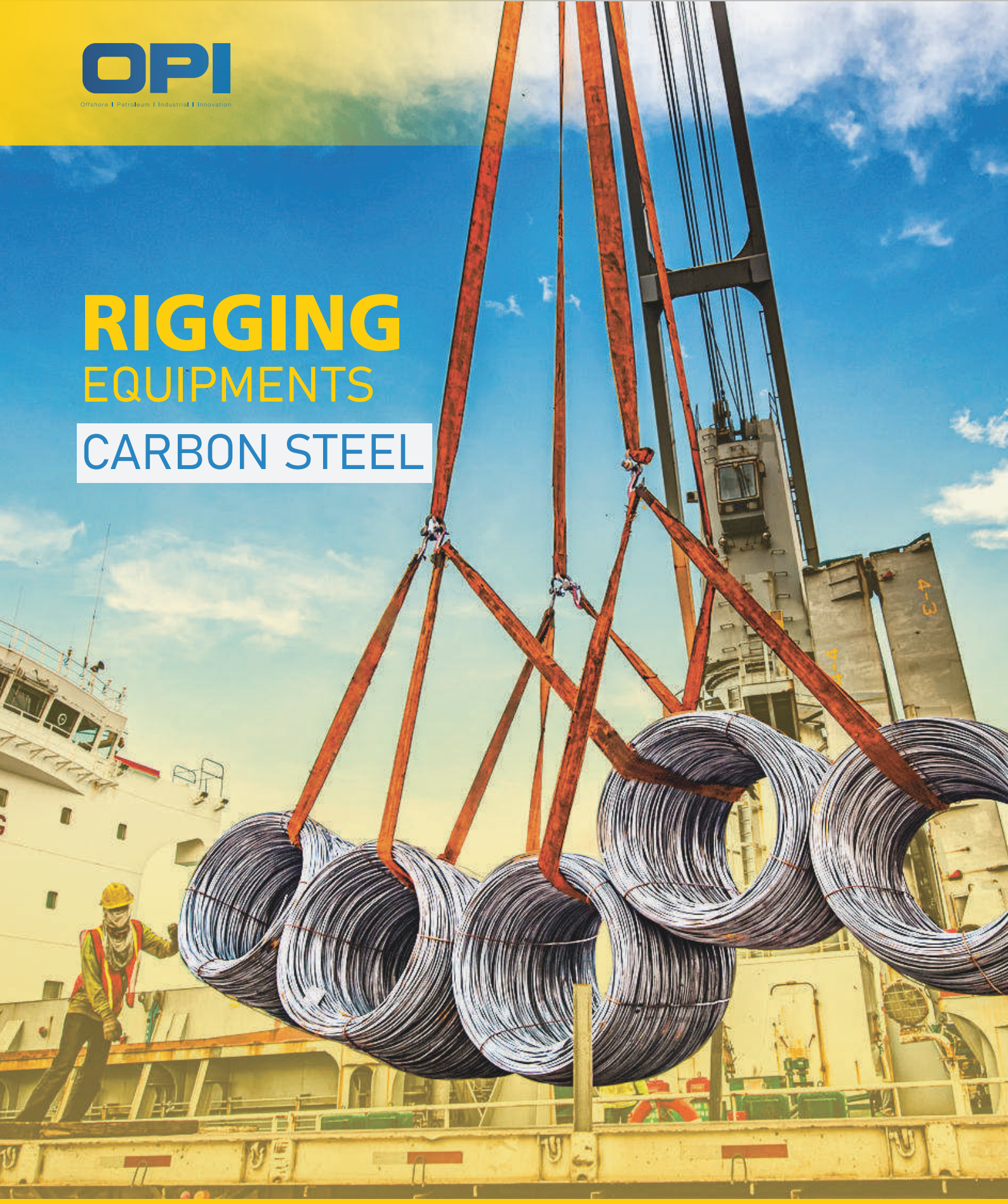
OPI

Offshore | Petroleum | Industrial | Innovation

RIGGING
EQUIPMENTS
CARBON STEEL



LIFTING EQUIPMENTS
SLINGS AND STRAPS
HOOKS | SHACKLES & ATTACHMENTS
RIGGING HARDWARES
CHAINS

www.aires.co.th | www.arisss.com

OPI

QUALITY POLICY

ARC shall do our best to source and provide high quality and trusted Materials, Solution and Services in Engineering, Industrial and Technology field to fulfill Customer Needs and Expectations.

We are continuously

- Improving products and services quality
- Creating sustainable organization growth
- Building up knowledge and skill in all levels staff
- Creating team cooperation for continuous improvement and meet highest Customer Satisfaction.

ISO 9001 : 2015
REGISTRATION NO.
IC-QM-2302139

ISO 9001 : 2015

ISO 9001 is a quality management system according to international standards. The key idea of ISO 9001 is to establish a management system for quality assurance which is a system that ensures various processes are controlled and traceable. Through a system that specifies procedures and work methods to ensure that personnel in the organization know their duties, responsibilities and procedures in work. There must be training to provide knowledges and skills in performing the job. Data is recorded Including checking whether work operations are as specified in the system or not. Errors are corrected and there are guidelines to prevent repetative errors.

The ISO 9001:2015 standard adds requirements for understanding the organization and its context. Understanding stakeholder needs and expectations for action on risks, opportunities and other requirements. This is one basis that will help the organization continue moving towards sustainable development.

In addition, OPI' s products have been supplied according to below national standard as well.

American Iron and Steel Institute · ASTM INTERNATIONAL · DIN Deutsches Institut für Normung · JIS Japanese Industrial Standards · TISI

HIGH QUALITY GUARANTEED

INTERCERT®

CERTIFICATE OF REGISTRATION

INTERCERT hereby certifies that the Quality Management System of

Aires Company Limited

Aires®

14 Soi Krungthep Kritha 37 Yaek 1, Khwaeng Thap Chang, Khet Saphan Sung, Bangkok, Thailand 10250

Has been successfully assessed as per the requirements of

ISO 9001:2015

For the scope of

Sourcing and Supply Goods and Services for Equipments and Tools (Civil Engineering, Mechanical Engineering, Electrical Engineering, Industrial and Factory products and Safety Devices).

Initial Certification Date	:	February 25, 2023
Certificate Issue Date	:	February 12, 2024 Rev.1
Surveillance Validity Date	:	February 24, 2025
Recertification Date	:	February 24, 2026

Registration Number: IC-QM-2302139

Issued on behalf of InterCert
Head - Certifications

INTERCERT REGISTERED

The validity of this certificate can be verified at **www.intercert.com** or through email at **info@intercert.com**. This certificate is the property of **INTERCERT INC**, 2001 Timberloch Place - Suite 500, The Woodlands, Texas 77380, United States and must be returned on request.

OPI

RIGGING
EQUIPMENTS

HIGH CORROSION RESIST MATERIALS

STOCK READY

Discover top-notch rigging gear perfectly crafted for the challenges of many kind of industrial works. Our rigging equipments are your guide to robust, safe, and precise lifting operations.They are robust designed for the tough demands of offshore tasks and the heavy-duty needs of Oil & Gas / Petroleam & Industrial settings. It's all about heavy-duty hoists, smart slings, robust chains and specialized attachments that promise not just strength but also resilience, Apart from above, Stainless Steel serie is available for rust proof, chemical and salt sea water resists.

LIFTING EQUIPMENTS

HOISTS, CHAIN BLOCKS, LEVER BLOCK

Mechanical devices used for lifting or lowering heavy loads. Electric, hydraulic and manual hoists are common types.

CRANES , TROLLEY HOISTS

Large machines equipped with a hoisting mechanism often used for lifting and moving heavy loads over short distances.

RATCHET

- Lashing webbing are produced from 100% high tenacity polyester yarns.
- Metal components are selected to suit lashing & webbing to meet international standard.
- Indicated standard DIN V61360 shows at blue label.
- Length is according to requirement.

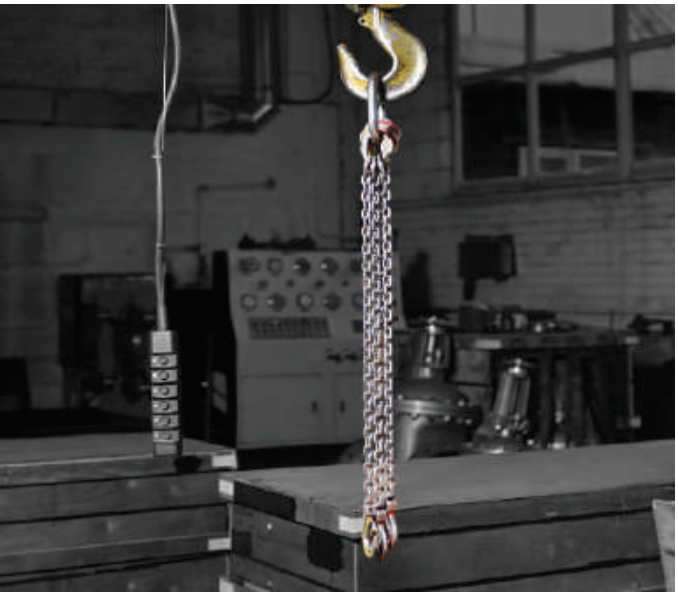
MERTRA

SLINGS AND STRAPS

WIRE ROPES

Made of steel cables and use for lifting heavy loads.

KONDOTEC



CHAINS

Made of Steel and Stainless Steel for Transmitting power in machines, lifting heavy loads, securing valuables, timing engine components, moving materials in manufacturing. Suitatble for various industries and applications.

WEB SLINGS

Made of synthetic materials like nylon or polyester, suitable for various lifting applications.

MERTRA

HOOKS | SHACKLES & ATTACHMENTS

HOOKS

Use to attach the load to the lifting equipment.

KONDOTEC

Crosby

SHACKLES

U-shaped metal components use for connecting slings and other rigging components.

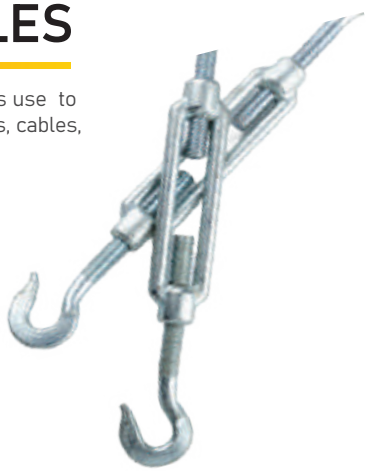
THIMBLES, SWIVELS AND LINKS

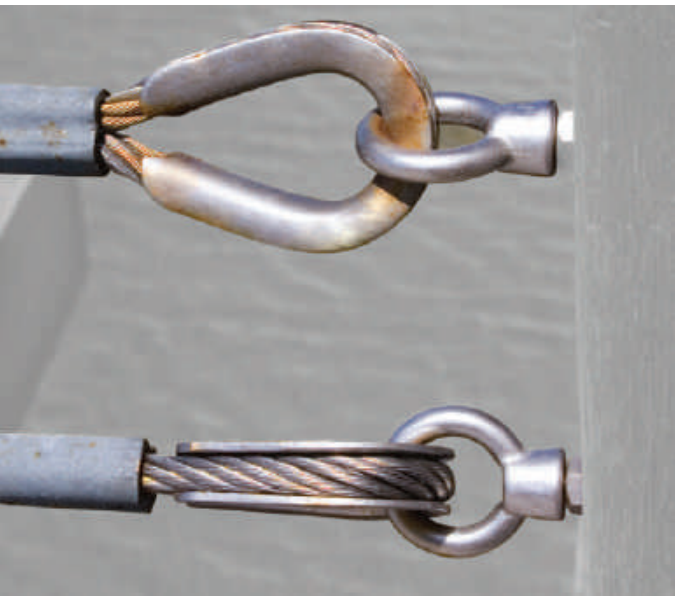
Provide additional flexibility and rotational movement.

RIGGING HARDWARES

TURNBUCKLES

Adjustable rigging components use to tighten or loosen slack in ropes, cables, or tie rods.





EYEBOLTS & EYENUTS

Bolts or nuts with a looped head for attachment points.

EYEBOLTS

SELF COLOR

GALVANIZED

EYENUTS

SELF COLOR

GALVANIZED

WIRE ROPE CLIPS

Use to form a loop or fasten the loose end of a wire rope.

SELF COLOR

GALVANIZED

CHAINS

● Available

Grade 30 Chain (Proof Coil Chain) Sizes : 5.5 mm. - 16 mm.

Grade 30 Chain is made from low carbon steel.

This chain is designed to use such applications as guard rails, tie down , load binding, logging, industial uses and general purposes other than overhead lifting. This chain was tested proof loads with Open Crosshead Computer Servo Hydraulic Universal Testsing Machine and was tested hardness with Digital Rockwell Type Hardness Tester.

Grade 30 Chain is manufactured to meet American Standard of testing Material ASTM A413 / A413M Specification.

Available Surfaces :

- Self colored
- Bight Polished
- Zinc Plated
- Powder Coated
- Black Oxide Caoted
- Hot-Dip Galvanized

Single Leg Sling

Chain Size (mm.)	W.L.L. in tonne Straight 1
6	1.12
7	1.50
8	2.00
10	3.15
13	5.30
16	8.00
18	10.00
20	12.50
22	15.00
26	21.20
32	31.50

2 Leg Sling

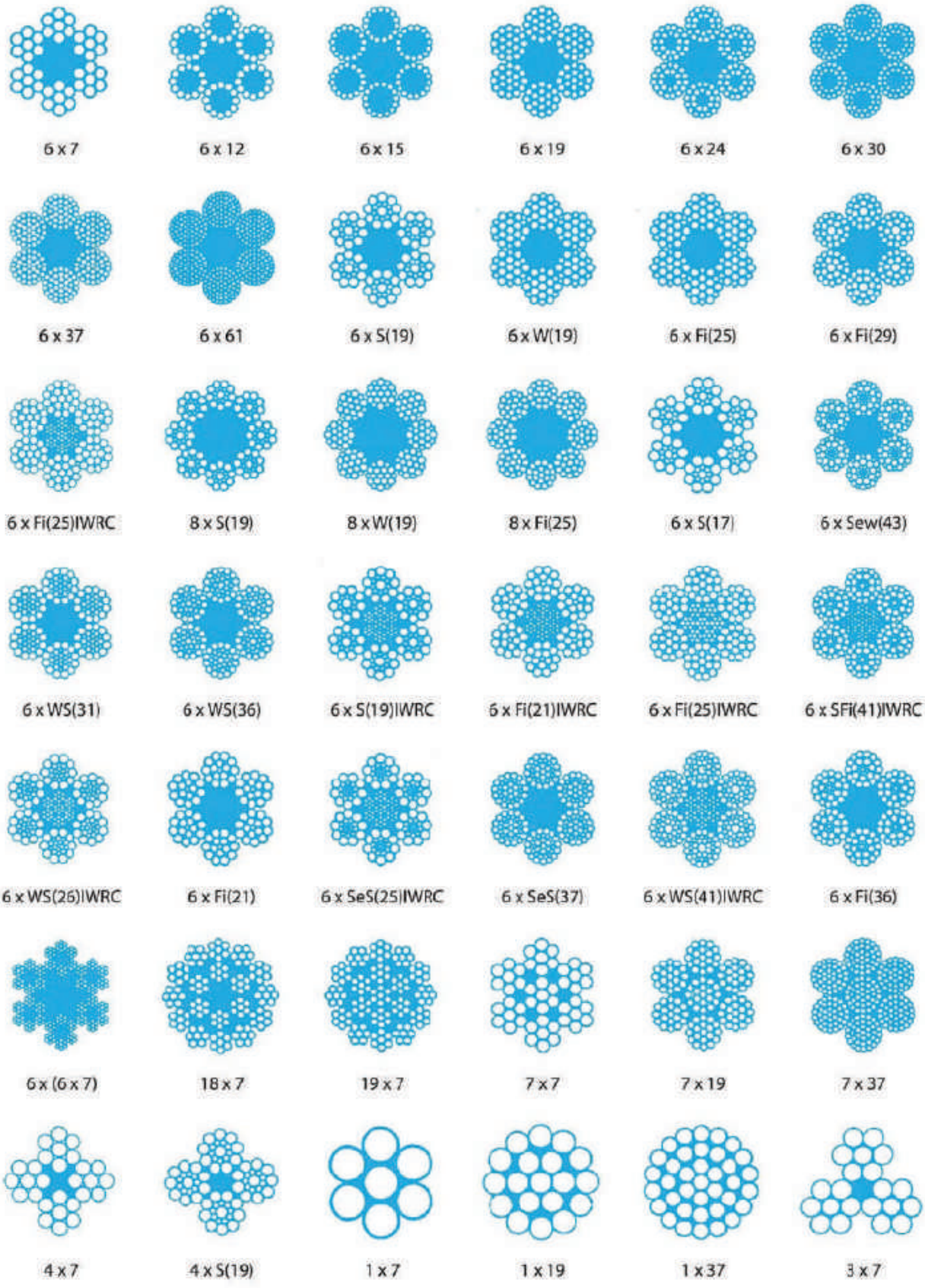
Chain Size (mm.)	W.L.L in tonne 0 - 45° 1.4	45°- 60° 1
6	1.50	1.12
7	2.12	1.50
8	2.80	2.00
10	4.25	3.15
13	7.50	5.30
16	11.20	8.00
18	16.00	10.00
20	17.00	12.50
22	21.20	16.00
26	30.00	21.20
32	45.00	31.50

3 - 4 Leg Sling

Chain Size (mm.)	W.L.L in tonne 0 - 45° 2.1	45°- 60° 1.5
6	2.36	1.70
7	3.15	2.24
8	4.25	3.00
10	6.70	4.75
13	11.20	8.00
16	17.00	11.50
18	23.60	17.00
20	26.50	19.00
22	31.50	22.40
26	45.00	34.50
32	57.00	47.50

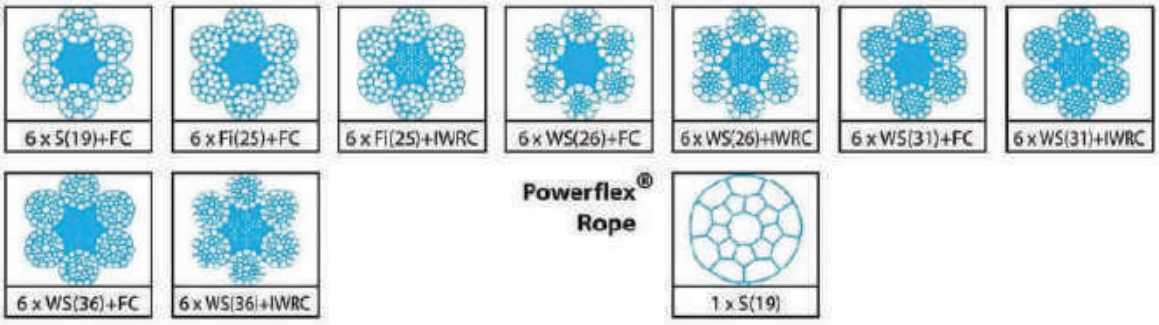
WIRE ROPE

TYPICAL CROSS SECTIONS OF WIRE ROPE & STRAND



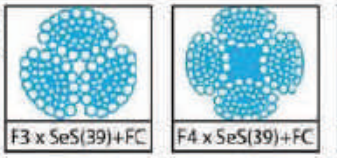
Special Wire Rope

Powerflex® Rope



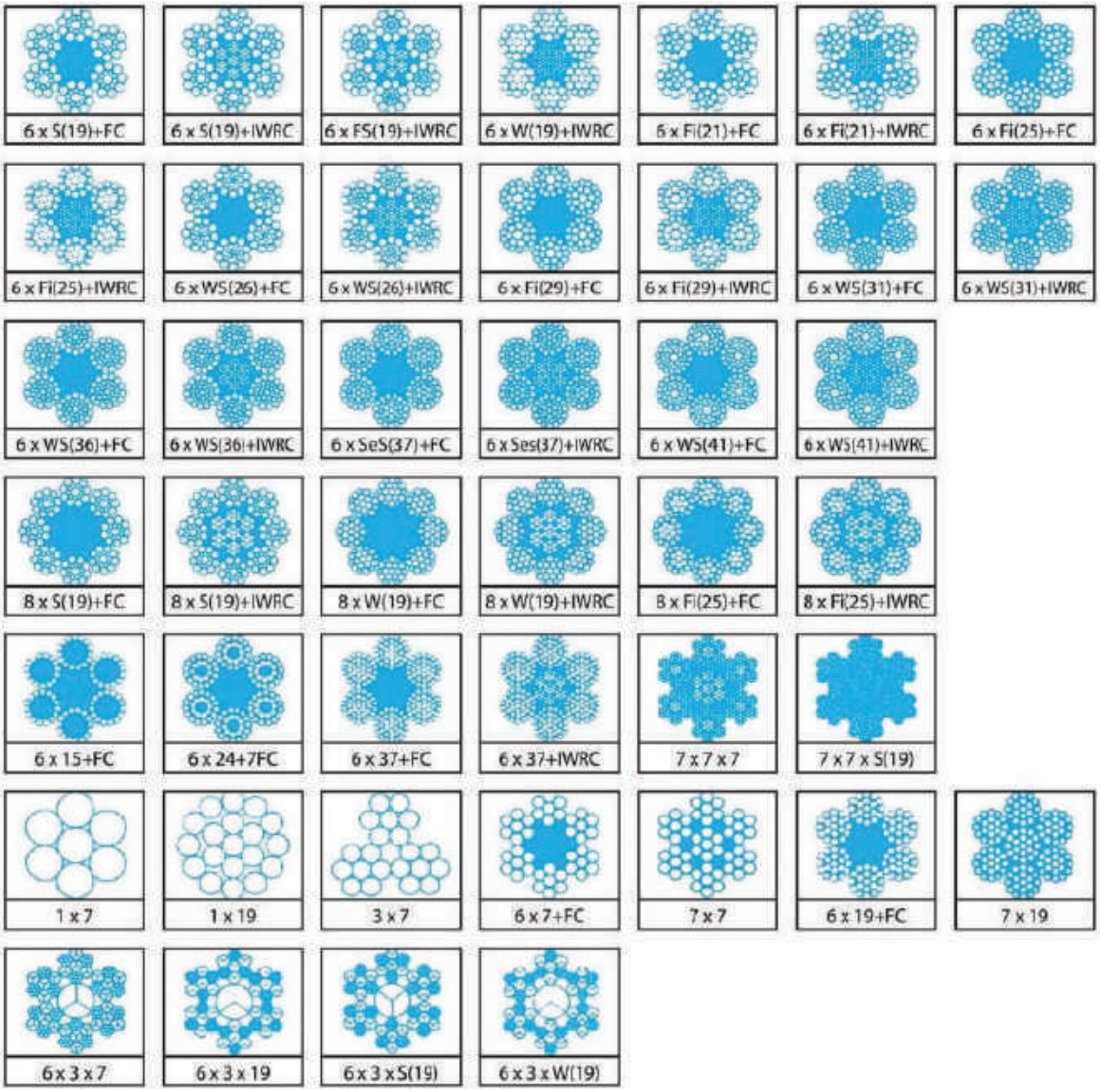
Powerflex® Rope

Non-Rotating Rope



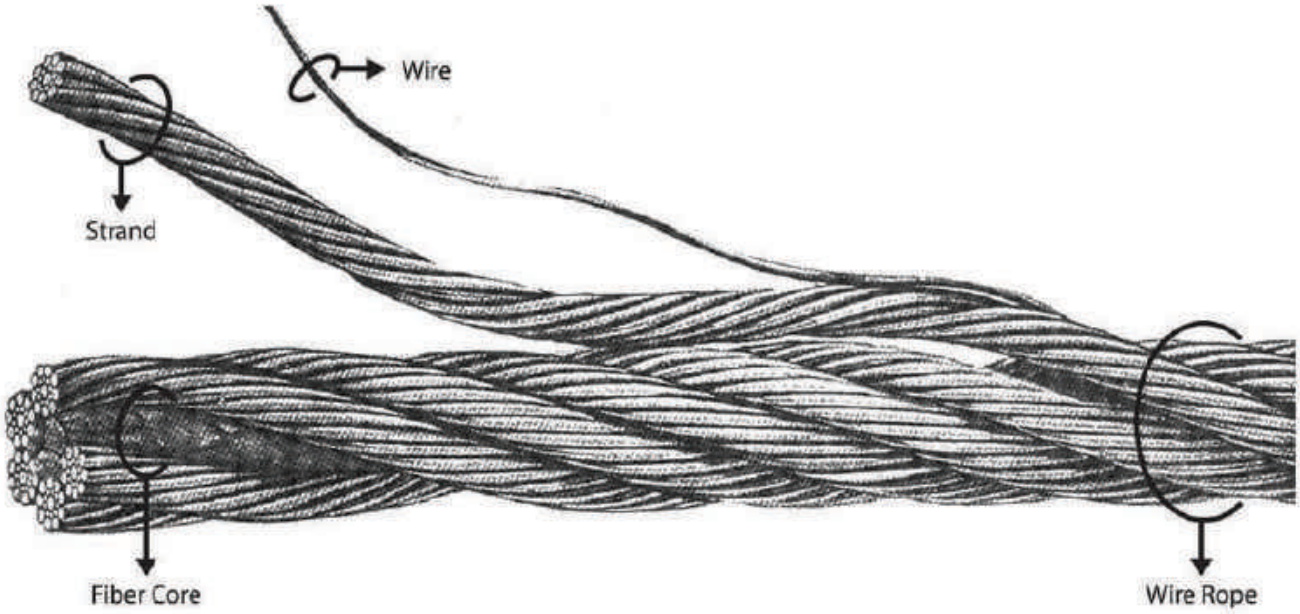
Swaged Rope

General Wire Rope (Steel & Stainless)



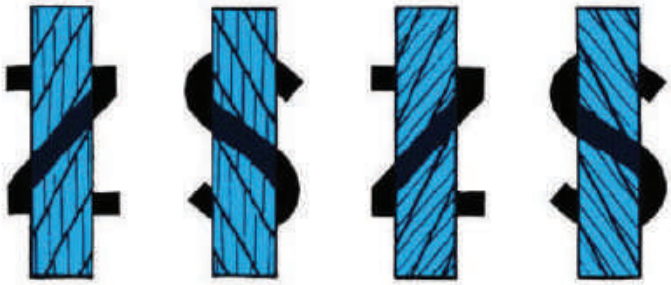
General Information on Wire Rope

Name of The Parts Composing Wire Rope



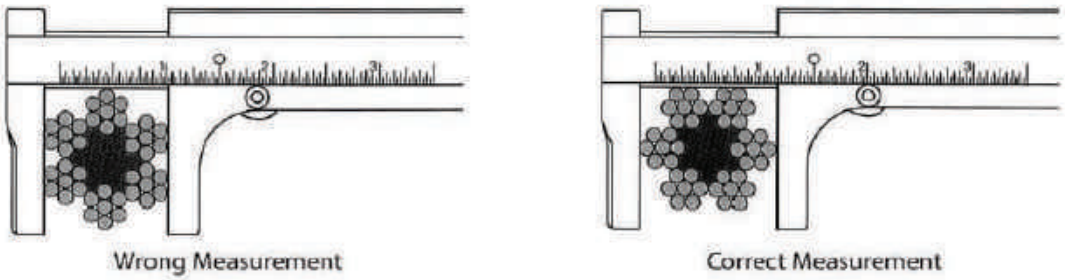
Lays of Wire Rope

The lays of wire ropes, with few exceptions, are roughly divided into two kinds - Lang's Lay and Regular Lay. The Lang's Lay rope offers a better wearing surface when in use and can be expected to serve for a longer period than the Regular rope, which, meanwhile, is more flexible than Lang's Lay rope and easily spliced.

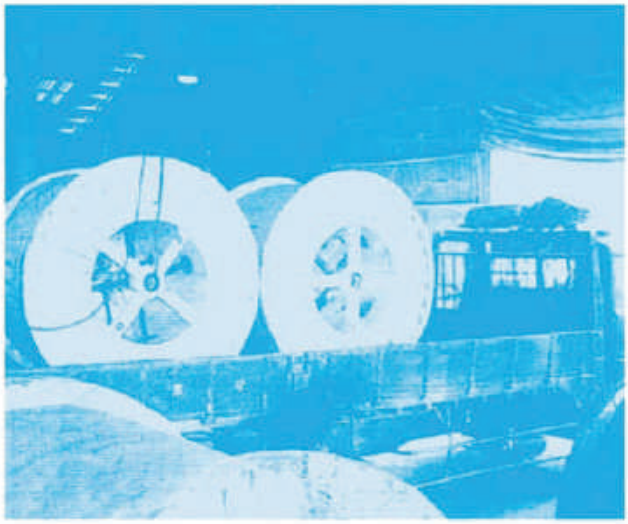


How to Measure Rope Size

The size of wire rope is the diameter of the circle which will just enclose all the strands.
The correct method is to measure over any pair of opposite strands. (see drawings)



How to Handle Steel Wire Rope



1. Unloading and Storage

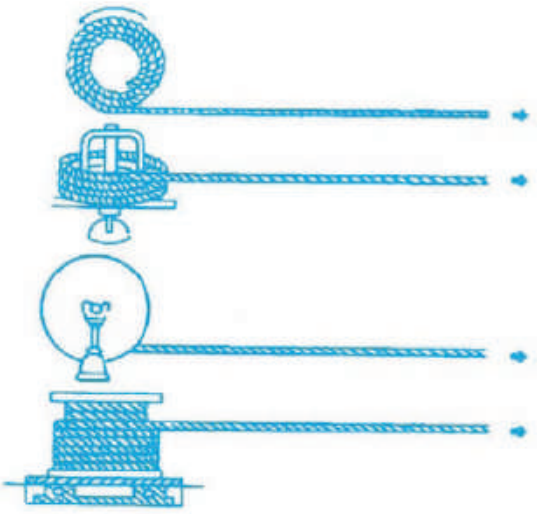
Unloading

Ropes should be unloaded from trucks, trailers, railway, cars, etc., with care. Never drop the reel. Such action can fracture or separate the reel drum from the reel flanges. The best way for lifting a reel of rope is to place a bar or heavy pipe through the central hole of the reel and connect by slings to a suitable hoist. If the hoist is not available improvise a ramp of heavy planks and trestles and roll the reel down keeping same under control throughout this procedure.

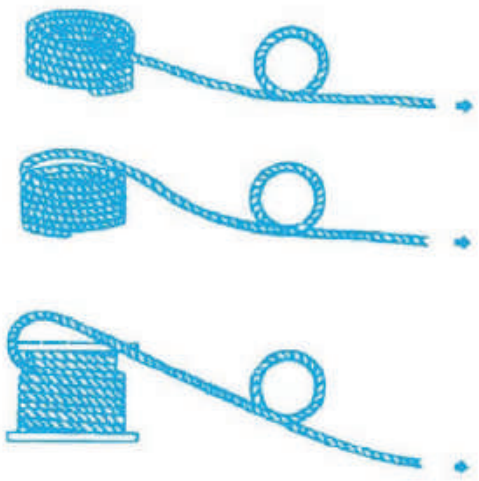
Storage

Unwrap and examine the rope immediately after delivery. Apply a fresh coating of rope dressing if necessary. Rewrap rope and store under cover in a clean dry area. Keep the reel off the ground by steel or timber cribbing. Avoid storage on cinder fill. Examine the rope periodically and renew dressing as required.

2. Unreeling and Uncoiling



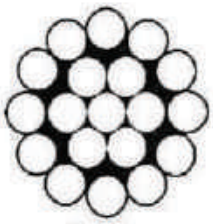
Correct Way



Incorrect Way

WIRE ROPE

1x19 (12/6/1)

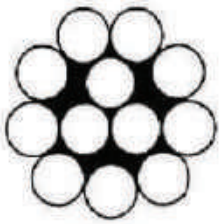


1x19

Strand Dia.	Weight	Min. Breaking Load (KN)			JASO F 903-75	
(mm.)	(Kgs./100Mtrs.)	1570 N/mm2	1770 N/mm2	1960 N/mm2	Grade (N/mm2)	Min. B/L (KN)
1.20	0.71	1.19	1.34	1.48	-	-
1.25	0.77	1.29	1.45	2.32	-	-
1.50	1.11	1.86	2.09	4.12	1865	2.35
2.00	1.98	3.30	3.72	6.43	1865	4.12
2.50	3.10	5.15	5.81	9.27	1770	6.18
3.00	4.46	7.42	8.37	12.61	1770	8.34
3.50	6.07	10.10	11.39	16.47	1770	10.79
4.00	7.93	13.19	14.88	1.61	1770	14.70

Comply to DIN 3053 : 1972, JASO F 903-75 Specification.

1x12 (9/3)

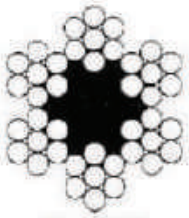


1x12

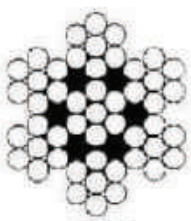
Strand Dia.	Weight	Min. Breaking Load (KN)			JASO F 903-75	
(mm.)	(Kgs./100Mtrs.)	1570 N/mm2	1770 N/mm2	1960 N/mm2	Grade (N/mm2)	Min. B/L (KN)
1.20	0.71	1.19	1.34	1.48	1960	1.47
1.25	0.77	1.29	1.45	1.61	-	-
1.50	1.11	1.86	2.09	2.32	1960	2.35
2.00	1.98	3.30	3.72	4.12	-	-
2.50	3.10	5.15	5.81	6.43	-	-

Comply to JASO F 903-75 Specification.

Fine Cord 6x7 (6/1), 7x7 (6/1)



6x7FC



7x7

Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
1.50		0.77	0.86	1.17	1.27	1.32	1.43	1.46	1.58
2.00		1.36	1.52	2.08	2.25	2.35	2.54	2.60	2.81
2.38	(3/32")	1.93	2.16	2.96	3.20	3.33	3.60	3.69	3.99
3.18	(1/8")	3.43	3.84	5.25	5.68	5.92	6.41	6.56	7.09
4.00		5.44	6.10	8.34	9.02	9.40	10.17	10.41	11.26
4.76	(3/16")	7.71	8.64	11.82	12.78	13.33	14.41	14.76	15.96
5.53	(5/32")	10.40	11.66	15.95	17.24	17.98	19.44	19.91	21.53
6.00		12.24	13.72	18.76	20.29	21.16	22.88	23.43	25.33
6.35	(1/4")	13.71	15.36	21.02	22.73	23.70	25.62	26.24	28.37
7.94	(5/16")	21.42	24.00	32.84	35.51	37.02	40.03	41.00	44.33
8.00		21.76	24.38	33.36	36.07	37.61	40.67	41.65	45.03
9.53	(3/8")	30.85	34.57	47.29	51.14	53.31	57.65	59.04	63.84

Comply to BS 302 : 1987 Part 2 and ISO 2408 : 1985 Specification DIN 3055 : 1972, AS 3569 : 1989

6x19, 6x25, 6x36, 6x31

CRANE, HOIST, OIL-WELL AND GENERAL ENGINEERING PURPOSES)

Rope 6x19S (9/9/1), 6x19F (12/6F/6/1), 6x26WS(10/5+5/5/1), 6x31 (12/6+ 6/6/1)


6xFi(25)IWRC


6xS(19)FC


6xS(19)IWRC


6xWS(26)FC


6xWS(26)IWRC


6xWS(31)FC


6xWS(31)WRC


6xFi(25)FC

Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
6.00		12.13	13.72	17.35	18.76	19.56	21.16	21.66	23.43
6.35	(1/4")	13.59	15.36	19.44	21.02	21.91	23.70	24.26	26.24
6.50		14.24	16.10	20.36	22.02	22.96	24.83	25.42	27.49
7.00		16.51	18.67	23.62	25.54	26.63	28.79	29.48	31.89
7.94	(5/16")	21.23	24.00	30.37	32.84	34.24	37.02	37.91	41.00
8.00		21.57	24.38	30.85	33.36	34.78	37.61	38.51	41.65
9.53	(3/8")	30.57	34.57	43.73	47.29	49.30	53.31	54.59	59.04
10.00		35.20	39.80	51.81	55.89	58.41	63.01	64.68	69.78
11.11	(7/16")	43.47	49.15	63.98	69.02	72.13	77.81	79.87	86.16
12.00		50.69	57.31	74.61	80.48	84.11	90.74	93.14	100.48
12.70	(1/2")	56.77	64.19	83.56	90.15	94.21	101.63	104.32	112.54
14.00		68.99	78.01	101.55	109.55	114.48	123.50	126.77	136.76
14.29	(9/16")	71.85	81.24	105.76	114.09	119.23	128.63	132.03	142.44
15.88	(5/8")	88.71	100.30	130.57	140.86	147.20	158.80	163.00	175.85
16.00		90.11	101.89	132.63	143.08	149.53	161.31	165.58	178.63
18.00		114.05	128.95	167.86	181.09	189.25	204.16	209.56	226.07
19.05	(3/4")	127.74	144.44	188.02	202.83	211.97	228.67	234.73	253.22
20.00		140.80	159.20	207.24	223.57	233.64	252.05	258.72	279.10
22.00		170.37	192.63	250.76	270.52	282.70	304.98	313.05	337.72
22.23	(7/8")	173.87	196.59	255.92	276.08	288.52	311.25	319.49	344.66
24.00		202.75	229.25	298.43	321.94	336.44	362.95	372.56	401.91
25.40	(1")	227.10	256.77	334.26	360.59	376.84	406.53	417.29	450.17
26.00		237.95	269.05	350.24	377.83	394.85	425.96	437.24	471.69
28.00		275.97	312.03	406.19	438.19	457.93	494.01	507.09	547.04
28.58	(1 1/8")	287.42	324.98	423.04	456.38	476.94	514.51	528.13	569.74
30.00		316.80	358.20	466.29	503.03	525.69	567.11	582.12	627.98
31.75	(1 1/4")	354.84	401.21	522.28	563.43	588.81	635.20	652.01	703.39
32.00		360.45	407.55	530.53	572.33	598.12	645.24	662.32	714.51
34.00		406.91	460.09	598.92	646.11	675.22	728.42	747.70	806.61
34.93	(13/8")	429.35	485.46	631.96	681.75	712.46	768.59	788.94	851.10
36.00		456.19	515.81	671.46	724.36	756.99	816.64	838.25	904.30
38.00		508.29	574.71	748.14	807.08	843.44	909.89	933.98	1007.57
38.10	(1 1/2")	510.97	577.74	752.08	811.33	847.89	914.69	938.90	1012.88
40.00		563.20	636.80	828.96	894.27	934.56	1008.19	1034.88	1116.42
42.00		620.93	702.07	913.93	985.93	1030.35	1111.53	1140.96	1230.85
44.00		681.47	770.53	1003.04	1082.07	1130.82	1219.91	1252.20	1350.86
44.45	(1 3/4")	695.48	786.37	1023.66	1104.32	1154.07	1244.99	1277.95	1378.64
46.00		744.83	842.17	1096.30	1182.67	1235.96	1333.33	1368.63	1476.46
48.00		811.01	916.99	1193.70	1287.75	1345.77	1451.80	1490.23	1607.64
50.00		880.00	995.00	1295.25	1397.30	1460.25	1575.30	1617.00	1744.40
50.80	(2")	908.39	1027.09	1337.03	1442.37	1507.35	1626.11	1669.16	1800.67
52.00		951.81	1076.19	1400.94	1511.32	1579.41	1703.84	1748.95	1886.74

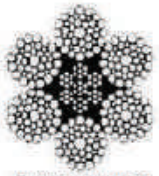
Comply to BS 302: 1987 Part 2 and ISO 2408 : 1985 Specification.

OPI

6x36, 6x41

CRANE AND ENGINEERING PURPOSES

6xWS(41)FC



6xWS(41)IWRC

6xWS(36)FC

6xWS(36)IWRC

Rope 6x36WS (14/7+7/7/1), 6x41 (16/8+8/8/1)

Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
10.00		35.20	39.80	51.81	55.89	58.41	63.01	64.68	69.78
11.11	(7/16")	43.47	49.15	63.98	69.02	72.13	77.81	79.87	86.16
12.00		50.69	57.31	74.61	80.48	84.11	90.74	93.14	100.48
12.70	(1/2")	56.77	64.19	83.56	90.15	94.21	101.63	104.32	112.54
14.00		68.99	78.01	101.55	109.55	114.48	123.50	126.77	136.76
14.29	(9/16")	71.85	81.24	105.76	114.09	119.23	128.63	132.03	142.44
15.88	(5/8")	88.71	100.30	130.57	140.86	147.20	158.80	163.00	175.85
16.00		90.11	101.89	132.63	143.08	149.53	161.31	165.58	178.63
18.00		114.05	128.95	167.86	181.09	189.25	204.16	209.56	226.07
19.05	(3/4")	127.74	144.44	188.02	202.83	211.97	228.67	234.73	253.22
20.00		140.80	159.20	207.24	223.57	233.64	252.05	258.72	279.10
22.00		170.37	192.63	250.76	270.52	282.70	304.98	313.05	337.72
22.23	(7/8")	173.87	196.59	255.92	276.08	288.52	311.25	319.49	344.66
24.00		202.75	229.25	298.43	321.94	336.44	362.95	372.55	401.91
25.40	(1")	227.10	256.77	334.26	360.59	376.84	406.53	417.29	450.17
26.00		237.95	269.05	350.24	377.83	394.85	425.98	437.24	471.69
28.00		275.97	312.03	406.19	438.18	457.93	494.01	507.09	547.04
28.58	(1 1/8")	287.42	324.98	423.04	456.38	476.94	514.51	528.13	569.74
30.00		316.80	358.20	466.29	503.03	525.69	567.11	582.12	627.98
31.75	(1 1/4")	354.84	401.21	522.28	563.43	588.81	635.20	652.01	703.39
32.00		360.45	407.55	530.53	572.33	598.12	645.24	662.32	714.51
34.00		406.91	460.09	598.92	646.11	675.22	728.42	747.70	806.61
34.93	(1 3/8")	429.35	485.46	631.96	681.75	712.46	768.59	788.94	851.10
36.00		456.19	515.81	671.46	724.36	756.99	816.64	838.25	904.30
38.00		508.29	574.71	748.14	807.08	843.44	909.89	933.98	1007.57
38.10	(1 1/2")	510.97	577.74	752.08	811.33	847.89	914.69	938.90	1012.88
40.00		563.20	636.80	828.96	894.27	934.56	1008.19	1034.88	1116.42
42.00		620.93	702.07	913.93	985.93	1030.35	1111.53	1140.96	1230.85
44.00		681.47	770.53	1003.04	1082.07	1130.82	1219.91	1252.20	1350.86
44.45	(13/4")	695.48	786.37	1023.66	1104.32	1154.07	1244.99	1277.95	1378.64
46.00		744.83	842.17	1096.30	1182.67	1235.96	1333.33	1368.63	1476.46
48.00		811.01	916.99	1193.70	1287.75	1345.77	1451.80	1490.23	1607.64
50.00		880.00	995.00	1295.25	1397.30	1460.25	1575.30	1617.00	1744.40
50.80	(2")	908.39	1027.09	1337.03	1442.37	1507.35	1626.11	1669.16	1800.67
52.00		951.81	1076.19	1400.94	1511.32	1579.41	1703.84	1748.95	1886.74

Comply to BS 302: 1987 Part 2 and ISO 2408 : 1985 Specification.

6x24+7FC

MARINE AND ENGINEERING PURPOSES

6x24FC

Rope 6x24 (12/12/POLY)

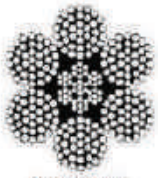
Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
8.00		18.88	28.13	31.72	8.00		18.88	28.13	31.72
9.53	(3/8")	26.76	39.88	44.96	9.53	(3/8")	26.76	39.88	44.96
10.00		29.50	43.96	49.56	10.00		29.50	43.96	49.56
11.11	(7/16")	36.43	54.29	61.20	11.11	(7/16")	36.43	54.29	61.20
12.00		42.48	63.30	71.37	12.00		42.48	63.30	71.37
12.70	(1/2")	47.58	70.90	79.94	12.70	(1/2")	47.58	70.90	79.94
14.00		57.62	86.16	97.14	14.00		57.62	86.16	97.14
14.29	(9/16")	60.22	89.74	101.17	14.29	(9/16")	60.22	89.74	101.17
15.88	(5/8")	74.34	110.79	124.90	15.88	(5/8")	74.34	110.79	124.90
16.00		75.52	112.54	126.87	16.00		75.52	112.54	126.87
18.00		95.58	142.43	160.57	18.00		95.58	142.43	160.57
19.05	(3/4")	107.06	159.53	179.85	19.05	(3/4")	107.06	159.53	179.85
20.00		118.00	175.84	198.24	20.00		118.00	175.84	198.24
22.00		142.78	212.77	239.87	22.00		142.78	212.77	239.87
22.23	(7/8")	145.72	217.14	244.80	22.23	(7/8")	145.72	217.14	244.80
24.00		169.92	253.21	285.47	24.00		169.92	253.21	285.47
25.40	(1")	190.32	283.61	319.74	25.40	(1")	190.32	283.61	319.74
26.00		199.42	297.17	335.03	26.00		199.42	297.17	335.03
28.00		231.28	344.65	388.55	28.00		231.28	344.65	388.55
28.58	(1 1/8")	240.88	358.95	404.67	28.58	(1 1/8")	240.88	358.95	404.67
30.00		265.50	395.64	446.04	30.00		265.50	395.64	446.04
31.75	(1 1/4")	297.38	443.14	499.60	31.75	(1 1/4")	297.38	443.14	499.60
32.00		302.08	450.15	507.49	32.00		302.08	450.15	507.49
34.00		341.02	508.13	572.91	34.00		341.02	508.13	572.91
34.93	(1 3/8")	359.83	536.20	604.51	34.93	(1 3/8")	359.83	536.20	604.51
36.00		382.32	569.72	642.30	36.00		382.32	569.72	642.30
38.00		425.98	634.78	715.65	38.00		425.98	634.78	715.65
38.10	(1 1/2")	428.22	638.13	719.42	38.10	(1 1/2")	428.22	638.13	719.42
40.00		472.00	703.36	792.96	40.00		472.00	703.36	792.96

Comply to BS 302: 1987 Part 2 and ISO 2408 : 1985 Specification.

6x37

GENERAL ENGINEERING PURPOSES

6x37FC



6x37IWRC

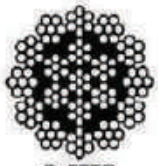
Rope 6x37(18/12/6/1)

Rope Diameter		Weight		Min. Breaking Load (KN)			
				1570 N/mm2		1770 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC
10.00		33.70	38.04	46.32	49.96	52.22	56.33
11.11	(7/16")	41.62	46.97	57.19	61.70	64.48	69.56
12.00		48.53	54.78	66.69	71.95	75.19	81.11
12.70	(1/2")	54.35	61.35	74.70	80.59	84.22	90.85
14.00		66.05	74.56	90.78	97.93	102.34	110.40
14.29	(9/16")	68.79	77.65	94.54	101.99	106.59	114.99
15.88	(5/8")	84.93	95.86	116.72	125.92	131.59	141.96
16.00		86.27	97.38	118.57	127.91	133.67	144.20
18.00		109.19	123.25	150.06	161.88	169.18	182.51
19.05	(3/4")	122.30	138.04	168.08	181.32	189.49	204.42
20.00		134.80	152.16	185.26	199.86	208.66	225.31
22.00		163.11	184.11	224.15	241.83	252.72	272.63
22.23	(7/8")	166.48	187.89	228.77	246.80	257.92	278.24
24.00		194.11	219.10	266.77	287.79	300.76	324.45
25.40	(1")	217.42	245.41	298.81	322.35	336.67	363.41
26.00		227.81	257.14	313.09	337.76	352.97	380.78
28.00		264.21	298.23	363.11	391.72	409.37	441.62
28.58	(1 1/8")	275.17	310.60	378.18	407.97	426.35	459.94
30.00		303.30	342.35	416.84	449.68	469.94	506.96
31.75	(1 1/4")	339.72	387.46	466.88	503.67	526.36	567.83
32.00		345.09	389.52	474.27	511.63	534.68	576.81
34.00		389.57	439.73	535.40	577.58	603.61	651.16
34.93	(1 3/8")	411.06	463.98	564.93	609.44	636.90	687.07
36.00		436.75	492.99	600.24	647.53	676.71	730.02
38.00		486.63	549.28	668.79	721.48	753.98	813.39
38.10	(1 1/2")	489.19	552.18	672.31	725.28	757.96	817.57
40.00		539.20	608.62	741.04	799.42	835.44	901.26
42.00		594.47	671.01	817.00	881.36	921.07	993.64
44.00		652.43	736.43	896.66	967.30	1010.88	1090.52
44.45	(1 3/4")	665.85	751.58	915.09	987.19	1031.67	1112.94
46.00		713.09	804.91	980.03	1057.24	1104.87	1191.92
48.00		776.45	876.42	1067.10	1151.17	1203.03	1297.81
50.00		842.50	950.97	1157.88	1249.10	1305.38	1408.22
50.80	(2")	869.68	981.65	1195.22	1289.39	1347.48	1453.64
52.00		911.25	1029.57	1252.36	1351.02	1411.89	1523.13

Comply to BS 302: 1987 Part 2 and ISO 2408 : 1985 Specification.

ROTATION RESISTANT

18 x 7FC



6x37FC

Rope 18x7 (6/1), 19x7(6/1)

Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
8.00		24.96	25.73	32.96	32.96	37.16	37.16	41.14	41.14
9.53	(3/8")	35.38	36.47	46.72	46.72	52.67	52.67	58.33	58.33
10.00		39.00	40.20	51.50	51.50	58.06	58.06	64.29	64.29
11.11	(7/16")	48.16	49.64	63.59	63.59	71.69	71.69	79.39	79.39
12.00		56.16	57.88	74.15	74.15	83.60	83.60	92.57	92.57
12.70	(1/2")	62.90	64.83	83.06	83.06	93.64	93.64	103.69	103.69
14.00		76.44	78.78	100.93	100.93	113.79	113.79	126.00	126.00
14.29	(9/16")	79.61	82.05	105.12	105.12	118.51	118.51	131.23	131.23
15.88	(5/8")	98.29	101.30	129.78	129.78	146.31	146.31	162.02	162.02
16.00		99.84	102.90	131.83	131.83	148.62	148.62	164.58	164.58
18.00		126.36	130.23	166.85	166.85	188.10	188.10	208.29	208.29
19.05	(3/4")	141.53	145.87	186.88	186.88	210.69	210.69	233.30	233.30
20.00		156.00	160.78	205.98	205.98	232.22	232.22	257.15	257.15
22.00		188.76	194.55	249.24	249.24	280.99	280.99	311.15	311.15
22.23	(7/8")	192.64	198.55	254.36	254.36	286.77	286.77	317.55	317.55
24.00		224.64	231.53	296.62	296.62	334.40	334.40	370.30	370.30
25.40	(1")	251.61	259.33	332.23	332.23	374.55	374.55	414.76	414.76
26.00		263.64	271.72	348.11	348.11	392.46	392.46	434.59	434.59

Comply to BS 302: 1987 Part 2 and ISO 2408 : 1985 Specification.

8x19, 8x25

CRANE, HOIST AND GENERAL ENGINEERING PURPOSES

8xS(19)WRC

8xS(19)FC

8xFi(25)IWRC

8xFi(25)FC

8xW(19)FC

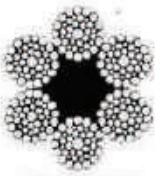
Rope 8x19S (9/9/1), 8x25 (12/6/1), 8x19W (6+6/6/1)

Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
10.00		33.90	41.70	46.00	54.32	51.86	61.24	57.43	67.82
11.11	(7/16")	41.86	51.49	56.81	67.08	64.04	75.63	70.92	83.74
12.00		48.82	60.05	66.24	78.22	74.68	88.19	82.70	97.66
12.70	(1/2")	54.88	67.28	74.20	87.62	83.65	98.78	92.63	109.38
14.00		66.44	81.73	90.16	106.47	101.65	120.03	112.56	132.92
14.29	(9/16")	69.20	85.12	93.90	110.89	105.87	125.01	117.23	138.43
15.88	(5/8")	85.43	105.09	115.93	136.90	130.70	154.34	144.73	170.91
16.00		86.78	106.75	117.76	139.06	132.76	156.78	147.02	173.61
18.00		109.84	135.11	149.04	176.00	168.03	198.42	186.07	219.72
19.05	(3/4")	123.02	151.33	166.94	197.14	188.20	222.25	208.41	246.11
20.00		135.60	166.80	184.00	217.29	207.44	244.97	229.71	271.26
22.00		164.08	201.83	222.64	262.92	251.01	296.41	277.95	328.23
22.23	(7/8")	167.45	205.98	227.22	268.32	256.17	302.51	283.67	334.98
24.00		195.26	240.19	264.97	312.89	298.72	352.75	330.79	390.62
25.40	(1")	218.71	269.03	296.78	350.46	334.59	395.11	370.50	437.52
26.00		229.16	281.89	310.97	367.22	350.58	414.00	388.21	458.44
28.00		265.78	326.93	360.65	425.88	406.59	480.14	450.24	531.68
28.56	(1 1/8")	276.80	340.49	375.61	443.56	423.46	500.06	468.92	553.74
30.00		305.10	375.30	414.01	488.90	466.75	551.18	516.85	610.34
31.75	(1 1/4")	341.73	420.36	463.72	547.60	522.79	617.36	578.91	683.63
32.00		347.14	427.01	471.05	556.26	531.06	627.12	588.06	694.44
34.00		391.88	482.05	531.77	627.96	599.51	707.96	663.87	783.95
34.93	(1 3/8")	413.50	508.64	561.10	662.60	632.58	747.00	700.48	827.19
36.00		439.34	540.43	596.17	704.01	672.12	793.70	744.27	878.90
38.00		489.52	602.15	664.25	784.41	748.87	884.33	829.26	979.26
38.10	(1 1/2")	492.10	605.32	667.76	788.54	752.82	888.98	833.63	984.42
40.00		542.40	667.20	736.02	869.15	829.78	979.87	918.85	1085.06
42.00		598.00	735.59	811.46	958.24	914.83	1080.31	1013.03	1196.27
44.00		656.30	807.31	890.58	1051.67	1004.03	1185.65	1111.81	1312.92
44.45	(1 3/4")	669.80	823.91	908.89	1073.30	1024.67	1210.02	1134.66	1339.91
46.00		717.32	882.37	973.38	1149.45	1097.38	1295.88	1215.18	1434.99
48.00		781.06	960.77	1059.86	1251.58	1194.88	1411.02	1323.14	1562.48
50.00		847.50	1042.50	1150.03	1358.05	1296.53	1531.05	1435.70	1695.40
50.80	(2")	874.84	1076.13	1187.12	1401.86	1338.35	1580.44	1482.01	1750.09
52.00		916.66	1127.57	1243.87	1468.87	1402.32	1655.98	1552.85	1833.74

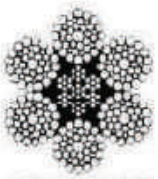
Comply to ISO 2408 : 1985 Specification.

6x36, 6x41

CRANE AND ENGINEERING PURPOSES

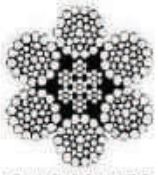


6xWS(41)FC



6xWS(41)IWRC

6xWS(36)FC



6xWS(36)IWRC

Rope 6x36WS (14/7+7/7/1), 6x41 (16/8+8/8/1)

Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
10.00		35.20	39.80	51.81	55.89	58.41	63.01	64.68	69.78
11.11	(7/16")	43.47	49.15	63.98	69.02	72.13	77.81	79.87	86.16
12.00		50.69	57.31	74.61	80.48	84.11	90.74	93.14	100.48
12.70	(1/2")	56.77	64.19	83.56	90.15	94.21	101.63	104.32	112.54
14.00		68.99	78.01	101.55	109.55	114.48	123.50	126.77	136.76
14.29	(9/16")	71.85	81.24	105.76	114.09	119.23	128.63	132.03	142.44
15.88	(5/8")	88.71	100.30	130.57	140.86	147.20	158.80	163.00	175.85
16.00		90.11	101.89	132.63	143.08	149.53	161.31	165.58	178.63
18.00		114.05	128.95	167.86	181.09	189.25	204.16	209.56	226.07
19.05	(3/4")	127.74	144.44	188.02	202.83	211.97	228.67	234.73	253.22
20.00		140.80	159.20	207.24	223.57	233.64	252.05	258.72	279.10
22.00		170.37	192.63	250.76	270.52	282.70	304.98	313.05	337.72
22.23	(7/8")	173.87	196.59	255.92	276.08	288.52	311.25	319.49	344.66
24.00		202.75	229.25	298.43	321.94	336.44	362.95	372.56	401.91
25.40	(1")	227.10	256.77	334.26	360.59	376.84	406.53	417.29	450.17
26.00		237.95	269.05	350.24	377.83	394.85	425.96	437.24	471.69
28.00		275.97	312.03	406.19	438.19	457.93	494.01	507.09	547.04
28.58	(1 1/8")	287.42	324.98	423.04	456.36	476.94	514.51	528.13	569.74
30.00		316.80	358.20	466.29	503.03	525.69	567.11	582.12	627.98
31.75	(1 1/4")	354.84	401.21	522.28	563.43	588.81	635.20	652.01	703.39
32.00		360.45	407.55	530.53	572.33	598.12	645.24	662.32	714.51
34.00		406.91	460.09	598.92	646.11	675.22	728.42	747.70	806.61
34.93	(1 3/8")	429.35	485.46	631.96	681.75	712.46	768.59	788.94	851.10
36.00		456.19	515.81	671.46	724.36	756.99	816.64	838.25	904.30
38.00		508.29	574.71	748.14	807.08	843.44	909.89	933.98	1007.57
38.10	(1 1/2")	510.97	577.74	752.08	811.33	847.89	914.69	938.90	1012.88
40.00		563.20	636.80	828.96	894.27	934.56	1008.19	1034.88	1116.42
42.00		620.93	702.07	913.93	985.93	1030.35	1111.53	1140.96	1230.85
44.00		681.47	770.53	1003.04	1082.07	1130.82	1219.91	1252.20	1350.86
44.45	(1 3/4")	695.48	786.37	1023.66	1104.32	1154.07	1244.99	1277.95	1378.64
46.00		744.83	842.17	1096.30	1182.67	1235.96	1333.33	1368.63	1476.46
48.00		811.01	916.99	1193.70	1287.75	1345.77	1451.80	1490.23	1607.64
50.00		880.00	995.00	1295.25	1397.30	1460.25	1575.30	1617.00	1744.40
50.80	(2")	908.39	1027.09	1337.03	1442.37	1507.35	1626.11	1669.16	1800.67
52.00		951.81	1076.19	1400.94	1511.32	1579.41	1703.84	1748.95	1886.74

Comply to BS 302: 1987 Part 2 and ISO 2408 : 1985 Specification.

6x24+7FC

MARINE AND ENGINEERING PURPOSES

6x24FC

Rope 6x24 (12/12/POLY)

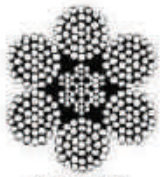
Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
8.00		18.88	28.13	31.72	8.00		18.99	28.13	31.72
9.53	(3/8")	26.76	39.88	44.96	9.53	(3/8")	26.76	39.88	44.96
10.00		29.50	43.96	49.56	10.00		29.50	43.96	49.56
11.11	(7/16")	36.43	54.29	61.20	11.11	(7/16")	36.43	54.29	61.20
12.00		42.48	63.30	71.37	12.00		42.48	63.30	71.37
12.70	(1/2")	47.58	70.90	79.94	12.70	(1/2")	47.58	70.90	79.94
14.00		57.82	86.16	97.14	14.00		57.82	86.16	97.14
14.29	(9/16")	60.22	89.74	101.17	14.29	(9/16")	60.22	89.74	101.17
15.88	(5/8")	74.34	110.79	124.90	15.88	(5/8")	74.34	110.79	124.90
16.00		75.52	112.54	126.87	16.00		75.52	112.54	126.87
18.00		95.58	142.43	160.57	18.00		95.58	142.43	160.57
19.05	(3/4")	107.06	159.53	179.85	19.05	(3/4")	107.06	159.53	179.85
20.00		118.00	175.84	198.24	20.00		118.00	175.84	198.24
22.00		142.78	212.77	239.87	22.00		142.78	212.77	239.87
22.23	(7/8")	145.72	217.14	244.80	22.23	(7/8")	145.72	217.14	244.80
24.00		169.92	253.21	285.47	24.00		169.92	253.21	285.47
25.40	(1")	190.32	283.61	319.74	25.40	(1")	190.32	283.61	319.74
26.00		199.42	297.17	335.03	26.00		199.42	297.17	335.03
28.00		231.28	344.65	388.55	28.00		231.28	344.65	388.55
28.58	(1 1/8")	240.88	358.95	404.67	28.58	(1 1/8")	240.88	358.95	404.67
30.00		265.50	395.64	446.04	30.00		265.50	395.64	446.04
31.75	(1 1/4")	297.38	443.14	499.60	31.75	(1 1/4")	297.38	443.14	499.60
32.00		302.08	450.15	507.49	32.00		302.08	450.15	507.49
34.00		341.02	508.18	572.91	34.00		341.02	508.18	572.91
34.93	(1 3/8")	359.83	536.20	604.51	34.93	(1 3/8")	359.83	536.20	604.51
36.00		382.32	569.72	642.30	36.00		382.32	569.72	642.30
38.00		425.98	634.78	715.65	38.00		425.98	634.78	715.65
38.10	(1 1/2")	426.22	638.13	719.42	38.10	(1 1/2")	426.22	638.13	719.42
40.00		472.00	703.38	792.96	40.00		472.00	703.38	792.96

Comply to BS 302: 1987 Part 3 and ISO 2408 : 1985 Specification.

6x37

GENERAL ENGINEERING PURPOSES

6x37FC



6x37IWRC

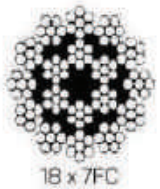
Rope 6x37(18/12/6/1)

Rope Diameter		Weight		Min, Breaking Load (KN)			
				1570 N/mm2		1770 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC
10.00		33.70	38.04	46.32	49.96	52.22	56.33
11.11	(7/16")	41.62	46.97	57.19	61.70	64.48	69.58
12.00		48.53	54.78	66.69	71.95	75.19	81.11
12.70	(1/2")	54.35	61.35	74.70	80.59	84.22	90.85
14.00		66.05	74.56	90.78	97.93	102.34	110.40
14.29	(9/16")	68.79	77.65	94.54	101.99	106.59	114.99
15.88	(5/8")	84.93	95.86	116.72	125.92	131.59	141.96
16.00		86.27	97.38	118.57	127.91	133.67	144.20
18.00		109.19	123.25	150.06	161.88	169.18	182.51
19.05	(3/4")	122.30	138.04	168.06	181.32	189.49	204.42
20.00		134.80	152.16	185.26	199.86	208.86	225.31
22.00		163.11	184.11	224.16	241.83	252.72	272.63
22.23	(7/8")	166.46	187.89	228.77	246.80	257.92	278.24
24.00		194.11	219.10	266.77	287.79	300.76	324.45
25.40	(1")	217.42	245.41	298.81	322.35	336.87	363.41
26.00		227.81	257.14	313.09	337.76	352.97	380.78
28.00		264.21	298.23	363.11	391.72	409.37	441.62
28.58	(1 1/8")	275.17	310.60	378.18	407.97	426.35	459.94
30.00		303.30	342.35	416.84	449.68	469.94	506.96
31.75	(1 1/4")	339.72	387.46	466.88	503.67	526.36	567.83
32.00		345.09	389.52	474.27	511.63	534.68	576.81
34.00		389.57	439.73	535.40	577.58	603.61	651.16
34.93	(1 3/8")	411.06	463.98	564.93	609.44	636.90	687.07
36.00		436.75	492.99	600.24	647.53	676.71	730.02
38.00		486.63	549.28	668.79	721.48	753.98	813.39
38.10	(1 1/2")	489.19	552.18	672.31	725.28	757.96	817.57
40.00		539.20	608.62	741.04	799.42	835.44	901.26
42.00		594.47	671.01	817.00	881.36	921.07	993.64
44.00		652.43	736.43	896.66	967.30	1010.88	1090.52
44.45	(1 3/4")	665.85	751.58	915.09	987.19	1031.67	1112.94
46.00		713.09	804.91	980.03	1057.24	1104.87	1191.92
48.00		776.45	876.42	1067.10	1151.17	1203.03	1297.81
50.00		842.50	950.97	1157.88	1249.10	1305.38	1408.22
50.80	(2")	869.68	981.65	1195.22	1289.39	1347.48	1453.64
52.00		911.25	1028.57	1252.36	1351.02	1411.89	1523.13

Comply to BS 302 : 1987 Part 3, DIN 3066 : 1972 Specification.

ROTATION RESISTANT

Rope 18x7 (6/1), 19x7(6/1)



18 x 7FC

6x37FC

Rope Diameter		Weight		Min, Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
8.00		24.96	25.73	32.96	32.96	37.16	37.16	41.14	41.14
9.53	(3/8")	35.38	36.47	46.72	46.72	52.67	52.67	58.33	58.33
10.00		39.00	40.20	51.50	51.50	58.06	58.06	64.29	64.29
11.11	(7/16")	48.16	49.64	63.59	63.59	71.69	71.69	79.39	79.39
12.00		56.16	57.88	74.15	74.15	83.60	83.60	92.57	92.57
12.70	(1/2")	62.90	64.83	83.06	83.06	93.64	93.64	103.69	103.69
14.00		76.44	78.78	100.93	100.93	113.79	113.79	126.00	126.00
14.29	(9/16")	79.61	82.05	105.12	105.12	118.51	118.51	131.23	131.23
15.88	(5/8")	98.29	101.30	129.78	129.78	146.31	146.31	162.02	162.02
16.00		99.84	102.90	131.83	131.83	148.62	148.62	164.58	164.58
18.00		126.36	130.23	166.85	166.85	188.10	188.10	208.29	208.29
19.05	(3/4")	141.53	145.87	186.88	186.88	210.69	210.69	233.30	233.30
20.00		156.00	160.78	205.98	205.98	232.22	232.22	257.15	257.15
22.00		188.76	194.55	249.24	249.24	280.99	280.99	311.15	311.15
22.23	(7/8")	192.64	198.55	254.36	254.36	286.77	286.77	317.55	317.55
24.00		224.64	231.53	296.62	296.62	334.40	334.40	370.30	370.30
25.40	(1")	251.61	259.33	332.23	332.23	374.55	374.55	414.76	414.76
26.00		263.64	271.72	348.11	348.11	392.46	392.46	434.59	434.59

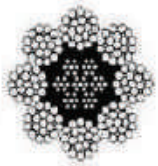
Comply to BS 302: 1987 Part 2 and ISO 2408 : 1985 Specification.

