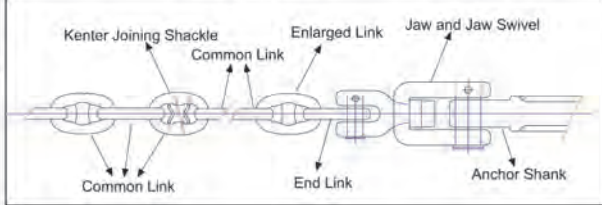
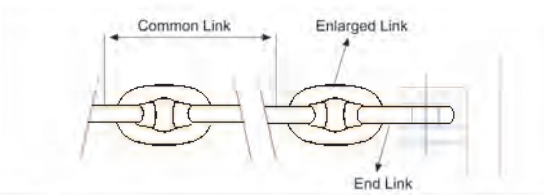
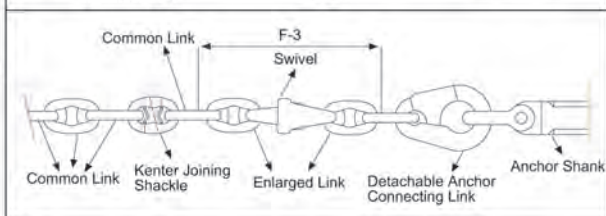
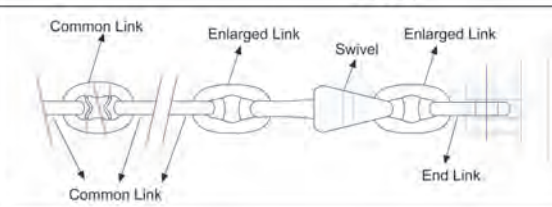
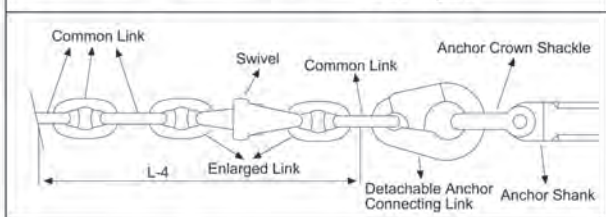
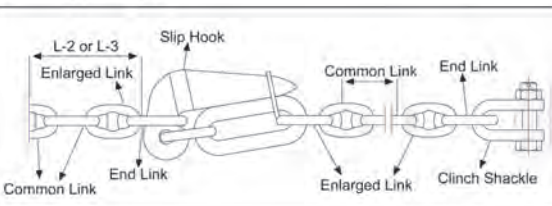
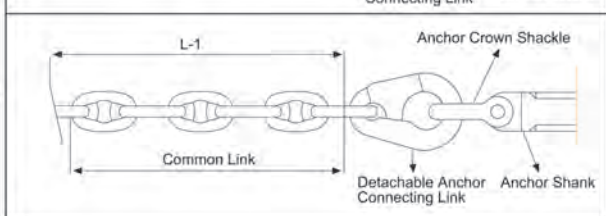
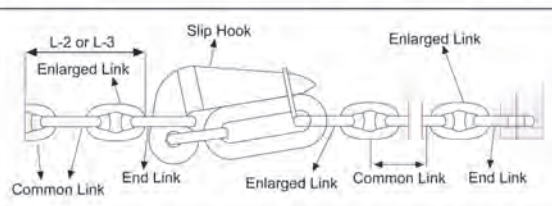


A = 13.4 d
B = 5.0 d
B1 = 4.0 d
C = 3.5 d
C1 = 3.0 d
D = 1.4 d
D1 = 1.3 d
E = 1.7 d
E1 = 1.3 d
F = 2.1 d
F1 = 1.6 d
G = 8.4 d
H = 2.2 d
H1 = 1.4 d
J = 5.0 d
K = 3.8 d

Chain Cable & Fittings For Ships

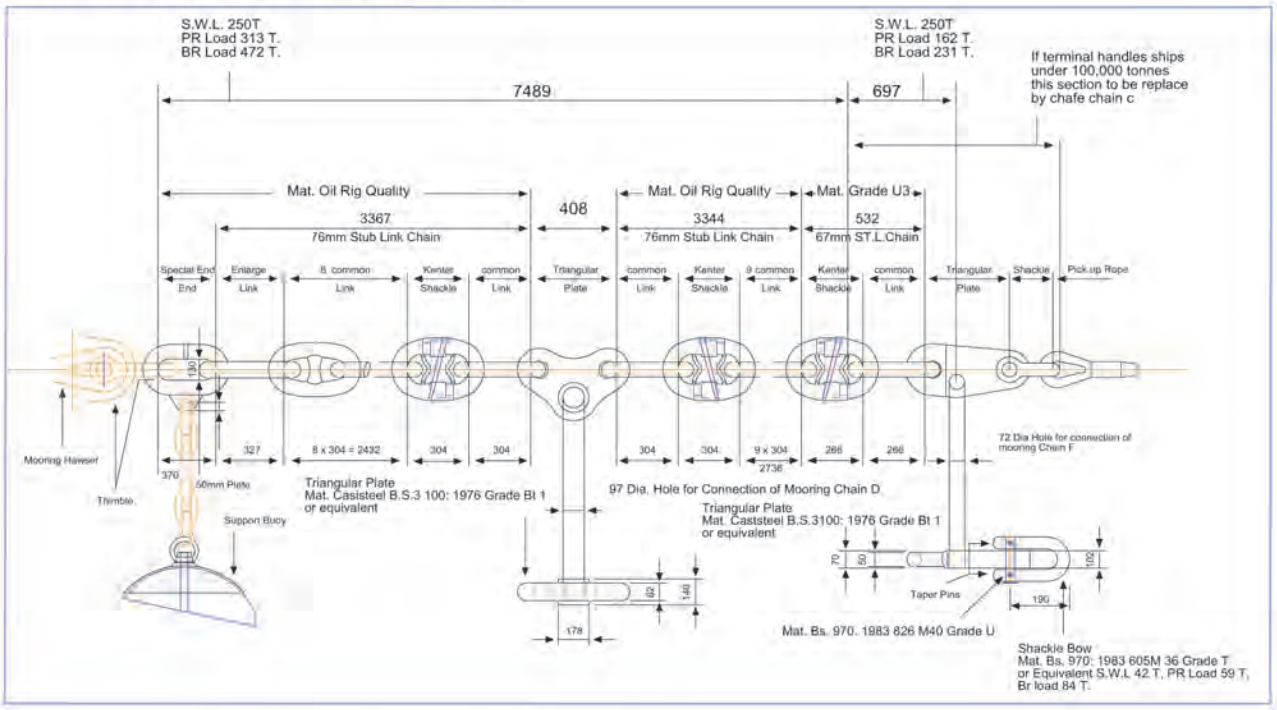
SWIVEL CONNECTION	CHAIN CONNECTION
 Normal adaptor piece	 Length with normal links only. Connection by kenter joining shackle
 Swivel with 4 links (forerunner)	 Length with enlarge and end links at both ends. Connection by joining shackle "D" type.
 Swivel with 4 links (forerunner)	 Length with enlarged and end links at one ends.
 Swivel with 4 links (forerunner)	 Length with swivel with normal links at both end.
 Swivel with 3 links (forerunner)	 Length with swivel with end links at one end.

Marine Chain Connection

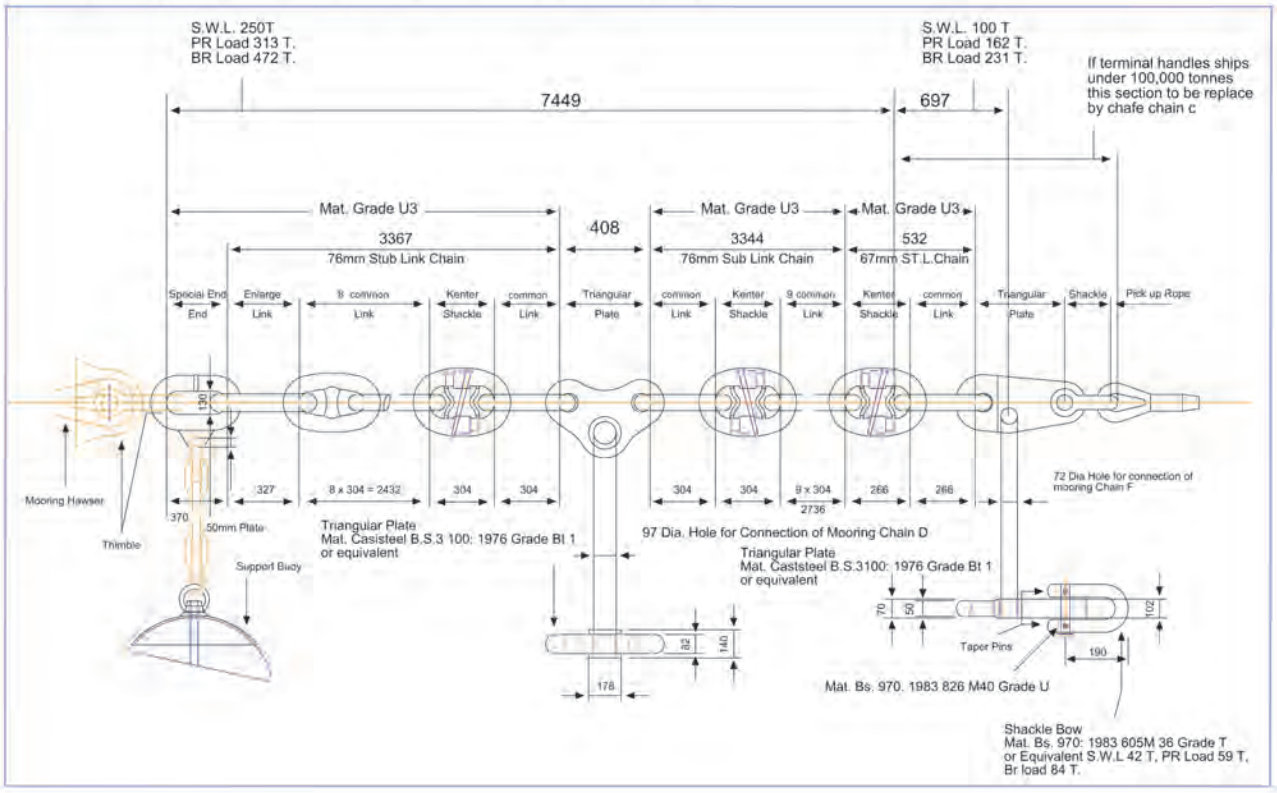
	Connection To Anchor	Connection To Chain Locker	
A-1			B-1
A-2			B-2
A-3			B-3
A-4			B-4
A-5			B-5
A-6			B-6
A-7			B-7
A-8			B-8

Chafe Chain Arrangement

Chafe Chain A for Ship over 350,000 ton DWT

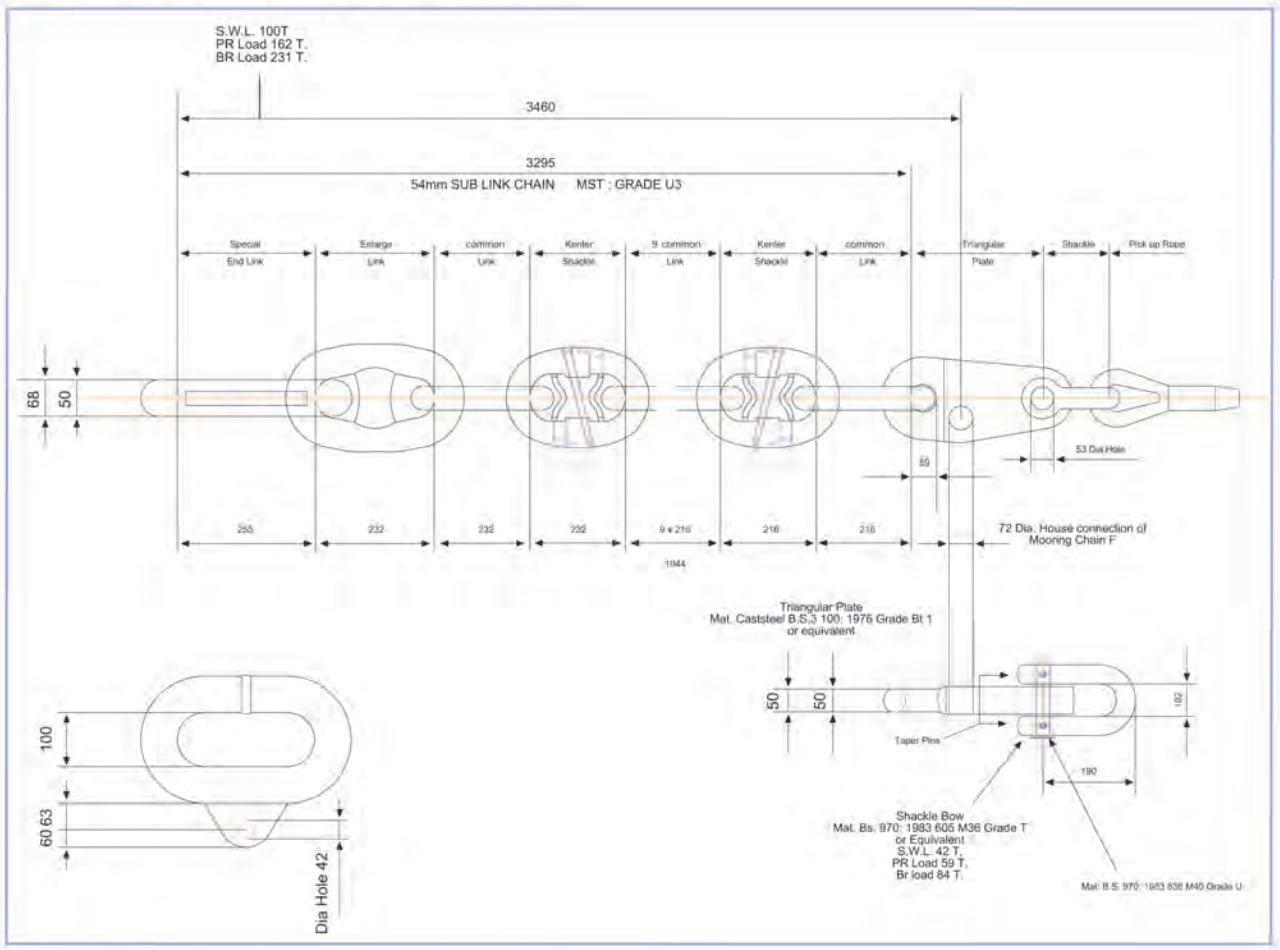


Chafe Chain B for Ship between 100,000 and 350,000 ton DWT

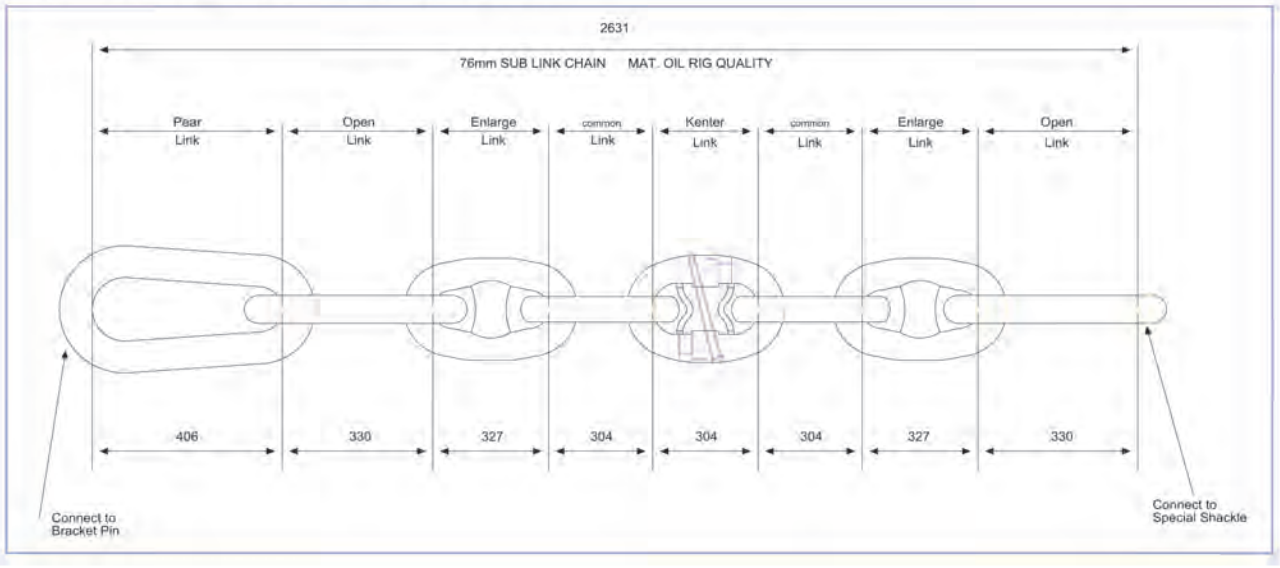


Chafe Chain Arrangement

Chafe Chain C for Ship less than 100,000 ton DWT

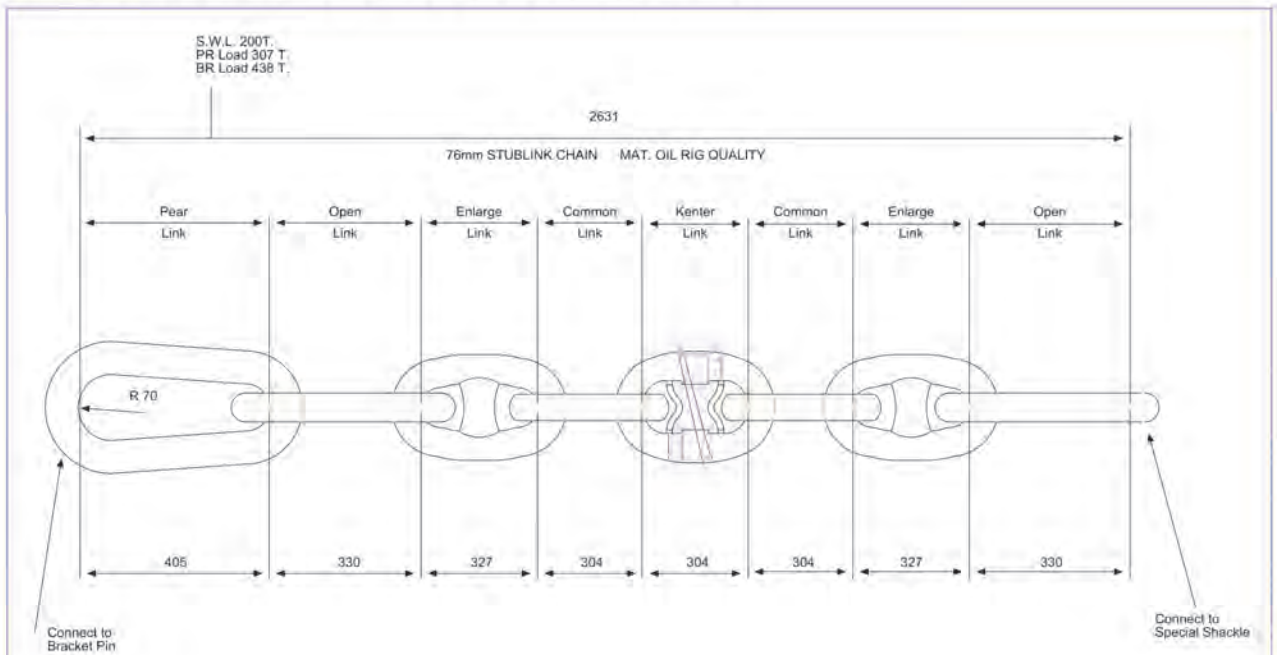


Mooring Chain D for Ships over 350,000 ton DWT

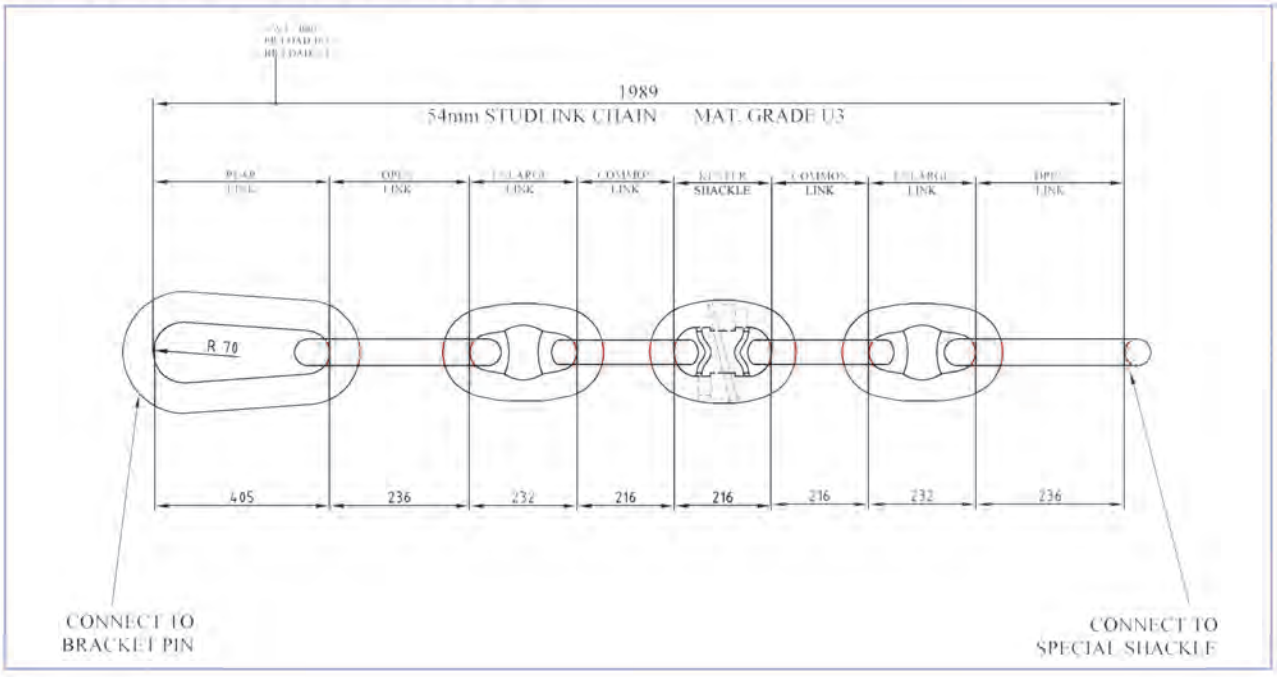


Chafe Chain Arrangement

Mooring Chain E for ships between 100,000 and 350,000 ton DWT

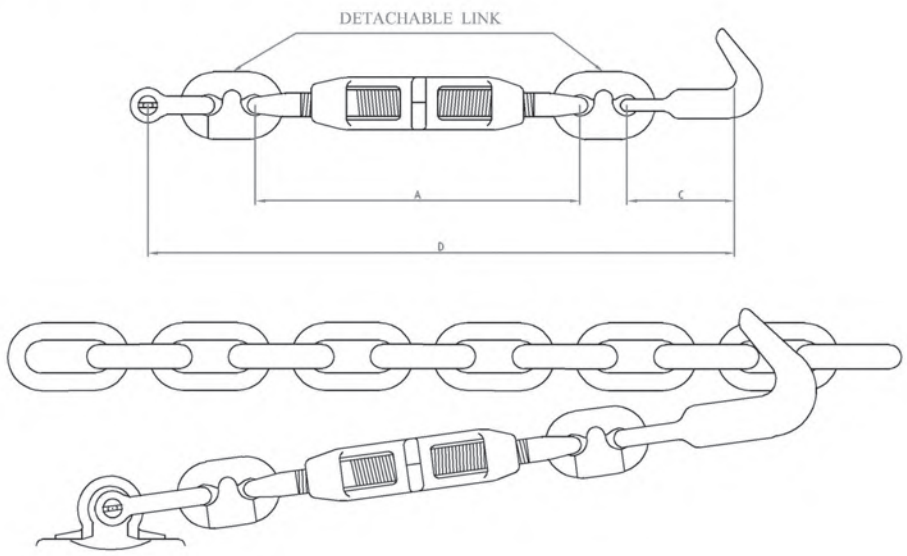


Mooring Chain F for ships less than 100,000 ton DWT



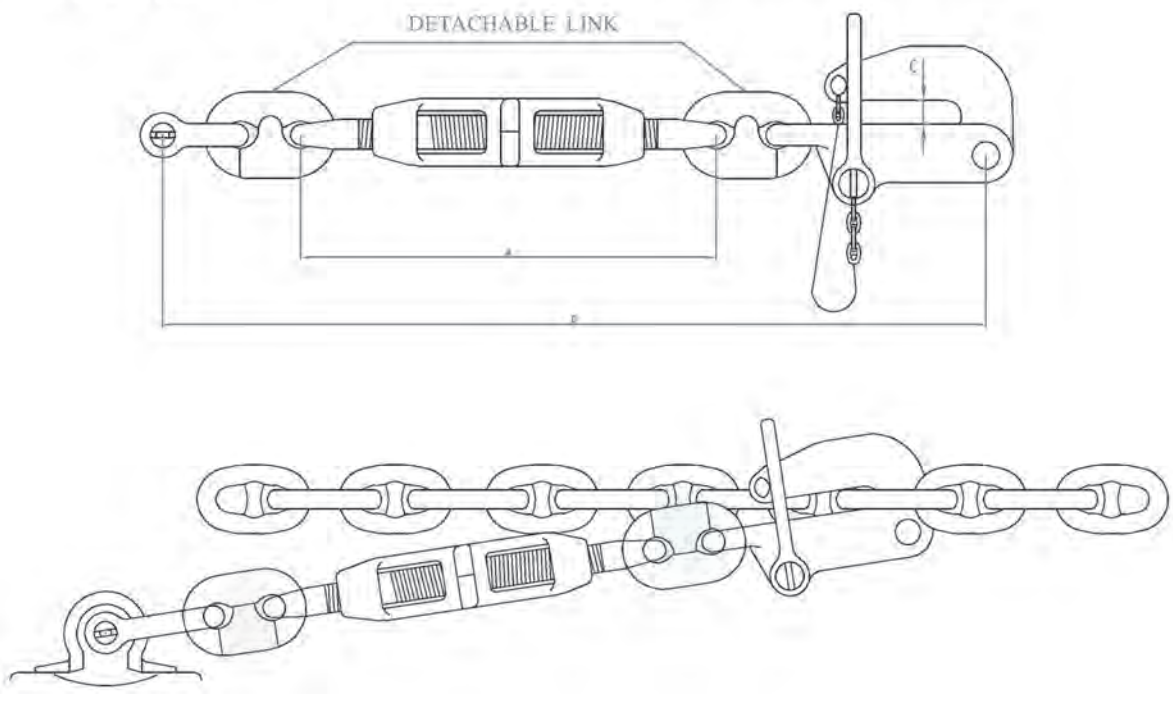
Devil's Claw Chain Stopper

The Devil's Claw Chain Stopper Assembly is design primarily to assist in securing the anchor at the hawse pipe. Additionally, it can be utilized to help retrieve mooring components. The size of the claw and the jaw opening are directly proportional to the chain size which is to be engaged. when the stopper assembly is used to secure mooring chain neither the stopper nor the chain is place in a bending condition; instead, the loads are arranged inline. Each component of the assembly is forged alloy steel which is heat treated to develop a tensile strength of 150,000 psi. As an option, customers can specify additional handles to be placed at the base of the claw, which increase the ease of handling.

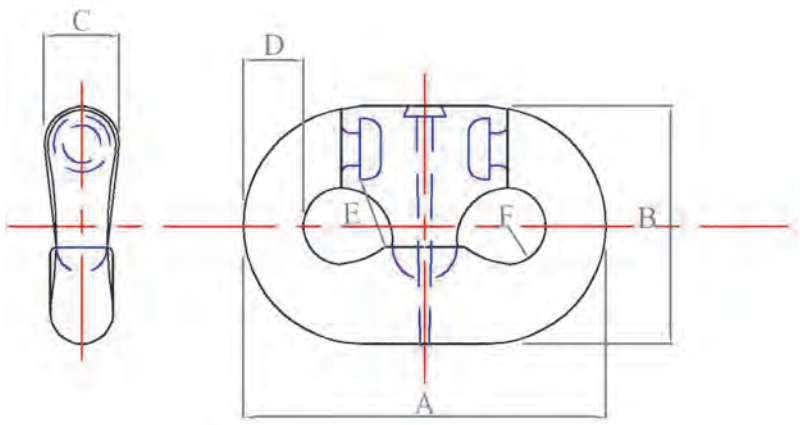


Pelican Hook topper

The Pelican Hook Stopper is Engineered so that its primary function is to secure the ship's anchor at the hawse pipe. The chain can be disengaged from the stopper bymanually deflecting the bail. to facilitate handling, additional handles can be added to the base of the hook should the customer desire. The chain stopper assembly consists of a shackle, chain connecting links, turnbuckle and pelican hook. Each component is forged from fine grain heat treated alloyed steel, with a minimum tensile strength of 150,000 psi.

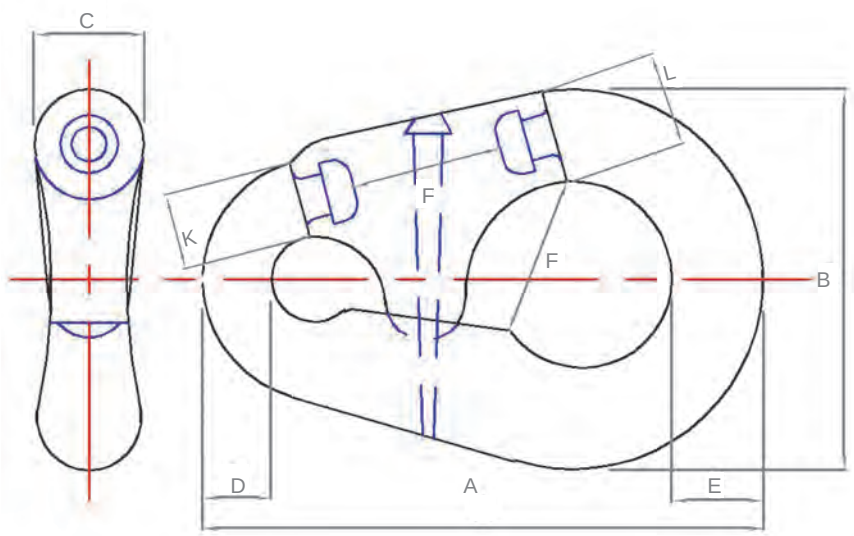


BALT D Detachable Connecting Link



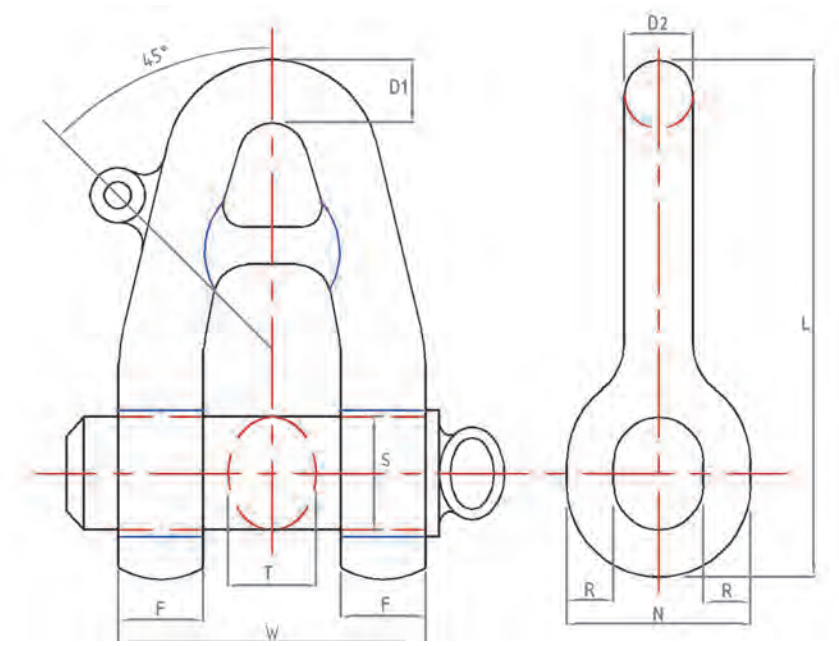
Chain Size mm	A mm	B mm	C mm	D mm	E mm	F mm	Proof Load Ton	Break Load Ton	Weight Kg
19	114	73	23	12	22	23	21.7	34.0	0.9
20~22	133	85	27	22	28	27	29.0	44.4	1.6
23~25	152	98	31	25	29	31	38.1	58.5	2.0
26~29	171	111	35	28	31	35	48.0	73.0	2.7
30~32	190	123	39	31	37	39	58.9	89.8	3.9
33~35	209	134	43	34	41	43	71.2	106.5	5.0
36~38	228	147	47	38	44	47	83.9	127.0	6.8
39~41	247	150	50	41	50	50	97.9	147.4	9.1
42~45	266	172	57	44	52	55	112.9	172.3	10.9
46~48	285	184	63	47	54	59	129.2	195.9	14.5
49~51	304	196	63	50	58	63	146.0	221.3	16.3
52~54	323	209	67	53	63	67	164.2	248.5	20.0
55~57	342	221	71	57	66	71	182.7	276.6	23.6
58~60	361	234	77	60	69	74	202.7	306.1	27.7
61~64	381	246	79	63	73	79	223.1	337.4	32.3
65~67	400	258	82	66	77	82	244.9	368.7	37.2
68~70	419	269	87	69	80	85	267.6	401.4	43.1
71~73	438	282	91	73	84	89	290.2	437.7	48.5
74~76	457	295	95	76	89	95	314.3	474.0	54.4
77~79	476	307	101	79	92	97	339.2	511.6	62.6
80~83	495	320	103	82	92	103	364.7	548.8	73.0
84~86	514	332	107	85	100	107	391.0	587.8	80.3
87~89	533	344	111	88	103	111	418.2	627.3	88.5
90~92	552	355	115	92	106	115	463.1	710.3	97.5
93~95	571	368	119	95	110	119	508.0	793.7	116.1
96~99	590	381	127	98	114	120	546.5	845.2	122.9
100~103	609	393	131	101	117	125	588.7	891.7	130.6
140~106	628	406	133	104	120	133	611.1	935.5	145.1
107~110	647	419	134	107	127	136	632.1	967.9	159.7
111~113	666	431	139	111	128	139	712.0	1,087.7	173.7
114~116	685	444	142	114	133	142	758.4	1,137.6	188.7
117~119	704	454	146	117	136	146	805.1	1,213.3	202.8
120	723	469	155	120	139	149	848.2	1,272.3	221.4

Detachable Anchor Connecting Link



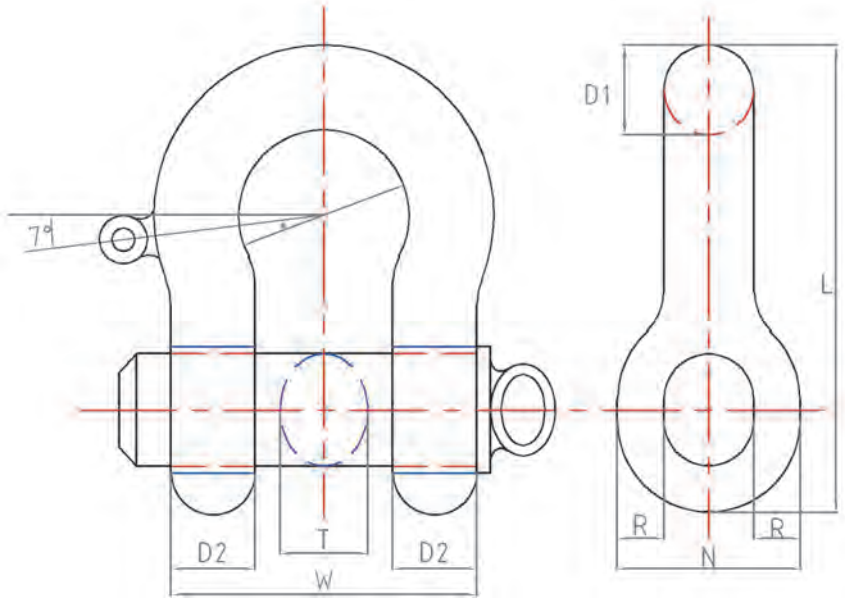
Chain Size	A	B	C	D	E	F	K	L	Proof	Break Load	Weight
mm	mm	mm	mm	mm	mm	mm	mm	mm	Ton	Ton	Kg
19~24	193	131	38	23	31	57	23	34	33.5	51.4	3.2
25~30	238	166	46	30	38	65	33	44	53.5	81.4	6.4
32~40	298	206	58	39	47	82	39 x 44	56	90.9	137.2	12.7
41~51	377	260	76	50	63	100	74 x 60	73	146.0	221.3	27.2
52~60	454	312	92	60	76	120	61 x 73	88	202.7	306.1	48.5
61~80	561	376	117	79	95	149	85 x 79	111	339.2	511.6	94.4
81~92	654	419	133	92	123	149	111 x 101	130	463.1	710.3	148.8
93~95	692	434	146	98	130	158	123 x 136	141	508.0	793.7	192.8
96~102	774	508	158	101	136	177	127 x 139	161	588.7	905.5	249.5
103~111	889	555	174	111	149	193	139 x 152	177	712.0	1,087.7	272.2
112~120	920	603	190	120	161	212	152 x 165	193	848.2	1,272.3	296.2

Buoy Shackle (Type A)



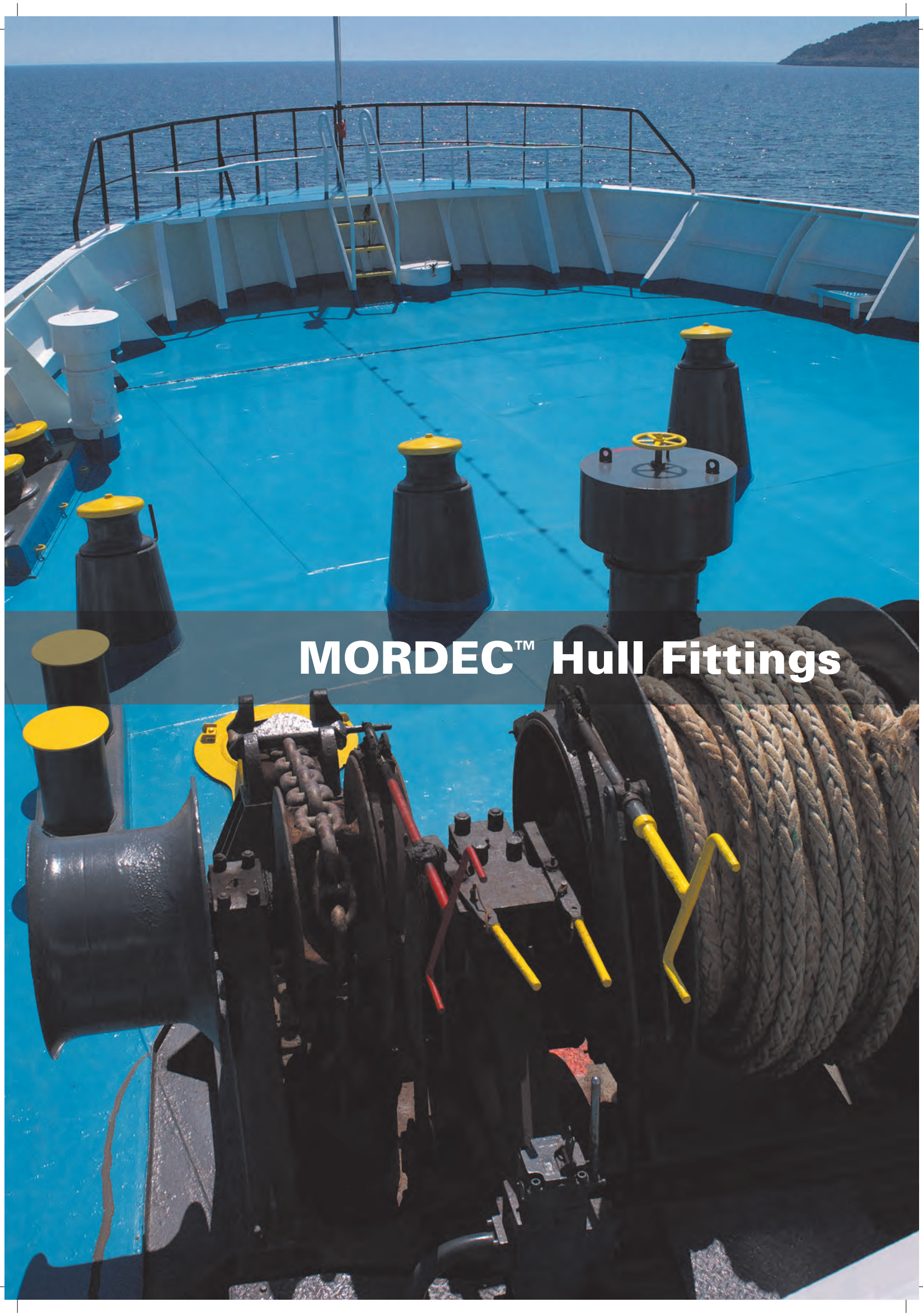
Nominal Dia. d	D1	D2	L	W	F	N	R	S	T
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
38	38	42	395	262	56	113	29	80	53
40	40	44	406	266	58	118	30	83	56
42	42	46	416	268	59	125	32	85	59
44	44	48	427	274	62	130	33	88	62
46	46	51	438	278	64	136	35	90	64
48	48	53	458	294	67	141	36	92	67
50	50	55	470	300	70	148	38	95	70
52	52	57	490	316	73	153	39	98	73
54	54	59	504	322	76	161	41	101	76
56	56	62	524	336	78	165	42	104	78
58	58	64	538	342	81	172	44	108	81
60	60	66	549	348	84	177	45	111	84
62	62	68	561	354	87	184	47	115	87
64	64	70	594	380	90	189	48	119	90
66	66	73	606	384	92	195	50	122	92
68	68	75	617	390	95	200	51	125	95
70	70	77	623	396	98	207	53	127	98
72	72	79	639	402	101	212	54	130	101
74	74	81	651	408	104	219	56	133	104
76	76	84	663	412	106	223	57	137	106
78	78	86	675	418	109	230	59	140	109
80	80	88	688	422	111	236	60	144	112
82	82	90	701	426	113	243	62	149	115
85	85	94	718	432	116	251	64	153	119
88	88	97	736	438	119	259	66	158	123
91	91	100	754	446	123	267	68	164	127

Buoy Shackle (Type B)



Nominal Dia. d	D1	D2	L	W	N	R	B	S	T
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
38	60	56	375	262	113	29	188	80	53
40	62	58	384	266	118	30	188	83	56
42	63	59	394	268	125	32	188	85	59
44	66	62	401	274	130	33	188	88	62
46	69	64	410	278	136	35	188	90	64
48	72	67	429	294	141	36	200	92	67
50	75	70	440	300	148	38	200	95	70
52	78	73	460	316	13	39	213	98	73
54	81	76	472	322	161	41	213	101	76
56	84	78	491	336	165	42	225	104	78
58	87	81	503	342	172	44	225	108	81
60	90	84	513	348	177	45	225	111	84
62	93	87	525	354	184	47	225	115	87
64	96	90	556	380	189	48	250	119	90
66	99	92	566	384	195	50	250	122	92
68	102	95	576	390	200	51	250	125	95
70	105	98	586	396	207	53	250	127	98
72	108	101	596	402	212	54	250	130	101
74	111	104	607	408	219	56	250	133	104
76	113	106	615	412	223	57	250	137	106
78	116	109	625	418	230	59	250	140	109
80	118	111	635	422	236	60	250	144	112
82	120	113	645	426	243	62	250	149	115
85	123	116	657	432	251	64	250	153	119
88	128	119	671	438	259	66	250	158	123
91	131	123	685	446	267	68	250	164	127

Notes

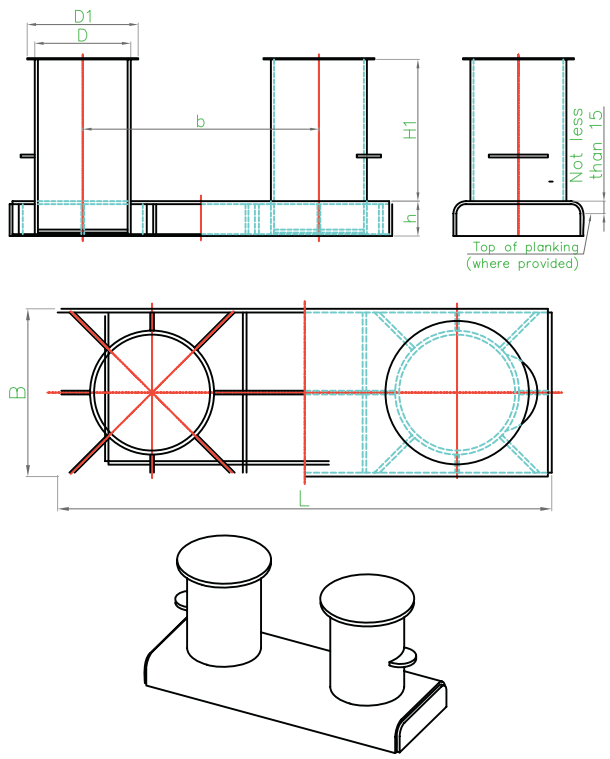


MORDEC™ Hull Fittings

MORDEC™ HULL FITTINGS

MORDEC designs & manufactures top quality Hull Fittings, Towing & Mooring Gears and Buoy Systems for shallow to deep sea moor or bottom mounted instrument structures. Most Hull Fittings produce in accordance to JIS & OCIMF Standards inclusive of test & third party certification upon requests.