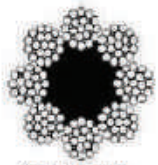
8x19, 8x25

CRANE, HOIST AND GENERAL ENGINEERING PURPOSES


8xS(19)WRC


8xS(19)FC


8xFi(25)IWRC


8xFi(25)FC


8xW(19)FC

Rope 8x19S (9/9/1), 8x25 (12/6/1), 8x19W (6+6/6/1)

Rope Diameter		Weight		Min. Breaking Load (KN)					
				1570 N/mm2		1770 N/mm2		1960 N/mm2	
mm.	Inch	FC	IWRC	FC	IWRC	FC	IWRC	FC	IWRC
10.00		33.90	41.70	46.00	54.32	51.86	61.24	57.43	67.82
11.11	(7/16")	41.86	51.49	56.81	67.08	64.04	75.63	70.92	83.74
12.00		48.82	60.05	66.24	78.22	74.68	88.19	82.70	97.66
12.70	(1/2")	54.68	67.26	74.20	87.62	83.65	98.78	92.63	109.38
14.00		66.44	81.73	90.16	106.47	101.65	120.03	112.56	132.92
14.29	(9/16")	69.20	85.12	93.90	110.89	105.87	125.01	117.23	138.43
15.88	(5/8")	85.43	105.09	115.93	136.90	130.70	154.34	144.73	170.91
16.00		86.78	106.75	117.76	139.06	132.76	156.78	147.02	173.61
18.00		109.84	135.11	149.04	176.00	168.03	198.42	186.07	219.72
19.05	(3/4")	123.02	151.33	166.94	197.14	188.20	222.25	208.41	246.11
20.00		135.60	166.80	184.00	217.29	207.44	244.97	229.71	271.28
22.00		164.08	201.83	222.64	262.92	251.01	296.41	277.95	328.23
22.23	(7/8")	167.45	205.98	227.22	268.32	256.17	302.51	283.67	334.98
24.00		195.26	240.19	264.97	312.89	298.72	352.75	330.79	390.62
25.40	(1")	218.71	269.03	296.78	350.46	334.59	395.11	370.50	437.52
26.00		229.16	281.89	310.97	367.22	350.58	414.00	388.21	458.44
28.00		265.78	326.93	360.65	425.88	406.59	480.14	450.24	531.68
28.58	(1 1/8")	276.80	340.49	375.61	443.56	423.46	500.06	468.92	553.74
30.00		305.10	375.30	414.01	488.90	466.75	551.18	516.85	610.34
31.75	(1 1/4")	341.73	420.36	463.72	547.60	522.79	617.36	578.91	683.63
32.00		347.14	427.01	471.05	556.26	531.06	627.12	588.06	694.44
34.00		391.88	482.05	531.77	627.96	599.51	707.96	663.87	783.95
34.93	(1 3/8")	413.50	508.64	561.10	662.60	632.58	747.00	700.48	827.19
36.00		439.34	540.43	596.17	704.01	672.12	793.70	744.27	878.90
38.00		489.52	602.15	664.25	784.41	748.87	884.33	829.26	979.26
38.10	(1 1/2")	492.10	605.32	667.76	788.54	752.82	888.99	833.63	984.42
40.00		542.40	667.20	736.02	869.15	829.78	979.87	918.95	1085.06
42.00		598.00	735.59	811.46	958.24	914.83	1080.31	1013.03	1196.27
44.00		656.30	807.31	890.58	1051.67	1004.03	1185.65	1111.81	1312.92
44.45	(1 3/4")	669.80	823.91	908.89	1073.30	1024.67	1210.02	1134.66	1339.91
46.00		717.32	882.37	973.38	1149.45	1097.38	1295.88	1215.18	1434.99
48.00		781.06	960.77	1059.86	1251.58	1194.88	1411.02	1323.14	1562.48
50.00		847.50	1042.50	1150.03	1358.05	1296.53	1531.05	1435.70	1695.40
50.80	(2")	874.84	1076.13	1187.12	1401.86	1338.35	1580.44	1482.01	1750.09
52.00		916.66	1127.57	1243.87	1468.87	1402.32	1655.98	1552.85	1833.74

Comply to ISO 2408 : 1985 Specification

COMPACTED / SWAGED ROPE

COMPACTED ROPE - 6 STRAND IWRC (STEEL CORE)

6 x P.S{19:1+9+9} + IWRC

6 x P.Fi{25:1+6+(6)+12} + IWRC

6 x P.WS{26:1+5+(5+5)+10} + IWRC

Nominal Diameter		Min. Breaking Strength						Approx. Weight		Max. Length
		KISWIRE - HIGH (200G)			KISWIRE - SUPER (220G)					
Inch	mm	Tonnef	kN	lb	Tonnef	kN	lb	kg/m	Lbs/ft	m
	10	8.5	84	18,800	9.9	89	20,000	0.461	0.310	3,050
7/16	11.1	10.2	100	22,500	11.4	112	25,100	0.568	0.382	3,050
	12	11.9	117	26,200	12.7	125	28,000	0.664	0.446	3,050
1/2	12.7	13.4	131	29,500	14.2	139	31,300	0.720	0.484	3,050
	13	14.0	137	30,900	14.9	146	32,800	0.769	0.517	3,050
9/16	14.3	17.0	167	37,500	18.2	178	40,100	0.930	0.625	2,000
5/8	16	21.2	208	46,700	22.6	222	49,800	1.150	0.773	3,050
	18	26.9	264	59,300	28.7	281	63,300	1.450	0.974	3,050
3/4	19.1	30.3	297	66,800	32.3	317	71,200	1.630	1.100	3,050
	20	33.3	326	73,200	35.4	347	78,000	1.790	1.200	3,050
	22	40.2	394	88,600	42.9	421	94,600	2.170	1.460	3,050
7/8	22.2	41.7	409	91,900	44.5	436	98,100	2.210	1.490	3,050
	24	47.9	470	105,600				2.580	1.730	2,440
	25	52.0	510	114,600				2.800	1.880	2,440
1	25.4	53.7	527	118,400				2.890	1.940	2,440
	26	56.2	551	123,900				3.030	2.040	2,000
	28	65.2	639	143,700				3.510	2.360	2,000
1-1/8	28.6	68.0	667	149,900				3.660	2.460	2,100
	30	74.8	734	164,900				4.030	2.710	3,800
1-1/4	31.8	84.1	825	185,400				4.530	3.040	3,300
	32	85.2	836	187,800				4.590	3.080	3,300
	34	96.1	942	211,900				5.180	3.480	2,950
1-3/8	35	102.0	1,000	224,900				5.460	3.670	2,600
	36	108.0	1,059	238,100				5.810	3.900	2,600
	38	120.0	1,177	264,600				6.510	4.370	2,600
	40	133.0	1,304	293,200				7.160	4.810	2,600

COMPACTED / SWAGED ROPE

COMPACTED ROPE - 6 STRAND IWRC (STEEL CORE)

6 x P.Fi(29:1+7+(7)+14} + IWRC

6 x P.WS(31:1+6+(6+6)+12} + IWRC

6 x P.WS(36:1+7+(7+7)+14} + IWRC

Nominal Diameter		Min. Breaking Strength						Approx. Weight		Max. Length
		KISWIRE - HIGH (200G)			KISWIRE - SUPER (220G)					
Inch	mm	Tonnef	kN	lb	Tonnef	kN	lb	kg/m	Lbs/ft	m
	10	8.6	84	18,900	9.1	90	20,100	0.474	0.318	2,000
7/16	11.1	10.3	101	22,700	10.9	107	24,000	0.570	0.383	3,050
	12	12.0	118	26,500	12.7	126	28,200	0.682	0.458	3,050
1/2	12.7	13.5	132	29,800	14.3	140	31,500	0.749	0.503	3,050
	13	14.1	138	31,100	15.0	147	33,100	0.785	0.527	3,050
9/16	14.3	17.2	169	37,900	18.3	179	40,300	0.950	0.638	2,000
5/8	16	21.4	210	47,200	22.8	224	50,300	1.180	0.793	3,050
	18	27.1	266	59,700	28.9	283	63,700	1.490	1.000	3,050
3/4	19.1	30.5	299	67,200	32.5	319	71,600	1.680	1.130	3,050
	20	33.4	328	73,600	35.6	349	78,500	1.840	1.240	3,050
	22	40.5	397	89,300	43.2	42	95,200	2.230	1.500	3,050
7/8	22.2	42.0	412	92,600	44.5	436	98,100	2.270	1.530	3,050
	24	48.2	473	106,300	51.4	504	113,300	2.650	1.780	2,440
	25	52.3	513	115,300	55.8	547	123,000	2.890	1.940	2,440
1	25.4	54.0	530	119,000	57.6	565	127,000	2.980	2.000	2,440
	26	56.6	555	124,800	60.4	592	133,200	3.120	2.100	2,000
	28	65.6	643	144,600	70.0	686	154,300	3.610	2.430	2,000
1-1/8	28.6	68.5	672	151,000	73.1	717	161,200	3.770	2.530	2,000
	30	75.4	739	166,200	80.4	788	177,200	4.150	2.790	3,450
1-1/4	31.8	84.7	831	186,700	90.4	887	199,300	4.660	3.130	3,000
	32	85.7	840	188,900	91.5	897	201,700	4.720	3.170	3,000
	34	96.8	949	213,400				5.330	3.580	2,700
1-3/8	35	103.0	1,010	227,100				5.610	3.770	2,400
	36	109.0	1,069	240,300				5.970	4.010	2,400
	38	121.0	1,187	266,800				6.690	4.500	2,400
	40	134.0	1,314	295,400				7.380	4.890	2,400

COMPACTED / SWAGED ROPE

COMPACTED ROPE - 6 STRAND FIBER CORE

6 x P.S(19:1+9+9) + FC

6 x P.Fi(25:1+6+(6)+12) + FC

6 x P.WS(26:1+5+(5+5)+10) + FC

Nominal Diameter		Min. Breaking Strength						Approx. Weight		Max. Length
		KISWIRE - HIGH (200G)			KISWIRE - SUPER (220G)					
Inch	mm	Tonnef	kN	lb	Tonnef	kN	lb	kg/m	Lbs/ft	m
	10	7.4	72	16,200	7.9	77	17,300	0.433	0.291	3,050
7/16	11.1	8.9	87	19,400	9.5	92	20,700	0.533	0.358	3,050
	12	10.3	101	22,700	11.0	108	24,300	0.623	0.419	3,050
1/2	12.7	11.5	113	25,400	12.3	121	27,100	0.676	0.454	3,050
	13	12.1	119	26,700	12.9	127	28,400	0.713	0.479	3,050
9/16	14.3	14.7	144	32,400	15.7	154	34,600	0.873	0.587	2,000
5/8	16	18.3	179	40,300	19.5	191	43,000	1.080	0.726	3,050
	18	23.2	256	51,100	24.7	242	54,500	1.360	0.914	3,050
3/4	19.1	26.1	228	57,500	27.8	273	61,300	1.530	1.030	3,050
	20	28.6	280	63,100	30.5	299	67,200	1.680	1.130	3,050
	22	34.6	339	76,300	36.9	362	81,300	2.080	1.400	3,050
7/8	22.2	35.9	352	79,100	38.3	376	84,400	2.110	1.420	3,050
	24	41.2	404	90,800				2.420	1.630	2,440
	25	44.7	438	98,500				2.630	1.770	2,440
1	25.4	46.1	452	101,600				2.710	1.820	2,440
	26	48.4	475	106,700				2.850	1.920	2,000
	28	56.1	550	123,700				3.290	2.210	2,000
1-1/8	28.6	58.5	574	129,000				3.440	2.310	2,100
	30	64.4	632	142,000				3.780	2.540	3,800
1-1/4	31.8	72.3	709	159,400				4.260	2.860	3,300
	32	73.2	718	161,400				4.310	2.900	3,300
	34	82.7	811	182,300				4.860	3.270	2,950
1-3/8	35	87.6	859	193,100				5.130	3.450	2,600
	36	92.7	909	204,400				5.460	3.670	2,600
	38	103.0	1,010	227,100				6.110	4.110	2,600
	40	114.0	1,118	251,300				6.730	4.520	2,600

COMPACTED / SWAGED ROPE

COMPACTED ROPE – 6 STRAND FIBER CORE

6 x P.Fi{29:1+7+(7)+14} + FC

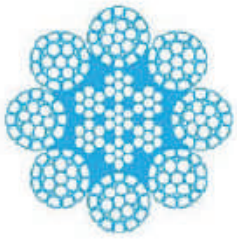
6 x P.WS{31:1+6+(6+6)+12} + FC

6 x P.WS{36:1+7+(7+7)+14} + FC

Nominal Diameter		Min. Breaking Strength						Approx. Weight		Max. Length
		KISWIRE - HIGH (200G)			KISWIRE - SUPER (220G)					
Inch	mm	Tonnef	kN	lb	Tonnef	kN	lb	kg/m	Lbs/ft	m
	10	7.4	72	16,200	7.9	77	17,300	0.445	0.299	2,000
7/16	11.1	8.9	87	19,500	9.4	92	20,700	0.548	0.368	3,050
	12	10.3	101	22,700	11.0	108	24,300	0.640	0.430	3,050
1/2	12.7	11.5	113	25,400	12.3	121	27,100	0.704	0.473	3,050
	13	12.1	119	26,700	12.9	127	28,400	0.737	0.495	3,050
9/16	14.3	14.8	145	32,600	15.8	155	34,800	0.892	0.599	2,000
5/8	16	18.4	180	40,600	19.6	192	43,200	1.110	0.745	3,050
	18	23.3	228	51,400	24.8	243	54,700	1.400	0.940	3,050
3/4	19.1	26.2	257	57,800	27.9	274	61,500	1.580	1.060	3,050
	20	28.8	282	63,500	30.7	301	67,700	1.730	1.160	3,050
	22	34.8	341	76,700	37.1	364	81,800	2.090	1.400	3,050
7/8	22.2	36.1	354	79,600	38.5	378	84,900	2.130	1.430	3,050
	24	41.5	407	91,500	44.3	434	97,700	2.490	1.670	2,440
	25	45.0	441	99,200	48.0	471	105,800	2.700	1.810	2,440
	25.4	46.4	455	102,300	49.5	485	109,100	2.800	1.880	2,440
1	26	48.7	478	107,400	52.0	510	114,600	2.930	1.970	2,000
	28	56.5	554	124,600	60.3	591	132,900	3.390	2.280	2,000
	28.6	58.9	578	129,900	62.9	617	138,700	3.540	2.380	2,000
1-1/8	30	64.8	635	142,900	69.2	679	152,600	3.900	2.620	3,450
	31.8	72.9	715	160,700	77.8	763	171,500	4.370	2.940	3,000
1-1/4	32	73.8	724	162,700	78.8	773	173,700	4.430	2.980	3,000
	34	83.3	817	183,600				5,000	3.360	2,700
	35	88.3	866	194,700				5.270	3.540	2,400
1-3/8	36	93.4	916	205,900				5.610	3.770	2,400
	38	104.0	1,020	229,300				6.280	4.220	2,400
	40	105.0	1,128	253,500				6.930	4.660	2,400

COMPACTED / SWAGED ROPE

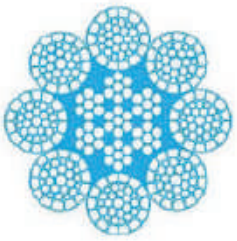
COMPACTED ROPE - 8 STRAND IWRC (STEEL CORE)



8 x P.Fi(25:1+6+(6)+12)+IWRC

8 x P.Fi(29:1+7+(7)+14)+IWRC

8 x P.WS(26:1+5+(5+5)+10)+IWRC

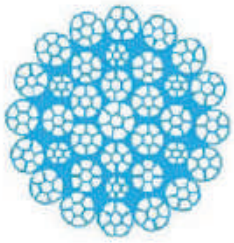


8 x P.WS(36:1+7+(7+7)+14)+IWRC

Nominal Diameter		Min. Breaking Strength						Approx. Weight		Max. Length
		KISWIRE - HIGH (200G)			KISWIRE - SUPER (220G)					
Inch	mm	Tonnef	kN	lb	Tonnef	kN	lb	kg/m	Lbs/ft	m
	10	8.5	83	18,700				0.445	0.299	2,000
7/16	11.1	10.4	102	22,900				0.549	0.369	3,000
	12	12.2	120	26,900				0.642	0.431	2,800
1/2	12.7	13.6	133	30,000				0.719	0.483	2,500
	13	14.3	140	31,500				0.753	0.506	2,300
9/16	14.3	17.3	170	38,100				0.911	0.612	1,800
5/8	16	21.7	213	47,800	24.1	236	53,100	1.140	0.766	1,600
	18	27.4	269	60,400	30.5	299	67,200	1.440	0.968	1,200
3/4	19.1	30.9	303	68,100	33.9	332	74,700	1.610	1.080	2,000
	20	34.2	335	75,400	37.6	369	82,900	1.780	1.200	1,800
	22	41.0	402	90,400	45.5	446	100,300	2.160	1.450	1,600
7/8	22.2	41.7	409	91,900	46.4	455	102,300	2.200	1.480	1,600
	24	48.8	479	107,600	54.2	532	119,500	2.570	1.730	1,500
	25	52.9	519	116,600	58.8	577	129,600	2.790	1.870	1,200
1	25.4	54.6	535	120,400	60.7	595	133,800	2.870	1.930	1,200
	26	57.3	562	126,300	63.6	624	140,200	3.010	2.020	1,100
	28	66.4	651	146,400	73.8	724	162,700	3.490	2.350	1,000
1-1/8	28.6	69.3	680	152,800	77.0	755	169,800	3.650	2.450	1,000
	30	76.2	747	168,000	84.7	831	186,700	4.010	2.690	2,500
1-1/4	31.8	85.7	840	188,900	95.2	934	209,900	4.500	3.020	2,400
	32	86.7	850	191,100	96.4	945	212,500	4.560	3.060	2,400
	34	97.9	960	215,800	109.0	1,069	240,300	5.150	3.460	2,000
1-3/8	35	104.0	1,020	229,300	115.0	1,128	253,500	5.460	3.670	1,950
	36	110.0	1,079	242,500				5.770	3.880	1,900
	38	122.0	1,196	269,000				6.400	4.300	1,700

COMPACTED / SWAGED ROPE

"COMPACTED" LOW ROTATION ROPE

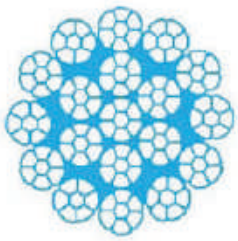


35 x P.7(WA){1+6+(6+6)+16}

Nominal Diameter		Min. Breaking Strength						Approx. Weight		Max. Length
		KISWIRE - HIGH (200G)			KISWIRE - SUPER (220G)					
Inch	mm	Tonnef	kN	lb	Tonnef	kN	lb	kg/m	Lbs/ft	m
	10	9.5	93	20,900	10.0	97	21,900	0.515	0.346	4,000
7/16	11.1	11.6	114	25,600	12.2	120	26,900	0.623	0.419	4,000
	12	13.6	133	30,000	14.3	140	31,500	0.742	0.499	4,000
1/2	12.7	15.2	149	33,500	16.0	157	35,300	0.830	0.558	4,000
	13	16.0	157	35,300	16.8	165	37,000	0.870	0.585	3,000
9/16	14.3	19.4	190	42,800	20.2	198	44,500	1.050	0.706	3,000
5/8	16	24.2	237	53,400	25.4	249	56,000	1.320	0.887	2,000
	18	30.7	301	67,700	32.2	316	71,000	1.670	1.120	2,000
3/4	19.1	34.2	335	75,400	35.9	352	79,100	1.860	1.250	2,500
	20	38.0	373	83,800	39.7	389	87,500	2.060	1.380	2,500
	22	45.9	450	101,200	48.1	472	106,000	2.470	1.660	2,500
7/8	22.2	46.7	458	103,000	49.0	481	108,000	2.520	1.690	1,500
	24	54.6	535	120,400	57.2	561	126,100	2.940	1.980	1,500
	25	59.2	581	130,500	62.1	609	136,900	3.210	2.160	1,500
1	25.4	61.2	600	134,900	64.1	629	141,300	3.310	2.220	1,500
	26	63.9	627	140,900	67.1	658	147,900	3.430	2.300	1,500
	28	70.8	694	156,100	77.9	764	171,700	3.980	2.670	1,500
1-1/8	28.6	73.8	724	163,700	81.2	796	179,000	4.150	2.790	1,500
	30	81.3	797	179,200	89.4	877	197,100	4.630	3.110	1,300
1-1/4	31.8	91.3	895	201,300				5.200	3.490	1,100
	32	92.6	908	204,100				5.270	3.540	1,100
	34	104.0	1,020	229,300				5.940	3.990	1,000
1-3/8	35	110.0	1,079	242,500				6.310	4.240	900
	36	117.0	1,147	257,900				6.660	4.480	900

COMPACTED / SWAGED ROPE

"COMPACTED" ROTATION RESISTANT ROPE

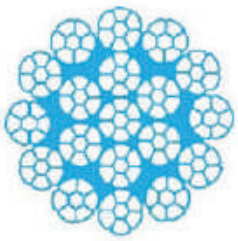


19 x P.7{1+6+12}

Nominal Diameter		Min. Breaking Strength						Approx. Weight		Max. Length
		KISWIRE - HIGH (200G)			KISWIRE - SUPER (220G)					
Inch	mm	Tonnef	kN	lb	Tonnef	kN	lb	kg/m	Lbs/ft	m
	7	4.3	42	9,500				0.226	0.152	2,500
	8	5.6	55	12,400				0.295	0.198	2,000
	9	7.1	70	15,700				0.373	0.251	4,000
	10	8.8	86	19,400				0.460	0.309	2,800
	11.1	10.8	106	23,800				0.579	0.389	2,500
	12	12.7	125	28,000				0.663	0.446	3,000
1/2	12.7	14.2	139	31,300				0.743	0.499	3,000
	13	14.9	146	32,800				0.778	0.523	3,000
9/16	14.3	18.0	177	39,700				0.902	0.606	3,000
5/8	16	22.5	221	49,600				0.942	0.633	2,500
	18	28.5	279	62,800	31.3	307	69,000	1.490	1.000	3,000
3/4	19.1	31.7	311	69,900	34.9	342	76,900	1.670	1.120	3,000
	20	35.2	345	77,600	38.6	379	86,100	1.840	1.240	3,000
	22	42.5	417	93,700	46.7	458	103,000	2.230	1.500	2,400
7/8	22.2	43.3	425	95,500	47.6	467	104,900	2.270	1.530	2,400
	24	50.6	496	111,600	55.6	545	122,600	2.650	1.780	2,000
	25	54.9	538	121,000				2.880	1.940	2,000
1	25.4	56.7	556	125,000				2.970	2.000	1,800
	26	59.4	583	131,000				3.110	2.090	1,800
	28	68.9	676	151,900				3.620	2.430	1,500

COMPACTED / SWAGED ROPE

"COMPACTED" ROTATION RESISTANT ROPE



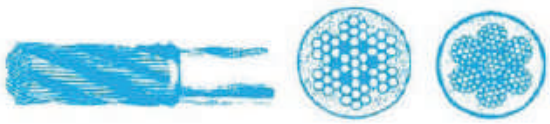
19 x P.7{1+6+12}

Nominal Diameter		Min. Breaking Strength						Approx. Weight		Max. Length
		KISWIRE - HIGH (200G)			KISWIRE - SUPER (220G)					
Inch	mm	Tonnef	kN	lb	Tonnef	kN	lb	kg/m	Lbs/ft	m
	7	4.3	42	9,500				0.226	0.152	2,500
	8	5.6	55	12,400				0.295	0.198	2,000
	9	7.1	70	15,700				0.373	0.251	4,000
	10	8.8	86	19,400				0.460	0.309	2,800
	11.1	10.8	106	23,800				0.579	0.389	2,500
	12	12.7	125	28,000				0.663	0.446	3,000
1/2	12.7	14.2	139	31,300				0.743	0.499	3,000
	13	14.9	146	32,800				0.778	0.523	3,000
9/16	14.3	18.0	177	39,700				0.902	0.606	3,000
5/8	16	22.5	221	49,600				0.942	0.633	2,500
	18	28.5	279	62,800	31.3	307	69,000	1.490	1.000	3,000
3/4	19.1	31.7	311	69,900	34.9	342	76,900	1.670	1.120	3,000
	20	35.2	345	77,600	38.6	379	86,100	1.840	1.240	3,000
	22	42.5	417	93,700	46.7	458	103,000	2.230	1.500	2,400
7/8	22.2	43.3	425	95,500	47.6	467	104,900	2.270	1.530	2,400
	24	50.6	496	111,600	55.6	545	122,600	2.650	1.780	2,000
	25	54.9	538	121,000				2.880	1.940	2,000
1	25.4	56.7	556	125,000				2.970	2.000	1,800
	26	59.4	583	131,000				3.110	2.090	1,800
	28	68.9	676	151,900				3.620	2.430	1,500

Galvanized Aircraft Cable

Dia / Const		7 x 7		7 x 19		1 x 19	
mm	inch	Nominal Breaking Load Kg	Approx. Weight Kg/100m	Nominal Breaking Load Kg	Approx. Weight Kg/100m	Nominal Breaking Load Kg	Approx. Weight Kg/100m
1.59	1/16	-	-	-	-	227	1.26
1.98	5/64	-	-	-	-	363	2.08
2.38	3/32	417	2.38	-	-	544	2.98
2.78	7/64	572	3.27	-	-	726	4.02
3.18	1/8	771	4.17	907	4.32	953	5.21
3.97	5/32	1,179	6.40	1,270	6.70	1,497	8.19
4.76	3/16	1,678	9.23	1,905	9.67	2,132	11.50
5.56	7/32	2,177	12.35	2,540	12.80	2,858	15.20
6.35	1/4	2,767	15.77	3,175	16.40	3,719	20.10
7.14	9/32	3,357	19.94	3,629	20.70	4,672	25.30
7.94	5/16	4,173	24.85	4,445	25.75	5,670	31.30
8.73	11/32	5,080	29.90	5,670	30.80	-	-
9.52	3/8	6,033	35.10	6,535	36.20	-	-

Other Sizes Available Upon Request.



Galvanized Vinylcoated Cable

Dia / Const			7 x 7		7 x 19	
Bare Cable	Vinyl Thickness	Cable Coated	Cable Weight Kg/100m	Vinyl Weight Kg/100m	Cable Weight Kg/100m	Vinyl Weight Kg/100m
3/32	1/32	5/32	2.38	0.95	-	-
3/32	3/64	3/16	2.38	1.60	-	-
1/8	1/32	3/16	4.17	1.19	4.32	1.19
1/8	3/64	7/32	4.17	1.96	4.32	1.96
5/32	1/32	7/32	6.40	1.43	6.70	1.43
3/16	1/32	1/4	9.23	1.66	9.67	1.66
3/16	1/16	5/16	9.23	3.80	9.67	3.80
1/4	1/32	5/16	15.80	2.14	16.40	2.14
5/16	1/32	3/8	24.85	2.61	25.75	2.61
5/16	3/64	13/32	24.85	4.97	25.75	4.94
5/16	1/16	7/16	24.85	5.70	25.75	5.70
3/8	1/32	7/16	35.10	3.09	36.20	3.09

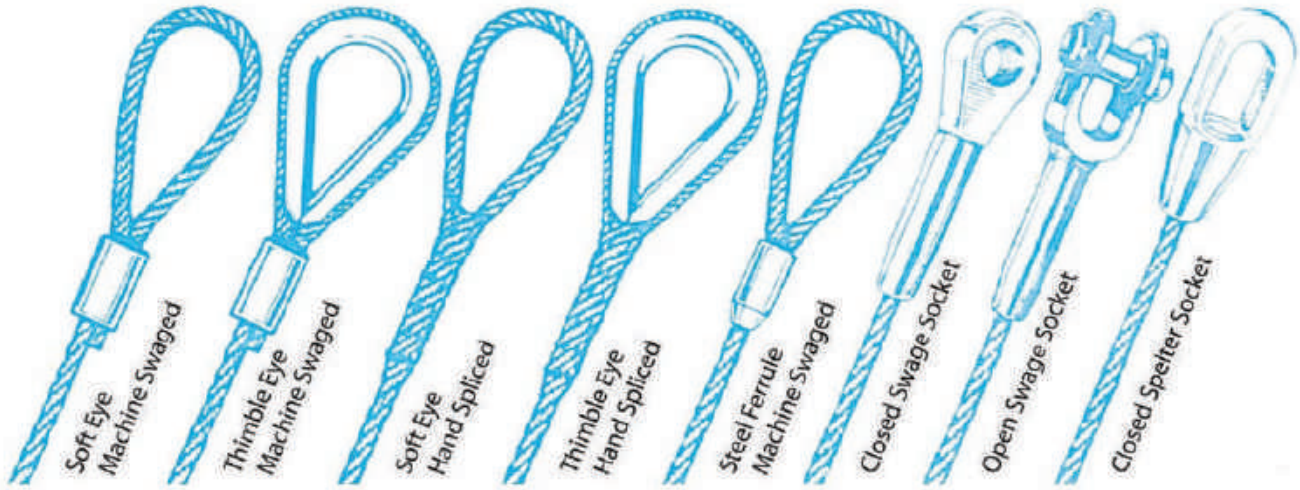
Other Sizes Available Upon Request.

WIRE ROPE SLING

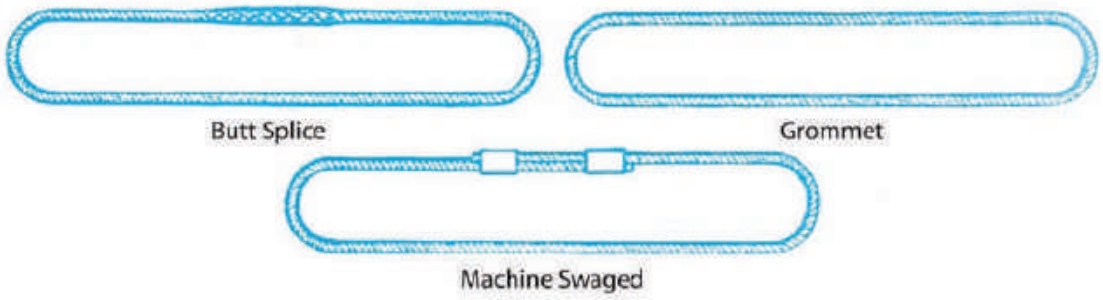
Terminations

Hand spliced or machine swaged slings, with your choice of terminations, can be manufactured and tested (if required) on our premises at short notice. All slings and assemblies permanently marked with safe working loads, based on 5:1 factor of safety.

Machine Swaging : Aluminium Ferrules Sizes 2mm - 52 mm. Copper Ferrules Sizes 2mm - 10mm. Steel Ferrules Sizes 9mm - 75mm.
Swage Sockets Sizes 3mm - 52mm.
Hand Splicing from 2mm - 75mm dia.



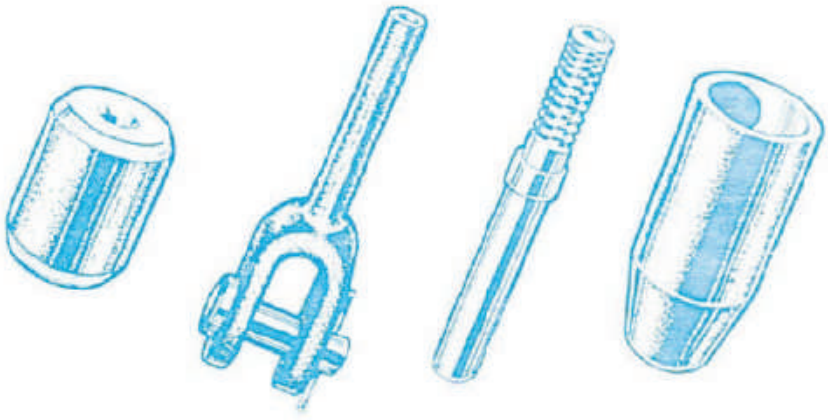
Endless Slings



your requirements. Swaged to any size and construction of wire rope.

Steel Swage Fitting

Our machine shop can manufacture a wide range of Ferrules, Threaded Studs, Stoppers and special connections to stilt



WIRE ROPE SLING

TYPE OF WIRE ROPE STANDARD COMBINATION

"ESE" Endless Sling

"SSE" Eye & Eye

"TTE" Thimble & Thimble

"STE" Eye & Thimble

"SHE" Eye & Hook

"THE" Thimble & Hook

"MME" Master link & Mater link

"HHE" Hook & Hook

Single Leg Sling

2-Leg Endless

2-Leg Slings

4-Leg Endless

3-Leg Slings

Choke Lift

4-Leg Slings

2-Leg Choke Lift

How to Order Wire Rope Slings

Specify :

1. Rope Diameter - Inches
2. Sling Length - Feet (bearing point to bearing point)
3. Description of rope construction class 6x19 etc.
4. Attachment - Master link, Hook, etc.

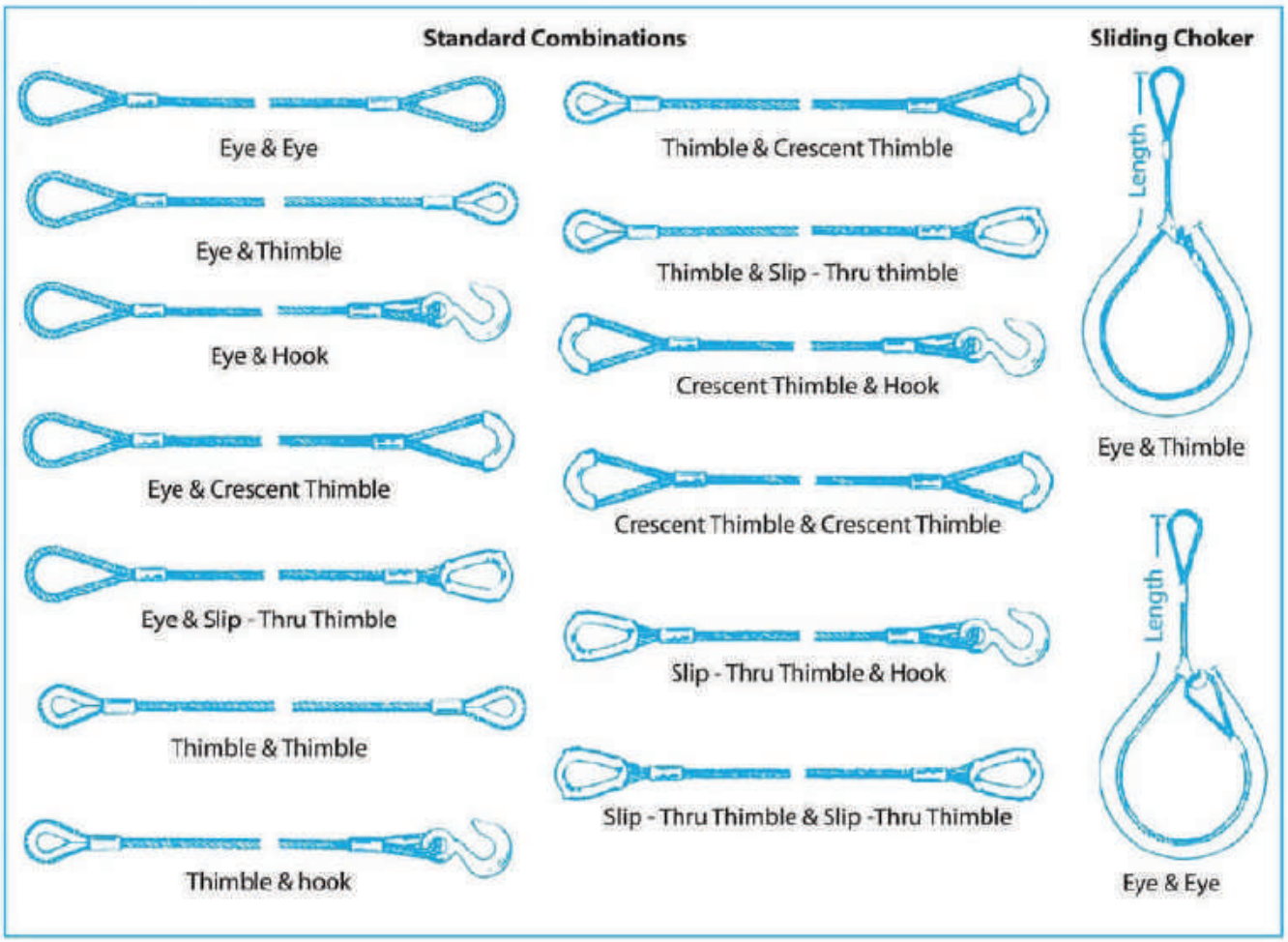
Tolerances and Minimum Lengths

Refer to tables for tolerances and minimum lengths.

Wire Rope Class

Standard rope classes are shown for each type and size of sling in the charts. Specific rope constructions are available upon request.

Note : Proof testing with certification available for all slings at an additional charged.



Tapered and Welded End

JIS Type-Solid Thimble Pressed

Solid Thimble Pressed

JIS Type-Open Socket (F-3432)

JIS Type-Closed Socket (F-3432)

End with Seizing

Wire Rope Slings

Loop-Loop

Thimble-Loop

Thimble-Thimble

Generally is made from galvanized wire rope of 6 x 24 construction. Made to order. When ordering, please specify as to the following.

1. Type
2. Wire Rope Construction
3. Wire Rope Diameter
4. Overall Length

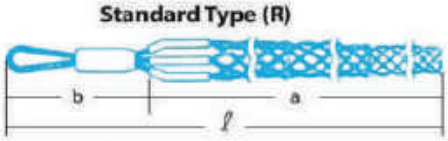
Standard Size of Eye Splicing

Wire Rope Diam.	Standard Size of Eye Splice		
	B	C	B'
6	100	50	250
8	160	80	400
9	160	80	400
10	200	100	500
12	200	100	500
14	260	130	650
16	260	130	650
18	300	150	750
20	300	150	750
22	300	150	750
24	360	180	900
26	360	180	900
28	400	200	1,000
30	400	200	1,000
32	460	230	1,150
34	460	230	1,150
36	500	250	1,250
38	500	250	1,250
40	600	300	1,500
42	600	300	1,500
45	700	350	1,750
48	800	400	2,000
50	900	450	2,250
53	1,000	500	2,500
56	1,100	550	2,750
60	1,200	600	3,000
65	1,300	650	3,250
70	1,400	700	3,500

Cable Grips (Cable Stockings)

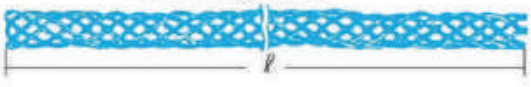
Cable grips are invariably made from wooven mesh wire in the shape of an open ended stocking or sleeve. The same diameter as the wire rope on which it is to be used to facilitate reaving on to crane blocks, or a new wire rope replacing a condemned rope, the sock is placed over the ends of the new and old wire ropes and, due to the woven texture, it tightens as it is pulled. This grip is easily fitted and removed, operates safety, holds the wire rope securely, and saves labour cost.
3 types available. They are Standard, Joint A and Joint B.

Standard Type (R)



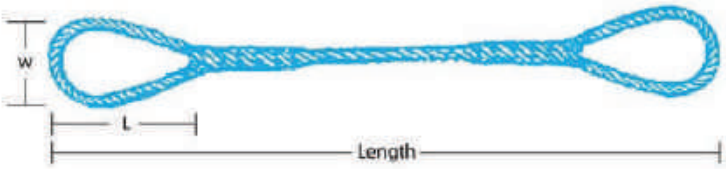
Joint A Type (RA)

Joint B Type (RB)



Hand-Spliced Slings

Where the situation calls for a hand-spliced sling, HC Wire Rope will furnish this type with the splice of your choice. Note the splice efficiency table.



Rope Dia. (Inches)	Nominal Splice Efficiency
1/4	0.90
5/16	0.89
3/8	0.88
7/16	0.87
1/2	0.86
9/16	0.85
5/8	0.84
3/4	0.82
7/8 and larger	0.80

Rated Capacities for Hand-Spliced Slings

Rope Dia. Inches	Standard Eye Size Inches	Vertical	Choker Hitch	Vertical Basket Hitch	Recommended Minimum Length

6 x 19 Improved Plow Steel

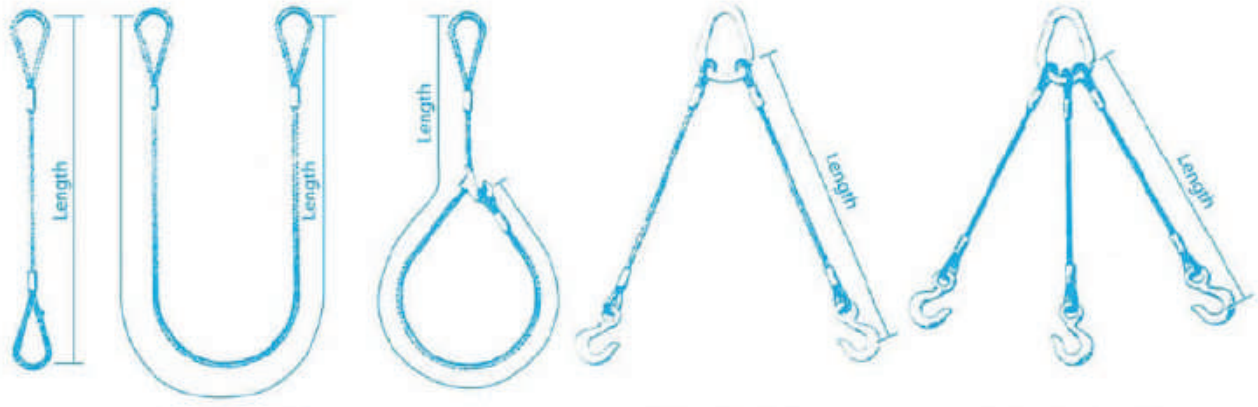
	W	L	Rated Loads (in tons of 2,000 lbs.)			
1/4	3	6	0.49	0.37	0.99	2'6"
3/8	3	6	1.1	0.80	2.1	3'
1/2	4	8	1.8	1.4	3.7	4'
5/8	5	10	2.8	2.1	5.6	5'
3/4	6	12	3.9	2.9	7.8	5'6"
7/8	7	14	5.1	3.9	10	6'
1	8	16	6.7	5.0	13	7'
1-1/8	9	18	8.4	6.3	17	8'

6 x 37 Improved Plow Steel

	W	L	Rated Loads (in tons of 2,000 lbs.)			
1-1/4	10	20	9.8	7.4	20	9'
1-3/8	11	22	12	8.9	24	9'
1-1/2	12	24	14	10	28	10'
1-5/8	13	26	16	12	33	12'
1-3/4	14	28	19	14	38	13'6"
2	16	32	25	18	49	15'6"
2-1/8	18	34	31	23	62	18'
2-1/2	20	36	38	28	75	18'

Improved Plow Steel Wire Rope
Fiber Core or
Independent Wire Rope Centre.

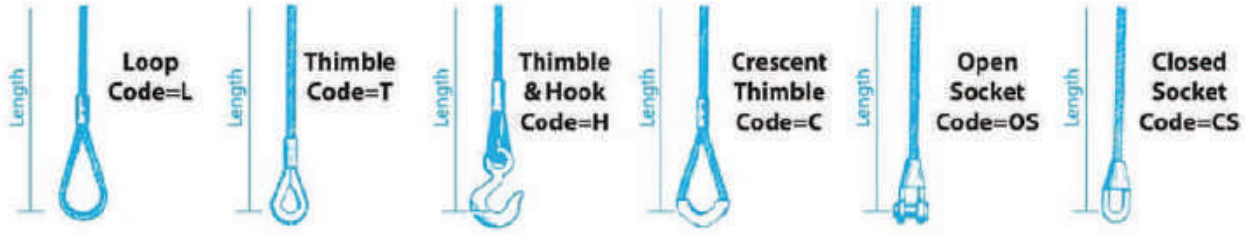
Single Leg, 2-Leg Bridle
3-Leg Bridle



Single Leg Slings | **2-Leg Bridle Sling** | **3-Leg Bridle Sling**

Classification	Rope Dia. (in)	Single-Part Slings Capacity-Tons			Approx. Loop Size (in)	Multiple-Leg Slings Capacity-Tons									Carbon Pear Link (in)		Alloy Oblong Link (in)		Choker Hook Size
		Vert.	Choker	Vert Basket		2 Legs			3 Legs			2 Legs - Choker			2 Leg	3 Leg	2 Leg	3 Leg	
						15°	30°	45°	15°	30°	45°	15°	30°	45°					
6 x 19	1/4	0.56	0.42	1.1	2 x 4	1.1	0.97	0.79	1.6	1.4	1.2	0.81	0.72	0.59	5/8	3/4	1/2	5/8	1/4
	5/16	0.87	0.85	1.7	2-1/2 x 5	1.7	1.5	1.2	2.5	2.3	1.8	1.3	1.1	0.92	3/4	7/8	3/8	5/8	5/16
	3/8	1.2	0.93	2.5	3 x 6	2.4	2.1	1.8	3.6	3.2	2.6	1.8	1.6	1.3	7/8	1-1/4	3/8	3/4	3/8
	7/16	1.7	1.3	3.4	3-1/2 x 7	3.3	2.9	2.4	4.9	4.4	3.6	2.4	2.2	1.8	1	1-1/4	3/4	1	1/2
	1/2	2.2	1.6	4.4	4 x 8	4.2	3.8	3.1	6.3	5.7	4.6	3.2	2.8	2.3	1-1/4	1-3/8	7/8	1	1/2
	9/16	2.7	2.1	5.5	4-1/2 x 9	5.3	4.8	3.9	8.0	7.1	5.8	4.0	3.6	2.9	1-1/4	1-3/4	7/8	1-1/8	5/8
	5/8	3.4	2.5	6.8	5 x 10	6.6	5.9	4.8	9.8	8.8	7.2	4.9	4.4	3.6	1-3/8	1-3/4	1	1-1/2	5/8
	3/4	4.9	3.6	9.7	6 x 12	9.4	8.4	6.9	14	13	10	7.0	6.3	5.1	1-3/4	2-1/4	1-1/2	1-1/2	3/4
	7/8	6.5	4.9	13	7 x 14	13	11	9.3	19	17	14	9.5	8.5	7.0	2	2-1/2	1-1/4	1-3/4	7/8
	1	8.5	6.4	17	8 x 16	16	15	12	25	22	18	12	11	9.0	2-1/4	2-3/4	1-1/4	2	1
	1-1/8	10	7.8	21	9 x 18	20	18	15	30	27	22	15	13	11	2-1/2	3	1-3/4	2-1/4	1-1/8
6 x 37	1-1/4	12	9.2	24	10 x 20	24	21	17	35	32	26	18	16	13	2-3/4	3-1/4	2	2-1/2	1-1/4
	1-3/8	15	11	29	11 x 22	28	25	21	43	38	31	21	19	16	3	3-1/2	2	3	1-3/8
	1-1/2	17	13	35	12 x 24	34	30	25	51	45	37	25	23	18	3-1/4	4	2-1/2	3-1/4	1-1/2
	1-5/8	20	15	41	13 x 26	40	35	29	59	53	43	30	27	22	3-1/2	4-1/4	2-1/2	3-1/2	-
	1-3/4	24	18	47	14 x 28	46	41	33	69	61	50	34	31	25	3-3/4	4-1/2	2-3/4	3-3/4	-
	2	30	23	61	16 x 32	59	53	43	88	79	65	44	40	32	4-1/4	5-1/2	3	4-1/4	-

** These values apply when D/d ratio is 20 or greater. In most instances, both ends of a sling will be on one hook when used in a Basket Hitch. In these cases, the basket hitch capacity is equal to the vertical basket hitch figure shown, times the cosine of the vertical angle.*



Angle of Loading and Working Load Limit

Units in Metric Tons

Wire Rope Ø In. / Angle of Loading	Single Leg		Double Legs			3 and 4 Legs			Endless Slings			
			Ø = 60°	Ø = 90°	Ø = 120°	Ø = 60°	Ø = 90°	Ø = 120°	Ø = 60°	Ø = 90°	Ø = 120°	
3/16	0.3	0.2	0.5	0.4	0.3	0.8	0.6	0.4	0.4	0.3	0.2	0.3
1/4	0.4	0.3	0.6	0.5	0.4	1.0	0.8	0.5	0.5	0.4	0.3	0.4
5-16	0.6	0.4	1.0	0.8	0.6	1.5	1.2	0.8	0.7	0.6	0.4	0.6
3/8	0.8	0.6	1.3	1.1	0.8	2.0	1.6	1.1	1.0	0.8	0.6	0.8
7/16	1.2	0.9	2.0	1.7	1.2	3.0	2.4	1.7	1.5	1.2	0.9	1.2
1/2	1.5	1.2	2.5	2.0	1.5	3.8	3.0	2.0	1.8	1.5	1.2	1.5
9/16	2.0	1.5	3.3	2.8	2.0	5.0	4.0	2.8	2.5	2.0	1.5	2.0
5/8	2.5	1.9	4.0	3.5	2.5	6.3	5.0	3.5	3.0	2.5	1.9	2.5
3/4	3.5	2.6	5.5	5.0	3.5	8.8	7.0	5.0	4.2	3.5	2.6	3.5
7/8	4.5	3.4	7.2	6.3	4.5	11	9.0	6.3	5.5	4.5	3.4	4.5
1	6.5	4.5	10	9.0	6.5	16	13	9.0	7.8	6.5	4.5	6.5
1-1/8	7.5	5.5	12	10	7.5	19	15	10	9.0	7.5	5.5	7.5
1-1/4	10	7.5	16	14	10	25	20	14	12	10	7.5	10
1-3/8	12	9.0	20	17	12	30	24	17	14	12	9	12
1-1/2	14	10	23	20	14	35	28	20	17	14	10	14

Safety Comparison

Splicing Type	Socket Type	Clamp Swaging Type	U-Bolt Clip Type
			
% of Normal Safe Working Load			
1/2" 90% 2-1/2" 60%	100%	100%	75-80%

Specifications may change without notice

Single Leg W/One Side Thimble

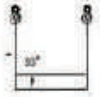
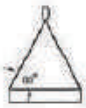
Single Leg Soft Eyes

4 Legs

2 Legs

Wire Rope Sling Capacity (Tonnes) Safety Factor 6:1

Bridon Blue Strand Steel Wire Rope 6x36 (Warrington Seale) IWRC Grade 1960 N/mm^2 (EIPS or 200 kgf / mm^2)

Nominal Diameter of Rope		Approximate Mass	Minimum Breaking Load							
Inch	mm	kgs. / 100 M.	Tonnes	Single Leg	Choker 120-180 Degree	2 Leg Basket Hitch	2 Leg 45-60 Degree	2 Leg 30 Degree	3&4 Leg 45-60 Degree	3&4 Leg 30 Degree
5/16"	8.00	26.20	4.56	0.68	0.48	1.37	0.96	0.68	1.45	1.03
3/8"	9.00	33.10	5.76	0.86	0.60	1.73	1.22	0.86	1.84	1.30
13/32"	10.00	40.90	7.12	1.07	0.75	2.13	1.51	1.07	2.27	1.60
7/16"	11.00	49.50	8.61	1.30	0.90	2.58	1.83	1.30	2.74	1.94
15/32"	12.00	58.90	10.30	1.55	1.08	3.09	2.19	1.55	2.28	2.32
1/2"	13.00	69.10	12.00	1.80	1.26	3.60	2.55	1.80	3.82	2.70
9/16"	14.00	80.20	14.00	2.10	1.47	4.20	2.97	2.10	4.46	3.15
5/8"	16.00	105.00	18.30	2.75	1.93	5.49	3.88	2.75	5.82	4.12
11/16"	18.00	133.00	23.00	3.45	2.41	6.90	4.88	3.45	7.32	5.18
3/4"	19.00	148.00	25.70	3.85	2.70	7.71	5.45	3.85	8.17	5.79
13/16"	20.00	164.00	28.40	4.26	2.98	8.52	6.02	4.26	9.04	6.36
7/8"	22.00	198.00	34.50	5.18	3.63	10.35	7.32	5.18	10.98	7.77
15/16"	24.00	236.00	41.00	6.15	4.30	12.30	8.69	6.15	13.04	9.23
1"	26.00	277.00	48.10	7.22	5.05	14.43	10.21	7.22	15.30	10.83
1.1/8"	28.00	321.00	55.80	8.37	5.86	16.74	11.84	8.37	17.76	12.56
1.1/4"	32.00	419.00	72.90	10.94	7.66	21.87	15.46	10.94	23.19	16.41
1.3/8"	35.00	501.00	87.20	13.08	9.15	26.16	18.50	13.08	27.75	19.62
1.3/8"	36.00	530.00	92.20	13.83	9.68	27.66	19.56	13.83	29.33	20.75
1.1/2"	38.00	591.00	103.00	15.45	10.81	30.90	21.84	15.45	32.77	23.18
1.9/16"	40.00	654.00	114.00	17.10	11.97	34.20	24.18	17.10	36.27	25.65
1.3/4"	44.00	792.00	138.00	20.70	14.49	41.40	29.27	20.70	43.90	31.05
1.7/8"	48.00	942.00	164.00	24.60	17.22	49.20	34.79	24.60	52.17	36.90
2"	52.00	1,110.00	193.00	28.95	20.27	57.90	40.93	28.95	61.41	43.43

Remarks : The figure in the above table is calculated according to ANSI B30.9-1990
(some value might not be the same as indicated in the standard which caused by minimum breaking load of rope.) Rated capacities based on pin diameter or hook no longer than the natural eye width (1/2 Eye Length) or less than the nominal sling diameter.
Horizontal sling angles of less than 30 are not recommended (refer to ANSI B30.9 for full details.)

Wire Rope Sling Capacity (Tonnes) Safety Factor 6:1

Bridon Blue Strand Steel Wire Rope 6x36 (Warrington Seale) IWRC Grade 1770 N/mm^2 (IPS or 180 kgf / mm^2)

Nominal Diameter of Rope		Approximate Mass	Minimum Breaking Load							
Inch	mm	kgs. / 100 M.	Tonnes	Single Leg	Choker 120-180 Degree	2 Leg Basket Hitch	2 Leg 45-60 Degree	2 Leg 30 Degree	3&4 Leg 45-60 Degree	3&4 Leg 30 Degree
5/16"	8.00	26.20	4.11	0.62	0.43	1.23	0.87	0.62	1.31	0.93
3/8"	9.00	33.10	5.20	0.78	0.55	1.56	1.11	0.78	1.66	1.17
13/32"	10.00	40.90	6.42	0.96	0.68	1.93	1.36	0.96	2.04	1.45
7/16"	11.00	49.50	7.77	1.17	0.82	2.33	1.65	1.17	2.48	1.75
15/32"	12.00	58.90	9.20	1.38	0.96	2.76	1.95	1.38	2.93	2.07
1/2"	13.00	69.10	10.90	1.64	1.14	3.27	2.31	1.64	3.47	2.46
9/16"	14.00	80.20	12.60	1.89	1.32	3.78	2.67	1.89	4.01	2.84
5/8"	16.00	105.00	16.40	2.46	1.72	4.92	3.47	2.46	5.00	3.69
11/16"	18.00	133.00	20.80	3.12	2.19	6.24	4.41	3.12	6.62	4.68
3/4"	19.00	148.00	23.10	3.47	2.43	6.93	4.90	3.47	7.35	5.20
13/16"	20.00	164.00	25.70	3.85	2.70	7.71	5.45	3.85	8.17	5.79
7/8"	22.00	198.00	31.10	4.66	3.27	9.33	6.60	4.66	9.89	7.00
15/16"	24.00	236.00	37.00	5.55	3.89	11.10	7.85	5.55	11.77	8.33
1"	26.00	277.00	43.40	6.51	4.55	13.02	9.21	6.51	13.81	9.77
1.1/8"	28.00	321.00	50.40	7.56	5.29	15.12	10.69	7.56	16.04	11.94
1.1/4"	32.00	419.00	65.80	9.87	6.91	19.74	13.96	9.87	20.93	14.81
1.3/8"	35.00	501.00	78.70	11.81	8.26	23.61	16.70	11.81	25.04	17.71
1.3/8"	36.00	530.00	83.30	12.49	8.75	24.99	17.67	12.49	26.51	18.75
1.1/2"	38.00	591.00	92.80	13.92	9.75	27.84	19.68	13.92	29.52	20.88
1.9/16"	40.00	654.00	103.00	15.45	10.82	3090	21.84	15.45	32.77	23.18
1.3/4"	44.00	792.00	124.00	18.60	13.02	37.20	26.30	18.60	39.45	27.90
1.7/8"	48.00	942.00	148.00	22.20	15.54	44.40	31.39	22.20	47.09	33.30
2"	52.00	1,110.00	173.00	25.95	18.16	51.90	36.39	25.95	55.04	38.93

Remarks : The figure in the above table is calculated according to ANSI B30.9-1990
(some value might not be the same as indicated in the standard which caused by minimum breaking load of rope.) Rated capacities based on pin diameter or hook no longer than the natural eye width (1/2 Eye Length) or less than the nominal sling diameter.
Horizontal sling angles of less than 30 are not recommended (refer to ANSI B30.9 for full details.)

FERRULE

T ferrule (T)
(aluminium)

T Konit with inspection hole (TKH)
(aluminium)

Please note that these instructions are only applicable to products produced and supplied by Talurit AB, Sweden and Gerro GmbH, Germany!

f = Fill factor is the ratio between the sum of the nominal metallic cross-sectional areas of all the wires in the rope and the circumscribed area of the rope based on its nominal diameter.

C = Nominal metallic cross-sectional area factor of the rope $C = \frac{f \cdot \pi}{4}$

Matching wire rope to ferrule

Selection of the correct ferrule is to take account of:

- -the measured rope diameter
- -the rope type (and core)
- -the nominal fill factor, f (or metallic cross-sectional area factor, C) of the rope

Case 1

For **single layer** round strand ropes with **fibre core and cable-laid** ropes having a **fill** factor of at least 0,36, a ferrule having a size / Code number equivalent to the measured rope diameter is to be selected from the table on page 1.

Case 2

For **single layer** round strand ropes with **metallic core and for rotation-resistant** round strand ropes having a fill factor up to 0,62, a ferrule having the next larger size / Code number than the measured rope diameter is to be selected from table on page 1.

Case 3

For **single layer** round strand ropes with **metallic core and for rotation-resistant** round strand ropes and parallel-closed round strand ropes having a fill factor greater than 0,62 and up to 0,78 the ferrule is to be selected from table on page 1.

Case 4

For **spiral strand** rope having a fill factor not greater than 0,78, ferrules are to be selected having two size / Code numbers larger than the actual rope diameter from table on page 1. Two ferrules spaced two rope diameters apart are to be used per termination. After pressing a space is to be maintained between the ferrules.

Applicable rope types and grade

Single layer, rotation resistant and parallel-closed stranded ropes confirming to EN 12385-4, stranded ropes conforming to EN 12385-5, spiral strand ropes conforming to EN 12385-10 and cable-laid ropes as specified in EN 13414-3.
The maximum rope grade is to be 1960. The types of rope lay shall be Ordinary or Lang lay.

Ferrule size / Code No.		Measured Wire Rope Diameter Range (mm) Case 1 Fill factor f≥0,36		Case 2 Fill factor f≤0,62		Case 3 Fill factor 0,62<f≤0,78		Case 4 Fill factor f≤0,78		Die Identification Dies marked	Diameter after pressing		Length after pressing approx.	Required pressure approx.
T	TKH	Min	Max	Min	Max	Min	Max	Min	Max	T/TKH	mm	Tol	mm	kN
2,5		2,5	2,7							2,5	5	+0,2	12	30
3		2,8	3,2	2,5	2,7					3	6	0	14	45
3,5		3,3	3,7	2,8	3,2					3,5	7		16	60
4		3,8	4,3	3,3	3,7					4	8		18	80
4,5		4,4	4,8	3,8	4,3					4,5	9		20	100
5		4,9	5,4	4,4	4,8			3,8	4,3	5	10		23	125
6		5,5	6,4	4,9	5,4			4,4	4,8	6	12	+0,4	27	180
6,5		6,5	6,9	5,5	6,4			4,9	5,4	6,5	13	0	29	210
7		7,0	7,4	6,5	6,9	6,0	6,4	5,5	6,4	7	14		32	250
8	8	7,5	8,4	7,0	7,4	6,5	6,9	6,5	6,9	8	16		36	320
9	9	8,5	9,5	7,5	8,4	7,0	7,9	7,0	7,4	9	18		40	410
10	10	9,6	10,5	8,5	9,5	8,0	8,9	7,5	8,4	10	20	+0,5	45	500
11	11	10,6	11,6	9,6	10,5	9,0	9,9	8,5	9,5	11	22	0	50	600
12	12	11,7	12,6	10,6	11,6	10,0	10,9	9,6	10,5	12	24		54	720
13	13	12,7	13,7	11,7	12,6	11,0	11,9	10,6	11,6	13	26		59	850
14	14	13,8	14,7	12,7	13,7	12,0	12,9	11,7	12,6	14	28	+0,7	63	1 000
16	16	14,8	16,8	13,8	14,7	13,0	13,9	12,7	13,7	16	32	0	72	1 300
18	18	16,9	18,9	14,8	16,8	14,0	15,9	13,8	14,7	18	36	+0,9	81	1 600
20	20	18,0	21,0	16,9	18,9	16,0	17,9	14,8	16,8	20	40	0	90	2 000
22	22	21,1	23,1	19,0	21,0	18,0	19,9	16,9	18,9	22	44		99	2 400
24	24	23,2	25,2	21,1	23,1	20,0	21,9	19,0	21,0	24	48	+1,1	108	2 900
26	26	25,3	27,3	23,2	25,2	22,0	23,9	21,1	23,1	26	52	0	117	3 400
28	28	27,4	29,4	25,3	27,3	24,0	25,9	23,2	25,2	28	56		126	3 900
30	30	29,5	31,5	27,4	29,4	26,0	27,9	25,3	27,3	30	60	+1,4	135	4 500
32	32	31,6	33,6	29,5	31,5	28,0	29,9	27,4	29,4	32	64	0	144	5 100
34	34	33,7	35,7	31,6	33,6	30,0	31,9	29,5	31,5	34	68		153	5 800
36	36	35,8	37,8	33,7	35,7	32,0	33,9	31,6	33,6	36	72	+1,6	162	6 500
38	38	37,9	39,9	35,8	37,8	34,0	35,9	33,7	35,7	38	76	0	171	7 200
40	40	40,0	42,0	37,9	39,9	36,0	37,9	35,8	37,8	40	80		180	8 000
44	44	42,1	46,2	40,0	42,0	38,0	39,9	37,9	39,9	44	88	+1,9	198	9 700
48	48	46,3	50,4	42,1	46,2	40,0	43,9	40,0	43,9	48	96	0	216	11 500
52	52	50,5	54,6	46,3	50,4	44,0	47,9	44,0	47,9	52	104	+2,1 0	234	13 500
56	56	54,7	58,8	50,5	54,6	48,0	51,9	48,0	50,4	56	112	+2,3 0	252	15 700
60	60	58,9	63,0	54,7	58,8	52,0	54,6	50,5	54,6	60	120	+2,4 0	270	18 000

Table corresponds to EN 13411-3: 2004 + A1: 2008

ELEVATOR ROPE

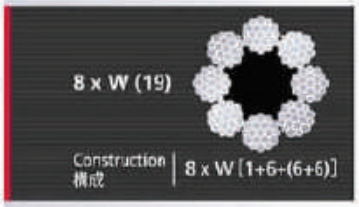
TOKYO ROPE

STANDARD SPECIFICATIONS OF ELEVATOR ROPES

8 strands ropes
8ストランドロープ

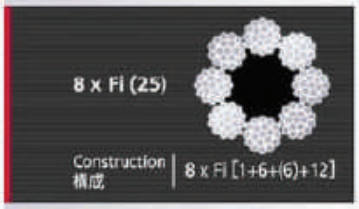
JIS

Rope diameter ロープ径 (mm)	Outer wire diameter 上層素線径 (mm)	Sectional area 断面積 (mm²)	Breaking load 破断荷重(kN) Bright・Galvanized 裸・めっき Grade E E種	Bright・Galvanized 裸・めっき Grade A A種	Bright 裸 Grade B B種	(Reference) Approximate mass (参考) 概算単位質量 (kg/m)
8	0.53	23.1	26.0	30.8	32.8	0.220
10	0.66	36.5	40.6	48.1	51.3	0.343
11.2	0.74	45.8	51.0	60.3	64.3	0.430
12	0.80	52.6	58.5	69.2	73.8	0.494
12.5	0.83	58.0	63.5	75.1	80.1	0.536
14	0.93	72.6	79.6	94.3	100	0.672
16	1.06	93.5	104	123	131	0.878
18	1.19	118	132	156	166	1.11
20	1.32	146	162	192	205	1.37
22.4	1.47	183	204	241	257	1.72
25	1.65	230	254	301	320	2.14



JIS

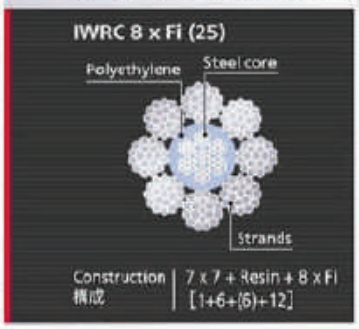
Rope diameter ロープ径 (mm)	Outer wire diameter 上層素線径 (mm)	Sectional area 断面積 (mm²)	Breaking load 破断荷重(kN) Bright・Galvanized 裸・めっき Grade E E種	Bright・Galvanized 裸・めっき Grade A A種	Bright 裸 Grade B B種	(Reference) Approximate mass (参考) 概算単位質量 (kg/m)
8	0.48	23.1	26.0	30.8	32.8	0.220
10	0.61	36.5	40.6	48.1	51.3	0.343
11.2	0.68	45.8	51.0	60.3	64.3	0.430
12	0.73	52.6	58.5	69.2	73.8	0.494
12.5	0.75	58.0	63.5	75.1	80.1	0.536
14	0.85	72.6	79.6	94.3	100	0.672
16	0.97	93.5	104	123	131	0.878
18	1.09	118	132	156	166	1.11
20	1.20	146	162	192	205	1.37
22.4	1.35	183	204	241	257	1.72
25	1.52	230	254	301	320	2.14



JIS

Rope diameter ロープ径 (mm)	Outer wire diameter 上層素線径 (mm)	Sectional area 断面積 (mm²)	Breaking load 破断荷重(kN) Bright・Galvanized 裸・めっき Grade E E種	Bright・Galvanized 裸・めっき Grade A A種	Bright 裸 Grade B B種	(Reference) Approximate mass (参考) 概算単位質量 (kg/m)
8	0.42	23.1	26.0	30.8	32.8	0.220
10	0.53	36.5	40.6	48.1	51.3	0.343
11.2	0.60	45.8	51.0	60.3	64.3	0.430
12	0.64	52.6	58.5	69.2	73.8	0.494
12.5	0.67	58.0	63.5	75.1	80.1	0.536
14	0.75	72.6	79.6	94.3	100	0.672
16	0.86	93.5	104	123	131	0.878
18	0.96	118	132	156	166	1.11
20	1.06	146	162	192	205	1.37
22.4	1.19	183	204	241	257	1.72
25	1.33	230	254	301	320	2.14

Super Coat Elevator Rope
スーパーコート エレベータロープ



Rope diameter ロープ径 (mm)	Outer wire diameter 上層素線径 (mm)	Sectional area 断面積 (mm²)	Breaking load 破断荷重(kN) Grade E E種	Grade A A種	Grade B B種	(Reference) Approximate mass (参考) 概算単位質量 (kg/m)
8	0.53	29.0	33.6	39.6	42.2	0.272
10	0.66	45.3	52.5	61.8	66.0	0.426
12	0.80	65.2	75.6	89.0	95.0	0.613
16	1.06	116	134	158	169	1.09
20	1.32	181	210	247	264	1.70
22.4	1.47	227	263	310	331	2.14

The Super Coat Elevator Rope with a steel-steel core has the merits of both the steel-core rope and fiber-core rope. It is characterized by a high breaking load and modulus of elasticity, as well as stretching resistance, with a superior fatigue life.