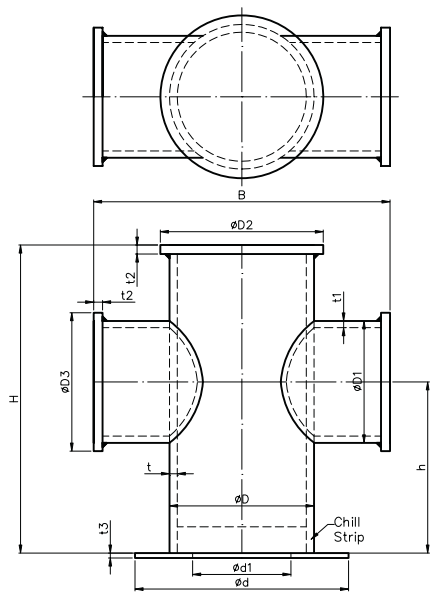
MDK-M2001 Double Bitt Bollards



Nominal diameter	Post				Bedplate		
	D	D1	H1	b	B	L	Min. h
100	114.3	145	150	250	165	445	50
125	139.8	180	190	315	195	540	60
160	165.2	210	250	400	225	670	70
200	216.3	270	300	500	290	860	85
250	267.4	330	380	630	360	1065	100
315	318.5	385	480	800	430	1300	125
355	355.6	425	530	890	480	1475	145
400	406.4	485	600	1000	550	1630	160
450	457.2	550	680	1130	620	1840	170
500	508.0	610	750	1250	690	2040	190
560	558.8	670	830	1380	750	2240	210
630	609.6	730	940	1570	820	2510	225
710	711.2	840	1050	1750	960	2840	260
800	812.8	940	1200	2000	1100	3240	295

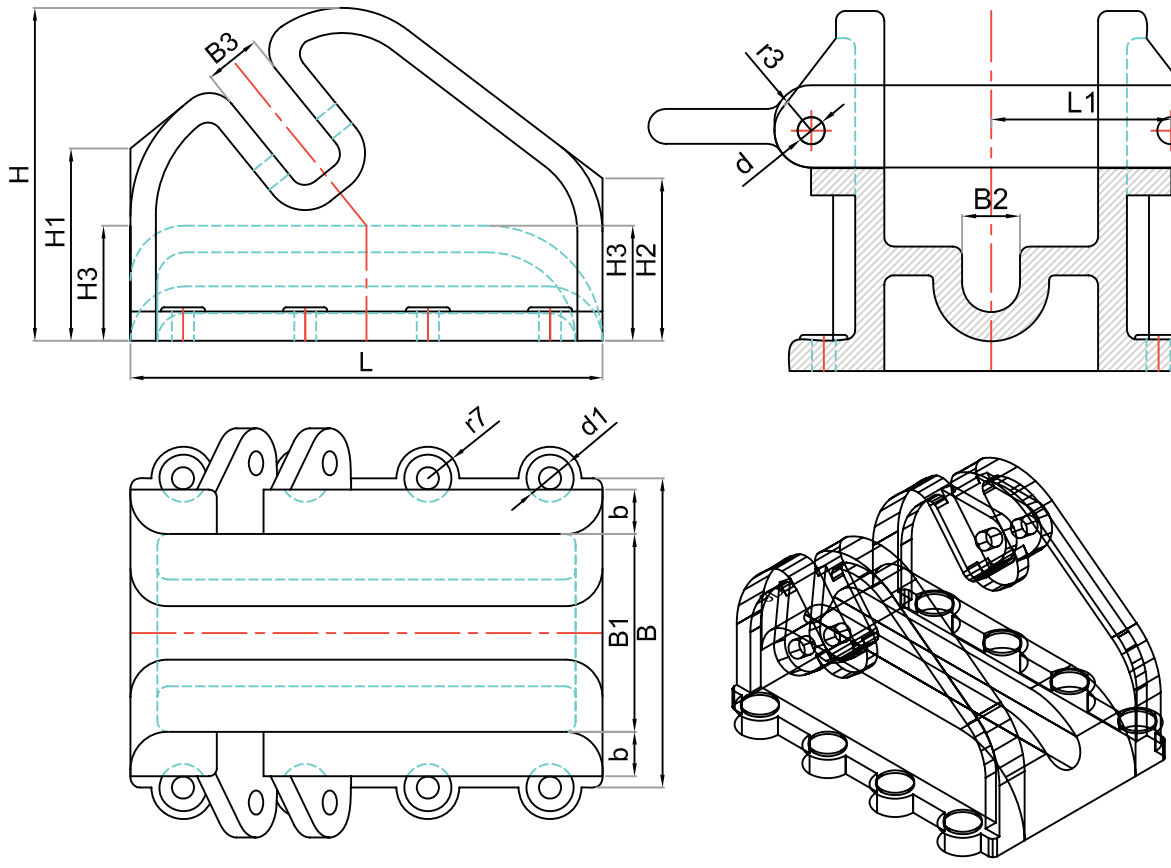
HULL FITTINGS

Cruciform Bollard



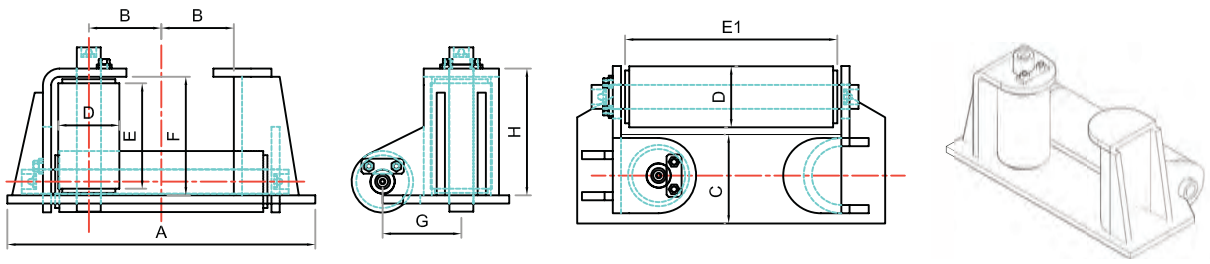
Nominal Diameter	H	h	B	D	D1	D2	d	d1	t	t1	Wire Rope	Chill Strip
150	480	280	460	168	141	206	240	120	11	9	16	25 X 4.5
200	560	320	520	219	168	256	280	140	12	11	22	25 X 4.5
250	640	360	610	273	219	308	340	170	15	13	28	25 X 4.5
300	680	380	660	323	273	360	400	200	17	15	34	25 X 4.5
350	720	420	720	355	273	400	440	240	19	15	38	25 X 4.5
400	760	460	760	406	355	440	500	280	21	17	42	25 X 4.5

MDK-M2002 Cast Iron Bar Type Chain Stopper



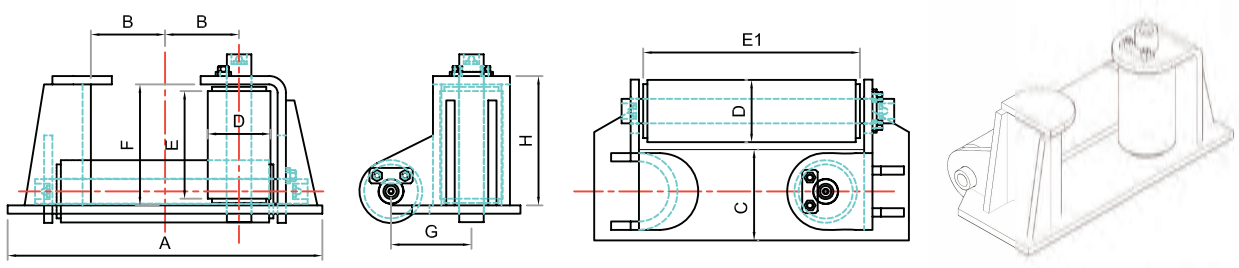
Cable Dia.	Body														
	B	B1	B3	H	H1	H2	H3	L	b	d	d1	L1	r3	r7	B2
17 - 19	195	112	38	190	107	85	62	270	29	14	42	100	20	28	29
20 - 22	215	129	40	216	121	100	72	310	32	16	42	113	23	28	33
23 - 25	240	147	43	241	136	112	82	345	36	18	42	128	26	28	38
26 - 28	265	163	46	270	153	125	92	385	39	20	49	140	28	32	43
30 - 32	305	186	52	305	174	145	104	435	44	23	56	160	32	37	49
34 - 36	340	208	58	342	194	162	118	490	48	26	63	177	36	41	55
38 - 40	370	230	64	378	215	180	130	540	53	29	63	195	39	41	61
42 - 44	405	252	70	412	235	200	142	590	57	31	70	212	43	46	66
46 - 48	440	273	77	450	269	218	155	640	62	34	77	231	47	51	72
50 - 52	470	294	83	491	282	235	170	695	67	37	70	248	50	46	78
54 - 56	495	315	90	522	299	255	182	745	71	39	77	265	54	51	84
58 - 60	530	336	96	564	327	275	195	795	76	42	84	283	58	55	90
62 - 64	565	357	101	600	346	290	208	850	80	45	90	300	61	60	96
66 - 68	590	377	107	635	367	310	220	900	85	48	90	317	65	60	102

MDK-M2004 Steel Plate Deck End Rollers



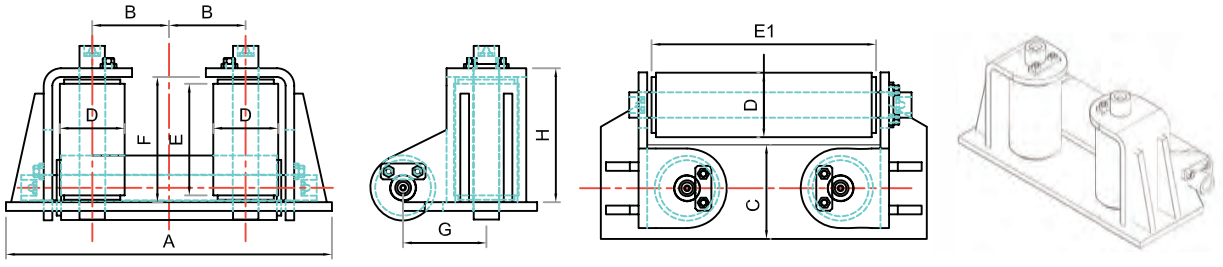
Type B1

Nominal Size	A	B	C	D	E	E1	F	G	H
340	340	80	97.5	76.3	134	244	140	90	152
450	450	106	129	101	177	323	185	119	201
600	600	141	172	135	236	431	247	159	268
750	750	176	215	168	296	538	309	199	335



Type B2

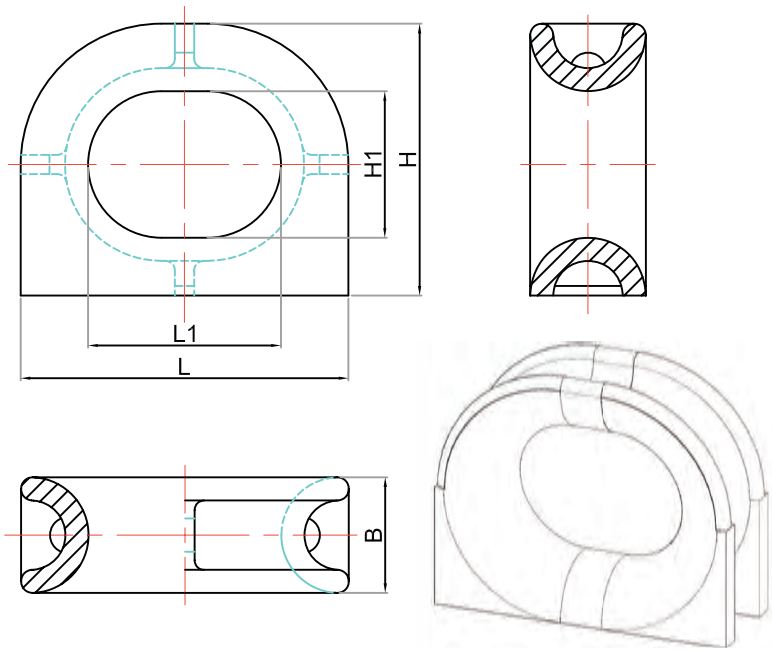
Nominal Size	A	B	C	D	E	E1	F	G	H
340	340	80	97.5	76.3	134	244	140	90	152
450	450	106	129	101	177	323	185	119	201
600	600	141	172	135	236	431	247	159	268
750	750	176	215	168	296	538	309	199	335



Three Rollers

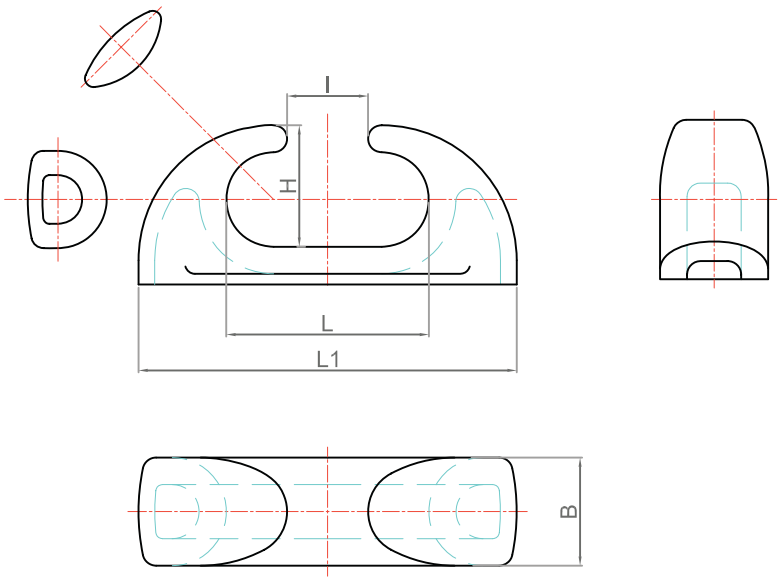
Nominal Size	A	B	C	D	E	E1	F	G	H
340	340	80	97.5	76.3	134	244	140	90	152
450	450	106	129	101	177	323	185	119	201
600	600	141	172	135	236	431	247	159	268
750	750	176	215	168	296	538	309	199	335

MDK-M2005 Closed Chock



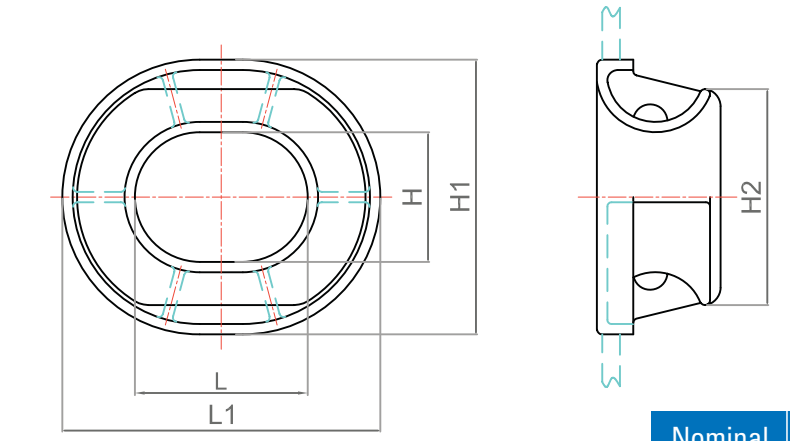
Nominal Size.	B	H	H1	L	L1
100	60	141	76	170	100
150	90	205	110	250	150
200	120	150	280	340	200
250	160	372	200	434	250
300	200	464	250	528	300
350	220	485	250	600	350
400	240	506	250	672	400
450	260	528	250	746	450
500	280	550	250	820	500

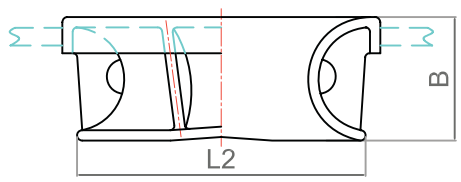
MDK-M2006 Open Chock



Nominal Diameter	L	L1	I	H	B
150	150	280	60	90	80
200	200	380	84	116	110
250	250	460	114	136	130
300	300	540	140	160	150
350	350	620	170	180	170
400	400	700	200	200	200

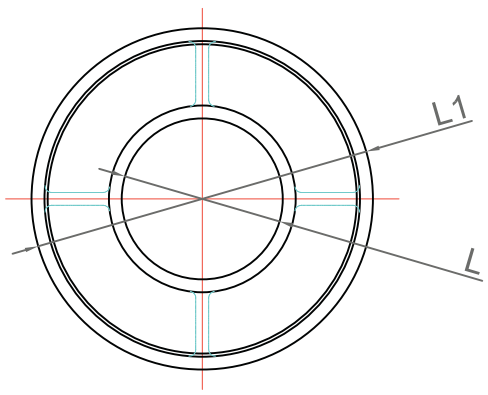
MDK-M2007 Mooring Pipe (Type A)

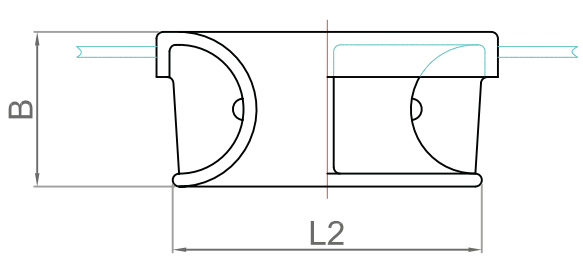




Nominal Diameter	L	L1	L2	H	H1	H2	B
150	150	300	270	110	260	202	129
200	200	368	334	150	318	250	143
250	250	430	394	200	380	308	155
300	300	500	460	250	450	372	169
350	350	560	518	250	460	378	179
400	400	632	586	250	482	394	195
450	450	700	650	250	500	406	209
500	500	760	708	250	510	412	219

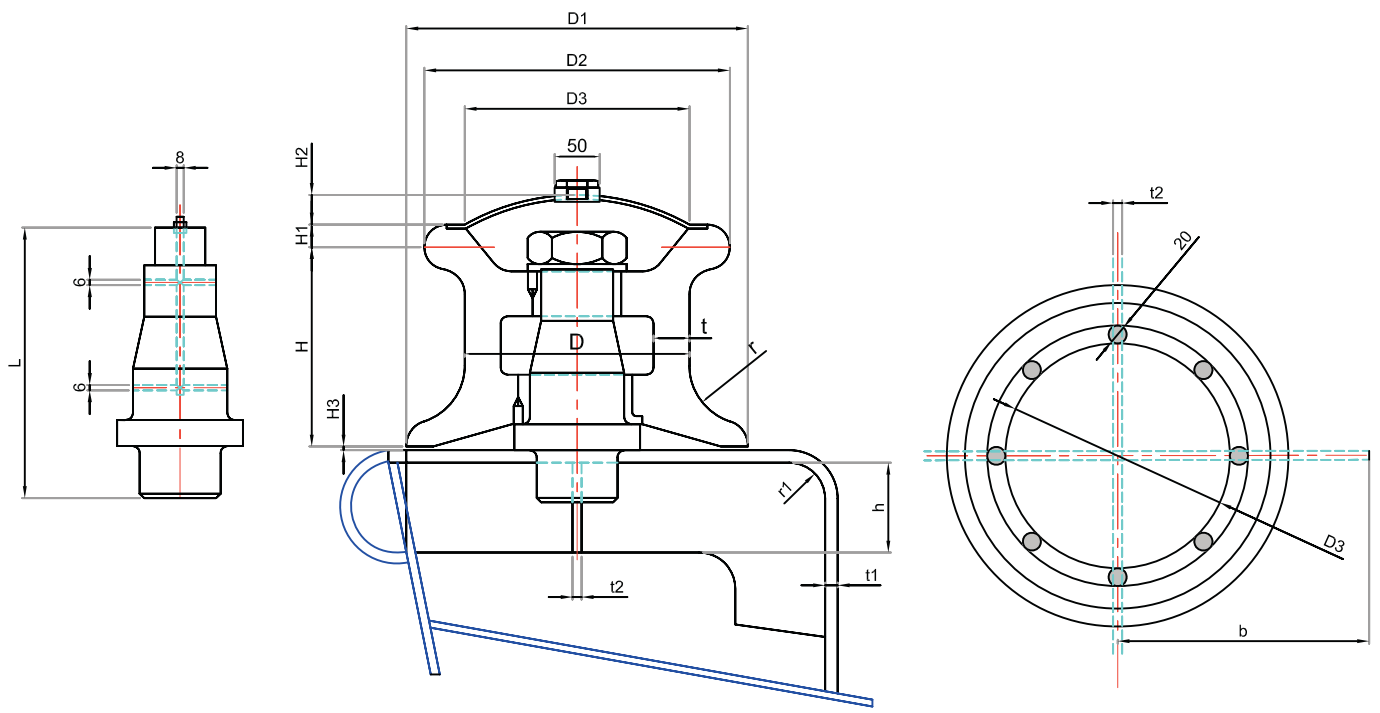
MDK-M2007 Mooring Pipe (Type B)





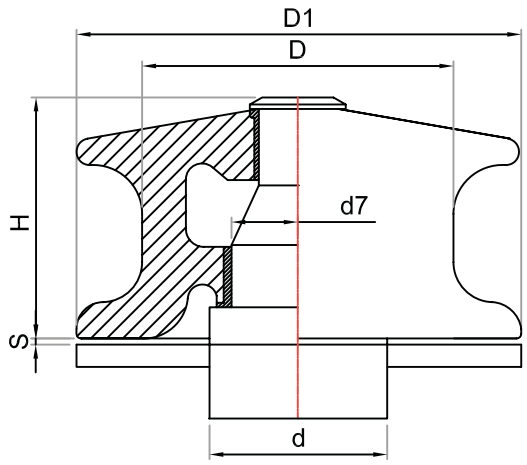
Nominal Diameter	L	L1	L2	B
150	150	318	288	144
200	200	380	346	155
250	250	450	414	169
300	300	510	470	179

MDK-M2014 Fairlead Roller (Open Type)



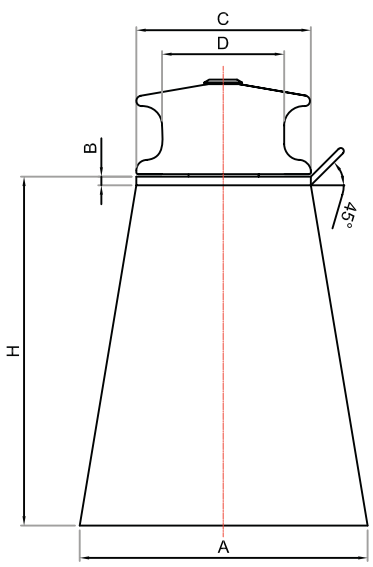
Nominal Diameter	Roller									Base				Cover & Axle	
	D	D1	D2	D3	H	H1	H3	t	r	b	h	t1	r1	H2	L
150	150	240	220	140	150	20	3	30	45	190	75	12	40	25	206
200	200	310	280	190	185	24	3	35	55	230	85	14	40	26	254
250	250	380	340	250	220	29	4	40	65	265	100	14	40	33	301
300	300	440	400	300	240	30	4	45	75	320	100	16	60	35	331
350	350	500	455	350	260	33	4	50	85	350	100	18	60	37	359
400	400	560	520	410	280	36	5	55	95	380	100	20	60	39	391

MDK-M2014 Fairlead Rollers (EU Type)



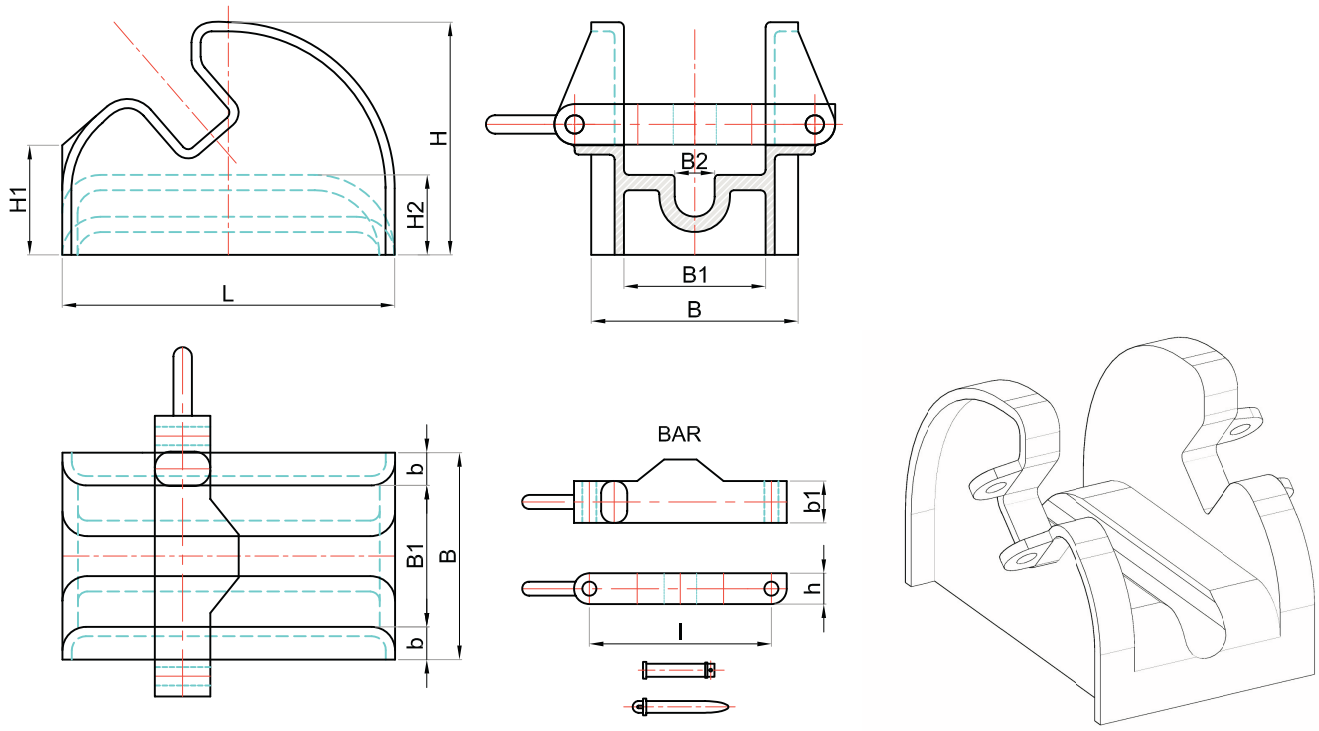
Nominal Size D	D1	d	d7	H	S	Mass KG	Breaking Load Ton	Dia. Of Mooring Line Reference			
								Wire Rope 6X24	Wire Rope 6X37	P.P Rope	Hemp Rope
150	240	90	79	154	5	25	13	17	15	32	45
200	310	115	99	186	5	50	21	22	20	40	55
250	380	135	119	230	6	92	28	24	24	45	65
300	440	155	129	255	7	127	42	30	28	50	70
350	500	175	149	271	7	168	51	38	34	55	75
400	550	195	159	307	7	252	74	42	40	65	80
450	630	210	179	316	7	310	90	44	42	80	-

MDK-M2014 Fairlead Rollers (EU Type) With Conical Base



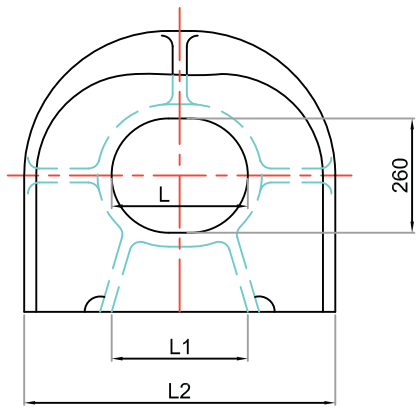
Roller Dia. D	A	B	C	H
350	825	25	500	1000
400	1020	35	560	1000
450	1020	35	630	1000
500	1120	40	710	1000
560	1180	40	800	1000

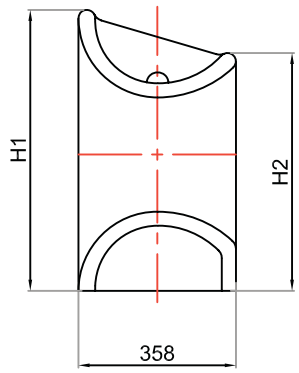
MDK-M2015 Cast Steel Bar Type Chain Stopper

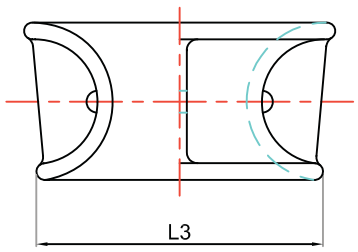


Nominal No.	Body								Bar		
	B	B1	B2	H	H1	H2	b	L	l	h	b1
40	336	230	96	378	178	130	53	540	390	66	90
44	366	252	106	412	192	142	57	590	424	66	100
48	397	273	118	450	213	155	62	640	460	66	110
52	428	294	126	491	232	170	67	695	494	68	118
56	457	315	134	528	250	182	71	745	530	70	125
60	488	336	142	564	270	195	76	795	564	76	132
64	517	357	150	600	280	208	80	850	600	80	140
68	547	377	160	635	296	220	85	900	636	84	150
73	582	402	170	675	317	233	90	960	678	90	160
78	617	427	180	715	338	245	95	1020	720	96	170

MDK-M2017 Panama Chock (Type AC)



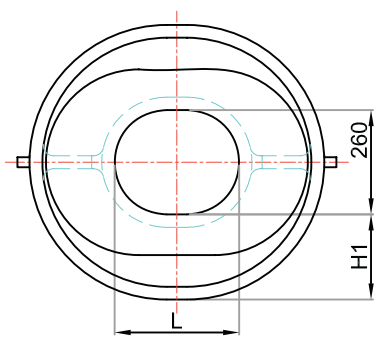


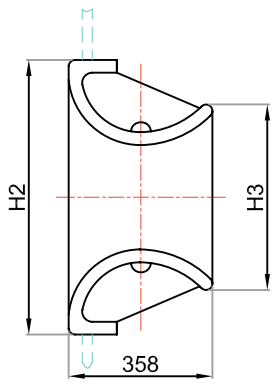


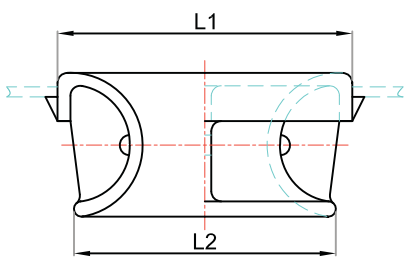
Nominal Size	L	L1	L2	L3	H1	H2
310	310	310	708	652	639	541
360	360	360	760	704	640	542
400	400	400	804	750	642	545
450	450	450	856	802	643	547
500	500	500	908	854	644	549

HULL FITTINGS

MDK-M2017 Panama Chock (Type BC)

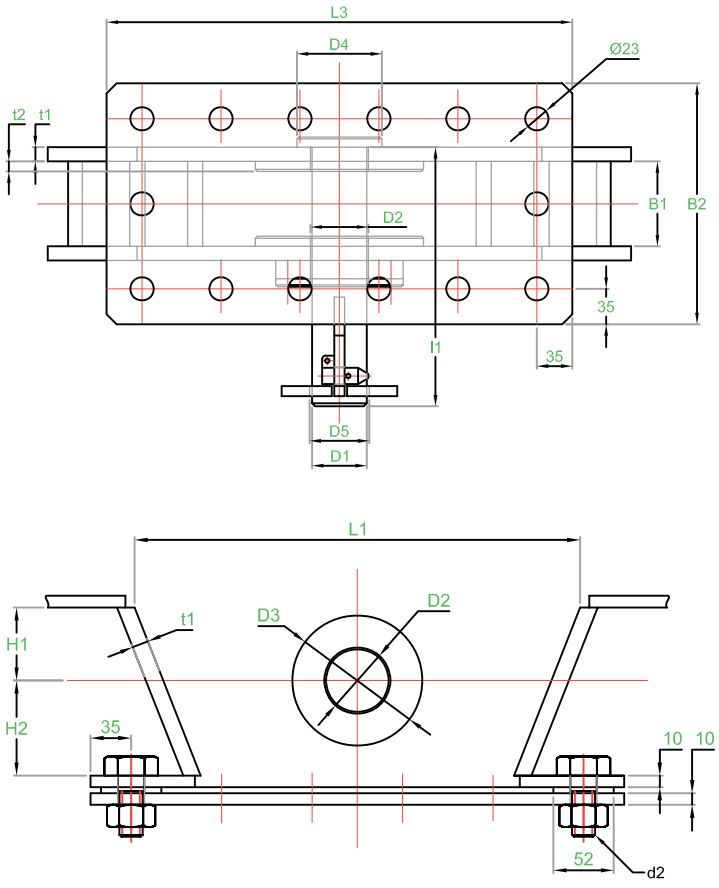






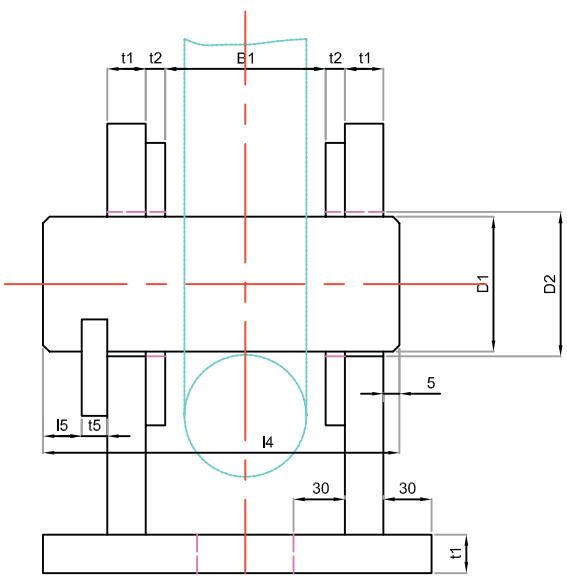
Nominal Size	L	L1	L2	H1	H2	H3
310	310	734	652	212	684	462
360	360	788	704	214	688	464
400	400	832	750	216	692	470
450	450	886	802	218	696	474
500	500	940	854	220	700	478

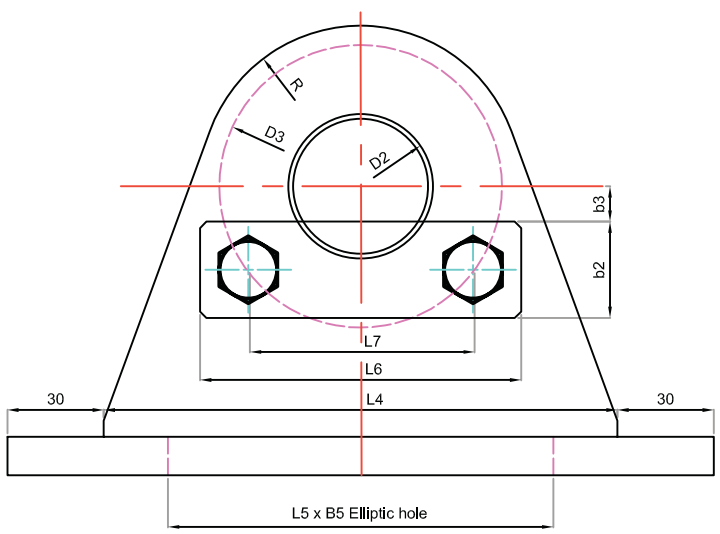
MDK-M2025 Chain Clench for Chain Locker



Nominal No.	Nominal dia. of applicable chain	Body and cover											Stopper and Pin			Size of screw	Calculated mass
		L1	L3	B1	B2	H1	H2	D2	D3	D4	t1	t2	D5	D1	l1	d2	kg
52	50-52	384	460	64	238	63	82	57	112	84	14	10	59	54	256	M10	40.5
56	54-56	420	486	68	246	69	88	61	120	88	14	12	63	58	272	M10	48.0
60	58-60	448	504	72	254	74	94	65	128	92	14	14	67	62	288	M10	53.9
64	62-64	478	524	78	264	80	80	69	136	96	14	16	71	66	308	M10	60.0
68	66-68	504	542	82	272	84	84	73	144	100	16	16	75	70	322	M10	70.8
73	70-73	540	570	88	282	87	87	78	154	104	16	18	80	75	348	M12	81.4
78	76-78	576	594	94	292	95	95	83	164	109	16	22	85	80	368	M12	92.8
84	81-84	624	628	100	302	102	102	88	174	115	16	22	90	85	388	M12	106
90	87-90	670	660	106	316	110	110	93	184	120	18	22	95	90	414	M12	128
95	92-95	708	686	112	330	118	118	98	194	125	18	22	100	95	442	M12	146
102	98-102	762	724	120	346	128	128	103	206	131	22	28	105	102	478	M16	188
111	105-111	828	770	130	364	139	139	113	224	140	24	28	115	111	512	M16	231
120	114-120	892	810	140	386	150	150	123	242	148	24	28	125	120	556	M16	274

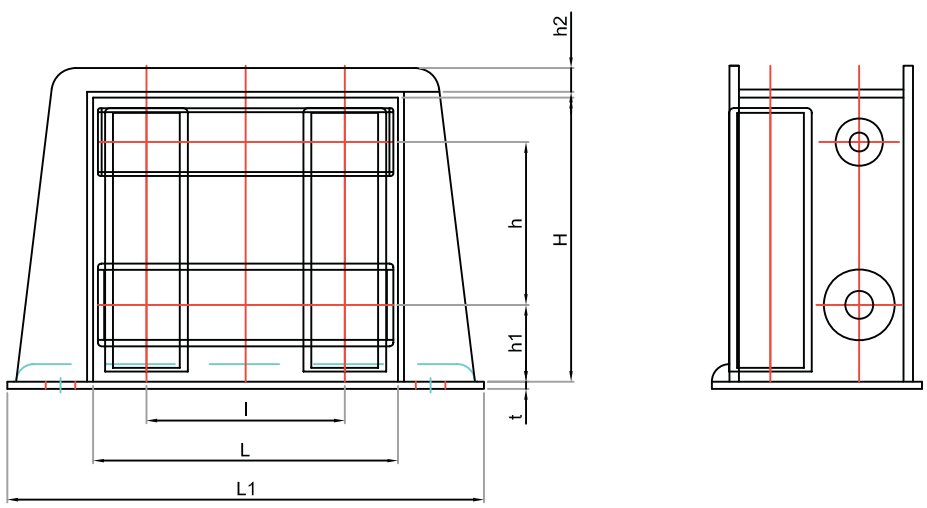
MDK-M2025 Chain Clenches (Type B)

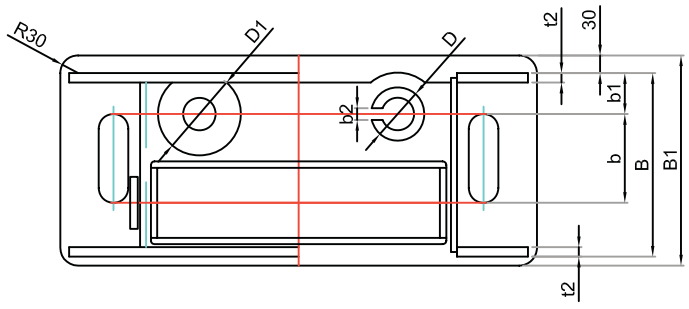




Nominal No.	Nominal dia. of applicable chain	Body										Pin			Check piece for pin						Calculated mass (kg)
		L4	L5	B1	B5	H4	D2	D3	R	t1	t2	D1	l4	l5	L6	L7	b2	b3	t5	t6	
40	38-40	160	0	50	0	78	45	88	50	12	6	42	111	12	100	70	30	11	8	14	5.9
44	42-44	180	0	54	0	85	49	96	54	14	6	46	119	12	100	70	30	13	8	14	8.0
48	46-48	195	0	58	0	92	53	104	59	14	8	50	127	12	100	70	30	15	8	14	9.8
52	50-52	210	100	64	24	100	57	112	65	14	10	54	137	12	100	70	30	17	8	14	11.1
56	54-56	225	115	68	32	106	61	120	71	14	12	58	145	12	100	70	30	19	8	14	14.0
60	58-60	240	130	72	40	114	65	128	75	14	14	62	153	12	100	70	30	21	8	14	16.0
64	62-64	255	145	78	50	122	69	136	79	14	16	66	168	15	130	90	40	18	10	18	18.1
68	66-68	270	150	82	54	130	73	144	85	16	16	70	176	15	130	90	40	20	10	18	23.1
73	70-73	290	170	88	64	138	78	154	90	16	18	75	186	15	130	90	40	22	10	18	26.5
78	76-78	310	190	94	74	148	83	164	95	16	20	80	196	15	130	90	40	25	10	18	30.8
84	81-84	330	210	100	84	158	88	174	100	16	22	85	206	15	130	90	40	28	10	18	35.3
90	87-90	350	230	106	94	170	93	184	107	18	24	90	220	15	130	90	40	30	10	18	42.8
95	92-95	380	250	112	108	180	98	194	112	18	28	95	234	15	130	90	40	33	10	18	50.7
102	98-102	410	270	120	116	192	103	206	120	22	28	100	255	18	180	130	50	31	12	22	66.8
111	105-111	440	300	130	130	208	113	224	131	24	30	110	273	18	180	130	50	35	12	22	84.0
120	114-120	470	330	140	152	224	123	242	140	24	36	120	295	18	180	130	50	39	12	22	102.0

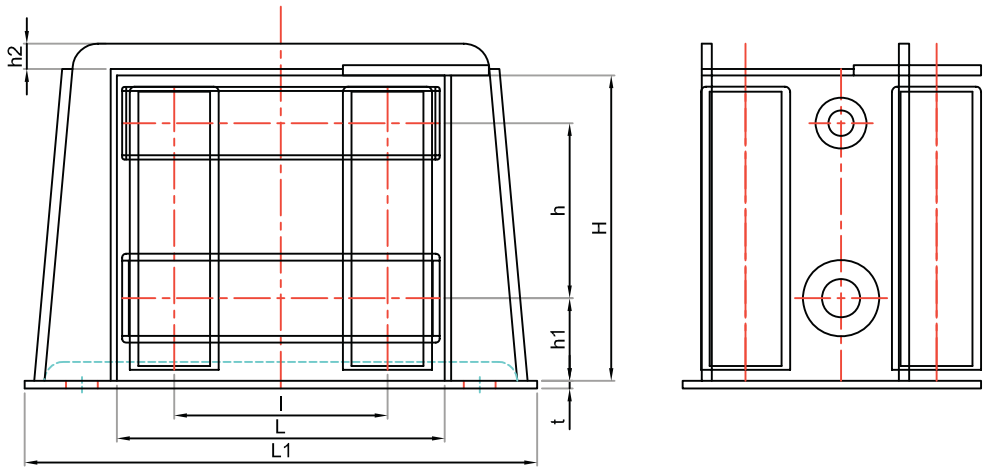
MDK-M2026 Fairleads With Horizontal Rollers (Type A)

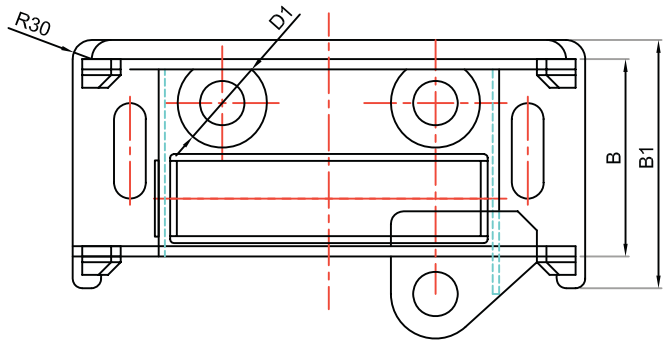




Nominal Diameter	B	B1	b	b1	b2	D	D1	H	h	h1	h2	L	L1	l	t	t2
140	310	355	150	69	20	90	140	480	275	130	40	515	805	335	12	16
160	360	405	175	82	22	110	160	515	290	145	45	570	890	365	14	18
180	410	455	200	95	24	135	180	560	315	155	50	620	960	390	16	20
200	460	505	225	108	26	160	200	590	330	170	60	675	1049	420	18	22
260	565	610	280	133	30	200	250	715	415	195	75	825	1303	520	20	26
315	670	715	330	159	34	240	300	870	520	220	90	980	1562	620	22	30

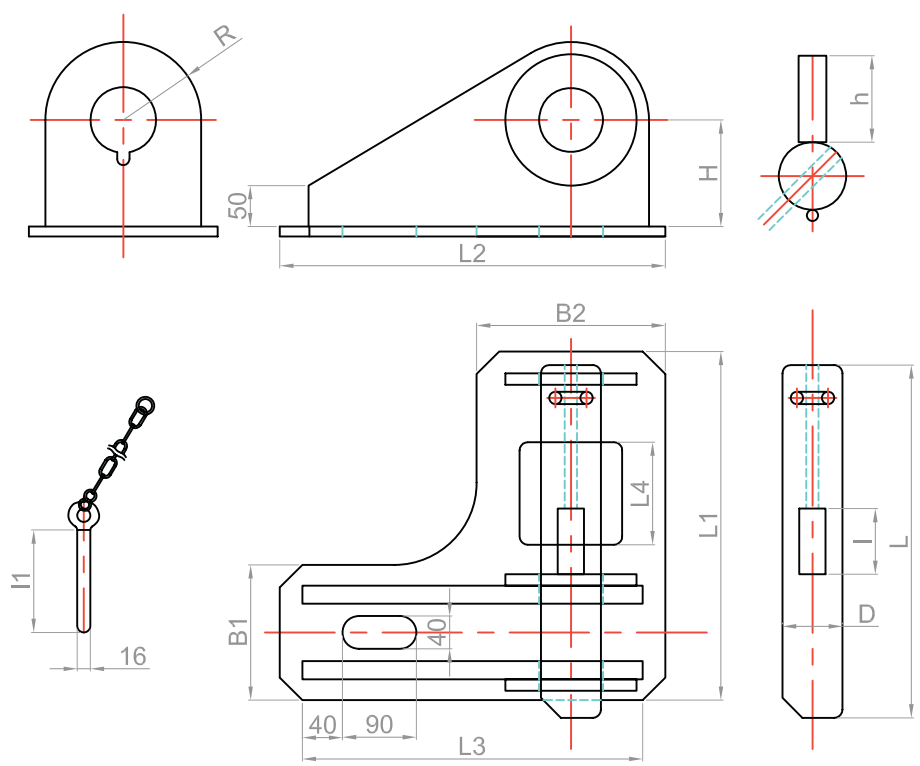
MDK-M2026 Universal Horizontal Rollers (Type BR & BL)





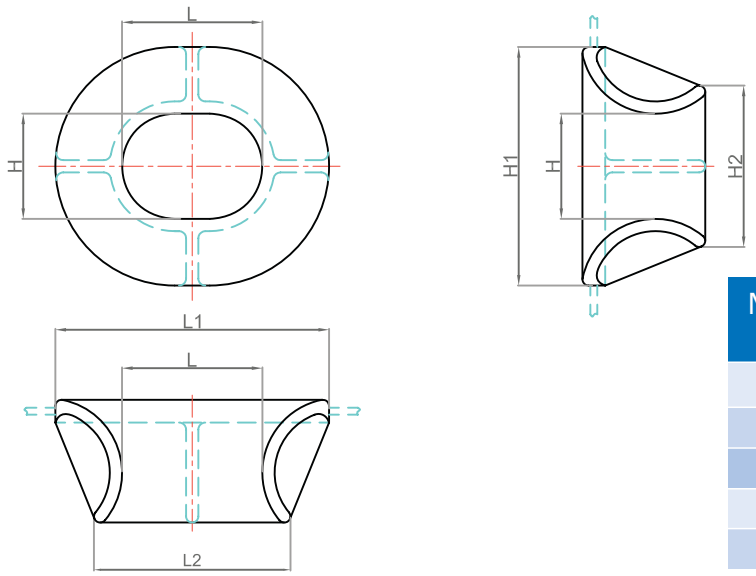
Nominal Dia.	B	B1	D1	H	h	h1	h2	L	L1	l	t	Open Size	Wire Rope Dia	SWL Ton	Mass kg
140	310	355	140	480	275	130	40	515	805	335	12	175X195	18	12	235
160	360	405	160	515	290	145	45	570	890	365	14	175X205	22.4	14	353
180	410	455	180	560	315	155	50	620	960	390	16	190X210	25	16	496
200	460	505	200	590	330	170	60	675	1049	420	18	195X220	28	25	648
260	565	610	250	715	415	195	75	825	1303	520	20	250X270	35	38	1176
315	670	715	300	870	520	220	90	980	1562	620	22	320X320	42	45	2050

MDK-M2029 Fabricated Smit Brackets



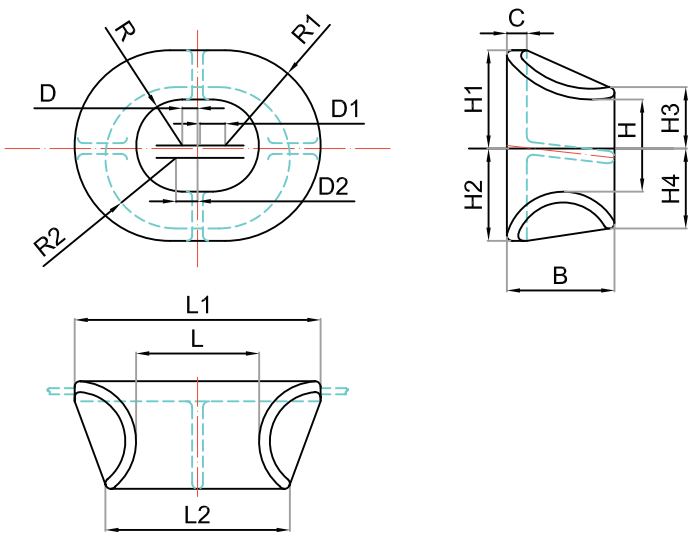
Nominal No.	Base Plate					Main Eye Frame			Pin				
	L1	L2	L4	B1	B2	L3	H	R	L	I	D	H	I1
52	425	470	95	165	230	415	130	95	430		73	100	125
56	450	500	100	180	250	450	140	100	455		78	110	130
60	475	540	115	195	260	480	150	105	475		84	120	140
64	500	580	120	205	270	510	160	110	505		90	130	145
68	530	610	125	220	300	545	170	120	525	80	95	140	155
73	550	660	130	230	310	585	180	130	550		103	150	165
78	600	700	140	260	340	625	195	135	590		110	160	175
84	620	760	150	270	360	670	210	145	615		120	170	185
90	695	810	160	295	390	720	225	160	685		130	180	200
95	725	860	170	305	410	760	235	170	720		135	190	205
102	765	920	185	330	440	815	255	180	745	100	145	205	220
111	805	1000	200	350	470	890	275	190	790		155	220	230
120	850	1080	220	370	510	960	300	205	845		170	240	250
132	900	1200	240	390	560	1050	330	225	895		185	260	270

MDK-M2030 Single Point Mooring Pipe (Type A)



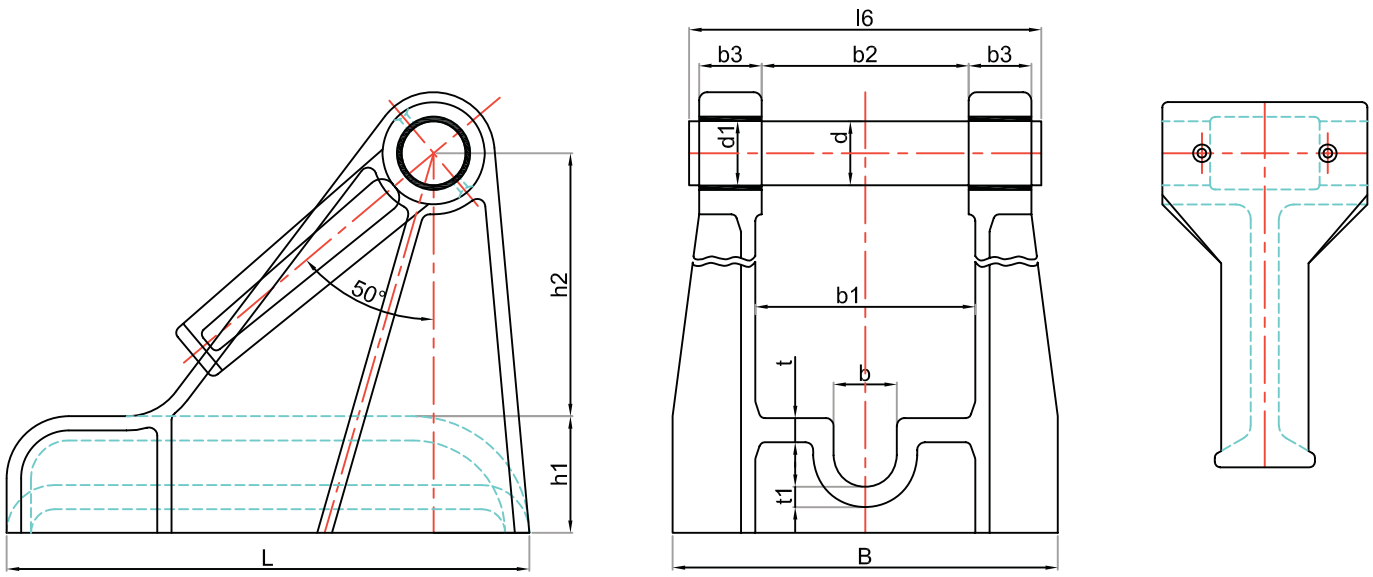
Nominal Size	L	L1	L2	H	H1	H2
400	400	780	570	300	680	460
500	500	940	690	400	840	580
600	600	1100	810	450	950	655
700	700	1260	930	500	1060	730
800	800	1420	1050	600	1220	850

MDK-M2030 Single Point Mooring Pipe (Type B)



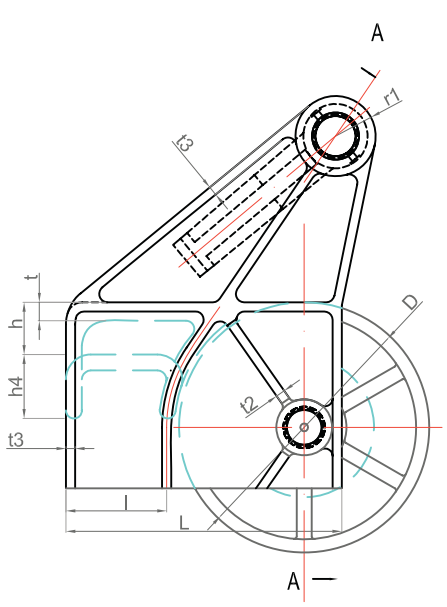
Nominal Size	L	L1	L2	H	H1	H2	H4	B	R	R1	R2	C	D	D1	D2
400	400	800	600	300	320	300	260	350	150	310	230	65	50	90	70
500	500	960	720	400	370	350	310	400	200	360	280	70	50	120	80
600	600	1120	840	450	420	400	360	450	225	410	330	75	75	150	90
700	700	1280	960	500	470	450	410	500	250	460	380	80	100	180	100
800	800	1440	1080	600	520	500	460	550	300	510	430	85	100	210	110

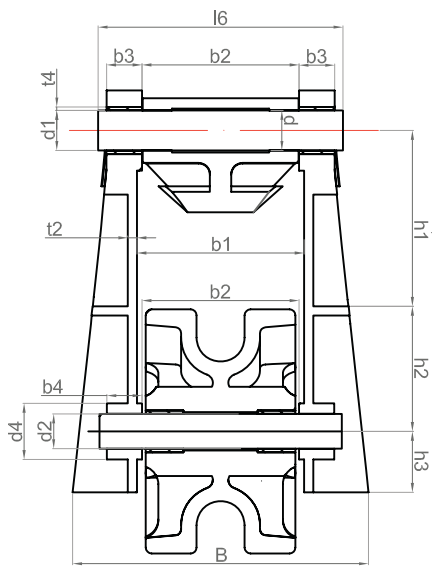
MDK-M2031 Cast Steel Pawl Type Chain Stopper (Grade 3)