TOKYO ROPE

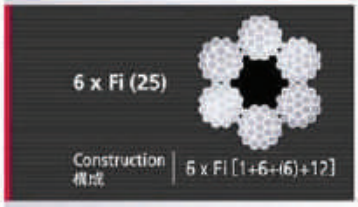
6 strands ropes
6ストランドロープ

JIS

Rope diameter ロープ径 (mm)	Outer wire diameter 上層素線径 (mm)	Sectional area 断面積 (mm²)	Breaking load 破断荷重(kN) Bright・Galvanized 裸・めっき Grade E E種	Grade A A種	Grade B B種	(Reference) Approximate mass (参考) 概算単位質量 (kg/m)
6	0.48	14.2	16.1	19.6	20.9	0.139
6.3	0.50	15.7	17.7	21.6	23.0	0.153
8	0.63	25.2	28.6	34.9	37.2	0.247
10	0.80	39.4	44.7	54.5	58.1	0.386
11.2	0.89	49.5	56.1	68.3	72.8	0.484
12	0.96	56.8	64.4	78.5	83.7	0.556
12.5	1.00	61.6	69.9	85.1	90.7	0.603
14	1.12	77.3	87.7	107	114	0.756
16	1.28	101	115	139	149	0.988
18	1.43	128	145	176	188	1.25
20	1.58	158	179	218	232	1.54

JIS

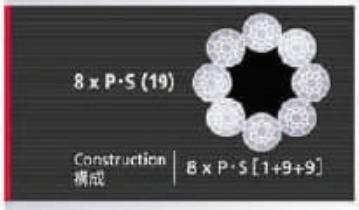
Rope diameter ロープ径 (mm)	Outer wire diameter 上層素線径 (mm)	Sectional area 断面積 (mm²)	Breaking load 破断荷重(kN) Bright・Galvanized 裸・めっき Grade E E種	Grade A A種	Grade B B種	(Reference) Approximate mass (参考) 概算単位質量 (kg/m)
6	0.45	14.2	16.1	19.6	20.9	0.139
6.3	0.47	15.7	17.7	21.6	23.0	0.153
8	0.59	25.2	28.6	34.9	37.2	0.247
10	0.74	39.4	44.7	54.5	58.1	0.386
11.2	0.83	49.5	56.1	68.3	72.8	0.484
12	0.89	56.8	64.4	78.5	83.7	0.556
12.5	0.93	61.6	69.9	85.1	90.7	0.603
14	1.05	77.3	87.7	107	114	0.756
16	1.19	101	115	139	149	0.988
18	1.33	128	145	176	188	1.25
20	1.47	158	179	218	232	1.54

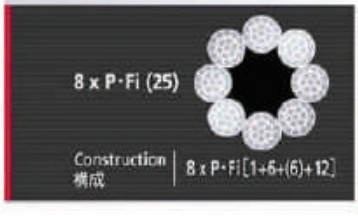


JIS

Rope diameter ロープ径 (mm)	Outer wire diameter 上層素線径 (mm)	Sectional area 断面積 (mm²)	Breaking load 破断荷重(kN) Bright・Galvanized 裸・めっき Grade E E種	Grade A A種	Grade B B種	(Reference) Approximate mass (参考) 概算単位質量 (kg/m)
6	0.39	14.2	16.1	19.6	20.9	0.139
6.3	0.41	15.7	17.7	21.6	23.0	0.153
8	0.51	25.2	28.6	34.9	37.2	0.247
10	0.64	39.4	44.7	54.5	58.1	0.386
11.2	0.72	49.5	56.1	68.3	72.8	0.484
12	0.77	56.8	64.4	78.5	83.7	0.556
12.5	0.81	61.6	69.9	85.1	90.7	0.603
14	0.90	77.3	87.7	107	114	0.756
16	1.03	101	115	139	149	0.988
18	1.15	128	145	176	188	1.25
20	1.28	158	179	218	232	1.54

Compacted Elevator Rope
異形線エレベータロープ

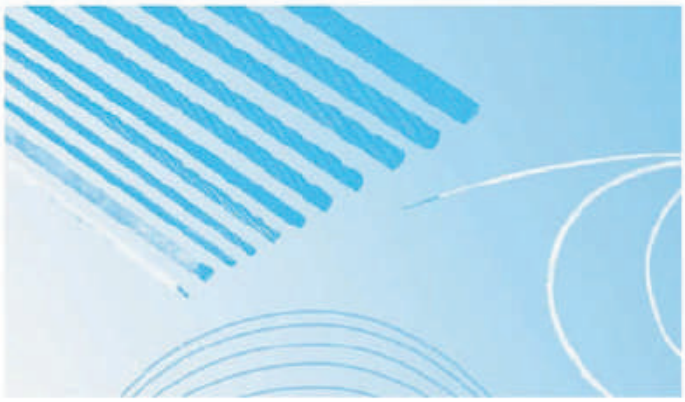




JIS

Rope diameter ロープ径 (mm)	Breaking load 破断荷重(kN) Bright・Galvanized 裸・めっき Grade E E種	Grade A A種	Galvanized めっき Grade B B種	(Reference) Approximate mass (参考) 概算単位質量 (kg/m)
8	28.6	33.8	36.1	0.240
10	44.7	52.9	56.4	0.374
11.2	56.0	66.3	70.7	0.470
12	64.3	76.1	81.2	0.539
12.5	69.8	82.6	88.1	0.585
14	87.5	104	110	0.734
16	114	135	144	0.958
18	145	171	183	1.21
20	179	211	225	1.50
22.4	224	265	283	1.88
25	279	330	352	2.34

STAINLESS STEEL CABLE
AND WIRE ROPE



Stainless Steel Cable & Wire Rope is used for a wide usage with its minimized grade-decrease despite temperature change and its high resistance to corrosion.

Dae Sung comes up with Stainless Steel Cable & Wire Rope on the basis of up-to-date facilities & technology, and as a result, it is producing high quality products equipped with excellent surface by special treatment, flexibility, endurance, and a variety of rope construction.

The general grade used for Stainless Steel Cable & Wire Rope are AI8 302, 304, 305, 316 etc., and Dae Sung is not only ongoing to improve resistance to fatigue, but also on R&D activities about adaptation to 4I8 329J1, including good feature of resistance to salt corrosion.

Construction & Product Size

1x7
0.5mm up to 10.0mm

Dia (inch)	App w.t (lbs/100ft)	Nominal B.S (lbs)	
		AISI 302,304	AISI 316
1/32	0.25	150	132
3/64	0.55	375	320
1/16	0.85	570	520
5/64	1.40	850	770
3/32	2.00	1,200	1,090
7/64	2.70	1,600	1,450
1/8	3.50	2,100	1,910
5/32	5.50	3,300	3,000
3/16	7.70	4,700	4,270
7/32	10.2	6,300	5,730
1/4	13.5	8,500	7,730
9/32	17.0	10,500	9,450
5/16	21.0	13,200	12,280
3/8	30.0	18,000	16,300

Dia (mm)	App w.t (Kg/100m)	Nominal B.S (Kgf)	
		AISI 302,304	AISI 316
0.8	0.321	68	60
1.0	0.502	105	93
1.5	1.13	230	210
2.0	2.01	410	370
2.5	3.14	625	545
3.0	4.52	900	785
3.5	6.15	1,180	1,070
4.0	8.03	1,540	1,390
5.0	12.6	2,330	2,180
6.0	18.1	3,360	3,140
7.0	24.6	4,580	4,270
8.0	32.1	5,990	5,570
9.0	40.7	7,620	7,050
10.0	50.2	8,780	8,100

CONSTRUCTION & PRODUCT SIZE

1 x 9
0.8mm up to 16.0mm

DIA (inch)	App w.t (lbs/100ft)	Nominal B.S (lbs)	
		AISI 302, 304	AISI 316
1/32	0.25	150	130
3/64	0.55	375	320
1/16	0.85	550	480
5/64	1.40	850	740
3/32	2.00	1,200	1,070
7/64	2.70	1,600	1,440
1/8	3.50	2,100	1,890
5/32	5.50	3,300	3,000
3/16	7.70	4,700	4,270
7/32	10.2	6,300	5,730
1/4	13.5	8,200	7,460
9/32	17.0	10,300	9,360
5/16	21.0	12,500	11,800
3/8	30.0	17,500	16,500
7/16	42.0	24,000	22,800
1/2	54.0	31,000	29,500
9/16	69.0	38,000	36,100
5/8	85.0	47,400	44,970

DIA (mm)	App w.t (kg/100m)	Nominal B.S (kgf)	
		AISI 302, 304	AISI 316
1	0.495	96	84
1.5	1.11	215	189
2	1.98	380	336
2.5	3.10	600	525
3	4.46	830	756
3.5	6.07	1,140	1,030
4	7.93	1,490	1,340
5	12.4	2,330	2,100
6	17.8	3,320	3,030
7	24.3	4,490	4,120
8	31.7	5,700	5,380
9	40.1	7,200	6,810
10	49.5	8,830	8,400
11	59.9	10,500	10,200
12	71.3	12,400	12,100
13	83.7	14,500	14,000
14	97.1	16,700	16,200
16	127.0	21,500	20,400

7 x 7
1.20mm up to 22.0mm

DIA (inch)	App w.t (lbs/100ft)	Nominal B.S (lbs)	
		AISI 302, 304	AISI 316
3/64	0.42	270	240
1/16	0.75	480	420
5/64	1.10	650	570
3/32	1.60	920	810
1/8	2.80	1,700	1,510
5/32	4.30	2,500	2,270
3/16	6.20	3,700	3,350
7/32	8.30	4,800	4,360
1/4	10.6	6,100	5,600
9/32	13.4	7,600	7,000
5/16	16.7	9,000	8,100
3/8	23.6	12,500	11,400
7/16	34.4	16,900	15,400
1/2	45	22,800	20,900
9/16	58	28,000	25,800
5/8	70	35,000	32,400
3/4	102	49,600	45,700
7/8	140	66,500	61,300

DIA (mm)	App w.t (kg/100m)	Nominal B.S (kgf)	
		AISI 302, 304	AISI 316
1.2	0.63	122	100
1.5	0.96	170	150
2.0	1.57	290	260
2.5	2.70	460	400
3	3.54	660	585
4	6.29	1,140	1,030
5	9.83	1,790	1,620
6	14.2	2,570	2,330
7	19.3	3,400	3,160
8	25.2	4,080	3,670
9	31.8	5,200	4,650
10	39.3	6,300	5,750
12	56.7	8,950	8,270
14	77.1	12,200	11,200
16	101	15,900	14,700
18	128	20,100	18,600
20	157	24,800	23,000
22	190	29,600	27,800

7 x 19
2.0mm up to 32.0mm

DIA (inch)	App w.t (lbs/100ft)	Nominal B.S (lbs)	
		AISI 302, 304	AISI 316
5/64	1.14	650	560
3/32	1.74	920	810
1/8	2.9	1,760	1,530
5/32	4.5	2,400	2,110
3/16	6.5	3,700	3,210
7/32	8.6	5,000	4,350
1/4	11.0	6,400	5,600
9/32	13.9	7,800	6,800
5/16	17.3	9,000	8,200
3/8	24.3	12,000	11,000
7/16	35.0	16,500	15,000
1/2	46.0	22,800	20,700
9/16	59.0	28,500	26,000
5/8	72.0	35,000	31,900
3/4	104	49,600	45,100
7/8	142	66,500	60,500
1	185	85,400	77,600
1 1/8	234	106,400	96,400
1 1/4	289	129,400	118,000

DIA (mm)	App w.t (kg/100m)	Nominal B.S (kgf)	
		AISI 302, 304	AISI 316
2	1.70	280	230
2.5	2.70	440	390
3	3.42	625	540
4	6.09	1,090	960
5	9.52	1,700	1,490
6	13.8	2,460	2,150
8	24.3	4,100	3,820
9	30.8	5,450	4,840
10	38.1	6,580	5,970
12	54.8	9,480	8,610
13	64.3	10,900	10,100
14	74.6	12,600	11,700
16	97.4	16,100	14,470
18	123	20,400	18,100
20	152	24,900	22,000
22	184	30,100	26,500
24	219	34,500	30,600
26	257	40,600	35,900
32	390	58,700	54,400

Domestic Standard


6xS(24) + 7FC


6xS(19) IWRC


6xW(19) IWRC


6xFi(25) IWRC


6xWS(26) IWRC


6xFi(29) IWRC


6xW(31) IWRC


6xWS(36) IWRC

DIA (mm)	6 x S(24) + 7FC + 7FC			6 x S(19), 6 x W(19), 6 x Fi(25), 6 x WS(26), 6 x Fi(29), 6 x WS(31), 6 x WS(36)		
	App w.t (kg/m)	Min B.S (kgf)		App w.t (kg/m)	Min B.S (kgf)	
		AISI 302, 304	AISI 316		AISI 302, 304	AISI 316
8	0.212	3,220	2,890	0.280	4,060	3,660
9	0.269	4,070	3,660	0.350	5,140	4,630
10	0.332	5,030	4,530	0.430	6,340	5,710
11	0.416	6,300	5,670	0.539	7,960	7,160
12	0.478	7,240	6,500	0.619	9,140	8,220
14	0.651	9,850	8,670	0.843	12,400	10,900
16	0.850	12,900	11,200	1.10	16,200	14,100
18	1.08	16,300	14,000	1.39	20,500	17,600
20	1.33	20,100	17,100	1.72	25,400	21,600
22	1.67	25,200	21,400	2.16	31,800	27,000
24	1.91	28,900	24,600	2.48	36,500	31,000
25	2.08	31,400	26,700	2.69	39,700	33,700
28	2.60	39,500	33,600	3.37	49,700	42,200
30	2.99	45,300	38,500	3.87	57,100	48,500
32	3.40	49,900	42,400	4.41	62,900	53,500

Rotating Resistance Construction

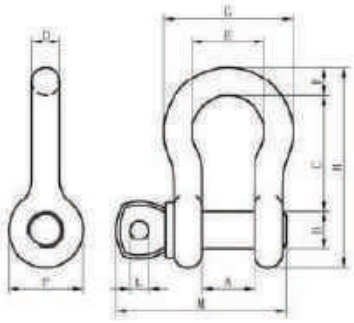

18 x 7


19 x 7

DIA (mm)	18 x 7			19 x 7		
	App w.t (kg/m)	Min B.S (kgf)		App w.t (kg/m)	Min B.S (kgf)	
		AISI 302, 304	AISI 316		AISI 302, 304	AISI 316
6	0.144	2,000	1,840	0.153	2,150	1,890
8	0.256	3,580	3,260	0.272	3,840	3,360
9	0.324	4,520	4,130	0.344	4,860	4,250
12	0.576	8,040	7,340	0.612	8,640	7,560
13	0.676	9,450	8,610	0.718	10,100	8,870
14	0.796	10,900	9,990	0.833	11,700	10,300
16	1.04	14,200	13,000	1.09	15,400	13,400
18	1.32	18,100	16,600	1.38	19,400	17,000
19	1.44	20,200	18,400	1.53	21,600	18,900
20	1.62	22,300	20,400	1.70	23,900	21,000
22	2.04	28,100	24,700	2.13	30,000	25,400

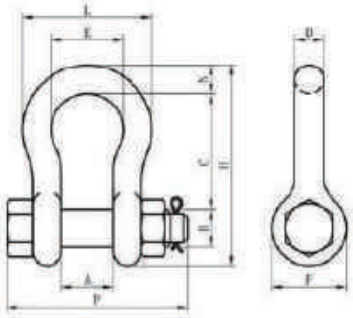
SHACKLE

KG-109 U.S. TYPE SCREW PIN ANCHOR SHACKLE



Size	WLL	Weight	Dimensions (in.)										
(in.)	(t)	(kg)	A	B	C	D	E	F	G	H	L	M	P
1/2	2	0.29	0.81	0.64	1.87	0.50	1.31	1.19	2.31	3.28	0.31	2.87	0.50
5/8	3-1/4	0.63	1.06	0.75	2.38	0.63	1.69	1.56	2.93	4.16	0.45	3.54	0.63
3/4	4-3/4	1.02	1.26	0.87	2.81	0.75	2.00	1.81	3.50	4.97	0.51	4.17	0.81
7/8	6-1/2	1.53	1.44	0.99	3.32	0.87	2.28	2.09	4.03	5.83	0.51	4.65	0.97
1	8-1/2	2.41	1.69	1.10	3.76	1.00	2.69	2.38	4.69	6.56	0.57	5.29	1.06
1-1/8	9-1/2	3.08	1.81	1.25	4.25	1.16	2.91	2.69	5.16	7.47	0.64	6.00	1.25
1-1/4	12	4.30	2.04	1.37	4.69	1.29	3.25	3.00	5.75	8.25	0.70	6.69	1.38
1-3/8	13-1/2	6.00	2.25	1.50	5.26	1.42	3.63	3.31	6.38	9.16	0.76	7.41	1.50
1-1/2	17	7.79	2.38	1.65	5.74	1.54	3.88	3.63	6.88	10.00	0.82	7.97	1.62
1-3/4	25	13.00	2.88	2.01	7.00	1.75	5.00	4.17	8.86	12.35	0.87	9.29	2.25
2	35	19.50	3.25	2.24	7.78	2.01	5.75	4.76	9.97	13.69	0.94	10.57	2.40
2-1/2	55	38.00	4.13	2.76	10.51	2.48	7.24	5.98	12.20	17.36	1.39	13.43	2.48

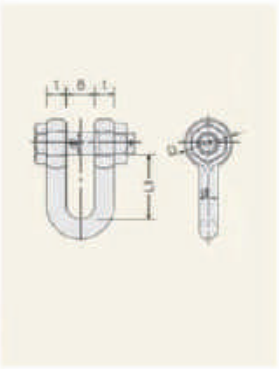
KG-1130 U.S. TYPE SCREW PIN ANCHOR SHACKLE



Size	WLL	Weight	Dimensions (in.)									
(in.)	(t)	(kg)	A	B	C	D	E	F	H	L	N	P
1/2	2	0.36	0.81	0.63	1.87	0.50	1.31	1.19	3.28	2.31	0.50	3.07
5/8	3-1/4	0.76	1.06	0.79	2.36	0.63	1.69	1.56	4.16	2.93	0.63	3.74
3/4	4-3/4	1.23	1.26	0.87	2.82	0.75	2.00	1.81	4.97	3.50	0.81	4.25
7/8	6-1/2	1.79	1.44	0.98	3.32	0.87	2.28	2.09	5.83	4.03	0.97	4.96
1	8-1/2	2.56	1.69	1.10	3.76	1.00	2.69	2.38	6.56	4.69	1.06	5.55
1-1/8	9-1/2	3.75	1.81	1.26	4.25	1.16	2.91	2.69	7.47	5.16	1.25	5.98
1-1/4	12	5.30	2.04	1.38	4.69	1.29	3.25	3.00	8.25	5.75	1.38	6.61
1-3/8	13-1/2	7.17	2.25	1.50	5.26	1.42	3.63	3.31	9.16	6.38	1.50	7.22
1-1/2	17	9.42	2.38	1.65	5.74	1.54	3.88	3.63	10.00	6.88	1.62	7.76
1-3/4	25	14.00	2.88	2.00	7.01	1.75	5.00	4.17	12.35	8.86	2.25	9.09
2	35	22.00	3.25	2.24	7.78	2.01	5.75	4.76	13.69	9.97	2.40	10.35
2-1/2	55	44.50	4.13	2.76	10.51	2.48	7.24	5.98	17.36	12.20	2.48	14.33

KG-100 U.S. TYPE STRONG SHACKLE

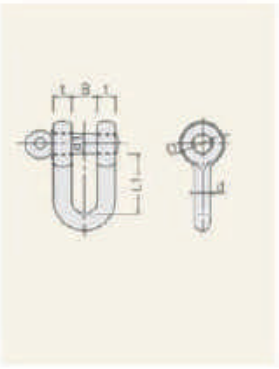
KONDOTEC



■ Screw Type (KG-100)

Product Code		Size	W.L.L		d (t)	d1	B	B1	L1	L2	D	Weight (kg)		Price	
109	100		t	kN								109	100	109	100
		1/2	2	(19.6)	13	16	21	33.5	42	48	30	0.34	0.3		
		5/8	3 1/4	(31.85)	16	19	27	43	51	61	40	0.65	0.57		
		3/4	4 3/4	(46.55)	19	22	32	51	61	72	48	1.1	1		
		7/8	6 1/2	(63.7)	22	25	37	58	72	85	54	1.6	1.45		
		1	8 1/2	(83.3)	25	28	43	69	81	96	60	2.3	2.1		
		1 1/8	9 1/2	(93.1)	28	32	46	74	91	108	67	3.3	2.9		
		1 1/4	12	(117.6)	32	36	52	83	100	119	76	4.65	4.1		
		1 3/8	13 1/2	(132.3)	36	38	58	92	113	134	84	6.2	5.3		
		1 1/2	17	(166.6)	38	42	61	99	124	146	92	7.7	7.01		
		1 3/4	25	(245)	46	50	73	127	148	178	110	13	12		
		2	35	(343)	50	57	83	146	172	197	127	19.5	18		
		2 1/2	50	(490)	65	70	105	184	204	267	153	40	35		

KG-1150 U.S. TYPE STRONG SHACKLE



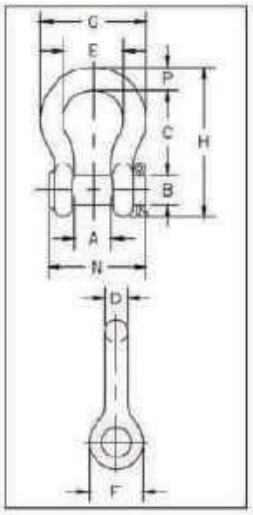
■ Bolt Nut • Type (KG-1150) + 100Ton, 130Ton, 150Ton are Round Head type with Handle

Product Code		Size	W.L.L		d (t)	d1	B	B1	L1	L2	D	Weight (kg)		Price	
1130	1150		t	kN								1130	1150	1130	1150
		1/2	2	(19.6)	13	16	21	33.5	42	48	30	0.395	0.35		
		5/8	3 1/4	(31.85)	16	19	27	43	51	61	40	0.726	0.71		
		3/4	4 3/4	(46.55)	19	22	32	51	61	72	48	1.2	1.1		
		7/8	6 1/2	(63.7)	22	25	37	58	72	85	54	1.8	1.66		
		1	8 1/2	(83.3)	25	28	43	69	81	96	60	2.5	2.35		
		1 1/8	9 1/2	(93.1)	28	32	46	74	91	108	67	3.56	3.4		
		1 1/4	12	(117.6)	32	36	52	83	100	119	76	5.1	4.8		
		1 3/8	13 1/2	(132.3)	36	38	58	92	113	134	84	7	6.65		
		1 1/2	17	(166.6)	38	42	61	99	124	146	92	8.6	8.1		
		1 3/4	25	(245)	46	50	73	127	148	178	110	14	14		
		2	35	(343)	50	57	83	146	172	197	127	22	21		
		2 1/2	50	(490)	65	70	105	184	204	267	153	43	38		
		3	75	(735)	75	83	127	200	216	330	165	66	56		
		3 1/2	+100	(980)	90	96	134	228	266	372	203	115	100		
		4	+130	(1274)	100	108	140	254	305	418	228	163	121		
		4 3/8	+150	(1470)	110	120	165	275	351	464	246	238	204		

SHACKLE

G-213/S-213

- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Hot-dip galvanized (G) or self colored (S).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit.
- Shackles 25t and larger are RFID equipped.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Shackles are Quenched & Tempered and can meet DNV impact requirements of 42 Joules (31 ft-lb) at -20° C (-4° F).
- G-213 Round pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 1, except for those provisions required of the contractor.
- DO NOT SIDE LOAD ROUND PIN SHACKLES.
- Look for the Red Pin®... the mark of genuine Crosby quality.



G-213 / S-213 Round Pin Anchor Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No. G-213	Stock No. S-213	Weight Each (lb)	Dimensions (in) A	B	C	D	E	F	G	H	N	P	Tolerance (+/- in) C	A
1/4	1/2	1018017	1018026	.13	.47	.31	1.13	.25	.78	.61	1.28	1.84	1.34	.25	.06	.06
5/16	3/4	1018035	1018044	.18	.53	.38	1.22	.31	.84	.75	1.47	2.09	1.59	.31	.06	.06
3/8	1	1018053	1018062	.29	.66	.44	1.44	.38	1.03	.91	1.78	2.49	1.86	.38	.13	.06
7/16	1-1/2	1018071	1018080	.38	.75	.50	1.69	.44	1.19	1.06	2.03	2.91	2.13	.44	.13	.06
1/2	2	1018099	1018106	.71	.81	.63	1.88	.50	1.31	1.19	2.31	3.28	2.38	.50	.13	.06
5/8	3-1/4	1018115	1018124	1.50	1.06	.75	2.38	.63	1.69	1.50	2.94	4.19	2.91	.69	.13	.06
3/4	4-3/4	1018133	1018142	2.32	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	3.44	.81	.25	.06
7/8	6-1/2	1018151	1018160	3.49	1.44	1.00	3.31	.88	2.28	2.09	4.03	5.83	3.81	.97	.25	.06
1	8-1/2	1018179	1018188	5.00	1.69	1.13	3.75	1.00	2.69	2.38	4.69	6.56	4.53	1.06	.25	.06
1-1/8	9-1/2	1018197	1018204	6.97	1.81	1.25	4.25	1.13	2.91	2.69	5.16	7.47	5.13	1.25	.25	.06
1-1/4	12	1018213	1018222	9.75	2.03	1.38	4.69	1.29	3.25	3.00	5.75	8.25	5.50	1.38	.25	.06
1-3/8	13-1/2	1018231	1018240	13.25	2.25	1.50	5.25	1.42	3.63	3.31	6.38	9.16	6.13	1.50	.25	.13
1-1/2	17	1018259	1018268	17.25	2.38	1.63	5.75	1.54	3.88	3.63	6.88	10.00	6.50	1.62	.25	.13
1-3/4	25	1018277	1018286	29.46	2.88	2.00	7.00	1.84	5.00	4.19	8.86	12.34	7.75	2.25	.25	.13
2	35	1018295	1018302	45.75	3.25	2.25	7.75	2.08	5.75	4.81	9.97	13.68	8.75	2.40	.25	.13

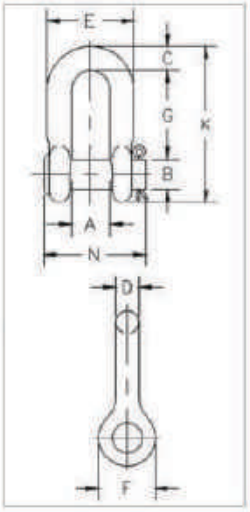
6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit.

Load Rated Fatigue Rated TA QUICKCHECK Q&T MAXTOUGH CE APPLICATION AND WARNING INFORMATION SECTION 17

Crosby®

G-215/S-215

- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Hot-dip galvanized (G) or self colored (S).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit.
- Shackles 25t and larger are RFID equipped.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Shackles are Quenched & Tempered and can meet DNV impact requirements of 42 Joules (31 ft-lb) at -20° C (-4° F).
- G-213 Round pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 1, except for those provisions required of the contractor.
- DO NOT SIDE LOAD ROUND PIN SHACKLES.
- Look for the Red Pin®... the mark of genuine Crosby quality.



G-215 / S-215 Round Pin Chain Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No. G-215	Stock No. S-215	Weight Each (lb)	Dimensions (in) A	B	C	D	E	F	G	K	N	Tolerance (+/- in) G	A
1/4	1/2	1018810	1018829	.10	.47	.31	.25	.25	.97	.62	.91	1.59	1.34	.06	.06
5/16	3/4	1018838	1018847	.18	.53	.38	.31	.31	1.15	.75	1.07	1.91	1.63	.06	.06
3/8	1	1018856	1018865	.25	.66	.44	.38	.38	1.42	.92	1.28	2.31	1.86	.13	.06
7/16	1-1/2	1018874	1018883	.40	.75	.50	.44	.44	1.63	1.06	1.48	2.67	2.13	.13	.06
1/2	2	1018892	1018909	.50	.81	.63	.50	.50	1.81	1.18	1.66	3.03	2.38	.13	.06
5/8	3-1/4	1018918	1018927	1.21	1.06	.75	.63	.63	2.32	1.50	2.04	3.76	2.91	.13	.06
3/4	4-3/4	1018936	1018945	2.00	1.25	.88	.81	.75	2.75	1.81	2.40	4.53	3.44	.25	.06
7/8	6-1/2	1018954	1018963	3.28	1.44	1.00	.97	.88	3.20	2.10	2.86	5.33	3.81	.25	.06
1	8-1/2	1018972	1018981	4.75	1.69	1.13	1.00	1.00	3.69	2.38	3.24	5.94	4.53	.25	.06
1-1/8	9-1/2	1018990	1019007	6.30	1.81	1.25	1.25	1.13	4.07	2.68	3.61	6.78	5.13	.25	.06
1-1/4	12	1019016	1019025	9.00	2.03	1.38	1.38	1.25	4.53	3.00	3.97	7.50	5.50	.25	.13
1-3/8	13-1/2	1019034	1019043	12.00	2.25	1.50	1.50	1.38	5.01	3.31	4.43	8.28	6.13	.25	.13
1-1/2	17	1019052	1019061	16.15	2.38	1.63	1.62	1.50	5.38	3.62	4.87	9.05	6.50	.25	.13
1-3/4	25	1019070	1019089	29.96	2.88	2.00	2.12	1.75	6.38	4.19	5.82	10.97	7.75	.25	.13
2	35	1019098	1019105	43.25	3.25	2.25	2.36	2.10	7.25	5.00	6.82	12.74	8.75	.25	.13

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit.

Load Rated Fatigue Rated TA QUICK CHECK Q&T MAXTOUGH CE

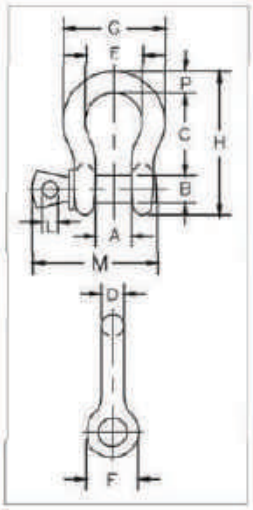
APPLICATION AND WARNING INFORMATION SECTION 1†

OPI

Crosby®

G-209/S-209

- Meets performance requirements of Grade 6 shackles.
- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit and Grade 6 permanently shown on every shackle.
- Hot-dip galvanized (G) or self colored (S).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- Shackles 25t and larger are RFID equipped.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Proof testing and certification available when requested at the time of order, charges will apply.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- All 209 and 210 shackles can meet charpy requirements of 42 Joules (31 ft-lb) avg. at -20° C (-4° F) upon special request.
- Meets or exceeds all requirements of ASME B30.26.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and ABS Guide for Certification of Lifting Appliances available. Certificates available when requested at time of order and may include additional charges.
- G-209 Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 2, except for those provisions required of the contractor.
- Look for the Red Pin®... the mark of genuine Crosby quality.



G-209 / S-209 Screw Pin Anchor Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No. G-209	Stock No. S-209	Weight Each (lb)	Dimensions (in) A	B	C	D	E	F	G	H	L	M	P	Tolerance (+/-in) C	A
3/16	1/3	1018357	–	.06	.38	.25	.88	.19	.60	.56	.98	1.47	.16	1.14	.19	.06	.06
1/4	1/2	1018375	1018384	.10	.47	.31	1.13	.25	.78	.62	1.28	1.84	.19	1.43	.25	.06	.06
5/16	3/4	1018393	1018400	.18	.53	.38	1.21	.31	.84	.75	1.46	2.09	.22	1.71	.31	.06	.06
3/8	1	1018419	1018426	.31	.66	.44	1.45	.38	1.03	.92	1.79	2.50	.25	2.06	.38	.13	.06
7/16	1-1/2	1018437	1018446	.38	.75	.50	1.69	.44	1.16	1.06	2.04	2.91	.31	2.37	.44	.13	.06
1/2	2	1018455	1018464	.72	.81	.62	1.88	.50	1.31	1.18	2.31	3.28	.38	2.69	.50	.13	.06
5/8	3-1/4	1018473	1018482	1.37	1.06	.75	2.38	.62	1.69	1.50	2.93	4.19	.44	3.34	.69	.13	.06
3/4	4-3/4	1018491	1018507	2.35	1.25	.69	2.81	.75	2.00	1.81	3.50	4.97	.50	3.97	.81	.25	.06
7/8	6-1/2	1018516	1018525	3.62	1.44	1.00	3.31	.86	2.28	2.10	4.04	5.83	.50	4.50	.97	.25	.06
1	8-1/2	1018534	1018543	5.03	1.69	1.12	3.76	1.00	2.69	2.38	4.69	6.56	.56	5.13	1.06	.25	.06
1-1/8	9-1/2	1018552	1018561	7.41	1.81	1.25	4.27	1.16	2.91	2.68	5.15	7.47	.63	5.97	1.25	.25	.06
1-1/4	12	1018570	1018589	9.50	2.03	1.38	4.89	1.29	3.26	3.00	5.76	8.26	.69	6.50	1.38	.25	.06
1-3/8	13-1/2	1018598	1018605	13.53	2.25	1.53	5.22	1.42	3.62	3.31	6.38	9.16	.75	6.93	1.50	.25	.13
1-1/2	17	1018614	1018623	17.20	2.38	1.63	5.76	1.53	3.88	3.62	6.94	10.00	.81	7.43	1.62	.25	.13
1-3/4	25	1018632	1018641	27.78	2.88	2.00	7.00	1.84	5.00	4.19	8.80	12.34	1.00	9.19	2.25	.25	.13
2	35	1018650	1018669	45.00	3.25	2.25	7.75	2.08	5.75	4.81	10.15	13.68	1.13	10.36	2.40	.25	.13
2-1/2	55	1018678	1018687	85.75	4.12	2.75	10.51	2.72	7.25	5.81	12.75	17.92	1.38	13.17	3.13	.25	.25

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

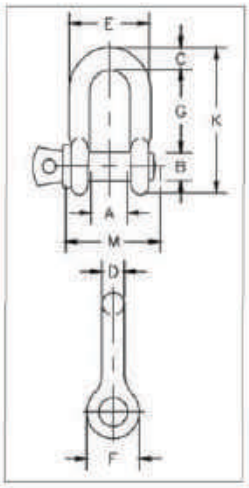
Load Rated Fatigue Rated TA QUICKLINK Q&T MAXTOUGH CE

APPLICATION AND WARNING INFORMATION SECTION 17

Crosby®

G-210 / S-210

- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit and Grade 6 permanently shown on every shackle.
- Hot-dip galvanized (G) or self colored (S).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- Shackles 25t and larger are RFID equipped.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Proof testing and certification available when requested at the time of order, charges will apply.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- All 209 and 210 shackles can meet charpy requirements of 42 Joules (31 ft-lb) avg. at -20° C (-4° F) upon special request.
- Meets or exceeds all requirements of ASME B30.26.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and ABS Guide for Certification of Lifting Appliances available. Certificates available when requested at time of order and may include additional charges.
- G-210 Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVB, Grade A, Class 2, except for those provisions required of the contractor.
- Look for the Red Pin®... the mark of genuine Crosby quality.



G-210 / S-210 Screw Pin Chain Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No. G-210	Stock No. S-210	Weight Each (lb)	Dimensions (in) A	B	C	D	E	F	G	K	L	M	Tolerance (+/-in) G	A
1/4	1/2	1019150	1019169	.11	.47	.31	.25	.25	.97	.62	.97	1.59	.19	1.43	.06	.06
5/16	3/4	1019178	1019187	.17	.53	.38	.31	.31	1.15	.75	1.07	1.91	.22	1.71	.06	.06
3/8	1	1019196	1019203	.28	.66	.44	.38	.38	1.42	.92	1.28	2.31	.25	2.02	.13	.06
7/16	1-1/2	1019212	1019221	.43	.75	.50	.44	.44	1.63	1.06	1.48	2.67	.31	2.37	.13	.06
1/2	2	1019230	1019249	.59	.81	.63	.50	.50	1.81	1.18	1.66	3.03	.38	2.69	.13	.06
5/8	3-1/4	1019258	1019267	1.25	1.06	.75	.63	.63	2.32	1.50	2.04	3.76	.44	3.34	.13	.06
3/4	4-3/4	1019276	1019285	2.63	1.25	.88	.81	.75	2.75	1.81	2.40	4.53	.50	3.97	.25	.06
7/8	6-1/2	1019294	1019301	3.16	1.44	1.00	.97	.88	3.20	2.10	2.86	5.33	.50	4.50	.25	.06
1	8-1/2	1019310	1019329	4.75	1.69	1.13	1.00	1.00	3.69	2.38	3.24	5.94	.56	5.13	.25	.06
1-1/8	9-1/2	1019338	1019347	6.75	1.81	1.25	1.25	1.13	4.07	2.69	3.61	6.78	.63	5.71	.25	.06
1-1/4	12	1019356	1019365	9.06	2.03	1.38	1.38	1.25	4.53	3.00	3.97	7.50	.69	6.25	.25	.13
1-3/8	13-1/2	1019374	1019383	11.63	2.25	1.50	1.50	1.38	5.01	3.31	4.43	8.28	.75	6.53	.25	.13
1-1/2	17	1019392	1019409	15.95	2.38	1.63	1.62	1.50	5.38	3.62	4.87	9.05	.81	7.33	.25	.13
1-3/4	25	1019418	1019427	26.75	2.88	2.00	2.12	1.75	6.38	4.19	5.78	10.97	1.00	9.06	.25	.13
2	35	1019436	1019445	42.31	3.25	2.25	2.36	2.10	7.25	5.00	6.77	12.74	1.13	10.35	.25	.13
2-1/2	55	1019454	1019463	71.75	4.12	2.75	2.63	2.63	9.38	5.68	8.07	14.85	1.38	13.00	.25	.25

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

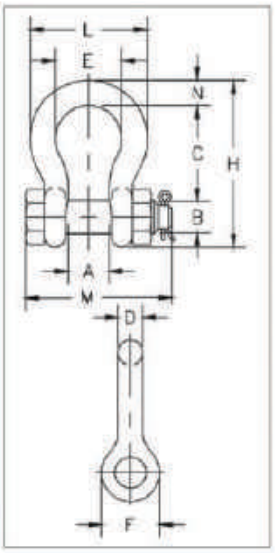
Load Rated Fatigue Rated TA QT MAXTOUGH CE

APPLICATION AND WARNING INFORMATION SECTION 17

Crosby®

G-2130 / S-2130

- Working Load Limit and Grade 6 permanently shown on every shackle.
- Forged, Quenched & Tempered, with alloy bolts.
- Hot-dip galvanized (G) or self colored (S). 85, 120, and 150-metric ton shackles are all hot-dip galvanized bows and the bolts are Dimetcoted® and painted red.
- Sizes 3/8 and below are mechanically galvanized.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit (1/3t - 55t).
- Shackles 25t and larger are RFID equipped.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- Meets or exceeds all requirements of ASME B30.26.
- Shackles 85 metric tons and larger are individually proof tested to 2.0 times the working load limit.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules ABS Guide for Certification of Lifting Appliances available. Certificates available when requested at time of order and may include additional charges.
- 3.1 Certification as standard available for charpy and statistical proof test from 3.25t up to 25 tons to DNV 2.7-1 and EN13889.
- Crosby 3.25t through 25t G-2130OC anchor shackles are type approved to DNV Certification Notes 2.7-1- Offshore Containers. These Crosby shackles are statistical proof and impact tested to 42 Joules (31 ft-lb) min. avg. at -20° C (-4° F). The tests are conducted by Crosby and 3.1 test certification is available upon request.
- All other 2130 shackles can meet charpy requirements of 42 Joules (31 ft-lb) avg at -20° C (-4° F) when requested at time of order.
- Meets the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 3, except for those provisions required of the contractor.
- Look for the Red Pin®... the mark of genuine Crosby quality.



G-2130 / S-2130 Bolt Type Anchor Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No.			Weight Each (lb)	Dimensions (in)										Tolerance (+/- in)	
		G-2130	S-2130	G-2130OC		A	B	C	D	E	F	H	L	M	N	C	A
3/16	1/3 ‡	1019464	-	-	.06	.38	.25	.88	.19	.60	.56	1.47	.98	1.29	.19	.06	.06
1/4	1/2	1019466	-	-	.11	.47	.31	1.13	.25	.78	.61	1.84	1.28	1.56	.25	.06	.06
5/16	3/4	1019468	-	-	.22	.53	.38	1.22	.31	.84	.75	2.09	1.47	1.82	.31	.06	.06
3/8	1	1019470	-	-	.33	.66	.44	1.44	.38	1.03	.91	2.49	1.78	2.17	.38	.13	.06
7/16	1-1/2	1019471	-	-	.49	.75	.50	1.69	.44	1.16	1.06	2.91	2.03	2.51	.44	.13	.06
1/2	2	1019472	1019481	-	.79	.81	.64	1.88	.50	1.31	1.19	3.28	2.31	2.80	.50	.13	.06
5/8	3-1/4	1019490	1019506	1262013	1.68	1.06	.77	2.38	.63	1.69	1.50	4.19	2.94	3.56	.69	.13	.06
3/4	4-3/4	1019515	1019524	1262022	2.72	1.25	.89	2.81	.75	2.00	1.81	4.97	3.50	4.15	.81	.25	.06
7/8	6-1/2	1019533	1019542	1262031	3.95	1.44	1.02	3.31	.88	2.28	2.09	5.83	4.03	4.82	.97	.25	.06
1	8-1/2	1019551	1019560	1262040	5.66	1.69	1.15	3.75	1.00	2.69	2.38	6.56	4.69	5.39	1.06	.25	.06
1-1/8	9-1/2	1019579	1019588	1262059	8.27	1.81	1.25	4.25	1.13	2.91	2.69	7.47	5.16	5.90	1.25	.25	.06
1-1/4	12	1019597	1019604	1262068	11.71	2.03	1.40	4.69	1.29	3.25	3.00	8.25	5.75	6.69	1.38	.25	.06
1-3/8	13-1/2	1019613	1019622	1262077	15.83	2.25	1.53	5.25	1.42	3.63	3.31	9.16	6.38	7.21	1.50	.25	.13
1-1/2	17	1019631	1019640	1262086	19.00	2.38	1.66	5.75	1.53	3.88	3.63	10.00	6.88	7.73	1.62	.25	.13
1-3/4	25	1019659	1019668	1262095	33.91	2.88	2.04	7.00	1.84	5.00	4.19	12.34	8.80	9.68	2.25	.25	.13
2	35	1019677	1019686	-	52.25	3.25	2.30	7.75	2.08	5.75	4.81	13.68	10.15	10.81	2.40	.25	.13
2-1/2	55	1019695	1019702	-	98.25	4.13	2.80	10.50	2.71	7.25	5.69	17.90	12.75	13.58	3.13	.25	.25
3	† 85	1019711	-	-	154.00	5.00	3.30	13.00	3.12	7.88	6.50	21.50	14.62	15.13	3.62	.25	.25
3-1/2	† 120 ‡	1019739	-	-	265.00	5.25	3.76	14.63	3.62	9.00	8.00	24.88	17.02	17.00	4.38	.25	.25
4	† 150 ‡	1019757	-	-	338.00	5.50	4.26	14.50	4.00	10.00	9.00	25.68	18.00	17.75	4.56	.25	.25

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.
† Individually Proof Tested with certification. ‡ Furnished with eye bolts for handling.

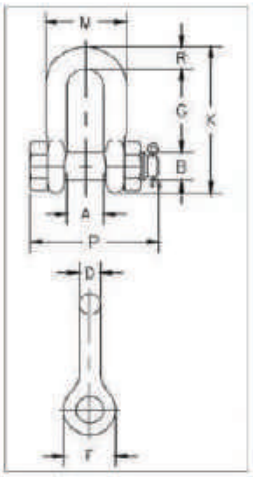
Load Rated Fatigue Rated TA QUICK & EASY Q&T MAXTOUGH CE

APPLICATION AND WARNING INFORMATION SECTION 17

Crosby®

G-2150 / S-2150

- Working Load Limit and Grade 6 permanently shown on every shackle.
- Forged, Quenched & Tempered, with alloy pins.
- Hot-dip galvanized (G) or self-colored (S). 85 ton shackles have hot-dip galvanized bows and the bolts are Dimetcoted® and painted red.
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit. (1/2t - 55t).
- Shackles 25t and larger are RFID equipped.
- Approved for use at -40° C (-40 degrees F) to 204° C (400° F).
- Meets or exceeds all requirements of ASME B30.26.
- Sizes 1/2 - 25t meet the performance requirements of EN13889:2003.
- Shackles 55 metric tons and smaller can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification when requested at time of order.



- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and 2016 ABS Guide for Certification of Lifting Appliance. Certificates available when requested at time of order and may include additional charges.
- Meets the performance requirements of Federal Specification RR-C-271G, Type IVB, Grade A, Class 3,except for those provisions required of the contractor.
- All 2150 shackles can meet charpy requirements of 42 Joules (31 ft-lb) avg at -20° C (-4° F) upon special request.
- Look for the Red Pin®... the mark of genuine Crosby quality.

G-2150 / S-2150 Bolt Type Chain Shackles

Nominal Size (in)	Working Load Limit (t)*	Stock No. G-2150	Stock No. S-2150	Weight Each (lb)	Dimensions (in) A	B	D	F	G	K	M	P	R	Tolerance (+/-in) G	A
1/4	1/2	1019768	-	.13	.47	.31	.25	.62	.81	1.59	.97	1.56	.25	.06	.06
5/16	3/4	1019770	-	.23	.53	.38	.31	.75	1.07	1.91	1.15	1.82	.31	.06	.06
3/8	1	1019772	-	.33	.66	.44	.38	.92	1.28	2.31	1.42	2.17	.38	.13	.06
7/16	1-1/2	1019774	-	.49	.75	.50	.44	1.06	1.48	2.67	1.63	2.51	.44	.13	.06
1/2	2	1019775	1019784	.75	.81	.64	.50	1.18	1.66	3.03	1.81	2.80	.50	.13	.06
5/8	3-1/4	1019793	1019800	1.47	1.06	.77	.63	1.50	2.04	3.76	2.32	3.56	.63	.13	.06
3/4	4-3/4	1019819	1019828	2.52	1.25	.89	.75	1.81	2.40	4.53	2.75	4.15	.81	.25	.06
7/8	6-1/2	1019837	1019846	3.85	1.44	1.02	.88	2.10	2.86	5.33	3.20	4.82	.97	.25	.06
1	8-1/2	1019855	1019864	5.55	1.69	1.15	1.00	2.38	3.24	5.94	3.69	5.39	1.00	.25	.06
1-1/8	9-1/2	1019873	1019882	7.60	1.81	1.25	1.13	2.68	3.61	6.78	4.07	5.90	1.25	.25	.06
1-1/4	12	1019891	1019908	10.81	2.03	1.40	1.25	3.00	3.97	7.50	4.53	6.69	1.38	.25	.06
1-3/8	13-1/2	1019917	1019926	13.75	2.25	1.53	1.38	3.31	4.43	8.28	5.01	7.21	1.50	.25	.13
1-1/2	17	1019935	1019944	17.01	2.38	1.66	1.50	3.62	4.87	9.05	5.38	7.73	1.52	.25	.13
1-3/4	25	1019953	1019962	31.40	2.88	2.04	1.75	4.19	5.82	10.97	6.38	9.33	2.12	.25	.13
2	35	1019971	1019980	46.75	3.25	2.30	2.10	5.00	6.82	12.74	7.25	10.41	2.36	.25	.13
2-1/2	55	1019999	1020004	85.00	4.12	2.80	2.63	5.68	8.07	14.85	9.38	13.58	2.53	.25	.25
3	† 85	1020013	-	124.25	5.00	3.25	3.00	6.50	8.58	16.87	11.00	15.13	3.50	.25	.25

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.
† Individually Proof Tested with certification.

Load Rated Fatigue Rated TA QUALI-CHECK QT MAXTOUGH CE

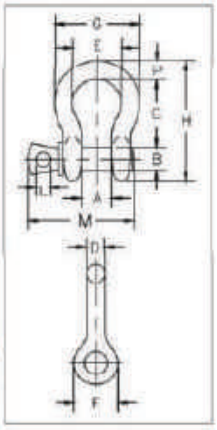
APPLICATION AND WARNING INFORMATION SECTION 17

OPI

Crosby®

G-209A
Grade 8

- Forged alloy steel, Quenched & Tempered, with alloy pins.
- Meets performance requirements of Grade 8 shackles.
- Working Load Limit permanently shown on every shackle.
- Hot-dip galvanized.
- Sizes 3/8 inch and below are mechanically galvanized.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including impact properties and material traceability, not addressed by ASME B30.26.
- G-209A Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade B, Class 2, except for those provisions required of the contractor.



G-209A Alloy Screw Anchor Pin Shackles

Load Tested · QUICK CHECK · Q&T · CE

APPLICATION AND WARNING INFORMATION SECTION 17

Nominal Size (in)	Working Load Limit (t)	Stock No.	Weight Each (lb)	Dimensions (in)											Tolerance (+/- in)	
				A	B	C	D	E	F	G	H	L	M	P	C	A
3/8	2	1017450	.31	.66	.44	1.44	.38	1.03	.91	1.78	2.49	.25	2.03	.38	.13	.06
7/16	2-2/3	1017472	.38	.75	.50	1.69	.44	1.16	1.06	2.03	2.91	.31	2.38	.44	.13	.06
1/2	3-1/3	1017494	.63	.81	.63	1.88	.50	1.31	1.19	2.31	3.28	.38	2.69	.50	.13	.06
5/8	5	1017516	1.38	1.06	.75	2.38	.63	1.69	1.50	2.94	4.19	.44	3.34	.69	.13	.06
3/4	7	1017538	2.35	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	.50	3.97	.81	.25	.06
7/8	9-1/2	1017560	3.61	1.44	1.00	3.31	.88	2.28	2.09	4.03	5.83	.50	4.50	.97	.25	.06
1	12-1/2	1017582	5.32	1.69	1.13	3.75	1.00	2.69	2.38	4.69	6.56	.56	5.07	1.06	.25	.06
1-1/8	15	1017604	7.25	1.81	1.25	4.25	1.16	2.91	2.69	5.16	7.47	.63	5.59	1.25	.25	.06
1-1/4	18	1017626	9.88	2.03	1.38	4.69	1.29	3.25	3.00	5.75	8.25	.69	6.16	1.38	.25	.06
1-3/8	21	1017648	13.25	2.25	1.50	5.25	1.42	3.63	3.31	6.38	9.16	.75	6.84	1.50	.25	.13

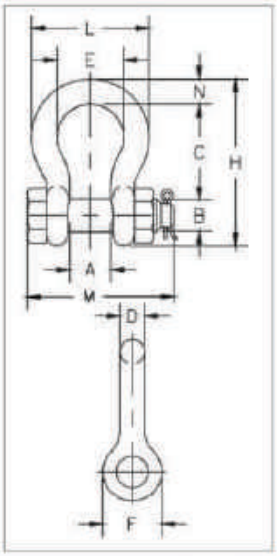
4.5:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit (metric tons) and 2.2 times the Working Load Limit (short tons).
For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

OPI

Crosby®

G-2130A
Grade 8

- Forged alloy steel, Quenched & Tempered, with bow and bolt.
- Meets or exceeds all requirements of Grade 8 shackles.
- Working Load Limit permanently shown on every shackle.
- Hot-dip galvanized.
- Shackles can be RFID equipped.
- Meets or exceeds all requirements of ASME B30.26, including identification, ductility, design factor, proof load, and temperature requirements. Importantly, G-2130A meet other critical performance requirements, including impact properties, and material traceability not addressed by ASME B30.26.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification when requested at time of order.
- Type Approval and certification in accordance with DNV 2.7-1 offshore containers.
- Shackles are Quenched & Tempered and meet DNV impact requirements of 42 Joules (31 ft-lb) at -40° C (-40° F).
- G-2130A Bolt Type Anchor shackles with thin head bolt – nut with cotter pin. Meets the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade B, Class 3, except for those provisions required of the contractor.



G-2130A Alloy Bolt Type Anchor Shackles Grade 8

Nominal Size (in)	Working Load Limit (t)*	Stock No.	Weight Each (lb)	Dimensions (in)										Tolerance (+/- in)	
				A	B	C	D	E	F	H	L	M	N	C	A
1/2	2	1219472	.79	.81	.63	1.88	0.50	1.31	1.19	3.29	2.30	2.80	0.50	0.13	0.06
5/8	3.25	1219491	1.37	1.06	.75	2.38	0.63	1.69	1.50	4.18	2.94	3.56	0.69	0.25	0.06
3/4	4.75	1219516	2.71	1.25	.88	2.82	0.75	2.01	1.81	4.96	3.51	4.15	0.81	0.25	0.06
7/8	6.5	1219534	3.95	1.44	1.00	3.31	0.88	2.29	2.09	5.83	4.02	4.82	0.97	0.25	0.06
1	8.5	1219552	5.03	1.69	1.10	3.76	1.00	2.70	2.38	6.58	4.69	5.39	1.06	0.25	0.06
1-1/8	9.5	1219578	8.27	1.81	1.25	4.26	1.13	2.92	2.70	7.49	5.16	5.90	1.25	0.25	0.06
1-1/4	12	1219598	11.7	2.03	1.38	4.69	1.25	3.25	2.99	8.27	5.75	6.69	1.38	0.25	0.06
1-3/8	13.5	1219614	15.8	2.25	1.50	5.24	1.38	3.62	3.31	9.18	6.38	7.21	1.50	0.25	0.13
1-1/2	17	1219632	19.0	2.38	1.63	5.75	1.50	3.88	3.62	10.0	6.90	7.73	1.62	0.25	0.13

8:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications..

Load Rated Fatigue Rated TA QUALITY CHECK QT MAXTOUGH CE

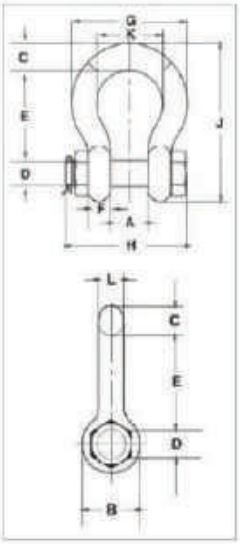
APPLICATION AND WARNING INFORMATION SECTION 17

OPI

Crosby®

G-2140 / S-2140

- Quenched & Tempered.
- Alloy bows, alloy bolts.
- Forged alloy steel 2 through 250 metric tons. Cast alloy steel 400 metric tons.
- Meets performance requirements of Grade 8 shackles.
- Working Load Limit is permanently shown on every shackle.
- 30, 40, 55, and 85 metric ton shackle bows are available galvanized (G) or self colored (S) with bolts that are galvanized and painted red.
- Sizes 3/8 inch and below are mechanically galvanized.
- 120, 150, 175 metric ton shackle bows are hot-dip galvanized; bolts are Dimetcoted and painted red.
- 200, 250, 300, 400 metric ton shackle bows are Dimetcoted; bolts are Dimetcoted and painted red.
- Sizes 1-1/2 and larger are RFID equipped.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- Shackles are Quenched & Tempered and can meet DNV impact requirements of 42 Joules (31 ft-lb) at -20° C (-4° F).
- Crosby COLD TUFF® shackles that meet the additional requirements of DNV rules for certification of lifting applications - loose gear are available.
- Shackles 200 metric tons and larger are provided as follows:
  - Serialized bolt and bow
  - Material certification (chemical)
  - Magnetic particle inspected.
  - Certification must be requested at time of order.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. 2140 shackles meet other critical performance requirements including impact properties and material traceability, not addressed by ASME B30.26.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and 2016 ABS Guide for Certification of Lifting Appliances. Certificates are available when requested at time of order and may include additional charges.
- G-2140 meets the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade B, Class 3, except for those provisions required of the contractor. For additional information, see Warnings & Applications.
- Look for the Red Pin®... the mark of genuine Crosby quality.



G-2140 / S-2140 Alloy Bolt Type Anchor Shackles

Nominal Shackle Size (in)	Working Load Limit (t)	Stock No.			Weight Each (lb)	Dimensions (in)													Tolerance (+/- in)		
		G-2140	S-2140	G-2140 OC		A	B	C	D	E	F	G	H	J	K	L	M	N	A	D	E
3/8	2	1021015	-	-	0.33	0.66	0.91	0.38	0.44	1.44	0.38	1.78	2.17	2.49	1.03	0.38	-	-	0.06	0.01	0.13
7/16	2 2/3	1021020	-	-	0.49	0.75	1.06	0.44	0.50	1.69	0.41	2.03	2.51	2.91	1.16	0.44	-	-	0.06	0.01	0.13
1/2	3 1/3	1021029	-	-	0.79	0.81	1.19	0.50	0.64	1.88	0.46	2.31	2.80	3.28	1.31	0.50	-	-	0.06	0.02	0.13
5/8	5	1021038	-	-	1.66	1.06	1.50	0.69	0.77	2.38	0.58	2.94	3.56	4.19	1.69	0.63	-	-	0.06	0.02	0.13
3/4	7	1021047	-	-	2.72	1.25	1.81	0.81	0.89	2.81	0.69	3.50	4.15	4.97	2.00	0.75	-	-	0.06	0.02	0.25
7/8	9-1/2	1021056	-	-	3.95	1.44	2.09	0.97	1.02	3.31	0.81	4.03	4.82	5.83	2.28	0.88	-	-	0.06	0.02	0.25
1	12-1/2	1021065	-	-	5.66	1.69	2.38	1.06	1.15	3.75	0.92	4.69	5.39	6.56	2.69	1.00	-	-	0.06	0.02	0.25
1-1/8	15	1021074	-	-	8.27	1.81	2.69	1.25	1.25	4.25	1.04	5.16	5.90	7.47	2.91	1.13	-	-	0.06	0.02	0.25
1-1/4	18	1021083	-	-	11.7	2.03	3.00	1.38	1.40	4.69	1.16	5.75	6.69	8.25	3.25	1.29	-	-	0.06	0.03	0.25
1-3/8	21	1021092	-	-	15.8	2.25	3.31	1.50	1.53	5.25	1.28	6.38	7.21	9.16	3.63	1.42	-	-	0.13	0.03	0.25
1-1/2	30	1021110	1021129	1262407	18.8	2.38	3.62	1.62	1.63	5.75	1.39	6.88	7.73	10.00	3.88	1.53	-	-	0.13	0.03	0.25
1-3/4	40	1021138	1021147	1262416	33.8	2.88	4.19	2.25	2.00	7.00	1.75	8.81	9.33	12.34	5.00	1.84	-	-	0.13	0.03	0.25
2	55	1021156	1021165	1262425	49.9	3.25	4.81	2.40	2.25	7.75	2.00	10.16	10.41	13.68	5.75	2.08	-	-	0.13	0.03	0.25
2-1/2	85	1021174	1021183	1262434	103	4.12	5.81	3.12	2.75	10.50	2.62	12.75	13.68	17.90	7.25	2.71	-	-	0.25	0.03	0.25
3	120	1021192	-	1262443	162	5.00	6.50	3.63	3.25	13.00	3.00	14.62	15.13	21.50	7.88	3.12	-	-	0.25	0.04	0.25
3-1/2	† 150	1021218	-	1262452	265	5.25	8.00	4.38	3.75	14.63	3.75	17.02	20.33	24.88	9.00	3.62	4.00	1.80	0.25	0.01	0.25
4	† 175	1021236	-	1262461	318	5.50	9.00	4.56	4.25	14.50	4.00	18.00	21.20	25.68	10.00	4.00	4.00	1.80	0.25	0.01	0.25
4-3/4	† 200	1021234	-	-	461	7.25	10.50	5.00	4.75	15.19	4.58	20.84	24.04	27.81	11.00	4.75	4.00	1.80	0.25	0.01	0.25
5	† 250	1021243	-	-	608	8.50	12.00	5.62	5.00	18.50	4.85	23.62	24.87	32.61	13.00	5.00	4.00	1.80	0.25	0.01	0.25
6	† 300	1021252	-	-	797	8.38	13.00	6.06	6.00	18.72	4.89	24.76	26.22	34.28	13.00	5.88	4.00	1.80	0.25	0.01	0.25
7*	† 400	1021478	-	-	1289	8.25	14.00	7.25	7.00	22.50	6.50	26.00	29.66	40.25	13.00	6.00	4.00	1.80	0.25	0.01	0.25

4.5:1 Design Factor for sizes 2 through 21 metric tons, 5.4:1 Design Factor for sizes 30 through 175 metric tons. 4:1 Design Factor for 200 through 400 metric tons. Maximum Proof Load is 2 times the Working Load Limit. *Cast alloy steel †Furnished with round head bolts with a handle. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

Load Rated TA QUENCHED & TEMPERED Q&T CE APPLICATION AND WARNING INFORMATION SECTION 17

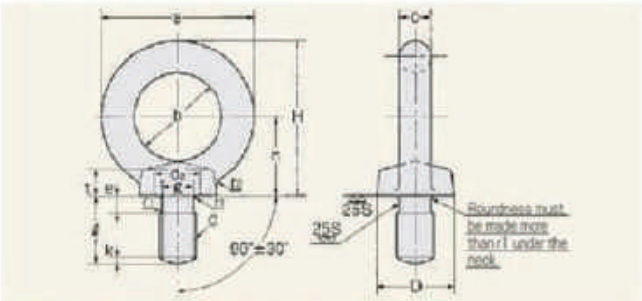
EYE BOLT

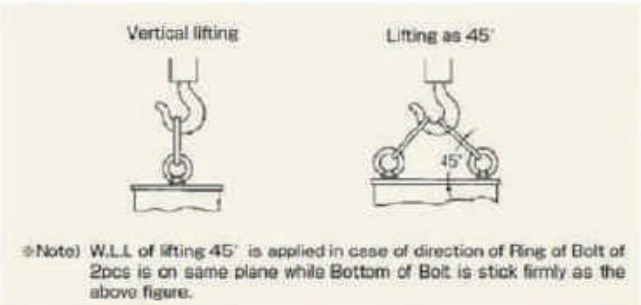
JIS B 1168-1994

KONDOTEC

Specification	
Material	Steel (SS400) Stainless Steel (SUS304)
Surface Treatment	Steel (Un-galvanized, Galvanized, Yellow zinc plated, Hot dipped galvanized)

※We can also produce except below ℓ size.
Please ask us if necessary.





※Note) W.L.L of lifting 45° is applied in case of direction of Ring of Bolt of 2pcs is on same plane while Bottom of Bolt is stick firmly as the above figure.

■Size Table of Eye Bolt

(unit : ㎜)

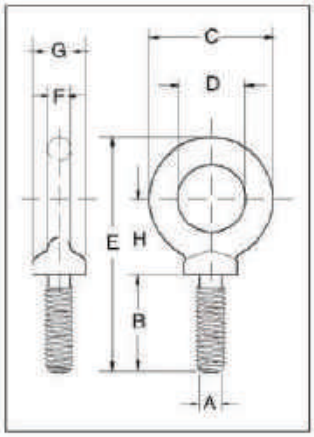
Screws Size (d)		a	b	c	D	t	h	H	ℓ	e	g	r	d_1	r_1	k	W.L.L Vertical Lifting or Lifting 45°by 2pcs		Weight (kg)
																M Screw	W Screw	
M Screw	W Screw													(about)	(about)	kN (kgf)	kN (kgf)	(about)
(6)	(1/4)	26	16	5.8	13.5	6	14	27	14	2	4.5	0.8	7.1	2	1	0.588 (60)		0.016
8	5/16	32.6	20	6.3	16	5	17	33.3	15	3	6	1	9.2	4	1.2	0.785 (80)		0.03
10	3/8	41	25	8	20	7	21	41.5	18	4	7.7	1.2	11.2	4	1.5	1.47 (150)	1.37 (140)	0.06
12	1/2	50	30	10	25	9	26	51	22	5	9.4	1.4	14.2	6	2	2.16 (220)	2.16 (220)	0.12
16	5/8	60	35	12.5	30	11	30	60	27	5	13	1.6	18.2	6	2	4.41 (450)	3.92 (400)	0.22
20	3/4	72	40	16	35	13	35	71	30	6	16.4	2	22.4	8	2.5	6.18 (630)	5.88 (600)	0.39
(22)	(7/8)	80	44	19	40	16.5	43	84	35	7	18.5	2.3	24.4	10	2.5	7.74 (790)	7.84 (800)	0.56
24	1"	90	50	20	45	18	45	90	38	8	19.6	2.5	26.4	12	3	9.32 (950)	9.32 (950)	0.80
30	1 1/4	110	60	25	60	22	55	110	45	8	25	3	33.4	15	3.5	14.7 (1500)	14.7 (1500)	1.56
36	1 1/2	133	70	31.5	70	26	65	131.5	55	10	30.3	3	39.4	18	4	22.6 (2300)	22.6 (2300)	2.90
42	1 3/4	151	80	35.5	80	30	75	150.5	65	12	35.6	3.5	45.6	20	4.5	33.3 (3400)	33.3 (3400)	4.40
48	2"	170	90	40	90	35	85	170	70	12	41	4	52.6	22	5	44.1 (4500)	44.1 (4500)	6.10
64	2 1/2	210	110	50	110	42	105	210	90	14	55.7	5	71	25	6	88.3 (9000)	88.3 (9000)	11.50
80	3"	266	130	63	130	50	130	263	105	14	71	5	87	35	6	147 (15000)	127 (13000)	26.25
90		302	150	74	150	55	150	301	120	14	81	5	97	35	6	177 (18000)	167 (17000)	46.00
100	4"	340	170	80	170	60	165	335	130	14	91	5	108	40	6	196 (20000)	196 (20000)	49.00

EYE BOLT

Crosby®

S-279 / M-279

- Forged steel - Quenched & Tempered.
- Working Load Limits shown are for in-line pull. For angle loading, see Warnings & Applications.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- Recommended for in-line pull.
- S-279 threaded UNC.
- M-279 metric threaded.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these bolts meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.



S-279 UNC Shoulder Type Machinery Eye Bolts

Size (in)	Stock No.	Working Load Limit (lb)	Weight Per 100 (lb)	Dimensions (in)							
				A* Thread	B	C	D	E	F	G	H
1/4 x 1	9900182	650	5.00	1/4 - 20	1.02	1.13	.75	2.29	.19	.53	.77
5/16 x 1-1/8	9900191	1200	9.00	5/16 - 18	1.15	1.38	.88	2.74	.25	.59	.85
3/8 x 1-1/4	9900208	1550	15.00	3/8 - 16	1.27	1.62	1.00	3.07	.31	.69	1.05
1/2 x 1-1/2	9900217	2600	28.00	1/2 - 13	1.53	1.95	1.19	3.70	.38	.91	1.27
5/8 x 1-3/4	9900226	5200	55.00	5/8 - 11	1.79	2.38	1.38	4.45	.50	1.13	1.53
3/4 x 2	9900235	7200	98.00	3/4 - 10	2.05	2.76	1.50	5.07	.63	1.38	1.71
7/8 x 2-1/4	9900244	10600	154.00	7/8 - 9	2.31	3.25	1.75	5.87	.75	1.56	2.00
1 x 2-1/2	9900253	13300	238.00	1 - 8	2.57	3.76	2.00	6.66	.88	1.81	2.30
1-1/8 x 2-3/4	9900257	15000	320.00	1-1/8 - 7	2.75	4.19	2.25	7.20	.97	2.06	2.35
1-1/4 x 3	9900262	21000	399.00	1-1/4 - 7	3.09	4.50	2.50	7.95	1.00	2.28	2.73
1-1/2 x 3-1/2	9900271	24000	720.00	1-1/2 - 6	3.60	5.50	3.00	9.49	1.25	2.75	3.28
1-3/4 x 3-3/4	9900280	34000	1040.00	1-3/4 - 5	3.75	6.26	3.50	10.48	1.38	3.00	3.60
2 x 4	9900289	42000	1880.00	2 - 4-1/2	4.00	7.62	4.00	12.31	1.81	3.38	4.50
2-1/2 x 5	9900298	65000	3250.00	2-1/2 - 4	5.00	8.76	4.50	14.88	2.12	4.25	5.50

5:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. *All bolts threaded UNC.

Fatigue Rated | Q&T | QUIC CHECK | APPLICATION AND WARNING INFORMATION SECTION 17

M-279 Metric Shoulder Type Machinery Eye Bolts

Size (mm)	Stock No.	Working Load Limit (kg)	Weight Each (kg)	Dimensions (mm)							
				A* Thread	B	C	D	E	F	G	H
M6 x 13	1045753	200	.03	M6 x 1.0	13.0	28.7	19.1	47.0	4.9	13.5	19.6
M8 x 13	1045789	400	.05	M8 x 1.25	13.0	35.1	22.4	54.6	6.4	15.0	24.1
M10 x 17	1045833	640	.07	M10 x 1.5	17.0	41.1	25.4	64.3	7.9	17.5	26.5
M12 x 20.5	1045869	1000	.11	M12 x 1.75	20.5	49.5	30.2	77.7	9.7	23.1	32.8
M16 x 27	1045913	1800	.25	M16 x 2.0	27.0	60.5	35.1	96.0	12.7	28.7	38.9
M20 x 30	1045995	2500	.42	M20 x 2.5	30.0	70.0	38.1	108	16.0	35.1	43.4
M24 x 36	1046029	4000	1.05	M24 x 3.0	36.0	95.5	51.0	142	22.4	46.0	58.4
M27 x 69.8	1046038	5000	1.42	M27 x 3.0	69.8	107	57.1	183	24.6	52.3	59.7
M30 x 45	1046075	6000	1.77	M30 x 3.5	45.0	114	63.5	171	25.4	58.0	69.3
M36 x 54	1046109	8500	3.12	M36 x 4.0	54.0	140	76.0	207	31.8	70.0	83.3
M42 x 95.2	1046118	14000	4.58	M42 x 4.5	95.2	159	88.9	266	35.0	76.2	91.4
M48 x 102	1046127	17300	8.71	M48 x 5.0	102	194	101	313	46.0	85.9	114
M64 x 127	1046136	29500	14.74	M64 x 6.0	127	223	114	378	53.8	108	140

5:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit.
*On Request: Special threading or as forged bolts for customer conversion.

Q&T

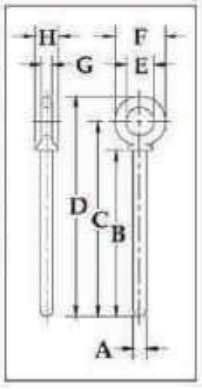
EYE BOLT

Crosby®

S-276 Shoulder Rivet Eye Bolts

• Forged steel - Quenched & Tempered.

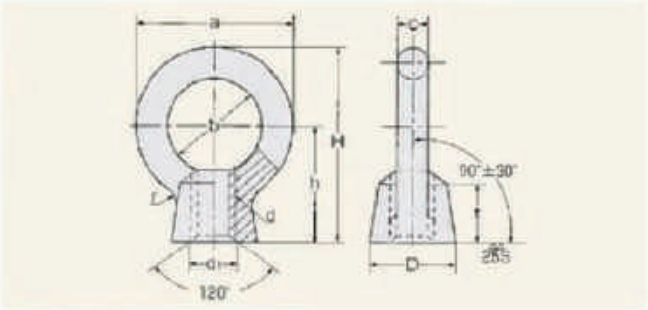
Shank Dia. & Length (in)	Stock No.	Weight Per 100 (lb)	Dimensions (in)							
			A	B	C	D	E	F	G	H
1/2 x 3-1/4	1045862	33.00	.50	3.25	4.25	5.12	1.00	1.75	.38	.91
3/4 x 4-1/2	1045942	125.00	.75	4.50	6.06	7.44	1.50	2.75	.62	1.38
3/4 x 6	1045960	150.00	.75	6.00	7.56	8.94	1.50	2.75	.62	1.38
7/8 x 5	1045988	200.00	.88	5.00	6.84	8.46	1.75	3.25	.75	1.56
1 x 6	1046022	298.00	1.00	6.00	8.09	9.97	2.00	3.75	.88	1.81
1 x 9	1046040	425.00	1.00	9.00	11.09	12.97	2.00	3.75	.88	1.81
1-1/4 x 8	1046068	654.00	1.25	8.00	10.47	12.72	2.50	4.50	1.00	2.28
1-1/4 x 12	1046086	712.00	1.25	12.00	14.47	16.72	2.50	4.50	1.00	2.28
1-1/2 x 15	1046102	1425.00	1.50	15.00	18.00	20.75	3.00	5.50	1.25	2.75

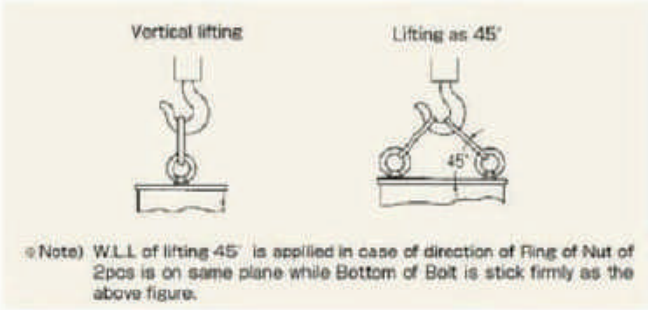


EYE NUT

JIS B 1169-1994

Specification	
Material	Steel (SS400) Stainless Steel (SUS304)
Surface Treatment	Steel (Un-galvanized, Galvanized, Yellow zinc plated, Hot dipped galvanized)





※Note) W.L.L of lifting 45° is applied in case of direction of Ring of Nut of 2pcs is on same plane while Bottom of Bolt is stick firmly as the above figure.

■Size Table of Eye Nut

(unit : ㎜)

Screws Size (d)		a	b	c	D	t	h	H	r	d	W.L.L Vertical Lifting or Lifting 45° by 2pcs		Weight (kg)
											M Screw	W Screw	
M Screw	W Screw								(about)		kN (kgf)	kN (kgf)	(about)
(6)	(1/4)	25	14	6.3	13	10	20	32.5	6	7.5	0.588 (60)		0.016
8	5/16	32.6	20	6.3	16	12	23	39.3	8	8.5	0.785 (80)		0.026
10	3/8	41	25	8	20	15	28	48.5	10	10.6	1.47 (150)	1.37 (140)	0.064
12	1/2	50	30	10	25	19	36	61	12	12.5	2.16 (220)	2.16 (220)	0.125
16	5/8	60	35	12.5	30	23	42	72	14	17	4.41 (450)	3.92 (400)	0.223
20	3/4	72	40	16	35	28	50	86	16	21.2	6.18 (630)	5.88 (600)	0.390
(22)	(7/8)	81	44	19	41	33	58	99	20	24	7.74 (790)	7.84 (800)	0.570
24	1"	90	50	20	45	38	66	111	25	25	9.32 (950)	9.32 (950)	0.650
30	1 1/4	110	60	25	60	46	80	135	30	31.5	14.7 (1500)	14.7 (1500)	1.75
36	1 1/2	133	70	31.5	70	55	95	161.5	35	37.5	22.6 (2300)	22.6 (2300)	3.00
42	1 3/4	151	80	35.5	80	64	109	184.5	40	45	33.3 (3400)	33.3 (3400)	4.65
48	2"	170	90	40	90	73	123	208	45	50	44.1 (4500)	44.1 (4500)	6.60
64		210	110	50	110	90	151	256	50	67	88.3 (9000)	88.3 (9000)	13.80
80		266	140	63	130	108	184	317	60	85	147 (15000)	127 (13000)	28.50

WIRE ROPE CLIP

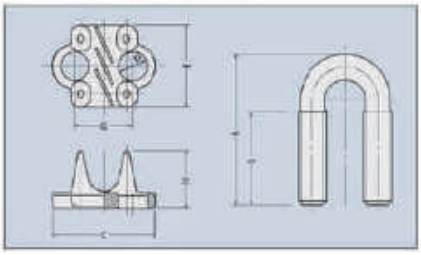
DROP FORGED STEEL WIRE ROPE CLIP
(JIS SANDARD F TYPE) JIS B2809-1996

KONDOTEC

ก๊บของเรามีทั้งแบบ US และ แบบ JIS ให้ท่านเลือกตามลักษณะงาน ก๊บของเราได้มาตรฐานและเป็นที่นิยมอย่างกว้างขวาง นอกจากนี้ก๊บของเรายังผลิตโดยวิธี Drop Forged คือการขึ้นรูปเหล็กวิธีหนึ่ง โดยใช้วิธีอัดเนื้อเหล็กจามแบบให้แน่น ซึ่งวิธีนี้จะทำให้เหล็กไม่มีโพรงอากาศภายใน ซึ่งทำให้เหล็กนั้นมีความเหนียวแน่นและทนทานมาก

Drop Forged Steel Wire Rope Clip

HOT DIPPED GALV.
JIS B2809-1996

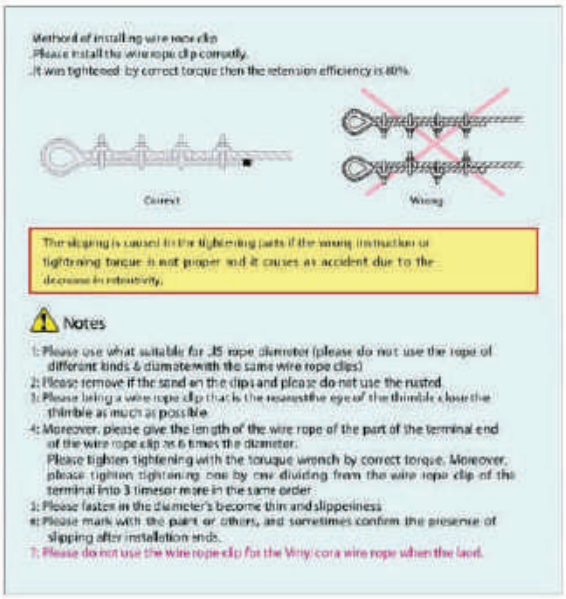


Size	BODY				U-BOLT/NUT			Weight (g)
	C	E	G	H	Thread	L	S	
1/4"	30	24.5	14	16	M6	35	20	47
5/16"	36	31	18	19	8	40	20	80
3/8"	45	35	22	23	10	50	28	150
1/2"	51	39	26	27	12	60	35	220
5/8"	60	48	32	35	14	75	45	380
3/4"	78	62	44	43	16	100	60	600
7/8"	86	68	48	47	20	110	65	1100
1"	94	75	54	53	22	120	70	1500
1-1/8"	98	79	58	58	22	130	75	1600
1-1/4"	120	93	70	65	27	150	85	2800
1-1/2"	136	100	80	72	30	175	95	4400
1-3/4"	150	115	88	81	33	195	109	6100
2"	170	128	101	96	36	240	125	8900
2-1/2"	191	142	116	105	39	270	139	10900
3"	212	156	128	114	42	300	159	14600

ข้อควรระวัง

Fitting Standard (FOR 6X24 / 6X37)

Rope Dia (mm)	Fitting Q'ty	Space (mm)	Torque (kgf cm)
6	4	40	100
8	4	50	120
10	4	70	160
12	4	80	240
14	4	90	380
16	4	100	530
18	5	120	680
20	5	130	840
24	5	160	1210
26	5	170	1400
30	6	200	1900
36	7	230	2660
40	7	260	3050
48	8	310	4000



Malleable Iron Cast Wire Rope Clip

Galvanized

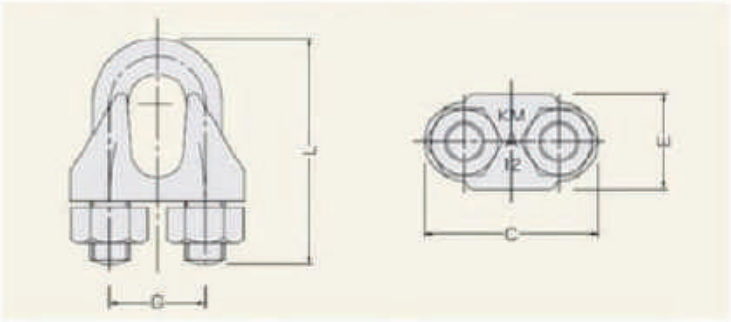
WIRE ROPE CLIP

MALLEABLE IRON CAST WIRE ROPE CLIP

KONDOTEC

Galvanized

Please use the drop forged wire rope clip (JIS type) when the heavy loading



Size	U-BOLT/NUT	Weight	Price	
	(W)	(g)	Self Color	Galvanized
1/8"	3/16	15		
3/16"	1/4	27		
1/4"	5/16	55		
5/16"	5/16	62		
3/8"	3/8	105		
1/2"	3/8	130		
5/8"	1/2	254		
3/4"	1/2	295		
7/8"	5/8	545		
1"	5/8	650		

The KL clip is the small size and light for the lashing wire

	C	E	G	L
KM19	61	32	33	74
KL19	56	28	32	73

WIRE ROPE CLIP

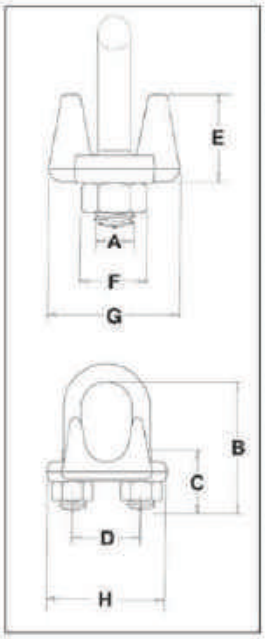
G-450 CROSBY CLIPS

Crosby®

G-450
Red U-Bolt® Clip

- Each base has a Product Identification Code (PIC) for material traceability, the name Crosby or "CG," and a size forged into it.
- Based on the catalog breaking strength of wire rope, Crosby wire rope clips have an efficiency rating of 80% for 1/8" through 7/8" sizes, and 90% for sizes 1" through 3-1/2".
- Entire clip is galvanized to resist corrosive and rusting action.
- Sizes 1/8" through 2-1/2" and 3" have forged bases.
- All clips are individually bagged or tagged with proper application instructions and warning information.
- Clip sizes up through 1-1/2" have rolled threads.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these wire rope clips meet other critical performance requirements, including fatigue life, impact properties, and material traceability not addressed by ASME B30.26.
- Look for the Red U-Bolt®, your assurance of genuine Crosby Clips.

APPLICATION AND WARNING INFORMATION SECTION 17



G-450 Crosby Clips

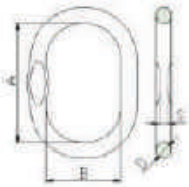
Rope Size (in)	Rope Size (mm)	Stock No.	Std. Package Qty.	Weight Per 100 (lb)	Dimensions (in) A	B	C	D	E	F	G	H
1/8	3-4*	1010015	100	6	.22	.72	.44	.47	.37	.38	.81	.99
3/16*	5*	1010033	100	10	.25	.97	.56	.59	.50	.44	.94	1.18
1/4	6-7	1010051	100	19	.31	1.03	.50	.75	.66	.56	1.19	1.43
5/16	8	1010079	100	28	.38	1.38	.75	.88	.73	.69	1.31	1.66
3/8	9-10	1010097	100	48	.44	1.50	.75	1.00	.91	.75	1.63	1.94
7/16 - 1/2	11-13	1010131	50	80	.50	1.88	1.00	1.19	1.13	.88	1.91	2.28
9/16 - 5/8	14-16	1010177	50	110	.56	2.25	1.25	1.31	1.34	.94	2.06	2.50
3/4	18-20	1010195	25	142	.62	2.75	1.44	1.50	1.39	1.06	2.25	2.84
7/8	22	1010211	25	212	.75	3.12	1.62	1.75	1.58	1.25	2.44	3.16
1	24-26	1010239	10	252	.75	3.50	1.81	1.88	1.77	1.25	2.63	3.47
1-1/8	28-30	1010257	10	283	.75	3.88	2.00	2.00	1.91	1.25	2.81	3.59
1-1/4	32-34	1010275	10	438	.88	4.44	2.22	2.34	2.17	1.44	3.13	4.13
1-3/8	36	1010293	10	442	.88	4.44	2.22	2.34	2.31	1.44	3.13	4.19
1-1/2	38	1010319	10	544	.88	4.94	2.38	2.59	2.44	1.44	3.41	4.44
1-5/8	41-42	1010337	Bulk	704	1.00	5.31	2.62	2.75	2.66	1.63	3.63	4.75
1-3/4	44-46	1010355	Bulk	934	1.13	5.75	2.75	3.06	2.92	1.81	3.81	5.24
2	48-52	1010373	Bulk	1300	1.25	6.44	3.00	3.38	3.03	2.00	4.44	5.88
2-1/4	56-58	1010391	Bulk	1600	1.25	7.13	3.19	3.88	3.19	2.00	4.56	6.38
2-1/2	62-65	1010417	Bulk	1900	1.25	7.69	3.44	4.13	3.69	2.00	4.69	6.63
** 2-3/4	** 68-72	1010435	Bulk	2300	1.25	8.31	3.56	4.38	4.88	2.00	5.00	6.88
3	75-78	1010453	Bulk	3100	1.50	9.19	3.88	4.75	4.44	2.38	5.31	7.61
** 3-1/2	** 85-90	1010426	Bulk	4000	1.50	10.75	4.50	5.50	6.00	2.38	6.19	8.38

*Electro-plated U-Bolt and Nuts. ** 2-3/4" and 3-1/2" base is made of cast steel.

MASTER LINK

G80 PRODUCTS

KONDOTEC

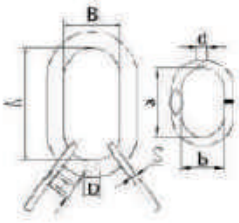


SLR-093 G80 U.S. TYPE MASTER LINK

Size	Weight (kg)	Chain Size	Chain WLL 1 leg (t)	Chain WLL 2 leg 0-45° (t)	Wire rope WLL (t)	Dimensions (mm) A	B	D	s
7/16	0.27	1/4 9/32	1.12 1.50	1.60 -	1.60	100±5	60±5	12±1	6±0.5
1/2	0.38	9/32 5/16	1.50 2.00	2.12 -	2.50	100±5	60±5	14±1	7.6 ±0.5
11/16	0.85	5/16 3/8	2.00 3.15	2.80 -	4.00	160±6	90±5	18±1	8.4 ±0.5
3/4	1.20	3/8 1/2	3.15 5.30	4.25 -	6.50	160±6	90±5	20±1	10.5 ±0.5
7/8	1.63	1/2 5/8	5.30 8.00	7.50 -	8.00	180±6	100±5	22±1	13.5 ±0.5
1	2.13	5/8 19mm	8.00 11.20	11.20 -	11.50	180±6	100±5	25±1	16.5 ±0.5
1-1/8	3.81	3/4	12.50	-	11.80	270±7	140±6	28±1/-2	19 ±0.5
1-1/4	5.05	19mm 7/8	11.20 15.00	16.00 -	16.00	270±7	140±6	32±1/-2	19 ±0.5
1-3/8	6.83	7/8 1	15.00 21.20	21.20 -	24.00	285±7	155±6	36±1/-2	20±0.5
1-1/2	8.90	28mm	25.00	-	25.00	300±8	160±6	40±1/-2	26±0.5
1-3/4	12.80	1 1 1/4	21.20 31.50	30.00 -	31.50	340±10	180±6	45±1/-2	26±0.5
2	17.30	1 1/4	31.50	45.00	45.00	390±10	215±7	51±1/-2	32±0.5

For chain sling: Minimum Ultimate Load is 4 times the Working Load limit

For steel rope sling: Minimum Ultimate Load is 5 times the Working Load Limit



SLR-094 G80 U.S. TYPE MASTER LINK ASSEMBLY

Size	Weight (kg)	Chain Size	Chain WLL 3 or 4 leg 0-45° (t)	Wire rope WLL (t)	Dimensions (mm) A	B	D	a	b	d	s
1/2	0.82	7/32	2.36	2.40	100±5	60±5	14±1	85±5	40±3	12±1	6±0.5
11/16	1.6	1/4	3.15	3.20	160±6	90±5	18±1	100±5	60±5	14±1	7.6±0.5
5/8	1.6	1/4	3.15	3.20	160±6	90±5	18±1	100±5	60±5	14±1	7.6±0.5
3/4	1.95	5/16	4.25	4.20	160±6	90±5	20±1	100±5	60±5	14±1	7.6±0.5
7/8	3.16	3/8	6.70	8.00	180±6	100±5	22±1	150±6	70±5	18±1	8.4±0.5
1-1/8	6.75	1/2	11.20	12.00	270±7	140±6	28±1/-2	160±6	90±5	22±1	13.5±0.5
1-1/4	9.31	5/8	17.00	17.00	270±7	140±6	32±1/-2	180±6	100±5	25±1	16.5±0.5
1-1/2	18.4	3/4	23.60	25.00	300±7	160±6	40±1/-2	270±7	140±6	31±1/-2	19±0.5
1-3/4	26.6	7/8	31.50	31.50	340±4	180±6	45±1/-2	285±7	155±6	36±1/-2	22±0.5
2	42.91	1	45.00	45.00	350±10	190±6	51±1/-2	340±10	180±6	45±1/-2	25±0.5

For chain sling: Minimum Ultimate Load is 4 times the Working Load limit

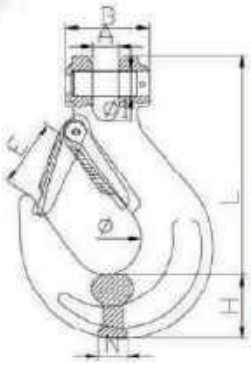
For steel rope sling: Minimum Ultimate Load is 5 times the Working Load Limit

HOOK

G80 PRODUCTS

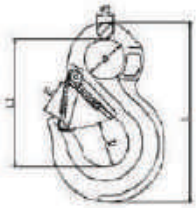
KONDOTEC

SLR-012 G80 CLEVIS SLING HOOK WITH LATCH



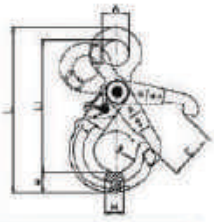
ITEM NO.	WEIGHT/kg	WLL/T	B.L/T	A±0.5	B±1.5	ø±1	H±1	L±2	E±2	N±0.5	ø1 +0.2 +0.1
8-SLR012-06	0.32	1.12	4.48	8	32	35	23	112	26	10	7.6
8-SLR012-7/8	0.52	2.0	8.0	9.5	37	37	32.5	129.5	29	12	9
8-SLR012-10	1.05	3.15	12.6	13	49	46	35	159	39	16	12.7
8-SLR012-13	2	5.3	21.2	16.5	56.5	56	42.5	198	47	27	16
8-SLR012-16	3.7	8	32	21.5	70.5	60	54	237	55	24	21
8-SLR012-20	6	12.5	50	24	77	79	58	277.5	61	32	24
8-SLR012-22	10.4	15	60	27	91	101	62	320	72	36	26
8-SLR012-26											
8-SLR012-32											

SLR-013 G80 EUROPEAN TYPE EYE SLING HOOK WITH LATCH



Size	Weight (kg)	WLL (t)	B.L (t)	Dimensions (mm) Φ1	E	D	Φ	L1	L2
6mm	0.24	1.12	4.48	9	24	21	20	75.0	108
7-8mm	0.40	2.00	8.00	11	30	26	25	98.5	133
10mm	0.90	3.15	12.60	15	34	39	38	120.0	167
13mm	1.83	5.30	21.20	19	39	54	43	152.0	213
16mm	3.20	8.00	32.00	23	46	64	50	183.5	255
20mm	5.80	12.50	50.00	24	48	80	62	219.0	305
22mm	9.20	15.00	60.00	32	71	80	62	241.0	348
26mm	13.00	21.20	84.80	35	81	82	64	279.0	394
32mm	17.00	31.50	126.00	37	102	112	88	355.0	480

SLR-077 G80 EUROPEAN TYPE EYE SELF-LOCKING HOOK WITH GRIP

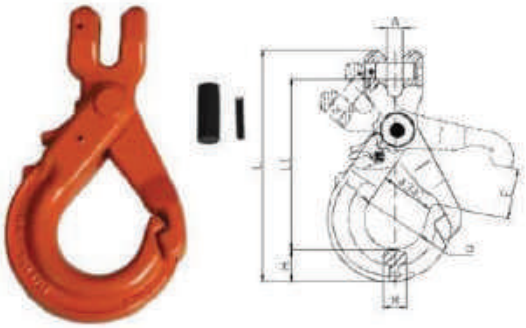


Size	Weight (kg)	WLL (t)	B.L (t)	Dimensions (mm) A	H	E	L	Φ	M	L1
7-8mm	0.75	2.00	8.0	25	22.0	34	164.0	40	18.0	131.0
10mm	1.30	3.15	12.6	32	26.0	42	201.0	50	22.5	161.6
13mm	1.93	5.30	21.2	40	31.0	50	243.5	60	29.0	195.5
16mm	3.40	8.00	32.0	50	39.5	60	298.0	70	35.0	238.0

HOOK

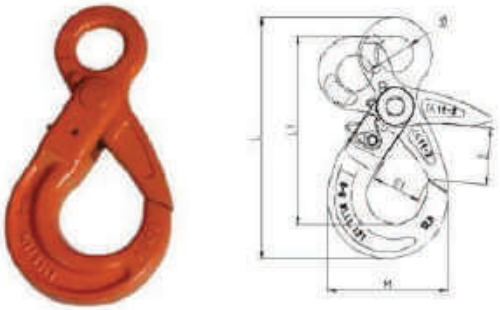
G80 PRODUCTS

KONDOTEC



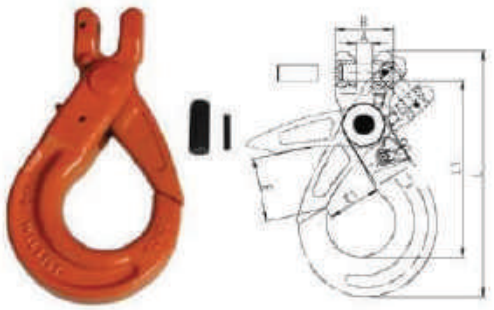
SLR-078 G80 EUROPEAN TYPE CLEVIS SELF-LOCKING HOOK WITH GRIP

Size	Weight	WLL	B.L	Dimensions (mm)						
	(kg)	(t)	(t)	A	H	E	L	Φ	M	L1
7-8mm	0.8	2.00	8.0	9.5	21.5	36	150	40	18.0	111
10mm	1.5	3.15	12.6	12.0	26.2	44	189	50	22.5	139
13mm	2.8	5.30	21.2	15.0	31.0	54	229	60	29.0	168
16mm	5.1	8.00	32.0	18.5	39.5	63	299	72	35.0	238



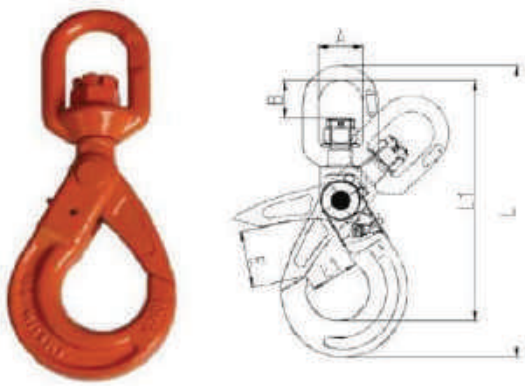
SLR-737 G80 EUROPEAN TYPE EYE SELF-LOCKING HOOK

Size	Weight	WLL	B.L	Dimensions (mm)				
	(kg)	(t)	(t)	Φ	E	E1	L1	L
6mm	0.50	1.12	4.48	21.0	35	28.0	110.0	141
7-8mm	0.88	2.00	8.00	25.0	40	35.0	136.0	175
10mm	1.58	3.15	12.60	34.5	50	45.0	168.0	214
13mm	3.00	5.30	21.20	40.0	60	52.5	207.0	268
16mm	5.90	8.00	32.00	50.0	65	63.3	254.0	332
18-20mm	7.00	12.50	50.00	64.5	80	86.0	274.5	332
22mm	12.30	15.00	60.00	70.0	83	76.0	319.0	415
26mm	20.00	21.20	84.80	80.0	106	96.0	362.0	472
32mm	44.00	31.50	126.00	105.0	140	133.0	470.0	614



SLR-738 G80 EUROPEAN TYPE CLEVIS SELF-LOCKING HOOK

Size	Weight	WLL	B.L	Dimensions (mm)					
	(kg)	(t)	(t)	A	B	E	E1	L1	L
6mm	0.44	1.12	4.48	8.0	32.0	35	28.0	96.0	131.0
7-8mm	0.80	2.00	8.00	9.5	38.5	40	35.8	119.3	161.8
10mm	1.38	3.15	12.60	12.5	48.0	50	45.0	142.0	195.0
13mm	2.81	5.30	21.20	15.0	59.0	60	52.5	179.0	249.0
16mm	6.00	8.00	32.00	18.5	77.0	65	63.3	224.8	310.0
18-20mm	7.25	12.50	50.00	25.0	77.0	80	86.0	238.3	335.0
22mm	12.80	15.00	60.00	25.0	97.5	83	76.0	277.0	392.0
26mm	21.80	21.20	84.80	30.0	118.0	106	96.0	312.0	450.0
32mm	49.60	31.50	126.00	35.0	150.0	140	135.0	416.0	589.6



SLR-755 G80 EUROPEAN TYPE SWIVEL SELF-LOCKING HOOK

Size	Weight	WLL	B.L	Dimensions (mm)					
	(kg)	(t)	(t)	A	B	E	E1	L1	L
6mm	0.71	1.12	4.48	32.5	24.0	35	28.0	152.5	184.0
7-8mm	1.15	2.00	8.00	36.0	29.5	40	35.8	189.0	228.0
10mm	1.86	3.15	12.60	42.0	35.0	50	48.0	224.0	270.0
13mm	3.51	5.30	21.20	50.0	41.0	60	52.5	267.0	324.0
16mm	7.33	8.00	32.00	61.0	56.8	65	63.3	355.6	406.0
18-20mm	10.3	12.50	50.00	72.0	63.0	80	86.0	378.2	460.5
22mm	17.5	15.00	60.00	97.0	98.0	83	76.0	466.0	564.0
26mm	23.0	21.20	84.80	123.0	115.0	106	96.0	544.0	661.0
32mm	81.0	31.50	126.00	140.0	146.0	140	135.0	679.0	829.0

HOOK

Crosby®

S-319/S-319N

- The most complete line of shank marked hoist hooks. Available 3/4 to 300 metric tons.
- Hook Identification code marked into each hook.
- All carbon and alloy hooks are quenched and tempered.
- Quenched & Tempered.
- Available in carbon steel, alloy steel, and bronze.
- Proper design, careful forging, and precision controlled quench and tempering give maximum strength without excessive weight and bulk.
- Every Crosby Shank Hook has a pre-drilled cam which can be equipped with a latch. Simply purchase the Crosby latch assemblies. Even years after the purchase of the original hook, latch assemblies can be added.
- Type Approval Certification in accordance with ABS 2016 Steel Vessels and ABS Guide for Certification on Cranes available. Certificates available when requested at time of order and may include additional charges.

APPLICATION AND WARNING INFORMATION SECTION 17

S-319 / S-319N Shank Hook

Working Load Limit (t)			Hook ID Code	Shank Hooks Stock No.			Shank Length ‡	Weight Each (lb)	Rep. Latch Kits		
Carbon	Alloy	Bronze		Carbon S-319C S-319CN	Alloy S-319A S-319AN	Bronze S-319BN			S-4320 Stock No.	PL Stock No.	SS-4055 Stock No.
3/4	1	.5	†D	1028505	1028701	1028900	Std.	.50	1096325	-	-
1	1-1/2	.6	†F	1028514	1028710	1028909	Std.	.75	1096374	-	-
1-1/2	2	1	†G	1028523	1028723	1028918	Std.	1.00	1096421	-	-
2	3	1.4	†H	1028532	1028732	1028927	Std.	1.82	1096468	-	-
3	5	2	†I	1028541	1028741	1028936	Std.	3.69	1096515	1092000	-
5	7	3.5	†J	1028550	1028750	1028945	Std.	7.25	1096562	1092001	-
7-1/2	11	5	†K	1028563	1028765	1028954	Std.	13.4	1096609	1092002	-
10	15	6.5	†L	1028590	1028792	1028981	Std.	21.9	1096657	1092003	-
15	22	10	†N	1028599	1028801	1028990	Std.	38.4	1096704	1092004	-
20	30	-	O	1024386	1024803	-	Std.	72	-	1093716	1090161
20	30	-	O	1024402	1024821	-	Long	85	-	1093716	1090161
25	37	-	P	1024420	1024849	-	Std.	134	-	1093717	1090189
25	37	-	P	1024448	1024867	-	Long	172	-	1093717	1090189
30	45	-	S	1024466	1024885	-	Std.	182	-	1093718	1090189
30	45	-	S	1024484	1024901	-	Long	214	-	1093718	1090189
40	60	-	T	1024509	1024929	-	Std.	268	-	1093719	1090205
40	60	-	T	1024545	1024965	-	Long	312	-	1093719	1090205
50	75	-	U	1024563	1024983	-	Std.	390	-	1093720	-
50	75	-	U	1024581	1025009	-	Long	426	-	1093720	-
-	100	-	W	-	1025027	-	Std.	610	-	1093721	-
-	100	-	W	-	1025045	-	Long	675	-	1093721	-
-	150	-	X	-	1025063	-	Std.	735	-	1093721	-
-	200	-	Y	-	1025081	-	Std.	1020	-	1093723	-
-	300	-	Z	-	1025090	-	Std.	1390	-	1093724	

Maximum allowable Proof Load is 2 Times Working Load Limit. All carbon hooks designed with a 5:1 design factor. All alloy hooks 1 through 22t designed with a 4.5:1 design factor. All alloy hooks 30t and larger designed with a 4:1 design factor. All bronze hooks designed with a 4:1 design factor. †New 319N style hook. ‡See column "Y" on following page for actual length.

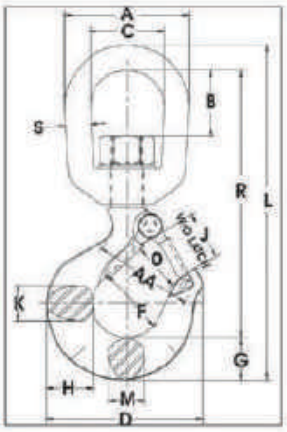
HOOK

Crosby®

L-322CN / L-322AN

- Forged, Quenched & Tempered.
- Suitable for positioning of the hook before the load is lifted.
- Swivel hooks are load rated.
- Proper design, careful forging, and precision controlled quench and tempering gives maximum strength without excessive weight and bulk.
- Low profile hook tip designed to utilize Crosby S-4320 or PL-N latch kit.
- Hoist hooks incorporate QUIC-CHECK® deformation and angle indicators. (For detailed information, see the Crosby Value Added page at the beginning of this section.)

Suitable for infrequent, non-continuous rotation under load. Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).



Load Rated Fatigue Rated TA QUIC-CHECK QST

APPLICATION AND WARNING INFORMATION SECTION 17

L-322CN / L-322AN Swivel Hooks with Latch

Working Load Limit (t)		Hook ID Code*	L-322CN Stock No.	L-322AN Stock No.	Weight Each (lb)	Dimensions (in)															Rep. Latch Stock No.
Carbon	Alloy					A	B	C	D	F	G	H	J	K	L	M	O†	R	S	AA*	
3/4	1	D	1048603	1048807	.75	2.00	.82	1.25	2.86	1.25	.73	.81	.93	.63	5.66	.63	.89	4.55	.38	1.50	1096325
1	1-1/2	F	1048612	1048816	1.25	2.50	1.31	1.50	3.15	1.38	.84	.94	.97	.71	6.71	.71	.91	5.37	.50	2.00	1096374
1-1/2	2	G	1048621	1048825	2.25	3.00	1.50	1.75	3.59	1.50	1.00	1.16	1.06	.88	7.75	.88	1.00	6.12	.63	2.00	1096421
2	3	H	1048630	1048834	2.30	3.00	1.50	1.75	4.00	1.62	1.13	1.31	1.19	.94	8.25	.94	1.09	6.50	.63	2.00	1096468
3	5	I	1048639	1048840	4.96	3.50	1.64	2.00	4.84	2.00	1.44	1.63	1.50	1.31	9.69	1.13	1.36	7.50	.75	2.50	1096515
5	7	J	1048648	1048859	10.29	4.56	2.29	2.50	6.28	2.50	1.81	2.06	1.78	1.66	12.47	1.44	1.67	9.63	1.00	3.00	1096562
7-1/2	11	K	1048657	1048868	19.40	5.00	2.44	2.75	7.54	3.00	2.25	2.63	2.41	1.88	14.75	1.63	2.08	11.37	1.13	4.00	1096609
10	15	L	1048666	1048880	33.25	5.62	2.48	3.12	8.34	3.25	2.59	2.94	2.62	2.19	16.40	1.94	2.27	12.25	1.25	4.00	1096657
15	22	N	1048675	1048889	47.00	7.10	3.76	4.10	10.34	4.25	3.00	3.50	3.41	2.69	21.34	2.38	3.02	16.71	1.50	5.00	1096704
-	30	O	-	1048898	70.50	7.10	3.76	4.10	13.62	5.00	3.61	4.63	4.00	3.00	23.25	3.00	3.52	18.01	1.50	6.50	1090161

All carbon swivel hooks have a 5:1 Design Factor and Proof Load is 2 times the Working Load Limit. Alloy swivel hooks 1t through 22t have a 4.5:1 Design Factor and Proof Load is 2.5 times the Working Load Limit. Alloy swivel hooks of 30t capacity have a 4:1 Design Factor and Proof Load is 2 times the Working Load Limit. *Deformation Indicators †Dimensions for hooks 3/4t carbon through 22t alloy are for S-4320 latch kits. Dimensions for hooks 30t alloy are for 4055 latch kit.

HOOK

Crosby®

S-377

- Forged carbon steel, Quenched & Tempered.
- The resultant load on each hook cannot exceed 1,000 lb.
- Meets the performance requirements of Federal Specification RR-C-271G, Type V, Class 6, except for those provisions required of the contractor.

S - 377 Barrel Hooks

Working Load Limit Per Pair (t)	Stock No. Per Pair	Weight Each Per Pair (lb)	Dimensions (in)			
			I.D. of Eye	O.D. of Eye	Overall Length	Width of Lip
0.9	1028248	3.56	1.56	2.81	5.00	2.88

4:1 Design Factor.

A-378

- Forged alloy steel, Quenched & Tempered.
- Deep straight throat permits efficient handling of flat plates or large cylindrical shapes.

A-378 with Handle

A-378 Sorting Hook

Working Load Limit at tip of Hook (t)	Working Load Limit at bottom of Hook (t)	Stock No	Style	Weight Each (lb)	Dimensions (in)			
					I.D. of Eye	Overall Length	Opening at top of Hook	Radius at bottom of Hook
2	7-1/2	1028024	No Handle	6.42	1.38	9.69	2.81	.625
2	7-1/2	1028033	With Handle	6.42	1.38	9.69	2.81	.625

4:1 Design Factor.

TURNBUCKLES

U.S. FEDERAL SPECIFICATION (FF-T-791B)

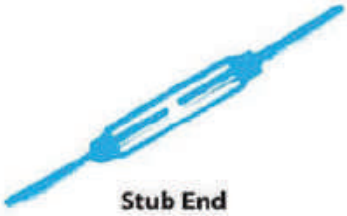
Hook & Hook

Hook & Eye

Eye & Eye

Jaw & Eye

Jaw & Jaw



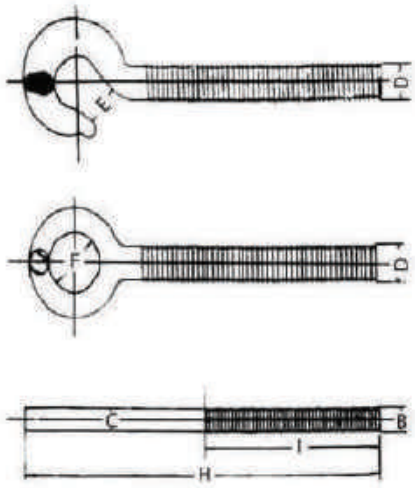
Stub End

Size (Diameter x Take-Up)	Acerage Overall Length with Ends in Closed Position	Approx. Weight Each (lbs)					Work Load Limit Pounds	
		Eyes and/or Hooks	Jaw & Eye	Jaw & Jaw	Stub End	Bodies Only	Hook & Hook Hook & Eye	Eye & Eye Jaw & Eye Jaw & Jaw Stub End
1/4" x 4"	8-1/4	0.30	0.30	0.40	0.29	0.17	400	500
5/16" x 4-1/2"	9-9/16	0.50	0.35	0.58	0.46	0.25	700	800
3/8" x 6"	11-7/8	0.75	0.82	0.93	0.75	0.30	1,000	1,200
1/2" x 6"	13-5/16	1.50	1.62	1.68	1.36	0.55	1,500	2,200
1/2" x 9"	16-5/16	1.75	1.82	1.85	1.69	0.74	1,500	2,200
1/2" x 12"	19-5/16	2.18	2.19	2.20	2.00	0.93	1,500	2,200
5/8" x 6"	15-1/2	2.63	2.59	2.82	2.15	0.91	2,250	3,500
5/8" x 9"	18-1/2	3.00	3.01	3.25	2.70	1.20	2,250	3,500
5/8" x 12"	21-1/2	3.25	3.50	3.75	3.22	1.50	2,250	3,500
3/4" x 6"	17	3.75	4.25	4.68	3.25	1.30	3,000	5,200
3/4" x 9"	20	4.50	5.00	5.38	4.00	1.70	3,000	5,200
3/4" x 12"	23	5.75	5.75	6.12	4.65	2.12	3,000	5,200
3/4" x 18"	29	7.00	7.25	7.25	6.12	2.93	3,000	5,200
7/8" x 6"	18	-	-	-	4.75	2.00	-	7,200
7/8" x 12"	24-5/8	8.38	8.88	9.36	6.67	3.00	4,000	7,200
7/8" x 18"	30-5/8	10.25	10.60	11.44	8.75	4.12	4,000	7,200
1" x 6"	20-5/8	-	-	-	6.41	2.50	-	10,000
1" x 12'	26-5/8	11.25	12.00	12.88	8.90	3.86	5,000	10,000
1" x 18'	32-5/8	14.00	14.75	16.10	11.70	5.50	5,000	10,000
1" x 24'	38-5/8	17.00	17.75	18.60	14.30	7.00	5,000	10,000
1-1/4" x 6"	20	-	-	-	10.40	4.00	-	15,200
1-1/4" x 12"	29-7/8	19.00	21.20	23.60	14.20	5.93	-	15,200
1-1/4" x 18"	35-7/8	24.10	26.00	26.60	18.00	8.00	-	15,200
1-1/4" x 24"	41-7/8	25.00	28.70	31.20	21.80	10.00	-	15,200
1-1/2" x 6"	22-1/2	-	-	-	15.40	5.80	-	21,400
1-1/2" x 12"	32-3/8	27.00	31.10	35.50	20.50	8.40	-	21,400
1-1/2" x 18"	38-3/8	31.20	36.40	40.70	26.20	11.50	-	21,400
1-1/2" x 24"	44-3/8	38.20	44.20	47.60	31.40	14.10	-	21,400
1-3/4" x 6"	-	-	-	-	22.70	8.75	-	28,000
1-3/4" x 18"	41-3/4	45.00	48.80	52.40	-	-	-	28,000
1-3/4" x 24"	47-3/4	58.00	60.00	64.00	43.90	19.50	-	28,000
2" x 6"	-	-	-	-	31.50	12.50	-	37,000
2" x 24"	51-3/4	90.00	102.00	115.00	60.30	27.50	-	37,000
2-1/2" x 6"	-	-	-	-	60.80	27.00	-	60,000
2-1/2" x 24"	58-1/2	183.00	180.00	200.00	110.00	54.00	-	60,000
2-3/4" x 24"	61-1/2	180.00	214.00	248.00	-	54.00	-	75,000

Note : * Drop Forged, Quenched & Tempered.
* Hot Dipped Galvanized.

TURNBUCKLES

FRAME TYPE (FORGED STEEL)



(2) Eye and Eye (TB-E/E)

(3) Hook and Eye (TB-H/E)

(4) Hook and Hook (TB-H/H)

(5) Oval Eye and Eye (TB-E/E)

(6) With Stubs (TB-S/S)

(7) Long Freme Turnbuckle with Eye and Eye (TB-%)

(7) Sizes and Weights (Approx.)

Dia. x Outside Length of Frame	Inside Dia. of Eye	W/Pce
m/m	m/m	kg.
19 x 510	37	2.9
22 x 520	31 x 50	3.8
25 x 520	33 x 70	5.2
25 x 900	33 x 70	8.0
32 x 575	36 x 70	9.8
32 x 900	36 x 70	-
38 x 900	40 x 80	-

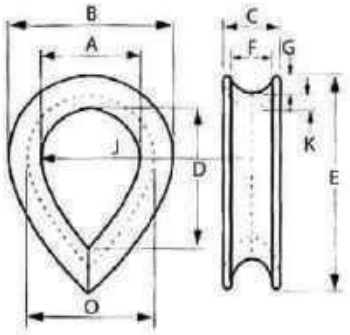
(1) (6) Sizes and Weights (Approx.)

Nominal Size (D)		(1) Body Only						(2) Eye and Eye			(3) Hook and Eye		(4) Hook and Hook			(6) With Stubs			
		A		B	C	T.L	W/Pce	F	T.L	W/Pce	T.L	W/Pce	E	T.L	W/Pce	H	1(2)	G	W/Pce
m/m	in	m/m	in	m/m	m/m	Ton	kg	m/m	Ton	kg	Ton	kg	m/m	Ton	kg	m/m	m/m	m/m	kg
6	1/4	100	4	78	11	1	0.08	10	0.1	0.116	0.04	0.114	9	0.04	0.112	80	50	5.3	0.112
8	5/16	125	5	100	12.5	1.2	0.15	12	0.2	0.22	0.08	0.218	9	0.08	0.215	100	63	6.9	0.22
9	3/8	150	6	120	12.5	1.5	0.17	16	0.5	0.295	0.15	0.293	1	0.15	0.29	130	75	8.3	0.273
12	1/2	200	8	164	18	2	0.29	20	2	0.6	0.35	0.585	16	0.35	0.57	150	100	11.2	0.51
16	2/3	250	10	202	21.5	3	0.52	22	3	1.07	0.70	1.05	19	0.7	1.03	180	125	14.2	0.95
19	3/4	300	12	250	25	4	0.85	28	4	1.79	1.00	1.78	20	1.0	1.77	220	150	17.2	1.62
22	7/8	325	13	269	28	5	1.17	33	5	2.55	1.50	2.58	21	1.5	2.60	250	165	20.3	2.34
25	1	350	14	285	32.5	6	1.69	35	6	3.8	2.00	3.77	26	2.0	3.73	270	175	23.3	3.27
32	1-1/4	400	16	310	45	8	3.51	36 x 70	10	7.6	3.00	7.52	34	3.0	7.44	300	200	29.0	6.52

WIRE ROPE THIMBLES

G-464
Standard

Ordinary Thimbles



Nominal Size (Dia. of rope)	For Ropes sized by circ.	A	B	C	D	E	F	G	J	K	a
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
8	25	22	38	13	33	54	8	4	64	4	30
10	32	25	48	14	38	64	10	6	76	5	35
11	38	29	54	17	41	73	13	8	76	5	38
13	41	32	59	21	44	77	14	8	89	6	43
14	44	32	59	21	44	79	14	8	89	6	43
16	51	41	75	22	59	98	16	-	114	8	57
17	57	44	79	23	67	108	19	10	127	8	60
19	60	51	92	29	73	124	21	11	152	10	7
21	64	51	92	29	73	124	21	11	152	10	70
22	70	57	102	32	83	133	22	13	165	10	76
24	76	64	110	33	92	146	25	13	178	10	84
25	83	70	119	35	108	162	27	14	203	10	90
29	89	76	133	38	111	178	29	16	229	13	102
32	102	95	152	41	133	197	31	16	254	13	121
35	114	105	175	48	152	229	38	19	305	16	137
38	127	114	197	54	165	254	41	24	330	17	149
41	133	114	197	56	165	254	43	24	330	17	149
44	140	127	229	57	178	286	51	25	356	25	178
48	152	133	248	67	190	318	60	29	381	29	190
51	159	140	257	70	203	330	64	30	406	29	197
54	165	140	257	70	203	330	64	30	406	29	197
57	178	146	270	76	216	356	67	32	432	30	206
64	203	159	311	95	241	413	70	44	457	32	222

Note : For wire ropes of intermediate sizes the next larger size of thimble shall be used.

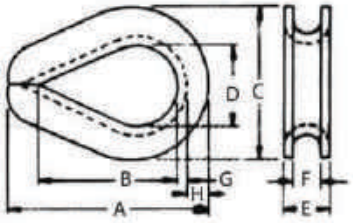
Extra Heavy Wire Rope Thimbles

Galvanized and Stainless Steel

For Rope Diam. Inches	Dimensions in Inches						Weight Pounds Per 100
	Overall Length	Overall Width	Length Inside	Width Inside	Overall Thickness	Max Pin. Diam.	
* 1/4	2-3/16	1-1/2	1-5/8	7/8	13/32	13/16	7.50
* 5/16	2-1/2	1-3/6	1-7/8	1-1/16	1/2	15/16	14.00
* 3/8	2-7/8	2-1/8	2-1/8	1-1/8	21/32	1-1/16	25.00
7/16	3-1/4	2-3/8	2-3/8	1-1/4	3/4	1-3/16	36.00
* 1/2	3-5/8	2-3/4	2-3/4	1-1/2	27/32	1-7/16	51.00
8/16	3-5/8	2-11/16	2-3/4	1-1/2	29/32	1-7/16	51.00
* 5/8	4-1/4	3-1/8	3-1/4	1-3/4	1	1-5/8	75.00
* 3/4	5	3-3/16	3-3/4	2	1-1/4	1-7/8	147.00
7/8	5-1/2	4-1/4	4-1/4	2-1/4	1-3/8	2-1/8	185.00
* 1	6-1/8	4-15/16	4-1/2	2-1/2	1-9/16	2-3/8	291.66
1-1/8 - 1-1/4	7	5-7/8	5-1/8	2-7/8	1-7/8	2-3/4	383.33
1-1/4 - 1-3/8	9-1/16	6-13/16	6-1/2	3-1/2	2-1/4	3-1/4	816.66
1-3/8 - 1-1/2	9	7-1/8	6-1/4	3-1/2	2-5/8	3-3/8	1,166.66
1-5/8	11-1/4	8-1/8	8	4	2-3/4	3-7/8	1,625.00
1-3/4	12-3/16	8-1/2	9	4-1/2	2-7/8	4-3/8	1,837.50
1-7/8 - 2	15-1/8	10-3/8	12	6	3-1/8	5-7/8	2,575.00
2-1/4	17-1/8	11-7/8	14	7	3-5/8	6-7/8	3,850.00

SS-414
(Stainless Steel)

* Sizes Available in Stainless (304) Steel.



G-414

Extra Heavy

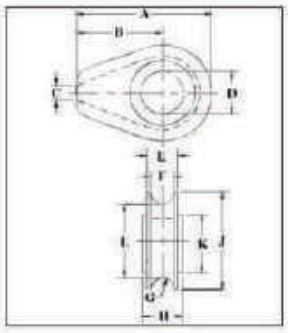
A rugged rope thimble recommended for heavy duty service. Thimbles G-414 meet Federal Specification FF-T-276b Type III.

THIMBLE

Crosby®

S-412

- Cast ductile iron.
- Fits pin for open wire rope socket, boom pendant clevis, and wedge socket.



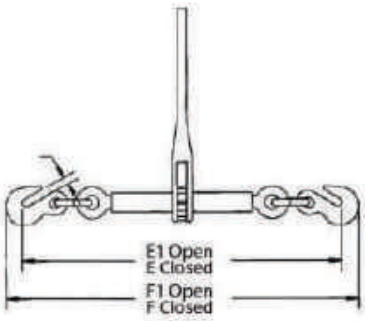
Solid Wire Rope Thimbles

Rope Diameter		Stock No	Weight Per 100 (lb)	Dimensions (in)										
(in)	(mm)			A	B	C	D	E	F	G	H	J	K	L
1/2	13	1037121	.61	2.81	1.75	.25	1.06	.75	.56	.28	.88	2.13	1.63	1.56
5/8	16	1037149	2.21	4.69	3.00	.38	1.31	1.06	.81	.41	1.13	3.38	2.25	2.56
3/4	18-20	1037167	2.32	4.69	3.00	.38	1.50	1.06	.81	.41	1.38	3.38	2.25	2.56
7/8	22	1037185	5.45	6.06	3.81	.50	1.75	1.38	1.06	.53	1.63	4.50	3.25	3.44
1	24-26	1037201	5.25	6.06	3.81	.50	2.13	1.38	1.06	.53	1.81	4.50	3.25	3.44
1-1/8	28-30	1037229	9.29	7.25	4.56	.63	2.38	1.75	1.31	.66	2.06	5.38	3.88	4.06
1-1/4 - 1-3/8	32-35	1037247	9.81	7.25	4.56	.63	2.63	1.94	1.53	.78	2.31	5.38	3.88	4.13

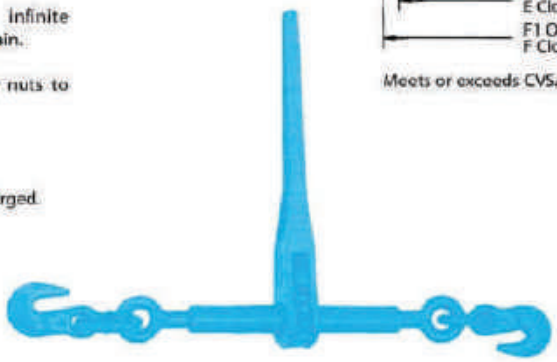
LOAD BINDERS

STANDARD RATCHET TYPE LOAD BINDER

- Continuous take-up feature, infinite adjustment, gets the last half of chain.
- One piece assembly, no bolts or nuts to loosen.
- Ratchet spring rust proofed.
- All load bearing or holding parts forged.
- Easy operating positive ratchet.



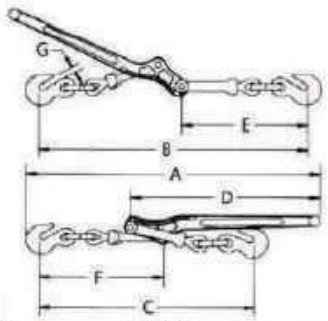
Meets or exceeds CVSA Cargo Securement Guidelines, August 1993.



L-140

Model	Stock No.	Min-Max Chain Size (in.)	Working Load Limit (lbs.)	Proof Load (lbs.)	Minimum Ultimate Strength (lbs.)	Weight Each (lbs.)	Handle Length (in.)	Barrel Length (in.)	Take Up (in.)	Dimensions (in.)							
										A	B	C	E	E1	F	F1	G
R-7	1048404	5/16 - 3/8	5,400	10,800	19,000	10.50	14	10	8.0	14.00	1.38	2.75	22.94	30.94	25.13	33.13	0.50
R-A	1048422	3/8 - 1/2	9,200	18,400	33,000	12.90	14	10	8.0	14.00	1.38	2.75	25.25	33.25	27.63	35.63	0.63
R-C	1048440	1/2 - 5/8	13,000	26,000	46,000	14.38	14	10	8.0	14.00	1.38	2.75	26.38	34.38	29.44	37.44	0.72
Note: Blinder shown with Proof Load Pounds have been individually Proof Tested to these values shown, prior to shipment.																	

Standard Lever Type Load Binder



Meets or exceeds CVSA Cargo Securement Guidelines, August 1993.

B. Ball and socket swivel joints at hook assemblies permit a straight line pull.

L-150

A. Note : Extra heavy construction at leverage point to prevent spreading. Heel of binder toggles away from load, permitting easy release.

Model	Stock No.	Std. Pkg.	Min-Max Chain Size (in.)	Working Load Limit (lbs.)	Proof Load (lbs.)	Minimum Ultimate Strength (lbs.)	Weight Each (lbs.)	Handle Length (in.)	Take Up (in.)	Dimensions (in.)						
										A	B	C	D	E	F	G
7-1	1048128	4	5/16 - 3/8	5,400	10,800	19,000	6.70	16.00	4.50	24.13	22.13	17.88	16.00	10.38	10.38	0.50
A-1	1048146	4	3/8 - 1/2	9,200	18,400	33,000	11.50	18.50	4.50	27.81	25.75	21.25	18.69	12.00	12.00	0.63
C-1	1048164	4	1/2 - 5/8	13,000	26,000	46,000	18.70	21.00	4.50	31.25	29.75	25.00	21.00	14.63	13.75	0.72

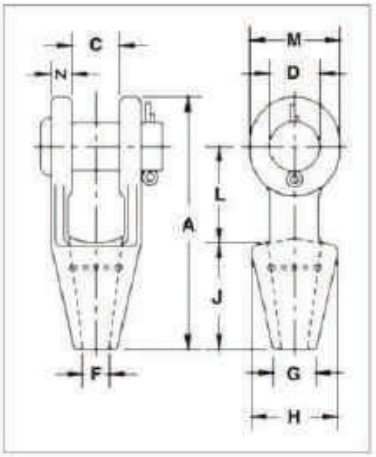
SPELTER SOCKETS

WIRE ROPE END FITTINGS

Crosby®

G-416 / S-416

- Forged steel sockets through 1-1/2", cast alloy steel 1-5/8" through 4".
- Spelter socket terminations have an efficiency rating of 100%, based on the catalog strength of wire rope.
- Ratings are based on recommended use with 6 x 7, 6 x 19 or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope.
- Strand constructed with minimal number of wires (e.g. 1 x 7) requires special consideration that socket basket length be five (5) times the strand diameter or fifty (50) times the wire diameter, whichever is the greater.
- All cast steel sockets 1-5/8" and larger are magnetic particle inspected and ultrasonic inspected. Proof testing available on special order.
- Available with bolt nut and cotter: G-416B.
- Open Grooved Sockets meet the performance requirements of Federal Specification RR-S-550F, Type A, except for those provisions required of the contractor.



G-416 / S-416 Open Spelter Sockets

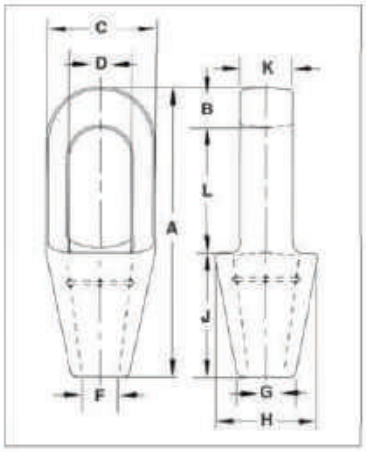
Rope Dia.		Structural Strand Dia.	Ultimate Load	Stock No.		Weight Each	Dimensions (in)										Tolerance +/-
(in)	(mm)	(in)	(t)	G-416 Galv.	S-416 S.C.	(lb)	A	C	D	F	G	H	J	L	M	N	C
5/16-3/8	8-10	—	12	1039637	1039646	1.30	4.84	.81	.81	.50	.81	1.69	2.25	1.75	1.50	.44	.06
7/16-1/2	11-13	—	20	1039655	1039664	2.25	5.56	1.00	1.00	.56	.94	1.88	2.50	2.00	1.88	.50	.06
9/16-5/8	14-16	1/2	27	1039673	1039682	3.60	6.75	1.25	1.19	.69	1.13	2.25	3.00	2.50	2.25	.56	.06
3/4	18	9/16-5/8	43	1039691	1039708	5.83	7.94	1.50	1.38	.81	1.25	2.62	3.50	3.00	2.62	.62	.06
7/8	20-22	11/16-3/4	55	1039717	1039726	9.65	9.25	1.75	1.63	.94	1.50	3.25	4.00	3.50	3.13	.80	.06
1	24-26	13/16-7/8	78	1039735	1039744	15.50	10.56	2.00	2.00	1.13	1.75	3.75	4.50	4.00	3.75	.88	.06
1-1/8	28-30	15/16-1	92	1039753	1039762	21.50	11.81	2.25	2.25	1.25	2.00	4.12	5.00	4.62	4.12	1.00	.12
1-1/4 - 1-3/8	32-35	1-1/16 - 1-1/8	136	1039771	1039780	31.00	13.19	2.50	2.50	1.50	2.25	4.75	5.50	5.00	4.75	1.13	.12
1-1/2	38	1-3/16 - 1-1/4	170	1039799	1039806	47.25	15.12	3.00	2.75	1.63	2.75	5.25	6.00	6.00	5.38	1.19	.12
* 1-5/8	* 40-42	1-5/16 - 1-3/8	188	1039815	1039824	55.00	16.25	3.00	3.00	1.75	3.00	5.50	6.50	6.50	5.75	1.31	.12
* 1-3/4 - 1-7/8	* 44-48	1-7/16 - 1-5/8	268	1039833	1039842	82.00	18.25	3.50	3.50	2.00	3.13	6.38	7.50	7.00	6.50	1.56	.12
* 2 - 2-1/8	* 50-54	1-11/16 - 1-3/4	291	1039851	1039860	129.00	21.50	4.00	3.75	2.25	3.75	7.38	8.50	9.00	7.00	1.81	.12
* 2-1/4 - 2-3/8	* 56-60	1-13/16 - 1-7/8	360	1039879	1039888	167.00	23.50	4.50	4.25	2.50	4.00	8.25	9.00	10.00	7.75	2.13	.12
* 2-1/2 - 2-5/8	* 64-67	1-15/16 - 2-1/8	424	1041633	1041642	252.00	25.50	5.00	4.75	2.88	4.50	9.25	9.75	10.75	8.50	2.38	.12
* 2-3/4 - 2-7/8	* 70-73	2-3/16 - 2-7/16	511	1041651	1041660	315.00	27.25	5.25	5.00	3.12	4.88	10.50	11.00	11.00	9.00	2.88	.25
* 3 - 3-1/8	* 75-80	2-1/2 - 2-5/8	563	1041679	1041688	380.00	29.00	5.75	5.25	3.38	5.25	11.12	12.00	11.25	9.50	3.00	.25
* 3-1/4 - 3-3/8	* 82-86	2-3/4 - 2-7/8	722	1041697	1041704	434.00	30.88	6.25	5.50	3.62	5.75	11.88	13.00	11.75	10.00	3.12	.25
* 3-1/2 - 3-5/8	* 88-92	3 - 3-1/8	779	1041713	1041722	563.00	33.25	6.75	6.00	3.88	6.50	12.38	14.00	12.50	10.75	3.25	.25
* 3-3/4 - 4	* 94-102	—	875	1041731	1041740	783.00	36.25	7.50	7.00	4.25	7.25	13.62	15.00	13.50	12.50	3.50	.25

* Cast alloy steel.

SPELTER SOCKETS

G-417 / S-417

- Forged steel sockets through 1-1/2", cast alloy steel 1-5/8" through 4".
- Spelter socket terminations have an efficiency rating of 100%, based on the catalog strength of wire rope.
- Ratings are based on recommended use with 6 x 7, 6 x 19, or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC, or IWRC wire rope.
- Strand constructed with minimal number of wires (e.g. 1 x 7) requires special consideration that socket basket length be five (5) times the strand diameter or fifty (50) times the wire diameter, whichever is the greater.
- All cast steel sockets 1-5/8" and larger are magnetic particle inspected and ultrasonic inspected. Proof testing available on special order.
- Closed Grooved Sockets meet the performance requirements of Federal Specification RR-S-550F, Type B, except for those provisions required of the contractor.