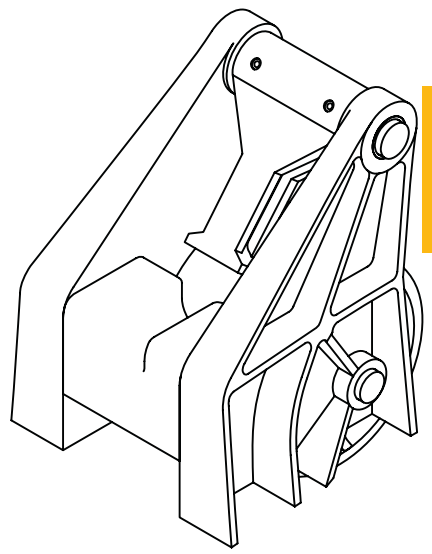
Nominal No.	B	b	b1	b2	b3	L	h1	h2	t	t1	d1	d	l6	Mass kg
60	600	89	334	314	96	780	182	394	36	30	97	96	540	495
64	630	95	354	334	102	835	191	421	38	32	103	102	570	582
68	660	101	374	352	108	885	200	446	41	34	109	108	600	701
73	700	115	400	376	114	950	212	478	44	37	117	116	640	846
78	750	123	425	399	121	1015	222	511	47	39	124	123	680	1014
84	800	134	454	426	130	1095	235	550	50	42	132	131	720	1268
90	850	143	484	454	139	1170	248	588	54	45	140	139	770	1498
95	900	151	508	476	146	1235	260	620	57	48	147	146	810	1769
102	950	161	540	506	155	1350	276	665	61	51	157	156	860	2277
107	1000	170	569	533	162	1400	289	703	65	54	164	163	900	2664
114	1050	180	598	560	171	1480	302	742	68	57	173	172	940	3054
122	1120	191	630	592	182	1585	318	790	73	61	183	182	995	3660

MDK-M2032 Rollered Pawl Type Chain Stopper



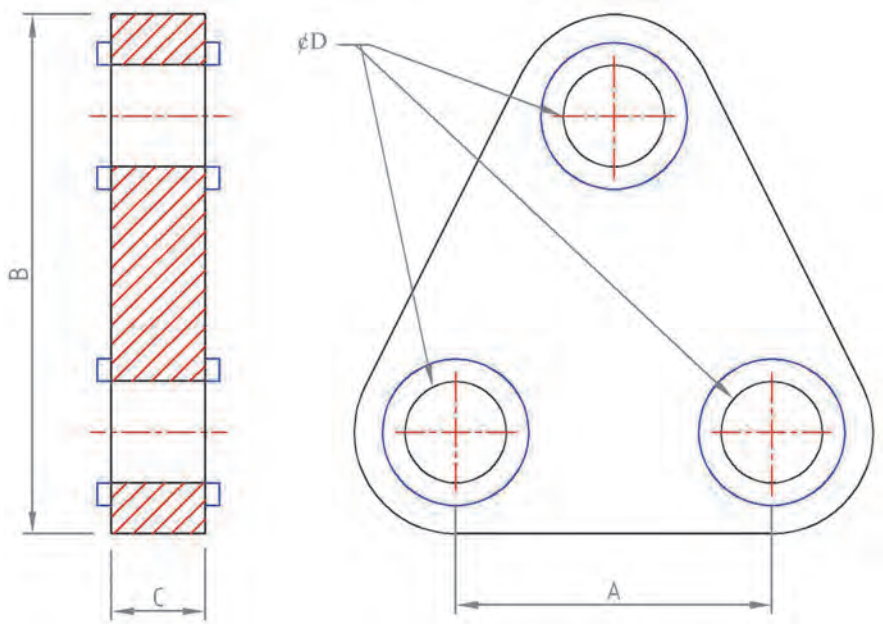


SECTION A-A



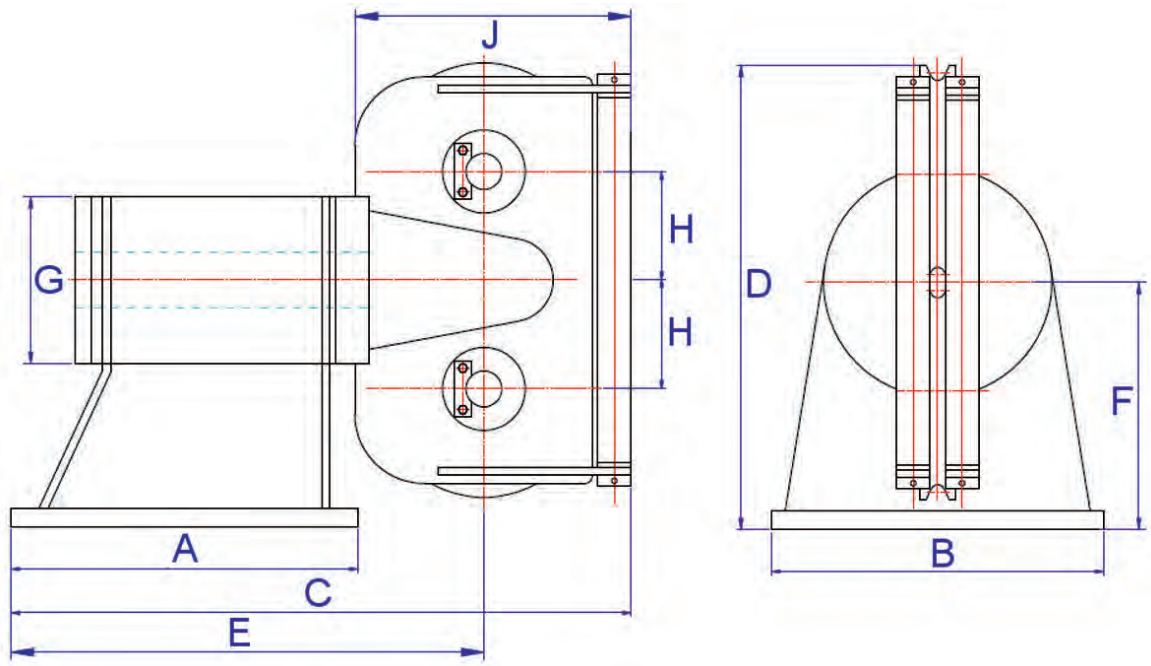
Nominal No.	Side Frame of Body																	Roller	Axle (u)		Axle	Bush	
	B	b1	b2	b3	b4	L	l	l3	d4	h	h1	h2	h3	h4	R1	t	t2	t3	D	d	l6	d2	t4	d1
73	798	400	376	85	72	660	241	75	134	125	405	292	146	153	96	44	22		584	96	586	83	8	97
78	858	425	399	90	77	700	254	79	142	133	433	312	156	164	101	47	23		624	102	619	88	8	103
84	918	454	426	97	84	760	279	85	153	143	466	336	164	176	107	50	25		672	110	660	95	8	111
90	988	484	454	105	91	810	295	90	165	153	498	360	180	189	112	54	27		720	116	704	102	8	117
95	1035	508	476	110	97	860	317	94	172	162	525	380	190	200	119	57	28		760	122	735	107	10	123
102	1104	540	506	118	105	920	337	100	185	175	563	408	204	214	126	61	30		816	130	782	115	10	131
107	1173	569	533	125	113	981	364	105	197	185	595	432	216	226	131	65	32		864	136	823	122	10	137
114	1239	598	560	133	120	1026	376	110	208	195	628	456	228	240	136	68	34		912	143	866	129	10	144
120	1305	626	586	140	126	1080	395	115	217	205	660	480	243	252	142	72	35		960	150	906	135	10	151

MDK-M2070 Triangle Delta Plate



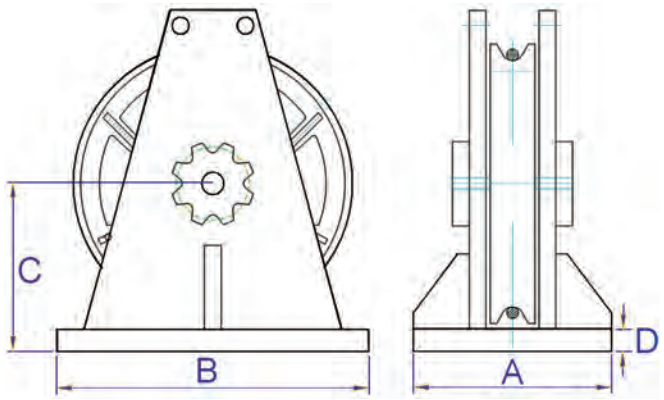
Ø D (mm)	A (mm)	B (mm)	C (mm)	Tension Proof load	Weight
22	53	113	18	64	1
25	59	133	22	93	1, 8
28	65	151	28	128	12, 8
32	71	165	30	167	3, 6
35	79	189	35	186	5
40	85	196	35	235	6, 4
40	96	223	45	265	8, 2
45	104	231	45	334	11
55	120	275	60	491	20, 4
60	132	311	75	687	38, 4
70	150	329	80	834	40
75	165	370	90	1079	57
85	185	421	110	1668	83
100	220	502	130	2354	163
110	234	556	135	2943	200

MDK-M2081 Anchor Fairleader



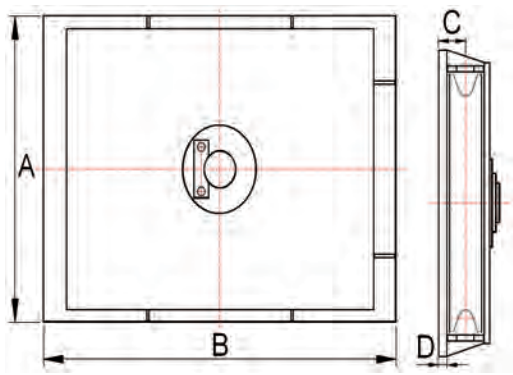
Model No.	Rope Dia mm	Weight kg	Main Dimensions (mm)								
			A	B	C	D	E	F	G	H	J
MEP-25	25	380	470	470	725	540	555	305	320	127	305
MEP-32	32	500	620	620	920	655	720	385	360	156	370
MEP-38	38	1800	720	1000	1288	942	955	540	460	222	333
MEP-44	44	2100	1000	1000	1600	1060	1200	605	508	260	580
MEP-50	50	2850	1250	1120	1786	1308	1445	700	560	306	666
MEP-64	64	4200	1270	1270	2250	1560	1750	795	700	383	1000

MDK-M2082 Vertical Lead Sheave



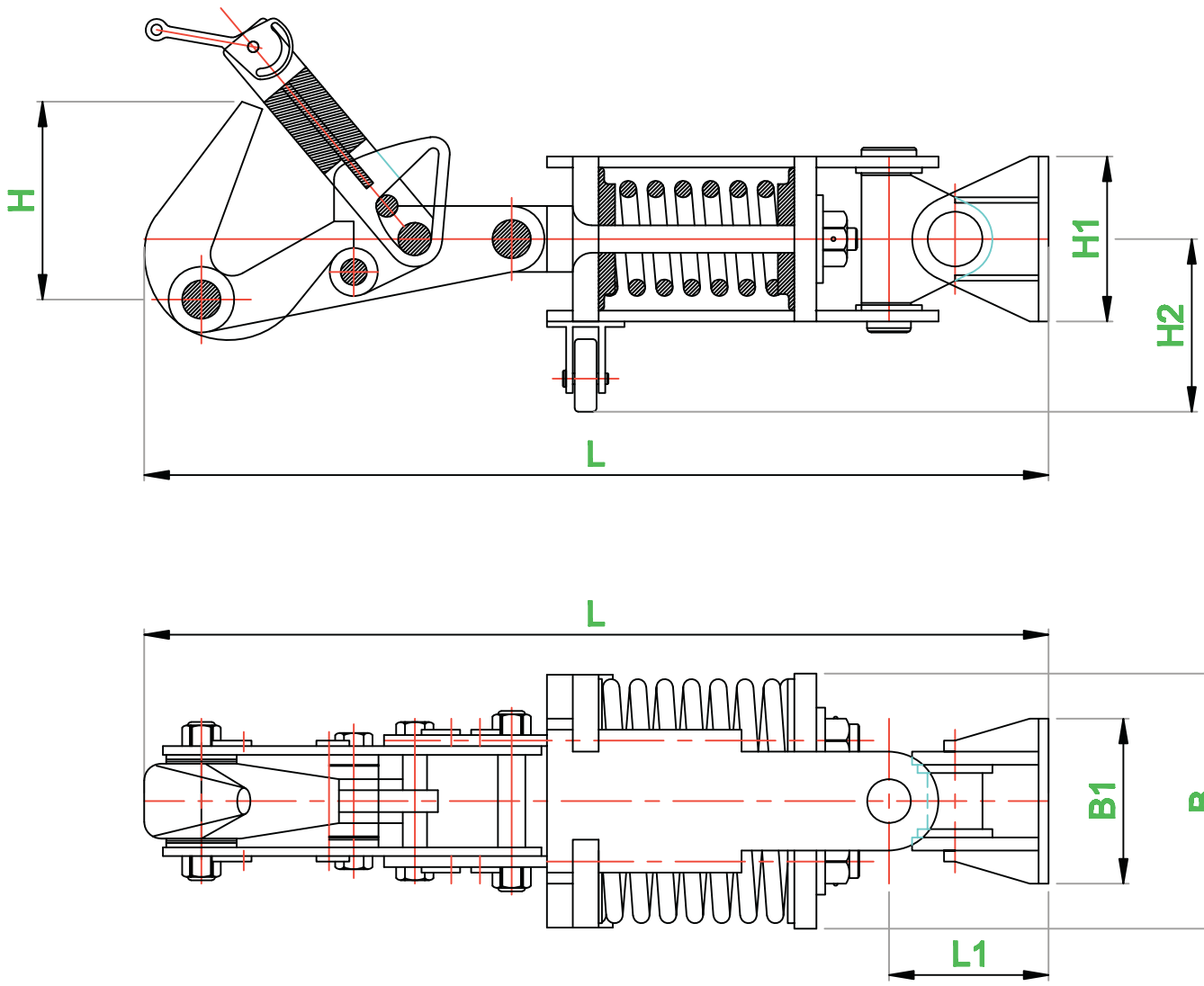
Sheave Size	A	B	C	D	Pin Size Dia.	Approx Tread Dia.	Suggested Wire Line Size Dia.	Avail Wire Line Size	
								Min. Dia.	Max. Dia.
18	12	20	11	1.5	4.25	14.69	1.00	1.00	1.00
24	15	26	14	1.5	4.25	20.19	1.25	1.00	1.25
26	16	28	15	1.5	4.25	23.50	1.50	1.00	1.50
34	20	36	19.5	2	6.50	30.50	1.75	1.50	1.75
40	23	42	22.5	2	8.00	35.63	2.00	1.25	2.00
42	28	52	25.5	2.5	11.03	35.50	2.50	2.50	2.50

MDK-M2083 Horizontal Lead Sheave



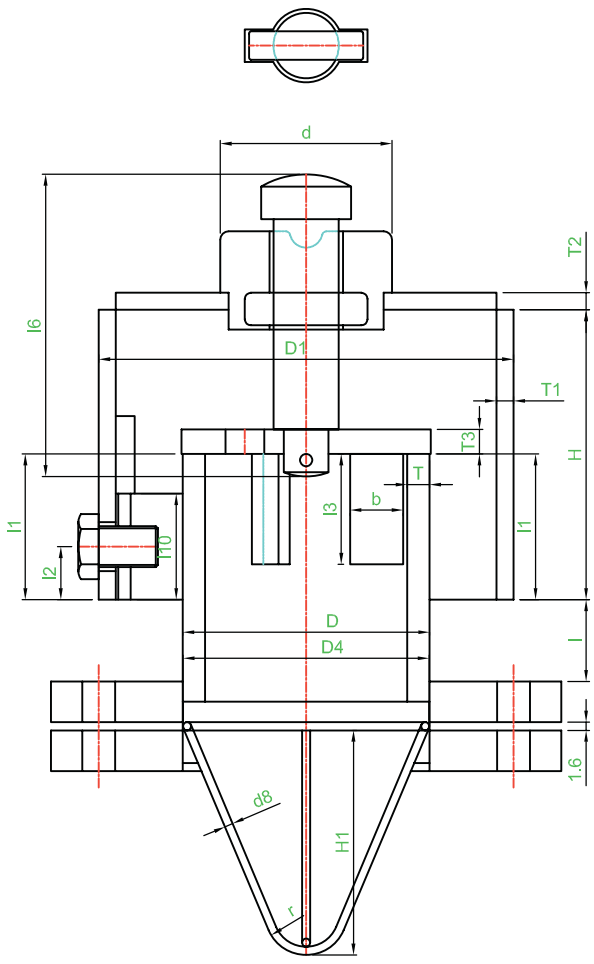
Sheave Size	A	B	C	D	Pin Size Dia.	Suggested Wire Line Size Dia.	Avail Wire Line Size	
							Min. Dia.	Max. Dia.
26	33	33	3.5	1.5	4.25	1.00	1.00	1.00
30	37	37	3.5	1.5	4.25	1.25	1.00	1.25
36	43	43	3.5	1.5	4.25	1.50	1.13	1.50
42	50	50	4.38	2	6.50	1.75	1.25	1.75
48	55	55	4.63	2	10.50	2.00	1.75	2.00
60	68	68	5.75	2	11.03	2.50	1.25	2.50

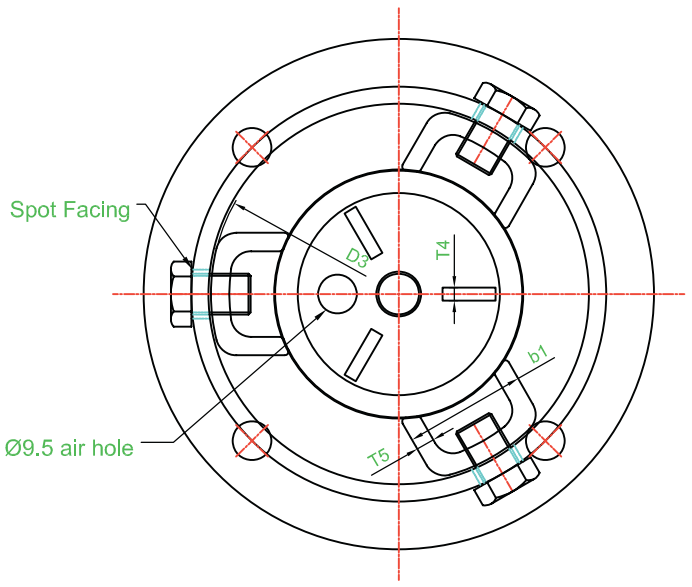
MDK-M2091 Spring Type Towing Hook



SWL (Ton)	L	L1	B	B1	H	H1	H2	R
2	822	145	232	150	180	150	157	309
3	916	142	260	130	190	130	141	345
5	1180	184	330	208	270	228	189	445
8	1141	196	342	200	284	160	192	563
12	1710	253	410	260	376	250	256	684
16	1936	270	458	320	400	210	261	741
20	2212	310	524	292	470	280	299	860
25	2448	324	560	310	490	300	310	952
30	1960	282	544	300	418	280	320	754
35	2128	315	590	342	430	280	332	828
40	2259	330	640	320	472	300	355	880
45	2395	330	640	400	464	300	369	943

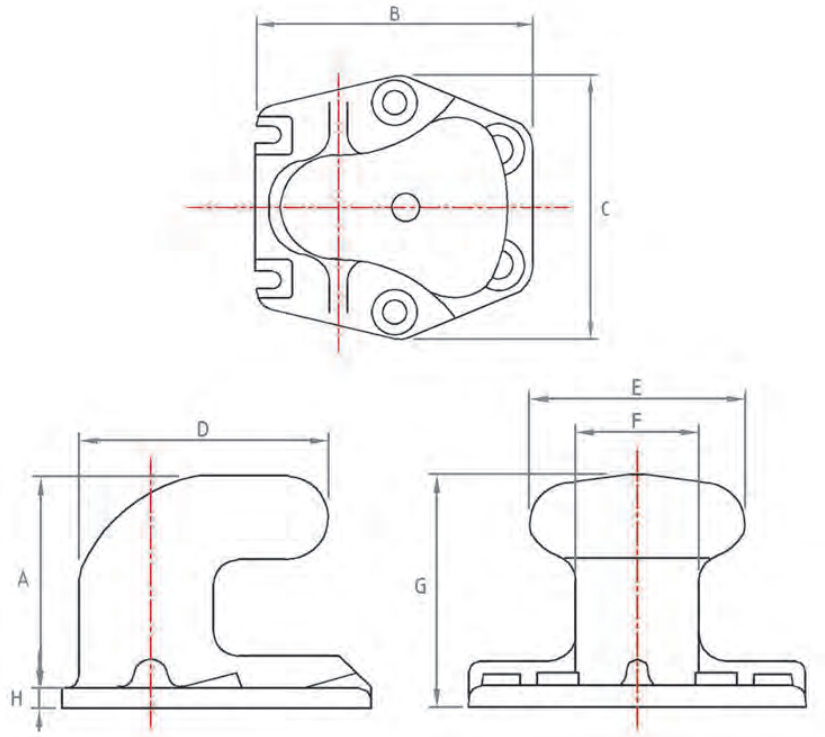
MDK-M3023 Bonnet Type Air Pipe Head





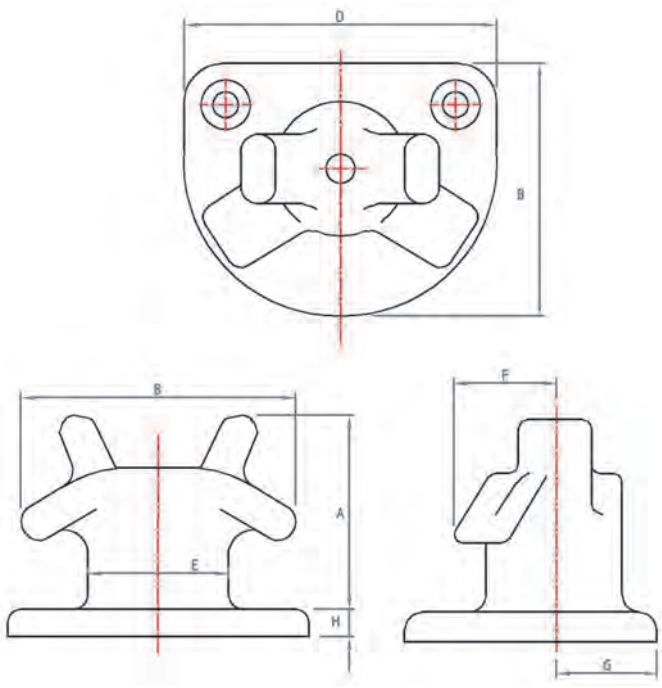
Nominal Dia.	Body				Bonnet					Valve					Stem		Support				Frame of Wire gauze				Calculated Mass
	D	l	l1	T	D1	H	l2	T1	T2	b	D2	l3	T3	T4	d	l6	b1	D3	l10	T5	D4	d8	H1	r	(kg)
50	60.5	20	36	5.5	101.6	71	13	4.2	4.5	13	61	27	6	3.2	42	74	30	92	26	4.5	60	2	55	10	5.25
65	76.3	20	46	5.2	139.8	91	13	4.5	4.5	13	77	32	6	3.2	42	84	30	129	26	4.5	76	2	70	10	6.12
80	89.1	20	54	5.5	139.8	107	13	4.5	4.5	15	90	36	6	3.2	42	92	30	129	26	4.5	89	2	80	10	7.40
90	101.6	25	62	5.7	165.2	123	15	5.0	4.5	15	102	42	6	3.2	42	100	40	153	30	4.5	102	2	90	10	9.81
100	114.3	25	70	6.0	190.7	139	15	5.3	4.5	20	115	46	6	3.2	44	109.5	40	178	30	4.5	114	2	100	10	12.10
125	139.8	30	86	6.6	216.3	172	15	5.8	6.0	20	140	54	8	3.2	44	128	40	203	30	4.5	140	2.9	120	15	18.40
150	165.2	40	104	5.0	267.4	208	18	6.6	6.0	20	166	63	8	4.5	44	146	50	252	36	6	166	2.9	145	15	26.70
200	216.3	50	124	5.8	330	248	20	6.0	6.0	25	217	75	8	4.5	46	208	60	316	40	8	217	2.9	190	15	33.30

Curve Bollard (C)



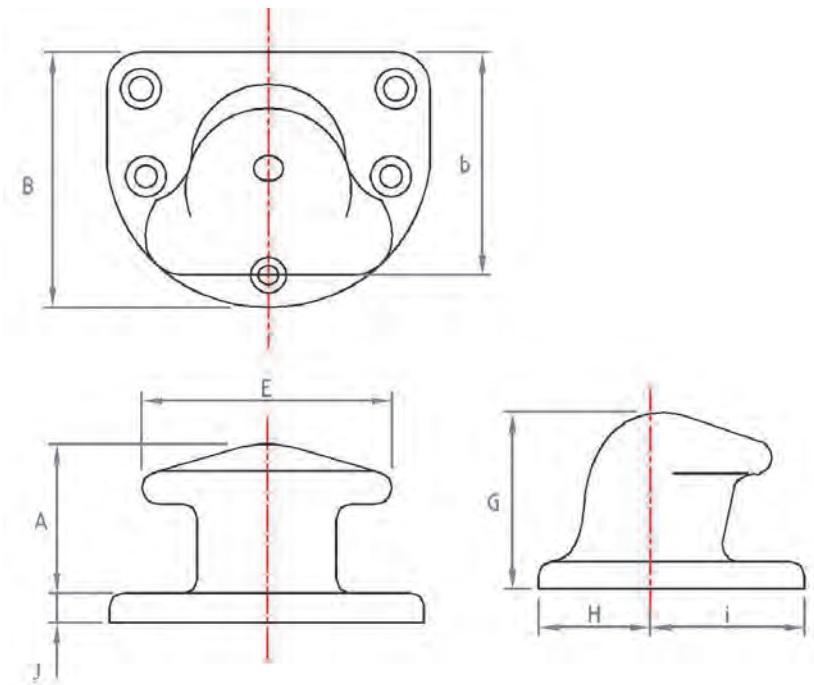
Curve Bollard (C)		
Dimensions in Metric (mm)		
Type	C50	C70
A	710	810
B	840	1000
C	945	1000
D	700	800
E	660	840
F	355	400
G	780	900
H	70	90
No. of Bolts	6	6
Dia. of Bolts	48	56
Pull in Tons	50	70

Horne Bollard (H)



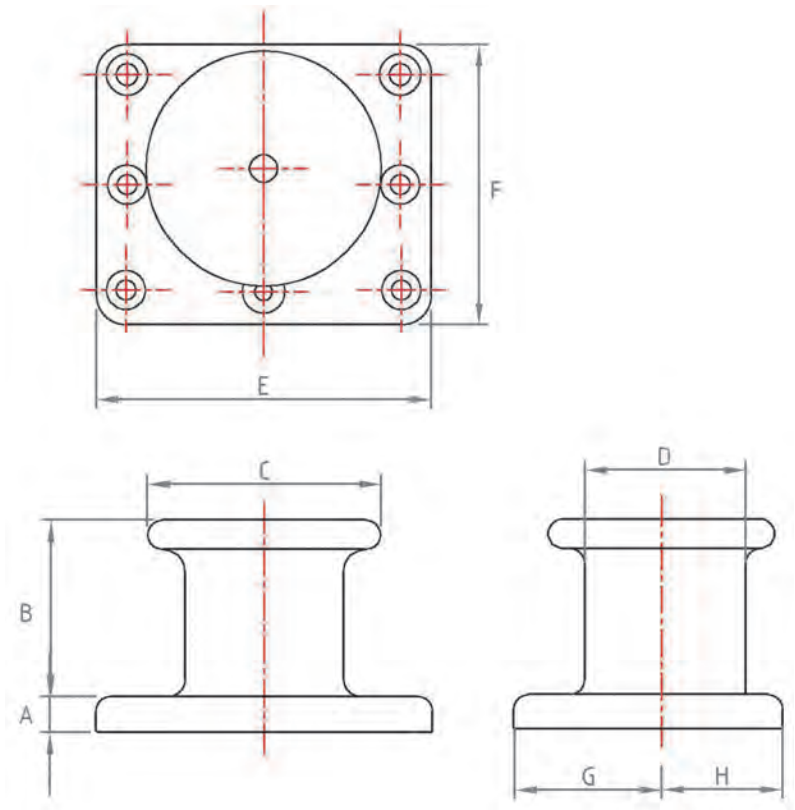
Horne Bollard (H)								
Dimensions in Metric (mm)								
Type	H15	H20	H30	H50	H70	H100	H150	H200
A	410	455	500	530	570	585	660	660
B	440	480	600	660	750	850	930	930
C	405	455	540	600	650	770	850	850
D	480	530	640	700	800	920	1000	1000
E	200	220	260	300	350	400	450	450
F	145	170	190	220	260	280	325	325
G	165	190	220	250	250	310	350	350
H	40	45	50	70	80	90	90	100
No. of Bolts	5	5	5	7	7	7	8	8
Dia. of Bolts	30	30	36	42	42	51	56	64
Pull in Tons	15	20	30	50	70	100	150	200

Kidney Bollard (K)

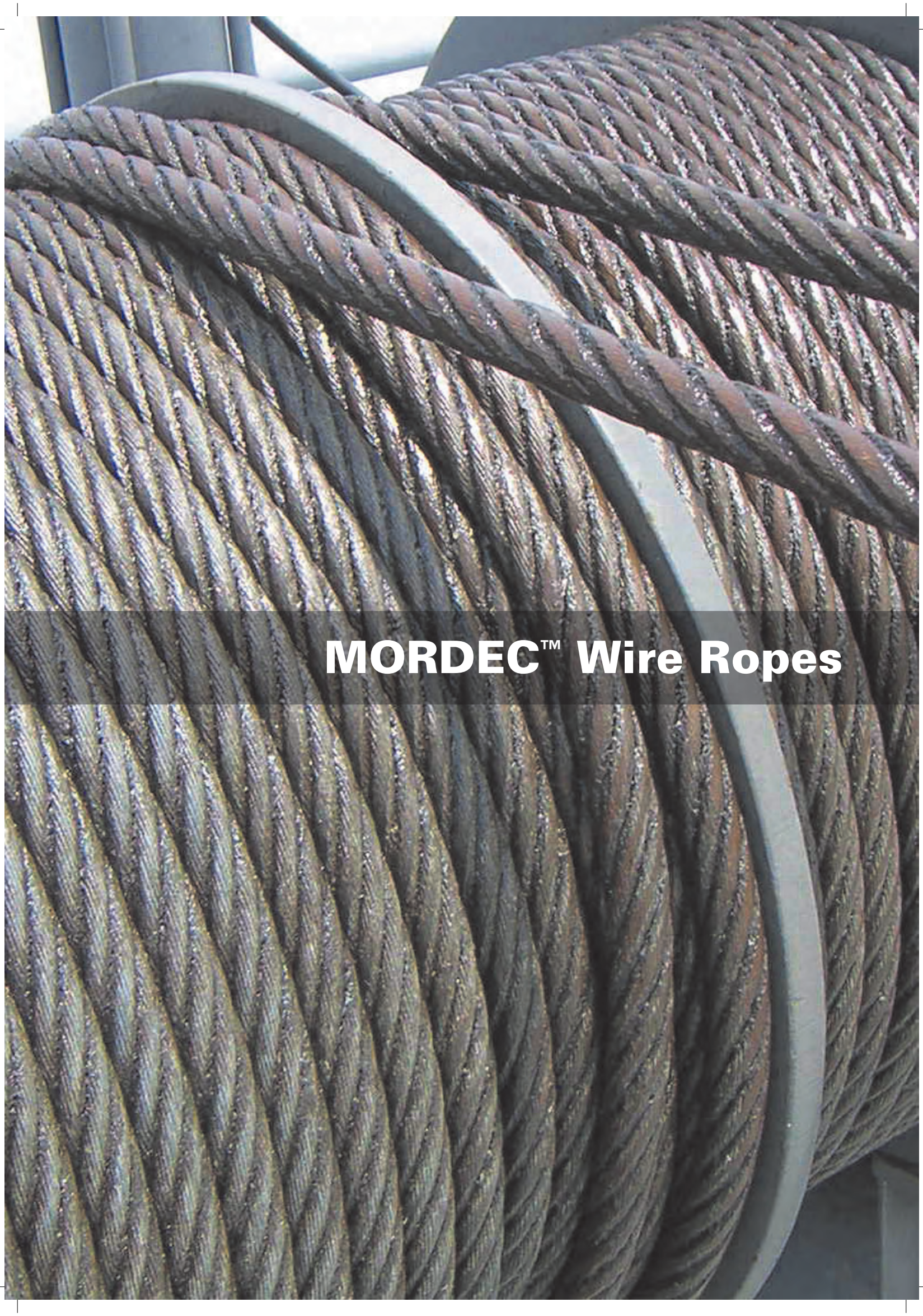


Kidney Bollard (K)						
Dimensions in Metric (mm)						
Type	K15	K20	K30	K50	K70	K100
A	225	305	350	380	410	435
B	405	455	540	615	640	750
C	480	530	640	740	790	900
D	350	400	470	530	640	650
E	350	400	500	550	600	700
F	200	220	260	300	350	400
G	295	350	400	450	490	525
H	165	190	220	245	245	300
I	240	265	320	370	395	450
J	40	45	50	70	80	90
No. of Bolts	5	5	5	6	7	7
Dia. of Bolts	30	30	36	42	42	48
Pull in Tons	15	20	30	50	70	100

Pillar Bollard (P)



Pillar Bollard (P)						
Dimensions in Metric (mm)						
Type	P15	P20	P30	P50	P75	P100
A	40	50	50	60	70	80
B	280	280	320	350	380	405
C	300	320	390	430	500	580
D	200	220	260	300	350	400
E	390	400	540	590	740	760
F	390	400	540	490	615	660
G				295	345	380
H				195	276	280
No. of Bolts	4	4	4	7	7	7
Dia. of Bolts	30	36	36	42	42	48
Pull in Tons	15	20	30	50	75	100



MORDEC™ Wire Ropes

MORDEC™ WIRE ROPES

With our extensive market reach and **rigging** unit that conforms to the best practices and highest quality systems, we have successfully serviced the **marine**, **offshore**, **engineering**, **construction**, **fishing**, **cranes**, and the **mining industries**.

MEP stocks a **wide range** Steel **Wire Ropes** from **UK**, **Korea**, **India**, China, Malaysia, and **Japan** that are manufactured with state of art technology and ISO 9001 certified. Our wire ropes stock in different constructions and range from **6mm to 114mm**. The types are catered for **Marine**, **Offshore**, **Multi-strand Crane Ropes "compact & plastic filled"**, and **Mooring & Towing**.

To provide the best possible services together with our range of wire ropes, we offer spooling, splicing, and socketing services as well as testing and examination of wire ropes by **certified wire rope examiners**. Our skilled **riggers** are able to ensure complete wire rope spooling installation and replacement. It is matched with spooling machines which are portable and lightweight with capacity of 10, 25, 50, and up to 120 tons. Rental of spooling machines are also available.

Rigging Equipment Specialists

MEP has the capabilities to **design** and **manufacture wire rope handling equipment** that is packaged with quality workmanship and timely delivery. They can be designed and made-to-order to suit any operational/environmental preferences. Products include High/Mid/Low capacity spooling machines, turntables, hydraulic operated heavy duty drum jacks, vertical & horizontal loose wire coiling machines, double roller electrical high speed coiling machines.

MORDEC Testing and Certification Centre

MORDEC Testing and Certification Centre (MORDEC T&C) was established in Singapore and licensed by MORDEC Innovative Solutions (UK) Co., Ltd (MORDEC UK) to conduct testing and certification of materials handling and lifting gears. It offers a comprehensive program to ensure all gears and slings sent to the centre are tested, inspected and certified accordance to the technology, methodology and procedure commissioned by MORDEC UK. Beside offering the testing and certification, MORDEC T&C is able to produce and assemble all types of rigging and lifting slings, and for mooring, towing, lashing and heavy lift systems and applications using different based materials like wire rope, synthetic material, steel and alloy chain.

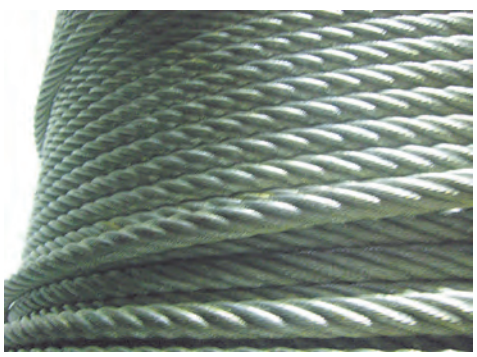
MORDEC T&C in Singapore is equipped with the latest state-of-art semi-manufacturing, assembling and testing equipment and facilities. All equipment, load cells and test instruments are calibrated and certified on a yearly basis using ISO 10012:2004 guidelines and requirements by external parties, traceable to international standards institute and monitored by MORDEC UK for compliance. Equally all its engineers and technicians undergo intensive training programs on inspection, examination and certification skills and techniques using MORDEC UK manuals, instructions and methods before they are qualified to conduct the various inspecting and testing functions.

MORDEC™ QUALITY POLICY

MORDEC T&C strives to achieve uncompromising service excellence and enhance products shelf-life and safety. Engineers and technicians who are conducting the inspection and test of lifting gears and components go through a stringent and disciplined process control to ensure compliance to international accepted standards and safety requirements. All certified lifting gears and components are diligently examined and tested in accordance to established safe working load and proof-load requirements.

MORDEC™ SYSTEM

In staying reliance with the marine, offshore, construction and mining industries who are major users of lifting gears and slings, MORDEC T&C inspection and testing technology, methodology and procedure meets the latest safety rules and regulations as ratified by the various institutions, government agencies and classification societies. To achieve it, MORDEC T&C in conjunction with MORDEC UK adopts a proactive and innovative system approach from design elements, components selection and qualification, assembling, inspection and testing method including an effective traceability system. Every step of the way is carefully executed and documented to achieve the highest standard of safety, economy and efficiency. Materials handling, safe lifting and securing techniques for lifting slings and gears trainings are provided to its valued clients as part of MORDEC UK holistic system approach.



MORDEC™ PRODUCTS AND SERVICES

- Wire Rope Lifting, Mooring, Towing Systems
- Inspection, Testing and Certification of rigging gears, slings and ropes
- Spooling Services for winches
- Wire Rope repairs
- Wire Rope systems designing
- Wire rope inspection training and rigging training

MORDEC WIRE ROPE PERIODIC MAINTENANCE PROGRAM

Traditionally, wire rope inspection has multiple weakness, visual and hand-touch inspection detects only visible and exterior problem and quantitative inspection of wire rope has always been a problem, electromagnetic inspection technology is also hard to adapt due to technical limitation such as weight, poor anti-interference, inaccurate test result.

MEP Systems adopted Mordec wire rope non-destructive technique: WEAK MAGNETIC INSPECTION is the latest known technology in wire rope inspection to detect interior defect such as broken wire, abrasion, corrosion and most importantly material fatigue. Even periodic replacement of wire rope is not reliable, beside huge waste of wire rope, many rope accidents often happen before replacing wire rope. Mordec WEAK MAGNETIC INSPECTION thoroughly reduces hidden-danger but also reduces use cost of wire rope and improves production efficiency.

Mordec Wire Rope Maintenance increases wire rope operation lifespan by cleaning product built up and grit on surface and groove. The system lubricates the entire wire rope both internally and externally. Lubricants are injected into the wire rope with pressurized chamber and thus, remove trapped moisture in the internal strands and replaced with newly applied wire rope coating. During field test, it has been proven wire rope life span extended by 75% using the technique adopted by Mordec.

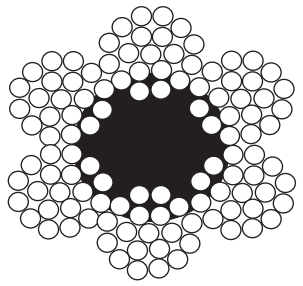
Mordec Wire Rope pressurised lubrication system is approved by United States Coast Guard, US NAVY, U.S. Army, U.S. Army Corps of Engineers, NATO, Canadian Coast Guard, Canadian Navy, Australian Navy.

6 X 19 + FC Steel Wire Ropes

Features:

- Designed for Crane, Hoist, Construction and General Engineering application
- Most economical design for applications requiring large diameters
- Strong resistance to abrasion
- Fiber Core
- 6 strands with 19 wires per strand configuration

6 X 19 + FC



Meets requirements of BS 302

Diameter of Rope(mm)	Minimum Breaking Load						Approx. Weight per meter(kg/m)
	A & BG(165kg/mm²)		B & CG(180kg/mm²)		C(200kg/mm²)		
	kN	Tonnef	kN	Tonnef	kN	Tonnef	
8	34.5	3.52	36.8	3.75	40.80	4.16	0.233
9	43.7	4.46	46.5	4.74	51.7	5.27	0.295
9.5	48.6	4.96	51.8	5.28	57.6	5.87	0.328
10	53.9	5.50	57.5	5.86	63.7	5.50	0.364
11.2	67.7	6.90	72.1	7.35	79.9	8.15	0.457
12	77.6	7.91	83.8	8.44	91.7	9.35	0.524
12.5	84.2	8.59	89.7	9.15	99.5	10.20	0.569
14	105.9	10.80	112.8	11.50	125.5	12.80	0.713
16	138.3	14.10	147.1	15.00	163.8	16.70	0.932
18	174.6	17.80	186.3	19.00	205.9	21.00	1.180
19.1	196.1	20.00	209.9	21.40	232.4	23.70	1.330
20	215.7	22.00	229.5	23.40	255.0	26.00	1.460
22.4	270.7	27.60	288.3	29.40	319.7	32.60	1.830
24	310.9	31.70	330.5	33.70	367.7	37.50	2.100
25	337.3	34.40	358.9	36.60	399.1	40.70	2.280
26	364.8	37.20	388.3	39.60	431.5	44.00	2.460
28	422.7	43.10	450.1	45.90	499.2	50.90	2.850
30	485.4	49.50	516.8	52.70	573.7	58.50	3.280
31.5	535.4	54.60	569.8	58.10	632.5	64.50	3.610
33.5	605.1	61.70	644.3	65.70	714.9	72.90	4.080
35.5	679.6	69.30	723.7	73.80	803.2	81.90	4.590
36	699.2	71.30	744.3	75.90	826.7	84.30	4.720
37.5	758.1	77.30	808.1	82.40	896.3	91.40	5.120
38	778.6	79.40	829.6	84.60	919.9	93.80	5.260
40	863.0	88.00	918.9	93.70	1,019.9	104.00	5.820
42	951.2	97.00	1,010.1	103.00	1,118.0	114.00	6.420
42.5	973.8	99.30	1,039.5	106.00	1,147.4	117.00	6.570
44	1039.5	106.00	1,108.2	113.00	1,225.8	125.00	7.050
45	1088.5	111.00	1,167.0	119.00	1,284.7	131.00	7.370
46	1137.6	116.00	1,216.0	124.00	1,343.5	137.00	7.700
47.5	1216.0	124.00	1,294.5	132.00	1,441.6	147.00	8.210
50	1353.3	138.00	1,431.8	146.00	1,598.5	163.00	9.100
53	1515.1	154.50	1,608.3	164.00	1,794.6	183.00	10.220
56	1691.6	172.50	1,794.6	183.00	2,000.6	204.00	11.420
60	1941.7	198.00	2,059.4	210.00	2,301.6	234.70	13.100
63	2140.8	218.30	2,275.1	232.00	2,538.0	258.80	14.450

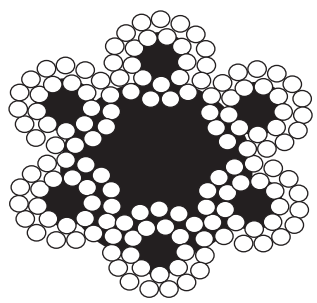
MORDEC™ WIRE ROPES

6 X 24 + FC Steel Wire Ropes

Features:

- Designed for Marine and Engineering application
- Strong resistance to abrasion
- Fiber Core
- 6 strands with 24 wires per strand configuration

6 X 24 + FC



Meets requirements of BS 302

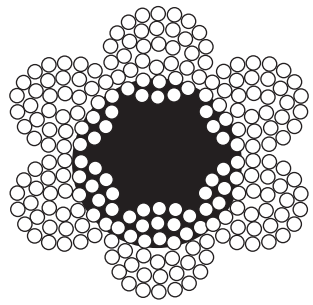
Diameter of Rope mm	Minimum Breaking Load				Approx. Weight per meter kg/m
	A & BG 165kg/mm²		B & CG 180kg/mm²		
	kN	Tonnef	kN	Tonnef	
8	31.5	3.21	34.3	3.50	0.212
9	39.8	4.06	43.4	4.43	0.269
9.5	44.4	4.53	48.4	4.49	0.290
10	49.2	5.02	53.6	5.47	0.332
11.2	61.7	6.29	67.3	6.86	0.416
12	70.8	7.22	77.2	7.87	0.478
12.5	76.9	7.84	83.8	8.55	0.519
14	96.4	9.83	105.0	10.70	0.651
16	125.5	12.80	137.3	14.00	0.850
18	158.9	16.20	173.6	17.70	1.080
19.1	180.4	18.40	197.1	20.10	1.210
20	197.1	20.10	214.8	21.90	1.330
22.4	247.1	25.20	269.7	27.50	1.670
24	283.4	28.90	308.9	31.50	1.910
25	306.9	31.30	334.4	34.10	2.080
26	332.4	33.90	362.8	37.00	2.240
28	385.4	39.30	419.7	42.80	2.600
30	442.3	45.10	482.5	49.20	2.990
31.5	488.4	49.80	532.5	54.30	3.290
33.5	552.1	56.30	602.1	61.40	3.730
35.5	619.8	63.20	675.7	68.90	4.180
37.5	691.4	70.50	754.1	76.90	4.670
38	710.0	72.40	773.7	78.90	4.790
40	786.5	80.20	857.1	87.40	5.310
42.5	888.5	90.60	968.9	98.80	6.000
44	952.2	97.10	1,029.7	105.00	6.430
45	1,000.3	102.00	1,157.2	118.00	6.720
47.5	1,108.2	113.00	1,206.2	123.00	7.490
47.5	1,225.8	125.00	1,333.7	136.00	8.300
50	1,382.7	141.00	1,510.2	154.00	9.330
53	1,539.6	157.00	1,676.9	171.00	10.400
56	1,657.3	169.00	1,804.4	184.00	11.200
58	1,765.2	180.00	1,922.1	196.00	12.000
60	1,951.5	199.00	2,128.0	217.00	13.200

6 X 37 + FC Steel Wire Ropes

Features:

- Designed for Crane, Hoist, Construction and General Engineering application
- Strong resistance to abrasion
- Fiber Core
- 6 strands with 37 wires per strand configuration

6 X 37 + FC



6 x 29 Fi IWRC
WS IWRC

6 x 36 WS IWRC

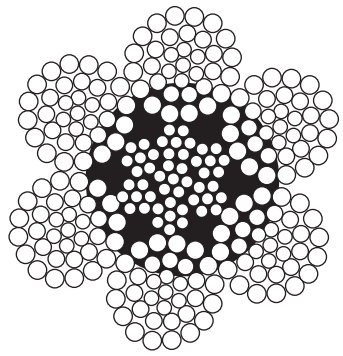
6 x 41

Weight			IPS		EIPS		EEPS	
Dia	Dia	Approx	MBL	SWL (5:1)	MBL	SWL (5:1)	MBL	SWL (5:1)
(Inch)	(mm)	Kg/m	Ton	Ton	Ton	Ton	Ton	Ton
-	8.00	0.28	4.15	0.83	4.41	0.83	4.90	0.98
-	10.00	0.44	6.48	1.30	6.89	1.38	7.67	1.53
-	11.00	0.55	8.13	1.63	8.64	1.73	9.62	1.92
-	12.00	0.63	9.33	1.87	9.92	1.98	11.00	2.20
1/2	13.00	0.68	10.40	2.08	12.10	2.42	13.20	2.64
-	14.00	0.86	12.70	2.54	13.50	2.70	15.00	3.00
9/16	14.50	0.88	13.20	2.64	15.20	3.04	16.80	3.36
5/8	16.00	1.07	16.60	3.32	18.70	3.74	19.60	3.92
-	18.00	1.43	21.00	4.20	22.30	4.46	24.90	4.98
3/4	19.00	1.55	23.20	4.64	26.70	5.34	29.40	5.88
-	20.00	1.76	25.90	5.18	27.60	5.52	30.70	6.14
7/8	22.00	2.13	31.40	6.28	36.10	7.22	37.10	7.42
-	24.00	2.53	37.30	7.46	39.90	7.98	44.20	8.84
-	25.00	2.75	40.50	8.10	43.10	8.62	47.90	9.58
1	26.00	2.75	40.70	8.14	46.90	9.38	51.60	10.32
-	28.00	3.45	50.80	10.16	54.40	10.88	60.10	12.02
1-1/8	29.00	3.48	51.30	10.26	59.10	11.82	64.90	12.98
-	30.00	3.96	58.30	11.66	62.40	12.48	69.00	13.80
1-1/4	32.00	4.37	63.00	12.60	72.50	14.50	79.80	15.96
-	34.00	4.94	72.80	14.56	80.00	16.00	86.10	17.22
1-3/8	35.00	5.21	75.70	15.14	87.10	17.42	96.20	19.24
-	36.00	5.50	80.00	16.00	89.90	17.98	102.00	20.40
1-1/2	38.00	6.19	89.70	17.94	103.00	20.60	113.00	22.60
-	40.00	7.04	104.00	20.80	110.00	22.00	123.00	24.60
1-5/8	42.00	7.26	104.00	20.80	120.00	24.00	132.00	26.40
-	44.00	8.52	125.00	25.00	133.00	26.60	148.00	29.60
1-3/4	45.00	8.44	121.00	24.20	139.00	27.80	153.00	30.60
-	46.00	9.31	137.00	27.40	146.00	29.20	162.00	32.40
1-7/8	48.00	9.67	138.00	27.60	158.00	31.60	174.00	34.80
-	50.00	11.00	152.00	30.40	172.00	34.40	192.00	38.40
2	52.00	11.90	156.00	31.20	180.00	36.00	197.00	39.40
-	53.00	12.40	168.00	33.60	194.00	38.80	215.00	43.00
2-1/8	54.00	12.80	174.00	34.80	200.00	40.00	221.00	44.20
-	56.00	13.80	185.00	37.00	216.00	43.20	241.00	48.20
-	57.00	14.20	190.00	38.00	224.00	44.80	245.00	49.00
2-1/4	58.00	14.80	195.00	39.00	224.00	44.80	247.00	49.40
2-1/8	60.00	15.80	217.00	43.40	249.00	49.80	274.00	54.80
-	63.00	17.20	220.00	44.00	273.00	54.60	30.00	6.00
2-1/2	64.00	17.50	238.00	47.60	274.00	54.80	301.00	60.20
-	65.00	18.60	256.00	51.20	291.00	58.20	324.00	64.80
2-5/8	67.00	19.10	261.00	52.20	299.00	59.80	330.00	66.00
2-3/8	71.00	21.60	285.00	57.00	333.00	66.60	360.00	72.00
2-7/8	74.00	22.90	309.00	61.80	361.00	72.20	392.00	78.40
3	77.00	25.40	336.00	67.20	389.00	77.80	425.00	85.00
3-1/8	80.00	26.80	362.00	72.40	417.00	83.40	458.00	91.60
3-1/4	83.00	29.00	389.00	77.80	447.00	89.40	493.00	98.60
3-3/8	87.00	31.30	416.00	83.20	487.00	97.40	528.00	105.60
3-1/2	90.00	33.80	445.00	89.00	519.00	103.80	563.00	112.60
3-3/4	96.00	38.70	505.00	101.00	585.00	117.00	640.00	128.00
4	103.00	44.00	569.00	113.80	665.00	133.00	720.00	144.00

6 X 37 + IWRC Steel Wire Ropes

Features:
- Designed for Crane, Hoist, Construction and General Engineering application
- Strong resistance to abrasion
- Independent wire rope core
- 6 strand with 37 wires per strand configuration

6 X 37 + IWRC



Meets requirements of BS 302

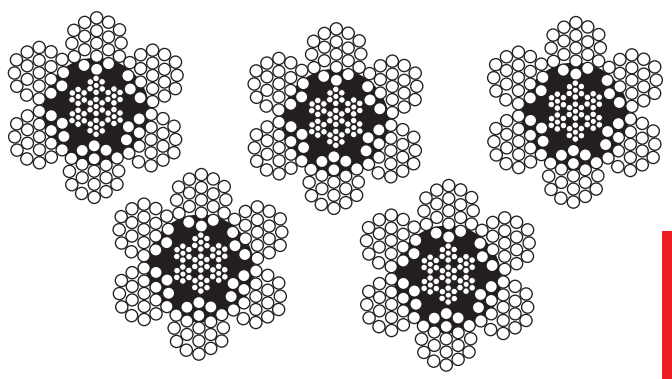
Nominal Diameter		Approx. Mass		Improved Plow Steel			Nominal Strength: Extra Improved Plow Steel			Nominal Strength: Extra Extra Improved Plow Steel		
in.	mm	lb/ft	kg/m	lb	kN	Metric Tonners	lb	kN	Metric Tonners	lb	kN	Metric Tonners
1/2	13	0.46	0.68	23,000	102	10.4	26,600	118	12.1	29,200	130	13.2
9/16	14.5	0.59	0.88	29,000	129	13.2	33,600	149	15.2	37,000	165	16.8
5/8	16	0.72	1.07	35,800	159	16.2	41,200	183	18.7	45,400	202	20.6
3/4	19	1.04	1.55	51,200	228	23.2	58,800	262	26.7	64,800	288	29.4
7/8	22	1.42	2.11	69,200	308	31.4	79,600	354	36.1	87,600	389	39.7
1	26	1.85	2.75	89,800	399	40.7	103,400	460	46.9	113,800	506	51.6
1 1/8	29	2.34	3.48	113,000	503	51.3	130,000	578	59.1	143,000	636	64.9
1 1/4	32	2.89	4.30	138,800	617	63.0	159,800	711	72.5	175,800	782	79.8
1 3/8	35	3.50	5.21	167,000	743	75.7	192,000	854	87.1	212,000	943	96.2
1 1/2	38	4.16	6.19	197,800	880	89.7	228,000	1010	103	250,000	1112	113
1 5/8	42	4.88	7.26	230,000	1020	104	264,000	1170	120	292,000	1300	132
1 3/4	45	5.67	8.44	266,000	1180	121	306,000	1360	139	338,000	1500	153
1 7/8	48	6.50	9.67	304,000	1350	138	348,000	1550	158	384,000	1710	174
2	52	7.39	11.0	344,000	1530	156	396,000	1760	180	434,000	1930	197
2 1/8	54	8.35	12.4	384,000	1710	174	442,000	1970	200	488,000	2170	221
2 1/4	58	9.36	13.9	430,000	1910	195	494,000	2200	224	544,000	2420	247
2 3/8	60	10.4	15.5	478,000	2130	217	548,000	2440	249	604,000	2690	274
2 1/2	64	11.6	17.3	524,000	2330	238	604,000	2690	274	664,000	2950	301
2 5/8	67	12.8	19.0	576,000	2560	261	658,000	2930	299	728,000	3240	330
2 3/4	71	14.0	20.8	628,000	2790	285	736,000	3270	333	794,000	3530	360
2 7/8	74	15.3	22.8	682,000	3030	309	796,000	3540	361	864,000	3840	392
3	77	16.6	24.7	740,000	3290	336	856,000	3810	389	936,000	4160	425
3 1/8	80	18.0	26.8	798,000	3550	362	920,000	4090	417	1,010,000	4490	458
3 1/4	83	19.5	29.0	858,000	3820	389	984,000	4380	447	1,086,000	4830	493
3 3/8	87	21.0	31.3	918,000	4080	416	1,074,000	4780	487	1,164,000	5180	528
3 1/2	90	22.7	33.8	982,000	4370	445	1,144,000	5090	519	1,242,000	5520	563
3 3/4	96	26.0	38.7	1,114,000	4960	505	1,290,000	5740	585	1,410,000	6270	640
4	103	29.6	44.0	1,254,000	5580	569	1,466,000	6520	665	1,586,000	7050	720

6 X S(19), FI(25), WS(26) + IWRC Steel Wire Ropes

Features:

- Designed for Crane, Hoist, Construction and General Engineering application
- Strong resistance to abrasion
- Independent wire rope core
- 6S Strand with 19,25,26 wires per strand

6 X S(19), FI(25), WS(26) + IWRC

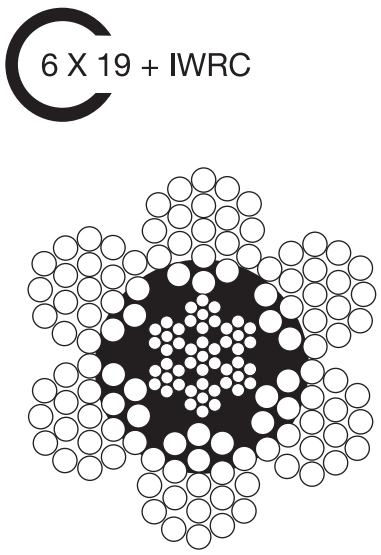


Meets requirements of BS 302

Nominal Diameter		Approx. Mass		Nominal Strength								
				Improved Plow Steel			Extra Improved Plow Steel			Extra Extra Improved Plow Steel		
in.	mm	lb/ft	kg/m	lb	kN	Metric Tonners	lb	kN	Metric Tonners	lb	kN	Metric Tonners
1/2	13	0.46	0.68	23,000	102	10.4	26,600	118	12.1	29,200	130	13.2
9/16	14.5	0.59	0.88	29,000	129	13.2	33,600	149	15.2	37,000	165	16.8
5/8	16	0.72	1.07	35,800	159	16.2	41,200	183	18.7	45,400	202	20.6
3/4	19	1.04	1.55	51,200	228	23.2	58,800	262	26.7	64,800	288	29.4
7/8	22	1.42	2.11	69,200	308	31.4	79,600	354	36.1	87,600	389	39.7
1	26	1.85	2.75	89,800	399	40.7	103,400	460	46.9	113,800	506	51.6
1 1/8	29	2.34	3.48	113,000	503	51.3	130,000	578	59.1	143,000	636	64.9
1 1/4	32	2.89	4.30	138,800	617	63.0	159,800	711	72.5	175,800	782	79.8
1 3/8	35	3.50	5.21	167,000	743	75.7	192,000	854	87.1	212,000	943	96.2
1 1/2	38	4.16	6.19	197,800	880	89.7	228,000	1010	103	250,000	1112	113
1 5/8	42	4.88	7.26	230,000	1020	104	264,000	1170	120	292,000	1300	132
1 3/4	45	5.67	8.44	266,000	1180	121	306,000	1360	139	338,000	1500	153
1 7/8	48	6.50	9.67	304,000	1350	138	348,000	1550	158	384,000	1710	174
2	52	7.39	11.0	344,000	1530	156	396,000	1760	180	434,000	1930	197
2 1/8	54	8.35	12.4	384,000	1710	174	442,000	1970	200	488,000	2170	221
2 1/4	58	9.36	13.9	430,000	1910	195	494,000	2200	224	544,000	2420	247
2 3/8	60	10.4	15.5	478,000	2130	217	548,000	2440	249	604,000	2690	274
2 1/2	64	11.6	17.3	524,000	2330	238	604,000	2690	274	664,000	2950	301
2 5/8	67	12.8	19.0	576,000	2560	261	658,000	2930	299	728,000	3240	330
2 3/4	71	14.0	20.8	628,000	2790	285	736,000	3270	333	794,000	3530	360
2 7/8	74	15.3	22.8	682,000	3030	309	796,000	3540	361	864,000	3840	392
3	77	16.6	24.7	740,000	3290	336	856,000	3810	389	936,000	4160	425
3 1/8	80	18.0	26.8	798,000	3550	362	920,000	4090	417	1,010,000	4490	458
3 1/4	83	19.5	29.0	858,000	3820	389	984,000	4380	447	1,086,000	4830	493
3 3/8	87	21.0	31.3	918,000	4080	416	1,074,000	4780	487	1,164,000	5180	528
3 1/2	90	22.7	33.8	982,000	4370	445	1,144,000	5090	519	1,242,000	5520	563
3 3/4	96	26.0	38.7	1,114,000	4960	505	1,290,000	5740	585	1,410,000	6270	640
4	103	29.6	44.0	1,254,000	5580	569	1,466,000	6520	665	1,586,000	7050	720

6 X 19 + IWRC Steel Wire Ropes

Features:
- Designed for Crane, Hoist, Construction and General Engineering application
- Strong resistance to abrasion
- Independent wire rope core
- 6 strand with 19 wires per strand configuration



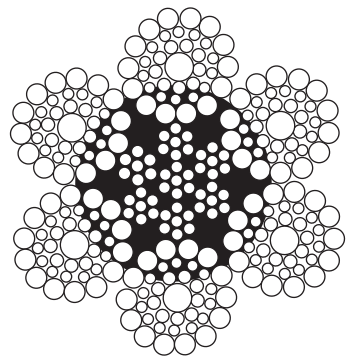
Meets requirements of BS 302

Nominal Diameter		Approx. Mass		Improved Plow Steel			Nominal Strength					
							Extra Improved Plow Steel			Extra Extra Improved Plow Steel		
in.	mm	lb/ft	kg/m	lb	kN	Metric Tonners	lb	kN	Metric Tonners	lb	kN	Metric Tonners
1/2	13	0.46	0.68	23,000	102	10.4	26,600	118	12.1	29,200	130	13.2
9/16	14.5	0.59	0.88	29,000	129	13.2	33,600	149	15.2	37,000	165	16.8
5/8	16	0.72	1.07	35,800	159	16.2	41,200	183	18.7	45,400	202	20.6
3/4	19	1.04	1.55	51,200	228	23.2	58,800	262	26.7	64,800	288	29.4
7/8	22	1.42	2.11	69,200	308	31.4	79,600	354	36.1	87,600	389	39.7
1	26	1.85	2.75	89,800	399	40.7	103,400	460	46.9	113,800	506	51.6
1 1/8	29	2.34	3.48	113,000	503	51.3	130,000	578	59.1	143,000	636	64.9
1 1/4	32	2.89	4.30	138,800	617	63.0	159,800	711	72.5	175,800	782	79.8
1 3/8	35	3.50	5.21	167,000	743	75.7	192,000	854	87.1	212,000	943	96.2
1 1/2	38	4.16	6.19	197,800	880	89.7	228,000	1010	103	250,000	1112	113
1 5/8	42	4.88	7.26	230,000	1020	104	264,000	1170	120	292,000	1300	132
1 3/4	45	5.67	8.44	266,000	1180	121	306,000	1360	139	338,000	1500	153
1 7/8	48	6.50	9.67	304,000	1350	138	348,000	1550	158	384,000	1710	174
2	52	7.39	11.0	344,000	1530	156	396,000	1760	180	434,000	1930	197
2 1/8	54	8.35	12.4	384,000	1710	174	442,000	1970	200	488,000	2170	221
2 1/4	58	9.36	13.9	430,000	1910	195	494,000	2200	224	544,000	2420	247
2 3/8	60	10.4	15.5	478,000	2130	217	548,000	2440	249	604,000	2690	274
2 1/2	64	11.6	17.3	524,000	2330	238	604,000	2690	274	664,000	2950	301
2 5/8	67	12.8	19.0	576,000	2560	261	658,000	2930	299	728,000	3240	330
2 3/4	71	14.0	20.8	628,000	2790	285	736,000	3270	333	794,000	3530	360
2 7/8	74	15.3	22.8	682,000	3030	309	796,000	3540	361	864,000	3840	392
3	77	16.6	24.7	740,000	3290	336	856,000	3810	389	936,000	4160	425
3 1/8	80	18.0	26.8	798,000	3550	362	920,000	4090	417	1,010,000	4490	458
3 1/4	83	19.5	29.0	858,000	3820	389	984,000	4380	447	1,086,000	4830	493
3 3/8	87	21.0	31.3	918,000	4080	416	1,074,000	4780	487	1,164,000	5180	528
3 1/2	90	22.7	33.8	982,000	4370	445	1,144,000	5090	519	1,242,000	5520	563
3 3/4	96	26.0	38.7	1,114,000	4960	505	1,290,000	5740	585	1,410,000	6270	640
4	103	29.6	44.0	1,254,000	5580	569	1,466,000	6520	665	1,586,000	7050	720

6 X 36 + IWRC Steel Wire Ropes

Features:
- Designed for Mooring, Hedry Derrick Hoist Ropes,
- Towing and General Engineering application Strong resistance to abrasion
- Independent wire rope core
- 6 strand with 36 wires per strand configuration

Preformed 6 x 36 + IWRC

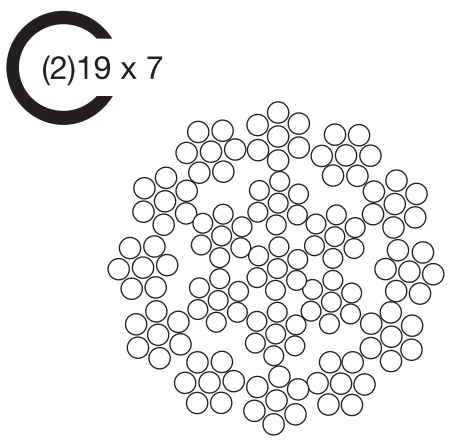


Meets requirements of BS 302

Nominal Diameter		Approx. Mass		Improved Plow Steel			Nominal Strength: Extra Improved Plow Steel			Nominal Strength: Extra Extra Improved Plow Steel		
in.	mm	lb/ft	kg/m	lb	kN	Metric Tonners	lb	kN	Metric Tonners	lb	kN	Metric Tonners
1/2	13	0.46	0.68	23,000	102	10.4	26,600	118	12.1	29,200	130	13.2
9/16	14.5	0.59	0.88	29,000	129	13.2	33,600	149	15.2	37,000	165	16.8
5/8	16	0.72	1.07	35,800	159	16.2	41,200	183	18.7	45,400	202	20.6
3/4	19	1.04	1.55	51,200	228	23.2	58,800	262	26.7	64,800	288	29.4
7/8	22	1.42	2.11	69,200	308	31.4	79,600	354	36.1	87,600	389	39.7
1	26	1.85	2.75	89,800	399	40.7	103,400	460	46.9	113,800	506	51.6
1 1/8	29	2.34	3.48	113,000	503	51.3	130,000	578	59.1	143,000	636	64.9
1 1/4	32	2.89	4.30	138,800	617	63.0	159,800	711	72.5	175,800	782	79.8
1 3/8	35	3.50	5.21	167,000	743	75.7	192,000	854	87.1	212,000	943	96.2
1 1/2	38	4.16	6.19	197,800	880	89.7	228,000	1010	103	250,000	1112	113
1 5/8	42	4.88	7.26	230,000	1020	104	264,000	1170	120	292,000	1300	132
1 3/4	45	5.67	8.44	266,000	1180	121	306,000	1360	139	338,000	1500	153
1 7/8	48	6.50	9.67	304,000	1350	138	348,000	1550	158	384,000	1710	174
2	52	7.39	11.0	344,000	1530	156	396,000	1760	180	434,000	1930	197
2 1/8	54	8.35	12.4	384,000	1710	174	442,000	1970	200	488,000	2170	221
2 1/4	58	9.36	13.9	430,000	1910	195	494,000	2200	224	544,000	2420	247
2 3/8	60	10.4	15.5	478,000	2130	217	548,000	2440	249	604,000	2690	274
2 1/2	64	11.6	17.3	524,000	2330	238	604,000	2690	274	664,000	2950	301
2 5/8	67	12.8	19.0	576,000	2560	261	658,000	2930	299	728,000	3240	330
2 3/4	71	14.0	20.8	628,000	2790	285	736,000	3270	333	794,000	3530	360
2 7/8	74	15.3	22.8	682,000	3030	309	796,000	3540	361	864,000	3840	392
3	77	16.6	24.7	740,000	3290	336	856,000	3810	389	936,000	4160	425
3 1/8	80	18.0	26.8	798,000	3550	362	920,000	4090	417	1,010,000	4490	458
3 1/4	83	19.5	29.0	858,000	3820	389	984,000	4380	447	1,086,000	4830	493
3 3/8	87	21.0	31.3	918,000	4080	416	1,074,000	4780	487	1,164,000	5180	528
3 1/2	90	22.7	33.8	982,000	4370	445	1,144,000	5090	519	1,242,000	5520	563
3 3/4	96	26.0	38.7	1,114,000	4960	505	1,290,000	5740	585	1,410,000	6270	640
4	103	29.6	44.0	1,254,000	5580	569	1,466,000	6520	665	1,586,000	7050	720

(2)19 X 7 Steel Wire Ropes

Features:
- Designed to minimize rotation of ropes when hanging loads
- Cross lay construction
- Strands laid in opposite directions

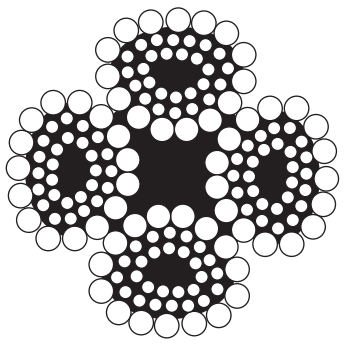


Meets requirements of BS 302

Diameter of Rope mm	180kg/mm² kN	180kg/mm² Tonnef	Min B/LOAD 200kg/mm² kN	200kg/mm² Tonnef	220kg/mm² kN	220kg/mm² Tonnef	Approx. Weight per meter kg/100m
7	32.5	3.31	36.0	3.68	39.7	4.0	20.6
8	42.4	4.32	47.10	4.80	51.8	5.3	26.9
9	53.6	5.47	59.6	6.08	65.6	6.7	34.1
10	66.2	6.75	73.5	7.50	80.9	8.3	42.1
12	95.3	9.72	105.9	10.80	116.5	11.9	60.8
14	129.4	13.20	143.8	14.70	158.2	16.1	81.9
16	169.7	17.30	188.5	19.20	207.4	21.1	107.0
18	214.8	21.90	238.6	24.30	262.5	26.8	137.0
20	264.8	27.00	294.2	30.00	323.6	33.0	170.0
22	319.7	32.60	355.2	36.20	390.7	39.8	195.0
24	380.5	38.80	422.8	43.10	465.1	47.4	237.0
26	446.2	45.0	495.8	50.60	545.4	55.6	276.0

4 X SeS(39) + FC Steel Wire Ropes

Features:
- Designed for Crane, Hoist and Piling application
- Fiber Core
- 4 strand with 39 wires per strand configuration



Meets requirements of BS 302

Diameter of Rope mm	Diameter of Rope Approx.inch	Diameter of Outer Wires mm	Area mm²	Breaking Load in Metric Tons S	H	SH	Aprox.Weight Per Meter kg/m
8.0	5/16	0.56	28.7	3.83	4.18	4.53	0.261
9.0	3/8	0.63	36.4	4.83	5.28	5.72	0.330
10.0	13/32	0.71	44.9	5.98	6.52	7.06	0.408
11.2	7/16	0.80	56.3	7.50	8.19	8.87	0.512
12.0	15/32	0.85	64.7	8.32	9.08	9.84	0.588
12.5	1/2	0.90	70.2	9.35	10.2	11.1	0.638
14.0	9/16	1.00	88.0	11.7	12.8	13.9	0.800
16.0	5/8	1.12	115	15.3	16.7	18.1	1.04
18.0	23/23	1.25	145	19.4	21.2	23.0	1.32
19.0	3/4	1.32	162	21.6	23.6	25.6	1.47
20.0	13/16	1.40	180	23.9	26.1	28.3	1.63
(22.0)		1.57	217	28.9	31.6	34.2	1.97
22.4	7/8	1.60	225	30.0	32.8	35.5	2.05
(24.0)	15/16	1.70	259	33.2	36.3	39.3	2.35
25.0	1	1.80	281	37.3	40.7	44.1	2.55
(25.0)	1 1/32	1.85	303	40.3	44.0	47.6	2.76
26.0	1 1/8	2.00	352	46.9	51.2	55.4	3.24
28.0	1 3/16	2.12	405	53.8	58.7	63.6	3.73
30.0	1 1/4	2.24	445	59.3	64.7	70.1	4.10
31.5	-	2.27	457	-	66.8	72.3	4.12
32	1 5/16	2.36	506	67.1	73.2	79.3	4.64
s33.5	1 13/32	2.50	568	75.4	82.52	89.0	5.21
34	1 1/2	2.65	634	84.1	91.7	99.3	5.81
35.5	1 9/16	2.80	718	93.8	102	110	6.61
36	1 11/16	3.00	811	106	115	125	7.46
38	1 3/4	3.15	909	119	129	140	8.37

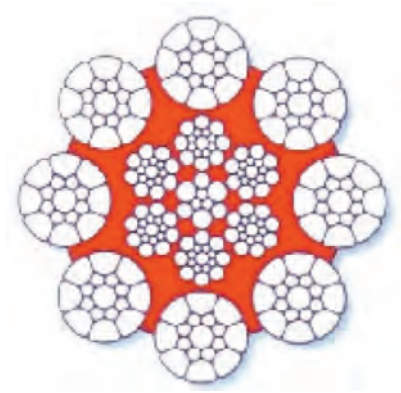
Crane Ropes - Cranemaster® 8P

Constructions

8PIxK26SW (10-5+5-5-1)-CWR

- Cranemaster® 8P is a high strength eight strand rope with plastic impregnated core ideal for situations where longer service life is required.
- A sample of rope from each production batch is tested to destruction in order to confirm compliance with catalogue breaking force values.
- High fatigue life resulting from the unique compaction process.
- Maximum resistance to crushing. Recommended for multi layer spooling operations.
- Increased abrasion resistance resulting from the unique compaction process.
- Greater surface contact area resulting from the eight strand construction and compacted finish give longer rope life and reduce sheave wear.
- Fully lubricated in manufacture.
- Plastic impregnation of the steel core. (P signifies full plastic impregnation of the steel core).

APPLICATIONS
- Container Crane main hoist, boom hoist, trolley
- Lattice Boom Crane boom hoist
- Dockside Crane boom hoist
- Offshore Pedestal Crane boom hoist
- Unloader Crane boom hoist, main hoist and Trolley



Nominal Rope Diameter	Approx Diameter	Approx Mass	Minimum Breaking Force Galvanised and Ungalvanised Rope Grade			
			1960 N/mm²		2160 N/mm²	
mm	Inch	kg/100m	kN	tonnes	kN	tonnes
8	5/16	29.4	55.2	5.6	58.9	6.0
9		36.9	70	7.1	74.7	7.6
10		45.3	88	9.0	93.4	9.5
11	7/16	55.9	106	10.8	112	11.4
12		65.3	127	13.0	134	13.7
13	1/2	76.6	148	15.1	157	16.0
14		88.8	172	17.5	182	18.6
15		103	197	20.1	210	21.4
16	5/8	116	225	22.9	238	24.3
17		135	255	26.0	271	27.7
18		150	285	29.1	303	30.9
19	3/4	167	318	32.4	337	34.4
20		184	352	35.9	374	38.2
22	7/8	222	426	43.4	452	46.1
24	15/16	265	507	51.7	540	55.1
25		290	550	56.1	584	59.6
26	1	315	595	60.7	633	64.6
28		367	690	70.4	735	75.0
30		425	793	80.9	843	86.0
32	1.1/4	485	900	91.8	958	97.8
34		543	1015	103.0	1080	110.0
36		606	1143	116.0	1217	124.0
38	1.1/2	678	1270	129.0	1354	138.0
40		755	1407	143.0	1501	153.0

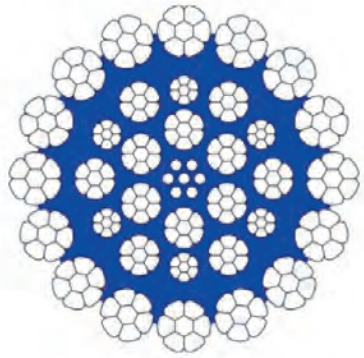
Crane Ropes - Cranemaster® 35/35P

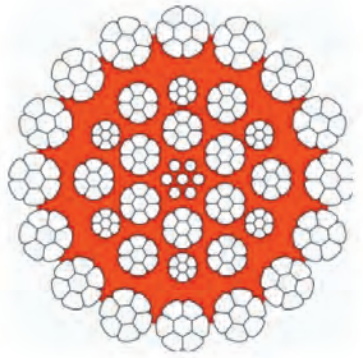
Constructions

35xK7 (16xK7: 6xK7-6xK7-1x7)

- Cranemaster® 35/35P has the highest Strength of all low rotation hoist ropes.
- A sample of rope from each production batch is tested to destruction in order to confirm compliance with catalogue breaking force values.
- Maximum resistance to rotation.
- Suitable for use on single part and multi-part hoist reeving system.
- High fatigue life resulting from the unique compaction process.
- Increased resistance to crushing. Recommended for multi-layer spooling operations.
- Increased abrasion resistance resulting from the unique compaction process.
- Optional plastic impregnation.
- Fully lubricated in manufacture.

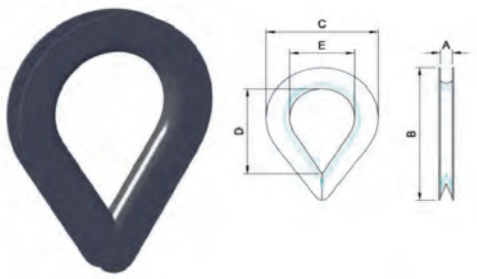
APPLICATIONS
- Mobile Crane main hoist
- Tower Crane main hoist
- Lattice Boom main hoist
- Dockside main hoist
- Offshore Pedestral Crane main and whip hoist





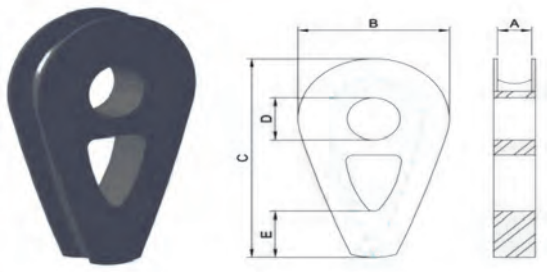
Nominal Rope Diameter	Approx Diameter	Approx Mass	Minimum Breaking Force Galvanised and Ungalvanised Rope Grade			
			1960 N/mm²		2160 N/mm²	
mm	Inch	kg/100m	kN	tonnes	kN	tonnes
10		51.4	90.5	9.2	98.6	10.1
11	7/16	61.7	109	11.2	119	12.1
12		72.9	131	13.4	141	14.4
13	1/2	84.6	155	15.8	167	17.0
14		97.1	180	18.4	192	19.6
15		114	206	21.0	221	22.5
16	5/8	130	233	23.8	252	25.7
17		140	261	26.6	285	29.1
18		159	300	30.6	321	32.7
19	3/4	178	331	33.8	358	36.5
20		197	372	37.9	399	40.7
21	13/16	222	402	41.0	434	44.3
22	7/8	240	444	45.3	484	49.4
23		261	482	49.2	528	53.8
24	15/16	286	531	54.2	572	58.3
25		312	575	58.6	623	63.5
26	1	340	621	63.3	661	67.4
27		356	665	67.8	722	73.6
28		391	720	73.4	788	80.4
29	1.1/8	425	769	78.4	833	84.9
30		445	827	84.3	904	92.2
32	1.1/4	505	944	96.3	1035	105.0
34		574	1065	108.0	1156	118.0
35	1.3/8	602	1125	114.0	1216	124.0
36		644	1185	121.0	1286	131.0
38	1.1/2	712	1326	135.0	1437	146.0
40		807	1477	150.0	1588	161.0

BS 464 Heavy Duty Thimble



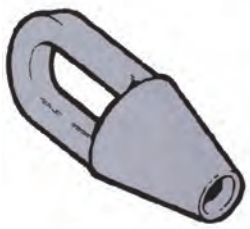
Size No.	Rope Dia.	Groove Width	Outside Length	Inside Length	Inside Width
10	8 mm	8 mm	51 mm	35 mm	22 mm
12	10 mm	10 mm	64 mm	47 mm	30 mm
14	12 mm	12 mm	76 mm	57 mm	35 mm
16	14 mm	14 mm	89 mm	65 mm	45 mm
18	16 mm	16 mm	102 mm	76 mm	50 mm
20	18 mm	18 mm	114 mm	86 mm	53 mm
22	20 mm	20 mm	127 mm	94 mm	60 mm
24	22 mm	22 mm	140 mm	107 mm	65 mm
26	24 mm	24 mm	152 mm	114 mm	70 mm
30	28 mm	28 mm	178 mm	130 mm	80 mm
34	32 mm	32 mm	203 mm	157 mm	100 mm
38	36 mm	36 mm	229 mm	177 mm	115 mm
42	40 mm	40 mm	254 mm	198 mm	120 mm
46	44 mm	44 mm	279 mm	214 mm	130 mm
52	50 mm	50 mm	305 mm	235 mm	140 mm

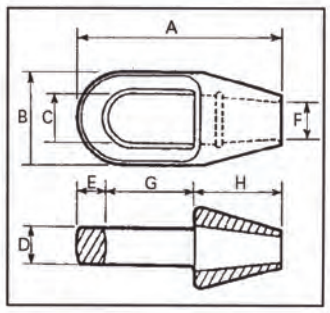
DIN 3091 Solid Thimble



Size No.	Rope Dia.	Groove Width	Outside Width	Overal Length	Pin Hole Dia.
10	8 mm	9 mm	40 mm	66 mm	14 mm
12	10 mm	11 mm	50 mm	82 mm	18 mm
14	12 mm	13 mm	60 mm	98 mm	21 mm
16	14 mm	16 mm	70 mm	114 mm	25 mm
18	16 mm	18 mm	80 mm	130 mm	28 mm
20	18 mm	20 mm	90 mm	145 mm	31 mm
22	20 mm	22 mm	100 mm	161 mm	35 mm
24	22 mm	24 mm	110 mm	177 mm	38 mm
26	24 mm	26 mm	120 mm	193 mm	41 mm
28	26 mm	29 mm	130 mm	209 mm	44 mm
30	28 mm	31 mm	140 mm	224 mm	47 mm
34	32 mm	35 mm	160 mm	256 mm	53 mm
38	36 mm	40 mm	180 mm	288 mm	59 mm
42	40 mm	44 mm	200 mm	320 mm	65 mm
46	44 mm	48 mm	220 mm	352 mm	70 mm
50	48 mm	53 mm	240 mm	384 mm	76 mm
54	52 mm	57 mm	260 mm	416 mm	81 mm

Closed Type Galvanised Steel Spelter Sockets

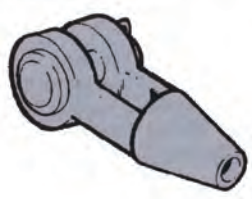


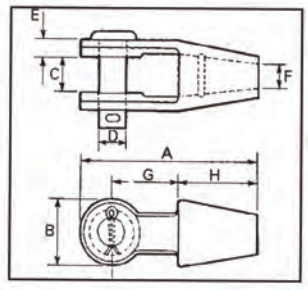


Rope Dia mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	Weight kg
18-19	194	76	41	32	28	22	79	89	2.3
20-22	225	92	48	38	32	25	92	102	3.5
24-26	254	105	57	44	35	29	105	114	5.4
28-29	283	114	64	51	38	32	117	127	7.3
32-35	314	127	70	57	42	38	130	140	10.4
38	359	137	79	64	51	41	156	152	12.7
40-42	391	146	83	70	54	44	171	165	16.3
44-48	445	171	89	76	57	51	200	191	26.3
50-54	502	194	98	83	64	57	225	216	36.3
56-60	549	216	102	92	67	64	241	229	45.6
64-67	597	241	140	102	79	73	270	248	63.6
75-80	686	292	171	133	83	86	298	305	125.5

All dimensions are approximate

Open Type Galvanised Steel Spelter Sockets

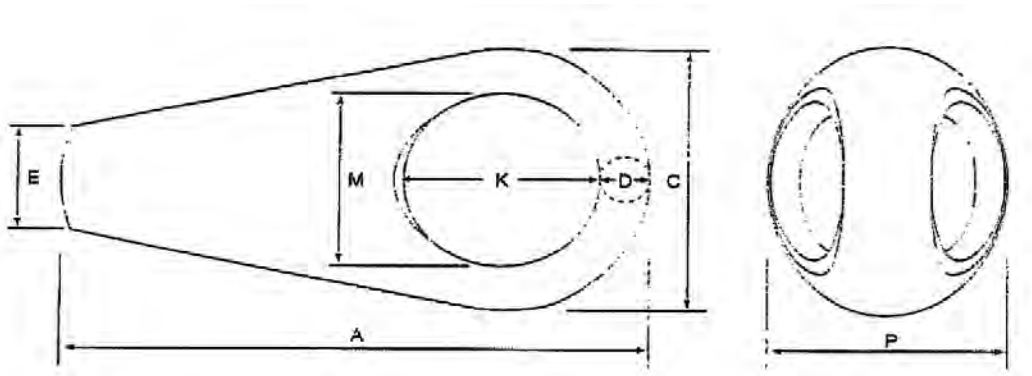




Rope Dia mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	Weight kg
18-19	203	67	38	35	16	22	76	89	2.7
20-22	235	79	44	41	19	25	89	102	4.5
24-26	270	95	51	51	22	29	102	114	7.0
28-29	302	105	57	57	25	32	114	127	10.9
32-35	336	121	64	64	29	38	127	140	14.5
38	384	137	76	70	32	41	162	152	20.9
40-42	413	146	76	76	35	44	165	165	25.0
44-48	464	165	89	89	41	51	178	191	38.5
50-54	546	178	102	95	48	57	229	216	56.8
56-60	597	197	114	108	54	64	254	229	74.9
64-67	648	216	127	121	60	73	273	248	113.6
75-80	737	241	146	133	76	86	286	305	172.7

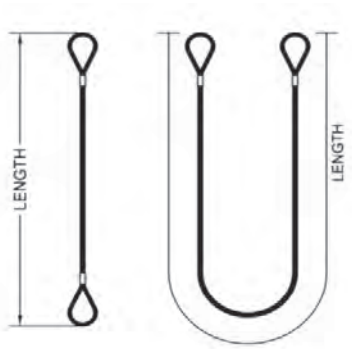
All dimensions are approximate

US Type Mooring Socket

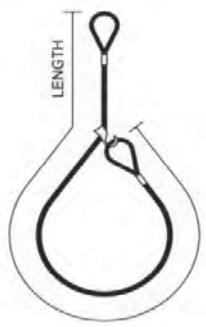


Size No.	Rope Dia.	A	C	D	E	K	M	P
10	31.7 - 34.9	246	122.2	38.1	47.6	82.5	76.2	96.8
12	38.1 - 41.2	304.8	152.4	40.4	57.1	103.1	92.0	122.2
14	44.4 - 47.6	355.6	177.8	47.6	66.6	120.6	111.1	139.7
16	50.8 - 53.9	390.5	201.6	53.9	76.2	133.3	120.6	158.7
18	57.1 - 60.3	438.1	220.6	61.9	80.9	146.0	133.3	184.1
20	63.5 - 66.6	457.2	263.5	68.2	96.8	165.1	149.2	217.4
22	69.8 - 73.0	539.7	273.0	74.6	104.7	177.8	163.5	222.2
24	76.2 - 79.3	584.2	295.2	76.2	114.3	193.6	174.6	242.8
26	82.5 - 85.7	625.4	319.0	82.5	120.6	215.9	193.6	260.3
28	88.9 - 92.0	669.9	339.7	92.0	127.0	228.6	201.6	269.8
30	95.2 - 98.4	698.5	355.6	98.4	133.3	234.9	214.3	290.5
34	101.6 - 107.9	803.2	412.7	111.1	152.4	498.4	241.3	317.5

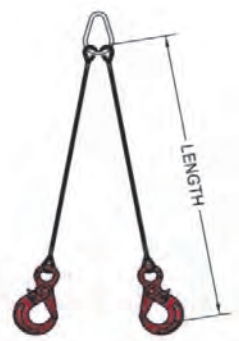
2-Legged and 4-Legged Slings Configurations



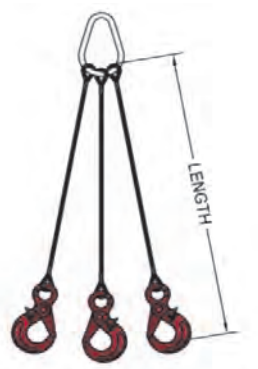
SINGLE LEG SLING



SINGLE LEG SLING



2-LEG BRIDLE SLING



3-LEG BRIDLE SLING

	Single-leg sling	Two-leg bridle sling		Three and four-leg bridle sling		Endless sling
Angle of lifting	0˚	0˚ to 45˚	46˚ to 60˚	0˚ to 45˚	46˚ to 60˚	0˚

Rope Dia.	Working Load Limit (Safety Factor 5:1)					
8 mm	0.75 T	1.05 T	0.70 T	1.55 T	1.10 T	1.20 T
9 mm	0.95 T	1.30 T	0.95 T	2.00 T	1.40 T	1.50 T
10 mm	1.15 T	1.60 T	1.15 T	2.40 T	1.70 T	1.85 T
11 mm	1.40 T	2.00 T	1.40 T	3.00 T	2.12 T	2.25 T
12 mm	1.70 T	2.30 T	1.70 T	3.55 T	2.50 T	2.70 T
13 mm	2.00 T	2.80 T	2.00 T	4.15 T	3.00 T	3.15 T
14 mm	2.25 T	3.15 T	2.25 T	4.80 T	3.40 T	3.70 T
16 mm	3.00 T	4.20 T	3.00 T	6.30 T	4.50 T	4.80 T
18 mm	3.70 T	5.20 T	3.70 T	7.80 T	5.65 T	6.00 T
20 mm	4.60 T	6.50 T	4.60 T	9.80 T	6.90 T	7.35 T
22 mm	5.65 T	7.80 T	5.65 T	11.80 T	8.40 T	9.00 T
24 mm	6.70 T	9.40 T	6.70 T	14.00 T	10.00 T	10.60 T
26 mm	7.80 T	11.00 T	7.80 T	16.50 T	11.50 T	12.50 T
28 mm	9.00 T	12.50 T	9.00 T	19.00 T	13.50 T	14.50 T
32 mm	11.80 T	16.50 T	11.80 T	25.00 T	17.50 T	19.00 T
36 mm	15.00 T	21.00 T	15.00 T	31.50 T	22.50 T	23.50 T
40 mm	18.50 T	26.00 T	18.50 T	39.00 T	28.00 T	30.00 T
44 mm	22.50 T	31.50 T	22.50 T	47.00 T	33.50 T	36.00 T
48 mm	26.00 T	37.00 T	26.00 T	55.00 T	40.00 T	42.00 T
52 mm	31.50 T	44.00 T	31.50 T	66.00 T	47.00 T	50.00 T
56 mm	36.00 T	50.00 T	36.00 T	76.00 T	54.00 T	58.00 T

General Guidance On Rope Selection

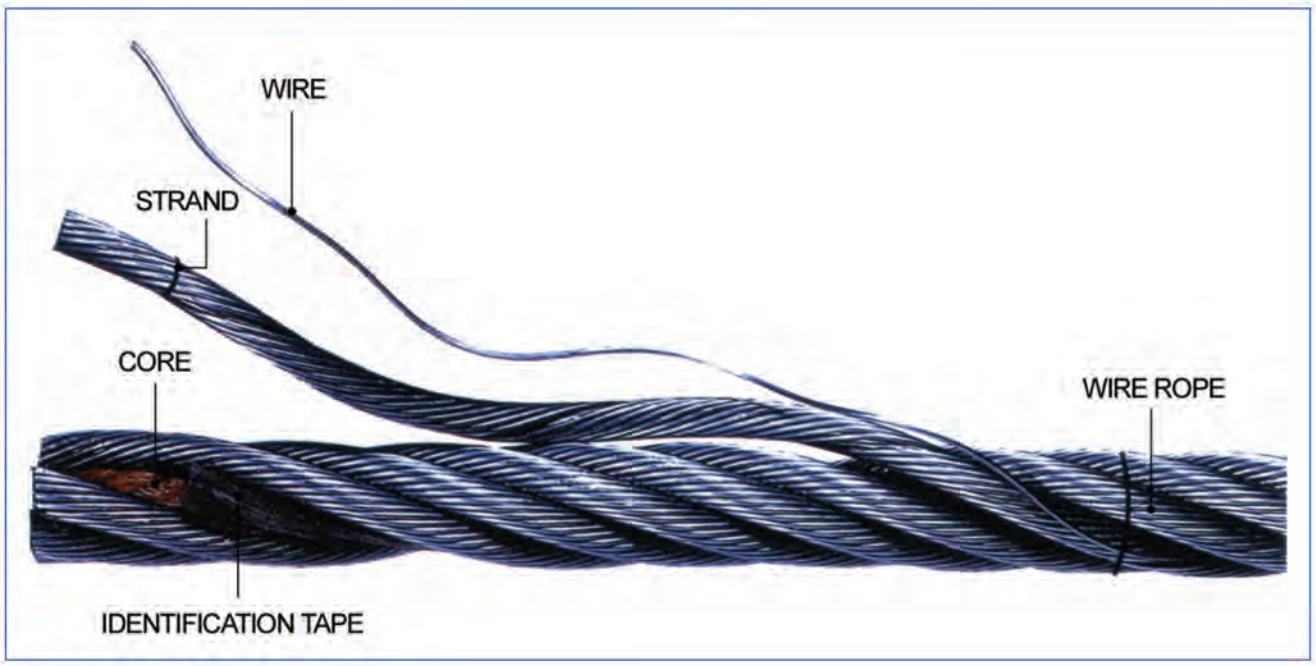
1. Construction of wire rope

The design of a rope is determined by

STRAND CONSTRUCTION : The number and arrangement of wires in each strand

ROPE CONSTRUCTION : The number and arrangement of strands in each rope

THE CORE



2. Grades of rope wire

Steel wires rope are classified into following tensile strength grades to meet various requirements according to the applications.

Grade 135 kg/mm^2 : Special grade to meet requirement of hoisting ropes on traction elevators.

Grade 150/160 kg/mm^2 : Galvanized wires coated with zinc through hot dip process for protection against corrosion.

Grade 165kg/mm^2 : Ungalvanized and drawn galvanized wires for general purpose wire ropes.

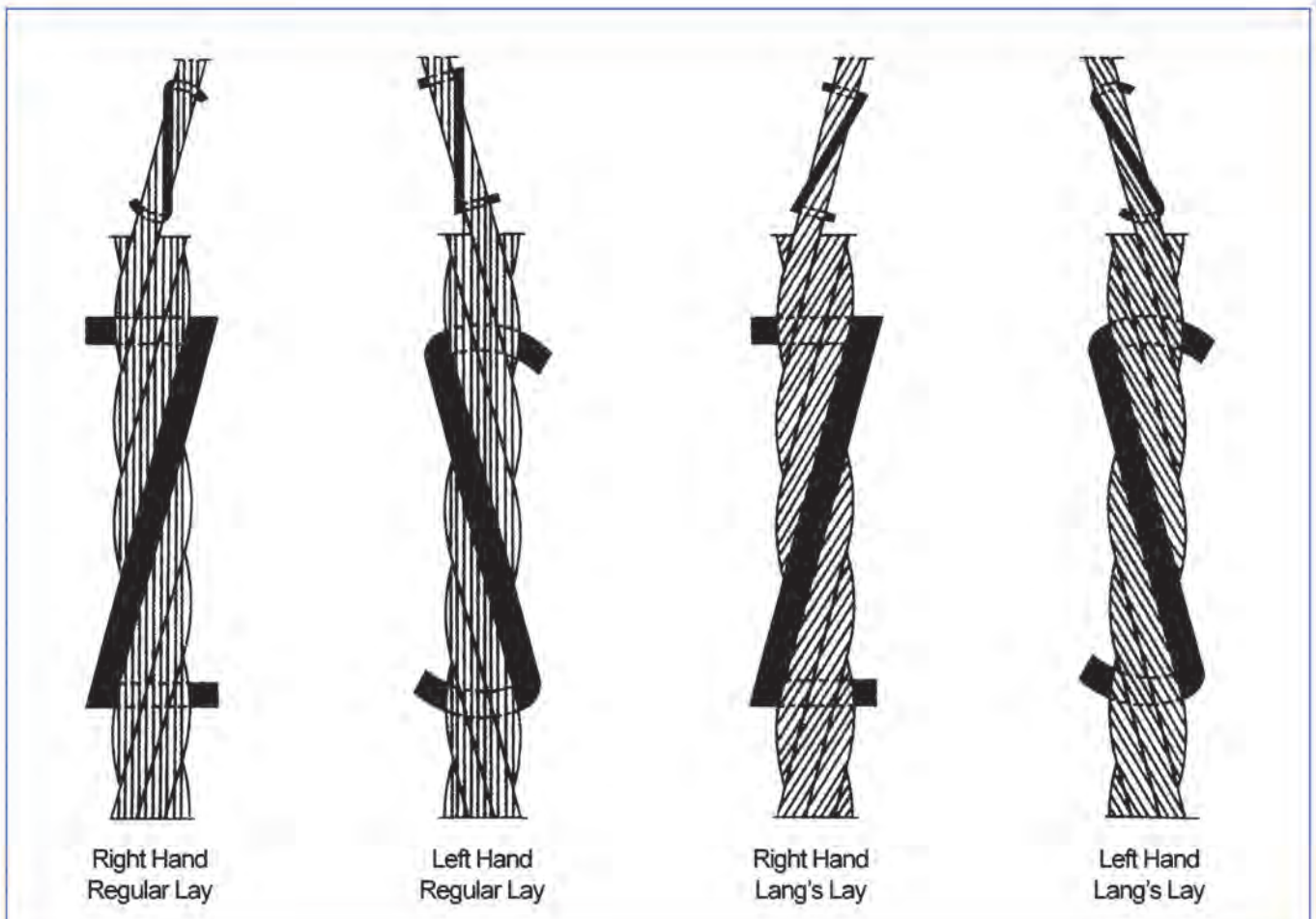
Grade 180kg/mm^2 : Ungalvanized high tensile grade wires for general purpose wire ropes.

Grade 195kg/mm^2 : Extra high tensile grade is used in the manufacture of the wire rope where ultimate breaking strength is required.

* Other higher grades are also available.

General Guidance On Rope Selection

3. Wire Rope Lay



4. Cores for wire ropes

Steel

IWRC (Independent Wire Rope Core) The main core is an independent wire rope, normally having the construction 7 x 7. IWSC (Independent Wire Strand Core) The main core is an independent wire strand, normally having the same construction as the outer strands of the rope.

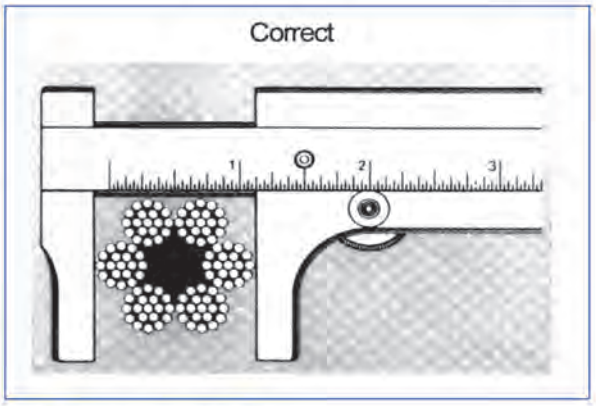
Fibre

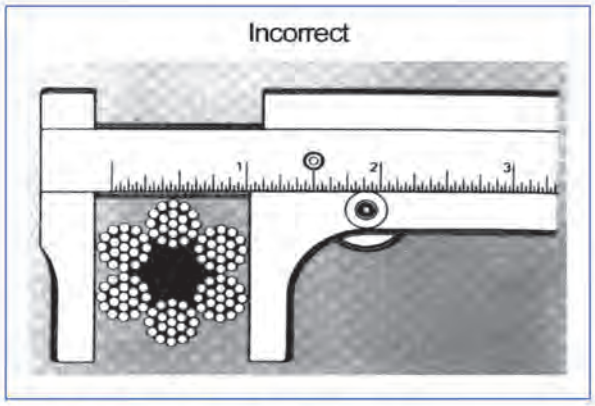
Fibre cores are stranded and comprise either; Natural fibres such as sisal hemp, jute, and cotton. Synthetic fibres such as polyamide, polyethylene, and polypropylene Asbestos fibres (heat resistant).

General Guidance On Rope Selection

5. Diameter of wire rope

The diameter of a wire rope is the diameter of the circle which encloses all of the wires. When measuring wire rope it is important to take the greatest distance of the outer limits of the 'Crown' of two opposite strands. A measurement across the valleys will result in incorrect lower readings.





6. Sheave and Drum

When a rope is bent around the sheave or drum, individual wires in the strand are subjected to bending stress and repeated bending fatigue. To obtain a smooth operation and longer life for the wire line, it is necessary to keep the diameter of sheave and drum above the recommended figures of the table and to keep the surface of the grooves sharp and smooth.

Minimum Diameter of Sheave and Drum (D=Wire Rope Dia.)

Construction	Min. Dia.	Recommended Dia.
6 x 7	45 x D	70 x D
6 x 19	30 x D	45 x D
6 x 37	20 x D	30 x D
6 x S(19)	33 x D	50 x D
6 x Fi(25)	26 x D	39 x D
6 x Fi(29)	24 x D	35 x D
8 x S(19)	27 x D	40 x D
18 x 7	35 x D	50 x D

7. Safety factor of wire rope

It is difficult to fix the safety factor for each type of wire rope to be used for various equipments, as this factor depends not only on the load carried, but also on the speed of rope working, the kinds of fitting used for rope ends, the acceleration and deceleration, length of rope, the number, size and arrangements of sheave and drums etc. The following safety factors are minimum requirements for safety and economy in the common installation.