G-417 / S-417 Closed Spelter Sockets

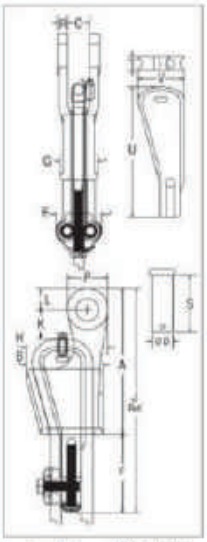
Rope Dia. (in)	Rope Dia. (mm)	Structural Strand Dia. (in)	Ultimate Load (t)	Stock No. G-417 Galv.	Stock No. S-417 S.C.	Weight Each (lb)	Dimensions (in) A	B	C	D*	F	G	H	J	K	L
5/16 - 3/8	8-10	—	12.0	1039913	1039922	.75	4.94	.62	1.69	.97	.50	.81	1.69	2.25	.69	2.06
7/16 - 1/2	11-13	—	20.0	1039931	1039940	1.50	5.50	.69	2.00	1.16	.56	.94	2.00	2.50	.88	2.31
9/16 - 5/8	14-16	1/2	30.8	1039959	1039968	2.50	6.31	.81	2.63	1.41	.69	1.12	2.38	3.00	1.00	2.50
3/4	18	9/16 - 5/8	43.5	1039977	1039986	4.25	7.62	1.06	3.00	1.66	.88	1.25	2.75	3.50	1.25	3.06
7/8	20-22	11/16 - 3/4	65.3	1039995	1040000	7.25	8.75	1.25	3.63	1.94	1.00	1.50	3.25	4.00	1.50	3.50
1	24-26	13/16 - 7/8	81.6	1040019	1040028	10.50	9.91	1.41	4.13	2.30	1.13	1.75	3.75	4.50	1.75	4.00
1-1/8	28-30	15/16 - 1	100	1040037	1040046	14.25	11.00	1.50	4.50	2.56	1.25	2.00	4.13	5.00	2.00	4.50
1-1/4 - 1-3/8	32-35	1-1/16 - 1-1/8	136	1040055	1040064	19.75	12.12	1.63	5.00	2.81	1.50	2.25	4.75	5.50	2.25	5.00
1-1/2	38	1-3/16 - 1-1/4	170	1040073	1040082	29.20	13.94	1.94	5.38	3.19	1.63	2.75	5.25	6.00	2.50	6.00
† 1-5/8	† 40-42	1-5/16 - 1-3/8	188	1040091	1040108	36.00	15.13	2.13	5.75	3.25	1.75	3.00	5.50	6.50	2.75	6.50
† 1-3/4 - 1-7/8	† 44-48	1-7/16 - 1-5/8	268	1040117	1040126	57.25	17.25	2.19	6.75	3.75	2.00	3.13	6.38	7.50	3.00	7.56
† 2 - 2-1/8	† 50-54	1-11/16 - 1-3/4	309	1040135	1040144	79.00	19.87	2.44	7.63	4.38	2.25	3.75	7.38	8.50	3.25	8.81
† 2-1/4 - 2-3/8	† 56-60	1-13/16 - 1-7/8	360	1040153	1040162	105.00	21.50	2.75	8.50	5.00	2.63	4.13	8.25	9.00	3.63	9.75
† 2-1/2 - 2-5/8	† 64-67	1-15/16 - 2-1/8	424	1041759	1041768	140.00	23.50	3.12	9.50	5.50	2.88	4.50	9.25	9.75	4.00	10.62
† 2-3/4 - 2-7/8	† 70-73	2-3/16 - 2-7/16	549	1041777	1041786	220.00	25.38	3.12	10.75	6.25	3.12	4.88	10.19	11.00	4.88	11.25
† 3 - 3-1/8	† 75-80	2-1/2 - 2-5/8	656	1041795	1041802	276.00	27.12	3.37	11.50	6.75	3.38	5.25	11.50	12.00	5.25	11.75
† 3-1/4 - 3-3/8	† 82-86	2-3/4 - 2-7/8	750	1041811	1041820	313.00	29.25	4.00	12.25	7.25	3.62	5.75	12.25	13.00	5.75	12.25
† 3-1/2 - 3-5/8	† 88-92	3 - 3-1/8	820	1041839	1041848	400.00	31.00	4.00	13.00	7.75	3.88	6.31	13.00	14.00	6.25	13.00
† 3-3/4 - 4	† 94 - 102	—	1005	1041857	1041866	542.00	33.25	4.25	14.25	8.50	4.25	7.25	14.25	15.00	7.00	14.00

* Diameter of pin must not exceed pin used on companion 416 socket. Reference adjacent page "D" dimension. † Cast alloy steel.

WEDGE SOCKET

Crosby®

S-421T



TA QUIC-CHECK

- Wedge socket terminations have an efficiency rating of 80% based on the catalog strength of XXIP wire rope.
- Meets or exceeds all requirements of ASME B30.26, including identification, ductility, design factor, proof load, and temperature requirements. Importantly, these sockets meet other critical performance requirements, including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Type Approval certification in accordance with ABS rules for conditions of classificaion, Part 1 2017 Steel Vessels and ABS guide for certification of lifting appliances 2017 available. Certificates available when requested at time of order and may include additional charges.
- Basket is cast steel and individually magnetic particle inspected.
- Pin diameter and jaw opening allows wedge and socket to be used in conjunction with closed swage and spelter sockets.
- Secures the tail or dead end of the wire rope to the wedge, thus eliminates loss or punch out of the wedge.
- Eliminates the need for an extra piece of rope and is easily installed.
- The Terminator wedge eliminates the potential breaking off of the tail due to fatigue.
- The tail, which is secured by the base of the clip and the wedge, is left undeformed.
- Incorporates Crosby's patented QUIC-CHECK® 'Go' and 'No-Go' feature cast into the wedge. The proper size rope is determined when the following criteria are met:
  - 1) The wire rope should pass through the 'Go' hole in the wedge.
  - 2) The wire rope should NOT pass through the 'No-Go' hole in the wedge.
- Utilizes standard Crosby Red U-Bolt® wire rope clip.
- The 3/8 through 1-1/8 standard S-421 wedge socket can be retrofitted with the new style Terminator wedge.
- Available with bolt, nut, and cotter pin: S-421TB.
- US patent 5,553,360, Canada patent 2,217,004, and foreign equivalents.
- Meets the performance requirements of EN 13411-6.
- Available with API-2C certification upon request.
- Wedge sockets meet the performance requirements of Federal specification RR-S-550F, Type C, except those provisions required of the contractor.
- The S-423T Super Terminator wedge is designed to be assembled only into the Crosby S-421T Terminator socket body. Important: The S-423TW for sizes 5/8" through 1-1/8" (14mm through 28mm) will fit respective size standard Crosby S-421T basket. The 1-1/4" (30-32mm) S-423TW will only fit the Crosby S-421T 1-1/4" basket marked with Terminator.

APPLICATION AND WARNING INFORMATION SECTION 17

S-421T WEDGE SOCKETS (Assembly includes socket, wedge, pin and wire rope clip)

Wire Rope Dia. (in)	Wire Rope Dia. (mm)	Stock No.	Weight Each (lb)	Wedge Only	Weight Each (lb)	Standard Bolt, Nut & Cotter Assy	Weight Each (lb)
3/8	9-10	1035000	3.30	1035555	.50	2038971	.38
1/2	11-13	1035009	6.10	1035564	1.05	2038972	.69
5/8	14-16	1035018	10.5	1035573	1.79	2038974	1.15
3/4	18-19	1035027	16.4	1035582	2.60	2038976	1.91
7/8	20-22	1035036	24.8	1035591	4.00	2038978	3.23
1	24-26	1035045	35.5	1035600	5.37	2038980	5.40
1-1/8	28	1035054	48.8	1035609	7.30	2038982	7.50
1-1/4	30-32	1035063	71.5	1035618	10.60	2038984	10.34

Wire Rope Dia. (in)	Wire Rope Dia. (mm)	S-421T Stock No.	S-421TB Stock No.	Dimensions (in) A	B	C +/- .09	D	G	H	J*	K*	L	P	R	S	T	U	V
3/8	9-10	1035000	1035203	5.69	2.72	.81	.81	1.38	3.06	7.80	1.88	.88	1.56	.44	2.13	.44	1.25	1.38
1/2	11-13	1035009	1035212	6.88	3.47	1.00	1.00	1.62	3.76	8.91	1.26	1.06	1.94	.50	2.56	.53	1.75	1.88
5/8	14-16	1035018	1035221	8.25	4.30	1.25	1.19	2.12	4.47	10.75	1.99	1.22	2.25	.56	3.25	.69	2.00	2.19
3/4	18-19	1035027	1035230	9.88	5.12	1.50	1.38	2.44	5.28	12.36	2.41	1.40	2.63	.66	3.63	.78	2.34	2.56
7/8	20-22	1035036	1035249	11.25	5.85	1.75	1.63	2.69	6.16	14.37	2.48	1.67	3.13	.75	4.31	.88	2.69	2.94
1	24-26	1035045	1035258	12.81	6.32	2.00	2.00	2.94	6.96	16.29	3.04	2.00	3.75	.88	4.70	1.03	2.88	3.28
1-1/8	28	1035054	1035267	14.38	6.92	2.25	2.25	3.31	7.62	18.34	2.56	2.25	4.25	1.00	5.44	1.10	3.25	3.56
1-1/4	30-32	1035063	1035276	16.34	8.73	2.62	2.50	3.56	9.39	20.48	2.94	2.34	4.50	1.06	6.13	1.19	4.62	4.94

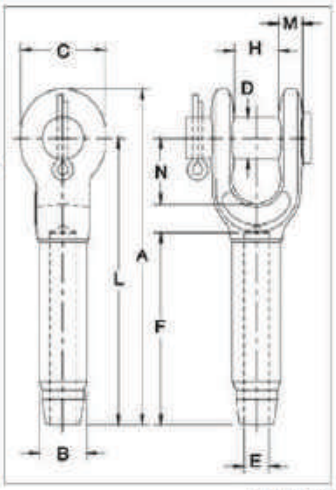
* Nominal note: For intermediate wire rope sizes, use next larger size socket.

WEDGE SOCKET

Crosby®

S-501

- Forged from special bar quality carbon steel, suitable for cold forming.
- Swage socket terminations have an efficiency rating of 100% based on the catalog strength of wire rope.
- Hardness controlled by spheroidize annealing.
- Stamp for identification after swaging without concern for fractures (as per directions in Wire Rope End Terminations User's Manual).
- Swage sockets incorporate a reduced machined area of the shank which is equivalent to the proper 'after swage' dimension. Before swaging, this provides for an obvious visual difference in the shank diameter. After swaging, a uniform shank diameter is created allowing for a QUIC-CHECK® and permanent visual inspection opportunity.
- S-501 Swage Sockets are recommended for use with 6 x 19 or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope.
- In accordance with ASME B30.9, all slings terminated with swage sockets shall be proof loaded.*



QUIC-CHECK®

S-501 Open Swage Sockets

S-501 and S-501B Open Socket Specifications																		Swager / Die Data			
		Rope Size				Before Swage Dimensions (in)									Tolerance +/-	Max. After Swage Dim. (in)		Stock No.		Side Load	
S-501 Stock No.	S-501B Stock No. †	(in)	(mm)	Wt. Each (lb)	Ultimate Load** (t)	A	B	C	D	E	F	H	L	M	N	H		Die Description	500 1000 1500 Ton 5 x 7	1500 3000 Ton 6 x 12	1500 Ton 6 x 12	3000 Ton 6 x 12
1039021	1054001	1/4	6	.52	5.4	4.78	.50	1.38	.69	.27	2.19	.69	4.00	.38	1.47	.06	.46	1/4 Socket	1192845	-	-	-
1039049	1054010	5/16	8	1.12	11.8	6.3	.78	1.62	.81	.34	3.25	.80	5.34	.48	1.67	.06	.71	5/16-3/8 Socket	1192863	-	-	-
1039067	1054029	3/8	9-10	1.30	13.6	6.3	.78	1.62	.81	.41	3.25	.80	5.34	.48	1.67	.06	.71	5/16-3/8 Socket	1192863	-	-	-
1039085	1054038	7/16	11-12	2.08	18.1	7.82	1.01	2.00	1.00	.49	4.31	1.00	6.69	.56	1.96	.06	.91	7/16-1/2 Socket	1192881	-	-	-
1039101	1054047	1/2	13	2.08	21.3	7.82	1.01	2.00	1.00	.55	4.31	1.00	6.69	.56	1.96	.06	.91	7/16-1/2 Socket	1192881	-	-	-
1039129	1054056	9/16	14	4.67	31.8	9.54	1.27	2.38	1.19	.61	5.38	1.25	8.13	.68	2.21	.06	1.16	9/16-5/8 Socket	1192907	-	-	-
1039147	1054065	5/8	16	4.51	34.9	9.54	1.27	2.38	1.19	.68	5.38	1.25	8.13	.68	2.21	.06	1.16	9/16-5/8 Socket	1192907	-	-	-
1039165	1054074	3/4	18-20	7.97	43.5	11.61	1.56	2.75	1.38	.80	6.44	1.50	10.00	.80	2.69	.06	1.42	3/4 Socket	1192925	-	-	-
1039183	1054083	7/8	22	11.52	51.5	13.37	1.72	3.13	1.63	.94	7.50	1.75	11.63	.94	3.20	.07	1.55	7/8 Socket	1192943	-	-	-
1039209	1054092	1	24-26	17.80	71.4	15.47	2.09	3.69	2.00	1.07	8.63	2.00	13.38	1.07	3.68	.08	1.80	1 Socket	1192961	-	-	-
1039227	1054104	1-1/8	28	25.25	83.3	17.35	2.25	4.12	2.25	1.19	9.63	2.25	15.00	1.19	4.18	.10	2.05	1-1/8 Socket	1192989	-	-	-
1039245	1054113	1-1/4	32	35.55	109	19.2	2.53	4.59	2.50	1.34	10.69	2.50	16.50	1.27	4.68	.10	2.30	1-1/4 Socket	1193005	-	-	-
1039263	1054122	1-3/8	34-36	43.75	136	21.1	2.81	5.25	2.50	1.46	11.88	2.41	18.13	1.46	5.25	.10	2.56	1-3/8 Socket	1193023	-	-	-
1039281	1054131	1-1/2	38-40	58.50	181	23.17	3.08	5.50	2.75	1.59	12.81	3.00	19.75	1.70	5.70	.10	2.81	1-1/2 Socket	1193041	1191267	1195355	1195192
1039307	1054140	1-3/4	44	58.75	228	26.7	3.49	6.25	3.50	1.87	15.06	3.50	23.00	2.11	6.67	.10	3.06	1-3/4 Socket	1193069	1191276	1195367	1195209
1042767	1054159	2	48-52	146.2	272	31.15	3.94	7.80	3.75	2.12	17.06	4.00	26.75	1.81	8.19	.10	3.56	2 Socket	1193087	1191294	1195379	1195218

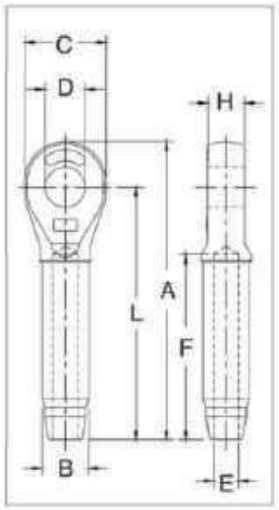
*Maximum Proof Load shall not exceed 50% of XXIP rope catalog breaking strength. ** The Ultimate Loads of 3/4" through 1 1/4" sizes have been increased to meet the requirements for 8 strand 2160 Grade pendants. **† Assembly with bolt, nut and cotter pin. Note: Fittings designed only to be used on exact sizes listed.**
NOTE: Before using any Crosby fitting with any other type lay, construction or grade of wire rope, it is recommended that the termination be destructive tested and documented to prove the adequacy of the assembly to be manufactured.

WEDGE SOCKET

Crosby®

S-502

- Forged from special bar quality carbon steel, suitable for cold forming.
- Swage socket terminations have an efficiency rating of 100% based on the catalog strength of wire rope.
- Hardness controlled by spheroidize annealing.
- Stamp for identification after swaging without concern for fractures (as per directions in Wire Rope End Terminations User's Manual).
- Swage sockets incorporate a reduced machined area of the shank which is equivalent to the proper 'after swage' dimension. Before swaging, this provides for an obvious visual difference in the shank diameter. After swaging, a uniform shank diameter is created allowing for a QUIC-CHECK® and permanent visual inspection opportunity.
- S-502 Swage Sockets are recommended for use with 6 x 19 or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope.
- In accordance with ASME B30.9, all slings terminated with swage sockets shall be proof loaded.*



QUIC-CHECK®

S-502 Closed Swage Sockets

S-502 Closed Socket Specifications														Swager / Die Data			
	Rope Size				Before Swage Dimensions (in)								Max. After Swage Dim. (in)		Stock No.		Side Load	
S-502 Stock No.	(in)	(mm)	Wt. Each (lb)	Ultimate Load** (t)	A	B	C	D	E	F	H	L		Die Description	500 1000 1500 Ton 5 x 7	1500 3000 Ton 6 x 12	1500 Ton 6 x 12	3000 Ton 6 x 12
1039325	1/4	6	.33	5.4	4.28	.50	1.38	.76	.27	2.19	.50	3.50	.46	1/4 Socket	1192845	-	-	-
1039343	5/16	8	.75	11.8	5.42	.77	1.62	.88	.34	3.25	.68	4.50	.71	5/16-3/8 Socket	1192863	-	-	-
1039351	3/8	9-10	.72	13.6	5.42	.78	1.62	.88	.41	3.25	.68	4.50	.71	5/16-3/8 Socket	1192863	-	-	-
1039389	7/16	11-12	1.42	18.1	6.88	1.01	2.00	1.07	.49	4.31	.87	5.75	.91	7/16-1/2 Socket	1192881	-	-	-
1039405	1/2	13	1.42	21.3	6.88	1.01	2.00	1.07	.55	4.31	.87	5.75	.91	7/16-1/2 Socket	1192881	-	-	-
1039423	9/16	14	2.92	31.8	8.59	1.27	2.38	1.28	.61	5.38	1.14	7.25	1.16	9/16-5/8 Socket	1192907	-	-	-
1039441	5/8	16	2.85	34.9	8.59	1.27	2.38	1.28	.68	5.38	1.14	7.25	1.16	9/16-5/8 Socket	1192907	-	-	-
1039459	3/4	18-20	5.00	43.5	10.25	1.56	2.88	1.49	.80	6.44	1.33	8.63	1.42	3/4 Socket	1192925	-	-	-
1039487	7/8	22	6.80	51.5	11.67	1.72	3.12	1.73	.94	7.50	1.53	10.09	1.55	7/8 Socket	1192943	-	-	-
1039502	1	24-26	10.40	71.4	13.56	2.00	3.62	2.11	1.07	8.63	1.78	11.50	1.80	1 Socket	1192961	-	-	-
1039520	1-1/8	28	14.82	83.3	15.03	2.25	4.00	2.37	1.19	9.75	2.03	12.75	2.05	1-1/8 Socket	1192969	-	-	-
1039548	1-1/4	32	21.57	109	16.94	2.53	4.50	2.62	1.34	10.81	2.25	14.38	2.30	1-1/4 Socket	1193005	-	-	-
1039566	1-3/8	34-36	28.54	136	18.59	2.81	5.00	2.62	1.46	11.88	2.29	15.75	2.56	1-3/8 Socket	1193023	-	-	-
1039584	1-1/2	38-40	38.06	181	20.13	3.08	5.38	2.87	1.59	12.81	2.56	17.00	2.81	1-1/2 Socket	1193041	1191267	1195355	1195192
1039600	1-3/4	44	51.00	228	23.56	3.40	6.25	3.63	1.87	15.06	3.08	20.00	3.06	1-3/4 Socket	1193069	1191276	1195367	1195209
1042589	2	48-52	89.25	272	27.13	3.94	7.25	3.88	2.12	17.06	3.31	23.00	3.56	2 Socket	1193087	1191294	1195379	1195218

Maximum Proof Load shall not exceed 50% of XXIP rope catalog breaking strength. *The Ultimate Loads of 3/4" through 1 1/4" sizes have been increased to meet the requirements for 8 strand 2160 Grade pendants. Note: Fittings designed only to be used on exact sizes listed.

NOTE: Before using any Crosby fitting with any other type lay, construction or grade of wire rope, it is recommended that the termination be destructive tested and documented to prove the adequacy of the assembly to be manufactured.

RESIN FOR SPELTER SOCKETS

Crosby®

NOTE: FOR USE ON 416, 417, 427 AND 517 SPELTER SOCKETS ONLY.

WIRELOCK®
Socketing Compound

- 100% termination efficiency.
- Temperature operating range is -65° F to +240° F (-54°C to +116°C).
- Ideal for on-site applications.
- No hazardous molten metal.
- Improved fatigue life.
- Pouring temperature without booster pack is 48° F to 110° F (6.67°C to 43.3°C).
- One booster pack if pouring temperature is 35° F to 48° F (1.67°C to 8.89°C).
- Two booster packs if pouring temperature is 27° F to 35° F (-2.78°C to +1.67°C).
- Refer to Crosby® Wire Rope End Terminations Manual for more information.
- Storage temperature is 68° F (20°C) max. Store in well ventilated area away from sunlight and sources of ignition.

APPROVALS:

Lloyds Register of Shipping

Det Norske Veritas (DNV)

United States Coast Guard

Registro Italiano Navale

Germanischer Lloyd

United States Navy

American Bureau of Shipping

ISO 17.558

DNV-OS-E304

ABS

U.S. Department of Transportation United States Coast Guard

NATO Numbers:

100cc	8030-21-902-1823
250cc	8030-21-902-1824
500cc	8030-21-902-1825
1000cc	8030-21-902-1826

Witnessed and tested by American Bureau of Shipping. (ABS)

Approximate U.S. Measurements:
250cc's Kit 1 Cup

WIRELOCK® W416-7 Socket Compound

W416-7 Kits				Booster Pak
Kit Size	Kit Per Case	Stock No.	Weight Each (lb)	Stock No.
100	20	1039602	.62	1039603
250	12	1039604	1.25	1039605
500	12	1039606	2.54	1039607
1000	12	1039608	4.59	1039609
2000	6	1039610	9.00	1039611

Guide to amount WIRELOCK® Required

Wire Rope Size		WIRELOCK Required	Wire Rope Size		WIRELOCK Required
(in)	(mm)	(cc)	(in)	(mm)	(cc)
1/4	6-7	9	1-3/4	44	700
5/16	8	17	1-7/8	48	700
3/8	9-10	17	2	51	1265
7/16	11	35	2-1/8	54	1265
1/2	13	35	2-1/4	56	1410
9/16	14	52	2-3/8	60	1410
5/8	16	52	2-1/2	64	1830
3/4	20	86	2-5/8	67	1830
7/8	22	125	2-3/4	70	2250
1	26	160	3	76	3160
1-1/8	28	210	3-1/4	82	3795
1-1/4	32	350	3-1/2	88	4920
1-3/8	36	350	3-3/4	94	5980
1-1/2	40	420	4	102	7730
1-5/8	42	495	—	—	—

Wirelock is a hazardous material regulated by US DOT ICAO/IATA and IMO for transportation.

APPLICATION AND WARNING INFORMATION SECTION 17

BRILUBE®

ADVANCED ROPE LUBRICANTS

BRIDON

BRILUBE®

ทำไมถึงต้องเติมสารหล่อลื่นลวดสลิง

ลวดสลิงส่วนใหญ่มีสารหล่อลื่นที่ถูกเติมระหว่างการผลิต ซึ่งช่วยป้องกันการกัดกร่อน ลดการเสียดสีระหว่างเส้นลวดและเกลียวระหว่างการใช้งาน การปกป้องที่ได้รับจากสารหล่อลื่นที่ถูกเติมระหว่างการผลิต โดยปกติแล้วจะเพียงพอแก่การป้องกันการเสื่อมสภาพที่เกิดจากการสึกกร่อนในระหว่างการขนย้าย จัดเก็บและช่วงแรกๆ ของการใช้งาน อย่างไรก็ตามลวดสลิงก็เหมือนเครื่องจักรอื่นๆ ซึ่งต้องเติมสารหล่อลื่นเพื่อยืดอายุการใช้งานของลวดสลิง ซึ่งเราเรียกการบำรุงรักษานี้ว่า **"การเติมสารหล่อลื่น" (Dressing)**

สิ่งสำคัญที่ควรรู้คือ สารประกอบที่ใช้ในการเติมสารหล่อลื่นนั้นควรถูกพัฒนาขึ้นมาเพื่อการบำรุงรักษาลวดสลิง และต้องเข้ากันได้กับสารหล่อลื่นที่ถูกเติมในระหว่างการผลิต เราต้องคำนึงถึงสภาพแวดล้อมและการใช้งานเมื่อเลือกใช้สารหล่อลื่น เช่น สลิงที่มีการเรียงตัวของเส้นเกลียวหลายชั้นในปัจจุบันต้องใช้สารหล่อลื่นที่ซึมได้ดี ซึ่งจะเติมเต็มช่องว่างระหว่างเส้นเกลียว และซึมเข้าไปในลวดสลิงให้ได้มากที่สุด

ชนิดของสารหล่อลื่นและความถี่ในการเติม ขึ้นอยู่กับลวดแต่ละชนิด สภาพการใช้งาน และการประยุกต์ใช้กับงาน
ประสบการณ์อันไร้ที่เปรียบของ **BRIDON** ในวงการผู้ผลิตลวดสลิงระดับโลก และหลายปีที่มีการคิดค้นพัฒนาสารหล่อลื่น ที่ช่วยแก้ปัญหาต่างๆ ได้ถูกใช้ในการพัฒนาสูตรสารหล่อลื่น **BRILUBE®**

การพัฒนาสูตรอันก้าวหน้า โดยมีผลงานเป็นที่ยอมรับของ **BRILUBE®** ช่วยให้ลวดสลิงทำงานอย่างมีประสิทธิภาพสูงสุด

BRILUBE® 30

เหมาะสำหรับ
- Tower Crane
- Mobile Crane
- Dockside Crane
- Fishing Rope

BRILUBE 30 - สารหล่อลื่นเหลวสีน้ำตาล / น้ำตาลเหลืองน้ำหนักที่อุณหภูมิ 15.6 องศา มีน้ำหนักที่ 0.82 ระยะเวลาที่น้ำยาแห้งประมาณ 1 ชั่วโมง ส่วนประกอบที่เป็นของแข็งประมาณ 30 เปอร์เซ็นต์ และมีคุณสมบัติป้องกันน้ำ ทำให้ไม่เกิดการสึกกร่อน จุดอุณหภูมิความร้อนที่ทำให้เกิดประกายไฟได้อยู่ที่ 40 องศา อุณหภูมิที่น้ำยาสามารถใช้งานได้ดี คือประมาณ - 30 ถึง 60 องศาเซลเซียส ได้ผ่านการทดสอบ Salt spray (ASTM B117) ถึง 200 ชั่วโมง

ใช้สำหรับการหล่อลื่นของลวดสลิงที่ใช้ในสภาวะที่การกัดกร่อน ซึ่งเป็นสาเหตุหลักของการทำให้เสียคุณสมบัติของลวดสลิง เหล่านี้มักใช้กับงานกลางแจ้ง ซึ่งต้องใช้สารหล่อลื่นบ่อยๆ ตัวอย่างเช่น รถเครนและทาวเวอร์เครน เครนท่าเรือและอู่เรือ ระบบการชักลาก งานประมง งานประเภทนี้มีความเป็นไปได้ที่จะเกิดการกัดกร่อนได้ ทั้งภายในและภายนอก การกัดกร่อนภายในเป็นปัญหาใหญ่มากเพราะมองไม่เห็น ซึ่งมีความเป็นไปได้ที่น้ำจะเข้าไปข้างใน

คุณสมบัติ
1. ซึมผ่านเข้าไปในลวดได้ง่าย เข้าไปแทนที่ความชื้นทั้งภายนอกและภายใน
2. ป้องกันการกัดกร่อนได้ดีทั้งภายนอกและภายในและทนต่อการล้างออก
3. เป็นของเหลวสีน้ำตาล / น้ำตาลเหลืองซึ่งเป็นแผ่นฟิล์มบางเหมือนน้ำมันเพื่อป้องกันการสึกกร่อนจากไอน้ำ

วิธีการใช้งาน
1. ใช้งานได้บ่อยๆ สำหรับสภาวะที่สารหล่อลื่นลดลง และมีสิ่งเจือปนอื่นๆ
2. ใช้โดยการจุ่ม ทา หรือฉีดสเปรย์ สูงสุดเดือนละ 1 ครั้ง
3. ล้างออกได้ด้วยสารละลายไฮโดรคาร์บอน

BRILUBE® 40

เหมาะสำหรับ
- Lifts & Elevators
- Friction Hoists

BRILUBE 40 - สารหล่อลื่นเหลวสีขาว น้ำหนักที่อุณหภูมิ 15.6 องศา มีน้ำหนักที่ 0.82 ระยะเวลาที่น้ำยาแห้งประมาณ 1 ชั่วโมง ส่วนประกอบที่เป็นของแข็งประมาณ 55 เปอร์เซ็นต์ และมีคุณสมบัติป้องกันน้ำ ทำให้ไม่เกิดการสึกกร่อน จุดอุณหภูมิความร้อนที่ทำให้เกิดประกายไฟได้อยู่ที่ 40 องศา ช่วงที่สามารถใช้งานได้ดีคือประมาณ -80 ถึง 40 องศาเซลเซียส

ใช้สำหรับการหล่อลื่นลวดสลิงที่มีการเสียดสี และอุปกรณ์ที่ทำให้เกิดการเสียดสีระหว่างสลิงกับลูกรอก ส่วนประกอบเฉพาะของ BRILUBE 40 เพิ่มความสามารถในการเสียดสีระหว่างลวดและการขับเคลื่อน และช่วยขจัดปัญหาต่างๆ ชนิดของอุปกรณ์ที่ใช้ BRILUBE 40 เช่น ลิฟท์และบันไดเลื่อน ปั้นจั่นชุดเจาะเหมืองแร่ เครื่องกว้าน สารหล่อลื่นช่วยในการป้องกันการสึกกร่อนและในขณะเดียวกันก็ไม่เป็นสาเหตุที่ทำให้ลื่นจนเกินไป

คุณสมบัติ
1. ซึมผ่านเข้าไปในลวดได้ง่ายทำให้หล่อลื่นและป้องกันการสึกกร่อนได้ดีทั้งภายในและภายนอก และยากต่อการล้างออก
2. เป็นของเหลวในรูปน้ำสีขาว ซึ่งมีส่วนผสมของสารละลายเคมี
3. เหมาะสำหรับการใช้งานที่มีการเสียดสีบ่อยๆ เพื่อช่วยให้ความหล่อลื่น และป้องกันการกัดกร่อนขณะใช้งาน

วิธีการใช้งาน
1. สารชนิดนี้จะไม่ทำให้ลื่นเกินไปเมื่อใช้งานช้าๆ
2. ใช้โดยการจุ่ม ทา หรือฉีด
3. อาจล้างออกได้ด้วยสารละลายไฮโดรคาร์บอน

การใช้งานทั่วไป General Operational Categories

การใช้งานของลวดสลิงส่วนใหญ่แบ่งได้ดังต่อไปนี้

1. ลวดสลิงที่ใช้ในอุตสาหกรรมหรือกลางแจ้ง ที่การสึกกร่อนเป็นสาเหตุสำคัญของการเสื่อมสภาพของลวดสลิง สิ่งที่ต้องกังวลคือการสึกกร่อนภายในที่เป็นเหตุให้เกิดความล้าของลวดสลิง
2. ลวดสลิงที่ใช้กับรอกฝืด (Friction Hoist) สารหล่อลื่นที่ช่วยด้านการกัดกร่อนและการสึกกร่อนภายใน โดยไม่ทำให้สูญเสียความฝืดในการยึดจับ
3. ลวดสลิงที่หมุนผ่านลูกล้อรับแรง แต่ไม่ถูกเสียดสีหรือกัดกร่อนบนพื้นผิวอย่างรุนแรง การสึกที่เกิดจากการเสียดสีภายในและความล้าเป็นสาเหตุที่ทำให้เกิดการเสื่อมสภาพ
4. ลวดสลิงที่ใช้ในสภาวะที่ทำให้เกิดการสึกกร่อนอย่างรุนแรง การสึกกร่อนเป็นเหตุผลใหญ่ ที่ทำให้ลวดสลิงเสื่อมคุณภาพ
5. ลวดสลิงที่ไม่เคลื่อนที่และที่เคลื่อนที่ ที่ถูกใช้กับของที่มีน้ำหนักมากในกลางทะเล หรือสภาพแวดล้อมอื่นๆ ที่เอื้อต่อการกัดกร่อน ในกรณีนี้การกัดกร่อนและสึกกร่อนรวมกันเป็นเหตุให้เกิดการเสื่อม

สภาพแวดล้อมในการทำงานที่ต่างกันของลวดสลิง ทำให้ต้องใช้สารหล่อลื่นที่แตกต่างกัน คุณสมบัติพิเศษแต่ละแบบถูกนำมาใช้เพื่อยืดอายุการใช้งานของลวดสลิง ในบางกรณีการเติมสารป้องกันการกัดกร่อนที่มีตัวทำละลายเป็นส่วนประกอบที่ถูกออกแบบให้ซึมซาบและไล่ความชื้นจากนั้นตามด้วยการเคลือบสารป้องกันที่เข้มข้นกว่า เพื่อช่วยในการป้องกันการกัดกร่อนรวมทั้งเพิ่มการหล่อลื่นอีกด้วย

เครื่องพ่นสเปรย์แบบแรงดันขนาดพกพา

BRILUBE 30, 40 และ 50 สามารถนำมาใช้ฉีดพ่นสเปรย์แบบธรรมดา หรือเครื่องพ่นสเปรย์แบบแรงดันขนาดพกพา BRILUBE เครื่องพ่นสเปรย์แบบแรงดันขนาดพกพานี้ สามารถพ่นได้ถึง 80 p.s.i. (5.5 Bar) สำหรับการแทรกซึมอย่างเต็มที่ของสารหล่อลื่น ทำให้เป็นเครื่องที่เหมาะสำหรับการเติมสาร BRILUBE ลงบนแกนม้วนของลวดและเครน

Masto Power Application Systems

BRILUBE 60, 70 และ 90 สามารถใช้แรงดันในการเติมระบบ In-line application system ซึ่งเหมาะสำหรับสลิงขนาดและโครงสร้างต่างๆ กัน

ระบบนี้จะใช้แรงดันสูงสุดอัดสารหล่อลื่นเข้าสู่ตัวลวด ในขณะเดียวกันก็ช่วยทำความสะอาดและกำจัดความชื้น สารหล่อลื่นเก่าๆ ที่หลงเหลืออยู่ และสิ่งสกปรกต่างๆ

BRILUBE® 50

เหมาะสำหรับ
- Indoor Cranes
- Piling Application
- Small Excavators

BRILUBE 50 - สารหล่อลื่นที่มีน้ำมันเป็นส่วนประกอบหลัก พร้อมด้วยสารปรุงแต่งอื่นๆ เพื่อช่วยเพิ่มแรงยึดติดและป้องกันการกัดกร่อน มีคุณสมบัติช่วยในการซึมซาบและหล่อลื่นเป็นอย่างดี เพื่อสลิงที่ใช้ในงานอุตสาหกรรมที่มีสภาพแวดล้อมแบบปกติ
BRILUBE 50 ควรใช้กับเครนยก สลิงรอก และสลิงที่ใช้งานในแบบใกล้เคียงกัน โดยแรงล้า (Fatigue) เป็นปัจจัยสำคัญที่ทำให้สลิงเสื่อมคุณภาพ

BRILUBE® 60

เหมาะสำหรับ
- Excavators
- Guy Ropes
- Winch Rope

BRILUBE 60 - สารหล่อลื่นที่มีเจล Thixotropic อยู่ในปริมาณกลางๆ โดยสามารถป้องกันการสึกกร่อนได้อย่างดี และทนต่อการเปลี่ยนแปลงอุณหภูมิ พัฒนาขึ้นเพื่อยืดอายุการใช้งานของสลิงไม่เคลื่อนที่ (Standing Rope) และสลิงเคลื่อนที่ (Dynamic Rope)
BRILUBE 60 เหมาะสำหรับใช้งานกลางแจ้ง โดยได้ทั้งสารหล่อลื่น และป้องกันการกัดกร่อน โดยไม่จำเป็นต้องเติมสารเป็นประจำ

BRILUBE® 70

เหมาะสำหรับ
- Offshore Cranes
- Rigging
- Mooring & Towing
- Cables
- Fishing Ropes

BRILUBE 70 - สารหล่อลื่นที่มีเจล Thixotropic อยู่ในปริมาณกลางๆ มีคุณสมบัติคงทนต่อการเปลี่ยนแปลงของอุณหภูมิ และป้องกันการสึกกร่อนในสภาพการทำงานนอกชายฝั่ง พัฒนาขึ้นเพื่อยืดอายุการใช้งานของลวดสลิงที่ไม่เคลื่อนที่ (Static Rope) และสลิงเคลื่อนที่ (Dynamic Rope) ในสภาพแวดล้อมที่รุนแรง
BRILUBE 70 เหมาะสำหรับใช้งานนอกชายฝั่ง (Offshore) และภายใต้สภาพแวดล้อมแบบรุนแรง โดยสารหล่อลื่นที่มีประสิทธิภาพดี และมีประสิทธิภาพในการป้องกันการกัดกร่อนเป็นสิ่งจำเป็นยิ่ง

BRILUBE® 90

เหมาะสำหรับ
- Offshore Installations
- Lake & River Ferries
- Dock Facilities
- Water Treatment Operation

BRILUBE 90 - เป็นสารหล่อลื่นที่สามารถย่อยสลายได้เองตามธรรมชาติได้ ใช้กับสลิงที่ใช้ในงานหนักกลางทะเล (Marine Quality) ซึ่งถูกพัฒนาโดย BRIDON เพื่อตอบสนองความต้องการของสลิงที่ใช้กับสภาพแวดล้อมแบบรุนแรง และสารที่ใช้ยังไม่เป็นภัยต่อสิ่งแวดล้อมอีกด้วย พัฒนาขึ้นเพื่อลวดสลิงที่ถูกใช้งานหนักในสภาพแวดล้อมที่เปราะบางต่อสิ่งแวดล้อม
BRILUBE 90 เหมาะสำหรับใช้ในที่ที่สารหล่อลื่นลวดสลิงอาจเป็นปัญหาต่อสิ่งแวดล้อม

BRILUBE ADVANCED ROPE DRESSONGS BY BRIDON

BRILUBE®

BRILUBE Health and Safety Recommendations
ข้อควรระวังทั่วไปและสิ่งที่ควรทำ

- นำออกห่างจากความร้อนและเปลวไฟ
- ปิดภาชนะบรรจุให้มิดชิด
- เก็บไว้ในที่ร่ม
- เก็บไว้ในที่ที่มีอุณหภูมิสูงสุดไม่เกิน 25 องศาเซลเซียส
- นำออกห่างจากอาหารและเครื่องดื่ม
- ระวังอย่าให้ถูกผิวเป็นระยะเวลานานๆ และบ่อยๆ และต้องพยายามรักษาสุขอนามัยของตนเอง

สิ่งที่ไม่ควรทำ

- เก็บเศษผ้าที่เปื้อนสารหล่อลื่นไว้ในกระเป๋า หรือใส่เสื้อผ้าที่เปื้อนสารหล่อลื่น
- สูดดมไอหรือไอระเหยจากสารหล่อลื่น
- กลืนกินสารเข้าไป

สิ่งที่ช่วยในการดับไฟซึ่งเกิดจากสารหล่อลื่น

- คาร์บอนไดออกไซด์ สารเคมีแบบแห้ง โฟม

เมื่อทำหก

- ซับด้วยดินเหนียวซับน้ำ

การกำจัด

- เผาหรือทิ้งในที่ที่ได้รับอนุญาต
- ระวังอย่าให้ปนเปื้อนลงแหล่งน้ำต่างๆ

อันตรายที่อาจเกิดขึ้นได้

จะไม่เกิดอันตรายอย่างร้ายแรงหากใช้อย่างถูกวิธี หากสารสัมผัสกับผิวหนังเป็นระยะเวลานาน หรือบ่อยครั้ง อาจทำให้เกิดบวมและเกิดการระคายเคือง จึงควรสวมถุงมือทุกครั้งที่ต้องสัมผัสกับสาร

Oral L.D.	15 g / kg น้ำหนักของร่างกาย
T.L.V.	100 ppm

การปฐมพยาบาลเบื้องต้น

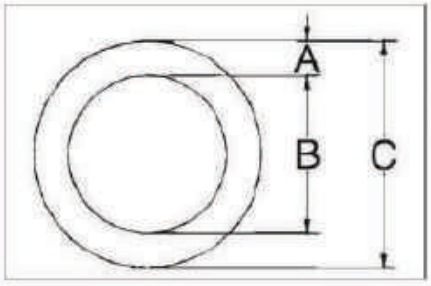
การกลืนกิน	อย่าพยายามให้อาเจียนออกมา เนื่องด้วยอาจเกิดการสำลัก ควรให้ผู้ป่วยดื่มนม 1/2 ไพน์ จากนั้นจึงปรึกษาแพทย์
สัมผัสถูกผิว	อาจเกิดการระคายเคืองเล็กน้อย ล้างออกโดยการถูด้วยสบู่และน้ำสะอาด
เข้าตา	อาจเกิดการระคายเคืองเล็กน้อย ล้างออกด้วยน้ำอุ่นจำนวนมาก หากจำเป็นควรปรึกษาแพทย์
การสำลัก	หากสงสัยว่าได้สำลักเข้าไปในปอด (เช่นในระหว่างการอาเจียน) ให้นำผู้ป่วยส่งโรงพยาบาลในทันที
การสูดดม	นำผู้ป่วยออกไปสูดอากาศบริสุทธิ์ หากจำเป็นสามารถให้ออกซิเจนแก่ผู้ป่วยได้ จากนั้นควรปรึกษาแพทย์

WELDLESS RINGS

Crosby®

S-643

- Forged carbon steel - Quenched & Tempered.
- Self Colored



S-643 Weldless Rings

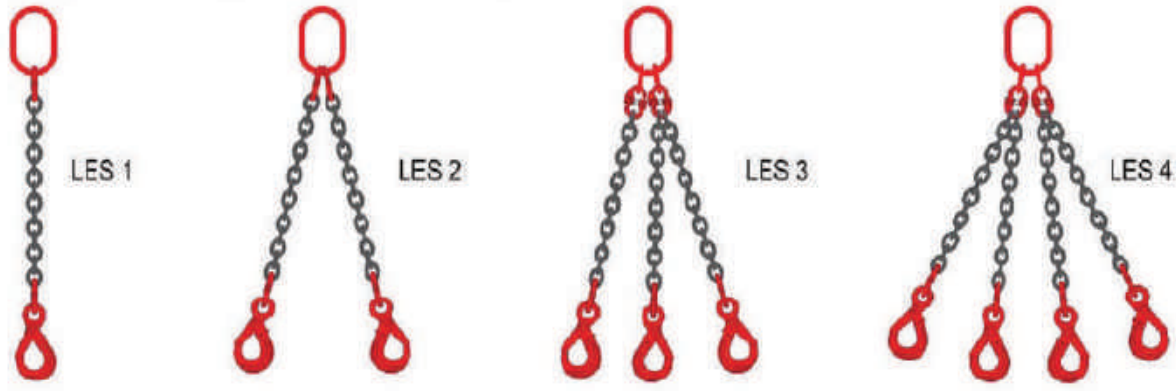
Size (in)	Stock No	Working Load Limit Single Pull (lb)	Weight Each (lb)	Dimensions (in)		
				A	B	C
7/8 x 4	1013780	7200	2.72	.88	4.00	5.75
7/8 x 5-1/2	1013806	5600	3.47	.88	5.50	7.25
1 x 4	1013824	10800	3.69	1.00	4.00	6.00
1-1/8 x 6	1013842	10400	6.60	1.13	6.00	8.25
1-1/4 x 5	1013860	17000	6.82	1.25	5.00	7.50
1-3/8 x 6	1013888	19000	10.12	1.38	6.00	8.75

6:1 Design Factor.

Chain sling 1, 2, 3, 4 legged with Eye sling hook

Chain sling 1, 2, 3, 4 legged with Clevis hook

Chain sling 1, 2, 3, 4 legged with Eye self locking hook



Chain sling 1, 2, 3, 4 legged with Clevis self locking hook

Chain sling 1, 2, 3, 4 legged with Eye sling hook & Eye shortening hook

LE 1S LE 2S LE 3S LE 4S

Chain sling 1, 2, 3, 4 legged with Eye sling hook & Clevis shortening hook

LE 1C LE 2C LE 3C LE 4C

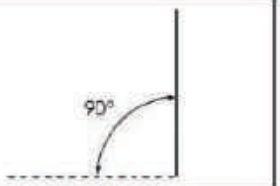
Endless sling

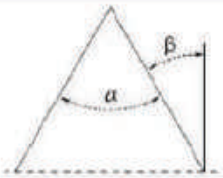
ES 1 ES 2 ESS 2 ES 4 ESS 4

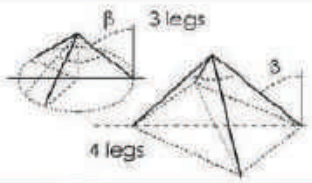
DANGER : Overhead lifting presents a very real danger of severe injury or loss of Life if lifting equipment is not used properly. Please read and understand all of these instructions prior to using any lifting sling or sling assembly. Sling should only be used By qualified persons who are responsible for the sling selection, inspection and use.

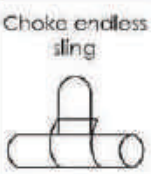
Grade 80 Chain Sling Components

WORKING LOAD LIMITS IN TONNE acc. to EN818-2





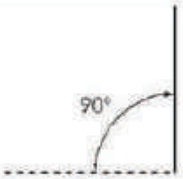




Load Factor	1	1.4	1	2.1	1.5	1.6
For chain size mm	Tonnes	β 0 - 45° α 0 - 90°	45° - 60° 90° - 120°	β 0 - 45° α 0 - 90°	45° - 60° 90° - 120°	
6	1.12	1.6	1.12	2.36	1.7	1.8
7	1.5	2.12	1.5	3.15	2.24	2.5
8	2.0	2.8	2.0	4.25	3.0	3.15
10	3.15	4.25	3.15	6.7	4.75	5.0
13	5.3	7.5	5.3	11.2	8.0	8.5
16	8.0	11.2	8.0	17.0	11.5	12.5
19	11.2	16.0	11.2	23.6	17.0	18.0
20	12.5	17.0	12.5	26.5	19.0	20.0
22	15.0	21.2	15.0	31.5	22.4	23.6
26	21.2	30.0	21.2	45.0	31.5	33.5
32	31.5	45.0	31.5	67.0	47.5	50.0

Grade 80 Chain Sling Components

WORKING LOAD LIMITS IN TONNE acc. to EN818-2



Load Factor	1	1.6	1.1	0.8	1.7	1.2
For chain size mm	Tonnes		0 - 45°	45° - 60°	0 - 45°	45° - 60°
6	1.12	1,8	1,25	0.9	1.9	1,32
7	1.5	2.5	1,7	1.25	2.65	1.8
8	2.0	3,15	2,24	1.6	3.35	2,36
10	3,15	5	3,35	2.5	5.3	3,75
13	5.3	8.5	5,83	4.25	9	6,3
16	8.0	12.5	9	6.3	13.2	9.5
18	10.0	16	11,2	8	17	11,8
20	12.5	20	14	10	21.2	15
22	15.0	23.6	17	11.8	25	18
26	21.2	33.5	23.6	17	35.5	25
32	31.5	50	35.5	25	53	37.5

** Safety factory 4:1 Above limits are valid for standard use and equally loaded slings. Properly used and maintained your ASP chain slings will give long life and will enable you to carry out your lifting operations efficienty and safety.

Warning: Never exceed a sling angle of 30°

SRM-LE1 SINGLE LEG SLING

LE1

LE1S

Art No.	Chain Size mm	W.L.L. in tonne Straight 1	B.S. t
SRM-LE1-06	6	1.12	4.48
SRM-LE1-07	7	1.50	6.00
SRM-LE1-08	8	2.00	8.00
SRM-LE1-10	10	3.15	12.60
SRM-LE1-13	13	5.30	21.20
SRM-LE1-16	16	8.00	32.00
SRM-LE1-18	18	10.00	40.00
SRM-LE1-20	20	12.50	50.00
SRM-LE1-22	22	15.00	60.00
SRM-LE1-26	26	21.20	84.80
SRM-LE1-32	32	31.50	126.00

SRM-LE2 TWO LEG SLING

LE2

LE2S

Art No.	Chain Size mm	S.W.L. in tonne 0 - 45° 1.4	45° - 60° 1	B.S. / leg at straight t
SRM-LE2-06	6	1.60	1.12	4.48
SRM-LE2-07	7	2.12	1.50	6.00
SRM-LE2-08	8	2.80	2.00	8.00
SRM-LE2-10	10	4.25	3.15	12.60
SRM-LE2-13	13	7.50	5.30	21.20
SRM-LE2-16	16	11.20	8.00	32.00
SRM-LE2-18	18	16.00	10.00	40.00
SRM-LE2-20	20	17.00	12.50	50.00
SRM-LE2-22	22	21.20	15.00	60.00
SRM-LE2-26	26	30.00	21.20	84.80
SRM-LE2-32	32	45.00	31.50	126.00

SRM-LE4 FOUR LEG SLING, ASP-LE3 THREE LEG SLING

LE3

LE4

Art No.	Chain Size mm	S.W.L. in tonne 0 - 45° 2.1	45° - 60° 1.5	B.S. / leg at straight t
SRM-LE4-06	6	2.36	1.70	4.48
SRM-LE4-07	7	3.15	2.24	6.00
SRM-LE4-08	8	4.25	3.00	8.00
SRM-LE4-10	10	6.70	4.75	12.60
SRM-LE4-13	13	11.20	8.00	21.20
SRM-LE4-16	16	17.00	11.50	32.00
SRM-LE4-18	18	23.60	17.00	40.00
SRM-LE4-20	20	26.50	19.00	50.00
SRM-LE4-22	22	31.50	22.40	60.00
SRM-LE4-26	26	45.00	31.50	84.80
SRM-LE4-32	32	67.00	47.50	126.00

Lifting applications design for safety factor 4:1

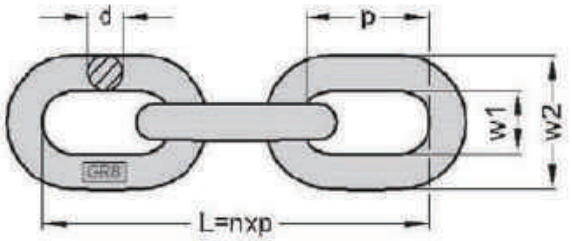
⚠ WARNING

DO NOT EXCEED WORKING LOAD LIMIT

ALLOY CHAIN

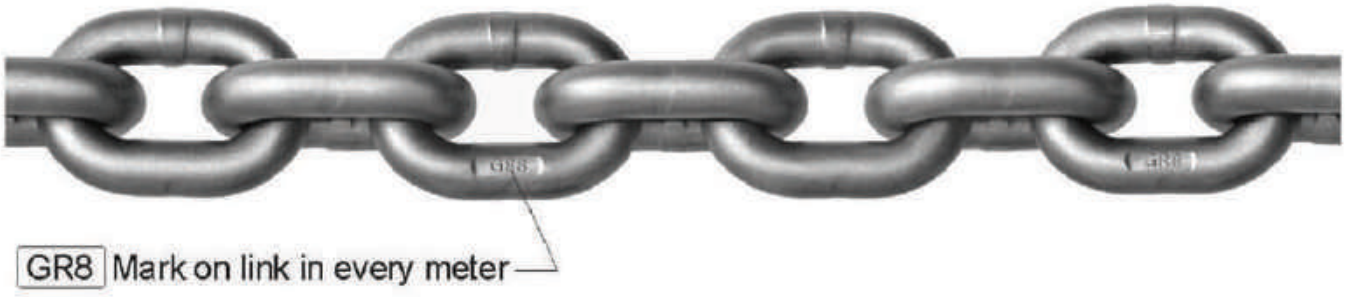
G8 EN818-2 G80 ALLOY CHAIN

Application area : Lifting
Material : High quality alloy steel
Surface treatment : Self color, Polishing, Blackened, Painted, Plastic coating, Hot-dip galvanized, Electric galvanized, etc.
Standard : EN818-2
Strength grade : 8
Proof loaded : 2 times of the Working Load Limit
Safety factor : 4 times of the working load limit



G80 EN818-2 ALLOY CHAIN

Art No.	Chain Size / mm. d x p	W.L.L. t	B.S. t	Dimension / mm		Weight kg
				w1	w2	
SRM-G8-06	6 x 18	1.10	4.40	7.8	22.2	0.80
SRM-G8-07	7 x 21	1.50	6.00	9.1	25.9	1.10
SRM-G8-08	8 x 24	2.00	8.00	10.4	29.6	1.39
SRM-G8-10	10 x 30	3.20	12.80	13.0	37.0	2.30
SRM-G8-13	13 x 39	5.30	21.20	16.9	48.1	3.90
SRM-G8-16	16 x 48	8.00	32.00	20.8	59.2	5.80
SRM-G8-18	18 x 54	10.00	40.00	23.4	66.6	7.00
SRM-G8-20	20 x 60	12.50	50.00	26.0	74.0	9.00
SRM-G8-22	22 x 66	15.00	60.00	28.6	81.4	10.70
SRM-G8-26	26 x 78	21.20	84.80	33.8	96.2	15.00
SRM-G8-28	28 x 84	25.00	100.00	36.4	104.0	18.00
SRM-G8-32	32 x 96	31.50	126.00	41.6	118.0	21.70
SRM-G8-36	36 x 108	40.00	160.00	46.8	133.0	27.90
SRM-G8-40	40 x 120	50.00	200.00	52.0	148.0	35.80
SRM-G8-45	45 x 135	63.00	252.00	58.5	167.0	45.20

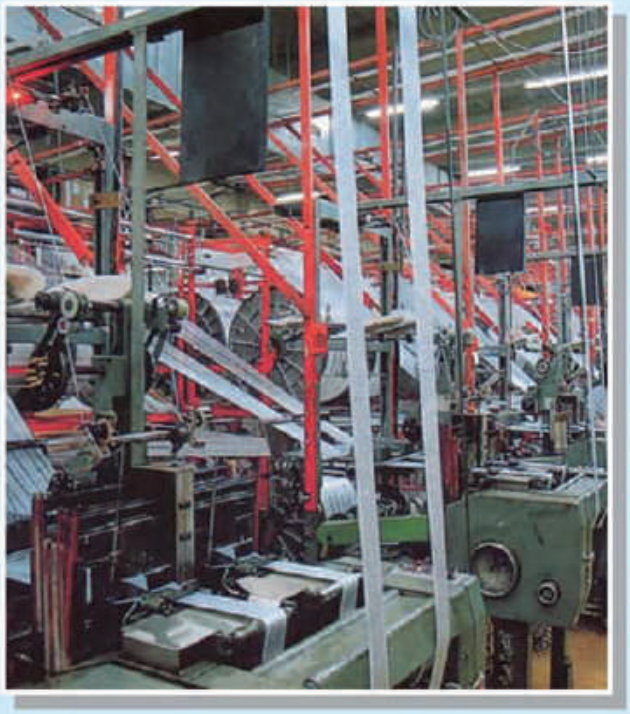


MERTRA®
Lifting Sling Polyester

Lifting sling are produced from controlled high tenacity polyester yarns.

MERTRA®

Hightenacity Polyester Fibre 100%



RIBBONS is one of the leading manufacturers of webbing slings, round slings and cargo-lashings, for use in industry as well as for civil engineering, transportation and shipping.

Production facilities are located in Theorchy factory U.K. and Singapore resulting in fast and accurate world-wide deliveries.

MERTRA webbing sling and roundsling are made in a standard range of types and sizes, designed to meet most lifting needs. Slings are designed to suit specific applications on request.

All MERTRA slings are subject to rigorous quality control at all levels of production from yarn to final assembly. This is an essential factor in the production of high quality slings ensuring high strength, reliability and consistant performance.

MERTRA slings and lashings are certified by the german labour inspectorate (Berufsgenossenschaft) and the belgian AIB Vincotte.

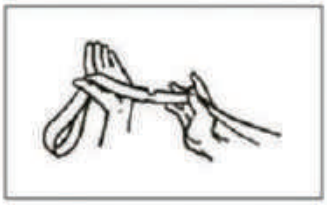
POLYESTER LIFTING SLING APPLICATIONS

AIR CONDITIONING UNITS
AUTOMOBILES
AUTOMOBILE PARTS
BALES
BEARINGS
BOILERS
BOAT HANDLING
BULK MASTERIALS
CONCRETE PIPE
DRUMS
ELECTRICAL EQUIPMANT
FINISHED PARTS
HARBOR-LOADING AND UNLOADING
UNLOADING
HEATING UNITS
JET ENGINES
INSTRUMENTS
LIGHTING FIXTURES
LOGGING
MACHINERY AND MACHINED PARTS
NUCLEAR EQUIPMENT
OIL DRILLING PARTS
PAPER ROLLS
PREFAB UNITS
PROPELLERS
QUENCHING OPERATINGS
RADIOACTIVE MATERIALS
SALVAGE OPERRATIONS
SCULPTURES
SHAFTS
SIGNS
STEEL FACTORY
TELEPHONE POLE HANDING
TRANSFORMERS
TRANSPORTATION
VAULTS
VENTILATION UNITS
WASTE DISPOSAL
X-RAY EQUIPMENT
YARD LIFTING-RAILAND LUMBER

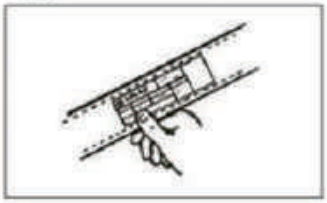
MERTRA®

Safe Operating Practices

- Inspect slings prior to each use and do not use if damaged. (See specific sling type for inspection criteria.)



- Slings shall not be loaded in excess of their rated capacities. Rated capacities (Working Load Limits) must be shown by markings or tags attached to all slings.



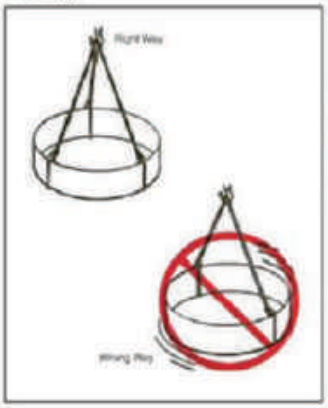
- Angle of lift must be considered in all lifts. See page 16.

- Slings shall be padded or protected from the sharp edges of their loads.

- Loads must be rigged to prevent slippage.

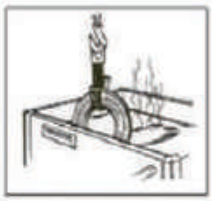
- Slings shall be securely attached to their loads

- Lift must be stable with respect to the center of gravity - balanced.



- A sling shall not be pulled from under a load when the load is resting on the sling. Before a load is lifted, a place should be prepared where it is to be put down. Lumber can be used to allow space to remove the sling and prevent shifting of the load.

- Temperature and chemical environment must be considered (see specific sling types for data).



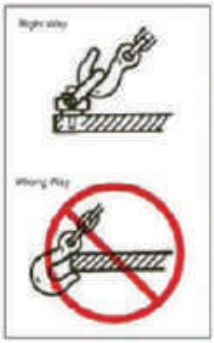
- Slings shall not be shortened with knots, bolts, or makeshift devices.

- Sling legs shall not be kinked or twisted.

- Slings shall not be dragged on floor.

- Slings shall be stored in cool, dark, dry areas, preferably on racks.

- Do not point load hooks - center load in base of hook.



- Suspended loads shall be kept clear of all obstructions.

- All persons shall be kept clear of loads to be lifted, and suspended load.

- Hands and fingers shall not be placed between the sling and load while the sling is being tightened around the load. After lifting, the load should not be pushed or guided by employees hands directly on the load. Ropes or "tag lines" should be attached for this purpose.

- Do not shock load. Jerking the load could overload the sling and cause it to fail.

INSPECTION CRITERIA

⚠ WARNING Read Definition on page 3

Inspection Criteria for Synthetic Web Slings
Refer to illustrations of damaged webbing

Remove from service if any of the following is visible:

- Capacity tag is missing or illegible
- Red core warning yarns are visible
- Sling shows signs of melting, charring or chemical damage
- End fittings are excessively pitted, corroded, distorted, cracked or broken
- Cuts on the face or edge of webbing
- Holes, tears, snags or crushed web
- Signs of excessive abrasive wear
- Broken or worn threads in the stitch patterns
- Any other visible damage which causes doubt as to its strength

Red Core Yarns - warn of dangerous sling damage. *All Lift All* Nylon or Polyester Web Slings shown in this section of the catalog have this warning feature. When red yarns are visible, the sling should be removed from service immediately. The red core yarns become exposed when the sling surface is cut or worn through the woven face yarns. For other inspection criteria see OSHA/Manufacturer regulations on pages 5 through 11.

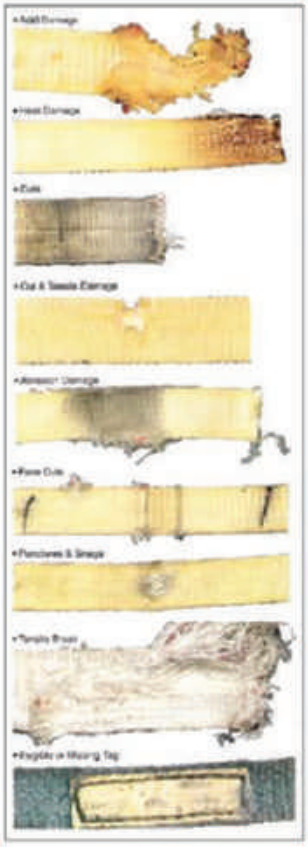
Examples of Web Sling Abuse

Most of the damage shown here would cause immediate catastrophic failure of the sling. Not all of the damage you will see will be this obvious or extreme, but still requires removal from use.

Elasticity - The stretch characteristics of web slings depends on the type of yarn and the web finish. Approximate stretch at RATED SLING CAPACITY is:

NYLON		POLYESTER	
Treated	10%	Treated	7%
Untreated	8%	Untreated	3%

Prior to sling selection and use, review and understand the "Help" section.



MERTRA®

WS-2 Polyester Webbing Slings

HIGH TENACITY POLYESTER FOR BETTER LIFTING

FEATURE :

- Double ply polyester webbing sling with reinforced lifting eyes.
- Working load limit WLL. 1-12 Tonne, Length 1-50 Mtr.

SPECIFICATIONS :

- Sling are constructed of 100% polyester
- Certified standard DIN V 61360 Show at blue label
- Safety factor 7:1
- Each kg class has its own colour code. (see technical data)
- Max. working temp. 100°C (200°F) Melting point 260°C (500°F)
- Excellant resistant to acids, oil, ultra violet ray, rot and mildew.
- Lightweight easy to handle, store and clean.
- No less of strength in water.
- Only 3% elongation.

NORMS

- According to Machine Directive 89/392/EC.

MERTRA® Chemical resistance information chart

material	acids	alkalis	oils	organic solvents	water and seawater	ethers	aldehydes	alcohols
Polyester	ok*	no	ok	ok	ok	no	no	ok

* designtegrated by concentrated sulfuric acid. Higher chemical concentrations and/or higher temperratures will lower the resistance of the sling.

TECHNICAL DATA, 25 mm. Series

Type WS-2

webbing width (mm)	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β 0°-7°	β 7°-45°	β 45°-60°	straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
25	WLL 1 T	Violet	1,000	800	2,000	1,400	1,000	1,400	1,120	1,000	800
50	WLL 2 T	Green	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
75	WLL 3 T	Yellow	3,000	2,400	6,000	4,200	3,000	4,200	3,360	3,000	2,400
100	WLL 4 T	Grey	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
125	WLL 5 T	Red	5,000	4,000	10,000	7,000	5,000	7,000	5,600	5,000	4,000
150	WLL 6 T	Brown	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
200	WLL 8 T	Blue	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
250	WLL 10 T	Orange	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000
300	WLL 12 T	Orange	12,000	9,600	24,000	16,800	12,000	16,800	13,440	12,000	9,600

MERTRA® lifting eye types

1. Flat eye
2. Reversed eye
3. Folded eye 1/2 width from 1 side
4. Folded eye 1/2 width from 2 sides
5. Folded eye 1/3 width

⚠ CAUTIONS

- Do not exceed Working Load Limited
- Prevent shock-loading.
- When selecting a sling it is very important consider the angles at which the sling will be used.
- Sling are subject to cutting when lifting items with sharp edges. In this case always use wear sleeves.
- Do not use a damaged sling.
- Never drag a sling from underneath a load that is resting on it.
- Chemical active environments can effect the strength of slings.
- Operating temperature range: -40°C to + 100°C.
- Inspect slings weekly or more frequently depending on sling use.
- Always store slings in a cool dry and dark place when they are not in use for prolonged periods.
- Always read and understand the operating instructions before use.

OPI

MERTRA® WS-1, WS-4 PES. Webbing Slings

HIGH TENACITY POLYESTER FOR BETTER LIFTING

MERTRA® WS-1 Polyester single-ply webbing slings

FEATURE :

- Single ply polyester webbing sling with reinforced lifting eyes.
- Working load limit WLL. 0.5-6 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1

MERTRA®
WS-1/25 Series
Lifting sling are manufactured to international standards.

webbing width (mm)	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β			straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
					0°-7°	7°-45°	45°-60°				
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
25	WLL 0.5 T	Violet	500	400	1,000	700	500	700	560	500	400
50	WLL 1 T	Green	1,000	800	2,000	1,400	1,000	1,400	1,120	1,000	800
75	WLL 1.5 T	Yellow	1,500	1,200	3,000	2,100	1,500	2,100	1,680	1,500	1,200
100	WLL 2 T	Grey	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
125	WLL 2.5 T	Red	2,500	2,000	5,000	3,500	2,500	3,500	2,800	2,500	2,000
150	WLL 3 T	Brown	3,000	2,400	6,000	4,200	3,000	4,200	3,360	3,000	2,400
200	WLL 4 T	Blue	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
250	WLL 5 T	Orange	5,000	4,000	10,000	7,000	5,000	7,000	5,600	5,000	4,000
300	WLL 6 T	Orange	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800

Type WS-1

MERTRA® WS-4 Polyester 4-ply webbing slings

FEATURE :

- 4 ply polyester webbing sling with reinforced lifting eyes.
- Working load limit WLL. 2-24 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1

MERTRA®
WS-4/25 Series
Lifting sling are manufactured to international standards.

webbing width (mm)	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β			straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
					0°-7°	7°-45°	45°-60°				
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
25	WLL 2 T	Violet	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
50	WLL 4 T	Green	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
75	WLL 6 T	Yellow	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
100	WLL 8 T	Grey	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
125	WLL 10 T	Red	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000
150	WLL 12 T	Brown	12,000	9,600	24,000	16,800	12,000	16,800	13,440	12,000	9,600
200	WLL 16 T	Blue	16,000	12,800	32,000	22,400	16,000	22,400	17,920	16,000	12,800
250	WLL 20 T	Orange	20,000	16,000	40,000	28,000	20,000	28,000	22,400	20,000	16,000
300	WLL 24 T	Orange	24,000	19,200	48,000	33,600	24,000	33,600	26,880	24,000	19,200

Type WS-4

MERTRA®

WS-2 Polyester Webbing Slings

HIGH TENACITY POLYESTER FOR BETTER LIFTING

FEATURE :

- Double ply polyester webbing sling with reinforced lifting eyes.
- Working load limit WLL 1-10 Tonne, Length 1-50 Mtr.