Safety Factor of Wire Rope

Purpose	Min. S.F.
Elevator	10
Crane, Hoist Derrick, Sling	5
Guy or Stay, Horizontal Pull or Traction	4
Main Wire of Aerial Rope Way	3

8. Rope Maintenence

Avoid :

- Twist, Loop or Kink on wire rope.
- Moisture, Dust and Acid or Sulphuric Hume gas.
- Overload.
- Severe or reverse bending (S-Bending).
- Too small Sheaves, Drums and Guide Rollers.
- Hard rolling of Sheaves and Rollers.
- Worn Groove, Broken or Soft Sheaves and Rollers.
- No Lubrication.
- Heat Influence.
- Wrong Fitting and Spooling on the Drum.
- Excessive Fleet Angle.
- Vibration.
- Obstacles, Sand and Grit on the surface of operation line.
- Shock-Too fast start or stop.

General Guidance On Rope Selection

9. Lubrication

Lubrication reduces internal friction of the wires and strands and protects against corrosion. Grease is applied to all ropes. If special lubricants are required, this must be specifically stated at time of ordering.

Type of Lubrication		Lubricating Method	Suitable on Wire Rope	Appearance (Type of Grease)	Note
A-2	Closing	No Lubrication	Galv/Ungalv Wire Rope	Yellowish - Brown (Petro-Chem grease)	For general application of Galvanized Wire Rope. Slightly oily to the touch.
	Stranding	Light application Loose wipe			
	Core	Heavier than on Strand No wipe			
A-3	Closing	No Lubrication	Galv/Ungalv Wire Rope	Yelloeish -Brown Petro-Chem grease)	For general application of Ungalvanized Wire rope. Lightly tacky to hand touch.
	Stranding	Applied during stranding by running it through a bath of lubricant Tight wipe			
	Core	Heavy application No wipe			
B	Closing	No Lubrication	Ungalv Wire Rope	Black (Asphaltum grease)	For special usage and long term storage where maximum protection against corrosion.
	Stranding	Applied during stranding by running through a bath of lubricant			
	Core	Heavier than on strand Loose wipe			
C	Closing	No Lubrication	Ungalv Wire Rope	Black (Asphaltum grease)	Lubrication sets up to a medium hard consistancy. Ideal for oilfield, construction equipment and logging use. Lightly tacky to hand touch.
	Stranding	Applied during stranding by running it through a bath of lubricant Loose Wipe			
	Core	Heavy application No wipe			
D	Closing	Heavy Application Loose Wipe after the "bath" application	Ungalv Wire Rope	Black (Asphaltum grease)	Wire rope valley is filled with lubrication. For special purpose lubrication of Ungalv Wire rope where maximum protection against corrosion is desired.
	Stranding	Applied during stranding by running it through a bath of lubricant Tight Wipe			
	Core	Heavy application No Wipe			

General Guidance On Rope Selection

10. Pictures of Wire Rope End Terminations

WEDGE SOCKET

LOOP OR THIMBLE SPLICE-HAND TUCKED

CLIPS (NUMBER OF CLIPS VARIES WITH ROPE SIZE AND CONSTRUCTION)

MECHANICAL SPLICE-LOOP OR THIMBLE

WIRE ROPE SOCKET - SWAGED

WIRE ROPE SOCKET - POURED SPELTER OR RESIN

General Guidance On Rope Selection

11. MORDEC™ In-house Test Certificate

MORDEC
mordec innovative solutions uk ltd

TESTING AND CERTIFICATION CENTRE
[MORDEC authorized testing and certification centre]
No. 2, Sixth Lok Yang Road
#03-03 Scott and English Building
Singapore 628100

CERTIFICATE OF TEST AND EXAMINATION OF LIFTING APPLIANCES AND GEARS

Customer Name: MEP Systems Pte Ltd
Certificate No.: MTC - 00001
Customer Ref:
Issue Date: 01/01/10

Distinguishing Mark	Description	Quantity Tested	Date of Inspection	Working Load Limit	Test Load Applied
MTC-00001	Dia 18mm x 2.05mtr Galv'd Steel Wire Rope c/w Both Ends Hand Spliced Soft Eyes	2 Lgth	01/01/10	3.7 Ton	7.4 Ton
Remark (if any):					

This document certifies that the items or appliances described herein were tested and examined in accordance to standards specified overleaf. Test products were found to have withstood the load test without deformation and free from cracks or any visible defects.

This certificate is issued solely for the purpose of ascertaining the condition of the items described herein at the time of the Test and shall not be relied upon as certification of the quality of the items other than what has been specifically tested as described herein.

Keith Tan (MCE-062)
Name of Examiner / Tester

MORDEC UK CERTIFIED EXAMINER
KEITH TAN
MCE - 062
Signature / Date

[Factories Act, 1961; Docks Regulations, 1988; The Lifting Operations and Lifting Equipment Regulations, 1998]
[Shipbuilding and Ship-repairing (Safety, Health and Welfare) Regulations, 1975]

We are able to test lifting gears and appliances compliance to the various classification societies' specifications and standards:

Lloyd's Register · ABS · Bureau Veritas · DNV · ClassNK Nippon Kaiji Kyokai · CCS

Steel Wire Rope Manual

Drum Capacity (Feet of rope) =
(B + A) x A x C x F
where A, B and C are in inches.

For example, if the diameter of the drum is 18 inches, the depth of the flange is 2 inches and the distance between drum flange is 24 inches, the drum's capacity for a 3/4 inch rope is:
Capacity = (18 + 2) x 2 x 24 x.465 = 446 feet.

TABLE 1.1

DRUM OR REEL CAPACITY FACTOR

Nominal Rope Diameter (Inches)	F
1/4	4.160
5/16	2.670
3/8	1.860
7/16	1.370
1/2	1.050
9/16	0.828
5/8	0.672
3/4	0.465
1/4	0.342
7/8	0.262
1	0.207
1 1/8	0.167
1 1/4	0.138
1 3/8	0.116
1 1/2	0.099
1 5/8	0.085
1 3/4	0.074
1 7/8	0.066
2	0.058
2 1/8	0.052
2 1/4	0.046
2 1/2	0.042

The factor (F) applies to nominal rope size and level winding. Since new ropes are usually oversized by 1/32" per 7/32" of rope diameter, the result obtained by the formula must be decreased to account for oversized rope and/or random or uneven winding, as follows:

For oversized ropes decrease the calculated length by from 0 - 6%.

For random wound ropes decrease the calculated length by from 0 - 8%.

Whenever possible use grooved drums rather than smooth drums as the grooves furnish better support for the rope that do flat surfaces, and more uniform winding results in less abrasive wear on the rope. The groove surfaces on grooved drums and the complete surface on smooth drums should be perfectly smooth, those which have taken the imprint of the outer wires of previous ropes will exert a grinding action on new ropes.

This imprinting and scoring is caused by high contact pressures between the rope and drum surface. If this condition is evident then the drum must be resurfaced and the contact pressure reduced by:

(a) decreasing the load on the rope, or

(b) increasing the drum diameter, or

(c) replacing the drum with one having harder metal.

The radial contact pressure can be calculated as follows:

$$P = \frac{2L}{Dd}$$

Where P = radial pressure in psi (Fig.4.8)
L = rope load in pounds
D = tread diameter of drum or sheaves (inches)
d = rope diameter (inches)

Example: 7/8 x 19 Round Strand rope maximum working load = 11,800 lbs.
drum diameter = 18"

$$P = \frac{2L}{Dd} = \frac{2\,(11{,}800)}{18 \times 7/8} = 1498 \text{ psi}$$

This contact pressure means, from the table, that the drum must be Manganese steel.

It is suggested the limit given in table 1.2 be observed for all drums and sheaves.

TABLE 1.2

Rope Construction	Contact Pressure (PSI) Limits For Sheave & Drum Materials		
	Cast Iron	Cast Steel	Manganese Steel
6 x 7 Reg. Lay	300	550	1,500
6 x 7 Lang Lay	350	625	1,700
6 x 19 Reg. Lay	500	900	2,500
6 x 19 Lang Lay	575	1,025	2,850
6 x 37 Reg. Lay	600	1,075	3,000
6 x 37 Lang Lay	700	1,250	3,500
8 x 19 Reg. Lay	600	1,075	3,000
6 x 8 Flat Strand	500	900	2,500
6 x 25 Flat Strand	800	1,450	4,000
6 x 33 Flat Strand	975	1,800	4,900

Steel Wire Rope Manual

Fig. A Determination of Drum Capacity

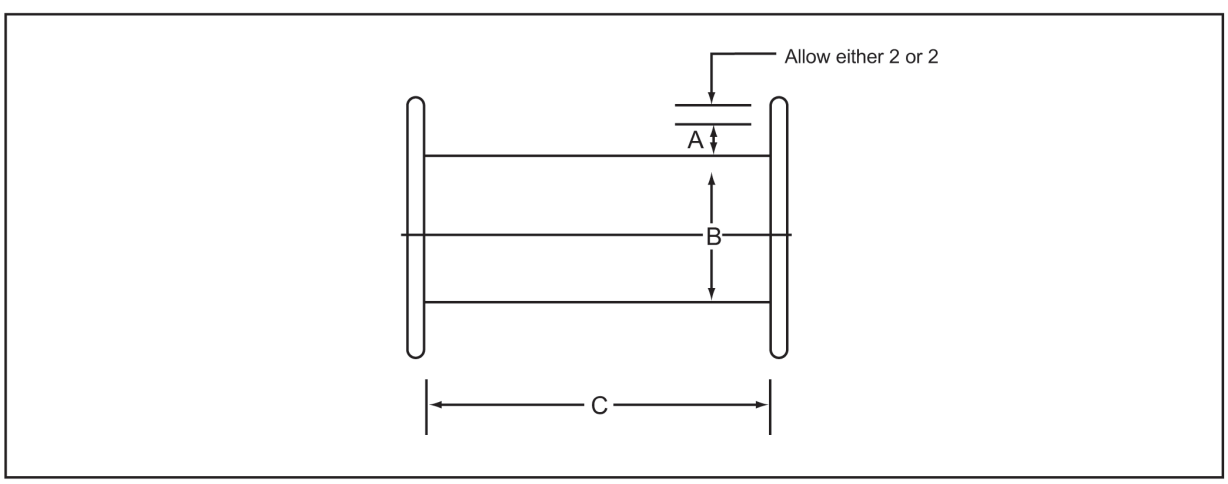


Fig. B Check For Drum Scoring During Inspections

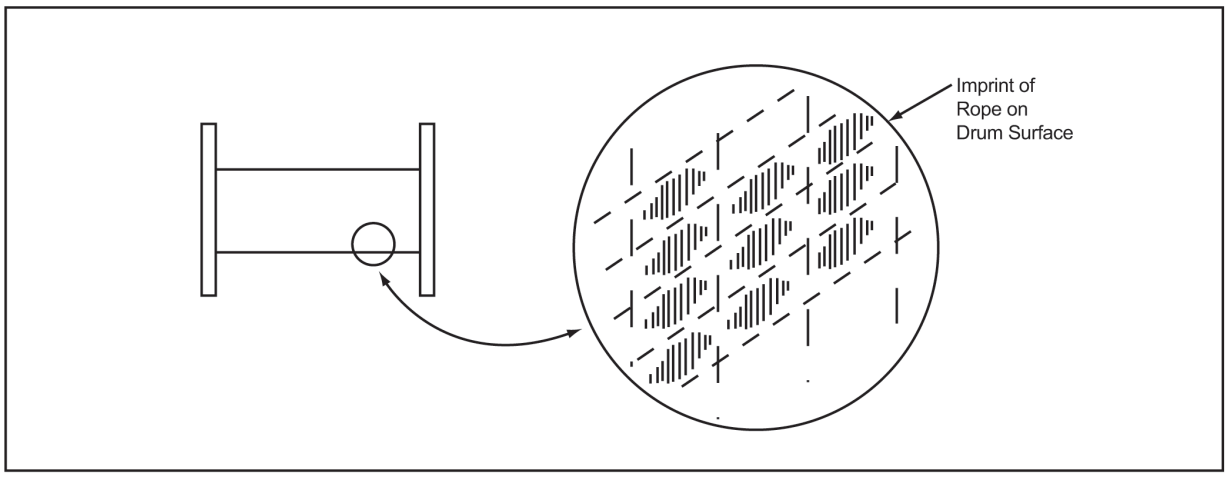
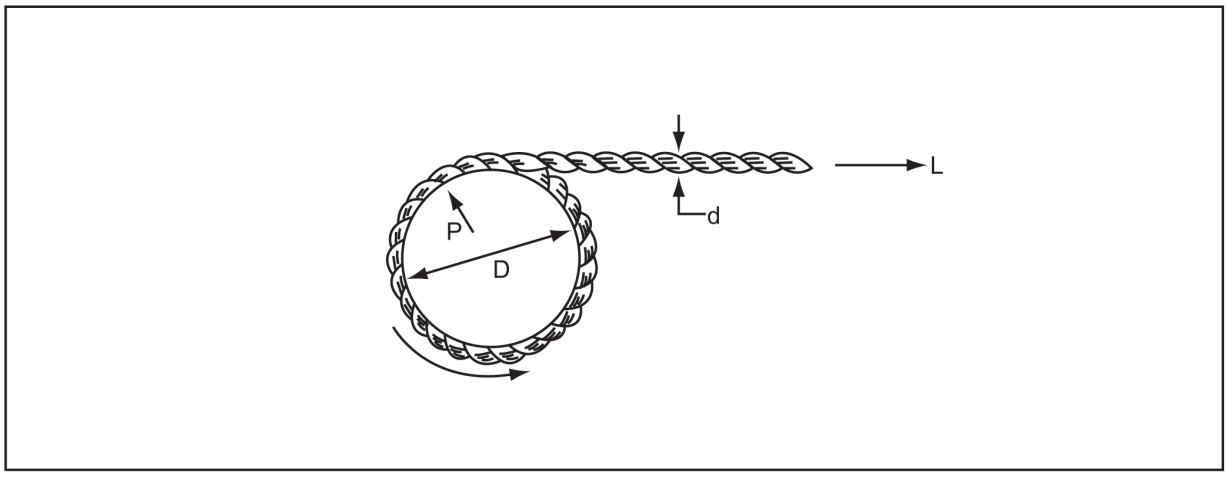


Fig. C Determination of Drum Contact Pressures



Steel Wire Rope Lubrication

LubMaster WRD

DESCRIPTION

LubMaster Wire Rope Dressing (WRD) COMPOUND is a semi fluid grease, specifically formulated wax/polymer lubricant, that is totally water repellent.

Wire ropes contain numerous moving parts which require lubrication. Each time the rope bends or flexes, the internal strands rub together. **LubMaster WRD** ensures that the rope is lubricated throughout while providing a nondrying, non-tacky film on the outside of the rope. Such protects outer strands from corrosion as well as lubricates the wire rope drums and sheaves.

Compound coats wire rope strands externally to prevent friction and wear. Dressing that is aromats free has good creeping capability to IWRC (Steel Core) ropes core resulting in longer wire rope life, less downtime for rope changes, and enhanced productivity.

TYPICAL APPLICATION

- Hoists, Cranes, drag lines, offshore wire ropes in extreme or harsh environments.
- Wire ropes running or standing, being used at ports and ship loader facilities.
- Rust protection for all exposed metal surfaces.

BENEFITS

- Unique wax/polymer formulation forms pliable external coating.
- High treat level of anti-rust additives eliminates corrosion problems in the harshest environments.
- Low viscosity base fluid, coupled with penetrating agents, provide complete internal penetration and protection to ropes.
- Thixotroping agents minimize dripping and fling off.

NOTES

- Can be applied by brush or drip, but preferably sprayed to activate thixotrope.

LubMaster WRD Cable Laid Application

Steel Wire Rope Lubrication

LubMaster WRD

PROPERTIES

TYPICAL PROPERTIES

Color	Gray Black
Apparent Viscosity @ 25°C	1000cP
Drop Point	100°C
Breaking Point	Below-40°C
Residual Film Thickness	120 micron
Salt Spray Corrosion ASTM B117	+1000 hrs
Capillary Creep (SIS 1860 17) @ 10°C	+10mm
Four Ball Anti-Wear Scar 60 min @ 40kg. (mm)	0.6mm

Specifications as at November 2006

Steel Wire Rope Lubrication

LubMaster Grease

DESCRIPTION

LubMaster Grease is a blend of high viscosity petroleum base oil with shear stable lithium soap thickener, fortified anti wear, anti rust with unique additives package combine to achieve high performance and year-round utility lubricant for wire ropes. This results in longer wire rope life, less downtime for rope changes and enhanced productivity.

TYPICAL APPLICATION

Lubrication and maintenance of draglines, towing cables, pendant ropes and other offshore applications can be simplified by use of **LubMaster Grease**.

BENEFITS

- Solid additives package are pre-activated to increase their natural positive affinity to all metal surfaces to ensure easy lubricant applications for extended re-lubrication intervals.
- Polymer allows flexibility to **external coating** for wire rope in harsh environments.
- Bonding and cohesive properties provide superior lubrication to withstand wet corrosive conditions.
- Scientifically designed for self-sealing protection, keeping ropes from dust and dirt build-up.
- Long lasting dressing formed to **resist fling-off and cracking**.

NOTES

- **LubMaster Grease** is not compatible with sodium or inorganic base greases.
- Best performance when applied with Mastro Spray (Compress Air Assisted Method ensures penetration to Wire's centre core strand).

LubMasterGrease Application on Coiled Wire Ropes

Steel Wire Rope Lubrication

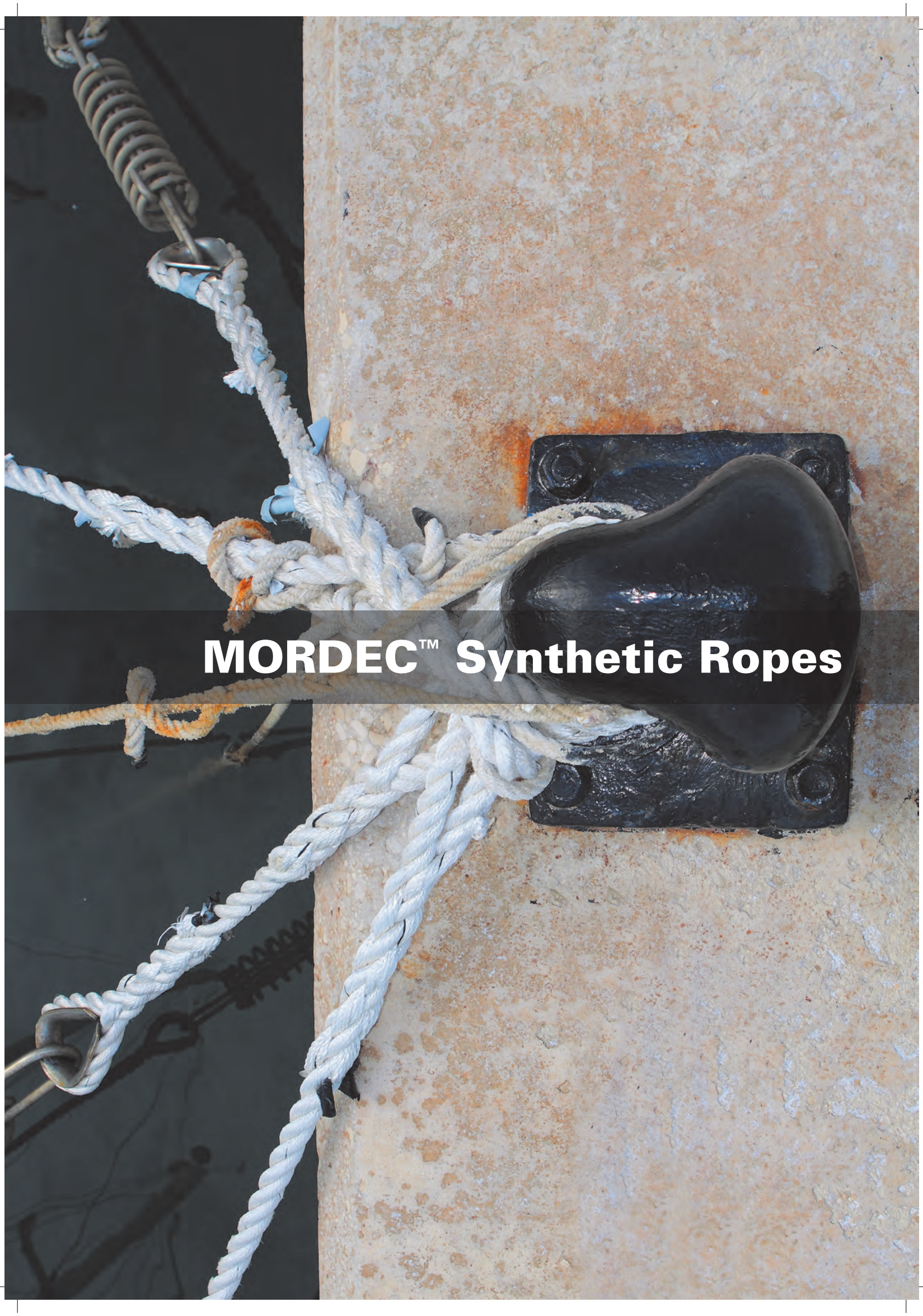
LubMaster Grease

PROPERTIES

TYPICAL PROPERTIES

NLGL Grade	2
Colour	Grey Black
Thickener	Mixed Soap Lithium
Texture	Smooth Tacky Adhesive
Base Oil Viscosity: cSt @ 40°C cSt @ 100°C	 860 41.6
Safe operating temp.°C	118
Emcor Rust Test	(Pass)
Timken EP OK Kg.	36
Four Ball Test Weld Load Kg. Wear index	 800 93
Additive Package	Heavy Duty

This information in this bulletin is, to our best knowledge, true and accurate, but all recommendation or suggestions are made without guarantee, since the conditions of use are beyond our control. It is the user's obligation to evaluate and use the product safety and to comply with all applicable laws and regulations.
Specifications as at November 2006

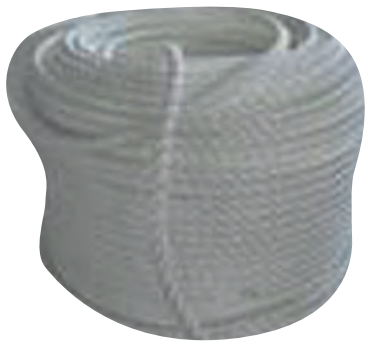


MORDEC™ Synthetic Ropes

Types Of Synthetic Rope

These products are manufactured in several international standards according to the destinations where the goods will be consumed. The major standards to carry our productions are US Standards & ISO Standard. Therefore, please indicate on your order sheets the industrial standard you would like, or describe the specifications you would need.

No.	Items	Specifications	Use
1	Polypropylene Monofilament Rope or Polyethylene Monofilament Rope	a) 3,4-strand, Z-twist, 200 or 220 meter coil, Dia 4mm to 100mm. Assorted colours. b) 8-strand plaited, 200 or 220 meter coil, Dia 20mm to 120mm. Assorted colors.	For Vessels, Fisheries, Sea-culture, Sporting, Packing, etc. Mooring Line, Tow-line, other industrial uses.
2	Polypropylene Danline Type Rope	a) 3,4-strand, Z-twist, 200 or 220 meter coil, Dia 4mm to 100mm. Assorted colours. b) 8-strand plaited, 200 or 220 meter coil, Dia 20mm to 120mm. Assorted colors.	For Vessels, Fisheries, Whale-line, Mooring Line, etc. Mooring Line, Tow-line, other industrial uses.
3	Mega Rope	a) 3,4-strand, Z-twist, 200 or 220 meter coil, Dia 4mm to 100mm. Extra strength. b) 8-strand plaited, 200 or 220 meter coil, Dia 20mm to 120mm. Extra strength.	For Vessels, Fisheries, Whale-line, Mooring Line, etc. Mooring Line, Tow-line, other industrial uses.
4	Nylon Multifilament Rope or Polyester Multifilament Rope	a) 3-strand, Z-twist, 200 or 220 meter coil, Dia 4mm to 100mm. White colour only. b) 8-strand plaited, 200 or 220 meter coil, Dia 20mm to 120mm. White colour only.	For Vessels, Fisheries, Mooring Line, Tow-line, other industrial uses.
5	Vinylon (Kuralon) Rope	3,4-strand, Z-twist, 200 or 220 meter coil, Dia 4mm to 100mm. White colour only.	Fisheries, Boat Rope, Tow-line, Sporting, etc.
6	Manila, Sisal Rope	3-strand, Z-twist, 200 or 220 meter coil, Dia 4mm to 96mm. Manila or Sisal colour.	Fisheries, Boat Rope, etc.
7	Vinylon & Polyethylene Mixed Rope	Mixture of Vinylon & Polyethylene, 3-strand, Z-twist, 200 or 220 meter coil, Dia 4mm to 100mm.	Fisheries, Cargo Rope, Truck Rope, Sporting, etc.



MORDEC™ SYNTHETIC ROPES

No.	Items	Specifications	Use
8	Wire & Fiber Compound Rope	Wire core & Fiber jacket in each strand, 3, 4, 6-strand, Z-twist, 200 meter coil, Dia 14mm to 54mm.	Trawl Rope, Tow-line, Mooring Line, other industrial uses.
9	Wire & Fiber Combination Rope	Wire core & Fiber jacket in each strand, 3-strand twisted, 100 or 200 meter oil, Dia 48mm to 58mm.	For Fisheries.
10	Lead Core Rope	Leaded in one or each starnd of Rope, 3, 4-strand, Z-twist, 200 or 220 meter oil, Dia 8mm to 100mm.	For Fisheries and Sinker Rope.
11	Braided Rope	Made of PE, PP, Nylon or Polyester, 8 ply 16 ply 24 ply Diamond Braided or 12 ply Solid Braided, Dia 4mm to 12mm.	Yacht Line, Boat Rope, etc.
12	Polyethylene Twisted Twine	3-strand, Z-twist, 100 meter / Hank, Dia 1.5mm to 5mm. Assorted colours.	For Fisheries or many uses.
13	Baler Twine (Film Twine)	Twisted, 3Kgs-5Kgs per coreless tube. Size: 7,000 denier to 40,000 denier.	For Binding, Packaging or Agricultural uses, etc.
14	Nylon Twine	3 ply twisted, 1 lb or 1/2 lb/6 inch Bobbin. Size: 210d/15 ply to 300 ply, White or Coloured.	For Fisheries or many uses.
15	Synthetic Fiber Yarns	Polyethylene, Polypropylene or Nylon, Monofilament or Multifilament, 3Kgs - 5Kgs per paper tube.	For Rope making or other many uses.
16	DIY Utility Cords	Polypropylene or Nylon, Various sizes and lengths, hanks or coils.	For many uses.
17	Polyethylene Knotless Net	400d/24ply-15ply, stretched mesh size 30mm to 160mm, heat stabilized.	Fisheries, Indoor Golf Fence, Tennis Court Fence, etc.
18	Dyneema Rope (HMPE)	Made of Dyneema® Fibres (SK 75), one of the strongest fibres in the world. 12 Strand rope.	Towing, Mooring, Fisherles, 4 x 4 WD offshore application, etc.

Also available standard length per coil: 600ft, 720ft, 1,200ft.

MORDEC™ SYNTHETIC ROPES

Various Ropes in Different Materials

ITEM NO.	ITEMS	SPECIFICATION
1	Polypropylene rope	This rope has good strengths against the loads and abrasions, and is economical in its price hence widely used for consumers and industries. The main features are floatable, rot-free, light and easy to handle. We extrude the excellent fiber and make the ropes in 3-strand, 4-strand and 8-strand.
2	Polyethylene rope	This rope is very similar to Polypropylene rope in its appearance and strengths. But, the main differences are slippery surface and high resistance in ultra-violet rays. Therefore, this rope is used much in hot weathers like Africa and Middle-East countries.
3	Nylon Multifilament rope	Nylon is strongest among the general synthetic fibers except Kevlar or Spectra. The main features are high strength and long life in all weathers, high elasticity and shock adsorption, sink in the water. This is an expensive rope, hence can be used where the strengths are important.
4	Polyester Multifilament rope	This rope has very similar appearance to Nylon Rope. But, the main differences are 21% heavier weight and 40% shorter stretch than Nylon. This rope also has the excellent strengths against loads and abrasions hence used much for boats, yacht and vessels.
5	Vinylon (Kuralon) rope	Appearance of Vinylon Spun Fiber looks like cotton. Also, the feelings are soft and good like cotton. But, this is a synthetic fiber, hence rot-free and much stronger than natural cotton and sinks in the water.

Construction of Rope

ITEM NO.	3- STRAND	4- STRAND	8- STRAND
Sectional Drawing			
Full Coils			

Polypropylene Synthetic Ropes Technical Specifications

ITEM	MECHANICAL PROPERTIES	POLYPROPYLENE
1	Tenacity (resistance to breaking	7 - 10 g/den (6.16 cN/Dtex)
2	Elongation (before breakage)	18 - 22%
3	Coefficient of friction (reluctant to slip against Steel)	0.15 - 0.22
4	Melting Point	330° F (165 °C)
5	Critical Temperature (Degradation occurs)	250° F (121 °C)
6	Specific Gravity	0.91
7	Cold Flow (Creep) Molecular slippage due to constant static loading	Negligible to High

Comparison Table of Each Synthetic Fiber Rope

General Characteristics of Synthetic Fiber Ropes

Item	Base	Specific Gravity	Suction Rate	Elasticity at Breaking Point	Features
Polyethylene Rope (Monofilament)	Polyethy	0.95	11%	32%	• Possible to float • Do not perish • Strong about 1.5 times of Manila • Light weight about 70% of Manila Rope
Polypropylene Rope (Monofilament)	Olefin	0.91	14%	37%	• Lightest among all fiber ropes • Decay by long & strong sunlight • U.V Stabilization available to reduce the decay • About 25% more strength than Polyethylene Mono rope
Polypropylene Rope (Multifilament)	Olefin	0.91	17%	38%	• Very soft and pleasant to touch, easy to handle • Other points same as Mono
Polypropylene Rope (Danline Type)	Olefin	0.91	11%	28%	• 10% more strength than Mono • Less stretchable than Mono
Nylon Rope (Multifilament)	Polyamid	1.14	15%	50%	• Strongest among all synthetic fiber ropes, 1.5 times of Polypropylene • Do not perish • Very soft and pleasant to touch • About 30% heavier than Polypropylene • High elasticity & shock absorption
Polyester Rope (Multifilament)	Polyester	1.38	12%	31%	• Very strong but about 24% less than nylon • Less stretchable than nylon • No strength decline in wet • 21% heavier than nylon • Do not perish • Very soft and pleasant to touch
Vinylon Rope	Polyvinyl Alcohol	1.30	36%	37%	• Appearance and soft to touch like cotton • About half strength of nylon rope • Easy to handle

MSM-S8 Mixed Rope
(8-Strand, Polypropylene & Polyester)

Features:
- Light, stronger than nylon and easy to handle
- Excellent resistance to chemical and water absorption
- Low elongation, retain flexibility for lasting usage
- Better UV & abrasion resistance due to Polyester cover
- Quality, Strength and Fatigue tested
- Meets international & British Standards

General Applications:
- Marine, Commercial Fishing, Mooring, Dock & Anchor line
- Hoisting, Towing, Rigging, Safety and All Purpose lines
- Industrial and Farm usage

Technical Specification:

Materials	: Accordance with OCIMF guide line (40% Polyester & 60% PP Mono Mixed)
Construction	: Braided
Color	: White with 3 black tracer
Relative Density	: 1.05
Tolerance	: + / -5%
Length	: 220M
Certification	: G.L, LRS

Meets Requirements of EN 699, EN ISO 1346:2004, EN ISO 1969:2005, IS 14928-1

Specification (8 Strand) - 220M						
Product Code	Nomimal Diameter		Circ	Weight		Minimum Breaking Strength
200M	mm	Inch	Inch	Kg/100m	lbs/100ft	Kg
MSM-S8-024220	24	15/16	3	31.90	21.44	12000
MSM-S8-028220	28	1 1/8	3 1/2	43.40	29.16	15800
MSM-S8-032220	32	1 1/4	4	56.50	37.97	20000
MSM-S8-036220	36	1 1/2	4 1/2	71.40	47.98	24900
MSM-S8-040220	40	1 5/8	5	88.40	59.4	30000
MSM-S8-044220	44	1 3/4	5 1/2	108.00	72.57	35800
MSM-S8-048220	48	1 7/8	6	128.00	86.01	46290
MSM-S8-052220	52	2 1/16	6 1/2	150.00	100.8	54300
MSM-S8-056220	56	2 1/4	7	172.00	115.58	62800
MSM-S8-060220	60	2 3/8	7 1/2	199.00	133.72	72000
MSM-S8-064220	64	2 1/2	8	225.00	151.19	82600
MSM-S8-068220	68	2 5/8	8 1/2	255.00	171.35	92100
MSM-S8-072220	72	2 7/8	9	285.00	191.51	102000
MSM-S8-080220	80	3 5/32	10	352.00	236.53	125500
MSM-S8-088220	88	3 7/16	11	502.00	337.33	156000
MSM-S8-096220	96	3 13/16	12	598.00	401.84	185000
MSM-S8-104220	104	4 1/8	13	701.00	471.05	216000
MSM-S8-112220	112	4 7/16	14	813.00	546.31	250000
MSM-S8-120220	120	4 3/4	15	933.00	626.95	286000
MSM-S8-128220	128	5 1/16	16	1060.00	712.29	325400
MSM-S8-136220	136	5 3/8	17	1200.00	806.37	365000
MSM-S8-144220	144	5 5/8	18	1345.00	903.8	405000
MSM-S8-160220	160	6 5/16	20	1660.00	1115.47	50000

* Minimum breaking strength is 6 times the working load limit

Note:
Minimum Breaking Strength is 6 times the Working Load Limit. Standard usage of rope should not exceed safe working load limits. Breaking strength is determined on new rope in soft lay construction under dry conditions. These values may be lower in wet or extreme conditions.

MSP-S3 Polypropylene Rope (3-Strand)

Features:
- Light weight, easy to handle and floats on water
- Good resistance to chemical and abrasion
- Low water absorption
- Controlled elongation for long lasting usage
- Quality, Strength and Fatigue tested
- Meets international & British Standards

General Applications:
- Marine, Commercial Fishing, Mooring, Dock & Anchor line
- Hoisting, Towing, Rigging, Safety and All Purpose lines
- Industrial and Farm usage

Technical Specification:

Materials	: 100% polypropylene resin, certified supplier only
Construction	: Twisted
Color	: White with red tracer on one strand
Relative Density	: 0.91
Tolerance	: + / -5%
Length	: 200M
Certification	: MILL

Meets Requirements of EN 699, EN ISO 1346:2004, EN ISO 1969:2005, IS 14928-1

Specification (3 Strand) - 200M						
Product Code	Nomimal Diameter		Circ	Weight		Minimum Breaking Strength
200M	mm	Inch	Inch	Kg/100m	lbs/100ft	Kg
MSP-S3-006200	6	1/4	3/4	1.70	1.14	680
MSP-S3-008200	8	5/16	1	3.00	2.01	1200
MSP-S3-009200	9	3/8	1 1/8	3.80	2.55	1500
MSP-S3-010200	10	7/16	1 1/4	4.55	3.05	1800
MSP-S3-012200	12	1/2	1 1/2	6.59	4.42	2700
MSP-S3-014200	14	9/16	1 3/4	9.00	6.04	3600
MSP-S3-016200	16	5/8	2	11.59	7.78	4500
MSP-S3-018200	18	3/4	2 1/4	14.80	9.93	5800
MSP-S3-020200	20	13/16	2 1/2	18.00	13.08	6900
MSP-S3-024200	24	15/16	3	26.00	17.45	9900
MSP-S3-026200	26	1	3 1/4	30.50	20.49	11500
MSP-S3-028200	28	1 1/8	3 1/2	35.50	23.83	13200
MSP-S3-030200	30	1 1/4	3 3/4	41.00	27.55	14900
MSP-S3-032200	32	1 5/16	4	46.00	30.87	16800
MSP-S3-03600	36	1 7/16	4 1/2	58.50	39.26	20600
MSP-S3-040200	40	1 5/8	5	72.00	48.32	25700

* Minimum breaking strength is 6 times the working load limit

Note:
Minimum Breaking Strength is 6 times the Working Load Limit. Standard usage of rope should not exceed safe working load limits. Breaking strength is determined on new rope in soft lay construction under dry conditions. These values may be lower in wet or extreme conditions.

MSP-S8 Polypropylene Rope (8-Strand)

Technical Specification:

Materials : 100% polypropylene resin, certified supplier only
Construction : Braided
Color : White with red tracer on one strand
Relative Density : 0.91
Tolerance : + / -5%
Length : Available in 200M and 220M
Certification : G.L, LRS

Meets Requirements of EN 699, EN ISO 1346:2004, EN ISO 1969:2005, IS 14928-1

Specification (3 Strand) - 200M						
Product Code	Nomimal Diameter		Circ	Weight		Minimum Breaking Strength
200M	mm	Inch	Inch	Kg/100m	lbs/100ft	Kg
MSP-S8-024200	24	15/16	3	25.90	17.40	9900
MSP-S8-028200	28	1 1/8	3 1/2	35.45	23.82	13200
MSP-S8-032200	32	1 1/4	4	45.90	30.84	16800
MSP-S8-036200	36	1 1/2	4 1/2	58.64	39.40	26066
MSP-S8-040200	40	1 5/8	5	71.82	48.26	25700
MSP-S8-044200	44	1 3/4	5 1/2	90.00	60.48	31800
MSP-S8-048200	48	1 7/8	6	104.00	69.88	36600
MSP-S8-052200	52	2 1/16	6 1/2	122.00	81.98	42100
MSP-S8-056200	56	2 1/4	7	142.00	95.42	52000
MSP-S8-060200	60	2 3/8	7 1/2	163.20	109.67	59500
MSP-S8-064200	64	2 1/2	8	185.00	124.31	67550
MSP-S8-072200	72	2 7/8	9	234.00	157.24	84500
MSP-S8-080200	80	3 5/32	10	290.00	194.87	104000
MSP-S8-088200	88	3 7/16	11	351.00	235.86	125000
MSP-S8-096200	96	3 13/16	12	417.00	280.21	148000
MSP-S8-104200	104	4 1/8	13	490.00	329.26	173500
MSP-S8-112200	112	4 7/16	14	570.00	383.02	201000
MSP-S8-120200	120	4 3/4	15	650.00	436.78	230000
MSP-S8-128200	128	5 1/16	16	740.00	497.26	258850
MSP-S8-136200	136	5 3/8	17	840.00	564.45	291000
MSP-S8-144200	144	5 5/8	18	940.00	631.65	321500
MSP-S8-160200	160	6 5/16	20	1152.00	774.11	390300

* Minimum breaking strength is 6 times the working load limit

Nylon Rope (8-Strand)

Technical Specification:

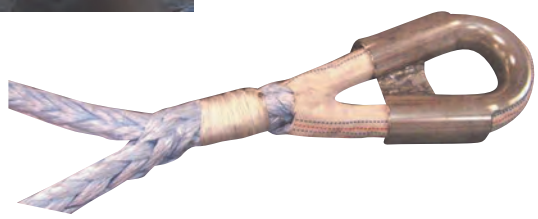
Materials	:	100% Nylon Fiber
Specified Gravity	:	1.14
Melting Point	:	220˚C
Elongation at break	:	45%
Water Absorption	:	2 - 5%
Length	:	220M
Color	:	White
Certificate	:	LRS

Product Quote	DIA		CIR	Weight		Breaking Strength
	MM	INCH	INCH	KGS/100M	LBS/100FT	kN
SN81-040220-DY	40	1-9/16	5	99.0	66.5	333.5
SN81-044220-DY	44	1-3/4	5-1/2	12.0	80.6	397.3
SN81-048220-DY	48	1-7/8	6	142.0	95.4	466.0
SN81-052220-DY	52	2-1/16	6-1/2	166.0	111.5	539.0
SN81-056220-DY	56	2-1/4	7	193.0	129.7	613.1
SN81-060220-DY	60	2-3/8	7-1/2	221.0	148.5	691.6
SN81-064220-DY	64	2-1/2	8	252.0	169.3	784.8
SN81-068220-DY	68	2-11/16	8-1/2	285.0	191.5	882.9
SN81-072220-DY	72	2-7/8	9	319.0	214.4	961.0
SN81-080220-DY	80	3-5/32	10	394.0	264.8	1,206.6
SN81-084220-DY	85	3-3/8	10-1/2	445.0	299.0	1,353.7
SN81-088220-DY	88	3-7/16	12	477.0	320.5	1,422.4
SN81-096220-DY	95	3-13/16	12	568.0	381.7	1,667.6
SN81-104220-DY	104	4-1/8	13	666.0	447.5	1,961.9
SN81-112220-DY	112	4-7/16	14	772.0	518.8	2,060.0
SN81-120220-DY	120	4-3/4	15	887.0	596.0	2,501.5

Dynamica Dyneema® Rope

Technical Specification:

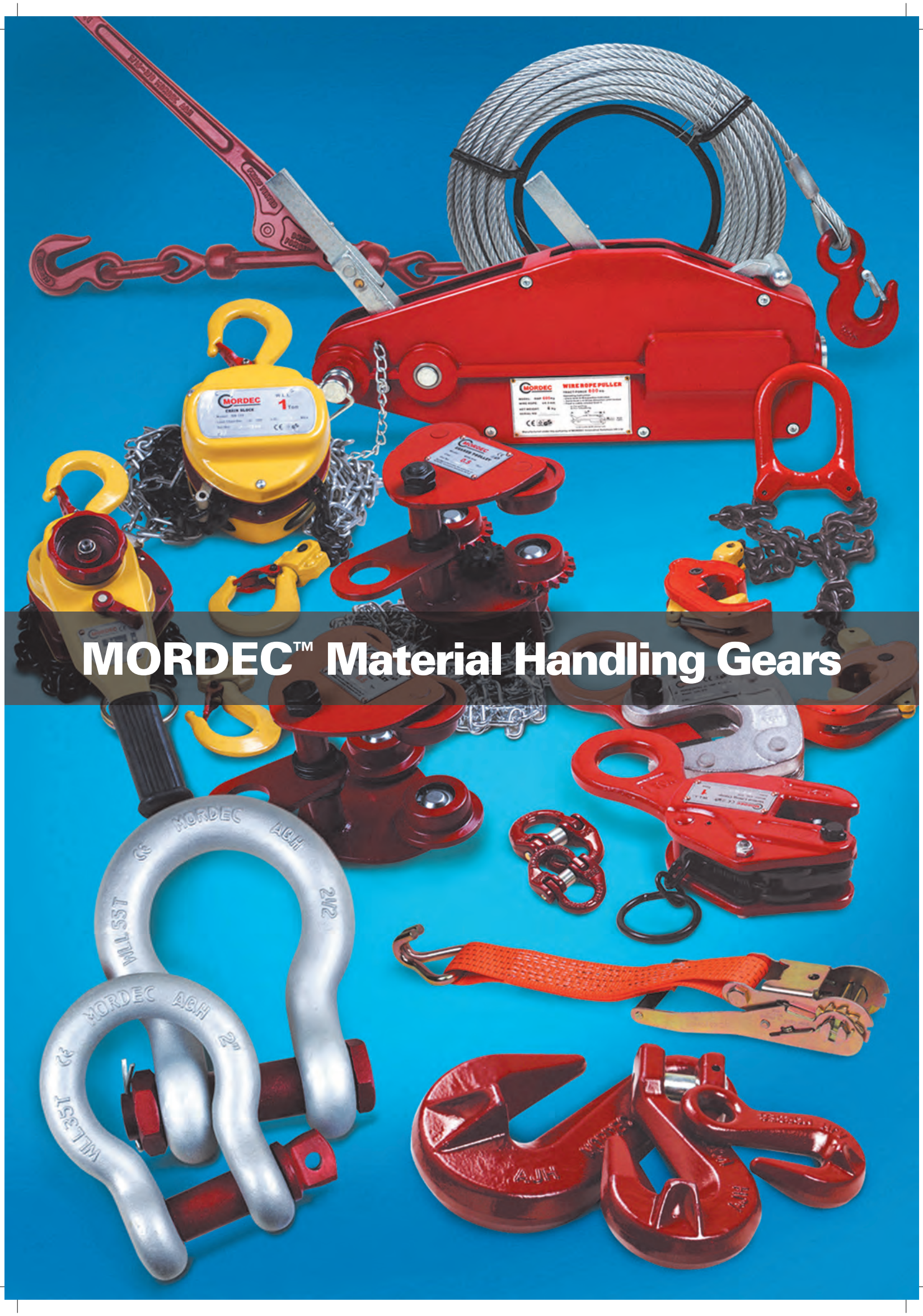
Materials	:	Dyneema® Fibres type SK75
Melting Point	:	145˚C
Elongation at break	:	2-3%
Neutral Bouyancy	:	Density 0.98
Advantages	:	Strongest Fibre, Light Weight; 1/6 of Wire Rope, Good UV resistance
Color	:	Blue
Certificate	:	Major Certificates available for indent



Braided Dynamica Rope — SK75

Product Code	Diameter mm	Breaking loads in tonnes	Runnage m/kg	Max. length app. metres	Max. length app. Ft.	Weight / 100 m kgs app.	Weight pr. 328 ft. Lbs app.
SD12-75-005-DN	05 mm	3.3	72.5	2200	7217.8	1.4	3.1
SD12-75-006-DN	06 mm	4.0	50.0	2200	7217.8	2.1	4.6
SD12-75-006-DN	07 mm	6.1	36.5	2200	7217.8	2.7	6.0
SD12-75-007-DN	08 mm	8.1	28.5	2200	7217.8	3.5	7.7
SD12-75-008-DN	09 mm	9.0	24.0	2200	7217.8	4.2	9.2
SD12-75-009-DN	10 mm	10.9	20.4	2200	7217.8	4.6	10.1
SD12-75-010-DN	11 mm	13.9	16.2	2200	7217.8	6.2	13.6
SD12-75-011-DN	12 mm	17.8	11.6	2200	7217.8	9.0	19.8
SD12-75-012-DN	14 mm	21.7	9.6	2000	6561.7	12.0	26.4
SD12-75-014-DN	16 mm	26.1	6.9	1800	6905.5	14.0	30.8
SD12-75-016-DN	18 mm	35.8	5.2	1180	3870.0	19.0	41.8
SD12-75-018-DN	20 mm	40.8	4.6	1000	3280.0	22.0	48.4
SD12-75-020-DN	22 mm	50.5	3.8	900	2952.0	26.0	57.2
SD12-75-022-DN	24 mm	60.0	2.9	680	2231.0	34.0	74.8
SD12-75-024-DN	26 mm	65.0	2.8	620	2034.1	36.0	79.2
SD12-75-026-DN	28 mm	71.0	2.4	510	1672.0	40.0	88.0
SD12-75-028-DN	30 mm	77.8	2.3	500	1640.4	43.0	94.6
SD12-75-030-DN	32 mm	87.2	2.1	450	1476.0	48.0	105.6
SD12-75-032-DN	34 mm	92.2	2.0	410	1345.0	49.0	107.8
SD12-75-034-DN	36 mm	106.7	1.6	350	1148.3	60.0	132.0
SD12-75-036-DN	38 mm	132.8	1.4	300	984.3	68.0	149.6
SD12-75-038-DN	40 mm	145.0	1.3	275	902.0	73.0	160.6
SD12-75-040-DN	42 mm	155.0	1.2	249	816.0	83.0	182.6
SD12-75-044-DN	44 mm	170.0	1.0	210	688.0	100.0	220.0
SD12-75-048-DN	48 mm	180.0	0.8	175	574.0	125.0	275.0
SD12-75-052-DN	52 mm	195.0	0.7	150	492.0	143.0	314.6
SD12-75-058-DN	58 mm	210.0	0.6	125	410.0	160.0	352.0

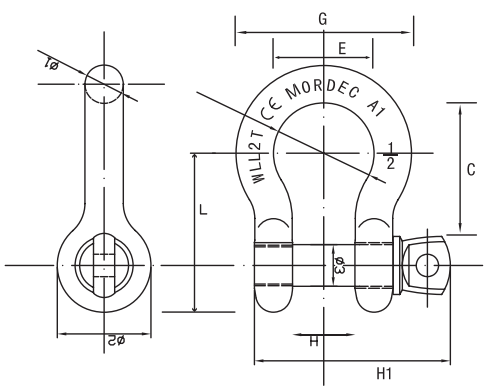
MORDEC™ Material Handling Gears



G-308 Screw Pin Anchor Shackle

Features:
- Designed for easy frequent application
- For use on direct or side lifting or multi-load systems
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: Forged Carbon Steel with Alloy Pin
Construction: Quenched and Tempered
Finish: Hot dipped Galvanized
Proof Load: Proof Load Tested at 2 times of Working Load Limit
Safety Factor: 6 to 1
Fatigue: Fatigue Tested at 1.5 times of the Working Load Limit
Standard: US Federal Specification RR-C-271D, Type 4A, Grade A, Class 2



Meets Requirement of US Federal Specification RR-C-271D

Product Code	Norminal Size in.	WLL 6 Ton	Weight Kg	Dimension mm									Tolerance (+/-)	
				H	ø3	C	ø1	E	ø2	G	L	H1	C	H
RSA-G308-004	3/16	1/3	0.03	10.00	6.30	22.60	5.00	15.50	14.50	25.50	25.25	29.50	3.30	1.50
RSA-G308-006	1/4	1/2	0.05	13.00	8.00	29.00	6.80	20.00	17.50	33.60	31.75	38.00	3.30	1.50
RSA-G308-008	5/16	3/4	0.09	13.50	9.50	31.00	8.00	21.50	21.00	37.50	35.50	42.50	3.30	1.50
RSA-G308-009	3/8	1	0.14	17.00	11.20	36.50	10.00	26.20	25.00	46.20	41.50	53.50	3.30	1.50
RSA-G308-011	7/16	1.1/2	0.22	18.50	12.70	42.90	11.30	29.50	27.00	52.10	48.00	59.00	3.30	1.50
RSA-G308-013	1/2	2	0.33	20.60	15.80	47.80	12.70	33.30	31.00	58.70	54.50	70.00	3.30	1.50
RSA-G308-016	5/8	3.1/4	0.62	27.00	19.00	60.00	16.00	43.00	40.00	75.00	68.00	87.50	6.35	1.50
RSA-G308-019	3/4	4.3/4	1.07	32.00	22.00	71.50	19.00	51.00	48.00	89.00	81.00	101.00	6.35	1.50
RSA-G308-022	7/8	6.1/2	1.64	37.00	25.00	84.50	22.00	58.00	54.00	102.00	95.00	116.00	6.35	1.50
RSA-G308-025	1	8.1/2	2.30	43.50	28.00	96.30	26.50	68.50	60.00	121.50	106.00	135.50	6.35	1.50
RSA-G308-028	1.1/8	9.1/2	3.36	48.00	32.00	109.00	29.00	75.00	68.00	133.00	121.50	145.00	6.35	1.50
RSA-G308-032	1.1/4	12	4.31	53.00	35.00	120.50	32.00	84.00	76.00	148.00	134.00	160.00	6.35	1.50
RSA-G308-035	1.3/8	13.1/2	6.01	59.00	38.00	134.00	35.00	94.00	84.00	164.00	148.00	178.00	6.35	3.30
RSA-G308-038	1.1/2	17	8.03	62.00	42.00	148.50	38.00	99.00	92.00	175.00	166.00	194.00	6.35	3.30
RSA-G308-044	1.3/4	25	13.79	75.00	50.00	178.00	45.00	128.00	106.00	218.00	192.00	228.00	6.35	3.30
RSA-G308-050	2	35	20.43	84.00	56.00	197.00	52.00	148.00	122.00	252.00	212.00	255.00	6.35	3.30
RSA-G308-064	2.1/2	55	40.00	107.00	70.00	269.50	63.50	186.00	145.00	313.00	284.00	317.00	6.35	3.30