SPECIFICATIONS :

- Sling are constructed of 100% polyester
- Certified standard DIN V 61360 Show at blue label
- Safety factor 7:1
- Each kg class has its own colour code. (see technical data)
- Black Stips to indentify WLL each tonne.
- Max. working temp. 100°C (200°F) Melting point 260°C (500°F)
- Excellant resistant to acids, oil, ultra violet ray, rot and mildew.
- Lightweight easy to handle, store and clean.
- No less of strength in water.
- Only 3% elongation.

NORMS

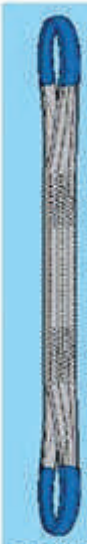
- According to Machine Directive 89/392/EC.

MERTRA® Chemical resistance information chart

material	acids	alkalis	oils	organic solvents	water and seawater	ethers	aldehydes	alcohols
Polyester	ok*	no	ok	ok	ok	no	no	ok

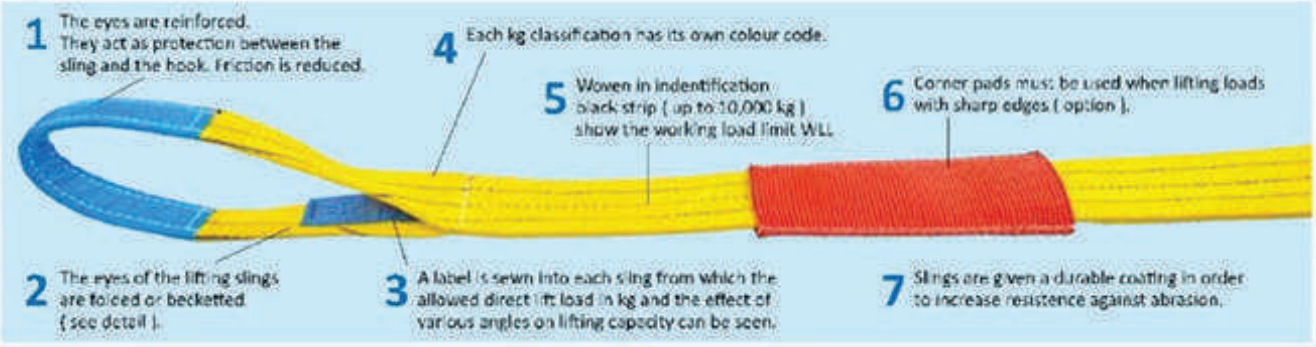
* disintegrated by concentrated sulfuric acid. Higher chemical concentrations and/or higher temperratures will lower the resistance of the sling.

TECHNICAL DATA, 30 mm. Series



Type WS-2

webbing width (mm) / Strip	Colourcode according to DIN EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β 0°-7°	β 7°-45°	β 45°-60°	straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
			1.0	0.8	2.0	1.4	1.0	1.4	1.12	1.0	0.8
30	WLL 1 T	Violet	1,000	800	2,000	1,400	1,000	1,400	1,120	1,000	800
60	WLL 2 T	Green	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
90	WLL 3 T	Yellow	3,000	2,400	6,000	4,200	3,000	4,200	3,360	3,000	2,400
120	WLL 4 T	Grey	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
150	WLL 5 T	Red	5,000	4,000	10,000	7,000	5,000	7,000	5,600	5,000	4,000
180	WLL 6 T	Brown	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
240	WLL 8 T	Blue	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
300	WLL 10 T	Orange	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000



OPI

MERTRA®

WS-1, WS-4 PES. Webbing Slings

HIGH TENACITY POLYESTER FOR BETTER LIFTING

MERTRA® WS-1 Polyester single-ply webbing slings

FEATURE :

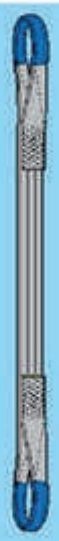
- Single-ply polyester webbing sling with reinforced lifting eyes.
- Working load limit WLL 0.5-5 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1

MERTRA

WS-1/30 Series

Lifting sling are manufactured to international standards.

CE



Type WS-1

webbing width (mm) / Strip	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β 0°-7°	β 7°-45°	β 45°-60°	straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
30	WLL 0.5 T	Violet	500	400	1,000	700	500	700	560	500	400
60	WLL 1 T	Green	1,000	800	2,000	1,400	1,000	1,400	1,120	1,000	800
90	WLL 1.5 T	Yellow	1,500	1,200	3,000	2,100	1,500	2,100	1,680	1,500	1,200
120	WLL 2 T	Grey	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
150	WLL 2.5 T	Red	2,500	2,000	5,000	3,500	2,500	3,500	2,800	2,500	2,000
180	WLL 3 T	Brown	3,000	2,400	6,000	4,200	3,000	4,200	3,360	3,000	2,400
240	WLL 4 T	Blue	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
300	WLL 5 T	Orange	5,000	4,000	10,000	7,000	5,000	7,000	5,600	5,000	4,000

MERTRA® WS-4 Polyester 4-ply webbing slings

FEATURE :

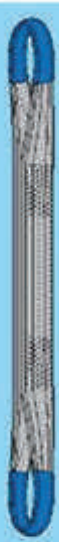
- 4-ply polyester webbing sling with reinforced lifting eyes.
- Working load limit WLL 2-20 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1

MERTRA

WS-4/30 Series

Lifting sling are manufactured to international standards.

CE



Type WS-4

webbing width (mm) / Strip	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β 0°-7°	β 7°-45°	β 45°-60°	straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
30	WLL 2 T	Violet	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
60	WLL 4 T	Green	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
90	WLL 6 T	Yellow	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
120	WLL 8 T	Grey	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
150	WLL 10 T	Red	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000
180	WLL 12 T	Brown	12,000	9,600	24,000	16,800	12,000	16,800	13,440	12,000	9,600
240	WLL 16 T	Blue	16,000	12,800	32,000	22,400	16,000	22,400	17,920	16,000	12,800
300	WLL 20 T	Orange	20,000	16,000	40,000	28,000	20,000	28,000	22,400	20,000	16,000

MERTRA®

Endless Webbing Slings

HIGH TENACITY POLYESTER FOR BETTER LIFTING

MERTRA® WE-1 Polyester single-ply webbing slings, 25 mm. Series

TYPE :

- Single-ply polyester webbing sling endless.
- Working load limit WLL. 1-12 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1

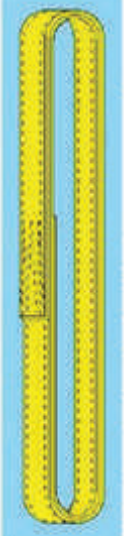
Type WE-1

webbing width (mm)	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β 0°-7°	β 7°-45°	β 45°-60°	straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
25	WLL 1 T	Violet	1,000	800	2,000	1,400	1,000	1,400	1,120	1,000	800
50	WLL 2 T	Green	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
75	WLL 3 T	Yellow	3,000	2,400	6,000	4,200	3,000	4,200	3,360	3,000	2,400
100	WLL 4 T	Grey	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
125	WLL 5 T	Red	5,000	4,000	10,000	7,000	5,000	7,000	5,600	5,000	4,000
150	WLL 6 T	Brown	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
200	WLL 8 T	Blue	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
250	WLL 10 T	Orange	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000
300	WLL 12 T	Orange	12,000	9,600	24,000	16,800	12,000	16,800	13,440	12,000	9,600

MERTRA® WE-2 Polyester double-ply webbing slings, 25 mm. Series

TYPE :

- Double-ply polyester webbing sling endless.
- Working load limit WLL. 2-24 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1



Type WE-2

webbing width (mm)	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β 0°-7°	β 7°-45°	β 45°-60°	straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
25	WLL 2 T	Violet	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
50	WLL 4 T	Green	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
75	WLL 6 T	Yellow	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
100	WLL 8 T	Grey	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
125	WLL 10 T	Red	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000
150	WLL 12 T	Brown	12,000	9,600	24,000	16,800	12,000	16,800	13,440	12,000	9,600
200	WLL 16 T	Blue	16,000	12,800	32,000	22,400	16,000	22,400	17,920	16,000	12,800
250	WLL 20 T	Orange	20,000	16,000	40,000	28,000	20,000	28,000	22,400	20,000	16,000
300	WLL 24 T	Orange	24,000	19,200	48,000	33,600	24,000	33,600	26,880	24,000	19,200

MERTRA®

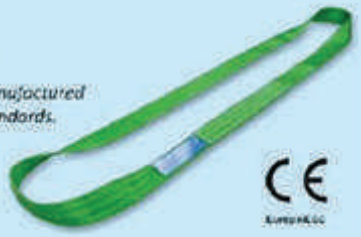
Endless Webbing Slings

HIGH TENACITY POLYESTER FOR BETTER LIFTING

MERTRA® WE-1 Polyester single-ply webbing slings, 30 mm. Series

TYPE :

- Single-ply polyester webbing sling endless.
- Working load limit WLL. 1-10 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1




Type WE-1

webbing width (mm) / Strip	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β 0°-7°	β 7°-45°	β 45°-60°	straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
30	WLL 1 T	Violet	1,000	800	2,000	1,400	1,000	1,400	1,120	1,000	800
60	WLL 2 T	Green	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
90	WLL 3 T	Yellow	3,000	2,400	6,000	4,200	3,000	4,200	3,360	3,000	2,400
120	WLL 4 T	Grey	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
150	WLL 5 T	Red	5,000	4,000	10,000	7,000	5,000	7,000	5,600	5,000	4,000
180	WLL 6 T	Brown	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
240	WLL 8 T	Blue	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
300	WLL 10 T	Orange	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000

MERTRA® WE-2 Polyester Double-ply webbing slings, 30 mm. Series

TYPE :

- Double-ply polyester webbing sling endless.
- Working load limit WLL. 2-20 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1


Type WE-2

webbing width (mm) / Strip	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling					Working Load Limits with 2 webbing slings			
			straight lift	choked lift	β 0°-7°	β 7°-45°	β 45°-60°	straight lift up to 45°	choked lift up to 45°	straight lift 45°-60°	choked lift 45°-60°
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
30	WLL 2 T	Violet	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
60	WLL 4 T	Green	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
90	WLL 6 T	Yellow	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
120	WLL 8 T	Grey	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
150	WLL 10 T	Red	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000
180	WLL 12 T	Brown	12,000	9,600	24,000	16,800	12,000	16,800	13,440	12,000	9,600
240	WLL 16 T	Blue	16,000	12,800	32,000	22,400	16,000	22,400	17,920	16,000	12,800
300	WLL 20 T	Orange	20,000	16,000	40,000	28,000	20,000	28,000	22,400	20,000	16,000

MERTRA® RE-5 Polyester Round Sling Endless

HIGH TENACITY POLYESTER FOR BETTER LIFTING

FEATURE :

- Polyester roundsling with two ply woven heavy-duty sleeve.
- Round sling endless.
- Working load limith WLL. 1-100 Tonne, Length 1-24 Mtr.

SPECIFICATIONS :

- Sling are constructed of 100% polyester.
- Certified standard DIN V 61360 Show at blue label
- Safety factor 8:1
- The load bearing yarns are protected by a double layer seamless polyester cover.
- Only 3% elongation.

NORMS

- According to Machine Directive 89/392/EC.

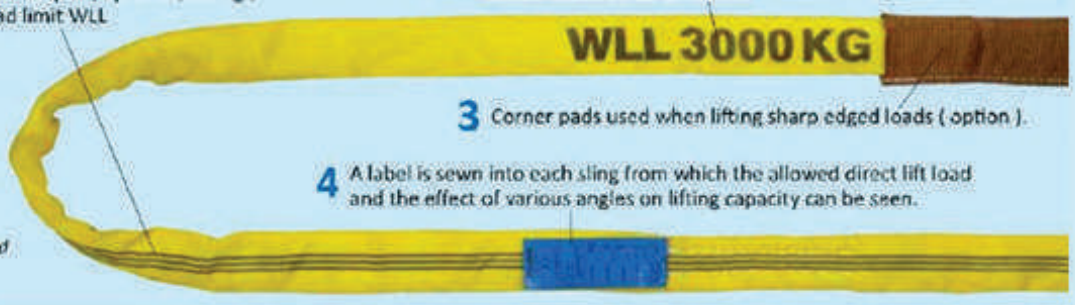
TECHNICAL DATA

Type RE-5

type	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 round sling							Working Load Limits with 2 round slings			
			straight lift	choked lift	0° - 7°	β				straight lift up to 45°	choked lift up to 45°	straight lift 45° - 60°	choked lift 45° - 60°
						bis 7°	7° - 45°	45° - 60°	45° - 60°				
			1,0	0,8	2,0	1,4	1,0	0,7	0,5	1,4	1,12	1,0	0,8
RE-5/01	WLL 1 T	Violet	1,000	800	2,000	1,400	1,000	700	500	1,400	1,120	1,000	800
RE-5/02	WLL 2 T	Green	2,000	1,600	4,000	2,800	2,000	2,000	1,000	2,800	2,240	2,000	1,600
RE-5/03	WLL 3 T	Yellow	3,000	2,400	6,000	4,200	3,000	2,100	1,500	4,200	3,360	3,000	2,400
RE-5/04	WLL 4 T	Grey	4,000	3,200	8,000	5,600	4,000	2,800	2,000	5,600	4,480	4,000	3,200
RE-5/05	WLL 5 T	Red	5,000	4,000	10,000	7,000	5,000	3,500	2,500	7,000	5,600	5,000	4,000
RE-5/06	WLL 6 T	Brown	6,000	4,800	12,000	8,400	6,000	4,200	3,000	8,400	6,720	6,000	4,800
RE-5/08	WLL 8 T	Blue	8,000	6,400	16,000	11,200	8,000	5,600	4,000	11,200	8,960	8,000	6,400
RE-5/10	WLL 10 T	Orange	10,000	8,000	20,000	14,000	10,000	7,000	5,000	14,000	11,200	10,000	8,000
RE-5/12	WLL 12 T	Orange	12,000	9,600	24,000	16,800	12,000	8,400	6,000	16,800	13,440	12,000	9,600
RE-5/15	WLL 15 T	Orange	15,000	12,000	30,000	21,000	15,000	10,500	7,500	21,000	16,800	15,000	12,000
RE-5/20	WLL 20 T	Orange	20,000	16,000	40,000	28,000	20,000	14,000	10,000	28,000	22,400	20,000	16,000
RE-5/25	WLL 25 T	Orange	25,000	20,000	50,000	35,000	25,000	17,500	12,500	35,000	28,000	25,000	20,000
RE-5/30	WLL 30 T	Orange	30,000	24,000	60,000	42,000	30,000	21,000	15,000	42,000	33,600	30,000	24,000
RE-5/40	WLL 40 T	Orange	40,000	32,000	80,000	56,000	40,000	28,000	20,000	56,000	44,800	40,000	32,000
RE-5/50	WLL 50 T	Orange	50,000	40,000	100,000	70,000	50,000	35,000	25,000	70,000	56,000	50,000	40,000
RE-5/60	WLL 60 T	Orange	60,000	48,000	120,000	84,000	60,000	42,000	30,000	84,000	67,200	60,000	48,000
RE-5/80	WLL 80 T	Orange	80,000	64,000	160,000	112,000	80,000	56,000	40,000	112,000	89,600	80,000	64,000
RE-5/100	WLL 100 T	Orange	100,000	80,000	200,000	140,000	100,000	70,000	50,000	140,000	112,000	100,000	80,000

1 Each kg class has its own colour code. Woven in identification stripes (up to 10,000 kg) Show the working load limit WLL

2 The kg load class stamped on the round sling shows the allowed direct lift.



3 Corner pads used when lifting sharp edged loads (option).

4 A label is sewn into each sling from which the allowed direct lift load and the effect of various angles on lifting capacity can be seen.

MERTRA
RE-5
Round sling are manufactured and tested according to international standards.

MERTRA® RS-5 Polyester Round Sling Endless

HIGH TENACITY POLYESTER FOR BETTER LIFTING

MERTRA® RS-5 Polyester round slings with eyes

TYPE :

- Round strop sling polyester with eyes
- Working load limit WLL 1-100 Tonne, Length 1-24 Mtr.
- Safety Factor (S/F) 8:1

TECHNICAL DATA


Type RS-5

type	Colourcode according to DIN EN 1492-1		Working Load Limits with 1 round sling					Working Load Limits with 2 round slings			
			straight lift	choked lift		β		straight lift up to 45°	choked lift up to 45°	straight lift 45° - 60°	choked lift 45° - 60°
						bis 7°	7° - 45°				
			1,0	0,8	2,0	1,4	1,0	1,4	1,12	1,0	0,8
RS-5/01	WLL 1 T	Violet	1,000	800	2,000	1,400	1,000	1,400	1,120	1,000	800
RS-5/02	WLL 2 T	Green	2,000	1,600	4,000	2,800	2,000	2,800	2,240	2,000	1,600
RS-5/03	WLL 3 T	Yellow	3,000	2,400	6,000	4,200	3,000	4,200	3,360	3,000	2,400
RS-5/04	WLL 4 T	Grey	4,000	3,200	8,000	5,600	4,000	5,600	4,480	4,000	3,200
RS-5/05	WLL 5 T	Red	5,000	4,000	10,000	7,000	5,000	7,000	5,600	5,000	4,000
RS-5/06	WLL 6 T	Brown	6,000	4,800	12,000	8,400	6,000	8,400	6,720	6,000	4,800
RS-5/08	WLL 8 T	Blue	8,000	6,400	16,000	11,200	8,000	11,200	8,960	8,000	6,400
RS-5/10	WLL 10 T	Orange	10,000	8,000	20,000	14,000	10,000	14,000	11,200	10,000	8,000
RS-5/12	WLL 12 T	Orange	12,000	9,600	24,000	16,800	12,000	16,800	13,440	12,000	9,600
RS-5/15	WLL 15 T	Orange	15,000	12,000	30,000	21,000	15,000	21,000	16,800	15,000	12,000
RS-5/20	WLL 20 T	Orange	20,000	16,000	40,000	28,000	20,000	28,000	22,400	20,000	16,000
RS-5/25	WLL 25 T	Orange	25,000	20,000	50,000	35,000	25,000	35,000	28,000	25,000	20,000
RS-5/30	WLL 30 T	Orange	30,000	24,000	60,000	42,000	30,000	42,000	33,600	30,000	24,000
RS-5/40	WLL 40 T	Orange	40,000	32,000	80,000	56,000	40,000	56,000	44,800	40,000	32,000
RS-5/50	WLL 50 T	Orange	50,000	40,000	100,000	70,000	50,000	70,000	56,000	50,000	40,000
RS-5/60	WLL 60 T	Orange	60,000	48,000	120,000	84,000	60,000	84,000	67,200	60,000	48,000
RS-5/80	WLL 80 T	Orange	80,000	64,000	160,000	112,000	80,000	112,000	89,600	80,000	64,000
RS-5/100	WLL 100 T	Orange	100,000	80,000	200,000	140,000	100,000	140,000	112,000	100,000	80,000

MERTRA®

RE-S

Round sling are produced from controlled high tenacity polyester yarns.

RE-S roundsling with 2-ply woven heavy-duty sleeve The roundsling inner core is made from high tensile polyester fibre which is wound continuously without a join to provide the maximum possible strength. This core is protected by a tough woven tubular sleeve also made from polyester without side stitch. It serves to protect both the inner core of the sling and the surface of the product which is lifting.

MERTRA®

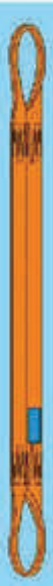
Extra wide Slings

HIGH TENACITY POLYESTER FOR BETTER LIFTING

MERTRA® CW-1/25 Polyester Single-ply Extra wide slings, 25 mm. Series, for Heavy Loads

TYPE :

- Single-ply polyester webbing sling.
- Working load limit WLL. 1-12 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1



Type CW-1/25

webbing width (mm)	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling			
			straight lift	β		
				0°- 7°	7°- 45°	45°- 60°
			1,0	2,0	1,4	1,0
50	WLL 1 T	Violet	1,000	2,000	1,400	1,000
100	WLL 2 T	Green	2,000	4,000	2,800	2,000
150	WLL 3 T	Yellow	3,000	6,000	4,200	3,000
200	WLL 4 T	Grey	4,000	8,000	5,600	4,000
250	WLL 5 T	Red	5,000	10,000	7,000	5,000
300	WLL 6 T	Brown	6,000	12,000	8,400	6,000
400	WLL 8 T	Blue	8,000	16,000	11,200	8,000
500	WLL 10 T	Orange	10,000	20,000	14,000	10,000
600	WLL 12 T	Orange	12,000	24,000	16,800	12,000

Continuoues Eye Wide-Lift

For Heavy Loads - Constructed from one endless sling with the two body lengths butted and joined side by side.

MERTRA®

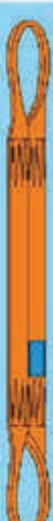
CW-1/25 Series

Lifting sling are manufactured to international standards.

MERTRA® CW-1/30 Polyester Single-ply Extra wide slings, 30 mm. Series, for Heavy Loads

TYPE :

- Single-ply polyester webbing sling.
- Working load limit WLL. 1-10 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1



Type CW-1/30

webbing width (mm)	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling			
			straight lift	β		
				0°- 7°	7°- 45°	45°- 60°
			1,0	2,0	1,4	1,0
60	WLL 1 T	Violet	1,000	2,000	1,400	1,000
120	WLL 2 T	Green	2,000	4,000	2,800	2,000
180	WLL 3 T	Yellow	3,000	6,000	4,200	3,000
240	WLL 4 T	Grey	4,000	8,000	5,600	4,000
300	WLL 5 T	Red	5,000	10,000	7,000	5,000
360	WLL 6 T	Brown	6,000	12,000	8,400	6,000
480	WLL 8 T	Blue	8,000	16,000	11,200	8,000
600	WLL 10 T	Orange	10,000	20,000	14,000	10,000

MERTRA®

CW-1/30 Series

MERTRA®

Extra wide Slings

HIGH TENACITY POLYESTER FOR BETTER LIFTING

MERTRA® AW-1/25 Polyester single ply Extra wide slings, 25 mm. Series, for light, Bulky Loads.

TYPE :

- Single ply polyester webbing sling.
- Working load limit WLL 1-6 Tonne, Length 1-20 Mtr.
- Safety Factor (S/F) 7:1

Attached Eye Wide-Lift

For light, Bulky Loads

- Lifting eyes are attached to a single ply sling body. Available with One Ply eyes (WS) or TWO PLY eyes (WD).

Type AW-1

webbing width (mm)	Colourcode according to DIN-EN 1492-1		Working Load Limits with 1 webbing sling			
			straight lift	β		
				0° - 7°	7° - 45°	45° - 60°
			1,0	2,0	1,4	1,0
150	WLL 1 T	Brown / Violet	1,000	2,000	1,400	1,000
150	WLL 2 T	Brown / Green	2,000	4,000	2,800	2,000
200	WLL 1 T	Blue / Violet	1,000	2,000	1,400	1,000
200	WLL 2 T	Blue / Green	2,000	4,000	2,800	2,000
200	WLL 3 T	Blue / Yellow	3,000	6,000	4,200	3,000
250	WLL 2 T	Orange / Green	2,000	4,000	2,800	2,000
250	WLL 3 T	Orange / Yellow	3,000	6,000	4,200	3,000
300	WLL 2 T	Orange / Green	2,000	4,000	2,800	2,000
300	WLL 3 T	Orange / Yellow	3,000	6,000	4,200	3,000
400	WLL 2 T	Blue / Green	2,000	4,000	2,800	2,000
400	WLL 3 T	Blue / Yellow	3,000	6,000	4,200	3,000
400	WLL 4 T	Blue / Grey	4,000	8,000	5,600	4,000
500	WLL 3 T	Orange / Yellow	3,000	6,000	4,200	3,000
500	WLL 4 T	Orange / Grey	4,000	8,000	5,600	4,000
500	WLL 5 T	Orange / Red	5,000	10,000	7,000	5,000
600	WLL 3 T	Orange / Yellow	3,000	6,000	4,200	3,000
600	WLL 4 T	Orange / Grey	4,000	8,000	5,600	4,000
600	WLL 5 T	Orange / Red	5,000	10,000	7,000	5,000
600	WLL 6 T	Orange / Brown	6,000	12,000	8,400	6,000

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

MLL-2 Lowering-in Belts

Model # MLL-2 Lowering-in Belts

- Heavy duty polyester webbing for durability and strength
- Alloy steel end irons for greater strength with less weight
- Web coated with heavy duty coating
- Blue label with clear protective cover to protect data
- End irons painted
- Custom belts available for pipe diameters not listed
- Belts used around the world, in all types of climates, in sizes up to 60" Diameter pipe
- Head iron not included as pictured
- Lowering in belt and head iron sold separately
- Max. working temp. 100°C (200°F) Melting point 260°C (500°F)
- Excellant resistant to acids, oil, ultra violet ray, rot and mildew.
- Lightweight easy to handle, store and clean.
- No less of strength in water.
- Only 3% elongation.

part#	Max Pipe Diameter		Belt Width		Belt Length		Approximate Weight	Rated Capacity
	in	mm	in	mm	ft - in	m	Kg	Kg
MLL-0212	12"	305	12"	305	4' - 9"	1.45	14.5	21,772
MLL-0418	18"	457	18"	457	7' - 0"	2.13	23.6	33,112
MLL-0420	20"	508	18"	457	7' - 6"	2.29	24.9	33,112
MLL-0524	24"	610	24"	610	8' - 6"	2.59	36.7	43,998
MLL-0630	30"	762	30"	762	10' - 0"	3.05	40.8	55,338
MLL-0736	36"	914	36"	914	11' - 6"	3.51	54.4	66,224
MLL-0742	42"	1067	36"	914	13' - 6"	4.11	61.2	66,224
MLL-0748	48"	1219	36"	914	15' - 0"	4.57	70.3	66,224
MLL-0842	42"	1067	42"	1067	13' - 6"	4.11	68.0	77,564
MLL-0848	48"	1219	42"	1067	15' - 0"	4.57	77.1	77,564
MLL-0948	48"	1219	48"	1219	15' - 0"	4.57	90.7	88,450
MLL-0956	56"	1422	48"	1219	17' - 0"	5.18	100.0	88,450
MLL-1156	56"	1422	56"	1422	17' - 0"	5.18	113.0	103,418
MLL-1160	60"	1524	56"	1422	18' - 0"	5.48	122.0	103,418

Safety factor

- 5 to 1 design factor standard
- 7 to 1 design factors available upng request

CE

MERTRA

MLL-2

Lifting sling and Head Iron are manufactured to international standards.

Model # MLH
Lifting Head Irons

- Used to suspend lowering-in belts
- Alloy steel bail for greater strength with less weight
- Painted
- Stainless Steel Data plate
- Easy release hooks on one side

MERTRA® Lifting sling with metal component

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Working Load Limit in Tonne

1-legged	load capacity (kg) 1.0	Type of roundsling
 LS-1	1,000	RS-5/01
	2,000	RS-5/02
	3,000	RS-5/03
	4,000	RS-5/04
	5,000	RS-5/05

2-legged	0-45° 1.4	45 - 60° 1.0	Type of roundsling
 LS-2	1,400	1,000	RS-5/10
	2,800	2,000	RS-5/20
	4,200	3,000	RS-5/30
	5,600	4,000	RS-5/40
	7,000	5,000	RS-5/50

3-legged	0-45° 2.1	45 - 60° 1.5	Type of roundsling
 LS-3	2,100	1,500	RS-5/10
	4,200	3,000	RS-5/20
	6,300	4,500	RS-5/30
	8,400	6,000	RS-5/40
	10,500	7,500	RS-5/50

4-legged	0-45° 2.1	45 - 60° 1.5	Type of roundsling
 LS-4	2,100	1,500	RS-5/10
	4,200	3,000	RS-5/20
	6,300	4,500	RS-5/30
	8,400	6,000	RS-5/40
	10,500	7,500	RS-5/50

HOW TO REQUIREMENT :

1. TYPE OF SLING (ROUND SLING/WEBBING SLING)
2. TYPE OF LEG SLING (1, 2, 3 or 4-LEGGED)
3. CAPACITY PER EACH LEG OR CAPACITY PER SET
4. WORKING LENGTH OF SLING
5. TYPE OF END FITTING

1, 2, 3 & 4 legged

MERTRA®

LS-1, 2, 3 & 4
Legged sling are manufactured and tested according to international standards.

CE

FEATURE :

- Polyester roundsling assembly with metal components.
- One , two , three or four legged.

SPECIFICATIONS :

- Each leg is protected by a sleeve.
- Standard Hook HS, other hooks on request.
- Lengths according to requirements.
- Light and easy to handle.
- Easy to control.

CHARACTERISTICS

- Low elongation.
- Extremely wear-resistant.

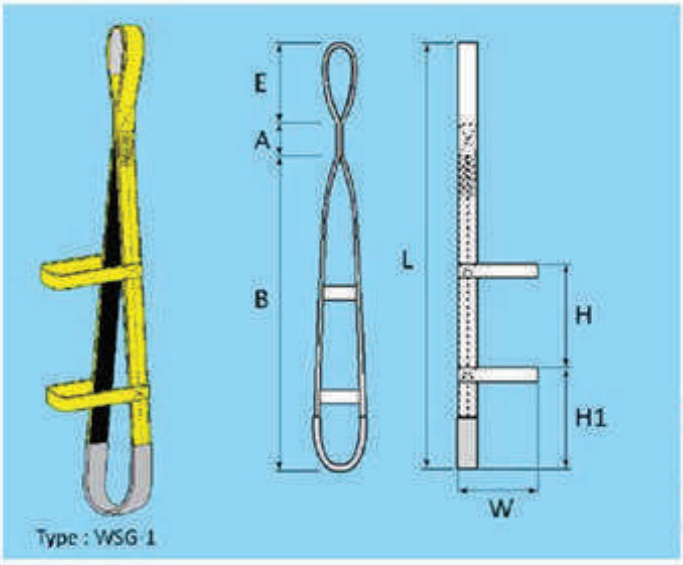
MERTRA®

Lifting sling for Flat glass

HIGH TENACITY POLYESTER FOR BETTER LIFTING

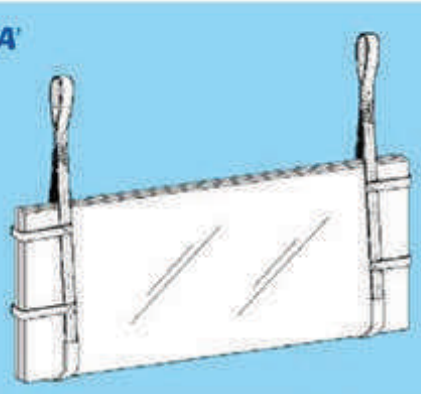
MERTRA® WSG-1 Flat Lifting slings, Single eye.

- Single eye polyester webbing sling.
- Working load limit WLL. 2.1-2.8 Tonne, Length 2-6 Mtr. (on request).
- Safety Factor (S/F) 7:1
- Protective pad, Rubber, PES. Webbing, Canvas.



Type : WSG-1

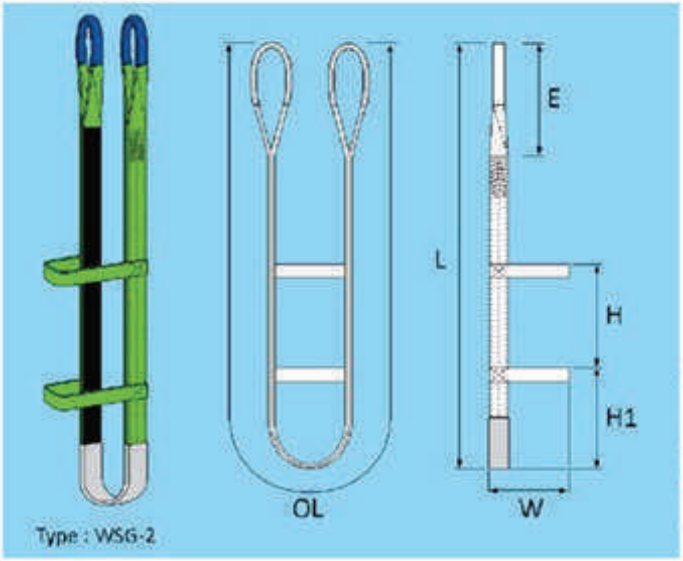
MERTRA®
WSG-1
Single eye, Lifting glass



webbing width (mm)	SWL at basket lift	Colour	Working Load Limit with 2 sling
75	WLL 2.1 T	Yellow	4,200
100	WLL 2.8 T	Grey	5,600

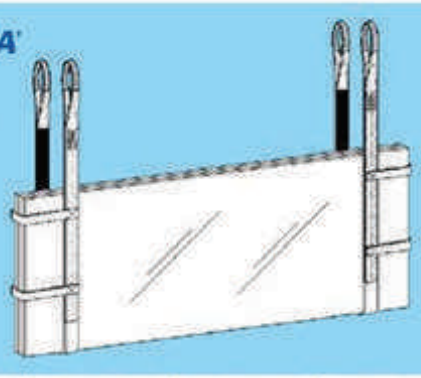
MERTRA® WSG-2 Flat Lifting slings, with 2-eyes

- 2-eyes polyester webbing sling.
- Working load limit WLL. 2.8-5.6 Tonne, Length 2-6 Mtr. (on request).
- Safety Factor (S/F) 7:1
- Protective pad, Rubber, PES. Webbing, Canvas.



Type : WSG-2

MERTRA®
WSG-2
2-eye, Lifting glass



webbing width (mm)	SWL at basket lift	Colour	Working Load Limit with 2 sling
60	WLL 2.8 T	Green	5,600
75	WLL 4.2 T	Yellow	8,400
100	WLL 5.6 T	Grey	11,200

MERTRA®
LB-R1
Lifting beam, WLL 3 tonne

MERTRA®

Polyester Lashing System

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System, Heavy Duty

LSW7510
B/S 10,000 kgs.

75 mm. Ratchet strap with Hook
Ratchet Buckle : RB7510
End Fitting : WH7510
Webbing : RIBBONS No. 721T

LSL7510
B/S 10,000 kgs.

75 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB7510
End Fitting : Loop Eyes
Webbing : RIBBONS No. 721T

LSC7510
B/S 10,000 kgs.

75 mm. Ratchet strap with Claw Hook
Ratchet Buckle : RB7510
End Fitting : CH7510
Webbing : RIBBONS No. 721T

LST7510
B/S 10,000 kgs.

75 mm. Ratchet strap with Triangle Hook
Ratchet Buckle : RB7510
End Fitting : TH7510
Webbing : RIBBONS No. 721T

LS7510
75 mm. 10,000 kgs.,
Ratchet strap

FEATURE :
- MERTRA Heavy Duty Lashing system with high tenacity polyester and high quality metal component.
- Ratchet strap with hook (end fitting) and Ratchet strap endless.
- Breaking strength (B/S) 10,000 kgs.-12,000 kgs., Length 2-20 Mtr.

SPECIFICATIONS :
- Lashing webbing are produced from controlled 100% high tenacity polyester yarns.
- Metal components are selected to suit lashing webbing and meet international standard.
- Certified standard DIN V 61360 show at blue label.
- Webbing width 75mm , 100mm.
- Standard J-Hook, other end fitting on request.
- Length according to requirement.

LSE7510
B/S 10,000 kgs.

75 mm. Ratchet strap Endless
Ratchet Buckle : RB7510
End Fitting : Endless
Webbing : RIBBONS No. 721T

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

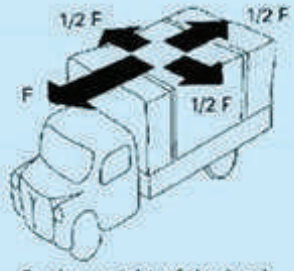
Lashing System, Heavy Duty

LSW10012
B/S 12,000 kgs.

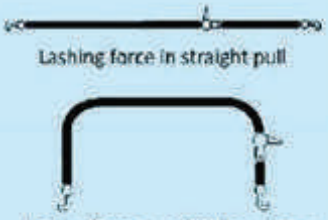
100 mm. Ratchet strap with Hook
Ratchet Buckle : RB10012
End Fitting : WH7510
Webbing : RIBBONS No. 721T-100

LSL10012
B/S 12,000 kgs.

100 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB10012
End Fitting : Loop Eyes
Webbing : RIBBONS No. 721T-100



F= the weight of the load



The load must be restraint so that the national requirement of each country concerning multidirectional lashings are fullfilled.

LSC10012
B/S 12,000 kgs.

100 mm. Ratchet strap with Claw Hook
Ratchet Buckle : RB10012
End Fitting : CH7510
Webbing : RIBBONS No. 721T-100

LSE10012
B/S 12,000 kgs.

100 mm. Ratchet strap Endless
Ratchet Buckle : RB10012
End Fitting : Endless
Webbing : RIBBONS No. 721T-100

LST10012
B/S 12,000 kgs.

100 mm. Ratchet strap with Triangle Hook
Ratchet Buckle : RB10012
End Fitting : TH7510
Webbing : RIBBONS No. 721T-100

OPI

MERTRA®

Lashing System

HIGH TENACITY POLYESTER FOR BETTER LIFTING

50 mm. 6000 kgs., Ratchet strap

MERTRA

LS5060

Ratchet strap with hook are manufactured and tested according to international standards.

CE

FEATURE :

- MERTRA Lashing system with high tenacity polyester and high quality metal component.
- Ratchet strap with hook (end fitting) and ratchet strap endless.
- Breaking strength (B/S) 6,000 kgs., Length 2-20 Mtr.

SPECIFICATIONS :

- Lashing webbing are produced from controlled 100% high tenacity polyester yarns.
- Metal components are selected to suit lashing webbing and meet international standard.
- Certified standard DIN V 61360 show at blue label.
- Webbing width 50mm.
- Standard J-Hook, other end fitting on request.
- Length according to requirement.
- Light weight and easy to operate.
- Low elongation.

LSW5060
B/S 6000 kgs.

Ratchet Buckle : RB5060M
End Fitting : WH5060
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Hook

LST5060
B/S 6000 kgs.

Ratchet Buckle : RB5060M
End Fitting : TH5060
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Triangle Hook

LSL5060
B/S 6000 kgs.

Ratchet Buckle : RB5060M
End Fitting : Loop Eyes
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Loop Eyes

LSE5060
B/S 6000 kgs.

Ratchet Buckle : RB5060M
End Fitting : Endless
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap Endless

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System

LSW5060B
B/S 6000 kgs.

Ratchet Buckle : RB5060B
End Fitting : WH5060
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Hook

LST5060B
B/S 6000 kgs.

Ratchet Buckle : RB5060B
End Fitting : TH5060
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Triangle Hook

LSL5060B
B/S 6000 kgs.

Ratchet Buckle : RB5060B
End Fitting : Loop Eyes
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Loop Eyes

LSE5060B
B/S 6000 kgs.

Ratchet Buckle : RB5060B
End Fitting : Endless
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap Endless

LSW5060P
B/S 6000 kgs.

Ratchet Buckle : RB5060P
End Fitting : WH5060
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Hook

LST5060P
B/S 6000 kgs.

Ratchet Buckle : RB5060P
End Fitting : TH5060
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Triangle Hook

LSL5060P
B/S 6000 kgs.

Ratchet Buckle : RB5060P
End Fitting : Loop Eyes
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap with Loop Eyes

LSE5060P
B/S 6000 kgs.

Ratchet Buckle : RB5060P
End Fitting : Endless
Webbing : RIBBONS No. 6190T
50 mm. Ratchet strap Endless

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System

50 mm. 5000 kgs., Ratchet strap

FEATURE :

- MERTRA Lashing system with high tenacity polyester and high quality metal component.
- Ratchet strap with hook (end fitting) and Ratchet strap endless.
- Breaking strength (B/S) 5,000 kgs., Length 2-20 Mtr.

SPECIFICATIONS :

- Lashing webbing are produced from controlled 100% high tenacity polyester yarns.
- Metal components are selected to suit lashing webbing and meet international standard.
- Certified standard DIN V 61360 show at blue label.
- Webbing width 50mm.
- Standard J-Hook, other end fitting on request.
- Length according to requirement.
- Light weight and easy to operate.
- Low elongation.

LSW5050
B/S 5000 kgs.

50 mm. Ratchet strap with J-Hook
Ratchet Buckle : RB5050BH
End Fitting : WH5050
Webbing : RIBBONS No. 6190
Webbing Color

LST 5050
B/S 5000 kgs.

50 mm. Ratchet strap with Triangle Hook
Ratchet Buckle : RB5050BH
End Fitting : TH5050
Webbing : RIBBONS No. 6190
Webbing Color

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System

LSF5050
B/S 5000 kgs.

50 mm. Ratchet strap with Flat Snap Hook
Ratchet Buckle : RB5050BH
End Fitting : SF5050
Webbing : RIBBONS No. 6190
Webbing Color

LSN5050
B/S 5000 kgs.

50 mm. Ratchet strap with Twisted Snap Hook
Ratchet Buckle : RB5050BH
End Fitting : ST5050
Webbing : RIBBONS No. 6190
Webbing Color

LSC5050
B/S 5000 kgs.

50 mm. Ratchet strap with Claw Hook
Ratchet Buckle : RB5050BH
End Fitting : CH5050
Webbing : RIBBONS No. 6190
Webbing Color

LSK5050
B/S 5000 kgs.

50 mm. Ratchet strap with Hook Keeper
Ratchet Buckle : RB5050BH
End Fitting : KH5050
Webbing : RIBBONS No. 6190
Webbing Color

LSL5050
B/S 5000 kgs.

50 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB5050BH
End Fitting : Loop Eyes
Webbing : RIBBONS No. 6190
Webbing Color

LSE5050
B/S 5000 kgs.

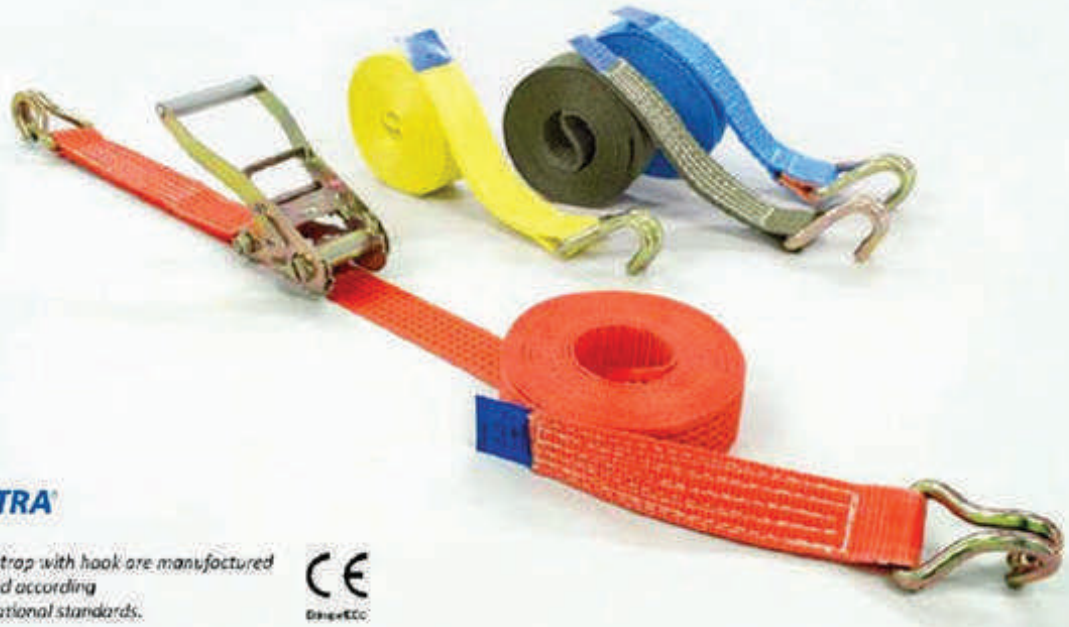
50 mm. Ratchet strap Endless
Ratchet Buckle : RB5050BH
End Fitting : ENDLESS
Webbing : RIBBONS No. 6190
Webbing Color

MERTRA®

Lashing System

HIGH TENACITY POLYESTER FOR BETTER LIFTING

50 mm. 5000 kgs., Ratchet strap



MERTRA

LS5050

Ratchet strap with hook are manufactured and tested according to international standards.

CE

FEATURE :

- MERTRA Lashing system with high tenacity polyester and high quality metal component.
- Ratchet strap with hook (end fitting) and Ratchet strap endless.
- Breaking strength (B/S) 5,000 kgs., Length 2-20 Mtr.

SPECIFICATIONS :

- Lashing webbing are produced from controlled 100% high tenacity polyester yarns.
- Metal components are selected to suit lashing webbing and meet international standard.
- Certified standard DIN V 61360 show at blue label.
- Webbing width 50mm.
- Standard J-Hook, other end fitting on request.
- Length according to requirement.
- Light weight and easy to operate.
- Low elongation.

LSW5050A
B/S 5000 kgs.

50 mm. Ratchet strap with J-Hook
Ratchet Buckle : RB5050
End Fitting : WH5050
Webbing : RIBBONS No. 6190
Webbing Color

LST5050A
B/S 5000 kgs.

50 mm. Ratchet strap with Triangle Hook
Ratchet Buckle : RB5050
End Fitting : TH5050
Webbing : RIBBONS No. 6190
Webbing Color

MERTRA®

Lashing System

HIGH TENACITY POLYESTER FOR BETTER LIFTING

LSF5050A
B/S 5000 kgs.

50 mm. Ratchet strap with Flat Snap Hook
Ratchet Buckle : RB5050
End Fitting : SF5050
Webbing : RIBBONS No. 6190
Webbing Color

LSN5050A
B/S 5000 kgs.

50 mm. Ratchet strap with Twisted Snap Hook
Ratchet Buckle : RB5050
End Fitting : ST5050
Webbing : RIBBONS No. 6190
Webbing Color

LSC5050A
B/S 5000 kgs.

50 mm. Ratchet strap with Claw Hook
Ratchet Buckle : RB5050
End Fitting : CH5050
Webbing : RIBBONS No. 6190
Webbing Color

LSK5050A
B/S 5000 kgs.

50 mm. Ratchet strap with Hook Keeper
Ratchet Buckle : RB5050
End Fitting : KH5050
Webbing : RIBBONS No. 6190
Webbing Color

LSL5050A
B/S 5000 kgs.

50 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB5050
End Fitting : Loop Eyes
Webbing : RIBBONS No. 6190
Webbing Color

LSE5050A
B/S 5000 kgs.

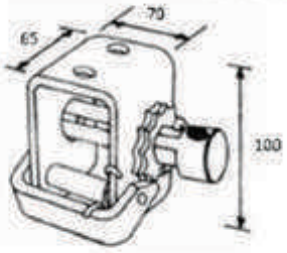
50 mm. Ratchet strap Endless
Ratchet Buckle : RB5050
End Fitting : ENDLESS
Webbing : RIBBONS No. 6190
Webbing Color

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System

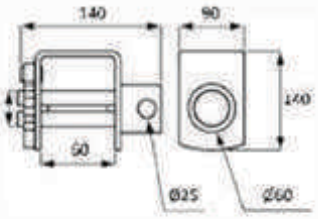
TW5050



LTW5050
B/S 5000 kgs.

50 mm. Trailer Winch with Hook
Trailer Winch : TW5050
End Fitting : WH5050
Webbing : RIBBONS No. 6190
Webbing Color

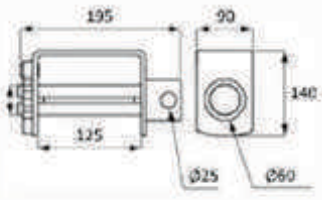
TW5060



LTW5060
B/S 5000 kgs.

50 mm. Trailer Winch with Hook
Trailer Winch : TW5060
End Fitting : WH5050
Webbing : RIBBONS No. 6190
Webbing Color

TW7570



LTW7570
B/S 6800 kgs.

75 mm. Trailer Winch with Hook
Trailer Winch : TW7570
End Fitting : WH7510
Webbing : RIBBONS No. 6593
Webbing Color

OPI

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System

50 mm. 5000 kgs., High Tension Strap

MERTRA®
LSV5050
Polyester high tension strap with eye are manufactured and tested according to international standards.

CE

Vehicle Transport

FEATURE :

- MERTRA Lashing system with high tenacity polyester and high quality metal component.
- 1-Ply, 2-Ply Strap with hook (end fitting).
- Breaking strength (B/S) 5,000 kgs., Length 1-5 Mtr (on request).
- Available Webbing Color :

LSV5050A
B/S 5000 kgs.

50 mm. 1-Ply High tension strap
End Fitting : SH1625
Webbing : RIBBONS No. 6190T

LSV5050B
B/S 5000 kgs.

50 mm. 2-Ply High tension strap
End Fitting : SH1625
Webbing : RIBBONS No. 6190T

U-SHACKLE

10 mm. U-Shackle with Screw Pin
Size 10 mm. (3/8")
Forged carbon steel

SH-1625R
B/S 2500 kgs.

Transport J-Hook, Sqare head
Size 16 mm. (5/8")
High tensile carbon steel

SH-1625F
B/S 2500 kgs.

Transport J-Hook, Flat head
Size 16 mm. (5/8")
High tensile carbon steel

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System

35 mm. 3000 kgs., Ratchet strap

MERTRA®

LS3530

Ratchet strap with hook are manufactured and tested according to International standards.

CE

FEATURE :

- MERTRA Lashing system with high tenacity polyester and high quality metal component.
- Ratchet strap with hook (end fitting) and Ratchet strap endless.
- Breaking strength (B/S) 3,000 kgs., Length 1-20 Mtr.

LSW3530B
B/S 3000 kgs.

35 mm. Ratchet strap with Hook
Ratchet Buckle : RB3530B
End Fitting : WH3530
Webbing : RIBBONS No. 5986

SPECIFICATIONS :

- Lashing webbing are produced from controlled 100% high tenacity polyester yarns.
- Metal components are selected to suit lashing webbing and meet international standard.
- Certified standard DIN V 61360 show at blue label.
- Webbing width 35mm.
- Standard J-Hook, other end fitting on request.
- Length according to requirement.
- Light weight and easy to operate.
- Low elongation.
- Available Webbing Color :

LSE3530B
B/S 3000 kgs.

35 mm. Ratchet strap Endless
Ratchet Buckle : RB3530B
End Fitting : Endless
Webbing : RIBBONS No. 5986

LSL3530B
B/S 3000 kgs.

35 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB3530B
End Fitting : Loop Eyes
Webbing : RIBBONS No. 5986

MERTRA®

Lashing System

HIGH TENACITY POLYESTER FOR BETTER LIFTING

LSW3520P
B/S 2000 kgs.

35 mm. Ratchet strap with Hook
Ratchet Buckle : RB3520P
End Fitting : WH3530
Webbing : RIBBONS No. 6044

LSW3530
B/S 3000 kgs.

35 mm. Ratchet strap with Hook
Ratchet Buckle : RB3530
End Fitting : WH3530
Webbing : RIBBONS No. 5986

LSL3520P
B/S 2000 kgs.

35 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB3520P
End Fitting : Loop Eyes
Webbing : RIBBONS No. 6044

LSL3530
B/S 3000 kgs.

35 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB3530
End Fitting : Loop Eyes
Webbing : RIBBONS No. 5986

LSE3520P
B/S 2000 kgs.

35 mm. Ratchet strap Endless
Ratchet Buckle : RB3520P
End Fitting : Endless
Webbing : RIBBONS No. 6044

LSE3530
B/S 3000 kgs.

35 mm. Ratchet strap Endless
Ratchet Buckle : RB3530
End Fitting : Endless
Webbing : RIBBONS No. 5986

MERTRA®
LOC4810
Lashing system with over center buckle are manufactured and tested according to international standards.

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System

25 mm. 1000 kgs., 1500 kgs., Ratchet strap

MERTRA®

LS2510

Ratchet strap with hook are manufactured and tested according to international standards.

CE

FEATURE :

- MERTRA Lashing system with high tenacity polyester and high quality metal component.
- Ratchet strap with hook (end fitting) and Ratchet strap endless.
- Breaking strength (B/S) 1,000 kgs., 1,500 kgs., Length 1-20 Mtr.
- Available Webbing Color

LSW2510
B/S 1000 kgs.

25 mm. Ratchet strap with Hook
Ratchet Buckle : RB2510B
End Fitting : WH2515
Webbing : RIBBONS No. 6666

LSS2510
B/S 1000 kgs.

25 mm. Ratchet strap with S-Hook
Ratchet Buckle : RB2510B
End Fitting : SH2509
Webbing : RIBBONS No. 6666

LSL2510
B/S 1000 kgs.

25 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB2510B
End Fitting : Loop Eyes
Webbing : RIBBONS No. 6666

LSE2510
B/S 1000 kgs.

25 mm. Ratchet strap Endless
Ratchet Buckle : RB2510B
End Fitting : Endless
Webbing : RIBBONS No. 6666

MERTRA®

Lashing System

HIGH TENACITY POLYESTER FOR BETTER LIFTING

LSW2515P
B/S 1500 kgs.

25 mm. Ratchet strap with Hook
Ratchet Buckle : RB2515P
End Fitting : WH2515
Webbing : RIBBONS No. 1500T

LSS2515P
B/S 1500 kgs.

25 mm. Ratchet strap with S-Hook
Ratchet Buckle : RB2515P
End Fitting : SH2511
Webbing : RIBBONS No. 1500T

LSL2515P
B/S 1500 kgs.

25mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB2515P
End Fitting : Loop Eyes
Webbing : RIBBONS No. 1500T

LSE2515P
B/S 1500 kgs.

25 mm. Ratchet strap Endless
Ratchet Buckle : RB2515P
End Fitting : Endless
Webbing : RIBBONS No. 1500T

LSW2515
B/S 1500 kgs.

25 mm. Ratchet strap with Hook
Ratchet Buckle : RB2515
End Fitting : WH2515
Webbing : RIBBONS No. 1500T

LSS2515
B/S 1500 kgs.

25 mm. Ratchet strap with S-Hook
Ratchet Buckle : RB2515
End Fitting : SH2511
Webbing : RIBBONS No. 1500T

LSL2515
B/S 1500 kgs.

25 mm. Ratchet strap with Loop Eyes
Ratchet Buckle : RB2515
End Fitting : Loop Eyes
Webbing : RIBBONS No. 1500T

LSE2515
B/S 1500 kgs.

25 mm. Ratchet strap Endless
Ratchet Buckle : RB2515
End Fitting : Endless
Webbing : RIBBONS No. 1500T

MERTRA®

HIGH TENACITY POLYESTER FOR BETTER LIFTING

Lashing System

25 mm. 250-1200 kgs., Tie Down Strap

MERTRA®

LS2545C

Tie down strap with hook are manufactured and tested according to international standards.

CE

FEATURE :

- MERTRA Lashing system with high tenacity polyester and high quality metal component.
- Tie down strap with hook (end fitting) and Tie down strap endless.
- Breaking strength (B/S) 250 kgs.- 1,200 kgs., Length 1-20 Mtr.

LSE2545C
B/S 450 kgs.

25 mm. Strap Endless
Cam Buckle : CB2505A
End Fitting : Endless
Webbing : RIBBONS No. 1000T

SPECIFICATIONS :

- Lashing webbing are produced from controlled 100% high tenacity polyester yarns.
- Metal components are selected to suit lashing webbing and meet international standard.
- Certified standard DIN V 61360 show at blue label.
- Webbing width 25mm., 35mm., 50mm.
- Standard J-Hook, other end fitting on request.
- Length according to requirement.
- Light weight and easy to operate.
- Low elongation.
- Available Webbing Color :

LSW2545C
B/S 450 kgs.

25 mm. Strap with Hook
Cam Buckle : CB2505A
End Fitting : WH2515
Webbing : RIBBONS No. 1000T

LSS2545C
B/S 450 kgs.

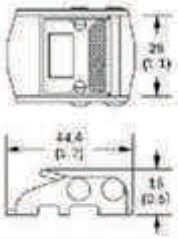
25mm. Strap with S-Hook
Cam Buckle : CB2505A
End Fitting : SH2509
Webbing : RIBBONS No. 1000T

OPI

MERTRA®

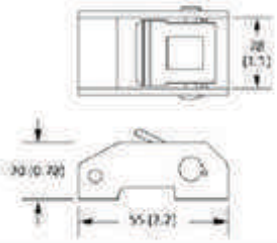
Cam Backle

HIGH TENACITY POLYESTER FOR BETTER LIFTING



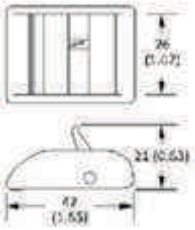
CB2503S

25 mm. Steel Cam Buckle
Light Duty
B/S : 250 kgs/550 lbs



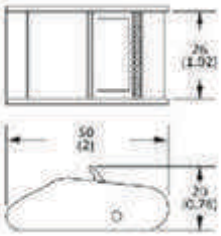
CB2506S

25 mm. Steel Cam Buckle
Heavy Duty
B/S : 600 kgs/1,320 lbs



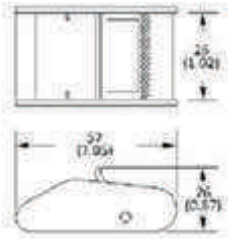
CB2504

25 mm. Cam Buckle
Light Duty
B/S : 350 kgs/770 lbs



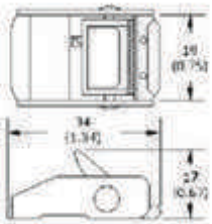
CB2505

25 mm. Cam Buckle
Heavy Duty
B/S : 500 kgs/1,100 lbs



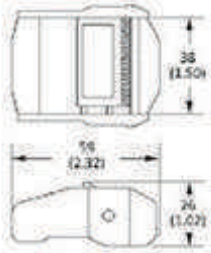
CB2505A

25 mm. Cam Buckle
Heavy Duty
B/S : 450 kgs/990 lbs



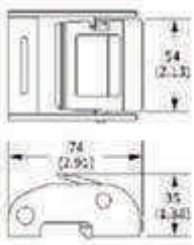
CB2010

20 mm. Cam Buckle
Light Duty
B/S : 100 kgs/220 lbs



CB3507

35 mm. Cam Buckle
Heavy Duty
B/S : 700 kgs/1,540 lbs



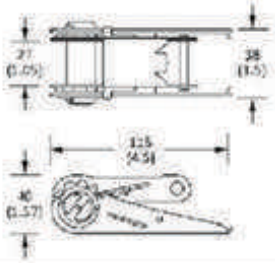
CB2512

50 mm. Cam Buckle
Heavy Duty
B/S : 1,135 kgs/2,500 lbs

MERTRA®

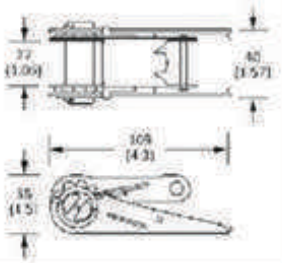
HIGH TENACITY POLYESTER FOR BETTER LIFTING

Ratchet Buckle



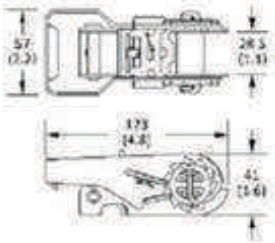
RB2510

25 mm. Ratchet Buckle
Light Duty
B/S : 900 kgs/1,980 lbs



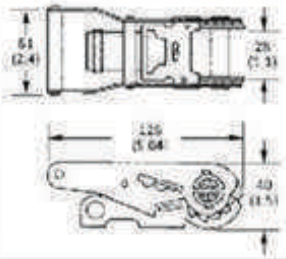
RB2510B

25 mm. Ratchet Buckle
Light Duty, Black Epoxy Coated
B/S : 900 kgs/1,980 lbs



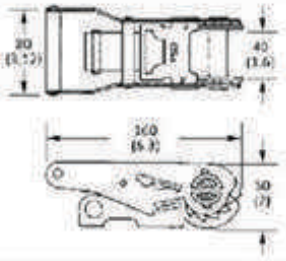
RB2515P

25 mm. Ratchet Buckle
One Piece Wide Handle, Easy Release
B/S : 1,500 kgs/3,300 lbs



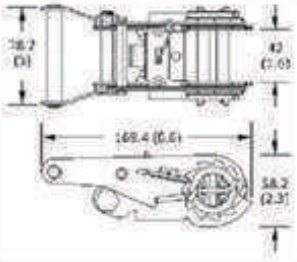
RB2515

25 mm. Ratchet Buckle
Wide Handle
B/S : 1,500 kgs/3,300 lbs



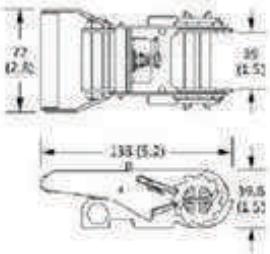
RB3530BH

35 mm. Ratchet Buckle
Plastic Black Handle
B/S : 3,000 kgs/6,600 lbs



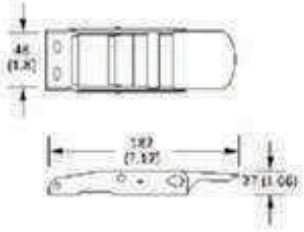
RB3530

35 mm. Ratchet Buckle
Wide Handle, Easy Release, Heavy Duty
B/S : 3,000 kgs/6,600 lbs



RB3520P

35 mm. Ratchet Buckle
One Piece Wide Handle, Easy Release, Light Duty
B/S : 2,000 kgs/4,400 lbs



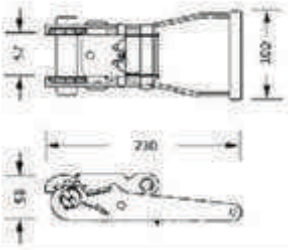
OCB4810

48 mm. Overcenter Buckle
B/S : 800 kgs/1,760 lbs
OCB4810S in Stainless Steel

MERTRA®

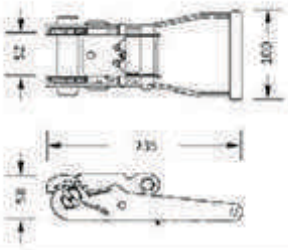
Ratchet Buckle

HIGH TENACITY POLYESTER FOR BETTER LIFTING



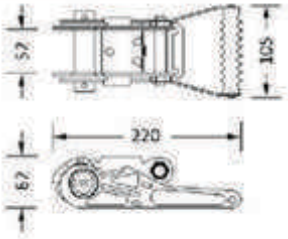
RB5050BH

50 mm. Ratchet Buckle
Black Wide Handle, Double Security Lock
B/S : 5,000 kgs/11,000 lbs



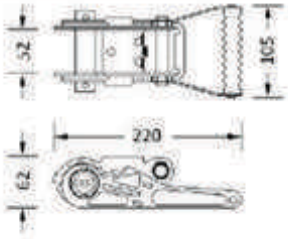
RB5050

50 mm. Ratchet Buckle
Wide Handle, Double Security Lock
B/S : 5,000 kgs/11,000 lbs



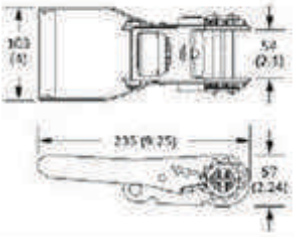
RB5060M

50 mm. Ratchet Buckle, Heavy Duty
NATO BUCKLE, Double Security Lock
Military Green Epoxy Coated
B/S : 6,000 kgs/13,200 lbs



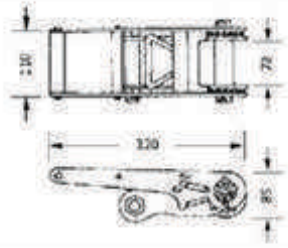
RB5060B

50 mm. Ratchet Buckle, Heavy Duty
Black Epoxy Coated, Double Security Lock
B/S : 6,000 kgs/13,200 lbs



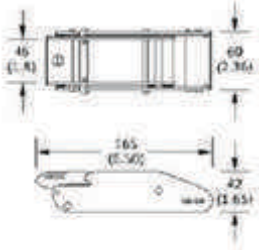
RB5060P

50 mm. Ratchet Buckle, Heavy Duty
One Piece Long Wide Handle, Easy Release
Double Security Lock
B/S : 6,000 kgs/13,200 lbs



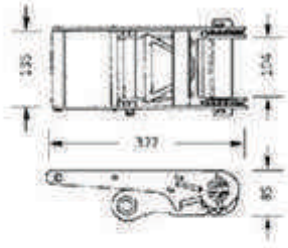
RB7510

75 mm. Ratchet Buckle, Heavy Duty
Long Handle, Double Security Lock
B/S : 10,000 kgs/22,000 lbs



OCB4820

48 mm. Overcenter Buckle
B/S : 2,270 kgs/5,000 lbs



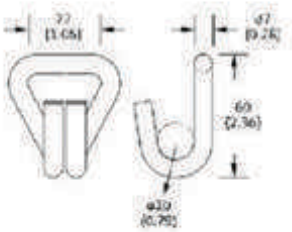
RB10012

100 mm. Ratchet Buckle, Heavy Duty
Long Handle, Double Security Lock
B/S : 12,000 kgs/26,400 lbs

MERTRA®

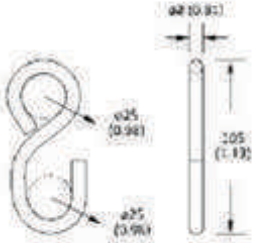
HIGH TENACITY POLYESTER FOR BETTER LIFTING

End Fitting



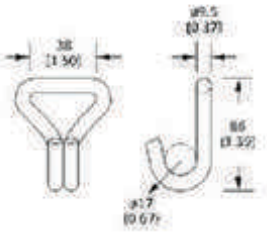
WH2515

25 mm. Double J Hook
B/S : 1,360 kgs/3,000 lbs



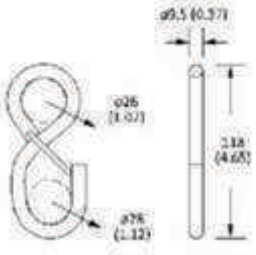
SH2509

25 mm. S Hook
Black PVC Coated
B/S : 900 kgs/2,000 lbs



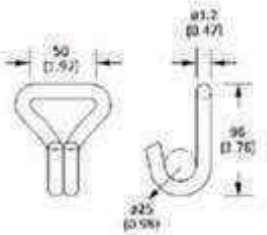
WH3530

35 mm. Double J Hook
B/S : 3,000 kgs/6,600 lbs



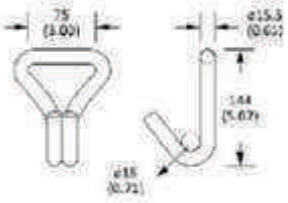
SH2511

25 mm. S Hook with Safety Latch
Black PVC Coated
B/S : 1,100 kgs/2,420 lbs



WH5050

50 mm. Double J Hook
B/S : 5,000 kgs/11,000 lbs

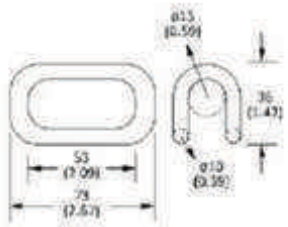


WH7510

75 mm. Double J Hook
B/S : 10,000 kgs/22,000 lbs

CH5050

50 mm. Claw Hook
B/S : 5,000 kgs/11,000 lbs



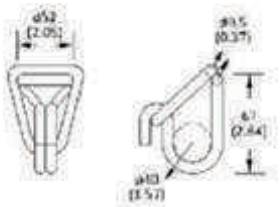
RH5015

50 mm. Close Rave Hook
B/S : 1,500 kgs/3,300 lbs

MERTRA®

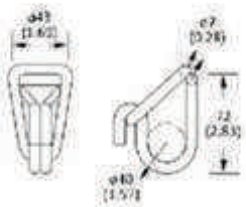
HIGH TENACITY POLYESTER FOR BETTER LIFTING

End Fitting



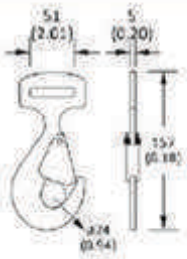
KH5050

50 mm. Hook & Keeper
B/S : 5,000 kgs/11,000 lbs



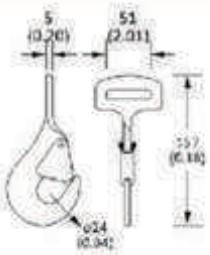
KH3530

35 mm. Hook & Keeper
B/S : 3,000 kgs/6,600 lbs



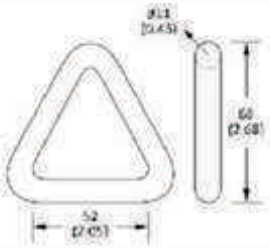
SF5050

50 mm. Flat Snap Hook
B/S : 5,000 kgs/11,000 lbs



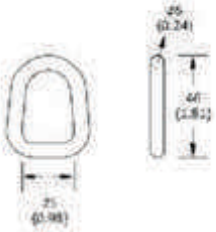
ST5050

50 mm. Twisted Snap Hook
B/S : 5,000 kgs/11,000 lbs



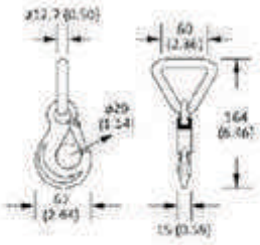
DH5050

50 mm. D-Ring
B/S : 5,000 kgs/11,000 lbs



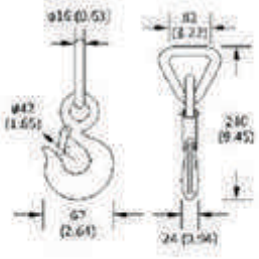
DH2508

25 mm. D-Ring
B/S : 800 kgs/1,760 lbs



TH5050

50 mm. Hook with D-Ring
B/S : 5,000 kgs/11,000 lbs



TH7510

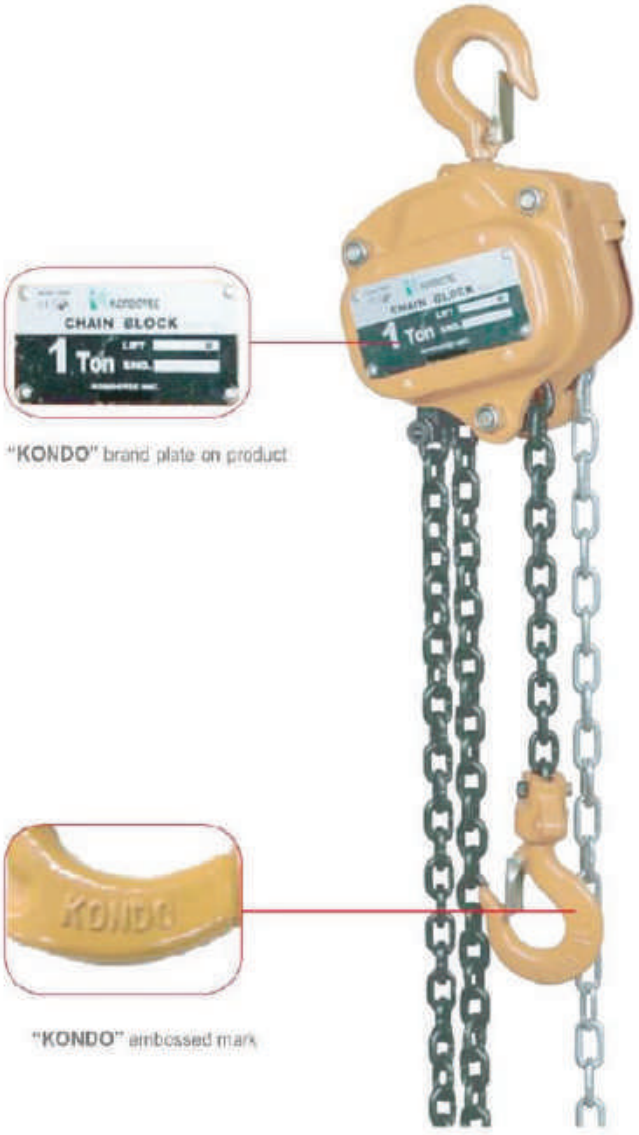
75 mm. Hook with D-Ring
B/S : 10,000 kgs/22,000 lbs

CHAIN BLOCK

KONDOTEC

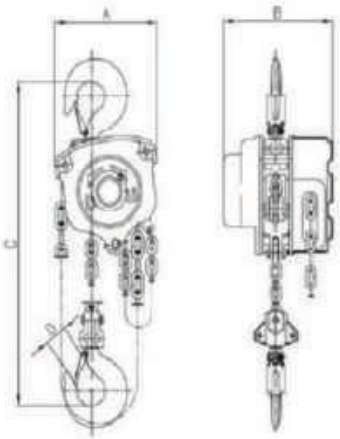
KT-C CHAIN BLOCK

SPECIFICATION											
Rated load (T)		0.50	1.0	1.50	2.0	3.0	5.0	10.0	15.00	20.0	30.0
Test load (T)		0.75	1.5	2.25	3.0	4.5	7.5	12.5	18.75	25.0	37.5
Standard lift (m)		2.50	2.5	2.50	2.5	3.0	3.0	3.0	3.00	3.0	3.0
Efforts required at capacity (N)		262.00	324.0	395.00	330.0	402.0	430.0	438.0	447.00	438.0	442.0
Diameter of load chain (mm)		5.00	6.0	7.10	6.0(8.0)	7.1	10.0	10.0	10.00	10.0	10.0
No. of load chain		1.00	1.0	1.00	2.0(1.0)	2.0	2.0	4.0	6.00	8.0	10.0
Dimensions (mm)	A	127.00	156.0	180.00	156.0	180.0	230.0	410.0	410.00	645.0	710.0
	B	115.00	131.0	142.00	131.0	142.0	171.0	171.0	204.00	215.0	398.0
	C	288.00	334.0	415.00	459.0	536.0	660.0	738.0	1028.00	1002.0	1050.0
	D	23.00	24.0	36.00	34.0	35.0	47.0	61.0	81.60	81.60	81.6
Weight (kg)		7.00	10.5	15.50	16.0	23.0	39.0	69.0	95.00	155.0	237.0
Extra weight per meter of extra lift (kg)		1.50	1.8	2.00	2.7	3.2	5.3	9.8	14.20	19.6	23.9

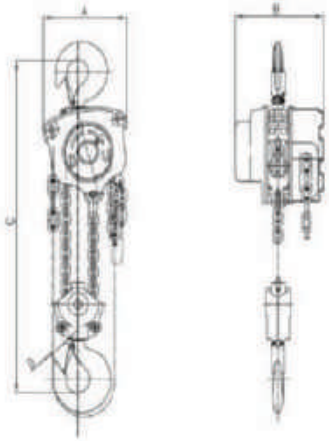


"KONDO" brand plate on product

"KONDO" embossed mark



KT-C Chain Block
(Single Chain)



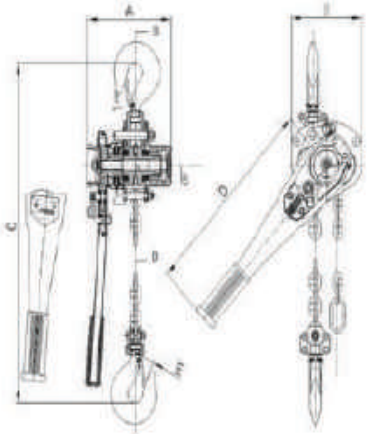
KT-C Chain Block
(Double Chain)

LEVER BLOCK

KONDOTEC

KT-L LEVER BLOCK

SPECIFICATION										
Rated load (T)		0.250	0.50	0.750	1.0	1.50	2.0	3.0	6.0	9.0
Test load (T)		0.375	0.75	1.125	1.5	2.25	3.0	4.5	9.0	13.5
Standard lift (m)		1.000	1.50	1.500	1.5	1.50	1.5	1.5	1.5	1.5
Min. distance between two hooks (t)		205.000	260.00	295.000	295.0	335.00	385.0	450.0	615.0	720.0
Efforts required at capacity (N)		217.000	303.00	140.000	185.0	234.00	251.0	363.0	370.0	375.0
Diameter of load chain (mm)		4.000	5.00	6.000	6.0	7.10	8.0	9.0	9.0	10.0
No. of load chain		1.000	1.00	1.00	1.0	1.0	1.0	1.0	2.0	3.0
Dimensions (mm)	A	92.000	110.00	152.000	152.0	175.00	175.0	195.0	195.0	195.0
	B	75.000	82.00	128.000	128.0	148.00	160.0	181.0	232.0	366.0
	C	205.000	260.00	295.000	295.0	335.00	385.0	450.0	615.0	720.0
	D	153.000	251.00	256.000	256.0	368.00	368.0	368.0	368.0	368.0
	E	17.000	23.00	24.000	24.0	36.00	34.0	35.0	47.0	61.0
Weight (kg)		1.850	4.60	7.700	8.0	10.60	14.8	20.0	28.0	46.0

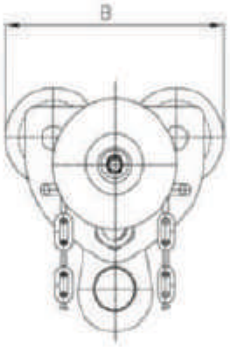


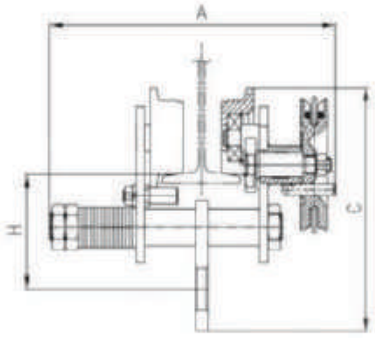
MANUAL TROLLEY

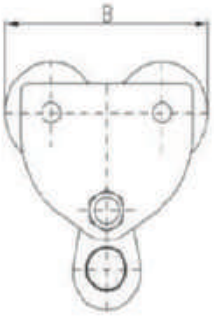
KONDOTEC

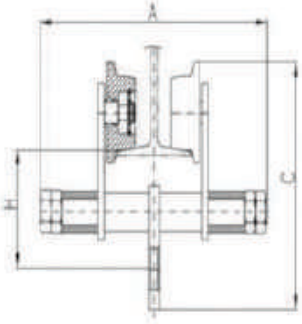
KT-GT SERIES GEARED TROLLEY (GCL610)

Rated load	Test load	Dimensions (mm)				I-Beam	Weight
(t)	(t)	A	B	C	H	recommended	(kg)
0.5	0.75	271	172	190	108.5	75-125	9.0
1.0	1.50	271	206	222	122	75-125	12.6
1.5	2.25	308	231	238.5	130	100-150	15.9
2.0	3.00	308	240	267	132.5	100-150	17.0
3.0	4.50	342	279	319	181	100-150	25.0
5.0	7.50	384	318	384	219	125-175	50.0
10.0	15.00	442	380	490	275	125-180	100.0









KT-PT SERIES PLAIN TROLLEY (GCT610)

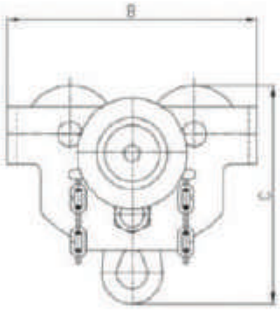
Rated load	Test load	Dimensions (mm)				I-Beam	Weight
(t)	(t)	A	B	C	H	recommended	(kg)
0.5	0.75	208	172	190.0	108.5	75-125	3.3
1.0	1.50	220	206	222.0	122.0	75-125	7.9
1.5	2.25	260	231	238.5	130.0	100-150	12.0
2.0	3.00	260	240	267.0	132.5	100-150	13.2
3.0	4.50	285	279	319.0	181.0	100-150	23.0
5.0	7.50	338	318	384.0	219.0	125-175	44.0
10.0	15.00	362	380	490.0	275.0	125-180	88.0

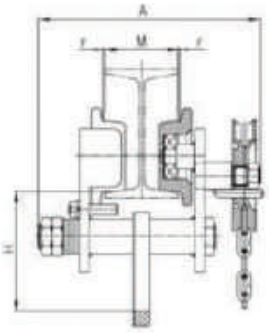
MANUAL TROLLEY

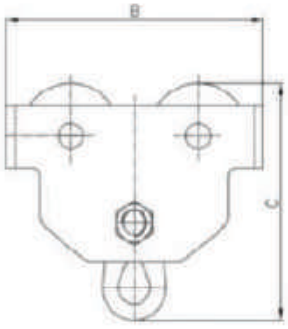
KONDOTEC

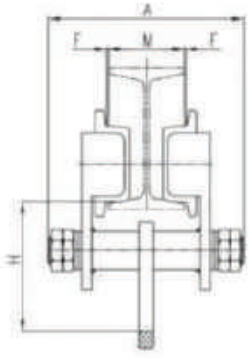
KT-G TYPE GEARED TROLLEY (TG) / with ANTI-COLLISION

Rated load (t)	Test load (t)	Chain pull to lift full load (N)	Dimensions (mm) A	B	C	H	I-Beam recommeded	Weight (kg)
0.5	0.75	60	248	196	190	108	68-126	9
1.0	1.50	80	280	236	211	115	80-146	14
2.0	3.00	140	318	273	236	130	80-168	16
3.0	4.50	150	340	320	295	164	88-168	27
5.0	7.50	170	365	366	334	177	100-170	50
10.0	15.00	320	410	389	460	237	122-203	93
20.0	30.00	340	475	798	575	300	122-203	215
30.0	37.50	352	392	625	551	260	150-180	230









KT-P TYPE PLAIN TROLLEY (TP) / with ANTI-COLLISION

Rated load (t)	Test load (t)	Dimensions (mm) A	B	C	H	I-Beam recommended	Weight (kg)
0.5	0.75	208	196	190	108	68-126	5.5
1.0	1.50	242	236	211	115	80-146	9.5
2.0	3.00	280	273	236	130	80-168	13.5
3.0	4.50	300	320	295	164	88-168	25.0
5.0	7.50	316	366	334	177	100-170	44.0
10.0	15.00	343	389	460	237	122-203	90.0

OPI

Black Bear®

Professional cranes & hoists for lifting

Electric Chain Hoist

Motor Housing
- Aluminum alloy casting, features rigid structure and light weight.
- Motor framed with radiant cooling fins, permits 40% (dual speed 10/20%, YSF-series 15%) duty cycle.

Motor Brake
- "Electro-Magnetic Brake Controller" -a unique design in its field, R.O.C.Patent No.27417 features simultaneous braking upon release of P.B. even under full load.

Limit Switch
- Fitted at both top and botton ends, shuts off power automatically to prevent load chain from running out.

Load Chain
- Grade 80 case hardened alloy steel chain.

Hook
- Hot forged high tensile steel, rigid and durable, 360 swivel, fitting with safety latch to assure safe lifting.

Hoist Bracket
- Double high-tensile alloy steel plate bracket, features rugged and durable construction.

Mechanical Brake
- Advanced design, assures secure braking even under overload. In conjunction with motor brake, features "DOUBLE BRAKE SYSTEM" for safety and durability in hoist operation.

Transformer
- Power to pendant control reduced to 24V or 48V for safer operation.

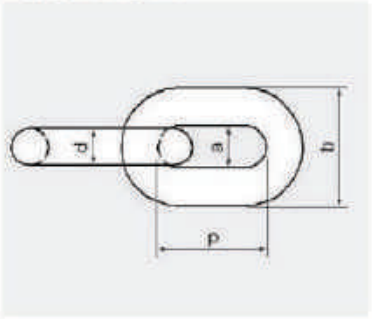
Magnetic Contactor
- High performance non-fuse circuit breakers allow frequent trouble cycling with free operation.

Phase Error Relay
- A specially designed electric board prevents motor from running at it reverse phased.

Push Button Pendant
- Offers light and durable switching controls.

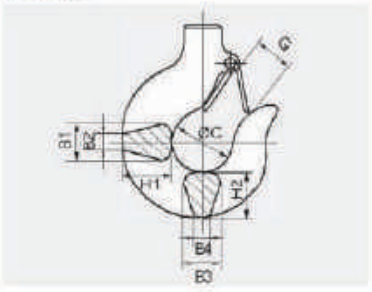
※ For special applications, please contact our company representative or authorized distributer.

Load Chain



Diameter d(mm)	Model Reference Being Used	Inner Length p(min)	Inner Width e(min)	Outer Width E(min)	Breaking Load (kn)
Φ7.1	050-300 YSE YSL YSF YSH YL(H)T	20.2	8.2	23.2	63
Φ10.0	YSS(T)-200 YSS(T)-300	30.2	12.5	33.2	128
Φ11.2	YSS(T)-250 YSS(T)-500 YSS-750 YSS-1000 YSS-1500 YSS-2000 YSS-3000	34.0	14.0	37.5	160

Hook



Model	Capacity (ton)	T B	Dimensions (mm)								Allow Stress (kg/mm²)	Hook Block Weight (kg)
			H1	B1	B2	H2	B3	B4	C	G		
YSL,H,E,F	0.5,1	T B	33	23	9	29	23	9	40	28	70	*10
YSL,H,E,F	2	T B	45	31	10	41	31	10	46	36	70	*10
YSL,H	3	T B	55	34	19	48	34	19	52	40	70	*10
YSS	2,2.5,3	T B	55	34	19	48	34	19	52	40	70	*10
	5	T B	67	45	23	60	45	23	62	45	70	20
	7.5	B	75	48	16	68	48	16	75	55	100	40
	10	B	100	70	28	95	65	28	100	70	70	70
	15	B	120	85	32	110	83	32	120	82	70	140
	20	B	140	100	38	130	95	38	140	105	70	270
	30	B	140	98	38	130	94	38	140	105	100	350

● T=Top hook / B=Bottom hook ● If the weight is less than 10 kg, it will be considered as 10 kg.

OPI

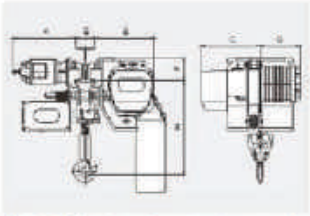
Features of YSE Series:

- Direct connection to power supply.
- Slipping clutch provides overload protection.
- No limit switch nor limit spring, reduces headroom.
- Optional low voltage, 24 volt, control available.

Capacity (ton)		0.5	1	2
Lift Length (m)		3 (6) etc.		
Single Speed (m/min)	50Hz	5.7	4.7	2.3
	60Hz	8.0	5.6	2.8
Motor Power (kw)		1.5		1.8
Power Supply		3 Phase, 220V-600V,50Hz,60Hz		
E.D Rating (%)		40		
Load Chain Fall Number		1		2
N.W./G.W. (kg)		50.5/53		60.5/63
Packing LXWXH (cm)		60X57X33		
Msrmnt (cu, ft)		4		

Features of YLT/YHT/YST Series:

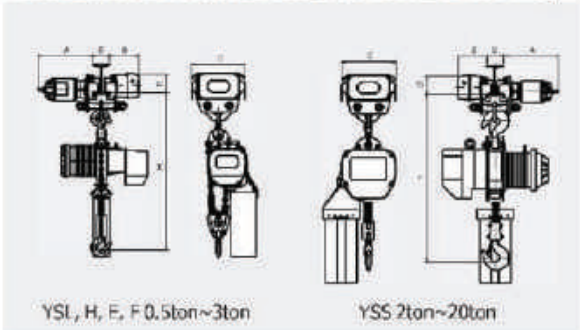
- Specially engineered frame combines hoist and trolley, for specific low headroom applications.
- Reduced headroom provides higher lifting.



※YET(D) series of products are only applicable for Europe.
※Maximun lifting height : 6M

Model	Capacity (ton)	Dimension (mm) H	A	B	C	D	E	F	Hoisting Speed(m/min) 50Hz	60Hz	Motor kw pole	Traversing Speed(m/min) 50Hz	60Hz	Motor kw pole	N.W. (kg)
YET-050	0.5	440	327	307	278	241	75-125	112	5.7	8.0	1.5, 4P	20	24	0.25, 4P	188
YETD-050						286			5.7/2.2	8.0/2.7	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YET-100	1	440	327	307	278	241	75-125	112	4.7	5.6	1.5, 4P	20	24	0.25, 4P	188
YETD-100						286			4.7/1.6	5.6/1.8	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YET-200	2	520	330	310	311	208	100-150	118	2.3	2.8	1.8, 4P	20	24	0.25, 4P	216
YETD-200						253			2.3/0.8	2.8/1.0	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YET-300	3	593	366	315	343	208	125-175	143	1.5	1.8	1.8, 4P	20	24	0.6, 4P	277
YETD-300						221			1.5/0.5	1.8/0.6	1.8/0.6, 4/12P	20/7	24/8	0.6/0.2 4/12P	
YLT-050	0.5	440	327	307	278	241	75-125	112	5.7	8.0	1.5, 4P	20	24	0.25, 4P	188
YLTD-050						286			5.7/2.2	8.0/2.7	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YLT-100	1	440	327	307	278	241	75-125	112	4.7	5.6	1.5, 4P	20	24	0.25, 4P	188
YLTD-100						286			4.7/1.6	5.6/1.8	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YLT-200	2	520	330	310	311	208	100-150	118	2.3	2.8	1.8, 4P	20	24	0.25, 4P	216
YLTD-200						253			2.3/0.8	2.8/1.0	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YLT-300	3	593	366	315	343	208	125-175	143	1.5	1.8	1.8, 4P	20	24	0.6, 4P	277
YLTD-300						221			1.5/0.5	1.8/0.6	1.8/0.6, 4/12P	20/7	24/8	0.6/0.2 4/12P	
YHT-050	0.5	440	327	307	278	241	75-125	112	9.2	11	1.8, 4P	20	24	0.25, 4P	188
YHTD-050						286			9.2/3.1	11/3.7	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YHT-100	1	440	327	307	278	241	75-125	112	6.7	8.0	1.8, 4P	20	24	0.25, 4P	188
YHTD-100						286			6.7/2.2	8.0/2.7	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YHT-200	2	520	330	310	311	208	100-150	118	3.3	4.0	1.8, 4P	20	24	0.25, 4P	216
YHTD-200						253			3.3/1.1	4.0/1.3	1.8/0.6, 4/12P	20/7	24/8	0.3/0.08 4/12P	
YHT-300	3	593	366	315	343	208	125-175	143	2.2	2.6	1.8, 4P	20	24	0.6, 4P	277
YHTD-300						221			2.2/0.7	2.6/0.9	1.8/0.6, 4/12P	20/7	24/8	0.6/0.2 4/12P	
YST-200	2	702	371	443	318	319	125-175	143	6.7	7.9	3.7, 4P	20	24	0.6, 4P	438
YSTD-200						376			6.7/2.2	7.9/2.6	3.7/1.2, 4/12P	20/7	24/8	0.6/0.2 4/12P	
YST-250	2.5	724	371	443	318	319	125-175	143	5.2	6.4	3.7, 4P	20	24	0.6, 4P	448
YSTD-250						376			5.2/1.7	6.4/2.1	3.7/1.2, 4/12P	20/7	24/8	0.6/0.2 4/12P	
YST-300	3	765	371	443	274	363	125-175	143	4.3	5.2	3.7, 4P	20	24	0.6, 4P	465
YSTD-300						420			4.3/1.4	5.2/1.7	3.7/1.2, 4/12P	20/7	24/8	0.6/0.2 4/12P	
YST-500	5	805	371	443	265	372	125-175	148	2.6	3.2	3.7, 4P	20	24	0.6, 4P	505
YSTD-500						429			2.6/0.9	3.2/1.0	3.7/1.2, 4/12P	20/7	24/8	0.6/0.2 4/12P	

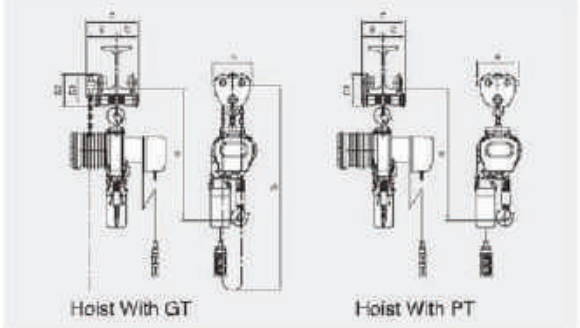
Dimensions of Hoist with Motorized Trolley



YSL, H, E, F 0.5ton~3ton　　YSS 2ton~20ton

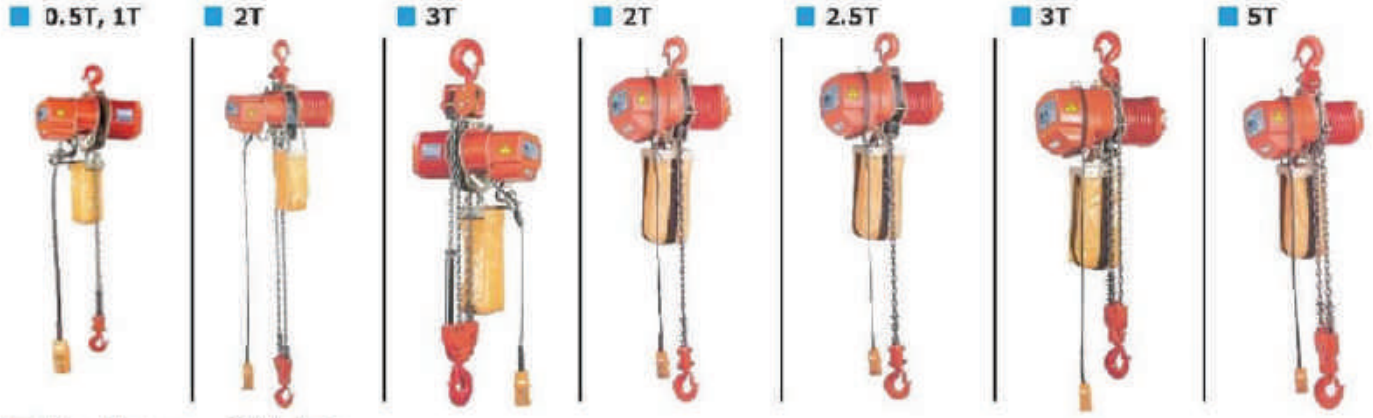
Capacity (ton)		Model	Dimensions(mm) H	A	B	C	D	E
YSL, H, E, YSF	0.5, 1	MT-050, 100	705	328	173	294	98	75-125
	2	MT-200	935	328	173	322	111	100-150
YSL, H	3	MT-300	1030	368	190	356	117	125-175
YSS	2	MT-200	995	328	173	322	111	100-150
	2.5	MT-300	1040	368	180	356	117	125-175
	3	MT-300	1120	368	180	356	117	125-175
	5	MT-500	1200	372	184	366	127	125-175
	7.5	MT-750	1300	391	193	454	167	150-200
	10	MT-1000	1415	471	193	560	205	150-200
	15	MT-1500	1490	576	212	702	220	190
	20	MT-2000	1820	705	211	882	295	200

Dimensions of Hoist with GT/PT



Hoist With GT　　Hoist With PT

Capacity (ton)		Model	Dimensions(mm) H	A	B	C	D1	D2	E	G	Flange Width (mm)
YSL, H, YSE, F	0.5	GT-050	710	194	155	110	151	150	266	2709	50-150
	0.5	PT-050	710	194	110	110	151	-	220	-	50-150
	1	GT-100	720	217	160	113.5	170	167	273	2719	75-150
	1	PT-100	720	217	113.5	113.5	167	-	227	-	75-150
	2	GT-200	920	247	179	130	224	207	309	3279	100-175
	2	PT-200	920	247	130	130	207	-	260	-	100-175
YSL, H	2	GT-300	1110	270	196	150	241	239	346	3353	100-200
	3	PT-300	1110	270	150	150	239	-	300	-	100-200
YSS	2	GT-200	1010	247	179	130	224	207	339	3279	100-175
	2	PT-200	1010	247	130	130	207		260		100-175
	2.5	GT-300	1100	270	196	150	241	239	346	3353	100-200
	2.5	PT-300	1100	270	150	150	239	-	300	-	100-200
	3	GT-300	1175	270	196	150	241	239	346	3353	100-200
	3	PT-300	1175	270	150	150	239	-	300	-	100-200
	5	GT-500	1250	310	198	152	235	251	350	3356	125-200
	5	PT-500	1250	310	151	152	251	-	304	-	125-200



Features of Hoist:

- Pendant control voltage transformed into 24V/48V to eliminate possible accident caused by circuit short and assure safe operation in wet environments.
- Automatic motor brake system features simultaneous braking upon power failure or switching off.
- Dual brake system assures safe operation.

Specifications:

Capacity (ton)			0.5	1	2	0.5	1	2	0.5	1	2	3	2	2.5	3	5	7.5	10	15	20	30
Lift Height (m)			3 (6) etc.																		
Load Chain (mm)			Φ7.1			Φ7.1			Φ7.1				Φ10	Φ11.2	Φ10	Φ11.2					
Single Speed (m/min)	50Hz	YSF	5.6	3.9	2.0	6.7	4.7	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-
		YSL	-	-	-	-	-	-	6.7	4.7	2.3	1.5	-	-	-	-	-	-	-	-	-
		YSH	-	-	-	-	-	-	(9.2)	(6.7)	3.3	2.2	-	-	-	-	-	-	-	-	-
		YSS	-	-	-	-	-	-	-	-	-	-	6.6	5.2	4.3	2.6	1.8	2.6	1.8	1.3	0.9
	60Hz	YSF	6.7	4.7	2.3	8.0	5.6	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-
		YSL	-	-	-	-	-	-	8.0	5.6	2.8	1.8	-	-	-	-	-	-	-	-	-
		YSH	-	-	-	-	-	-	(11.0)	(8.0)	4.0	2.6	-	-	-	-	-	-	-	-	-
		YSS	-	-	-	-	-	-	-	-	-	-	7.9	6.4	5.2	3.2	2.1	3.2	2.1	1.5	1.1
Dual Speed (m/min)	50Hz	YSLD	-	-	-	-	-	-	6.7/2.2	4.7/1.5	2.3/0.8	1.5/0.5	-	-	-	-	-	-	-	-	-
		YSHD	-	-	-	-	-	-	9.2/3.1	6.7/2.2	3.3/1.1	2.2/0.7	-	-	-	-	-	-	-	-	-
		YSSD	-	-	-	-	-	-	-	-	-	-	6.6/2.2	5.2/1.7	4.3/1.4	2.6/0.9	1.8/0.6	2.6/0.9	1.8/0.6	1.3/0.43	0.9/0.3
	60Hz	YSLD	-	-	-	-	-	-	8.0/2.7	5.6/1.8	2.8/1.0	1.8/0.6	-	-	-	-	-	-	-	-	-
		YSHD	-	-	-	-	-	-	11.0/3.7	8.0/2.7	4.0/1.3	2.6/0.9	-	-	-	-	-	-	-	-	-
		YSSD	-	-	-	-	-	-	-	-	-	-	7.9/2.6	6.4/2.0	5.2/1.7	3.2/1.0	2.1/0.7	3.2/1.0	2.1/0.7	1.5/0.5	1.1/0.4
Motor (kw) (single speed)			1.8			1.8			1.5(1.8)		1.8		3.7					3.7X2	5.0X2		
Motor (kw) (dual speed)			-			-			1.8/0.6				3.7/1.2					3.7/1.2X2	5.0/1.7X2		
Power Supply			Single Phase 110V, 115V			Single Phase 220V, 230V			3 Phase, 220V~600V				3 Phase, 220V~600V								
E.D. Rating (%)			15			15			40				40								
Load Chain Fall Number			1		2	1		2	1		2	3	1		2		3	4	6	8	12
N.W./G.W. (kg)			55/58.5		64.5/67	55/58.5		65/67	50.5/53		61/64	73/96	125/155	130/160	140/170	153/183	195/230	410/470	510/580	890/990	1035/1135
Packing LXWXH (cm)			60X57X33			60X57X33			60X57X33			62X59	73X57X51				73X57X71	88X67X75	140X67X97	170X100X67	170X100X85
Msrmnt (Cu.ft)			4			4			4			5.7	7.5				12.63	18.23	40.8	105.3	125.8

※Dual speed E.D. Rating = 40/20%

OPI

7.5T

10T

15T

20T

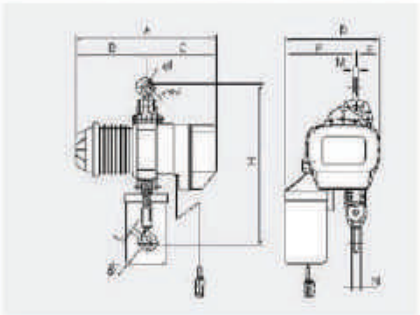
30T

- Limit switches hold load chain from running out.
- Advanced phase error relay keeps motor motionless at incorrect power connection.
- Optional emergency stop features available.
- Optional electronic overload protection available.

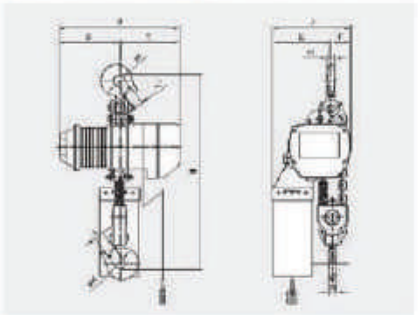
Specifications:

Capacity (ton)	Model	Dimensions (mm)																			
		H	A					B				C	D	E	F	I	J	K	L	M	N
0.5	YSL, H, E, F-050	595	E560	505	F548	LD548	HD548	245	F288	LD288	HD288	260	240	115	125	40	28	40	28	23	23
1	YSL, H, E, F-100	595	E560	505	F548	LD548	HD548	245	F288	LD288	HD288	260	240	115	125	40	28	40	28	23	23
2	YSL, H, E, F-200	745	E710	505	F548	LD548	HD548	245	F288	LD288	HD288	260	240	175	65	46	36	46	36	31	31
3	YSL, H-300	880	-	505	-	LD548	HD548	245	-	LD288	HD288	260	280	175	105	52	43	52	43	34	34
2	YSS-200	835	-	640	-	-	SD689	326	-	-	SD375	314	448	278	170	52	43	52	43	34	34
2.5	YSS-250	880	-	640	-	-	SD689	326	-	-	SD375	314	448	278	170	52	43	52	43	34	34
3	YSS-300	960	-	640	-	-	SD689	326	-	-	SD375	314	448	340	108	52	43	52	43	34	34
5	YSS-500	1030	-	640	-	-	SD689	326	-	-	SD375	314	448	356	92	62	45	62	45	45	45
7.5	YSS-750	1150	-	640	-	-	SD689	326	-	-	SD375	314	587	388	199	72	40	75	57	84	48
10	YSS-1000	1270	-	640	-	-	SD689	326	-	-	SD375	314	970	485	485	72	40	100	68	92	60
15	YSS-1500	1365	-	679	-	-	SD724	365	-	-	SD410	314	1360	680	680	80	40	120	90	169	85
20	YSS-2000	1950	-	866	-	-	SD866	433	-	-	SD433	433	1472	736	736	82	82	140	95	164	95
30	YSS-3000	2000	-	924	-	-	SD924	462	-	-	SD462	462	1472	736	736	92	92	140	95	221	95

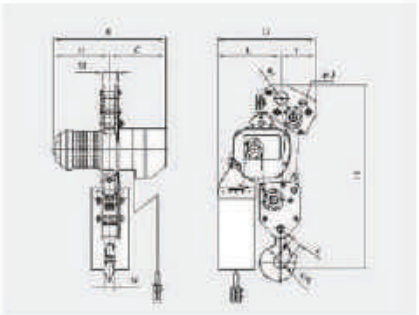
Dimensions of Hook Suspension Type Hoist:



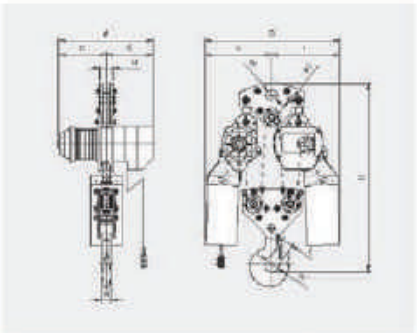
YSL,YSH, YSE, YSF, YSS



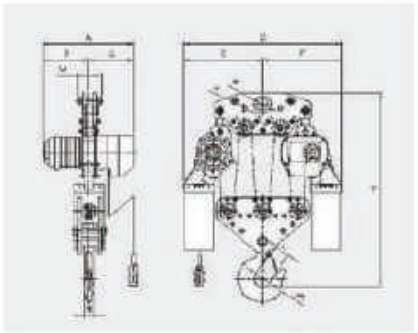
YSS-500



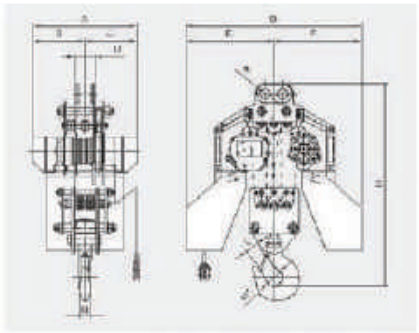
YSS-750



YSS-1000



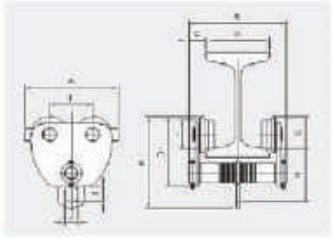
YSS-1500



YSS-2000, YSS-3000

TROLLEY

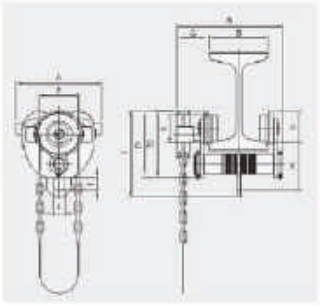
Plain Trolley (PT)



Dimensions (mm)

Capacity (ton)	Model	A	B	C	D1	E	F	H	I	J	K	L	Flange Width G	N.W. (kg)	
0.5	PT-050	194	220	35	151	69	89	215	83	28	198	60	50-150	6.4	1.0m
1	PT-100	217	227	39	167	78	100	124	35	31	218	70	75-150	10.6	1.0m
2	PT-200	247	260	43	207	91	116	171	55	56	264	80	100-175	16.8	1.3m
3	PT-300	270	300	50	239	103	130	215	79	60	353	90	100-200	25.6	1.5m
5	PT-500	310	304	52	251	117	140	218	84	60	370	100	125-200	32.6	1.6m
7.5	PT-750	368	343	72	292	135	184	260	103	76	435	120	150-200	59.5	2.2m
10	PT-1000	396	350	75	322	152	197	275	105	76	467	140	150-200	81.4	2.2m

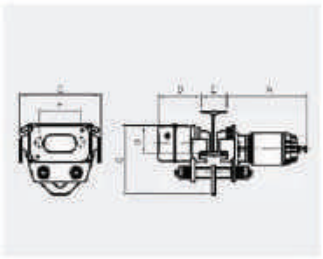
Geared Trolley (GT)



Dimensions (mm)

Capacity (ton)	Model	A	B	C	D1	D2	E	F	H	I	J	K	L	Flange Width G	N.W. (kg)	
0.5	GT-050	194	266	81	150	151	69	89	115	33	28	198	60	50-150	8.8	1.0m
1	GT-100	217	273	85	170	167	78	100	124	35	31	221	70	75-150	13.5	1.0m
2	GT-200	247	309	91	224	207	91	116	171	55	56	301	80	100-175	19.8	1.3m
3	GT-300	270	346	95	241	239	103	130	215	79	60	355	90	100-200	33.3	1.5m
5	GT-500	310	350	98	235	251	117	140	218	84	60	370	100	125-200	37	1.6m
7.5	GT-750	368	382	110	280	290	135	184	260	103	76	435	120	150-200	64	2.2m
10	GT-1000	396	389	114	301	322	152	197	275	105	76	467	140	150-200	86	2.2m

Monorail Motorized Trolley (MT)

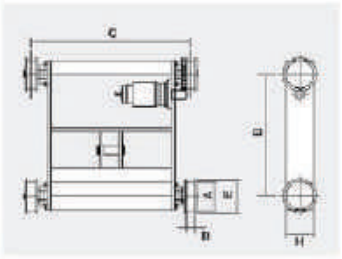


Dimensions (mm)

Capacity (ton)	Model	A	B	C	D	E	F	G	Speed(m/min) 50Hz	Speed(m/min) 60Hz	Motor (kw)	Pole (P)	Min. radius of curve (m)	N.W. (kg)
1	MT-100	328	173	294	98	75-125	149	246	20	24/16	0.25/0.17	4/6	1.3	40
	MTD-100								20/7	24/8	0.25/0.08	4/12		
2	MT-200	328	173	322	111	100-150	151	272	20	24/16	0.25/0.17	4/6	1.5	45
	MTD-200								20/7	24/8	0.25/0.08	4/12		
3	MT-300	368	180	356	117	125-175	172	297	20	24/16	0.6/0.4	4/6	1.8	65
	MTD-300								20/7	24/8	0.6/0.2	4/12		
5	MT-500	372	184	386	127	125-175	183	329	20	24/16	0.6/0.4	4/6	2.0	89
	MTD-500								20/7	24/8	0.6/0.2	4/12		
7.5	MT-750	388	193	454	167	150-200	229	400	13	16	0.9	6	3.0	155
	MTD-750								12/6.5	16/8	0.9/0.45	6/12		
10	MT-1000	471	193	560	205	150-200	278	459	15	18	1.5	4	3.5	218
	MTD-1000								15/5	18/6	1.5/0.5	4/12		
15	MT-1500	576	212	702	220	190	350	529	12	14	1.5	4	-	350
	MTD-1500								12/4	14/4.6	1.5/0.5	4/12		
20	MT-2000	705	211	882	295	200	440	604	12	15	2.2	4	-	575
	MTD-2000								12/4	15/5	2.2/0.73	4/12		

MT-100~500: 50Hz uses 4P motor ; 60Hz uses 4P or 6P motor
(Please specify as ordering 6P motor)

Motor Saddle Trolley (MST)



Dimensions (mm)

Capacity (ton)	Model	Speed(m/min) 50Hz	Speed(m/min) 60Hz	A	B	C	D	E	H	Motor (kw)	Pole (P)	N.W. (kg)
1	MST-100	20	19	120	560	700	40	147	122.5	0.25	4	94
	MSTD-100	20/6.7	19/6.3							0.25/0.08	4/12	
2	MST-200	20	19	120	560	700	40	147	122.5	0.25	4	94
	MSTD-200	20/6.7	19/6.3							0.25/0.08	4/12	
3	MST-300	18	22	150	650	850	45	176	155	0.4	4	182
	MSTD-300	18/5	22/7.3							0.4/0.13	4/12	
5	MST-500	18	22	150	650	850	45	176	155	0.6	6	182
	MSTD-500	18/9	22/11							0.6/0.3	6/12	
7.5	MST-750	19	23	160	800	1000	50	187	225	0.9	4	306
	MSTD-750	19/6.3	23/7.7							0.9/0.3	4/12	
10	MSTD-1000	21	20	215	800	1200	50	246	327.5	0.9-2pcs	4	504
	MSTD-1000	21/7	20/6.7							0.9/0.3-2pcs	4/12	

MST-100, MST-200, MST-1000 — 50Hz with pinion of M3.5x15T; 60Hz with pinion of M3.5x12T
MST-300 — 50Hz/60Hz with pinion of M3.5x13T
MST-500 — 50Hz/60Hz with pinion of M3.5x20T
MST-750 — 50Hz/60Hz with pinion of M3.5x15T

Models Available

Capacity (ton)			0.5T	1T	2T	2.5T	3T	5T	7.5T	10T	15T	20T	30T
3 Phase	Slipping Clutch	YSE	YSE-050	YSE-100	YSE-200								
	Low Speed	YSL	YSL-050	YSL-100	YSL-200		YSL-300						
			YLT-050	YLT-100	YLT-200		YLT-300						
	High Speed	YSH	YSH-050	YSH-100	YSH-200		YSH-300						
			YHT-050	YHT-100	YHT-200		YHT-300						
	Heavy Speed	YSS			YSS-200	YSS-250	YSS-300	YSS-500	YSS-750	YSS-1000	YSS-1500	YSS-2000	YSS-3000
		YST			YST-200	YST-250	YST-300	YST-500					
	Dual Speed	YSED	YSED-050	YSED-100	YSED-200								
		YSLD	YSLD-050	YSLD-100	YSLD-200		YSLD-300						
		YLTD	YLTD-050	YLTD-100	YLTD-200		YLTD-300						
		YSHD	YSHD-050	YSHD-100	YSHD-200		YSHD-300						
		YHTD	YHTD-050	YHTD-100	YHTD-200		YHTD-300						
		YSSD			YSSD-200	YSSD-250	YSSD-300	YSSD-500	YSSD-750	YSSD-1000	YSSD-1500	YSSD-2000	YSSD-3000
		YSTD			YSTD-200	YSTD-250	YSTD-300	YSTD-500					
Single Phase		YSF	YSF-050	YSF-100	YSF-200								

Chain Bucket No. Selection Table

Model	Chain size (mm)	Lift (m)																									
		4	5	6	6	7	8	9	9	10	12	13	15	16	18	19	20	23	25	26	27	30	31	38	40	47	60	80
YSF-050 YSE(D)-050 YSL(D)-050 YSH(D)-050	Φ7.1						#2					#3			#5-1		#4					#5-3			#5-4		#5-5	#5-6
YSF-100 YSE(D)-100 YSL(D)-100 YSH(D)-100	Φ7.1						#2					#3			#5-1		#4					#5-3			#5-4		#5-5	#5-6
YSF-200 YSE(D)-200 YSL(D)-200 YSH(D)-200	Φ7.1	#2		#3				#5-1		#4	#5-2		#5-3				#5-4		#5-5			#5-6						
YSL(D)-300 YSH(D)-300	Φ7.1	#3		#4	#5-1		#5-2			#5-3				#5-5			#5-6											
YSS(D)-200	Φ10.0						#6										#7			#8-1		#8		#9		#10		
YSS(D)-250	Φ11.2						#6								#7	#8-1					#8		#9		#10			
YSS(D)-300	Φ10.0	#6								#7		#8-1	#8			#9		#10							#11			
YSS(D)-500	Φ11.2	#6						#7		#8-1		#8	#9				#10								#11			
YSS(D)-750	Φ11.2			#7	#8-1			#8		#9		#10								#11								
YSS(D)-1000	Φ11.2							#7	#8-1			#8	#9				#10								#11			
YSS(D)-1500	Φ11.2			#7	#8-1			#8		#9		#10								#11								
YSS(D)-2000	Φ11.2					#12					#13																	
YSS(D)-3000	Φ11.2		#12				#13																					

Bucket No.	Bucket size (mm)	Material
#2	150X100X280L	canvas
#3	150X100X470L	canvas
#4	150X100X560L	canvas
#5-1	210X140X665L	steel
#5-2	210X160X545L	steel
#5-3	210X160X665L	steel
#5-4	210X170X815L	steel
#5-5	210X170X975L	steel
#5-6	210X180X1135L	steel
#6	190X190X440L	canvas
#7	190X190X560L	canvas
#8	190X190X680L	canvas
#8-1	400X210X605L	steel
#9	400X210X695L	steel
#10	400X210X770L	steel
#11	400X210X1105L	steel
#12	400X500X660L	steel
#13	400X500X967L	steel

※ There are 2 chain bucket with hoist above 10 tons.

Power Supply :

- Electric Chain Hoists are available in all standard voltages of three Phase power, from 220V to 600V;as well as 115V or 230V of single Phase. Three Phase hoists are re-connectable.

Lifting Height :

- Standard lifting height: 3 Meters / 6 Meters.
- Optional height available upon request (may be charged extra according to load chain length).
- The balance trolley is available for lift height over 6M or steel chain bucket. (Optional)

Lifting Speed :

- Please refer to each detailed specification.

Standard Accessories :

- Chain container 1pc
- Power cord 3M
- Push button pendant (3M) 1pc

Push Button Pendant :

- 2-button type: up and down.
- 4-button type: up and down; left and right (trolley).
- 6-button type: up and down; left and right; forward and reverse (end carrier).
- Plus standard emergency stop. (Optional)

Federation Europeenne De La Manutention

Load spectrum	Cubic mean value Definitions	Average operating time per day in hours							
1 (light)	(k≦0.50) Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16	>16	
2 (medium)	(0.50<k≦0.63) Mechanisms or parts thereof, usually subject to small loads but rather often to maximum loads.	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16	>16
3 (heavy)	(0.63<k≦0.80) Mechanisms or parts thereof, usually subject to medium loads but frequently to maximum loads.	≦0.12	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16
4 (very heavy)	(0.80<k≦1) Mechanisms or parts thereof, usually subject to maximum or almost to maximum loads.		≦0.12	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8
Classification of Mechanisms FEM 9.511		1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m

ISO/FEM (9.511)

Classification of mechanisms:

1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m
M1	M2	M3	M4	M5	M6	M7	M8

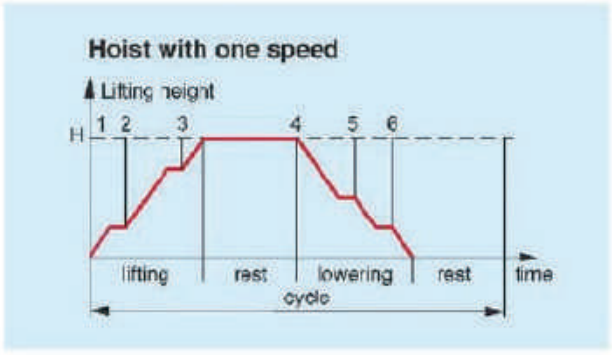
Classification of mechanisms into groups:

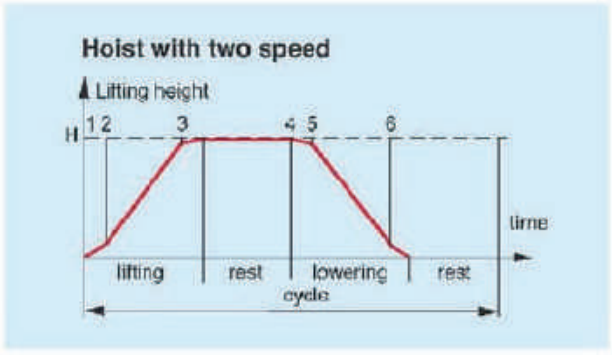
Load spectrum		Cubic mean value	Class of operation time								
			V0.06	V0.12	V0.25	V0.5	V1	V2	V3	V4	V5
			T0	T1	T2	T3	T4	T5	T6	T7	T8
			Average operating time per day in hours								
			≦0.12	≦0.25	≦0.5	≦1	≦2	≦4	≦8	≦16	>16
1	L1	k≦0.50			1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m
2	L2	0.50<k≦0.63		1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m
3	L3	0.63<k≦0.80	1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m	
4	L4	0.80<k≦1.00	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m		

Class of operating time:

Class of operation time		Average operating time per day (in hours)	Calculated total operating time in hours
V0.06	T0	≦ 0.12	200
V0.12	T1	≦ 0.25	400
V0.25	T2	≦ 0.5	800
V0.5	T3	≦ 1	1600
V1	T4	≦ 2	3200
V2	T5	≦ 4	6300
V3	T6	≦ 8	12500
V4	T7	≦ 16	25000
V5	T8	> 16	50000

Operation Cycle





Black Bear

Professional cranes & hoists for lifting

Electric Wire Rope Hoist

/ AC series

FEATURES

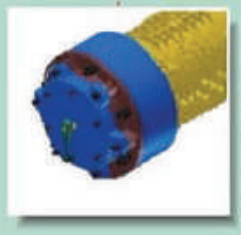
ELECTRIC WIRE ROPE HOIST

AC Brake
New design of AC brake electromagnetic motor disc system works precisely and synchronously with motors.

Control box
IP-20 control box is applied; Higher IP degree is available upon request.

MOTOR
Highly efficiently squirrel cage motors of 40%ED rate (40/20% for dual speed) are quiet, small volume, light weight and suitable for most applications.

Gear box
Hoist reduction gear system are made of alloy steel with surface harden treatment for long lasting life span.



(Optional function)
A 60%ED rate motor with cooling fan is available for heavy duty condition.

Wire rope
According to JIS G 3525 standard wire rope applications.

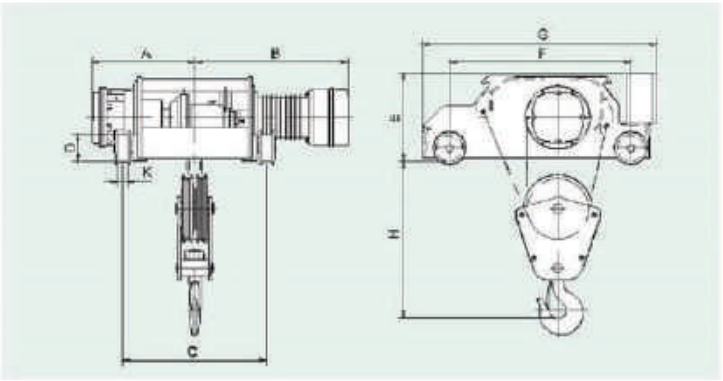
Hook
Hot forged hooks with thrust bearing are enable to be swiveled 360°

Sheave
The proper diameter of sheave ensures the operation and life span of wire rope.

PRODUCT CODE

T	B	H	D	-	500
Model	Gear box	Reeving/Falling			S.W.L.
T: MONORAIL TROLLEY S: SADDLE TROLLEY F: FOOTMOUNT	P: 2.2kw x 4P K: 3kw x 4P G: 5kw x 4P B: 7.5~11kw x 4P CA: 11~13kw x 4P DA: 13kw x 4P EA: 13kw x 4P FA: 18.5kw x 4P	N: 1/1 H: 2/4 M: 1/2 I: 2/6 L: 1/4 J: 2/8 P: 1/6 K: 2/10	Blank: single speed D: Only hoist dual speed D1: Only trolley dual speed D2: Both hoist & trolley dual speed		100: 1ton 200: 2ton 300: 3ton 500: 5ton 750: 7.5ton 1000: 10ton 1500: 15ton 2000: 20ton 3000: 30ton

SB.SCA.SDA.SEA series

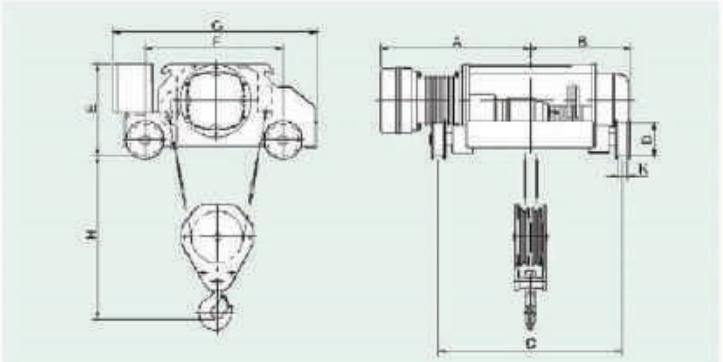


SPECIFICATIONS & DIMENSIONS:

Model	Capacity (ton)	Lift (m)	Hoisting Speed m/min 60Hz	Hoisting Speed m/min 50Hz	Hoisting Motor kw/pole	Hoisting ED% Single	Hoisting ED% Dual	Traversing Speed m/min 60Hz	Traversing Speed m/min 50Hz	Traversing Motor kw/pole	Traversing ED% Single	Traversing ED% Dual	Wire Rope Ømm	Wire Rope R/F	H	A Single	A Dual	B Single	B Dual	C	D	E Single	E Dual	F	G	K	Approximate Weight (kg)
SBH-500	5	6	7.3	6.1	7.5 4P	40	40/20	21	18	0.75 4P	40	40/20	Ø10	2/4	750	553	776	946	850	150	545	545	690	988	45	680
		9	7.3/2.4	6.1/2.0	7.5/2.5 4/12P			21/7	18/6	0.75/0.25 4/12P						603	976	996	850								690
		12														743	966	1135	1150								720
SBH-750	7.5	6	7.3	6.1	11 4P	40	40/20	20	17	1.1 4P	40	40/20	Ø14	2/4	1200	606	971	1000	850	160	550	550	790	1095	60	880
		9	7.3/2.4	6.1/2.0	11/3.7 4/12P			20/6	17/5	1.1/0.37 4/12P						743	1056	1135	1150								1050
		12														883	1146	1225	1300								1230
SBL-1000	10	6	5.0	4.2	11 4P	40	40/20	12	14	1.1 4P	40	40/20	Ø16	1/4	1330	605	903	982	850	180	580	580	970	1280	60	1070
		9	5.0/1.7	4.2/1.4	11/3.7 4/12P			12/6	14/5	1.1/0.37 4/12P						673	971	1150	1150								1080
		12														773	1071	1150	1150								1210
SCAH-1000		6	5.1	4.3	11 4P	40	40/20	17	14	1.1 4P	40	40/20	Ø16	2/4	1500	702	903	982	850	180	580	580	920	1250	60	1290
		9	5.1/1.7	4.3/1.4	11/3.7 4/12P			17/6	14/5	1.1/0.37 4/12P						817	1018	1097	1150								1430
SCAHD-1000		12														914	1115	1194	1300								1590
SDAH-1500	15	8	4.4	3.7	15 4P	40	40/20	18	15	1.5 4P	40	40/20	Ø18	2/4	1600	946	1187	1187	1400	200	720	720	1125	1465	60	1870
		10	4.4/1.5	3.7/1.2	15/4.5 4/12P			18/6	15/5	1.5/0.5 4/12P						1067	1246	1246	1400								2030
SDAHD-1500		12														1666	1305	1305	1600								2160
SEAL-1500	15	8	4.4	3.7	15 4P	40	40/20	18	15	1.5 4P	40	40/20	Ø20	1/4	1550	690	1040	1040	1150	200	715	715	1160	1500	60	1550
		10	4.4/1.5	3.7/1.2	15/4.5 4/12P			18/6	15/5	1.5/0.5 4/12P						735	1086	1086	1150								1765
SEALD-1500		12														801	1152	1152	1400								2000
SCAL-2000	20	8	3.7	2.7	15 4P	40	40/20	18	15	1.5 4P	40	40/20	Ø20	1/4	1700	760	1040	1040	1150	200	715	715	1160	1500	60	1950
		10	3.7/1.1	2.7/0.9	15/4.5 4/12P			18/6	15/5	1.5/0.5 4/12P						806	1086	1086	1150								2088
SCALD-2000		12														872	1152	1152	1300								2230

1.R/F=Reeving/falling numbers. 2.Dual speed model under green shadow. 3.Traversing pinion 5 ton M3.5x23t, 7.5 ton M3.5x20t, 10-20 ton M3.5x23t.
4.Traversing motor standard supply, 50 Hz or 60Hz all used 4 pole, or please specify. 5.Traversing motor: used reducing gear motor.

SK.SG series

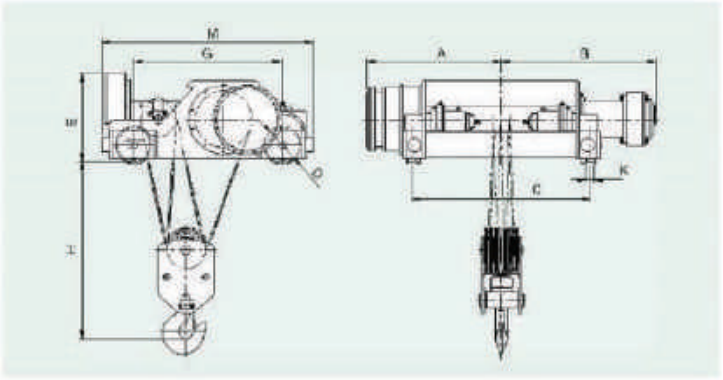


SPECIFICATIONS & DIMENSIONS:

Model	Capacity (ton)	Lift (m)	Hoisting Speed m/min 50Hz	Hoisting Speed m/min 60Hz	Hoisting Motor kw/pole	Hoisting ED% Single	Hoisting ED% Dual	Traversing Speed m/min 60Hz	Traversing Speed m/min 50Hz	Traversing Motor kw/pole	Traversing ED% Single	Traversing ED% Dual	Wire Rope Ømm	Wire Rope R/F	H	A Single	A Dual	B	C	D	E Single	E Dual	F	G	K	Approximate Weight (kg)
SKM-200	2	6	8	6.7	3 4P	40	40/20	20	17	0.25 4P	40	40/20	Ø10	1/2	600	679	679	401	500	120	390	460	615	923	40	420
		9														679	679	461	586							440
SKMD-200		12	8/2.7	6.7/2.2	3/1 4/12P			20/6	17/5	0.25/0.08 4/12P						732	732	462	850							450
SKH-200	2	6	8	6.7	3 4P	40	40/20	20	17	0.25 4P	40	40/20	Ø8	2/4	600	701	701	462	850	120	390	460	615	923	40	450
		9														788	788	509	850							470
SKHD-200		12	8/2.7	6.7/2.2	3/1 4/12P			20/6	17/5	0.25/0.08 4/12P						875	875	612	1150							490
SKL-300	3	6	4.4	3.7	3 4P	40	40/20	21	18	0.4 4P	40	40/20	Ø10	1/4	650	729	739	465	850	150	425	495	725	1030	45	500
		9														801	801	523	850							530
SKLD-300		12	4.4/1.5	3.7/1.2	3/1 4/12P			21/7	18/6	0.4/0.13 4/12P						953	953	675	1150							560
SGM-300	3	6	8	6.7	5 4P	40	40/20	21	18	0.4 4P	40	40/20	Ø12	1/2	750	702	814	477	850	150	495	495	660	968	45	490
		9														792	814	477	850							500
SGMD-300		12	8/2.7	6.7/2.2	5/1.7 4/12P			21/7	18/6	0.4/0.13 4/12P						894	916	579	950							510
SGH-300	3	6	8	6.7	5 4P	40	40/20	21	18	0.4 4P	40	40/20	Ø10	2/4	750	754	866	529	850	150	495	495	635	940	45	520
		9														827	939	602	850							580
SGHD-300		12	8/2.7	6.7/2.2	5/1.7 4/12P			21/7	18/6	0.4/0.13 4/12P						944	1056	719	1150							610
SGL-500	5	6	4.4	3.7	5 4P	40	40/20	21	18	0.75 4P	40	40/20	Ø10	1/4	700	754	866	529	850	150	495	545	725	1030	45	570
		9														827	939	602	850							590
SGLD-500		12	4.4/1.5	3.7/1.2	5/1.7 4/12P			21/7	18/6	0.75/0.25 4/12P						901	1086	749	1150							650

1.R/F=Reeving/falling numbers. 2.Dual speed model under green shadow. 3.Traversing pinion 2 ton M3.5x15t, 3-5 ton, M3.5x23t.
4.Traversing motor standard supply, 50 Hz or 60Hz all used 4 pole, or please specify. 5.Traversing motor: 2 ton used planetary reducing gear motor, 3-5 ton used reducing gear motor.

SFA series

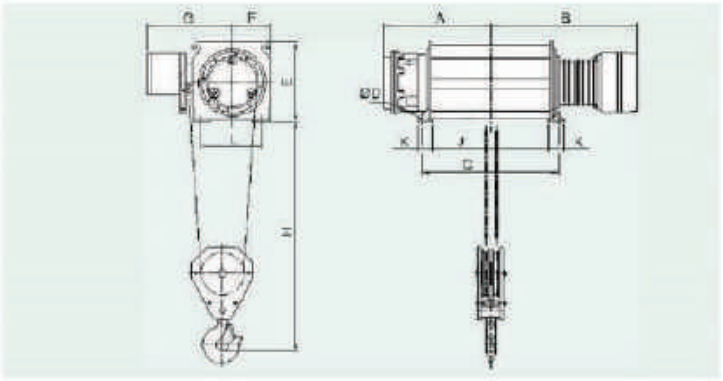


SPECIFICATIONS & DIMENSIONS :

Model	Capacity (ton)	Lift (m)	Hoisting Speed(m/min) 60Hz	Hoisting Speed(m/min) 50Hz	Hoisting Motor (kw)-pole	Hoisting ED% Single	Hoisting ED% Dual	Traversing Speed(m/min) 60Hz	Traversing Speed(m/min) 50Hz	Traversing Motor (kw)-pole	Traversing ED% Single	Traversing ED% Dual	Wire Rope Qmm	Wire Rope R/F	Approximate Dimension(mm) H	A	B Single	B Dual	C	D	E	G	K	M	Approximate Weight (kg)
SFAH-1500	15	8	6.1	5.1	18.5 4P	40	40/20	18	15	1.5 4P	40	40/20	Ø18	2/4	1500	1007	1140	1235	1150	280	725	1150	60	1475	2115
		10														1043	1186	1281	1400						2151
SFAHD-1500		12	6.1/2.0	5.1/1.7	18.5/5.2 4/12P			18/6	15/5	1.5/0.5 4/12P						1093	1225	1321	1400						2528
SFAJ-3000	30	8	3.0	2.5	18.5 4P	40	40/20	21	17.5	1.5X2 4P	40	40/20	Ø18	2/8	1800	1113	1249	1343	1400	300	730	1336	70	1536	2500
		10														1213	1346	1445	1600						2725
SFAJD-3000		12	3.0/1.0	2.5/0.8	18.5/5.2 4/12P			21/7	17.5/5.8	1.5/0.5X2 4/12P						1313	1446	1543	1600						2968

1.R/F=Reeving/falling numbers. 2.Dual speed model under green shadow. 3.Traversing pinion M4x18t.
4.Traversing motor standard supply, 50 Hz or 60Hz all used 4 pole, or please specify. 5.Traversing motor: used reducing gear motor.