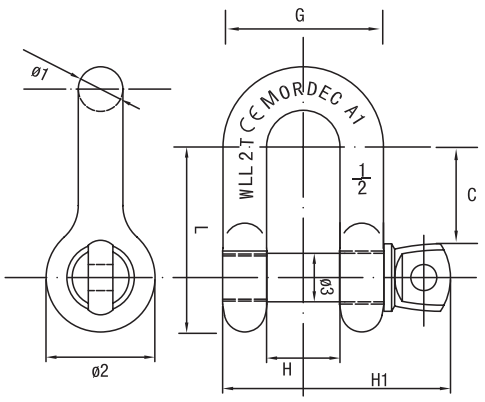
**Minimum breaking strength is 6 times the working load limit*

G-306 Screw Pin Chain Shackle

Features:
- Designed for easy frequent application
- For use on direct lifting or single-load systems
- Traceability code, capacity, MORDEC™ and WLL embossed

G-306

Material: Forged Carbon Steel with Alloy Pin
Construction: Quenched and Tempered
Finish: Hot dipped Galvanized
Proof Load: Proof Load Tested at 2 times of Working Load Limit
Safety Factor: 6 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: US Federal Specification RR-C-271D, Type 4B, Grade A, Class 2



Meets Requirement of US Federal Specification RR-C-271D

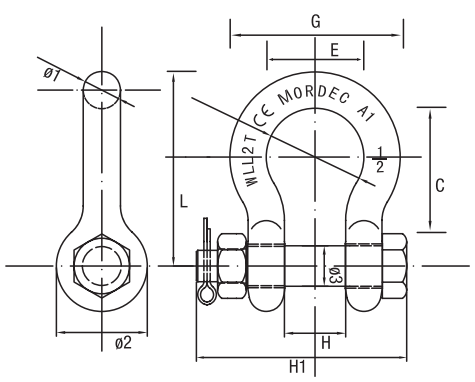
Product Code	Norminal Size in	WLL 6 Ton	Weight Kg	Dimension mm								Tolerance (+/-)	
				H	ø3	C	ø1	ø2	G	L	H1	C	H
RSC-G306-004	3/16	1/3	0.03	10.00	6.00	21.85	5.00	14.50	20.00	27.25	29.50	3.30	1.50
RSC-G306-006	1/4	1/2	0.05	13.00	8.00	22.00	6.80	17.50	26.60	28.25	38.00	3.30	1.50
RSC-G306-007	5/16	3/4	0.08	13.50	9.50	25.50	8.00	21.00	29.50	34.00	42.50	3.30	1.50
RSC-G306-009	3/8	1	0.13	17.00	11.20	30.90	10.00	25.00	37.00	40.50	53.50	3.30	1.50
RSC-G306-011	7/16	1.1/2	0.20	18.50	12.70	36.40	11.30	27.00	40.50	47.00	59.00	3.30	1.50
RSC-G306-013	1/2	2	0.30	20.60	15.80	41.40	12.70	31.00	46.00	54.50	70.30	3.30	1.50
RSC-G306-016	5/8	3.1/4	0.58	27.00	19.00	51.00	16.00	40.00	59.00	67.00	88.00	6.35	1.50
RSC-G306-019	3/4	4.3/4	1.02	32.00	22.00	63.00	19.00	48.00	70.00	82.00	101.00	6.35	1.50
RSC-G306-022	7/8	6.1/2	1.43	37.00	25.00	72.00	22.00	54.00	81.00	93.00	117.00	6.35	1.50
RSC-G306-025	1	8.1/2	2.16	43.50	81.75	81.80	26.50	60.00	96.50	104.00	137.00	6.35	1.50
RSC-G306-028	1.1/8	9.1/2	3.06	48.00	32.00	94.00	29.00	68.00	106.00	120.00	145.50	6.35	1.50
RSC-G306-032	1.1/4	12	4.11	53.00	35.00	102.00	32.00	76.00	117.00	131.00	160.00	6.35	1.50
RSC-G306-035	1.3/8	13.1/2	5.28	59.00	38.00	113.50	35.00	84.00	129.00	145.00	178.00	6.35	3.30
RSC-G306-038	1.1/2	17	7.24	62.00	42.00	123.00	38.00	92.00	138.00	159.00	194.50	6.35	3.30
RSC-G306-044	1.3/4	25	12.14	75.00	50.00	148.00	45.00	106.00	165.00	188.50	228.00	6.35	3.30
RSC-G306-050	2	35	19.21	84.00	56.00	174.00	52.00	122.00	188.00	221.00	255.00	6.35	3.30
RSC-G306-064	2.1/2	55	38.00	107.00	70.00	205.50	63.50	145.00	234.00	259.50	317.00	6.35	3.30

**Minimum breaking strength is 6 times the working load limit*

G-3080 Bolt & Nut Anchor Shackle

Features:
- Recommended for long term to permanent applications
- For use on direct or side lifting or multi-load systems
- Enhanced safety protection with bolt, nut & cotter pin
- Reduce the need to tighten pin before each application
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: Forged Carbon Steel with Alloy Pin
Construction: Quenched and Tempered
Finish: Hot dipped Galvanized
Proof Load: Proof Load Tested at 2 times of Working Load Limit
Safety Factor: 6 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: US Federal Specification RR-C-271D, Type 4A, Grade A, Class 3



Meets Requirement of US Federal Specification RR-C-271D

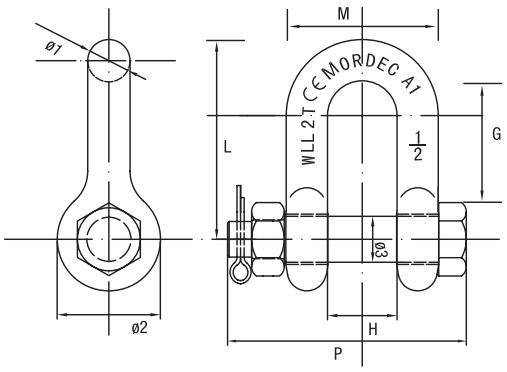
Product Code	Norminal Size in.	WLL 6:1 Ton	Weight Kg	Dimension mm									Tolerance (+/-)	
				H	ø3	C	ø1	E	ø2	L	G	H1	C	H
RSA-G3080-006	1/4	1/2	0.05	13.00	8.00	29.00	6.80	20.00	17.50	39.80	33.60	42.50	3.30	1.50
RSA-G3080-007	5/16	3/4	0.10	13.50	9.50	31.00	8.00	21.50	21.00	43.75	37.50	48.00	3.30	1.50
RSA-G3080-009	3/8	1	0.15	17.00	11.20	36.50	10.00	26.20	25.00	52.10	46.20	57.50	3.30	1.50
RSA-G3080-011	7/16	1.1/2	0.23	18.50	12.70	42.90	11.30	29.50	27.00	60.55	52.10	64.50	3.30	1.50
RSA-G3080-013	1/2	2	0.36	20.60	15.80	47.75	12.70	33.30	31.00	68.35	58.70	74.50	3.30	1.50
RSA-G3080-016	5/8	3.1/4	0.76	27.00	19.00	60.00	16.00	43.00	40.00	85.50	75.00	93.00	6.35	1.50
RSA-G3080-019	3/4	4.3/4	1.23	32.00	22.00	71.50	19.00	51.00	48.00	101.50	89.00	107.00	6.35	1.50
RSA-G3080-022	7/8	6.1/2	1.79	37.00	25.00	84.50	22.00	58.00	54.00	119.00	102.00	121.00	6.35	1.50
RSA-G3080-025	1	8.1/2	2.57	43.50	28.00	96.25	26.50	68.50	60.00	136.75	121.50	137.00	6.35	1.50
RSA-G3080-028	1.1/8	9.1/2	3.75	48.00	32.00	109.00	29.00	75.00	68.00	154.00	133.00	145.00	6.35	1.50
RSA-G3080-032	1.1/4	12	5.32	53.00	35.00	120.50	32.00	84.00	76.00	170.00	148.00	167.00	6.35	1.50
RSA-G3080-035	1.3/8	13.1/2	7.18	59.00	38.00	134.00	35.00	94.00	84.00	188.00	164.00	185.00	6.35	3.30
RSA-G3080-038	1.1/2	17	9.44	62.00	42.00	148.50	38.00	99.00	92.00	207.50	175.00	198.00	6.35	3.30
RSA-G3080-044	1.3/4	25	15.39	75.00	50.00	178.00	45.00	128.00	106.00	248.00	218.00	227.00	6.35	3.30
RSA-G3080-050	2	35	23.73	84.00	56.00	197.00	52.00	148.00	122.00	277.00	252.00	250.00	6.35	3.30
RSA-G3080-064	2.1/2	55	44.00	107.00	71.00	269.50	66.00	186.00	145.00	368.00	318.00	299.00	6.35	3.30
RSA-G3080-077	3	85	76.00	127.00	80.00	330.50	76.00	200.00	165.00	587.50	365.00	92.00	6.35	3.30

**Minimum breaking strength is 6 times the working load limit*

G-3060 Bolt & Nut Chain Shackle

Features:
- Recommended for long term to permanent applications
- For use on direct lifting or single-load systems
- Enhanced safety protection with bolt, nut & cotter pin
- Reduce the need to tighten pin before each application
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: Forged Carbon Steel with Alloy Pin
Construction: Quenched and Tempered
Finish: Hot dipped Galvanized
Proof Load: Proof Load Tested at 2 times of Working Load Limit
Safety Factor: 6 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: US Federal Specification RR-C-271D, Type 4B, Grade A, Class 3



Meets Requirement of US Federal Specification RR-C-271D

Product Code	Norminal Size in.	WLL 6:1 Ton	Weight Kg	Dimension mm								Tolerance (+/-)	
				H	ø3	ø1	ø2	G	L	M	P	C	H
RSC-G3060-009	3/8	1	0.15	17.00	11.20	10.00	25.00	30.90	59.00	37.00	57.50	3.30	1.50
RSC-G3060-011	7/16	1.1/2	0.22	18.50	12.70	11.30	27.00	36.40	67.30	40.50	64.50	3.30	1.50
RSC-G3060-013	1/2	2	0.34	20.60	15.80	12.70	31.00	41.40	77.50	46.00	74.50	3.30	1.50
RSC-G3060-016	5/8	3.1/4	0.67	27.00	18.80	16.00	40.00	51.00	96.50	59.00	93.00	6.35	1.50
RSC-G3060-019	3/4	4.3/4	1.14	32.00	22.00	19.10	48.00	63.00	117.00	70.00	107.00	6.35	1.50
RSC-G3060-022	7/8	6.1/2	1.75	37.00	25.00	22.00	54.00	72.00	133.50	81.00	121.00	6.35	1.50
RSC-G3060-025	1	8.1/2	2.52	43.50	28.00	26.50	60.00	81.80	150.80	93.50	137.00	6.35	1.50
RSC-G3060-028	1.1/8	9.1/2	3.45	48.00	32.00	29.00	68.00	94.00	173.00	106.00	145.00	6.35	1.50
RSC-G3060-032	1.1/4	12	4.93	53.00	35.00	32.00	76.00	102.00	189.50	117.00	167.00	6.35	1.50
RSC-G3060-035	1.3/8	13.1/2	6.24	59.00	38.00	35.00	84.00	113.50	209.50	129.00	185.00	6.35	3.30
RSC-G3060-038	1.1/2	17	8.40	62.00	42.00	38.00	92.00	123.00	228.00	138.00	198.00	6.35	3.30
RSC-G3060-044	1.3/4	25	14.26	75.00	50.00	45.00	106.00	148.00	271.00	165.00	227.00	6.35	3.30
RSC-G3060-050	2	35	21.22	84.00	56.00	52.00	122.00	174.00	315.00	188.00	250.00	6.35	3.30
RSC-G3060-064	2.1/2	55	40.00	107.00	71.00	66.00	145.00	205.50	379.00	239.00	299.00	6.35	3.30

**Minimum breaking strength is 6 times the working load limit*

MORDEC™ LIFTING SYSTEMS

MORDEC™ LIFTING SYSTEMS

Each MORDEC™ Lifting Systems is fabricated to its intended purpose. The seamless systems ensure your investment achieves the maximum efficiency. The benefits: longer operating life span and safer lifting operation.

Each MORDEC™ Lifting Sling comprises a series of stringent activities: from design, engineering, manufacturing, testing, final sling assembly and finally load testing. These, ensuring every sling reaches the user's hands will perform in accordance to its intended purpose and specifications.

Behind every MORDEC™ Lifting Sling Systems is a team of dedicated MORDEC professionals, ensuring 100% seamless lifting systems in its product performance and services.

MORDEC™, a brand you can rely on.

MORDEC WIRE ROPE SLING WORKING LOAD LIMIT (TON) – 5:1 Design Factor

Dia	90°	60°	45°	30°	60°	45°	30°
	Single Leg	2 Legged			3 & 4 Legged		
mm	Ton	Ton	Ton	Ton	Ton	Ton	Ton
8.0	0.79	1.37	1.11	0.79	2.06	1.67	1.19
10.0	1.24	2.15	1.74	1.24	3.22	2.60	1.86
12.0	1.79	3.09	2.50	1.79	4.63	3.75	2.68
13.0	2.18	3.77	3.05	2.18	5.65	4.57	3.27
14.0	2.43	4.20	3.40	2.43	6.31	5.10	3.65
14.5	2.74	4.73	3.83	2.74	7.10	5.75	4.10
16.0	3.37	5.82	4.71	3.37	8.73	7.07	5.05
18.0	4.01	6.94	5.62	4.01	10.42	8.43	6.02
19.0	4.81	8.31	6.73	4.81	12.47	10.09	7.21
20.0	4.97	8.59	6.96	4.97	12.89	10.43	7.45
22.0	6.50	11.24	9.10	6.50	16.86	13.65	9.75
24.0	7.18	12.42	10.05	7.18	18.64	15.08	10.77
25.0	7.76	13.42	10.86	7.76	20.13	16.29	11.64
26.0	8.44	14.60	11.82	8.44	21.91	17.73	12.66
28.0	9.79	16.94	13.71	9.79	25.41	20.56	14.69
29.0	10.64	18.40	14.89	10.64	27.61	22.34	15.96
30.0	11.23	19.43	15.72	11.23	29.15	23.59	16.85
32.0	13.05	22.58	18.27	13.05	33.86	27.41	19.58
34.0	14.40	24.91	20.16	14.40	37.37	30.24	21.60
35.0	15.68	27.12	21.95	15.68	40.68	32.92	23.52
36.0	16.18	27.99	22.65	16.18	41.99	33.98	24.27
38.0	18.54	32.07	25.96	18.54	48.11	38.93	27.81
40.0	19.80	34.25	27.72	19.80	51.38	41.58	29.70
42.0	21.60	37.37	30.24	21.60	56.05	45.36	32.40
44.0	23.94	41.42	33.52	23.94	62.12	50.27	35.91
45.0	25.02	43.28	35.03	25.02	64.93	52.54	37.53
46.0	26.28	45.46	36.79	26.28	68.20	55.19	39.42
48.0	28.44	49.20	39.82	28.44	73.80	59.72	42.66
50.0	30.96	53.56	43.34	30.96	80.34	65.02	46.44
52.0	32.40	56.05	45.36	32.40	84.08	68.04	48.60

Note: Data provided applies to MORDEC™ Wire Rope Lifting Systems. MORDEC™ Wire Rope Lifting Systems inclusive of the engineered combination of MORDEC™ wire rope, components, tackles and assembly procedures. Data shall not be used for Non-MORDEC™ Lifting Systems. The design factor of 5 to 1 complies with MORDEC Innovation Solution UK specification and is the preferred WLL value to be used.

MORDEC CHAIN SLING WORKING LOAD LIMIT (TON) – 4:1 SAFETY FACTOR

Dia	90°	60°	45°	30°	Master link	60°	45°	30°	Masterlink Assembly	Connecting Link	Sling Hook with Latch	Safety Hook	Grab Hook
	1 Leg	2 Legs				3 & 4 Legs				XXX-400	XXX-425/435	XXX-410/415	XXX-440/445
(mm)	Ton	Ton	Ton	Ton	Part No.	Ton	Ton	Ton	Part No.	Part No.	Part No.	Part No.	Part No.
6.0	1.10	1.91	1.56	1.10	RWL-8-13	2.86	2.33	1.65	RLQ-8-16	RLC-400-06	RHSC-XXX-006	RHCS-XXX-007	RHCS-XXX-007
7.1	1.60	2.77	2.26	1.60	RWL-8-16	4.16	3.39	2.40	RLQ-8-16	RLC-400-07	RHSC-XXX-007	RHCS-XXX-007	RHCS-XXX-007
8.0	2.00	3.46	2.83	2.00	RWL-8-16	5.20	4.24	3.00	RLQ-8-20	RLC-400-07	RHSC-XXX-007	RHCS-XXX-007	RHCS-XXX-007
9.0	2.50	4.33	3.54	2.50	RWL-8-20	6.50	5.30	3.75	RLQ-8-20	RLC-400-10	RHSC-XXX-010	RHCS-XXX-010	RHCS-XXX-010
10.0	3.20	5.54	4.52	3.20	RWL-8-20	8.31	6.79	4.80	RLQ-8-25	RLC-400-10	RHSC-XXX-010	RHCS-XXX-010	RHCS-XXX-010
13.0	5.40	9.35	7.64	5.40	RWL-8-25	14.03	11.45	8.10	RLQ-8-32	RLC-400-13	RHSC-XXX-013	RHCS-XXX-013	RHCS-XXX-013
16.0	8.00	13.86	11.31	8.00	RWL-8-32	20.78	16.97	12.00	RLQ-8-38	RLC-400-16	RHSC-XXX-016	RHCS-XXX-016	RHCS-XXX-016
19.0	11.20	19.40	15.84	11.20	RWL-8-38	27.70	23.76	16.80	RLQ-8-38	RLC-400-20	RHSC-XXX-020	RHCS-XXX-020	RHCS-XXX-020
22.0	15.00	25.98	21.21	15.00	RWL-8-38	Not Available				RLC-400-22	RHSC-XXX-022	RHCS-XXX-022	RHCS-XXX-022

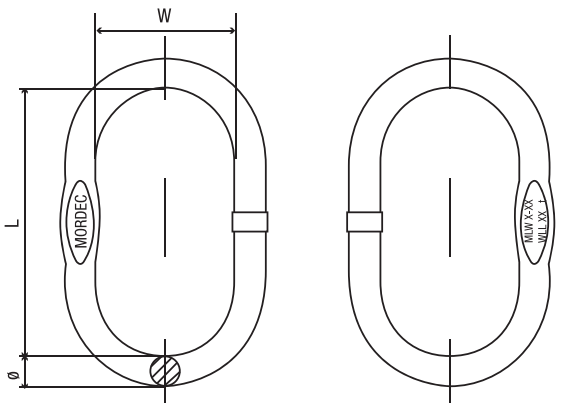
Note: Data provided applies to MORDEC™ Chain Lifting Systems only. MORDEC™ Chain Lifting Systems inclusive of the engineered combination of MORDEC™ alloy chain, components, tackles and assembly procedures. Data does not apply for Non-MORDEC™ Lifting Systems. The design factor of 4 to 1 complies with MORDEC Innovation Solution UK specification and is the preferred WLL value to be used.

MORDEC™ Chain Sling | MORDEC™ Latch Hook | MORDEC™ Safety Hook | MORDEC™ Masterlink | MORDEC™ Connecting Link | MORDEC™ Shackle | MORDEC™ Alloy Chain | MORDEC™ Wire Rope | MORDEC™ Wire Rope Sling | MORDEC™ Plate Clamp

RLW-8 Master Link Welded Type

Features:
- Designed for use with grade 80 alloy chain or wire rope
- Use for overhead lifting application
- Versatile assembly for multipurpose applications
- Engineered Flat for use with coupling link
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 5 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-4: 2009



Tested according to EN 1677: **2009**

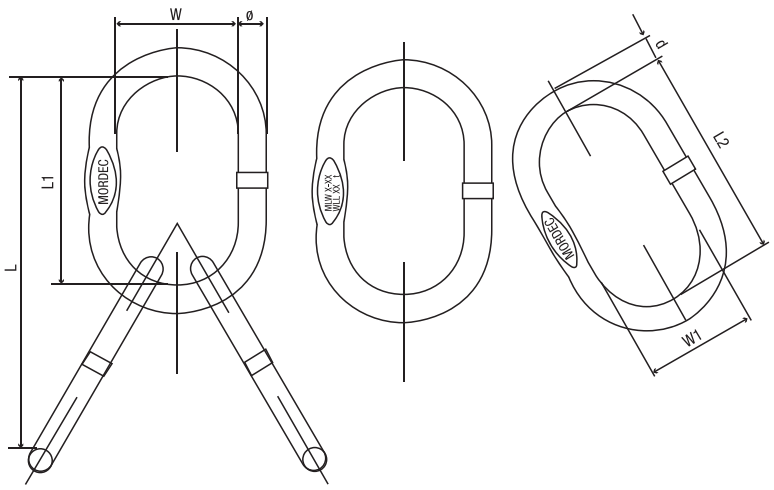
Product Code	Size	WLL 4:1 Ton	Weight kg
RLW-8-13	Ø13mm x W60mm x L115mm	2.50	0.40
RLW-8-16	Ø16mm x W70mm x L120mm	4.25	0.60
RLW-8-16A	Ø16mm x W100mm x L170mm	4.25	0.80
RLW-8-20	Ø20mm x W90mm x L170mm	6.70	1.30
RLW-8-22	Ø22mm x W90mm x L170mm	8.20	1.60
RLW-8-22A	Ø22mm x W110mm x L210mm	8.20	1.65
RLW-8-25	Ø25mm x W103mm x L190mm	10.70	2.30
RLW-8-28	Ø28mm x W140mm x L270mm	11.80	4.00
RLW-8-32	Ø32mm x W140mm x L270mm	17.10	5.30
RLW-8-38	Ø38mm x W140mm x L270mm	28.10	7.50
RLW-8-45	Ø45mm x W170mm x L320mm	39.30	12.00

**Design Factor 4:1 proof tested and certified*

RLQ-8 Master Link Assembly Welded Type

Features:
- Designed for use with grade 80 alloy chain or wire rope
- Use for overhead lifting application
- Versatile assembly for multipurpose applications
- Engineered Flat for use with coupling link
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 5 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-4 : 2009



Tested according to EN 1677: **2009**

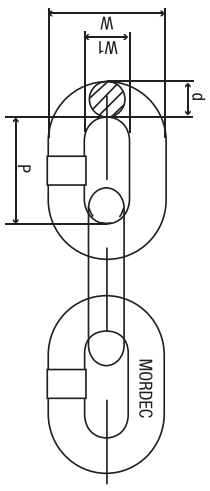
Product Code	Master Link Size Ø x W x L	Intermediate Link Size Ø1 x W1 x L2	4:1 Ton	Wt kg
RLQ-8-16	Ø16mm x W70mm x L120mm	Ø13mm x W60mm x L115mm	4.25	1.40
RLQ-8-20	Ø20mm x W90mm x L170mm	Ø16mm x W70mm x L120mm	6.70	2.50
RLQ-8-22	Ø22mm x W90mm x L170mm	Ø20mm x W90mm x L170mm	8.20	4.20
RLQ-8-25	Ø25mm x W100mm x L190mm	Ø20mm x W90mm x L170mm	10.70	4.50
RLQ-8-28	Ø28mm x W110mm x L210mm	Ø22mm x W90mm x L170mm	11.80	6.40
RLQ-8-32	Ø32mm x W140mm x L270mm	Ø25mm x W100mm x L190mm	17.10	9.90
RLQ-8-38	Ø38mm x W140mm x L270mm	Ø32mm x W140mm x L270mm	28.10	18.20
RLQ-8-45	Ø45mm x W170mm x L320mm	Ø38mm x W140mm x L270mm	39.30	27.70

**Design Factor 4:1 proof tested and certified*

Grade 80 Alloy Chain

Features
- Designed for use with grade 80 accessories
- MORDEC™ embossed for easy identification
- Traceability Code

Materials	:	High Tensile Forged Alloy Steel
Constructions	:	Quenched and Tampered
Finish	:	Self Colored, electroplated, hot-dipped galvanized, blacken, powder coated & electrophoresis
Safety Factor	:	4 to 1 & 5 to 1
Fatigue	:	Fatigue tested at 1.5 times of Working Load Limit
Standard	:	EN818, ISO & JIS

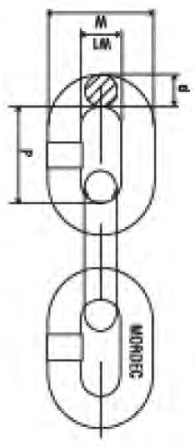


Tested according to EN 818

Product Code	Chain Dia d mm	Inside Length P mm	Outside Width W mm	Inside Width W1 mm	Weight kg/100m	WLL 4:1 Ton	Standard Length (m)
RCA-800-006	6.0	18	20.45	7.5	81	1.1	200
RCA-800-007	7.1	21	23.54	8.9	116	1.6	200
RCA-800-008	8.0	24	26.6	10	142	2.0	200
RCA-800-009	9.0	27	30.68	11.3	182	2.5	200
RCA-800-010	10.0	30	33.75	12.5	221	3.2	200
RCA-800-013	13.0	39	44	18	370	5.4	100
RCA-800-016	16.0	48	54	22	560	8.0	100
RCA-800-020	20.0	60	65.6	25.6	780	12.5	100
RCA-800-022	22.0	66	74	30	1100	15.0	80

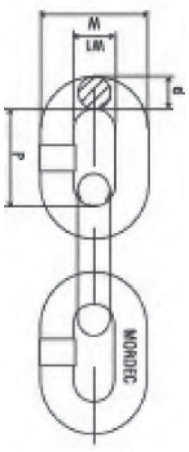
**Design Factor 4:1 proof tested and certified*

Grade 80 Lifting Chains



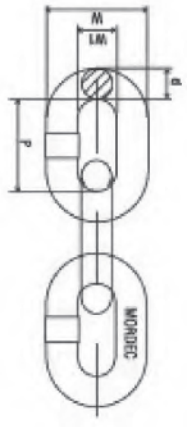
Product Code	Chain Diameter d mm	Inside Length P mm	Outside Width W (MAX) mm	Inside Width W1 (MIN) mm	Proof Test Load (MIN) KN	Breaking Load (MIN) KN	Chain Weight KG/M	W.L.L. Ton
RCA-800-006	6	18	20.5	8.7	28.5	48	0.8	1.1
RCA-800-007	7.1	21	24.9	10.1	40	67	1.1	1.5
RCA-800-008	8	24	27.9	11.6	50	84	1.38	2.0
RCA-800-009	9	27	30.6	13.0	64	104	1.67	2.5
RCA-800-010	10	30	34.9	14.6	80	133	2.17	3.2
RCA-800-011	11.2	34	39.0	16.0	100	160	2.77	3.8
RCA-800-013	13	39	46.3	19.0	133	230	3.67	5.4
RCA-800-016	16	48	55.8	22.5	202	337	5.67	8.2

Grade 80 Hoist Chains



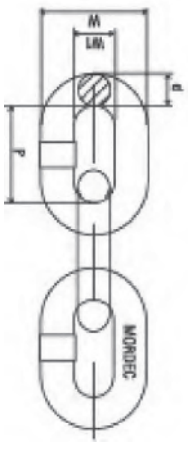
Product Code	Chain Diameter d mm	Inside Length P mm	Outside Width W (MAX) mm	Inside Width W1 (MIN) mm	Proof Test Load (MIN) KN	Breaking Load (MIN) KN	Chain Weight KG/M	W.L.L. Ton
RCA-800-006	6	18	20.0	7.7	28.5	48	0.8	1.1
RCA-800-007	7.1	21	23.5	9.0	40	67	1.1	1.5
RCA-800-008	8	24	26.5	10.1	50	84	1.38	2.0
RCA-800-009	9	27	29.8	11.4	64	104	1.67	2.5
RCA-800-010	10	30	32.8	12.6	80	133	2.17	3.2
RCA-800-011	11.2	34	36.8	14.2	100	160	2.77	3.8
RCA-800-013	13	39	44.0	16.5	133	230	3.67	5.4
RCA-800-016	16	48	56.0	22.0	202	337	5.67	8.2

Grade 80 Hatch Cover / Conveyor Chains



Product Code	Chain Diameter d mm	Inside Length P mm	Outside Width W (MAX) mm	Inside Width W1 (MIN) mm	Proof Test Load (MIN) KN	Breaking Load (MIN) KN	Chain Weight KN
RCD-800-011	11.1	43.0-43.3	35.5	12.7	12	150	2.48
RCD-800-014	14.2	50.0-50.3	48	18.0	20	246	3.98
RCD-800-016	16.0	55.0-55.2	52	18.6	26	322	5.20

Grade 80 Lashing / General Purpose Chains



Product Code	Chain Diameter d mm	Inside Length P mm	Outside Width W (MAX) mm	Inside Width W1 (MIN) mm	Proof Test Load (MIN) KN	Breaking Load (MIN) KN	Chain Weight KG/M
RCE-800-008	8.0	38.1.0-38.3	30.3	12.7	50	80.3	1.23
RCD-800-010	10.0	51.0-51.2	35.8	14.2	78.5	126	1.82
RCD-800-011	11.1	64.5-64.8	43.0	19.3	95	150	2.10
RCE-800-013	13.0	80.0-80.2	50.2	23.2	132	265	3.05
RCD-800-016	16.0	64.0-64.2	57.9	24.2	201	321	5.29
RCD-800-016	16.0	80.0-80.2	61.9	28.6	201	321	4.76

LC-400 Grade 80 Alloy Connecting Link

Features:
- Designed for use with Grade 80 alloy chain or wire rope
- Use to connect alloy chain to accessories for lifting application
- Identical sides for easy assembly without special tools or skills
- Traceability code, capacity, MORDEC™ and WLL embossed

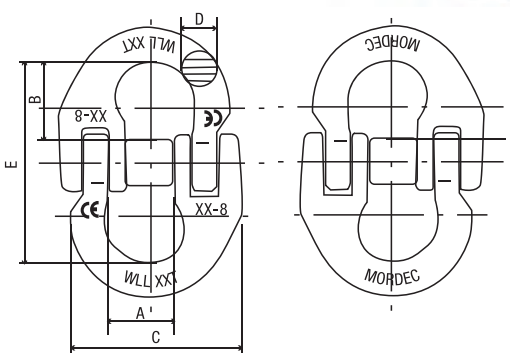
Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit to 20,000 cycles
Standard: EN 1677-1

LC-400

Tested according to EN 1677: 2009

Product Code	Chain Size mm	E mm	A mm	C mm	B mm	D mm	Weight kg	WLL Ton
RLC-400-06	6	44	15	37	58	7	0.25	1.2
RLC-400-07	7-8	59	18	48	75	9	0.40	2.0
RLC-400-10	10	68	25	61	89	13	0.92	3.2
RLC-400-13	13	91	30	76	116	16	2.15	5.4
RLC-400-16	16	100	36	93	144	19	2.97	8.0
RLC-400-20	18-20	122	42	109	170	23	6.36	12.8
RLC-400-22	22	152	49	128	192	24	8.20	16.0
RLC-400-26	26	162	55	150	220	31	13.0	20.6
RLC-400-32	32	202	69	192	281	38	18.0	32.8

**Design Factor 4:1 proof tested and certified*



HSE-425 Grade 80 Alloy Eye Sling Hook with Latch

Features:
- Designed for use with Grade 80 Alloy chain or wire rope
- Use for overhead lifting application
- Safety latch to prevent load disengagement
- Stainless steel latch and spring to prevent rust
- Traceability code, capacity, MORDEC™ and WLL embossed

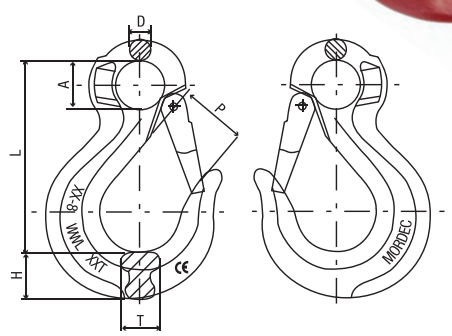
Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-2

HSE-425

Tested according to EN 1677: 2009

Product Code	Chain Size mm	L mm	A mm	E mm	D mm	T mm	H mm	Weight kg	WLL 4:1 Ton
RHSE-425-006	6-8	80	28	20	16	20	9	0.25	1.12
RHSE-425-007	7/8	98	34	23	19	25	11	0.40	2.0
RHSE-425-010	10	121	42	31	23	32	15	0.92	3.15
RHSE-425-013	13	152	48	38	28	40	18	2.15	5.3
RHSE-425-016	16	183	56	47	32	50	22	2.97	8.0
RHSE-425-020	18/20	217	65	57	43	60	27	6.36	12.5
RHSE-425-022	22	240	90	74	50	62	32	8.20	15.0
RHSE-425-026	26	270	94	80	60	66	34	13.0	21.2

**Design Factor 4:1 proof tested and certified*



HSC-435
Grade 80 Alloy Clevis Sling Hook with Latch

Features:
- Designed for use with Grade 80 Alloy chain or wire rope
- Use for overhead lifting application
- Safety latch to prevent load disengagement
- Stainless steel latch and spring to prevent rust
- Clevis opening prevents the use of wrong chain size
- Traceability code, capacity, MORDEC™ and WLL embossed

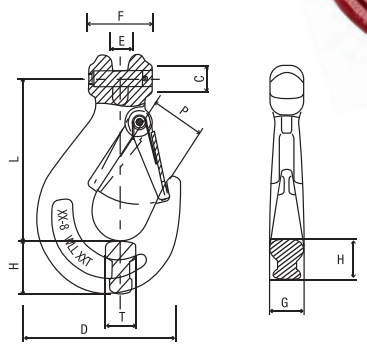
Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-2

HSC-435

Tested according to EN 1677:2009

Product Code	Chain Size mm	L mm	P mm	C mm	D mm	E mm	F mm	G mm	H mm	Weight kg	WLL 4:1 Ton
RHSC-435-006	6	91	6.8	6.8	81.5	8	32	15.5	23	0.4	1.2
RHSC-435-007	7-8	102	10.3	10.3	88.5	9.5	37	19	32.5	0.56	2.0
RHSC-435-010	10	111	13	13	111	13	49	25.5	35	1.01	3.2
RHSC-435-013	13	136	16.4	16.4	131	16.5	56.5	27.5	42	1.85	5.4
RHSC-435-016	16	160	21.3	21.3	162	21.5	70.5	37.5	53.5	3.94	8.0
RHSC-435-020	20	190	24.3	24.3	215	24	77	51	51	6.30	12.5
RHSC-435-022	22	226	26.3	26.3	24	27	91	52	52	10.0	15.0

**Design Factor 4:1 proof tested and certified*



HES-410 Grade 80 Alloy Eye Safety Hook

Features:
- Designed for use with Grade 80 Alloy chain or wire rope
- Use for overhead lifting application
- Safe automatic self-locking mechanism when load is lifted
- Eliminates any danger from touching the latch
- Traceability code, capacity, MORDEC™ and WLL embossed

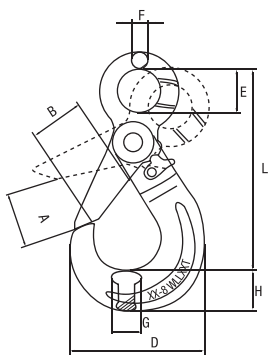
Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-3

HES-410

Tested according to EN 1677:2009

Product Code	Chain Size mm	L mm	A mm	B mm	D mm	E mm	F mm	G mm	H mm	Weight kg	WLL 4:1 Ton
RHES-410-006	6	110	29	28	71	21	10	15	20	0.50	1.2
RHES-410-007	7-8	136	34	36.5	88	25	11	20	24	0.80	2.0
RHES-410-010	10	167	44	41.5	108	32	13	26	30	1.40	3.2
RHES-410-013	13	207	52	52.5	140	40	16	30	38	2.70	5.4
RHES-410-016	16	252	60	64	171	52	21	40	48	5.60	8.0
RHES-410-020	18-20	282	90	89.5	200	64	23	48	57	8.50	12.5
RHES-410-022	22	319	80	88	204	70	24	49	63	11.20	15.0

**Design Factor 4:1 proof tested and certified*



HCS-415 Grade 80 Alloy Clevis Safety Hook

HCS-415

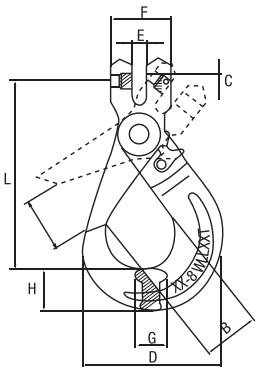
Features:
- Designed for use with Grade 80 Alloy chain or wire rope
- Use for overhead lifting application
- Safe automatic self-locking mechanism when load is lifted
- Eliminates any danger from touching the latch
- Clevis opening prevents the use of wrong chain size
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-3

Tested according to EN 1677: 2009

Product Code	Chain Size mm	L mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	Weight kg	WLL 4:1 Ton
RHCS-415-007	7-8	123	55	36.5	9.5	88	10	36.5	21	24.5	0.85	2.0
RHCS-415-010	10	148	70	42	14	108	12	47	26	30	1.45	3.2
RHCS-415-013	13	187	73.5	52.5	16.5	140	15	60	30	40	2.90	5.4
RHCS-415-016	16	226	97	64.5	21	171	18	72	39	50	5.60	8.0
RHCS-415-020	18-20	255	116	89.5	25	200	22	86	45	57	6.50	12.5

**Design Factor 4:1 proof tested and certified*



HEG-440 Grade 80 Alloy Eye Grab Hook

HEG-440

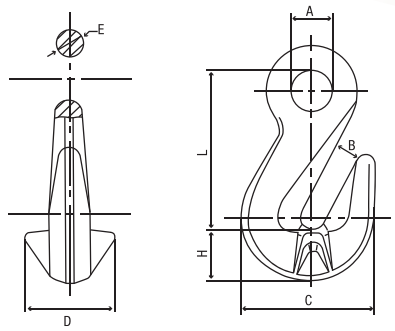
Features:
- Designed for use with Grade 80 Alloy chain or wire rope
- Use to shorten or hold a length of chain
- Prevent slip-off by engaging chain through narrow gap and resting ridges
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-1

Tested according to EN 1677: 2009

Product Code	Chain Size mm	L mm	A mm	B mm	C mm	D mm	E mm	H mm	Weight kg	WLL 4:1 Ton
RHEG-440-006	6	51	13	8	42.5	26.5	8	16.5	0.13	1.2
RHEG-440-007	7-8	60	15	11	50	31	9	19.5	0.22	2.0
RHEG-440-010	10	80.5	20	13.5	70.5	45	13	30	0.74	3.2
RHEG-440-013	13	97.5	25	16.5	96	57.5	15	43.5	1.40	5.4
RHEG-440-016	16	119	30	19	109	70	20	48	4.00	8.2
RHEG-440-020	18-20	143	36	24	136	84	23	56.5	8.00	12.8
RHEG-440-022	22	157	38	27	156	90	26	69	12.00	15.5

**Design Factor 4:1 proof tested and certified*



HGC-445 Grade 80 Alloy Clevis Grab Hook

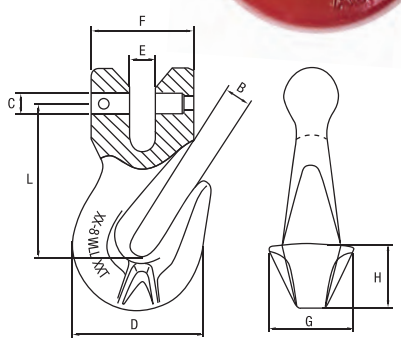
Features:
- Designed for use with grade 80 Alloy chain or wire rope
- Use to shorten or hold a length of chain
- Prevent slip-off by engaging chain through narrow gap and resting ridges
- Clevis opening prevents the use of wrong chain size
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-1

Tested according to EN 1677: 2009

Product Code	Chain Size mm	L mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	Weight kg	WLL 4:1 Ton
RHGC-445-007	7-8	53.5	10.8	7.0	50.0	9.5	35.0	33.5	19.0	0.32	2.0
RHGC-445-010	10	75.0	13.5	12.8	72.0	12.5	42.5	46.0	29.0	0.57	3.2
RHGC-445-013	13	91.0	16.5	16.2	97.0	15.0	53.0	57.5	43.0	1.56	5.4
RHGC-445-016	16	100.0	19.2	20.0	113.0	19.5	65.0	74.0	46.0	2.56	8.0
RHGC-445-020	18-20	135.0	24.0	24.3	143.0	24.0	77.0	74.0	56.0	4.85	12.8

**Design Factor 4:1 proof tested and certified*



HAE-420 Grade 80 Alloy Eye Steel Hook with Latch

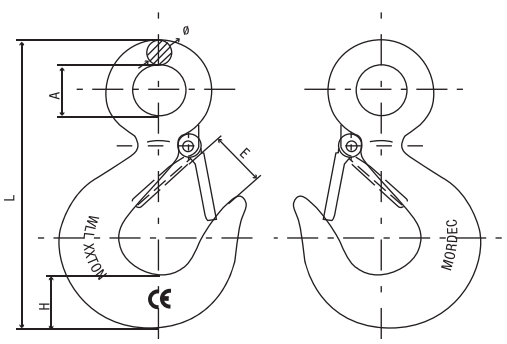
Features:
- Designed for use with grade 80 alloy chain or wire rope
- Use for overhead lifting application
- Safety latch to prevent load disengagement
- Stainless steel latch and spring to prevent rust
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: High Tensile Forged Alloy Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Proof Load Tested at 2.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: EN 1677-2

Tested according to EN 1677: 2009

Product Code	ø mm	E mm	H mm	L mm	A mm	Weight kg	WLL Ton
RHAE-420-008	8.5	20	18.5	98	16.5	0.25	0.75
RHAE-420-010	9.5	21	21	111	19	0.35	1.0
RHAE-420-015	11.5	24.5	24	131.5	23	0.5	1.5
RHAE-420-020	11.5	26	26	141.5	27.5	0.5	2.0
RHAE-420-030	15	27.5	30	163.5	31	0.77	3.0
RHAE-420-050	17.5	35	38	203.5	39	1.52	5.0
RHAE-420-070	24	43.5	47.5	256	49	3.27	7.0
RHAE-420-110	28.5	49.5	60.5	317.5	62	6.8	11.0
RHAE-420-150	32	61	68.5	358.5	72	9.96	15.0
RHAE-420-220	38.5	74.5	77.5	432.5	89	15.33	22.0
RHAE-420-300	44.5	90	93.5	495	90	18	30.0

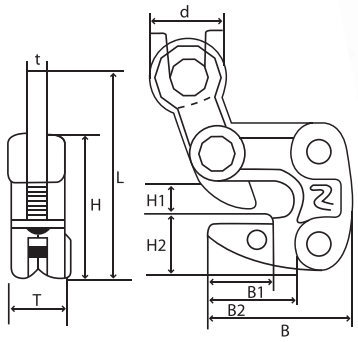
**Design Factor 4:1 proof tested and certified*



CHL-515 Horizontal Lifting Clamp

Features:
- Designed for horizontal transporting of steel plates and structures
- Specially designed slim plates jaws
- Easy to place and remove under the steel plate
- Forged parts for high strength and durability
- Chrome plated for additional protection from chipping and rusting
- Individual serial code, capacity, MORDEC™ and WLL shown

Safety Factor: 5 to 1
Standard: EN 13157

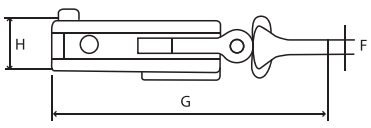


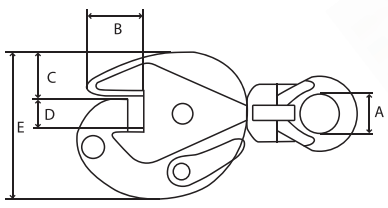
Product Code	Lifting Capacity per pair Ton	Clamping Range mm	Dimensions mm L	t	T	H	h1	h2	B	b1	b2	D	d	Nett Weight Kg
RCHL-515-1.0T	1	1-13	173	14	32	104	23.5	39.5	105	66	44	72	46	1.6
RCHL-515-2.0T	2	3-22	233	18	42	130	36	50	137	87	58	96	61	3.9
RCHL-515-3.0T	3	12-35	261	23	52	177	42	67.5	174	107	68	80	35	9.0

CUV-515 Universal Vertical Lifting Clamps

Features:
- Designed for transporting of steel plates and structures
- Hinged hoisting eye allows load to be lifted and placed in all directions
- Movable hinge with 180 degrees flexibility
- Wider jaw opening allows plates of different thickness to fit
- Positive twin safety lock in both open, close positions
- Prevents accidental load disengagement
- Drop-forged parts and gripper for high strength and durability
- Individual serial code, capacity, MORDEC™ and WLL shown

Safety Factor: 6 to 1
Standard: EN 13157



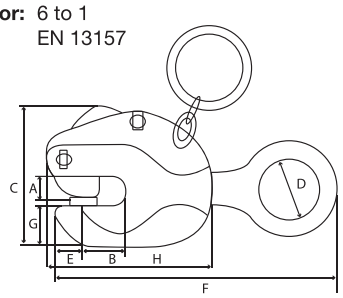


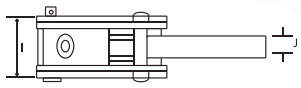
Product Code	Lifting Capacity per piece Ton	Test Load kN	Dimensions mm A	B	C	D	E	F	G	H	Nett Weight kg
RCUV-515-0.5T	0.5	7.35	30	43	34.5	0-15	103	10	212	36	2.0
RCUV-515-1.0T	1	14.7	48	63	51	0-22	138	12	294	50	4.8
RCUV-515-2.0T	2	29.4	68	76	59	0-27	164	16	370	52	6.5
RCUV-515-3.0T	3	44.1	74	85	56	0-32	193	20	418	78	16.0
RCUV-515-5.0T	5	73.5	80	90	65	25-52	240	32	450	88	21.0

CVL-510 Vertical Lifting Clamps

Features:
- Designed for vertical transporting of all kinds of steel plates and beams
- Self-locking safety mechanism
- Prevents accidental load disengagement
- Forged steel parts for high strength and durability
- Individual serial code, capacity, MORDEC™ and WLL shown

Safety Factor: 6 to 1
Standard: EN 13157





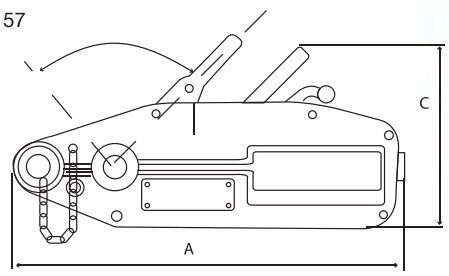
CVL-510

Product Code	Lifting Capacity per piece Ton	Test Load kN	Dimensions mm A	B	C	D	E	F	G	H	I	J	Nett Weight kg
RCVL-510-1.0T	1	19.6	24	36	125	50	24	220-260	30	156	52	14	3.6
RCVL-510-2.0T	2	39.2	35	45	155	60	30	250-295	38	190	60	18	6.0
RCVL-510-3.0T	3	58.8	40	50	175	60	35	296-360	40	226	68	20	9.2

RWP-100
Wire Rope Puller with Wire & Safety Hook

Features:
- Designed for pulling, lifting at any position
- Small, light weight and requires no wire drum
- Cast aluminum body for high strength and durability
- Two levers for extra control when pulling or releasing load
- Shear pin overload protection for additional safety
- Individual serial code, capacity, MORDEC™ and WLL shown

Proof Load: Individually Proof Tested at 1.5 times of Working Load Limit
Safety Factor: 4 to 1
Standard: EN 13157



RWP-100

Product Code	Wire Size Dia mm	Length Mtr	Capacity Ton	Weight kg	Max Overall Size A x B x C mm
RWP-100-08	8.3	20	0.80	6	428 x 65 x 260
RWP-100-16	11	20	1.60	11	545 x 97 x 260
RWP-100-32	16	20	3.20	22	660 x 116 x 320

LDR-520 Drum Lifter

Features:
- Designed for lifting of steel drums of all sizes
- Grade 80 alloy chain and masterlink
- Safe hands-free lifting of heavy drums
- High tensile drop forged steel gripper for tougher and more reliable usage
- Positive lock provides strong gripping action
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: High Tensile Forged Alloy Steel Chain
Construction: Quenched and Tempered
Finish: Self-Colored Chain & Powder Coated Parts
Proof Load: Proof Load Tested at 2 times of Working Load Limit
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit
Standard: ASME B30.20

Meets Requirements of ASME B30.20

Product Code	Capacity Tonne	Chain Length mm	Dia mm	Weight kg
RLDR-520-1T	1	500	6	3.6

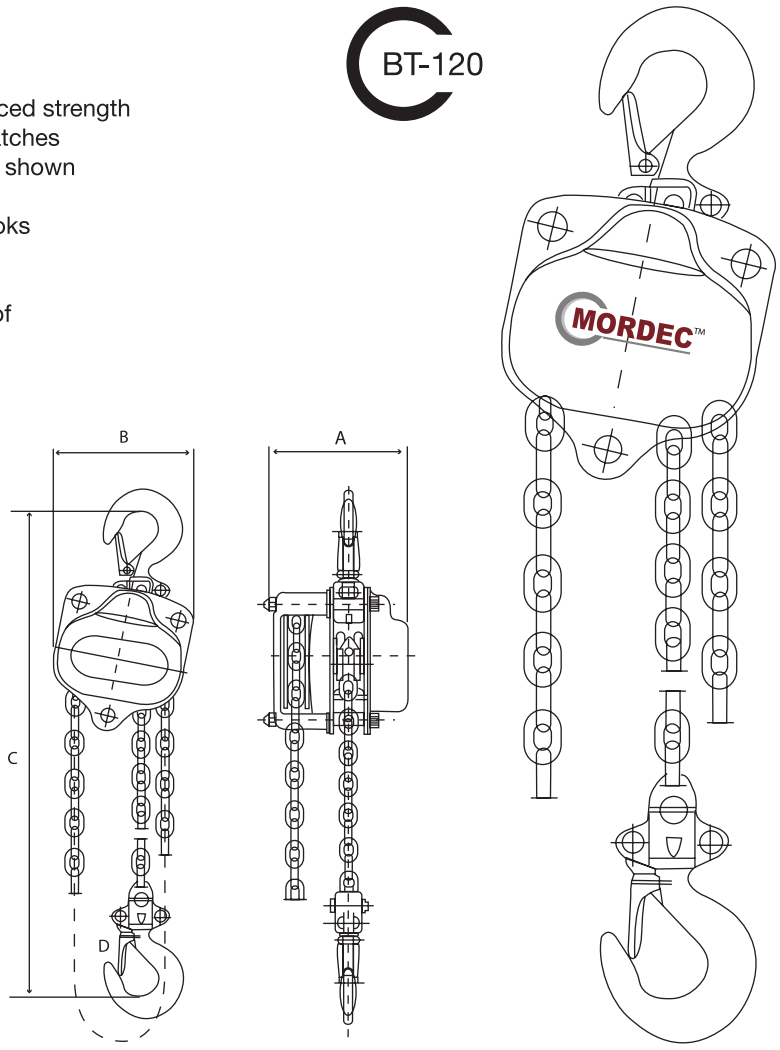
**Design Factor 4:1 proof tested and certified*

BB-120 Chain Block Bearing Type

Features:

- Compact and light weight for flexible application
- Double pawl brake mechanism for secure operations
- Heat treated steel plates, gears and shafts for enhanced strength
- Forged upper, lower hooks with forged steel safety latches
- Individual serial code, capacity, MORDEC™ and WLL shown

Material:	High Tensile Alloy Steel Chain and Hooks
Construction:	Quenched and Tempered
Finish:	Powder Coated
Proof Load:	Individually Proof Tested to 1.5 times of Working Load Limit
Safety Factor:	4 to 1
Fatigue:	Fatigue Tested at 1.5 times of Working Load Limit to 2000 cycles
Standard:	EN 13157



Meets Requirements of EN 13157

Product Code	Capacity Ton	Lift Height Mtr	Test Load Ton	Pull Full Load N	No. Chain Lines	Load Chain Dia mm	Dimensions mm A	B	C	D	Nett Weight kg	Extra Wt Extra Lift kg
RBT-120-005	0.5	3	0.75	250	1	5	127	144	285	27	8.6	1.5
RBT-120-010	1.0	3	1.50	330	1	6.3	147	157	315	30	11.5	1.8
RBT-120-010A	1.0	5	1.50	330	1	6.3	147	157	315	30	13.5	1.8
RBT-120-015	1.5	3	2.25	340	1	7.1	147	174	340	34	13.8	2.0
RBT-120-020	2.0	3	3.00	340	1	8	179	204	315	37	21.6	2.3
RBT-120-020A	2.0	5	3.00	340	1	8	179	204	315	37	24.0	2.3
RBT-120-030	3.0	3	4.50	350	2	7.1	147	206	340	43	23.0	3.1
RBT-120-030A	3.0	5	4.50	350	2	7.1	147	206	340	43	25.4	3.1
RBT-120-050	5.0	3	6.30	390	2	9	179	263	380	46	41.0	4.4
RBT-120-050A	5.0	5	6.30	390	2	9	179	263	380	46	45.0	4.4
RBT-120-100A	10.0	5	12.50	410	4	9	179	367	475	67	78.0	7.9
RBT-120-200	20.0	5	30.00	410x2	8	9	207	873	600	96	190.0	16.0

** Individually proof load tested with individual serial number*

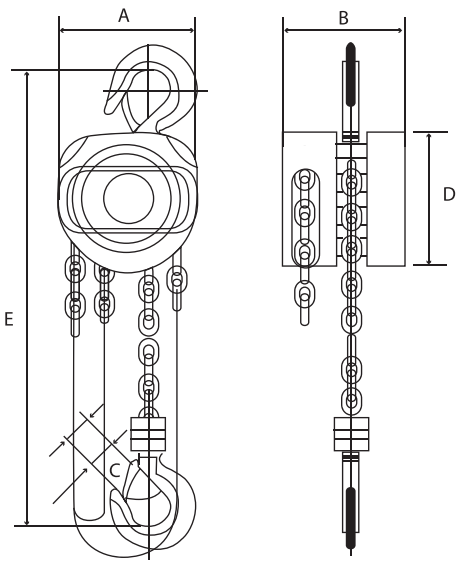
BB-125 Chain Block Bushing Type

Features:

- Compact and light weight for flexible application
- Load sheave with sealed roller bearings and reinforced gear casing
- Heat treated steel plates, gears and shafts for enhanced strength
- Forged upper, lower hooks with forged steel safety latches
- Individual serial code, capacity, MORDEC™ and WLL shown

Material: High Tensile Alloy Steel Chain and Hooks
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Individually Proof Tested to 1.5 times of Working Load Limit
Safety Factor: 4 to 1
Fatigue: Fatigue Tested at 1.5 times of Working Load Limit to 2000 cycles
Standard: EN 13157

BB-125



Tested according to EN 13157-2004

Product Code	Capacity Ton	Lift Height Mtr	Test Load Ton	Pull Full Load N	No. Chain Lines	Load Chain Dia mm	Dimensions mm A	B	C	D	E	Nett Weight kg	Extra Wt Extra Lift kg
RBB-125-005	0.5	3	0.75	221	1	6	125	111	24	134	255	8.0	1.7
RBB-125-010	1.0	3	1.50	304	1	6	147	126	28	154	306	10.0	1.7
RBB-125-010A	1.0	5	1.50	304	1	6	147	126	28	154	306	11.6	1.7
RBB-125-015	1.5	3	2.25	343	1	8	183	141	34	192	368	16.0	2.3
RBB-125-015A	1.5	5	2.25	343	1	8	183	141	34	192	368	18.8	2.3
RBB-125-020	2.0	3	3.00	294	1	8	215	163	38	224	396	27.0	5.3
RBB-125-020A	2.0	5	3.00	294	1	8	215	163	38	224	396	29.8	5.3
RBB-125-030	3.0	3	4.50	343	2	8	183	141	38	192	486	24.0	3.7
RBB-125-030A	3.0	5	4.50	343	2	8	183	141	38	192	486	26.8	3.7
RBB-125-050	5.0	3	7.50	383	2	10	215	163	48	224	616	36.0	5.3
RBB-125-050A	5.0	5	7.50	383	2	10	215	163	48	224	616	40.4	5.3
RBB-125-100	10.0	3	12.50	392	4	10	360.5	163	64	224	700	68.0	9.7
RBB-125-100A	10.0	5	12.50	392	4	10	360.5	163	64	224	700	72.4	9.7
RBB-125-200	20.0	5	25.00	392	8	10	585	191	82	224	1000	156.0	19.4

** Individually proof load tested with individual serial number*

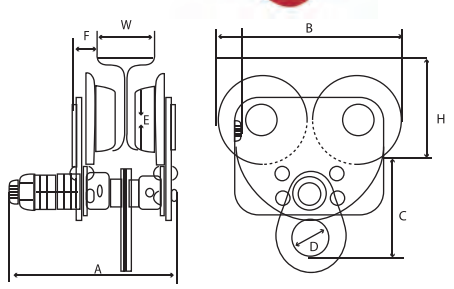
RTP-200 Plain Trolley

Features:
- Designed to function on both flat and minor irregular beams surfaces
- Easy installation and on-site operations
- Dual tread Iron wheels with high quality sealed ball bearing
- Heavy rolled steel side plates with a universal hanging eye
- Powder coated body and wheels for protection from corrosion
- Individual serial code, capacity, MORDEC™ and WLL shown
- CE, GS certified

Standard: EN 13157

RTP-200

Product Code	Capacity Ton	Fit Beams mm W Min	W Max	H Min	H Max	Dimensions mm A	B	C	D	E	F	Minimum Revolving Radius mm	N.W kg
RTP-200-005	0.5	75	125	100	150	183	174	150	45	55	27	800	4.5
RTP-200-010	1	75	125	125	250	195	210	170	45	80	27	1000	7.5
RTP-200-015	1.5	75	125	125	250	227	220	180	45	80	27	1000	9.0
RTP-200-020	2	100	150	150	400	227	226	180	60	100	33	1100	11.5
RTP-200-030	3	100	150	180	400	236	275	210	70	113	47	1300	21.0
RTP-200-050	5	125	175	250	450	270	300	220	80	125	53	1400	30.5
RTP-200-100	10	150	175	250	450	410	340	290	90	125	53	1500	44



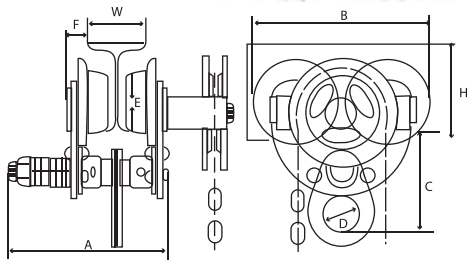
RTG-210 Geared Trolley with Chain

Features:
- Designed to function on both flat and minor irregular beams surfaces
- Easy installation and on-site operations
- Hand chain operated with anti-drop plates
- Dual tread Iron wheels with high quality sealed ball bearing
- Heavy rolled steel side plates with a universal hanging eye
- Powder coated body and wheels for protection from corrosion
- Individual serial code, capacity, MORDEC™ and WLL shown
- CE, GS certified
- Standard length of 3m hand chain included

Standard: EN 13157

RTG-210

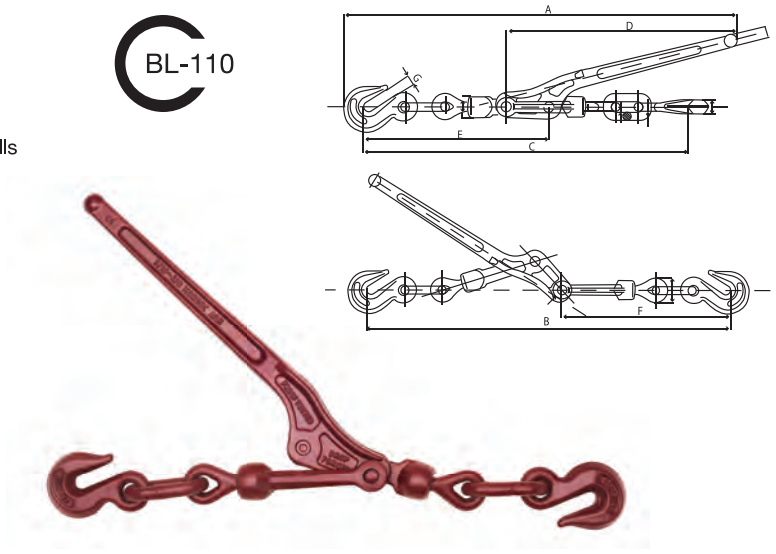
Product Code	Capacity Ton	Fit Beams mm W Min	W Max	H Min	H Max	Dimensions mm A	B	C	D	E	F	G	Minimum Revolving Radius mm	N.W kg
RTG-210-005	0.5	75	125	100	150	183	174	150	45	55	27	67	900	5.3
RTG-210-010	1	75	125	125	250	195	210	170	45	80	27	60	1000	8.5
RTG-210-015	1.5	75	125	125	250	227	220	180	45	80	27	60	1000	10.0
RTG-210-020	2	100	150	150	400	227	226	180	60	100	33	60	1100	13.0
RTG-210-030	3	100	150	180	400	236	275	210	70	113	47	64	1300	18.5
RTG-210-050	5	125	175	250	450	270	300	220	80	125	53	75	1400	32.0
RTG-210-100	10	150	175	250	450	410	340	290	90	125	53	75	1700	46



BL-110 Forged Handle Lever Type Load Binder

Features:
- Designed for easy operation and release
- Individually assembled parts for stronger joints
- Heavier construction at leverage point to prevent spreading
- Binder heel toggles away from load
- Ball and socket swivel joints at hook assemblies for straight pulls
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: Forged Carbon Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Individually Proof Tested to 2 times of Working Load Limit
Safety Factor: 3.5 to 1
Standard: EN12195



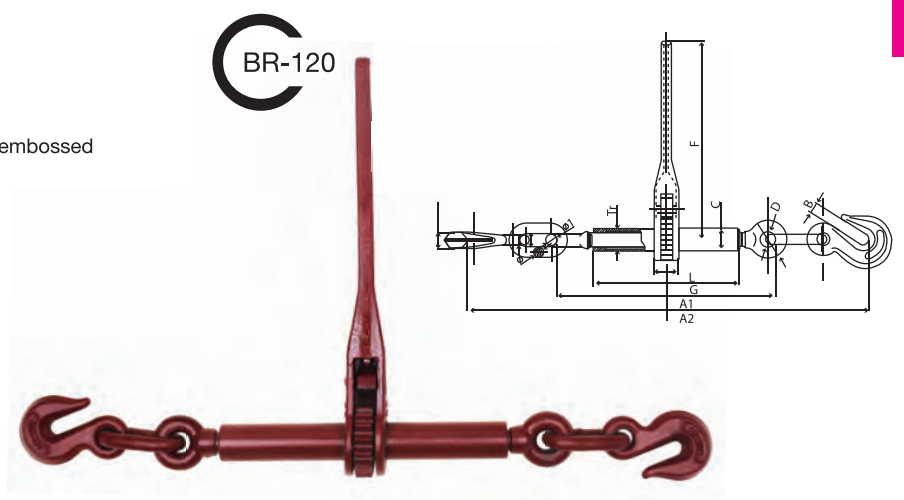
Product Code	Standard Packing	Min Chain Size	Working Load Limit kg	Proof Load kg	Ultimate Load kg	Weight each kg	Dimensions mm A	B	C	D	E	F	G
RBL-110-2	5	5/16" - 3/8"	2500	5000	8,750	3.7	610	607	503	393	287	287	12.7
RBL-110-3	5	3/8" - 1/2"	4200	8400	14,700	5.7	768	695	565	440	325	325	16.5
RBL-110-4	2	1/2" - 5/8"	5900	11800	20,650	10.5	830	848	695	525	395	395	18.5

Individually proof load tested as shown on table

BR-120 Forged Handle Ratchet Type Load Binder

Features:
- Designed for easy operation and release
- Individually assembled parts for stronger joints
- Continuous take-up for infinite adjustment to load
- Single piece forged handle, hooks and eyebolts
- Traceability code, capacity, MORDEC™ and WLL embossed

Material: Forged Carbon Steel
Construction: Quenched and Tempered
Finish: Powder Coated
Proof Load: Individually Proof Tested to 2 times of Working Load Limit
Safety Factor: 3.5 to 1
Standard: EN12195



Product Code	Standard Packing	Min Chain Size	Working Load Limit kg	Proof Load kg	Ultimate Load kg	Weight each kg	Dimensions mm B	C	L	D	F	G	Tr	ø	ø1	A1	A2
RBR-120-2	5	5/16" - 3/8"	2500	5000	8,750	4.7	12.7	33.5	255	25	355	340	22	13	16	585	760
RBR-120-3	5	3/8" - 1/2"	4200	8400	14,700	5.2	16.5	33.5	255	25	355	340	22	16	16	610	770
RBR-120-4	2	1/2" - 5/8"	5900	11800	20,650	7.18	18.5	33.5	260	26	355	362	24	18	19	670	870

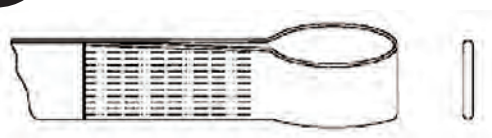
Individually proof load tested as shown on table

RWS-06 Polyester Webbing Sling

Features:
- Different base color and tracer lines to indicate Working Load Limit
- Will not damage polished or fragile surfaces
- Marked with individual serial number
- Strong resistance to abrasion, wear and damage
- Light, Flexible and able to absorb shock loads
- Safe for operators at no risk of injury
- Working temperature range from -40oc to 100oc

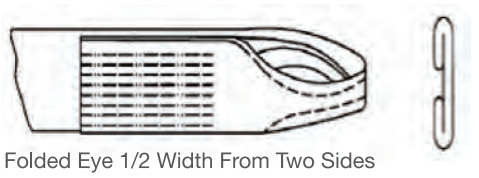
Material: 100% High Tenacity Polyester Fiber
Construction: Color-coded with Tracer Lines
Safety Factor: 6 to 1
Standard: BS 3481:Part2-1983
Length: Up to 12m

RWS-06



Eye to Eye

Folded Eye 1/2 Width From One Side



Folded Eye 1/2 Width From Two Sides

Meets Requirements of BS 3481:Part2-1983

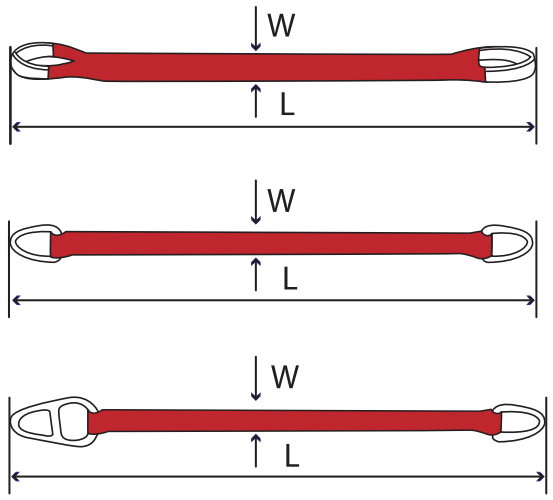
Product Code	Capacity Ton	Color	Width mm	Staight Lift M = 1	Choked Lift M = 0.8	"U" Lift M = 2	45° Lift M = 1.4	45/60° Lift M = 1.0
RWS-06-1T	1	Voilet	35	1000	800	2000	1400	1000
RWS-06-2T	2	Green	50	2000	1600	4000	2800	2000
RWS-06-3T	3	Yellow	75	3000	2400	6000	4200	3000
RWS-06-4T	4	Grey	100	4000	3200	8000	5600	4000
RWS-06-5T	5	Red	125	5000	4000	10000	7000	5000
RWS-06-6T	6	Brown	150	6000	4800	12000	8400	6000
RWS-06-8T	8	Blue	200	8000	6400	16000	11200	8000
RWS-06-10T	10	Orange	250	10000	8000	20000	14000	10000
RWS-06-12T	12	Orange	300	12000	9600	24000	16800	12000

**M = Mode factor for symmetrical loading*

RWS-07 Polyester Webbing Sling

Features:
- Different base color and tracer lines to indicate Working Load Limit
- Will not damage polished or fragile surfaces
- Marked with individual serial number
- Strong resistance to abrasion, wear and damage
- Light, Flexible and able to absorb shock loads
- Safe for operators at no risk of injury
- Working temperature range from -40oc to 100oc

RWS-07



Material: 100% High Tenacity Polyester Fiber
Construction: Color-coded with Tracer Lines
Safety Factor: 7 to 1
Standard: EN1492-1
Length: Up to 12m

Meets Requirements of EN1492-1

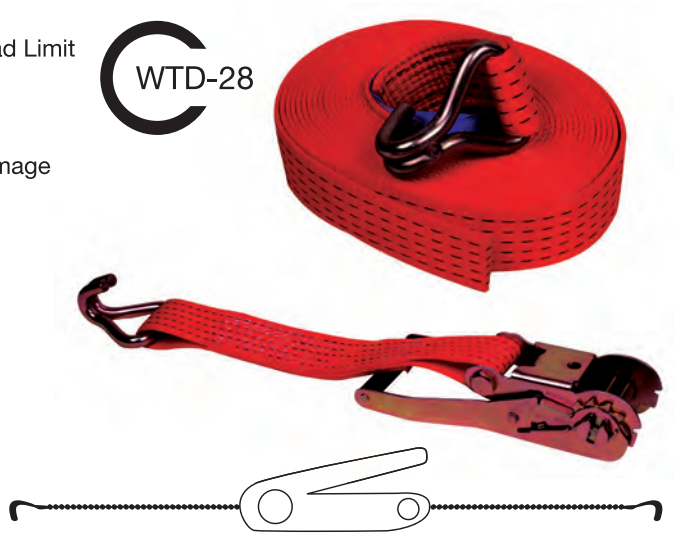
Product Code	Capacity Ton	Color	Width mm	Staight Lift M = 1	Choked Lift M = 0.8	"U" Lift M = 2	45° Lift M = 1.4	45/60° Lift M = 1.0
RWS-06-1T	1	Voilet	30	1000	800	2000	1400	1000
RWS-06-2T	2	Green	60	2000	1600	4000	2800	2000
RWS-06-3T	3	Yellow	90	3000	2400	6000	4200	3000
RWS-06-4T	4	Grey	120	4000	3200	8000	5600	4000
RWS-06-5T	5	Red	150	5000	4000	10000	7000	5000
RWS-06-6T	6	Brown	180	6000	4800	12000	8400	6000
RWS-06-8T	8	Blue	240	8000	6400	16000	11200	8000
RWS-06-10T	10	Orange	300	10000	8000	20000	14000	10000
RWS-06-12T	12	Orange	380	12000	9600	24000	16800	12000

**M = Mode factor for symmetrical loading*

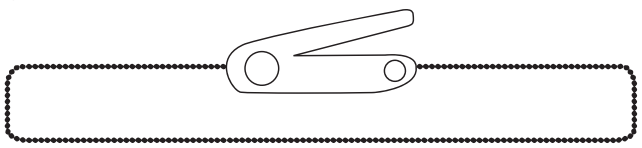
RWT-DJH Ratchet Lashing System

Features:
- Color-coded with tracer lines for easy indication of Working Load Limit
- Provide maximum load protection and security
- Hold loads in place on vehicles, trains, ships and other carriers
- Marked with clear traceability label
- Hardened and treated for strong resistance to abrasion and damage
- Both ends fitted with double J hook for tighter lashing on load

WTD-28



Material: 100% High Tenacity Polyester Fiber
Construction: Orange color-coded with Tracer Lines
Width: 50 mm
Length: 5m - 10m
MBS: 5000 Kg
Standard: EN12195



Notes

MEP™ Fabrication & Engineering Services

Fabrication Products & Services

Air Spooler

Coiling Machine 1

Coiling Machine 2

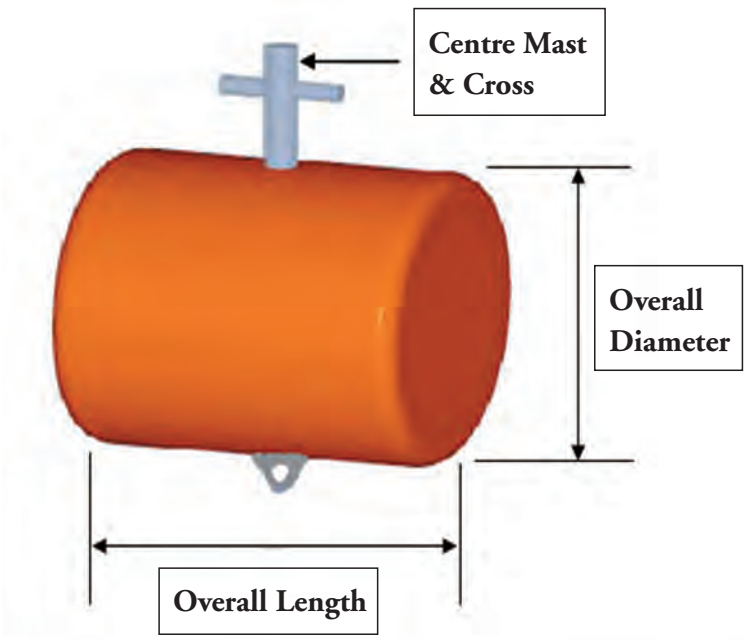
Ladder

Reel Jack Up

Steel Bin

Wire Rope Stand

Mbuoy - Foam Filled Steel Pendant Buoy



MBUOY series bouys are specially designed for use as backdown buoys to hold work boats, maintenance boats and supply boats off oil platforms.

MBUOY series buoys are cylindrically shaped to minimize and reduce shock-loading on the mooring in the rough heavy seas. The crucificial bitts (cross bitts) also makes them easier for securing purpose and prevent slip-offs.

MBUOY series buoys are made of Grade A steel with re-inforced cross steel bars and foam-filled to enhance the durability and bouyancy of the buoys.

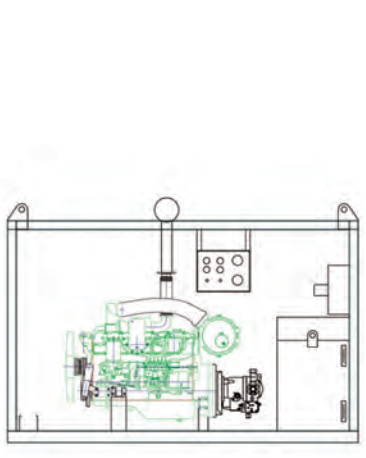
***MBUOY** series buoys could be customized and tailor-made to suit the customers requirements and specifications.

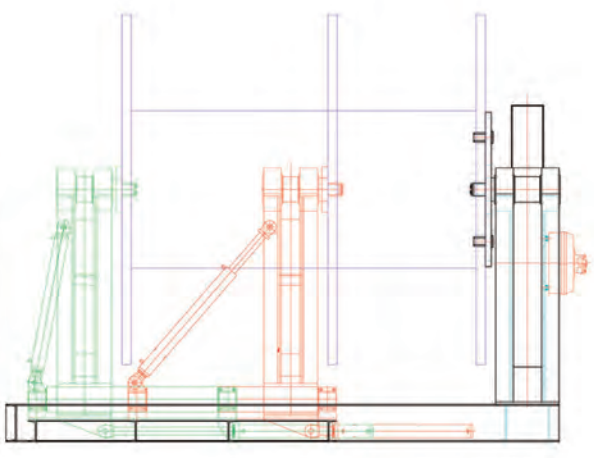
Model	Unloaded Buoyancy		Body Thickness		Buoy Weight		Overall Diameter		Overall Length	
	Lbs	Kgs	Inch	Mm	Lbs	Kgs	Fts	Mts	Fts	Mts
MBUOY-PB1T	2,684	1,220	0.354	9.0	1,430	650	4.0	1.220	5.0	1.524
MBUOY-PB3T	7,590	3,450	0.354	9.0	2,640	1,200	5.0	1.524	8.0	2.440
MBUOY-PB4T	9,834	4,470	0.354	9.0	3,036	1,380	6.0	1.830	7.0	2.134
MBUOY-PB5T	11,374	5,170	0.354	9.0	3,300	1,500	6.0	1.830	8.0	2.440

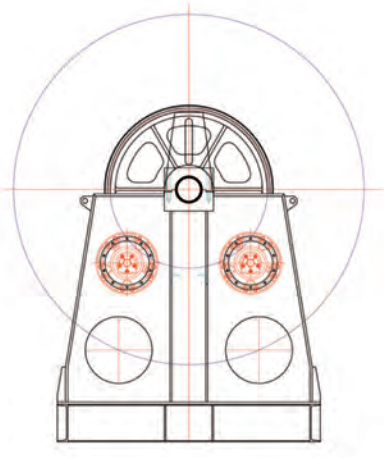
MATERIAL SPECIFICATIONS	
Buoy Body	Ship Steel Plate ABS Grade A
Centre Mast	API Pipe Std 5L
Cross Bitts	API Pipe Std 5L

Spooler Coiling Machine & Diesel Hydraulic Power Pack

- Holding Capacity: Up to 85 Ton Max
- Back Tension Force: Up to 10 Ton
- Drum Speed: 1 ~ 5 RPM



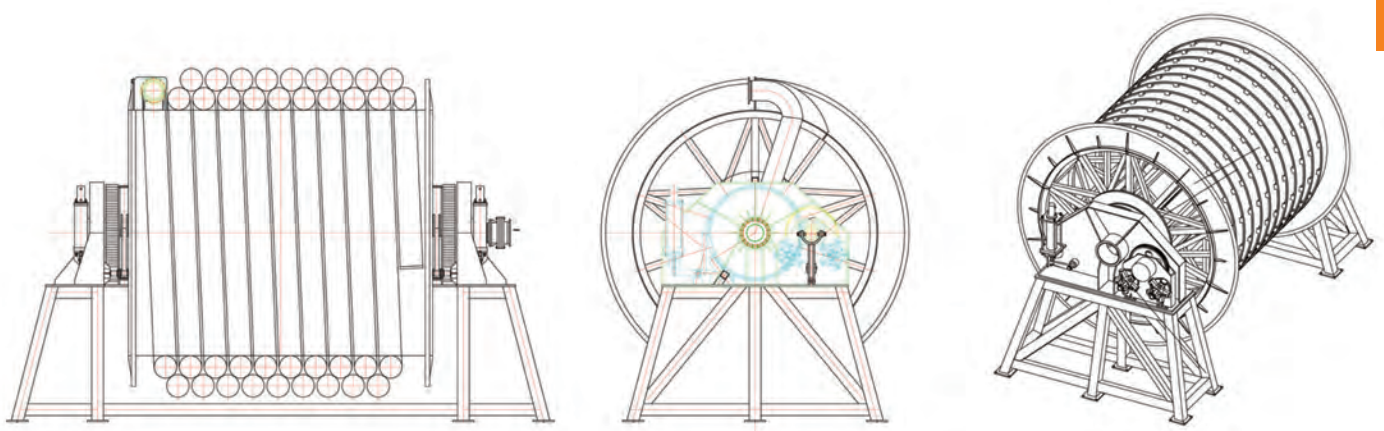




Hose Reel Spooler Winch

Customize the following to suit your offshore requirements

1. Drum capacity to contain hoses
2. Drum diameter meeting minimum bending angle of hose
3. Rated pull with back tension to required speed
4. Hydraulic operated brake to necessary holding power
5. Hydraulic operated dog type clutch or air clutch for better control and power transmission
6. Winch dimension up to 15M (L), 10M (W) X 10M (H)
7. Overall winch weight up to 100ton



Installation Job for Anchor & Chain

MEP provides onboard installation service of anchor & anchor chain for all vessels. We provide a one-stop service from supplying of material, delivery to IPL or OPL and professional riggers on-site to conduct proper installation.












1. Loading of anchor & chains onto barge

2. Laying the chain properly & connecting all the chains with kenter shackle & painting of markings on chain & kenter shackle

3. Transportation of items to OPL with tug & barge & positioning of barge beside Mother Vessel

4. Connecting one end of the chain to prepare for hoisting of chain onto Mother Vessel

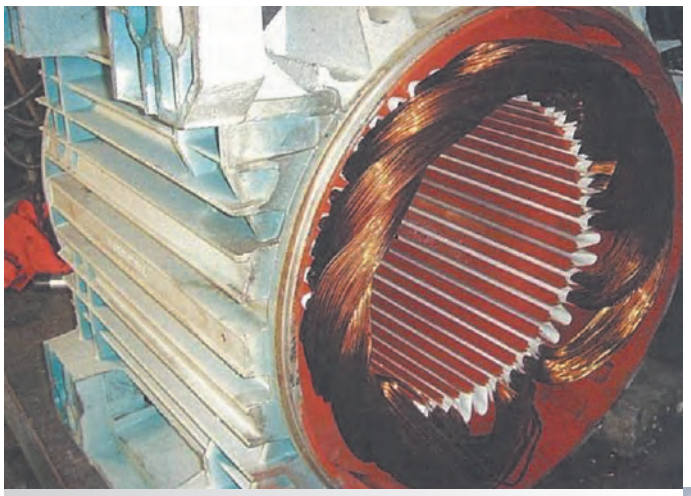
5. Hoisting of chain onto the windlass gypsy & into the chain locker compartment

6. Completion of installation job

MEP™ FABRICATION & ENGINEERING SERVICES

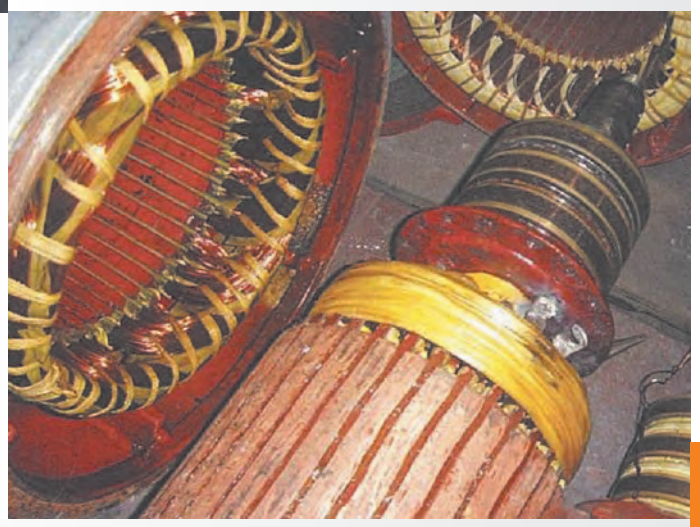
Services for Electrical Power Equipment

MEP provides Servicing and Rewinding of all types of electrical power equipment, such as Electric Motors, Power Generators, Power Transformers & etc.



Our workshop consisting the following:

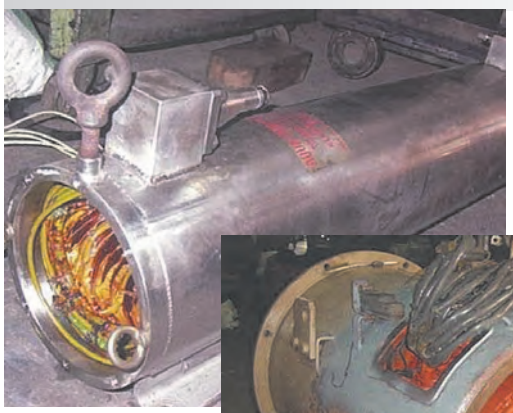
- Electrical division — site trouble shooting work
- Mechnical division — site removal, installation and alignment
- Rewinding division — workshop servicing
- QC Division — equipment checking and testing in workshop



Services

All services come with limited warranty

All machineries breakdown causes lost of productivity, hence, our customers can be assured of the highest uncompromising quality service from us.



We specialize in:

- Rewinding & Overhauling services for A.C. & D.C. Electric Motors
- Rewinding & Overhauling services for Power Generators/Alternators
- Surge Comparison and Hi-Pot Testing with computerized print-out
- Rewinding & Fabrication of Power Transformers
- Servicing of General Electric 752 Traction Motors
- Voltage Conversion for A.C. Motors
- On-site troubleshooting of electric power equipment
- Dynamic balancing services of main rotor shaft
- Trading house for IEC standard Electric Motors

Commercial Rigging Gears

U.S. TYPE EXTRA HEAVY DUTY WIRE ROPE THIMBLE

Item	Size inch	N.W. lbs/100pcs	Item	Size inch	N.W. lbs/100pcs
THD006	1/4	6.75	THD022	7/8	175
THD008	5/16	11.25	THD026	1	275
THD010	3/8	30	THD032	1-1/4	400
THD011	7/16	51	THD036	1-3/8	817
THD012	1/2	51	THD038	1-1/2	1175
THD013	9/16	75	THD042	1-5/8	1700
THD016	5/8	75	THD045	1-3/4	1775
THD019	3/4	147	THD050	2	2500

U.S. TYPE GUSSETED HEAVY DUTY WIRE ROPE THIMBLE

Item	Size inch	N.W. lbs/100pcs	Item	Size inch	N.W. lbs/100pcs
TGH006	1/4	7.7	TGH019	3/4	158
TGH008	5/16	14	TGH022	7/8	197
TGH010	3/8	27	TGH026	1	312
TGH012	1/2	56	TGH032	1-1/4	429
TGH016	5/8	81	TGH038	1-1/2	1233

BS464 WIRE ROPE THIMBLE

Item	Size inch	Size/mm (Dia. Rope)	Item	Size inch	Size/mm (Dia. Rope)
T46408	5/16	8	T46429	1-1/8	29
T46409	3/8	9	T46432	1-1/4	32
T46411	7/16	11	T46435	1-3/8	35
T46413	1/2	13	T46438	1-1/2	38
T46414	9/16	14	T46441	1-5/8	41
T46416	5/8	16	T46444	1-3/4	44
T46417	1-1/16	17	T46448	1-7/8	48
T46419	3/4	19	T46451	2	51
T46421	1-3/16	21	T46454	2-1/8	54
T46422	7/8	22	T46457	2-1/4	57
T46424	1-5/16	24	T46464	2-1/2	64
T46425	1	25			

U.S. TYPE MALLEABLE WIRE ROPE CLIPS

Item	Size inch	N.W. kg/100pcs	Item	Size inch	N.W. kg/100pcs
WRCM02	1/16	0.80	WRCM13	1/2	18.5
WRCM03	1/8	1.54	WRCM14	9/16	22.56
WRCM05	3/16	2.50	WRCM16	5/8	28.00
WRCM06	1/4	5.30	WRCM19	3/4	35.00
WRCM08	5/16	5.90	WRCM22	7/8	53.00
WRCM10	3/8	10.0	WRCM26	1	66.60
WRCM11	7/16	11.30	WRCM30	1-1/8	111.00

U.S TYPE DROP FORGED WIRE ROPE CLIP

Item	Size inch	N.W. lbs/100pcs	Item	Size inch	N.W. lbs/100pcs
WRCH03	1/8	5	WRCH22	7/8	240
WRCH05	3/16	9	WRCH26	1	250
WRCH06	1/4	18	WRCH30	1-1/8	310
WRCH08	5/16	30	WRCH32	1-1/4	460
WRCH10	3/8	42	WRCH36	1-3/8	520
WRCH11	7/16	70	WRCH38	1-1/2	590
WRCH13	1/2	75	WRCH42	1-5/8	730
WRCH14	9/16	100	WRCH45	1-3/4	980
WRCH16	5/8	100	WRCH50	2	1340
WRCH19	3/4	150	WRCH58	2-1/4	1570

U.S TYPE DROP FORGED FIST GRIP CLIP

Item	Size inch	N.W. lbs/100pcs	Item	Size inch	N.W. lbs/100pcs
WRCF06	1/4	18	WRCF16	5/8	100
WRCF08	5/16	28	WRCF19	3/4	174
WRCF10	3/8	40	WRCF22	7/8	224
WRCF11	7/16	70	WRCF26	1	299

U.S. TYPE STANDARD WIRE ROPE THIMBLE

Item	Size inch	N.W. lbs/100pcs	Item	Size inch	N.W. lbs/100pcs
TLD003	1/8	2.5	TLD019	3/4	50
TLD004	3/16	2.5	TLD022	7/8	85
TLD006	1/4	3.75	TLD026	1	100
TLD008	5/16	3.75	TLD032	1-1/4	175
TLD009	3/8	6.28	TLD038	1-1/2	340
TLD013	1/2	12.5	TLD045	1-3/4	594
TLD016	5/8	25			

DIN6899 B TYPE WIRE ROPE THIMBLE

Item	Size/mm (Dia. Rope)	Groove Width	N.W. kg/100pcs
TDB003	2.5	3	0.5
TDB004	3.5	4	0.8
TDB005	4	5	1
TDB006	5	6	1.6
TDB007	6	7	1.9
TDB008	7	8	3.0
TDB010	9	10	4.7
TDB012	10	12	6.8
TDB014	13	14	10
TDB016	15	16	14.5
TDB017	16	18	20
TDB020	18	20	29
TDB022	20	22	32
TDB024	22	24	47
TDB026	24	26	59
TDB028	26	28	80
TDB030	28	30	110
TDB032	30	32	123
TDB034	32	34	156
TDB036	34	36	176
TDB038	36	38	192
TDB040	38	40	292

DIN 741 MALLEABLE WIRE ROPE CLIPS

Item	Size inch	N.W. kg/100pcs	Item	Size mm	N.W. kg/100pcs
WRCD03	3	1.40	WRCD16	16	21.00
WRCD05	5	1.50	WRCD19	19	28.00
WRCD06	6.5	2.10	WRCD22	22	40.00
WRCD08	8	4.10	WRCD26	26	44.00
WRCD10	10	6.80	WRCD30	30	66.00
WRCD11	11	7.20	WRCD34	34	85.00
WRCD13	13	13.00	WRCD40	40	104.00
WRCD14	14	13.50			

REGULAR SWIVEL

Item	Size inch	W.L.L. lbs	N.W. lbs
SRS006	1/4	850	0.21
SRS008	5/16	1250	0.39
SRS010	3/8	2250	0.75
SRS013	1/2	3600	1.43
SRS016	5/8	5200	2.50
SRS019	3/4	7200	4.13
SRS022	7/8	10000	6.25

JAW END SWIVEL

Item	Size inch	W.L.L. lbs	N.W. lbs
SJS006	1/4	850	0.25
SJS008	5/16	1250	0.37
SJS010	3/8	2250	0.70
SJS013	1/2	3600	1.43
SJS016	5/8	5200	2.48
SJS019	3/4	7200	3.88
SJS022	7/8	10000	5.75

Stainless Steel Rigging Hardware

S. S. SNAP HOOK

Item	Size/mm	W.L.L./lbs
S-SK04040	4 x 40	80
S-SK05050	5 x 50	100
S-SK06060	6 x 60	140
S-SK07070	7 x 70	200
S-SK08080	8 x 80	250
S-SK09090	9 x 90	280
S-SK10100	10 x 100	400
S-SK11120	11 x 120	500
S-SK12140	12 x 140	600
S-SK13160	13 x 160	700
S-SK14180	14 x 180	800

S. S. SNAP HOOK WITH EYELET

Item	Size/mm	W.L.L./lbs
S-SKE04040	4 x 40	80
S-SKE05050	5 x 50	100
S-SKE06060	6 x 60	140
S-SKE07070	7 x 70	200
S-SKE08080	8 x 80	250
S-SKE09090	9 x 90	280
S-SKE10100	10 x 100	400
S-SKE11120	11 x 120	500
S-SKE12140	12 x 140	600
S-SKE13160	13 x 160	700
S-SKE14180	14 x 180	800

S. S. SNAP HOOK WITH SCREW

Item	Size/mm	W.L.L./lbs
S-SKS04040	4 x 40	80
S-SKS05050	5 x 50	100
S-SKS06060	6 x 60	140
S-SKS07070	7 x 70	200
S-SKS08080	8 x 80	250
S-SKS09090	9 x 90	280
S-SKS10100	10 x 100	400
S-SKS11120	11 x 120	500
S-SKS12140	12 x 140	600
S-SKS13160	13 x 160	700
S-SKS14180	14 x 180	800

S. S. SNAP HOOK WITH EYELET AND SCREW

Item	Size/mm	W.L.L./lbs
S-SES05050	5 x 50	100
S-SES06060	6 x 60	140
S-SES07070	7 x 70	200
S-SES08080	8 x 80	250
S-SES09090	9 x 90	280
S-SES10100	10 x 100	400
S-SES11120	11 x 120	500
S-SES12140	12 x 140	600
S-SES13160	13 x 160	700
S-SES14180	14 x 180	900

S. S. EGG TYPE SNAP HOOK

Item	Size/mm	W.L.L./lbs
S-ESH05050	5 x 50	100
S-ESH06060	6 x 60	140
S-ESH07070	7 x 70	200
S-ESH08080	8 x 80	250
S-ESH09090	9 x 90	280
S-ESH10100	10 x 100	400
S-ESH11120	11 x 120	500
S-ESH12140	12 x 140	600

S. S. OBLIQUE ANGLE SNAP HOOK

Item	Size/mm	W.L.L./lbs
S-OAS05050	5 x 50	100
S-OAS06060	6 x 60	140
S-OAS08080	8 x 80	250
S-OAS10100	10 x 100	400
S-OAS11120	11 x 120	500

S. S. OBLIQUE ANGLE SNAP HOOK WITH EYELET & PIN

Item	Size/mm	W.L.L./lbs
S-OES05050	5 x 50	100
S-OES06060	6 x 60	140
S-OES08080	8 x 80	250
S-OES10100	10 x 100	400
S-OES11120	11 x 120	500

S. S. WIDE JAW QUICK LINK

Item	Size/mm	W.L.L./lbs
S-WQL003	3.5	175
S-WQL005	5	650
S-WQL006	6	875
S-WQL008	8	1525
S-WQL010	10	2300
S-WQL012	12	2500

S. S. STRAIGHT SNAP HOOK

Item	Size/mm	W.L.L./lbs
S-SSH05050	5 x 50	100
S-SSH06060	6 x 60	140
S-SSH08080	8 x 80	250
S-SSH10100	10 x 100	400
S-SSH11120	11 x 120	500

S. S. OBLIQUE ANGLE SNAP HOOK WITH EYELET

Item	Size/mm	W.L.L./lbs
S-OAE05050	5 x 50	100
S-OAE06060	6 x 60	140
S-OAE08080	8 x 80	250
S-OAE10100	10 x 100	400
S-OAE11120	11 x 120	500

S. S. QUICK LINK

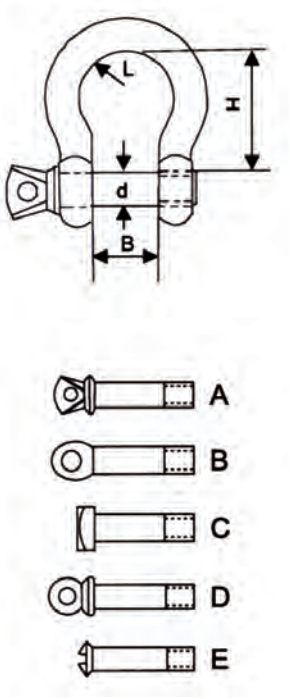
Item	Size/mm	W.L.L./lbs
S-QL003	3.5	175
S-QL004	4	500
S-QL005	5	650
S-QL006	6	875
S-QL007	7	1200
S-QL008	8	1525
S-QL009	9	1975
S-QL010	10	2300
S-QL012	12	2500
S-QL014	14	2800

S. S. PEAR SHAPED QUICK LINK

Item	Size/mm	W.L.L./lbs
S-PQL003	3.5	120
S-PQL004	4	350
S-PQL005	5	450
S-PQL006	6	600
S-PQL008	8	1100
S-PQL009	9	1300
S-PQL010	10	1500
S-PQL012	12	1650

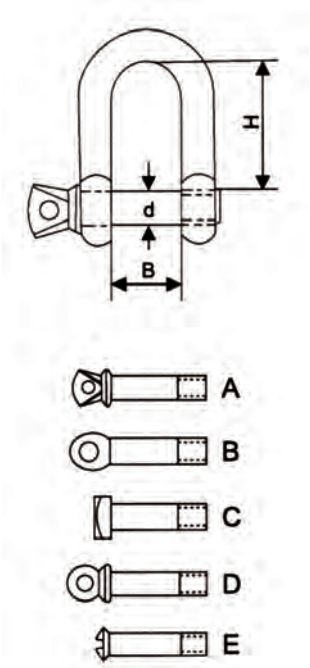
Rigging Hardware

Commercial Bow Shackle



Item	Size mm	Pin mm	I.L. mm	I.W. mm	W.L.L. ton	WT. kg
SH0501	5	5	19	10	0.08	0.019
SH0502	6	6	25	13	0.10	0.034
SH0503	8	8	32	16	0.20	0.070
SH0504	10	10	38	19	0.30	0.130
SH0505	11	11	46	22	0.40	0.190
SH0506	12	12	51	25	0.50	0.260
SH0507	14	14	58	28	0.60	0.400
SH0508	16	16	64	32	0.80	0.500
SH0509	20	20	76	38	1.10	0.800
SH0510	22	22	89	44	1.50	1.300
SH0511	25	25	100	51	2.00	2.000
SH0512	28	28	115	57	3.00	3.100
SH0513	32	32	127	64	3.50	4.300
SH0514	38	38	152	76	5.00	7.000
SH0515	45	45	180	90	7.00	12.500
SH0516	50	50	200	102	8.00	17.50

Commercial Dee Shackle



Item	Size mm	Pin mm	I.L. mm	I.W. mm	W.L.L. ton	WT. kg
SH0601	5	5	19	10	0.08	0.019
SH0602	6	6	25	13	0.10	0.034
SH0603	8	8	32	16	0.20	0.070
SH0604	10	10	38	19	0.30	0.130
SH0605	11	11	46	22	0.40	0.190
SH0606	12	12	51	25	0.50	0.260
SH0607	14	14	58	28	0.60	0.400
SH0608	16	16	64	32	0.80	0.500
SH0609	20	20	76	38	1.10	0.800
SH0610	22	22	89	44	1.50	1.300
SH0611	25	25	100	51	2.00	2.000
SH0612	28	28	115	57	3.00	3.100
SH0613	32	32	127	64	3.50	4.300
SH0614	38	38	152	76	5.00	7.000
SH0615	45	45	180	90	7.00	12.500
SH0616	50	50	200	102	8.00	17.50

Rigging Hardware

TURNBUCKLES U.S. TYPE,DROP FORGED

Item	Size/inch (Dia. & take-up)	W.L.L. (lbs) H&H H&E	W.L.L. (lbs) E&E J&E J&J Stub End	Item	Size/inch (Dia. & take-up)	W.L.L. (lbs) H&H H&E	W.L.L. (lbs) E&E J&E J&J Stub End
TB106100	1/4 x 4	400	500	TB125152	1 x 6	5000	10000
TB108113	5/16 x 4-1/2	700	800	TB125304	1 x 12	5000	10000
TB110152	3/8 x 6	1000	1200	TB125457	1 x 18	5000	10000
TB113152	1/2 x 6	1500	2200	TB125609	1 x 24	5000	10000
TB113228	1/2 x 9	1500	2200	TB132304	1-1/4 x 12	6500	15200
TB113304	1/2 x 12	1500	2200	TB132457	1-1/4 x 18	6500	15200
TB116152	5/8 x 6	2250	3500	TB132609	1-1/4 x 24	6500	15200
TB116228	5/8 x 9	2250	3500	TB138304	1-1/2 x 12	7500	21400
TB116304	5/8 x 12	2250	3500	TB138457	1-1/2 x 18	7500	21400
TB119152	3/4 x 6	3000	5200	TB138609	1-1/2 x 24	7500	21400
TB119228	3/4 x 9	3000	5200	TB144457	1-3/4 x 18	-	28000
TB119304	3/4 x 12	3000	5200	TB144609	1-3/4 x 24	-	28000
TB119457	3/4 x 18	3000	5200	TB150609	2 x 24	-	37000
TB122304	7/8 x 12	4000	7200	TB164609	2-1/2 x 24	-	60000
TB122457	7/8 x 18	4000	7200	TB170609	2-3/4 x 24	-	75000

TURNBUCKLES DIN 1480

Item	Size mm	Total Length mm	Body Length mm	W.L.L. kg
TB148006	M6	180	110	230
TB148008	M8	195	110	418
TB148010	M10	230	125	663
TB148012	M12	250	125	948
TB148016	M16	320	170	1804
TB148020	M20	400	200	2752
TB148022	M22	428	220	3265
TB148024	M24	490	255	3996
TB148030	M30	530	255	6371

HAMBURG TURNBUCKLES

Item	Size / mm	B.S./ton	N.W./kg
TBH20450	20 x 450	9.5	2.3
TBH20500	20 x 500	9.5	2.5
TBH24400	24 x 400	13.5	3.5
TBH24500	24 x 500	13.5	4.0
TBH27400	27 x 400	18	4.4
TBH27500	27 x 500	18	5.0
TBH28400	28 x 400	19	4.5
TBH30400	30 x 400	21	5.0
TBH30500	30 x 500	21	5.5

TURNBUCKLES COMMERCIAL TYPE

Item	Size mm	Total Length mm	Body Length mm	W.L.L. kg
TBM06215	6	215	100	100
TBM08280	8	280	125	200
TBM10325	10	325	150	300
TBM12430	12	430	200	500
TBM16540	16	540	250	1000
TBM20670	20	670	300	1500
TBM22740	22	740	330	2200
TBM24830	24	830	350	3000

RIGGING SCREWS

Item	Size / mm	Item	Size/mm
RSJJ06	M6	RSJJ24	M24
RSJJ08	M8	RSJJ28	M28
RSJJ10	M10	RSJJ32	M32
RSJJ12	M12	RSJJ36	M36
RSJJ14	M14	RSJJ39	M39
RSJJ16	M16	RSJJ42	M42
RSJJ18	M18	RSJJ45	M45
RSJJ20	M20	RSJJ50	M50
RSJJ22	M22		

TURNBUCKLES JIS FRAME TYPE WITH EYE AND HOOK

Item	Size mm	Body Length mm	Item	Size mm	Body Length mm
TBF06100	6	100	TBF20300	20	300
TBF08125	8	125	TBF22325	22	330
TBF10150	10	150	TBF24350	24	350
TBF12200	12	200	TBF32400	32	400
TBF16250	16	250	TBF38450	38	450

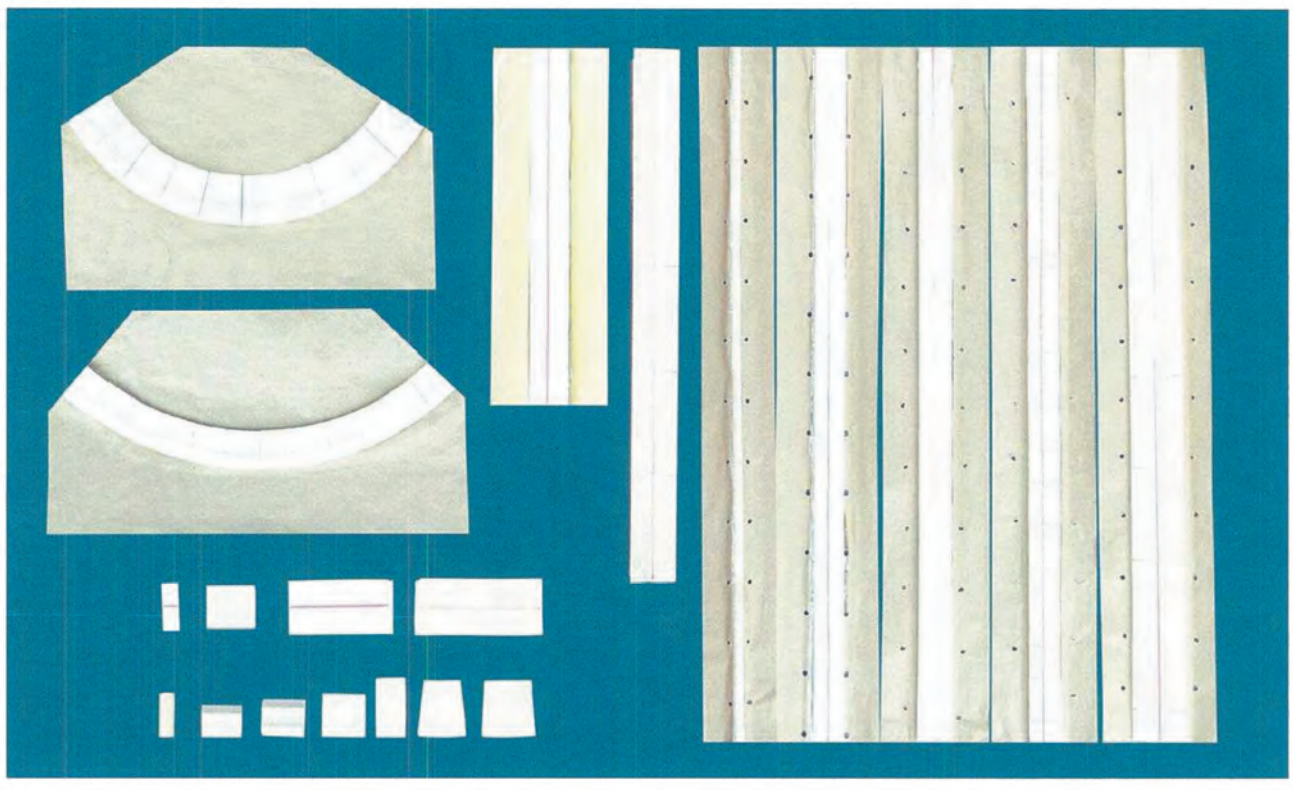
DECK LASHING TURNBUCKLES

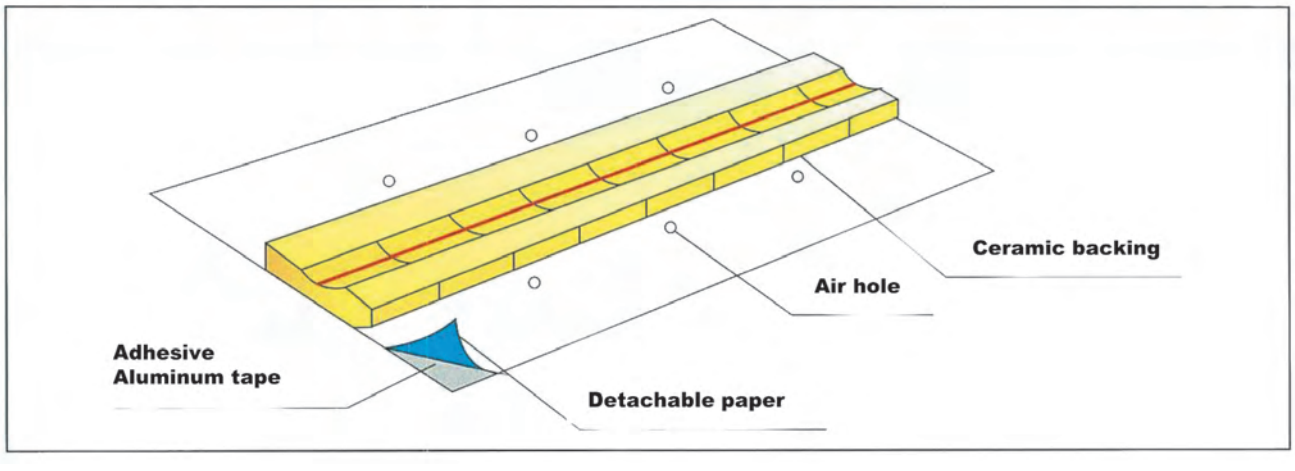
Item	Size / inch	W.L.L./ton	N.W./kg
DLTB32	1-1/4	25.50	16.80

Welding Pads (Ceramic Welding Backers)

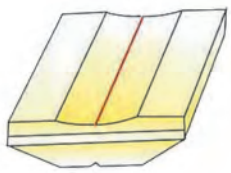
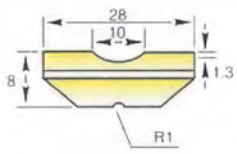
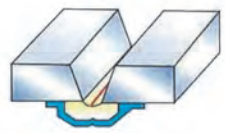
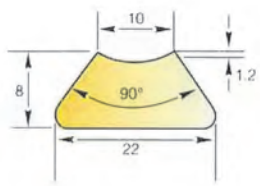
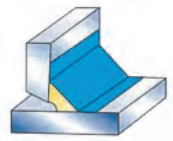
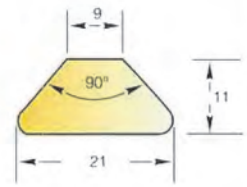
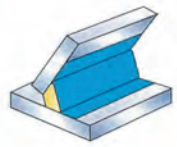
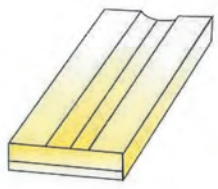
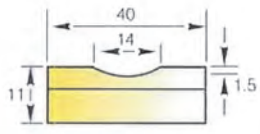
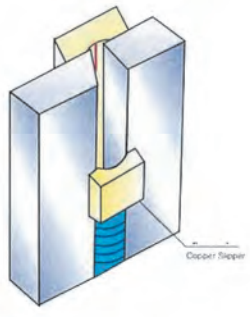
The “Welding Pads” is another milestone innovative product recognize by us to have met international specifications and standards. The ceramic welding backer as it is normally called in the welding industry is very efficient and easy to use. The backing has a strong bond adhesive and is produced mainly for carbon dioxide (co2) welding suitable for both single- and double-side, low carbon steel and high SMAW, pneumonic-electric vertical welding. The product is widely used in shipbuilding, steel bridge construction, chemical plant, pressure vessel fabrication, steel structure, etc. The configuration and design of the products are very adaptive to different and difficult curvatures and angles of welding, especially useful for welding areas where the normal welding methods are unable to reach.

Ceramic Welding Backing and Applicable Index





Index of the ceramic welding backing

Series Number	Dimension	Joint	Application
YC-401-03 			This backing is a CO_2 gas shielded metal arc one-side welding backing and is suitable either for flux cored wire or solid wire.
YC-601-01 		 	This backing is designed for angulated welding joint from 15^0 to 90^0 angle.
YC-601-04 			
YC-1001-03 			This backing consists of refractory flux and metal-case and is suitable for SEGARC automatic continuous welding process.

Reference for welding process of the MIS-WP series

Welding Process	Welding Position	Welding Condition (A) Current	(V) Voltage	Root gap (mm)	Remarks
Φ4.0 SMAW with covered electrode	Flat	140~160	25~26	5~8	Use only low-hydrogen electrode.
	Vup	120~150	25~26	4~8	
	Hor	120~160	25~26	5~8	
Φ1.2 FMAW with Co2gas	Flat	180~200	22~26	5~8	 Dwell 0.3~0.5s
	Vup	160~180	20~23	5~8	L,R Dwell 0.5s
	Hor	150~200	20~24	5~8	Dwell 0.5s
Φ1.2 FMAW with Co2gas	Flat	180~200	25~27	5~8	Automatic or semi-automatic one-side welding is applicable.
	Vup	130~160	16~21	4~8	
	Hor	150~180	20~24	5~8	
Φ1.6 SEG ARC	Vup	320~380	33~37	5~8	14-22mm steel thickness
Φ5.0 SAW	Flat	500~900	33~37	2~4	Stretch out at 35mm

ABS

Refer to: JW
File Ref: T-8-6
Task No.: 570354
PID No.: 2338870
Date: 8 April 2010

Ceramic Welding Backing YC401-03
Ceramic Welding Backing YC601-01
Ceramic Welding Backing YC601-04
Ceramic Welding Backing YC1001-03
Type Approval – Product Design Assessment

Madam:

We have your application of Request for ABS Type Approval & Agreement dated 26 March 2010 and the appropriate document as listed below for the subject ceramic welding backings and are pleased to advise that we have completed the design assessment phase of the type approval process:

Ceramic Welding Backing

Our review is based on the national standard CB/T 3715-1995 as requested by you.

Enclosed is your original copy of the **Certificate of Design Assessment**. Please read the pages attached to the certificate to be sure that you understand the scope and conditions of the validity of the certificate. In particular we draw you attention to the restriction on the certificate. Since the original certificate is multi-colored, we have no objection to unlimited black and white photocopies of the certificate being distributed. As you may already know, your details are published on our web site: www.typeapproval.org and can also be downloaded there.

Should you desire to continue with Product Type Approval, please contact our Operation Division, Tel: 021-23270888, Fax: 021-53229649 at your convenience to arrange for the audit of your quality assurance and control arrangements.

One electronic copy of the submitted document stamped to indicate our review is being returned herewith.

An invoice to cover our fee of the design assessment phase of the type approval process will be sent to you separately.

Thank you for considering ABS for your certification needs. If you should have any comments relative to the scope and conditions of the assessment of your product, or if we can be of any further assistance, please do not hesitate to contact Jun Wang at 86-21-23270793 or the undersigned at 86-21-23270780. In case of inquiry by a phone or reply by a document, please inform or refer to Task No. & the date of this letter.

Very truly yours,

Thomas Kirk
Vice President of Engineering
ABS

By:
Hong Zhu
Principal Engineer - Hull

Encl.: as stated

cc: ABS Shanghai Opts w/p and copy of DA Certificate
cc: ABS Hong Kong w/RF

PACIFIC DIVISION
5TH FLOOR, SILVER TOWER, NO. 85 TAO YUAN ROAD, LUWAN DISTRICT, SHANGHAI, P.R. CHINA, POST CODE: 200021
TEL: 86-21-23270888 FAX: 86-21-53229649(OPERATION)/53805391(ENGINEERING) WEBSITE: www.eagle.org

NoFire is a high performance nontoxic fire retardant paint. It does everything that ordinary paint does… except burn!

Properties:

1. Provides protection from fire and heat at temperature in excess of 2000 °F whether used as a primer or finished coat
2. Contains NO lead, asbestos, halogens or solvents
3. A water base nontoxic intumescent paint
4. Extremely durable when compared to ordinary paint
5. Cleans up after any job with just plain water
6. Not a health hazard to animals (acute oral toxicity test results available)

Helps prevent flashover

NOFire paint applied to the wall and ceiling of a room can effectively eliminate them as contributors to FLASHOVER!

Flashover is the term for the condition which occurs in a room when generally localized fire suddenly engulfs the entire room area. The enormous amount of energy and toxic gases generated by the flashover can easily cause similar conditions in adjacent areas, resulting in rapid fire spread.

Once these conditions have begun, the chance of survival for anyone in the vicinity is nearly zero.

In a series of independent laboratory test, NoFire was demonstrated to effectively eliminate the walls and ceiling of a room as a contributor thereby effectively reducing the potential for flashover.

Coatings

NoFire is a nontoxic, water based intumescent coating that can be applies to a wide of materials using brush, roller or spray, similar in application to ordinary paint.

NoFire Coating's unique properties are:

ZERO	Flame Spread Index
	Smoke Developed Value
	Toxicity

It is the standard used for all land based civilian applications including, residential, commercial and industrial uses.

MEP™ FABRICATION & ENGINEERING SERVICES

Coverage

Typical Coverage is: 250 Sq. Ft. per gal 9 at (6 mil wet = .006in) to Sq. Ft. per gal (at 25 mil wet = .025in)

Depending on surface material and requirements

One brush coat – applies up to 5 mils wet thickness

One roller coat – applies up to 8 mils wet thickness

One spray coat – applies up to 25 mils wet thickness

NoFire A-18
For industrial / commercial, warehouses, offices and homes

NoFire A-18 Marine
For marine / offshore vessels engine rooms, control centers, accommodations, on deck

NoFire A-18 NV
Military Specifications, embassies, nuclear industry, armed forces installations
All the 3 above types of paint come in 5 gallon drums (5 US Gallons – 18.9 liters)

NoFire® Approvals

MPI
THE MASTER PAINTERS INSTITUTE
A-18 NV FIRE RETARDANT FLAT COATING WATER BASE
APPROVED UNDER MPI CATEGORY # 64

USCG • ABS • DNV
LLOYD'S REGISTER
APPROVED
NoFire® A-18 MARINE
TYPE APPROVAL
IMO
Resolution A-653(16) and
Resolution MSC.41(64)

QUALIFIED FOR USE
NoFire®
A-18 NV
DEPARTMENT OF THE NAVY
MIL SPEC
QPL
24596
NOFIRE TECHNOLOGIES, INC.

NoFire S-Barrier
INTUMESCENT WRAP SYSTEM
Accepted for Use
City of New York
Department of Buildings
MEA 430-00-M

REGISTERED
STATE OF CALIFORNIA
STATE FIRE MARSHAL
FLAME RETARDANT
C-20501

CLASS
A
RATING
ASTM-E84

Accepted For Use
City of New York
Department of Buildings
MEA 104-96-M
NoFire®

Accepted For Use
State of Rhode Island
Department of Building Code Standards
NoFire Flame Retardant Coating
Approval Report
No. 97-211

CLASSIFIED UL 33LM
FIRE RETARDANT COATING
SURFACE BURNING CHARACTERISTICS
FLAME SREAD: 10
SMOKE DEVELOPED: 55
NO. OF PRELIMINARY COATS: 0
RATE OF COST (FT²/GAL): —
NO. OF FIRE RETARDANT COATS: 1
RATE PER COAT (FT²/GAL): 165
NO. OF OVERCOATS: 0
RATE PER COAT (FT²/GAL) —

U.S. TESTING
ZERO FLAME SPREAD INDEX
ZERO SMOKE DEVELOPED
ZERO TOXICITY

Xcaper Emergency Smoke Escape Mask

The Facts about Fire Related Injuries

- 75% of fire related deaths are caused by smoke inhalation.
- Over 3,200 non-professional perished in fires and over 16,000 injuries in the USA in 2006.*
- There were over 16,000 non-professional injuries that occurred as a result of fire.*
- Fire related result in:
  - Higher insurance
  - Loss of productivity
  - Ongoing medical expenses

*Source: National Fire Protection Association (NFPA)

Where is Xcaper needed?

- Any Situation where a person may need time and clarity to evacuate from a dangerous situation.
  - Industrial / Commercial buildings
  - Marine/Offshore / Oil & Gas Industries
  - Condominiums & Apartments
  - Subway Commuters and travelers
  - Hotels

No Training is Necessary

- Intuitive design – Cannot be worn improperly as long as it covers breathing passages.
- Allows full vision and communication.
- One size fits all
- All face shapes
- All head sizes
- Impervious to facial hair
- Easy to help those needing assistance to put it on – can even held on for an infant.

Xcaper is Cost Effective Insurance

- Xcaper is insurance for your employees.
- Mitigates the cost of:
  - Injuries (smoke inhalation)
  - Loss of employee productivity
  - Continuous medical costs
  - Higher insurance
- A valuable employee benefit
- Peace of mind for the employer

Technology

- The Xcaper filter is the world's first moist direct-contact smoke particulate/ gases and vapors filtration system.
- Moisturizing agent is a 100% all natural plant extract that allows for easy breathing.
- Gases Absorbed:
  - Hydrogen Cyanide
  - Acrolein
  - Hydrochloric Acid
  - Nitric Oxide
  - Nitrogen Dioxide
  - Carbon Monoxide
  - 99.5% of particle matter down 3/10 of one micron.

MEP™ FABRICATION & ENGINEERING SERVICES

Certification and Testing

- RNK Environmental, Inc. Fort Mitchell, KY – Lab certification of BS EN-403.
- U.S. Navy Safety & Survivability Office Report – live fire testing.
- NovaScreen, a division of Oceanix Biosciences Corp. (Hanover, MD). – professional analysis of filtration
- Firefighter Rescue Inc. (New York, NY) – live fire testing
- WMD Preparedness, Inc. (New York, NY) – professional analysis of filtration.

Conclusion

- 75% of fire related deaths are caused by smoke inhalation.
- Xcaper allows an employee to escape when faced with fire, natural disaster or terrorist attack.
- Xcaper provides protection from smoke, airborne particulates, biological toxins and chemical agents.
- Xcaper is easy to use and cost effective. Unique patented technology used by professional firefighters.

Xcaper range of products:

The Xcaper Military Smoke MASk Kit (XKP-XSUSKIT)(for Marine/Offshore/Oil & Gas Personnel) (4 Hours)

Xcaper Military Smoke Mask Kit includes:

- Xcaper Personal Smoke Mask
- Xcaper non-fogging goggles
- Xcaper Hip Pak – The Pak has Velcro® straps on the back for simple attachment to a desk and easy transfer to the arm or belt.
- Lightweight and compact; kit weighs 4.4 oz

The Xcaper Personal Escape Kit (XKP-AMXPKIT) for Office, Dormitory, Hotel (20minutes)

Xcaper Personal Escape Kit includes:

- Xcaper Personal Smoke Mask
- Xcaper non-fogging goggles
- LED portable light
- Whistle on a lanyard
- Xcaper Hip Pak – The Pak has Velcro® straps on the back for simple attachment to a desk and easy transfer to the arm or belt.
- Lightweight and compact; kit weighs 4.4 oz.

The Xcaper Travel/ Business Escape Kit (XKP-MXEKIT-XSMODS) for Business Travelers and Business Guest (2 Hours)

Xcaper Personal Escape Kit includes:

- Xcaper Personal Smoke Mask
- Xcaper non-fogging goggles
- LED portable light
- Whistle on a lanyard
- Xcaper Hip Pak – The Pak has Velcro® straps on the back for simple attachment to a desk and easy transfer
- to the arm or belt.
- Lightweight and compact; kit weighs 4.4 oz.

MEP™ Shipbuilding & Turnkey Procurement Management

Shipbuilding And Turnkey Procurement Management

MEP Shipbuilding Division undertakes Turnkey Projects in the design, management and Construction of Offshore and Commercial Vessels like anchor handling tugs, supply vessels, and product tankers. The successful implementation of our shipbuilding lies in the following:

a. Contracted Shipyards

A collaborative effort with contracted shipyards is established to ensure full commitment through completion of our turnkey projects. Contracted shipyards include CNOOC Bohai Shipbuilding, Fujian Shenghai Shipbuilding and Yiulian Dockyard which has built Multi Purpose Container Cargo Vessels, Accommodation Barges, Container Vessels, AHTS Vessels, Platform Vessels, Bulk Carriers, and Product Oil Tankers.

b. Project Management

Our project team is headed by our Technical Director who has 35 years experience in the Offshore & Marine Industry. Together with his team of Naval Architects and Marine Engineers, they will be providing technical support to ensure that all technical specifications of the turnkey projects undertaken are in conformance with various classification society standards and they will follow through all major projects to ensure smooth production and delivery. Combine this with the physical presence of our contracted shipyards, we offer our clients a seamless blending of technological "know how", safety, and competitive pricing.

c. Turnkey Procurement Management

Turnkey Procurement Team assumes responsibilities for the evaluation of possible suppliers, budget estimates and financial analysis, advice in technical negotiation, support commissioning in factory and on site, technical supervision of the installation and commissioning of the equipment and entire systems from deck to engine room and compliance with the established warranties. This turnkey project is made possible due to the strong relationship with our network of suppliers, whom we term as our business partners.

We are able to provide the following:-

- Super Structure (Wheel House/Accommodation) – e.g. Navigation and Communication System, Air Conditioning System, Paneling System, Safety equipment
- Engine Room – Generator, Engine, Compressor, Pump, Steering Gear System, Propulsion System, Lighting and Electrical System, Mud Tank System
- Deck – Cranes, Deck Machinery System

All equipment undergoes the most stringent quality control and selection, thus explains our confidence to take on full responsibility for our product and providing after-sales service support. Collectively, we utilize our depth of experience and technical expertise with our vast network to create an invaluable competitive edge – competitive priced machinery and equipment with the strictest quality standards stipulated by our naval architects and engineers – and establish ourselves as a Professional Turnkey Procurement Manager for Shipbuilding.

58m Anchor Handling Tug / Supply Vessel

TECHNICAL SPECIFICATION

Name of Vessel	:	58m Anchor Handling Tug Supply Vessel	Builder	:	MEP SYSTEMS PTE LTD
Classification	:	ABS+AI(E)(-)+Ams F.F, 1 Towing and Anchor Handing service	Year Built	:	2008

PRINCIPAL PARTICULARS

Length O.A	:	58.00m
Breadth Moulded	:	13.80m
Depth Moulded	:	5.50m
Summer Draft (Max)	:	4.30m / 4.75m
Free Deck Space	:	350m2

MACHINERY / PROPULSION

Main Engine	:	CAT 35, 6B, 2575hp @ 1600rpm
Bow thruster	:	7T thruster, electric motor driven CPP
Fresh Water System	:	5.5 ton 1day
Steering gear	:	K7094430-7.0-45-1, 7.0TM, 450

CARGO / TANK CAPACITY

Fuel Oil	:	400m3
Fresh Water	:	200m2

TOWING / ANCHOR HANDING EQUIPMENT

Deck Crane	:	3ton @1.7m & 0.75ton @7m, foldable
Anchor	:	AC14 anchor, each 1590kg
Anchor Windless	:	38mm dia U3 Electro hydraulic
Shark Jaw & Tow Pin	:	SWL 300T / SWL 200T
AHT Winch	:	150T@ 2.5m/min
Capstan	:	5T @ 15m/min
Tugger Winch	:	10T@10m/min at first layer
Azimuth thruster	:	Model HRP T111 wm / Niigata 2P-41A

ACCOMMODATION & LIFE SAVING EQUIPMENT

Bunks (22men)	:	2 x 1 berth cabin
	:	3 x 2 berth cabin
	:	4 x 4 berth cabin
Life Jacket	:	SOLAS approve

NAVIGATION / COMMUNICATION EQUIPMENT

Echo Sounder	:	JFE – 582 (JRC)	Search Lights	:	L4800, 2000W
VHF Radio	:	JHS – 32B	GMDSS	:	JSS – 296
E.P.I.R.B	:	JQE – 3A	Radars	:	JMA – 5310, 18inch colour LCD
S.A.R.T	:	JQX, 30A	GPS Navigator	:	JNAV -50010GPS212
			Navtex	:	NCR – 333

300men Accommodation Work Barge

TECHNICAL SPECIFICATION

Type of Vessel	:	300 Men Accommodation Work Barge	Builder	:	MH Global
Classification	:	ABS	Project Management	:	MEP Systems Pte Ltd
Top Speed	:	N.A	Year Built	:	2008
			Flag	:	PANAMA

PRINCIPAL PARTICULARS

Length O.A	:	100 m
Breadth Moulded	:	30.5 m
Depth Moulded	:	7.62 m
Design Draft (Max)	:	5.5 m
Free Deck Space	:	1
Deck Loading	:	15T/m2

MACHINERY / PROPULSION

Generators	:	5x Caterpillar 3412C DITA
	:	Engine c/w 500EkW Generator
Emergency Generator	:	1 x Caterpillar C4.4 DIT Marine Packaged 86EkW Generator
Fresh Water Generator	:	PETSEA RO 500 SW-L (50m3 / day)

CARGO / TANK CAPACITY

Fuel Oil	:	1500 m3
Fresh Water	:	3030 m3
Deck Cargo	:	
Cargo pump capacity	:	N.A
Cold Storage	:	N.A

TOWING / ANCHOR HANDLING EQUIPMENT

Deck Crane SWL	:	3T
Max Working Radius	:	10 m
Anchor	:	8 x 8 Ton
Windlasses / Mooring Winch	:	8 Pt Mooring Winches – 85Ton Pull / 150T Brake Holding
Crane	:	75T @ 45.7m radius and 70m elevation

ACCOMMODATION & LIFE SAVING EQUIPMENT

Bunks	:	66 x 4 ma cabins
	:	12 x 2 ma cabins
	:	12 x 1 ma cabins / suite
	:	1 x GYMNASIUM
	:	7 x OFFICES
	:	1 x MSSG ROOM
	:	2 x TV/VIDEO ROOM
Life Jackets	:	2 x RECEPTION ROOM
Life Rafts	:	-
Rescue Boat	:	2 S69S
Fire Monitors - Number	:	60 m
Fire Monitor Throw	:	2350 L/min
Monitor Total Capacity	:	

NAVIGATION / COMMUNICATION EQUIPMENT

Echo Sounder	:	Furuno FCV – 1100L
Primary MF Radio	:	Furuno FS2570
Secondary MR Radio	:	Furuno DMC-5 2x
VHF Radio	:	Furuno FM-8800S
UHF Radio	:	Motorola GM—338u
E.P.I.R.B	:	McMurdo E5 Smartfind
S.A.R.T	:	McMurdo S4 9GHz
Radars	:	Furuno Navnet 1934C-V2C2
GPS Navigator	:	Furuno GP-150
Navtex vhf Direction Filter	:	Furuno NX-700 Type B

55m Platform Supply Vessel

55m PSV VESSEL

TECHNICAL SPECIFICATION

Name of Vessel	:		Builder	:	Marinehub
Type of Vessel	:	PSV	Project Management	:	MEP Systems Pte Ltd
Classification	:	ABS +A1 E + AMS	Year Built	:	2007
Top Speed	:	12 knots	Flag	:	SINGAPORE

PRINCIPAL PARTICULARS

Length O.A	:	55.0 m
Breadth Moulded	:	13.8 m
Depth Moulded	:	5.5 m
Summer Draft (Max)	:	4.76 m

MACHINERY / PROPULSION

Propulsion	:	Volvo Penta (2 x 1800HP)
	:	1 x Fitch Pitch Propeller
Propulsion Source	:	2 x FPP (4 blade d)
Bow Thruster	:	5 ton Fixed Pitch

CARGO / TANK CAPACITY

Fuel Oil	:	340m3
Fresh Water	:	550m3

ACCOMMODATION & LIFE SAVING EQUIPMENT

Bunks (26 men)	:	2 x Single
	:	3 x Two man
Life Jackets	:	Life jacket and survive suit comply and above sorts rules
Fire Monitors - Number	:	2 x foam
Fire Monitor Throw	:	45mtrs
Monitor Total Capacity	:	600m3/hr @ 12 bar

TOWING / ANCHOR HANDLING EQUIPMENT

Windlasses (Fwd)	:	1 x electro hydraulic anchor windless 9 tons @ 12m/min3
Capstan	:	2 x electro hydraulic capstans 5 tons @ 15m/min
Tugger		1 x electro hydraulic tugger 10 tons @ 15m/min

6,500 DWT Product Tanker

TECHNICAL SPECIFICATION

Type of Vessel	:	Product Oil Tanker
Classification	:	Bureau Veritas
Top Speed	:	11.8 knots
Builder	:	MEP Systems Pte Ltd
Year Built/Converted	:	2007
Flag	:	SINGAPORE

PRINCIPAL PARTICULARS

Length O.A	:	99.8 m
Breadth Moulded	:	18.6 m
Depth Moulded	:	10.0 m
Gross Tonnage	:	4800 Tons
Net Tonnage	:	2400 Tons
Deadweight	:	6500 Tons

MACHINERY / PROPULSION

Propulsion	:	2 x Daihatsu 6KDM-26
	:	2 x 2200HD
Bow Thruster	:	1 x CPP
Propulsion Source	:	Propelled by twin marine non-revisable diesel engine compiled to EPP

ACCOMMODATION & LIFE SAVING EQUIPMENT

Bunks	:	2H men In
Life Jackets	:	Life jacket and survival suits comply and above SOLAS rules 6 each of 12 men capacity

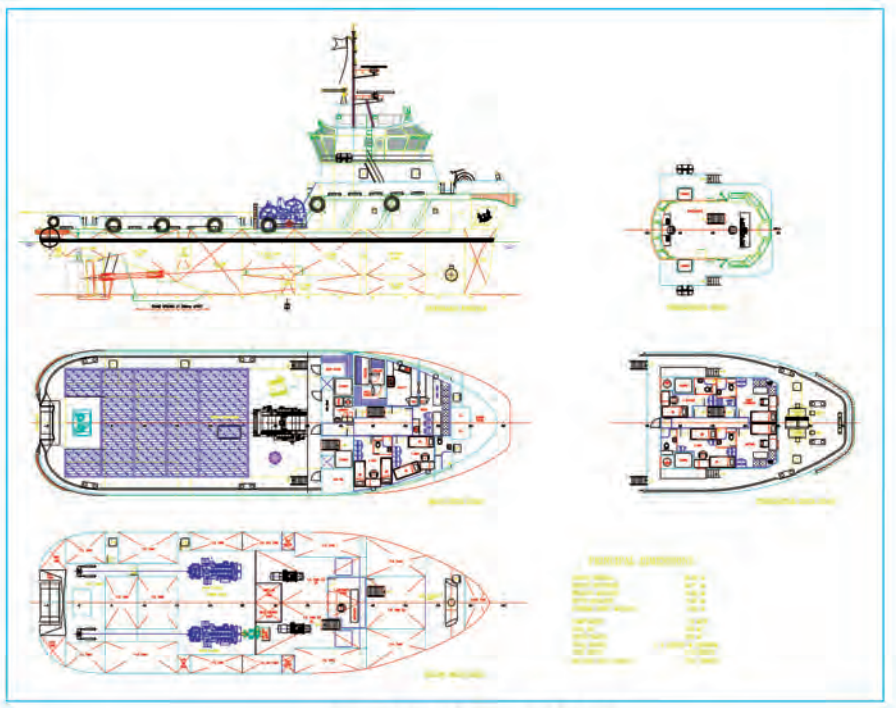
CARGO / TANK CAPACITY

Fuel Oil	:	350m3
Fresh Water	:	120m3
Cargo pump capacity	:	3 x Cargo pumps 2 x Cargo pumps (BFO) 1000m3/hr @ 8kg 1cm2
Cold Storage	:	1 x Cargo pumps (moo/MGO) 300m3/hr

TOWING / ANCHOR HANDLING EQUIPMENT

Deck Crane SWL	:	2 tons
Windlasses / (Fwd)	:	2 x electro hydraulic 5 ton anchor windless at 15m/min
Crane (Provision)	:	2 x electro hydraulic winch @ 5 ton
Winches	:	2 x electro hydraulic winch @ 15m/min (double drum)

36M 3236KW Anchor Handling / Utility Vessel



SPECIFICATIONS

Dimensions

Length, o.a	:	36.00 m
Beam, moulded	:	10.80 m
Depth, moulded	:	5.00 m
Draft, design	:	4.00 m
Total compliment	:	16 persons

Performance

Bollard Pull (Ahead)	:	up to 53 tonnes
Bollard Pull (Stern)	:	up to 48 tonnes
Speed	:	up to 12 knots

Notation

Bureau Veritas Class 1 ✠ Hull ✠ Mach Tug Unrestricted Navigation

Capacities

Fuel Oil	:	320 m^3
Fresh Water	:	150 m^3
Lubrication Oil	:	1 m^3

Fire Fighting

½ Fi-Fi System	:	1200m^3/hr to skum 2 x 600m^3/hr monitors

Machinery

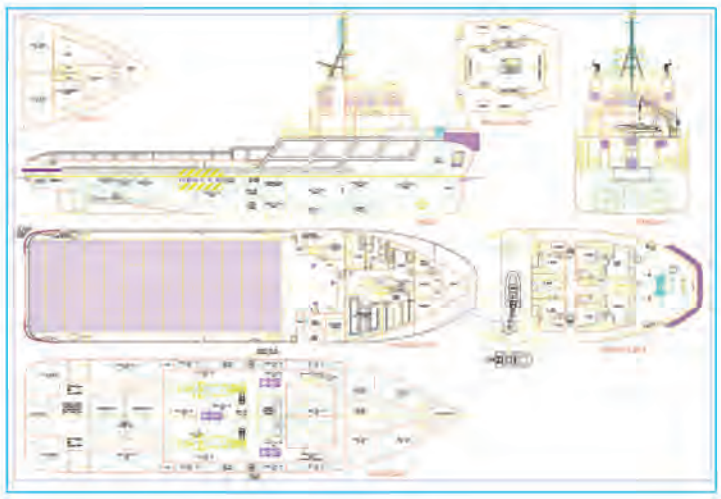
Main Engines	:	2 x Daihatsu 6DKM-26F, 2 x 1618KW at 750rpm
Gearbox	:	GWC 45.49, Ratio 2.72:1
Propeller	:	2 x 2400mm dia. fixed pitch propellers nozzles
Generator	:	2 x Cummins SF240GFM 240Ekw at 1500rpm
Bow Thruster	:	3T thrust, electric thruster E-pod 200T

Deck Machinery

Aft Towing Winch	:	75T electro-hyd. double drum waterfall type, 750m x 42mm dia Brake Holding 120T
Fwd Windlass Anchor	:	electro-hydraulic 3T at 10m/min, 2 x 660kg anchor with 302 x 22mm dia. chain, centre single drum capacity 110m x 52m dia. P.P rope
Tugger Winch	:	10T at 15m/min
Capstan	:	5T at 10m/min,
Stern Roller	:	2500mm x 1400mm dia.
Shark Jaw & Towing Pin	:	150T S.W.L

For all Vessel Sales Enquiry, please email to info@mepsystems.com.sg

60M 4000BHP Platform Supply Vessel



ACCOMMODATION

Single Berth	: 6 X 1	Berth
Double Berth	: 5 X 2	Berth
Four Men Berth	: 8 X 4	Berth
Total Complement	: 48	Berth

TANK CAPACITY

Fuel Oil Tank	: 530	M3
Fresh Water Tank	: 280	M3
Drill Water	: 730	M3
Lube Oil	: 5.9	M3

DISCHARGE RATES

Cargo Oil	: 1 X 100 M3/Hr @ 60m
Cargo FW	: 1 X 100 M3/Hr @ 60m
Drill Water	: 1 X 100 M3/Hr @ 60m

DECK MACHINERIES

Tugger winch	: MEP 2 X 0T @15 m/min
Capstan	: 2 X 5T @ 15 m/min
Anchor windlass	: 9T @ 12 m/min
Provision Dk Crane	: 1x3T@1.7m reach-option

LIFE SAVING EQUIPMENT

Hot water calorifier	: Yes
Sewage Plant	: 1 unit for 50 persons
Galley	: 1 unit c/w equipment and utensile
Mess & Conference Room	: 1 Room c/w entertainment equipment
Laundry Room	: 1 Room c/w 10 kgs of washer and dryer

Information on the specification are approximate only. They are subject to final changes.

TECHNICAL SPECIFICATION

PRINCIPAL PARTICULARS

Length Overall	: 60.00	M
Breadth Moulded	: 16.00	M
Depth Moulded	: 5.50	M
Clear Deck Area	: 380	M2 (abt)
Speed	: 12.5	Knots (abt)
Classification	: ABS +A1E Platform Support, Supply, +AMS	

MAIN MACHINERIES

Main Engines	: 2x1492KW MITSUBISHI S8U-MPTK
Total Power	: 2x2000 HP
Propulsion System	: 2 x CPP in nozzle ZF KH4-600
Bow Thruster	: 6.0 T, CPP HRP 4008TT Diesel PM
Stern Thruster	: 6T CP -electro hydrualic- Option
Generator	: 3 X 200 KW, 415/3PH/50Hz
Emergency Generator	: 1 X 90kw, 415V/3PH/50Hz
Shaft Alternator	: 1 x 500 KW -Option
Steering Gears	: 2 x 7TM Electro Hydrualic

ACCOMMODATION

1 Main Radar, 96 NM	: 1 Secondary Radar, 64 NM
1 units GPS	: 1 Weather Fax Receiver
1 Echo Sounder	: 1 unit GMDSS extended packaged
1 Speed Log	: Integrated Internal Communication System
1 Auto Pilot	: 3 sets Portable VHF Transceiver
1 Navtex Receiver	: Ship Security Alert System

EXTERNAL FIRE FIGHTING EQUIPMENT

Fire Fighting Connection	: 1 X 4-way delivery head
Fire Hose	: 8 X 15 m hose c/w coupling and nozzle
Fire Hydrant	: 8 X 65 mm
Fireman's Outfit	: 2 sets
Dry Chemical Powder	: 2 X 5 Kg
Dry Chemical Powder	: 6 X 10 Kg
Fire Extinguisher	: 1 X 45 Ltr
Fire Extinguisher	: 4 X 9 Ltr
CO2 Extinguisher	: 2 X 9 Ltr

LIFE SAVING EQUIPMENT

Rescue Boat	: 1 X 6 persons
Liferaft	: As per Solas reqt persons
Lifebuoy	: 8 sets c/w throwing apparatus
Lifejacket	: 28 sets
Breathing apparatus	: 2 sets c/w recharging compressor
Immerson suit	: 4 sets
Pyrotechnic	: as per Class requirement
First Aid Kit	: 1 unit

MEP™ Deck Machinery Selection Sheet

MEP™ DECK MACHINERY SELECTION SHEET

Dear Customers:

In order to select the right machinery for your requirement, please spend some time to fill in this form in detail and email / fax to us. We will offer the best service to you.

1> Anchor Windlass or Combination Windlass / Winch: Qty: _____

Configuration: ☐ Single Gypsy ☐ Double Gypsy, center-to-center:____mm

Chain Size: ____mm dia Chain Grade: _____

Pull Rate: ____kN x ____m/min Brake Holding: ____kN

Configuration: ☐ Single Drum ☐ Double Drum

Rope Cap.: ____mm dia x ____mtr

Pull Rate : ____kN x ____m/min Brake Holding: ____kN

Clutch / Brake: ☐ Manual ☐ Hydraulic ☐ Electric ☐ Pneumatic

Optional: ☐ Single Warping Head ☐ Double Warping Head

Drive: ☐ Hydraulic Motor ☐ Electric Motor

☐ Pneumatic Motor ☐ Diesel Engine

Control: ☐ Local Control Stand ☐ Remote Control Panel

Power Unit: ☐ Own Hyd. Power Pack ☐ Centralized Hyd. Power Pack

Class Certification: _____

Client:	**Tel:**
Designation:	**Fax:**
Company:	**Mobile:**
Address:	**Email:**

MEP™ DECK MACHINERY SELECTION SHEET

Dear Customers:

In order to select the right machinery for your requirement, please spend some time to fill in this form in detail and email / fax to us. We will offer the best service to you.

2> Capstan: Qty: _____

Configuration: ☐ Vertical ☐ Horizontal

Pull Rate:____kN x ____m/min

Warping Head size: ____mm dia

Rope Cap.: ____mm dia x ____mtr

Drive: ☐ Hydraulic Motor ☐ Electric Motor

☐ Pneumatic Motor ☐ Diesel Engine

Control: ☐ Local Control Stand ☐ Remote Control Panel

Power Unit: ☐ Own Hyd. Power Pack ☐ Centralized Hyd. Power Pack

3> Tugger Winch: Qty: _____

Pull Rate: ____kN x ____m/min Brake Holding: ____kN

Rope Cap.: ____mm dia x ____mtr

Optional: ☐ Single Warping Head

Drive: ☐ Hydraulic Motor ☐ Electric Motor

☐ Pneumatic Motor ☐ Diesel Engine

Control: ☐ Local Control Stand ☐ Remote Control Panel

Power Unit: ☐ Own Hyd. Power Pack ☐ Centralized Hyd. Power Pack

Client:	**Tel:**
Designation:	**Fax:**
Company:	**Mobile:**
Address:	**Email:**

MEP™ DECK MACHINERY SELECTION SHEET

Dear Customers:

In order to select the right machinery for your requirement, please spend some time to fill in this form in detail and email / fax to us. We will offer the best service to you.

4> Mooring Winch: Qty: _____

Configuration: ☐ Single Drum ☐ Double Drum ☐ Waterfall

Rope Cap.: ____mm dia x ____mtr

Pull Rate: ____kN x ____m/min Brake Holding: ____kN

Clutch / Brake: ☐ Manual ☐ Hydraulic ☐ Electric ☐ Pneumatic

Optional: ☐ Single Warping Head ☐ Double Warping Head

☐ Spooling Device ☐ Auto-Tensioning ☐ Drag Brake

Drive: ☐ Hydraulic Motor ☐ Electric Motor

☐ Pneumatic Motor ☐ Diesel Engine

Control: ☐ Local Control Stand ☐ Remote Control Panel

Power Unit: ☐ Own Hyd. Power Pack ☐ Centralized Hyd. Power Pack

Class Certification: _____(Full Class Cert / Inspection Cert)

Client:	**Tel:**
Designation:	**Fax:**
Company:	**Mobile:**
Address:	**Email:**

MEP™ DECK MACHINERY SELECTION SHEET

Dear Customers:

In order to select the right machinery for your requirement, please spend some time to fill in this form in detail and email / fax to us. We will offer the best service to you.

5> Towing Winch: Qty: _____

Configuration: ☐ Single Drum ☐ Double Drum ☐ Waterfall

Drum 1 Rope Cap.: ____mm dia x ____mtr Drum 2 Rope Cap.: ____mm dia x ____mtr

Pull Rate: ____kN x ____m/min Brake Holding: ____kN

Clutch / Brake: ☐ Manual ☐ Hydraulic ☐ Electric ☐ Pneumatic

Optional: ☐ Single Warping Head ☐ Double Warping Head

☐ Spooling Device ☐ Auto-Tensioning ☐ Drag Brake

Drive: ☐ Hydraulic Motor ☐ Electric Motor

☐ Pneumatic Motor ☐ Diesel Engine

Control: ☐ Local Control Stand ☐ Remote Control Panel

Power Unit: ☐ Own Hyd. Power Pack ☐ Centralized Hyd. Power Pack

Class Certification: _____(Full Class Cert / Inspection Cert)

6> Towing Pin and Shark Jaw: Qty: _____

SWL for Towing Pin: ____kN SWL for Shark Jaw:____kN

Rope Size:____mm dia Chain Size: ____mm dia

Drive: ☐ Hydraulic Motor ☐ Electric Motor

☐ Pneumatic Motor ☐ Diesel Engine

Control: ☐ Local Control Stand ☐ Remote Control Panel

Power Unit: ☐ Own Hyd. Power Pack ☐ Centralized Hyd. Power Pack

Class Inspection Certification: _____ (Full Class Cert / Inspection Cert)

Client:	**Tel:**
Designation:	**Fax:**
Company:	**Mobile:**
Address:	**Email:**

MEP™ DECK MACHINERY SELECTION SHEET

Dear Customers:

In order to select the right machinery for your requirement, please spend some time to fill in this form in detail and email / fax to us. We will offer the best service to you.

7> Marine Deck Crane with built-in Power Pack: Qty: _____

☐ Provision Deck Crane ☐ Hose Handling Crane

☐ Knuckle Boom Crane ☐ Telescopic Crane ☐ Knuckle Boom Telescopic Crane

Max SWL: ____kN

Working Radius: __mtr

Drive: ☐ Hydraulic Motor ☐ Electric Motor ☐ Diesel Engine

Control: ☐ Local Control Stand ☐ Remote Control Panel

Optional: ☐ Explosion-proof Motor ☐ Operator Cabin

Class Inspection Certification: _____ (Full Class Cert / Inspection Cert)

8> Hand Winch (Manual): Qty: _____

☐ for 500 kgs Anchor

☐ for 1000 kgs Anchor

☐ for 2000 kgs Anchor

Client:	**Tel:**
Designation:	**Fax:**
Company:	**Mobile:**
Address:	**Email:**

MEP™ DECK MACHINERY SELECTION SHEET

Dear Customers:

In order to select properly for ensuring the pumps work efficiently, please fill in this form in detail and fax to us. We will offer the best service to you.

Liquid Handled:

Temperature: Normal (____)°C Lowest (____)°C Highest (____)°C

Viscosity: Normal (____)mm^2/s Lowest (____)mm^2/s Highest (____)mm^2/s

Capacity: Rated (____)m^3/h Min. (____)m^3/h Max. (____)m^3/h

Pressure: Suction pressure (_____)Mpa Discharge pressure (_____)Mpa

Max. of pressure differential (_____)Mpa

Status of the liquid containing solid particles: _____

Status of the liquid containing gas: _____

Corrosion of the liquid (PH): _____

Screw pumps:

NPSHR: _____

Installation: ☐ Horizontal ☐ Supported ☐ Vertical ☐ Submerged

With Relief Valve: ☐ Yes ☐ No

Motor: ☐ Explosive-proof ☐ General

Client:	**Tel:**
Designation:	**Fax:**
Company:	**Mobile:**
Address:	**Email:**

Notes


MEP™ Global Network

MEP™ REPRESENTATIVE - GLOBAL NETWORK

Territory: Italy & Monaco

Attn : Mr Bruno Crovetto
Company : Master Marine Srl
Address : Via S.Santarosa 10A, 16167 Genova - Italy
Tel : +39 010 3291592
Fax : +39 010 3291585
Email : info@mastermarine-genoa.com
Website : www.mastermarine-genoa.com

Territory: Holland, Belgium, Poland, Luxemburg

Attn : Mr. Ton C. Van Es
Company : Kundera Marine Consultants B.V.
Address : Melkweg 10a, NL-2971 VK Bleskensgraaf, Holland
Tel : +31 (0) 651 37 00 13
Fax : +31 (0) 184 69 40 94
Mobile : +31 (0) 651 370013
Email : tcvanes@kmcmarine.nl

Territory: Greece

Attn : Mr Apostolos Athanassiou
Company : ABC Marine Services Ltd.
Address : 100, Kolokotroni Street, 18535 Piraeus, Greece
Tel : +30 210 4227 190
Fax : +30 210 4227 140
Mobile : +30 6944 301529
Email : abc@abcmarine.gr
Website : www.abcmarine.gr

Territory: Denmark

Attn : Mr Claus Jensen / Mr Tom Fyllgraf
Company : Nordic Offshore Services
Address : Færøvej 3, DK-8700 Horsens, Denmark
Tel : +45 7669 7070
Fax : +45 7669 7071
Mobile : +45 2248 4364 / +45 2484 4364
Email : cj@nordicoffshore.dk; tf@nordicoffshore.dk
Website : www.nordicoffshoreservices.dk

MEP™ REPRESENTATIVE - GLOBAL NETWORK

Territory: Croatia, Slovenia

Attn : Mr. Josip Rupcic
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Address : Drenoski Put 11, 51000 Rijeka, Croatia
Tel : +385 51 546 186
Fax : +385 51 546 184
Mobile : +385 99 216 3451 / +385 99 216 3452
Email : naval@naval-agent.hr; josip@naval-agent.hr
Website : www.naval-agent.hr

Territory: England

Attn : Mr. Harry Wilson
Company : Wear Dock & Engineering Company
Address : South Docks, Sunderland, Tyne&Wear SR1 2 EE, England
Tel : +44 0191 5674749
Fax : +44 0191 5100765
Email : info@weardock.co.uk
Website : www.weardock.co.uk

Territory: Germany, Austria, Switzerland

Attn : Mr. Rolf D. Klaeke
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Address : Kleines Wegfährels 10, D-21756 Osten, Germany
Tel : +49 4776 83 83
Fax : +49 4776 83 8485
Email : customer@virtus-ship.de
Website : www.virtus-ship.de

Territory: U.S.A.

Attn : Arthur J. Dewey
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Address : 12380 S.W. 130th Street, Miami, FL 33186
Tel : +305 234 5693
Fax : +305 234 5694
Email : adewey@shipsmachinery.com
Web : www.shipsmachinery.com

Territory: Vietnam

Attn : Mr. T.N. Quan
Company : Quynh Engineering Corp.
Address : Quynh JSC, 170 - Nguyen Van Dau - W7- Binh Thanh Binh Thanh Dist., Ho chi Minh City, Viet Nam.
Tel : +84 8 355 00 207
Fax : +84 8 355 00 215
Mobile : +84 903 95 94 91
Email : quan_tran_nghiem@quynh.vn
Website : www.quynh.vn

MEP™ REPRESENTATIVE - GLOBAL NETWORK

MEP'S AFTER-SALES SERVICE CENTRE- GLOBAL NETWORK

Territory: Europe

Attn : Mr. Alessandro Bardi / Mr. Giuliano Allegri
Company : Jobson Italia SRL
Address : Via Delle Pianazze 150 A, 19100 La Spezia, Italy
Tel : +39 0187 984201
Fax : +39 0187 984196
Email : jobale@jobsonitalia.com
Website : www.jobsonitalia.com

Territory: Middle East and India

Attn : Mr Rajesh Kamath
Company : Goltens Co. Ltd, Dubai.
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Fax : +971 43241019
Mobile : +971 505531421
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Website : www.goltens.com

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