FP.FK.FG.FB series



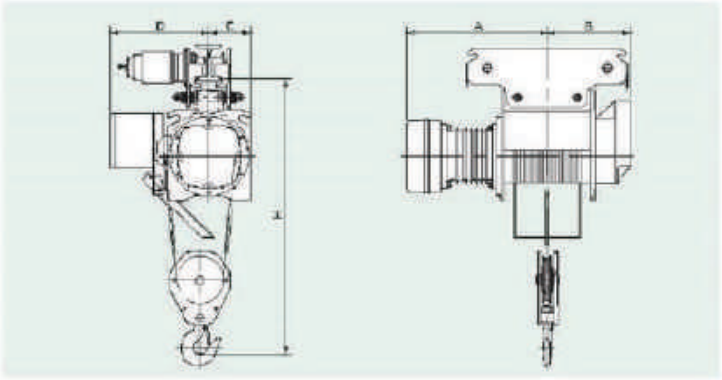
SPECIFICATIONS & DIMENSIONS :

Model	Capacity (ton)	Lift (m)	Hoisting Speed(m/min) 60Hz	Hoisting Speed(m/min) 50Hz	Hoisting Motor (kw)-pole	Hoisting ED%	Wire Rope Qmm	Wire Rope R/F	Approximate Dimension (mm) H	A	B	C	D	E	F	G	J	K	L	Approximate Weight (kg)
FPM-100	1	6	10.8	9	2.2 4P	40	Ø8	1/2	650	314	520	447	Ø15	307	150	436	358	82	260	285
		9								364	579	567					433			215
		12								414	629	667					533			225
		15								464	679	767					686			235
FKM-200	2	6	8	6.7	3 4P	40	Ø10	1/2	1159	348	627	466	Ø15	402	232	420	332	82	260	319
		9								405	670	571					457			339
		12								463	732	676					562			359
		15								506	785	781					667			378
FKH-200	2	6	8	6.7	3 4P	40	Ø8	2/4	1159	422	701	514	Ø15	402	232	433	399	82	260	359
		9								509	788	788					574			399
		12								596	875	961					747			439
		15								662	961	1134					1020			479
FGM-300	3	6	8	6.7	5 4P	40	Ø12	1/2	1250	415	661	482	Ø15	442	185	430	368	82	280	330
		9								477	703	565					451			350
		12								579	805	770					656			373
		15								614	860	880					764			393
FKL-300	3	6	4.4	3.7	3 4P	40	Ø10	1/4	1100	490	729	570	Ø15	373	375	448	536	82	310	350
		9								573	801	815					701			393
		12								675	953	1115					1005			413
		15								814	1092	1198					1384			478
FGH-300	3	6	8	6.7	5 4P	40	Ø10	2/4	1250	549	754	570	Ø15	442	185	448	536	82	280	330
		9								602	827	815					781			355
		12								719	544	1046					930			395
		15								814	1069	1235					1125			425
FGL-500	5	6	4.4	3.7	5 4P	40	Ø10	1/4	1100	529	754	570	Ø15	442	285	453	556	82	330	413
		9								602	827	815					701			433
		12								749	974	1109					995			493
		15								859	1084	1329					1215			643
FBH-500	5	6	7.3	6.1	7.5 4P	40	Ø10	2/4	1300	553	776	570	Ø15	452	215	483	556	82	350	453
		9								603	826	776					626			573
		12								749	986	1046					935			648
		15								858	1061	1239					1125			688

1.R/F=Reeving/falling numbers.

OPI

TP.TK.TG series

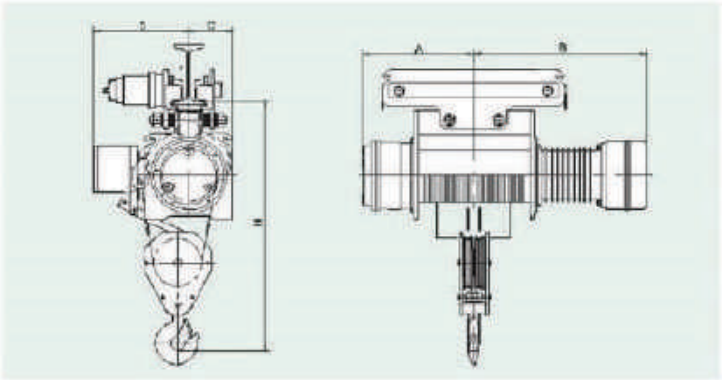


SPECIFICATIONS & DIMENSIONS:

Model	Capacity (ton)	Lift (m)	Hoisting Speed m/min 60Hz	Hoisting Speed m/min 50Hz	Hoisting Motor kw-pole	Hoisting ED% Single	Hoisting ED% Dual	Traversing Speed m/min 60Hz	Traversing Speed m/min 50Hz	Traversing Motor kw-pole	Traversing ED% Single	Traversing ED% Dual	Wire Rope Ø mm	Wire Rope R/F	H	Approximate Dimension(mm) A Single	A Dual	B	C Single	C Dual	D Single	D Dual	Adjust for Std. I-Beam (mm)	Approximate Weight (kg)
TPM-100	1	6	10.5	9	2.2 4P	40	40/20	24	20	0.25 4P	40	40/20	Ø8	1/2	1050	530	610	314						246
		9						24/8	20/6	0.25/0.08 4/12P						580	660	364	210	210	360	360	75-125	256
		12	10.5/3.5	9/3	2.2/0.75 4/12P											630	710	414						266
TKM-200	2	6	8	6.7	3 4P	40	40/20	24	20	0.25 4P	40	40/20	Ø10	1/2	1150	657	677	358						370
TKMD-200		9						24/8	20/6	0.25/0.08 4/12P						707	727	408	266	266	461	461	100-150	390
		12	9/2.7	6.7/2.2	3/1 4/12P											732	752	455						416
TKH-200	2	6	8	6.7	3 4P	40	40/20	24	20	0.25 4P	40	40/20	Ø8	2/4	1150	701	721	422						400
TKHD-200		9						24/8	20/6	0.25/0.08 4/12P						788	808	509	262	262	461	461	100-150	420
		12	9/2.7	6.7/2.2	3/1 4/12P											875	875	596						440
TKL-300	3	6	4.4	3.7	2 4P	40	40/20	18	15	0.8 4P	40	40/20	Ø10	1/4	1150	720	759	358						410
TKLD-300		9						18/6	15/5	0.8/0.53						801	801	525	275	275	443	443	125-175	430
		12	4.4/1.5	3.7/1.2	2/0.75 4/12P											953	953	675						490
TGM-300	3	6	8	6.7	3 4P	40	40/20	18	15	0.9 4P	40	40/20	Ø12	1/2	1200	660	772	435						410
TGMD-300		9						18/6	15/5	0.8/0.2 4/12P						707	814	477	297	245	442	442	125-175	430
		12	8/2.7	6.7/2.2	3/1.7 4/12P											804	916	579						450
TGH-300	3	6	8	6.7	5 4P	40	40/20	18	15	0.5 4P	40	40/20	Ø10	2/4	1200	754	866	529						390
TGHD-300		9						18/6	15/5	0.8/0.53						827	939	602	297	245	442	442	125-175	425
		12	8/2.7	6.7/2.2	5/1.7 4/12P											944	1056	719						455
TGL-500	5	6	4.4	3.7	3 4P	40	40/20	18	15	0.9 4P	40	40/20	Ø10	1/4	1200	754	866	564						520
TGLD-500		9						18/6	15/5	0.8/0.32 4/12P						827	939	602	300	300	468	468	125-175	540
		12	4.4/1.5	3.7/1.2	3/1.7 4/12P											974	1086	749						560

1.R/F=Reeving/falling numbers. 2.Dual speed model under green shadow. 3.Traversing pinion 2 ton M3.5x16t, 3-5 ton M3.5x12t.
4.Traversing motor standard supply, 50Hz or 60Hz all used 4 pole, or please specify.

TB series



SPECIFICATIONS & DIMENSIONS:

Model	Capacity (ton)	Lift (m)	Hoisting Speed m/min 60Hz	Hoisting Speed m/min 50Hz	Hoisting Motor kw-pole	Hoisting ED% Single	Hoisting ED% Dual	Traversing Speed m/min 60Hz	Traversing Speed m/min 50Hz	Traversing Motor kw-pole	Traversing ED% Single	Traversing ED% Dual	Wire Rope Ø mm	Wire Rope R/F	H	Approximate Dimension(mm) A	B Single	B Dual	C Single	C Dual	D Single	D Dual	Adjust for Std. I-Beam (mm)	Approximate Weight (kg)
TBH-500	5	6	7.5	6.1	7.5 4P	40	40/20	18	15	0.6 4P	40	40/20	Ø10	2/4	1250	553	776	946						590
TBHD-500		9						18/6	15/5	0.8/0.2 4/12P						593	816	986	278	315	445	453	125-175	630
		12	7.5/2.4	6.1/2.0	7.5/2.5 4/12P											743	966	1136						710
TBH-750	7.5	6	7.5	6.1	11 4P	40	40/20	20	17	1.1 4P	40	40/20	Ø14	2/4	2000	698	923	1093						990
TBHD-750		9						20/6	17/6	1.1/0.37 4/12P						743	1056	1135	294	294	642	642	150-200	1020
		12	7.5/2.4	6.1/2.0	11/3.7 4/12P											833	1146	1325						1060
TBL-1000	10	6	5.0	4.2	11 4P	40	40/20	18	15	1.5 4P	40	40/20	Ø16	1/4	2000	605	903	982			640	725		970
		9								1.1/0.37 4/12P						673	971	1050	380	380	640	725	150-200	1000
TBLD-1000		12	5.0/1.7	4.2/1.4	11/3.7 4/12P			18/6	15/5	2.2/0.7 4/12P						773	1071	1150			585	625		1040

1.R/F=Reeving/falling numbers. 2.Dual speed model under green shadow. 3.Traversing pinion 5 ton M3.5x12t, 7.5 ton M3.5x20t, 10 ton M3.5x23t.
4.Traversing motor standard supply, 50Hz or 60Hz all used 4 pole, or please specify. 5.Traversing motor: 5 ton used planetary reducing gear motor, 7-10 ton used reducing gear motor.

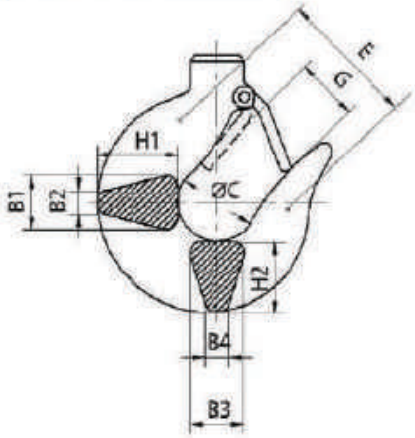
PRODUCT GUIDE

Capacity (ton)	Monorail High Speed	Crab High Speed	Footmount High Speed	Monorail Low Speed	Crab Low Speed	Footmount Low Speed	Dual Speed
1	TPM-100		FPM-100				TPMD-100
2	TKM-200	SKM-200	FKM-200				TKMD-200 SKMD-200
2	TKH-200	SKH-200	FKH-200				TKHD-200 SKHD-200
3	TGM-300	SGM-300	FGM-300	TKL-300	SKL-300	FKL-300	TGMD-300 SGMD-300 TKLD-300 SKLD-300
3	TGH-300	SGH-300	FGH-300				TGHD-300 SGHD-300
5	TBH-500	SBH-500	FBH-500	TGL-500	SGL-500	FGL-500	TBHD-500 SBHD-500 TGLD-500 SGLD-500
7.5	TBH-750	SBH-750					TBHD-750 SBHD-750
10		SCAH-1000		TBL-1000	SBL-1000		SCAHD-1000 SBLD-1000 TBLD-1000
15		SDAH-1500 SFAH-1500			SEAL-1500		SDAHD-1500 SEALD-1500 SFAHD-1500
20					SCAL-2000		SCALD-2000
30					SFAJ-3000		SFAJD-3000

WIRE ROPE

Rope Dia (mm) d	Mode Being Used	Construction	Specified Breaking Load (kn)
Ø8	TPM-100 FPM-100 TKH-200 SKH-200 FKH-200	6x37-A	34
Ø10	TKL-300 SKL-300 FKL-300 TGH-300 SGH-300 FGH-300	6x37-A	53.1
Ø10	TKM-200 SKM-200 FKM-200	IWRC 6xFi(29)-B	67.7
Ø10	TGL-500 SGL-500 FGL-500 TBH-500 SBH-500 FBH-500	IWRC 6xFi(29)-H	84
Ø12	TGM-300 SGM-300 FGM-300	IWRC 6xFi(29)-B	97.2
Ø14	TBH-750 SBH-750	6x37-H	123
Ø16	TBL-1000 SBL-1000 SCAH-1000	6x37-H	161
Ø18	SDAH-1500 SFAH-1500 SFAJ-3000	IWRC 6xFi(29)-H	234
Ø20	SEAL-1500	IWRC 6xFi(29)-H	289
Ø20	SCAL-2000	IWRC 6xFi(29)-H	331

HOOK



Mode	Capacity (ton)	Dimension (mm) H1	B1	B2	H2	B3	B4	C	G	E	Allow Stress (kg/mm²)	Hook Block Weight (kg)
T:FPM	1	33	23	9	29	23	9	40	27	55	70	10
T:FSKM T:FSKH	2	45	31	10	41	31	10	45	33	70	70	30
T:FSGM T:FSKL	3(2.5)	57	38	12	52	38	12	60	42	100	70	40
T:FSGH												50
T:FSGL T:FSBH	5	75	48	16	65	48	16	75	56	105	70	50 / 60
T:SBH	7.5	85	61	22	77	61	22	85	62	140	70	90
T:SBL SCAH	10	100	70	28	95	65	28	100	70	130	70	150 / 140
SDAH SEAL SFAH	15	120	85	32	110	83	32	120	82	165	70	220
SCAL	20	140	100	38	130	95	38	140	105	220	70	280
SFAJ	30	140	98	38	130	94	38	140	105	220	100	420

POWER SUPPLY :

▲ Electric wire rope hoist suits majority of the 3-Phase power in different countries, available in 50Hz or 60Hz, voltage from 220V up to 600V.

▲ Dual-volt hoist subject to our confirmation.

LIFTING HEIGHT :

▲ Standard lifting height : Please refer to specifications.

▲ Optional height available upon request.

PUSH BUTTON SWITCH :

▲ 2-point type: up and down.

▲ 4-point type: up and down ; left and right (trolley).

▲ 6-point type: up and down ; left and right ; forward and reverse (end carrier)

FEDERATION EUROPEENNE DE LA MANUTENTION

Load spectrum	Cubic mean value Definitions	Average operating time per day in hours							
1 (light)	(k≦ 0.50) Mechanisms or parts thereof, usually subject to very small loads and in exceptional cases only to maximum loads.	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16	> 16	
2 (medium)	(0.50 <k≦ 0.63) Mechanisms or parts thereof, usually subject to small loads but rather often to maximum loads.	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16	> 16
3 (heavy)	(0.63 <k≦ 0.80) Mechanisms or parts thereof, usually subject to medium loads but frequently to maximum loads.	≦ 0.12	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8	8-16
4 (very heavy)	(0.80 <k≦ 1) Mechanisms or parts thereof, usually subject to maximum or almost to maximum loads.		≦ 0.12	0.12-0.25	0.25-0.5	0.5-1	1-2	2-4	4-8
Classification of Mechanisms FEM 9.511		1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m

ISO/FEM (9.511)

Classification of mechanisms:

1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m
M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8

Classification of mechanisms into groups:

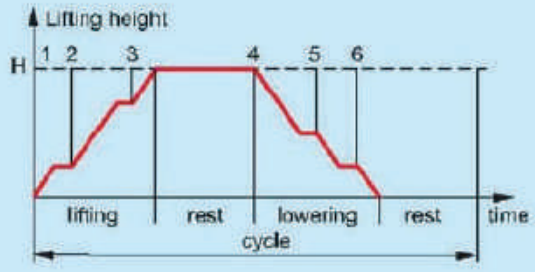
Load spectrum		Cubic mean value	Class of operation time								
			V0.06	V0.12	V0.25	V0.5	V1	V2	V3	V4	V5
			T0	T1	T2	T3	T4	T5	T6	T7	T8
			Average operating time per day in hours								
			≦0.12	≦0.25	≦0.5	≦1	≦2	≦4	≦8	≦16	>16
1	L1	k≦ 0.50			1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m
2	L2	0.50 <k≦ 0.63		1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m
3	L3	0.63 <k≦ 0.80	1 Dm	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m	
4	L4	0.80 <k≦ 1.00	1 Cm	1 Bm	1 Am	2 m	3 m	4 m	5 m		

Class of operating time:

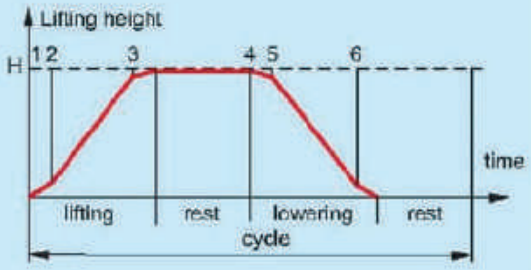
Class of operation time		Average operating time per day (in hours)	Calculated total operating time in hours
V0.06	T0	≦ 0.12	200
V0.12	T1	≦ 0.25	400
V0.25	T2	≦ 0.5	800
V0.5	T3	≦ 1	1600
V1	T4	≦ 2	3200
V2	T5	≦ 4	6300
V3	T6	≦ 8	12500
V4	T7	≦ 16	25000
V5	T8	> 16	50000

OPERATION CYCLE

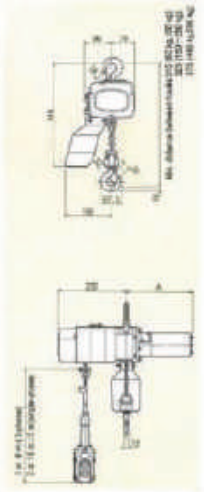
Hoist with one speed



Hoist with two speed



รอกโซ่ไฟฟ้า ELECTRIC CHAIN BLOCK



Model	A
60-100	313
160-250	325
500	375

3. ตัวเครื่องทำจากอะลูมิเนียม ทำให้ทำงานได้เงียบ, ซึ่งสามารถใช้งานได้ใน โรงพยาบาล, โรงเรียน, บ้านเรือน หรือร้านค้า
4. รุ่น 2 สาย 200 กก. มีน้ำหนักเครื่อง 15 กก. และรุ่น 3 สาย 250 กก. มีน้ำหนัก 16.5 กก.ซึ่งทำให้เคลื่อนย้ายได้สะดวก, ตัวเครื่องขนาดสั้นและระยะโซ่ที่ไม่ยาวมาก ทำให้ติดตั้งได้ กับพื้นที่แคบๆต่ำ
5. กลไกเบรคที่มีประสิทธิภาพ ระบบเบรคของ รอก Elephant ใช้วัสดุที่ไม่มีเส้นใย ซึ่งจะมีประสิทธิสูง เหมาะกับการทำงานหนักๆ และมีอายุในการใช้งานยาวนาน
6. โซ่ ที่มีความแข็งแรงสูง เหมาะกับงานหนักๆ เป็นโซ่ที่มีการเคลือบผิวแบบพิเศษ ป้องกันการเกิดสนิม หรือการกัดกร่อนจากการใช้งานกลางแจ้ง ทำให้การใช้งานได้นาน โซ่สามารถรับแรงดึงได้ 900 Mpa
7. โซ่ของรอก Elephant ได้รับมาตรฐาน DIN 5684 ซึ่งเป็นมาตรฐานที่มีความแข็งแรงสูง ที่สุดอันหนึ่ง ต่อโซ่รุ่น JIS CT (G80) สามารถรับแรงดึงได้ 900 Mpa
8. ตะขอตัวล่าง-บน ที่ทำงานได้ราบเรียบ พร้อมตัวแผ่นป้องกัน เพื่อความปลอดภัย ในกรณีที่ Overload ตะขอจะค่อยๆ ง้างออก แต่จะไม่หัก ตลับลูกปืนที่ตะขอล่างทำให้เปลี่ยนทิศทางการยกได้ง่าย

คุณสมบัติ ALPHA-Type

1. ALPHA Type จะใช้โซ่สีขาว, ตัวเครื่องแข็งแรง, ประหยัด, กม และกระทัดรัด
2. การออกแบบที่กระทัดรัด เพื่อความปลอดภัย และให้กำลังสูง ALPHA Type 2 สาย สามารถรับน้ำหนักได้ 500 กก. และรุ่นสามสายที่สามารถรับน้ำหนักได้ 500 กก. รอกทุกรุ่นจะมีกลไกลป้องกันการบรรทุกเกิน (Overload) และระบบเบรคที่ดี และปลอดภัย

คุณสมบัติ

FAH -Type, FA-Type & SA-Type

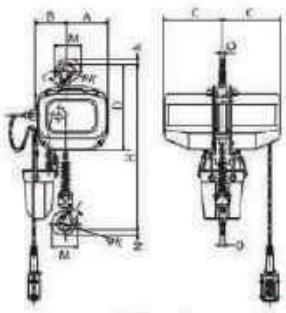
คุณภาพ! และมีประสิทธิภาพสูง ลดต้นทุนได้

1.) **มอเตอร์** ออกแบบให้ใช้กับงานหนัก มีความแข็งแกร่ง
2.) **เบรค** แม่เหล็กไฟฟ้ากระแสตรง ที่มีความแม่นยำ
3.) **โซ่** ใช้โซ่ชั้นพิเศษจากโรงงานของเราเอง ที่มีความทนทานสูง
4.) **โครงสร้าง** ทำจากโลหะ แบบปิดมิดชิด
5.) **ระบบสาย** ระบบสายใช้การต่อที่ไม่ยุ่งยาก
6.) **กล่อง** ใส่โซ่ทำจากวัสดุที่ทนทาน

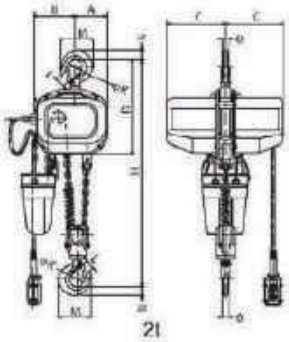
Series 1 & 3 Phase

รุ่น	กำลังยก (T.)	ระบบ (ที่ก)	ระยะยก (M.)	ขนาดโซ่ (MM xPitch)	ความเร็วยก (M./Min)	มอเตอร์รอกยก (kw.)	ระยะห่างตะขอ (MM.)	3M (Price)	6M (Price)
SA-025	0.25	2	3/6	6.3x19(1)	7.0	0.45-220v	555	CALL	CALL
SA-05	0.5	2	3/6	6.3x19(1)	3.5	0.45-220v	555	CALL	CALL
SA-1S	1.0	2	3/6	6.3x19(2)	1.8	0.45-220v	670	CALL	CALL
SA-1W	1.0	2	3/6	6.3x19(1)	3.6	0.45-220v	670	CALL	CALL
H-01	0.1	2	3	4.3x12(1)	13	0.3-220v	313	CALL	CALL
H-025	0.25	2	3	4.3x12(1)	10	0.6-220v	325	CALL	CALL
H-05	0.5	2	3	4.3x12(2)	5	0.6-220v	375	CALL	CALL
HV-01	0.1	2	3	4.3x12(1)	4 ~ 13	0.3-220v	313	CALL	CALL
HV-025	0.25	2	3	4.3x12(1)	4 ~ 10	0.6-220v	325	CALL	CALL
HV-05	0.5	2	3	4.3x12(2)	0.5 ~ 5	0.6-220v	375	CALL	CALL
HB-01	0.1	2	3	4.3x12(1)	4/13	0.3-220v	313	CALL	CALL
HB-025	0.25	2	3	4.3x12(1)	4/10	0.6-220v	325	CALL	CALL
HB-05	0.5	2	3	4.3x12(2)	2/5	0.6-220v	375	CALL	CALL
C-015	0.15	2	3	4.3x12(1)	9	0.55-380v	325	CALL	CALL
C-025	0.25	2	3	4.3x12(1)	9	0.55-380v	325	CALL	CALL
C-05	0.5	2	3	4.3x12(2)	4.5	0.55-380v	375	CALL	CALL

รอกโซ่ไฟฟ้า ELECTRIC CHAIN BLOCK



0.5t - 1t

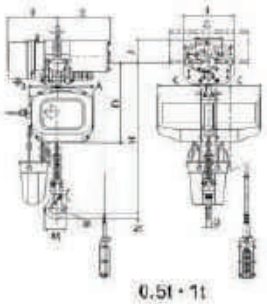


2t

FAH Series 2 ทิศทาง

รุ่น	กำลังยก (T.)	Test Load (T.)	ระบบ (ทิศ)	ระยะยก (M.)	ขนาดโซ่ (MM.xPitch)	ความเร็วยก (M./Min)	มอเตอร์รอกยก (Kw.) (380v)	ระยะห่างตะขอ (MM.)	น้ำหนัก (Kg.)	3M (Price)	6M (Price)
FAH-0.5	0.5	0.625	2	3/6	6.3x19(1)	7	0.9	555	46	CALL	CALL
FAH-1	1	1.25	2	3/6	7.1x21(1)	6.3	1.6	590	60	CALL	CALL
FAH-2	2	2.5	2	3/6	7.1x21(2)	3.1	1.6	745	71	CALL	CALL
FB-0.5	0.5	0.625	2	3/6	6.3x19(1)	7.0 : 1.8	0.9 : 0.25	555	47	CALL	CALL
FB-1	1	1.25	2	3/6	7.1x21(1)	6.3 : 1.6	1.6 : 0.4	590	61	CALL	CALL
FB-2	2	2.5	2	3/6	7.1x21(2)	3.1 : 0.8	1.6 : 0.4	745	72	CALL	CALL

MODEL	A	B	C	D	K	L	M	N	O
FAH-0.5	161	124	224	316.5	43	26.5	84	19	14
FAH-1	170	128	239	349	50	31	103	25	19
FAH-2	133	165	239	386.5	65	38	135.5	35	26
FB-0.5	161	124	224	316.5	43	26.5	84	19	14
FB-1	170	128	239	340	50	31	103	25	19
FB-2	133	165	239	386.5	65	38	135.5	35	26



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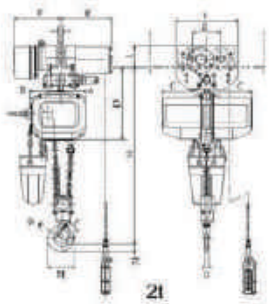


2t

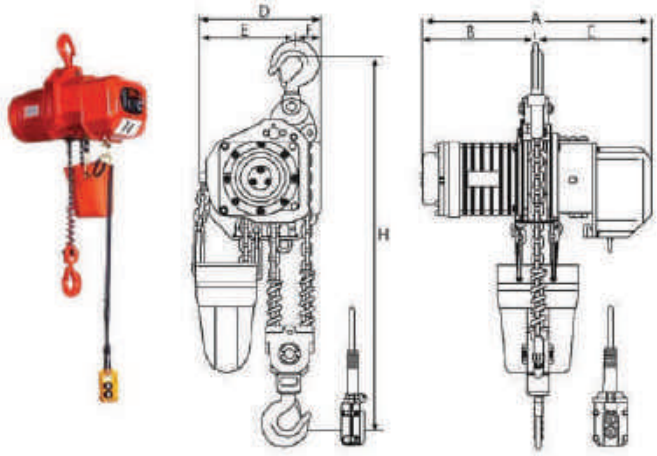
FAHM Series 4 ทิศทาง

รุ่น	กำลังยก (T.)	Test Load (T.)	ระบบ (ทิศ)	ระยะยก (M.)	ขนาดโซ่ (MM.xPitch)	ความเร็วยก (M./Min)	มอเตอร์รอกยก (Kw.) (380v)	ระยะห่างตะขอ (MM.)	ความเร็วเดิน (M./Min)	น้ำหนัก (Kg.)	3M (Price)	6M (Price)
FAHM-0.5	0.5	0.625	4	3/6	6.3x19(1)	7	0.9	695	20	77	CALL	CALL
FAHM-1	1	1.25	4	3/6	7.1x21(1)	6.3	1.6	730	20	91	CALL	CALL
FAHM-2	2.0	2.5	4	3/6	7.1x21(2)	3.1	1.6	910	20	111	CALL	CALL

MODEL	A	B	C	D*	E*	F*	G	I	*J	K	L	M	N	O
FAHM-0.5	161	124	224	456.5	251(278)	218.5	120	246	114	43	26.5	84	19	14
FAHM-1	170	128	239	489	251(278)	218.5	120	246	114	50	31	103	25	19
FAHM-2	133	165	239	550	267(294)	247	148	324	137	65	38	135.5	35	26

*หมายถึง ค่าเปลี่ยนไปตามระยะ I-Beam

รอกโซ่ไฟฟ้า ELECTRIC CHAIN BLOCK



คุณสมบัติ DA –Type & DB–Type

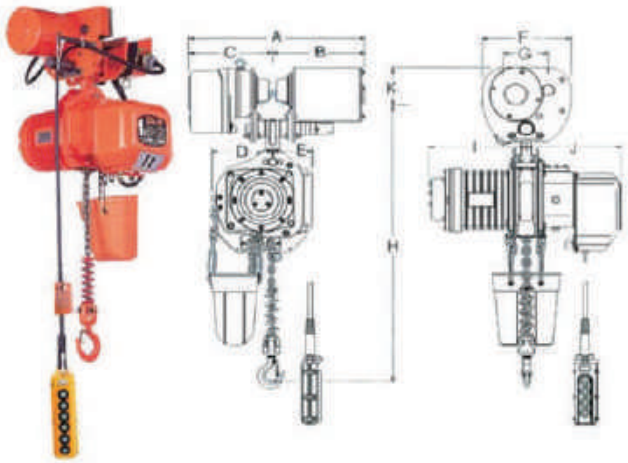
รุ่นนี้! สามารถใช้งานได้หลากหลาย และทนทานต่อการทำงานหนัก

1. มอเตอร์ทนทานและแข็งแรง เพื่อให้ทำงานได้หลายสถานการณ์ จึงมีมอเตอร์ขึ้นมาใหม่ เพื่อมาติดตั้งในรอกตัวนี้ ซึ่งมอเตอร์สามารถทำงานได้อย่างต่อเนื่อง แม้ใช้งานเต็มพิกัด แต่ยังทำงาน มีประสิทธิภาพ
2. โครงสร้างตัวรอก ถูกออกแบบมาให้ป้องกันฝุ่นและเก็บเสียง ป้องกันเฟืองเกียร์ด้วยน้ำมัน ทำให้เครื่องเงียบและอายุการใช้งานที่ยาวนาน
3. โซ่รอกได้รับมาตรฐาน ISO และ DIN 5684 (เป็นมาตรฐานเยอรมัน) สามารถรับแรงดึงได้ 900 Mpa
4. ระบบเบรคโดยใช้แม่เหล็กไฟฟ้า โซลินอยด์กระแสตรง ซึ่งใช้ไฟในการทำงานน้อย และระบบเบรคแม่เหล็กไฟฟ้ายังทำงานร่วม กับระบบเบรคแบบกลไก จะทำให้เบรคทำงานได้อย่างสมบูรณ์มากขึ้น (ระบบเบรค 2 ชั้น)

DA /DB Series

Model	A	B	C	D	E	F	H
DA-1	564	290	274	301	174	127	-
DA-2S	655	342	313	372	198	174	-
DA-3	655	342	313	372	258	114	-
DA-5	655	342	313	372	273	102	-
DA-10	684	342	342	960	373	-	-
DB-1	619	321	321	301	174	127	-
DB-2	717	372	372	372	198	174	-
DB-3	717	372	372	372	258	114	-
DB-5	717	372	372	375	273	102	-
DB-10	-	-	-	-	-	-	-

5. กลไกการเบรคที่ถูกต้อง แม่นยำ แม้จะมี Load บนตะขอ นอกจากนั้นยังสามารถตรวจสอบการทำงานของเกียร์ได้โดยสะดวก เพราะมีโครงสร้างที่ต่อหุ้มเกียร์เป็นแบบเปิด
6. ลิมิตสวิทช์ไฟฟ้าแบบทำงาน 2 จังหวะ ที่เชื่อถือได้ในการทำงาน ขั้นที่ 1 สวิทช์จะตัดวงจรคอนโทรล ขั้นที่ 2 สวิทช์ จะตัดวงจร Power ซึ่งขั้นตอนดังกล่าวจะทำให้อายุของการทำงานของสวิทช์นั้นยาวนานขึ้น และที่จุดหน้าสัมผัสมีความต้านทานต่ำ และมีตัวป้องกันการกลับเฟส
7. โครงสร้างมอเตอร์เป็นอลูมิเนียม ทำให้สามารถระบายความร้อนได้ดี
8. สวิทช์ควบคุมจะใช้แรงดันไฟฟ้า 24 v เพื่อความปลอดภัย
9. ตะขอเกี่ยว มีแผ่นเหล็กปิดกันหลุดและตะขอสามารถหมุนรอบตัวได้ 360 องศา เพราะมีตลับลูกปืน ในกรณี Overload ตะขอจะค่อยๆ ย้างออก แต่ไม่หัก



DAM Series

Model	A+2B	B+2B	C+B	D	E	F	G	I	J	K
DAM-1	482	251	231	174	127	242	120	290	274	108
DAM-2S	516	268	248	198	174	288	148	342	313	122
DAM-3	574	323	251	258	114	316	160	342	313	167
DAM-5	612	342	270	273	102	336	170	342	313	172
DAM-10	612	342	270	-	-	696	360	342	313	172

รอกโซ่ไฟฟ้า ELECTRIC CHAIN BLOCK

DA /DB Series 2 ทิศทาง

รุ่น	กำลังยก (T.)	Test Load (T.)	ระบบ (Fall)	ระยะยก (M.)	ขนาดโซ่ (MM.xPitch)	ความเร็วยก (M./Min)	มอเตอร์รอกยก (Kw.) 380v	ระยะห่างตะขอ (MM.)	น้ำหนัก (Kg.)	ราคา Price
DA-1	1	1.25	2	3	7.1x21(1)	6.8	1.7	585	76	CALL
DA-1	1	1.25	2	6	7.1x21(1)	6.8	1.7	585	79	CALL
DA-2S	2	2.5	2	3	11.2x34(1)	6.9	3.4	730	133	CALL
DA-2S	2	2.5	2	6	11.2x34(1)	6.9	3.4	730	141.2	CALL
DA-3	3	3.75	2	4	9.5x28.6(2)	4.35	3.4	940	145	CALL
DA-5	5	6.25	2	4	11.2x34(2)	2.75	3.4	1030	163	CALL
DA-10	10	12.5	2	4	11.2x34(4)	2.7	3.4 x 2	1390	396	CALL
DB-1	1	1.25	2	3	7.1x21(1)	6.8 : 2.2	1.7 : 0.57	585	79	CALL
DB-1	1	1.25	2	6	7.1x21(1)	6.8 : 2.2	1.7 :0.57	585	84	CALL
DB-2 S	2	2.5	2	3	11.2x34(1)	6.9 : 2.3	3.4 : 1.14	730	92	CALL
DB-2 S	2	2.5	2	6	11.2x34(1)	6.9 : 2.3	3.4 : 1.14	730	100	CALL
DB-3	3	3.75	2	4	9.5x28.6(2)	4.35 : 1.4	3.4 : 1.14	940	162	CALL
DB-5	5	6.25	2	4	11.2x34(2)	2.75 : 0.9	3.4 : 1.14	1034	179	CALL
DB-10	10	12.5	2	4	11.2x34(4)	2.7 : 0.9	3.4 : 1.14x2	1390	396	CALL

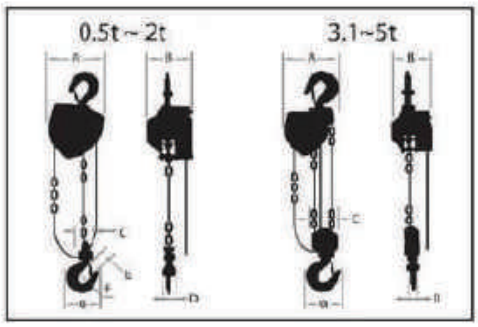
DAM Series 4 ทิศทาง

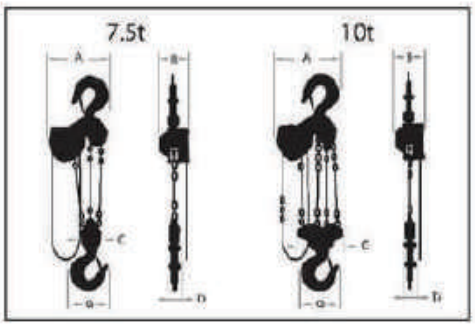
รุ่น	กำลังยก (T.)	Test Load (T.)	ระบบ (Fall)	ระยะยก (M.)	ขนาดโซ่ (MM.xPitch)	ความเร็วยก (M./Min)	มอเตอร์รอกยก (Kw.) 380v	ระยะห่างตะขอ (MM.)	น้ำหนัก (Kg.)	ราคา Price
DAM-1	1	1.25	4	3	7.1x21(1)	6.8	1.7	620	101	CALL
DAM-1	1	1.25	4	6	7.1x21(1)	6.8	1.7	620	106	CALL
DAM-2S	2	2.5	4	3	11.2x34(1)	6.9	3.4	735	197	CALL
DAM-2S	2	2.5	4	6	11.2x34(1)	6.9	3.4	735	206	CALL
DAM-3	3	3.75	4	4	9.5x28.6(2)	4.35	3.4	960	209	CALL
DAM-5	5	6.25	4	4	11.2x34(2)	2.75	3.4	1050	246	CALL
DAM-10	10	12.5	4	4	11.2x34(4)	2.7	3.4x2	1185	619	CALL

ขาแขวนรอกไฟฟ้า ELECTRIC TROLLEY

รุ่น	กำลังยก (T.)	ระยะ I-BEAM (MM.)	ความเร็วเดิน (M./Min.)	มอเตอร์รอกเดิน (Kw.) 380v	ราคา Price
MAF-0.5	0.5	75 - 125	20	0.4	CALL
MAF-1	1	75 - 125	20	0.4	CALL
MAF-2	2	100 - 150	20	0.4	CALL
MAF-3	3	100 - 150	20	0.75	CALL
MAF-5	5	125 - 175	20	0.75	CALL

รอกโซ่มือสาว CHAIN BLOCK



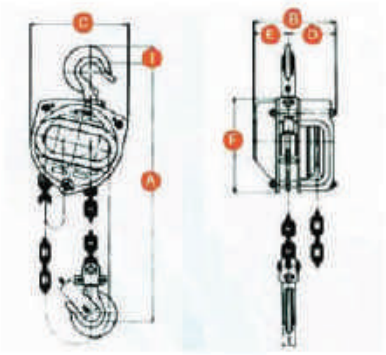


รุ่น	รับน้ำหนัก (T.)	ระยะยก (m)	ขนาดโซ่ยก (mm. x Pitch)	ขนาดโซ่ตีน (mm.)	น้ำหนักเครื่อง (Kg.)	ราคา Price
KII-0.5	0.5	2.5	5x15(1)	5x23.5	9.0	CALL
KII-1	1	2.5	6.3x19(1)	5x23.5	11.4	CALL
KII-1.6	1.6	2.5	7.1x21(1)	5x23.5	14.7	CALL
KII-2	2	3.0	6x24(1)	5x23.5	21.0	CALL
KII-3	3.1	3.0	7.1x21(2)	5x23.5	24.0	CALL
KII-5	5	3.0	9x27(2)	5x23.5	39.5	CALL
KII-10	10	3.5	9x27(4)	5x23.5	82.0	CALL

DIMENSIONS mm

Capacity (TON)	A	B	C	D	E	F
0.5	140	155	58	33	25	36
1	160	160	62	35	30	43
1.6	163	167.5	65	37	35	48
2	215	183	66	41	38	53
3.1	230	167.5	110	62.5	44	60
5	282	190	166	78.5	53	70
10	385	190	300	98	70	85

รุ่น	รับน้ำหนัก (T.)	ระยะยก (m)	ขนาดโซ่ยก (mm. x Pitch)	ขนาดโซ่ตีน (mm.)	น้ำหนักเครื่อง (Kg.)	ราคา Price
K75-1	1	2.5	7.1x21(1)	5x22.5	13.5	CALL
K75-1.5	1.5	2.5	7.9x23(1)	6x26.5	19.5	CALL
K75-2	2	3.0	9.5x28.6(1)	6x26.5	28.0	CALL
K75-3	3	3.0	7.9x23(2)	6x26.5	31.5	CALL
K75-5	5	3.0	9.5x28.6(3)	6x26.5	62.0	CALL
K75-8	8	3.5	9.5x28.6(4)	6x26.5	125.0	CALL
K75-10	10	3.5	9.5x28.6(5)	6x26.5	146.0	CALL

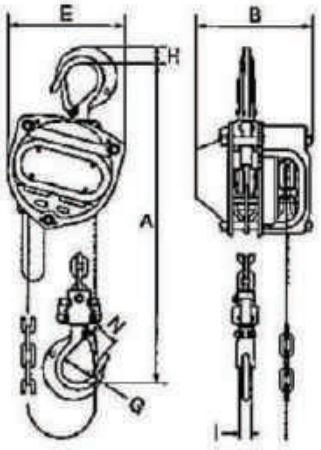


DIMENSIONS mm

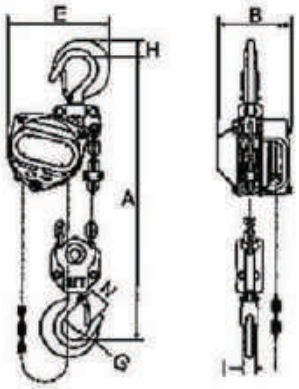
Capacity (TON)	A	B	C	D	E	F	G	H	I	J
1	320	153	181	89	64	175	35	30	22	28.5
1.5	365	169	200	95	74	201	40	32	26	33.5
2	415	182	234	99	83	233	44	36	31	39
3	580	169	230	95	74	201	52	43	33	50
5	640	182	352	99	83	233	65	50	40	51.5

Parts are subject to change without notice.

รอกโซ่มือสาว CHAIN BLOCK
H-100



Type 0.5~0.25



Type 3.1~5

รุ่น	รับน้ำหนัก (Ton)	Test Load	ยกสูง (m)	ขนาดโซ่ (mm. x Pitch)	ขนาดมือโซ่ (mm.)	น้ำหนักสุทธิ (Kg.)	ราคา Price
H-0.5	0.5	0.75	2.5	5x15	5x23.6	9	CALL
H-1	1	1.5	2.5	6.3x19		11.4	CALL
H-1.6	1.6	2.4	2.5	7.2x21		14.7	CALL
H-2	2	3.0	3	8x24		21	CALL
H-2.5	2.5	3.75	3	9x27		25.4	CALL
H-3.1	3.1	4.65	3	7.1x21 (2)		24	CALL
H-5	5	7.5	3	9x27 (2)		39.5	CALL
H-7.5	7.5	9.5	3.5	9x27 (3)		70	CALL
H-10	10	12.5	3.5	9x27 (4)		82	CALL
H-16	16	20.0	3.5	9x27 (6)	6x26.6	198	CALL
H-20	20	25.0	3.5	9x27 (8)		215	CALL
H-32	32	40.0	3.5	9x27 (10)		545	CALL
H-40	40	50.0	3.5	9x27 (14)		1228	CALL
H-50	50	62.5	3.5	9x27 (16)		1400	CALL

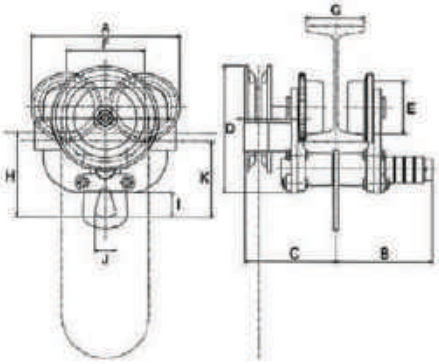
DIMENSIONS mm

A	B	*E	G	H	I	N
277	155	140	36	17	13	26
303	160	160	43	22	16	30
338	168	183	48	27	20	35
379	183	215	53	29	22	38
416	190	233	55	34.5	24	40
516	168	230	60	37	27	44
613	190	282	70	46	34	53
760	190	370	85	62.5	47.5	74
789	190	370	85	62.5	47.5	74
985	235	492	102	79	62	74
1120	361	721	112	85	70	81
1290	401	721	127	113	87	104
1450	493	731	146	137	125	111
1540	541	731	166	157	135	129

*Dimension E fluctuates to some degree depending on the load.

ELEPHANT รางแขวนรอก TROLLEY

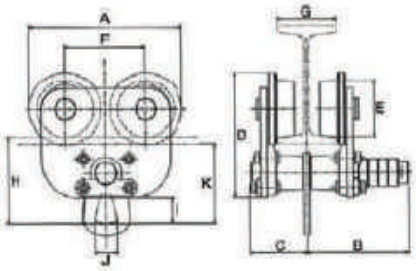
GEAR TROLLEY



รุ่น	รับน้ำหนัก (Ton)	ขนาดโอ-ปิ้น			ขนาดโอ-ปิ้น (mm.)	ระยะของศูนย์ต่ำสุดของโอ-ปิ้น (mm.)	น้ำหนักเครื่อง (Kg.)	ราคา Price
		No Collars (mm.)	With 2 Collars (mm.)	With 4 Collars (mm.)				
G-0.5	0.5	75	100	125	5x22.5	900	12.0	CALL
G-1	1	75	100	125	6x26.6	1100	16.0	CALL
G-1.6	1.6	100	125	150	6x26.6	1200	24.5	CALL
G-2	2	100	125	150	6x26.6	1200	25.0	CALL
G-3.1	3	100	125	150	6x26.6	1700	33.5	CALL
G-5	5	125	150	175	6x26.6	2300	55.8	CALL
G-8	8	150	175	-	5x23.6	3000	107.0	CALL
G-10	10	150	175	-	5x23.6	3000	117.0	CALL
G-15	15	175	190	-	5x23.6	6000	315.0	CALL
G-20	20	175	190	-	5x23.6	6000	420.0	CALL
G-30	30	190	-	-	5x23.6	12000	600.0	CALL

รุ่น	A	B	C	D	E	F	G	H	I	J	K
G-0.5	190.5	125.5	118.5	164	70	100.5	75-100-125	198	33	28	100
G-1	221	125.5	123.5	187	80	116	75-100-125	112	32	30	104
G-1.6	258.5	143	136	233	98	136	100-125-150	150	52	40	140
G-2	258.5	143	136	233	98	136	100-125-150	150	52	40	140
G-3.1	287.5	144	137	253	115	150	100-125-150	178	65	50	168
G-5	326.5	165.5	165.5	301	125	169	125-150-175	223	75	60	210
G-8	434	188	188	308	158	220	150-175	246	100	80	233
G-10	434	188	188	306	158	220	150-175	246	100	80	233
G-15	580	231	231	443	197	295	175-190	272	86	95	247
G-20	580	231	231	443	197	295	175-190	272	86	95	247
G-30	933.5	304	304	578	245	600	190	588	185	150	563

PLAIN TROLLEY



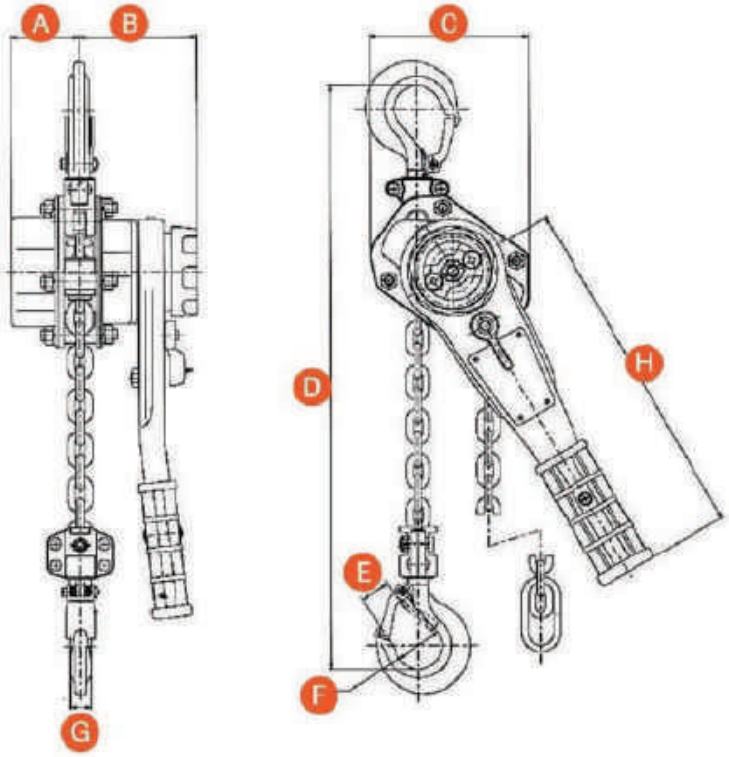
รุ่น	รับน้ำหนัก (Ton)	ขนาดโอ-ปิ้น			ระยะของศูนย์ต่ำสุดของโอ-ปิ้น (mm.)	น้ำหนักเครื่อง (Kg.)	ราคา Price
		No Collars (mm.)	With 2 Collars (mm.)	With 4 Collars (mm.)			
P-0.5	0.5	75	100	125	900	8.0	CALL
P-1	1	75	100	125	1100	11.0	CALL
P-1.6	1.6	100	125	150	1200	19.0	CALL
P-2	2	100	125	150	1200	19.0	CALL
P-3.1	3	100	125	150	1700	27.0	CALL
P-5	5	125	150	170	2300	48.5	CALL
P-8	8	150	175	-	3000	98.0	CALL
P-10	10	150	175	-	3000	100.0	CALL
P-15	15	175	190	-	6000	295.0	CALL
P-20	20	175	190	-	6000	400.0	CALL

รุ่น	A	B	C	D	E	F	G	H	I	J	K
P-0.5	190.5	125.5	75.5	155	70	100.5	75-100-125	198	33	28	100
P-1	221	125.5	73.5	172	80	116	75-100-125	112	32	30	104
P-1.6	258.5	143	94	208	98	136	100-125-150	150	52	40	140
P-2	258.5	143	94	208	98	136	100-125-150	150	52	40	140
P-3.1	287.5	144	97	239	115	150	100-125-150	178	65	50	168
P-5	326.5	165.5	123.5	289	125	169	125-150-175	223	75	60	210
P-8	434	176.5	176.5	332	158	220	150-175	246	100	80	233
P-10	434	176.5	176.5	332	158	220	150-175	246	100	80	233
P-15	577	231	231	463	197	295	175-190	272	86	95	247
P-20	577	231	231	463	197	295	175-190	272	86	95	247

รอกโซ่มือโยก LEVER BLOCK

คุณสมบัติ

1. โซ่ทนการกัดกร่อนสูงโดยมีการใช้เทคโนโลยี MECHANICAL ZINC COATED เคลือบโซ่ ซึ่งแตกต่างจากยี่ห้ออื่นๆ จึงเหมาะกับการใช้งานที่ต้องการความทนทานสูง
2. สิ้นเลือดกันหลุดแบบใหม่ เพิ่มร่องที่สิ้นเลือดกันหลุด (Safety Latch) ทำให้สิ้นเลือด และตะขอแนบกระชับสนิท ป้องกันการหลุดมากยิ่ง และเพิ่มความปลอดภัยระดับสูง
3. รูปทรงก้านโยกใหม่ โดยออกแบบรูปทรงก้านโยกเป็นชนิดโค้งที่จุดหมุน เพิ่มความคล่องตัวในการทำงานที่พื้นที่จำกัด ทำให้การหมุนไม่ติดขัดเหมือนยี่ห้ออื่นๆ
4. ระบบเบรคชนิดใหม่ รอกโซ่มือโยกตราช้าง รุ่น YA-Series ปฏิวัติระบบเบรคโดยใช้หลัก Mechanical Brake ที่มีในรอกโซ่ไฟฟ้าชนิดงานหนัก เพื่อความปลอดภัยสูงสุด
5. ง่ายในการปรับจุดหมุนฟรี เพียงการปรับเพียงเล็กน้อย



รุ่น	A	B	C	D	E	F	G	H
YA-80	53	91	122	290	23	36	15	268
YA-160	63	99	136	352	29	43	21	310
YA-320	82.5	104	180	411	36	53	28	310
YA-630	82.5	104	235	564	47	70	34	310
YA-900	82.5	104	300	689	73	85	47.5	310

รุ่น	ความสูงยก (T.)	ระยะยก (M.)	ขนาดโซ่ (MM.xPitch)	กำลังโยก (Kgf.)	ระยะห่างตะขอ (MM.)	น้ำหนักเครื่อง (Kg.)	Price
YA-80	0.8	1.5	5.6x(1)	30	290	6.0	CALL
YA-160	1.6	1.5	7.1x21(1)	30	352	9.2	CALL
YA-320	3.2	1.5	9.0x27(1)	37	411	15.5	CALL
YA-630	6.3	1.5	9.0x27(2)	38	564	26.5	CALL
YA-900	9.0	1.5	9.0x27(3)	39	689	42.0	CALL

VITAL Designed to Fit in the Palm of Your Hand

NICE LEVER NR2

0.25t-0.5t

(Petit)

Automatic free pulley requires no special release operation. Greatly improves work efficiency!

For plated parts, we use trivalent chromate treatment, which is environment friendly.

Nice Lever offers following exceptional features!

1.Automatic switching to free pulley mode.
Simply remove the load from the bottom hook and pull the chain to automatically switch to free pulley mode.
The winch automatically switches back to normal mode when a load is placed on the bottom hook.
Automatic switching greatly improves work efficiency.

2.Easy maintenance.
The free pulley mechanism has only a few parts, making disassembly and repair a quick and easy process.

3.Plated chain.
The winch chain is tough-pitch plated to prevent rusting and ensure continuous smooth operation.

For transportation and architectural work
For equipment installation work
For outside work
For use as emergency equipment

OPI

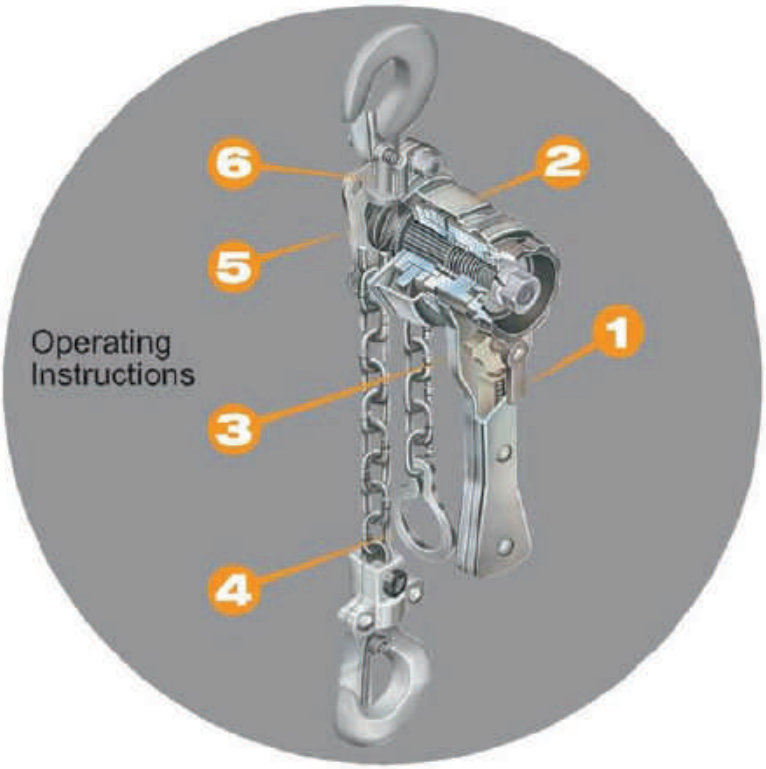
NICE LEVER NR2

0.25t-0.5t

petit

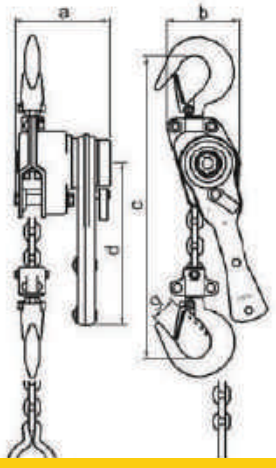
Product Reliability (The Vital Policy)

- All Vital Nice Levers use optimum,high quality material for the chain, hook, press and other sections, and are manufactured using the lates processing technologies.
- We carefully check each and every product before shipping.



Specifications

Model Number		NR2-03	NR2-05
Capacity	(t)	0.25	0.5
Standard Lift	(m)	1.0	1.5
Net Weight	(kg)	1.9	3.5
Min.Distance between Hooks	(mm)	230	260
Pull Required to Lift Full Load	(kgf)	30	34
	(N)	294	333
Chain thickness	(mm)	4.0	5.0
Dimension a	(mm)	85	108
Dimension b	(mm)	65	82
Dimension c	(mm)	230	260
Dimension d	(mm)	151.5	267
Dimension e	(mm)	24	27



Differences that make a difference!

1.Automatic Free Pulley Snapback

Just turn the switching lever to neutral (N) to put the winch in automatic free pulley mode, making it possible to easily adjust the chain length.
A patented mechanism means you don't have to keep your hand on the lever while the winch is in free pulley mode.

2.Completely Sealed Break Unit

With conventional systems, there is the danger of something hitting the brake lever and causing the load to drop.This can never happen with our completely sealed brake unit, not even rain and dust can get into the unit.

3.The Switching Unit Is Sealed inside the Lever Section

With the exception of the switching lever, all parts of the switching unit are sealed inside the lever section, completely out of sight, so dirt and dust can not get into the switching unit.

4.Steel Plates on the Chain Ends

The chain ends have symmetrical pear-shaped steel plates that resist bending even when overloaded, preventing dangerous chain slippage.

5.Sealed Body

The sealed body prevents rain and dirt from entering the which mechanism, ensuring smooth chain travel and an easy to hold design.

6.Easy Catch Hook

The end of the hook is directly connected to the winch body so that it does not move.
This makes it possible to attach the hook with one hand, elimnating the need to hold the hook and winch separately.

VITAL

NICE POWER!
NICE LEVER!

0.25t→9t
NICE LEVER
NR2

Automatic free pulley requires no special release operation. Greatly improves work efficiency! The best you'll find.

Nice Lever offers following exceptional features!

1.Automatic switching to free pulley mode.
Simply remove the load from the bottom hook and pull the chain to automatically switch to free pulley mode. The winch automatically switches back to normal mode when a load is placed on the bottom hook. Automatic switching greatly improves work efficiency.

2.Easy maintenance.
The free pulley mechanism has only a few parts, making disassembly and repair a quick and easy process.

3.Plated chain.
The winch chain is tough-pitch plated to prevent rusting and ensure continous smooth operation.

4.Locked chain release mechanism.
If the chain locks due to an impacting load, simply move the lever by hand to release the chain.

5.Knobbed hook.
The winch hook is equipped with an anti-slip knob. Even if the hook is stretched slightly, the wire rope catches on the anti-slip knob to prevent if from slipping off the hook, ensuring safe operation.

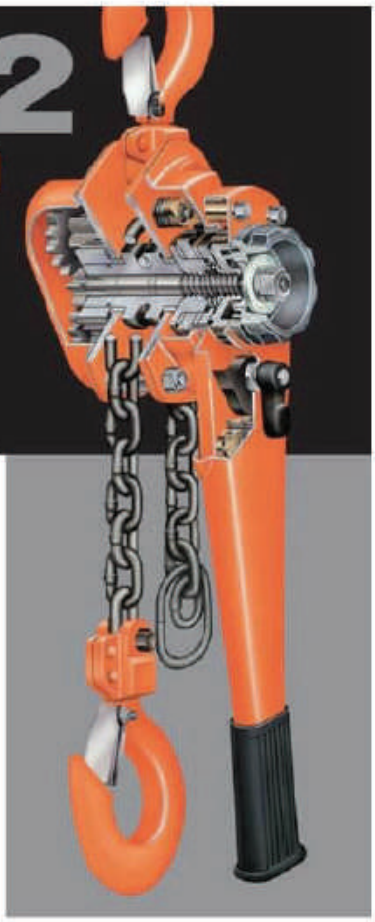
For plated parts, we use trivalent chromate treatment, which is environment friendly.

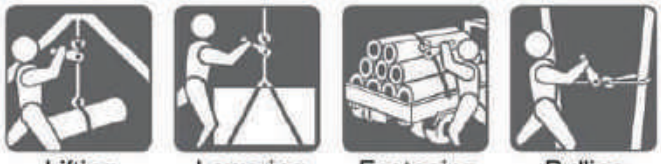
Patented Device

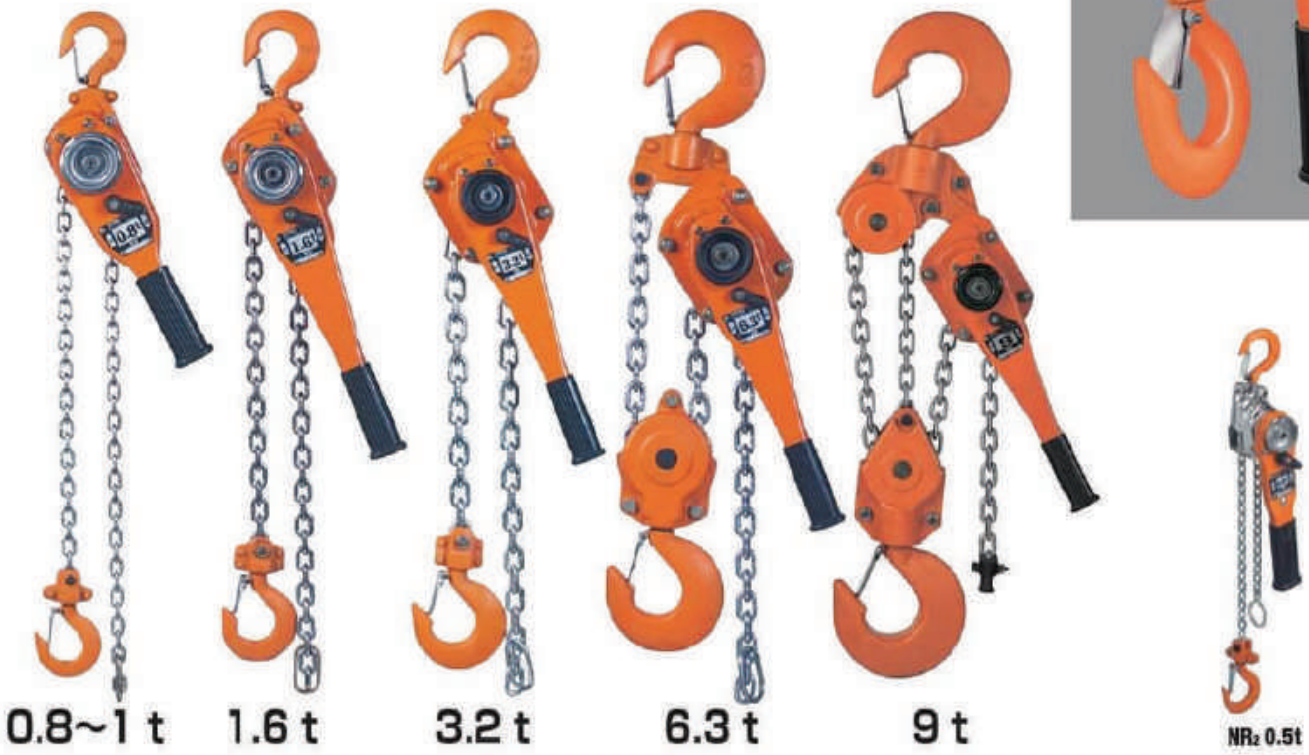
NICE LEVER NR2

Use it to Lift, Lower, Fasten, and pull

Use it for:
Loading a truck, centering building material at a construction site,
setting up or moving machinery and other heavy objects,
laying down drain pipes and hume pipes,
working in narrow spaces as in shipyards and mines.

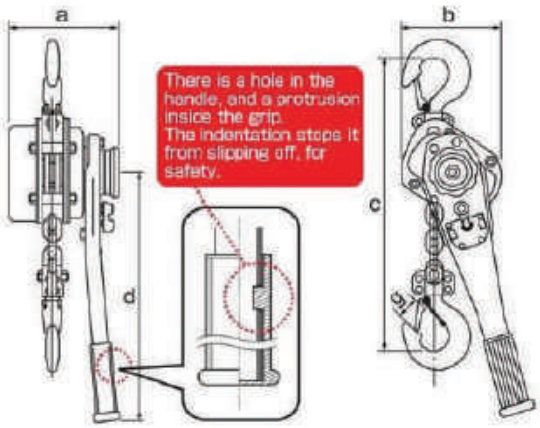






Specifications

Model Number		NR2-03	NR2-05	NR2-08	NR2-10	NR2-15	NR2-30	NR2-60	NR2-90
Capacity	(t)	0.25	0.5	0.8	1	1.6	3.2	6.3	9
Standard Lift	(m)	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Net Weight	(kg)	1.9	3.5	6.0	7.2	9.8	16.6	27.0	47.3
Min.Distance between Hooks	(mm)	230	260	295	325	350	425	565	660
Pull Required to Lift Full Load	(kgf)	30	34	21	23	27	38	39	40
	(N)	294	333	206	226	265	373	382	392
Chain thickness	(mm)	4.0	5.0	5.6	6.3	7.1	9.0	9.0	9.0
Dimension a	(mm)	85	108	146	146	161	195	195	195
Dimension b	(mm)	65	82	119	126	146	180	243	318
Dimension c	(mm)	230	260	295	325	350	425	565	660
Dimension d	(mm)	151.5	267	256	256	368	368	368	368
Dimension g	(mm)	24	27	27	30	34	43	47	67

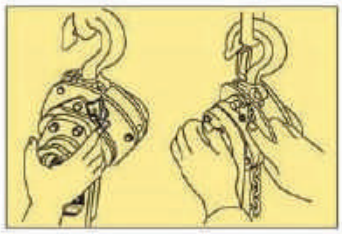



0.8t→6.3t
V LEVER
VR2
LEVER
Lever hoist
Light Weight, High Quality!
Lifting
Lowering
Fastening
Pulling
For plated parts, we use trivalent chromate treatment, which is environment friendly.
1.6t
VITAL

For Lifting, Lowering, Fastening and Pulling.

VITAL® LEVER Lever hoists V LEVER VR2

Idling operation:



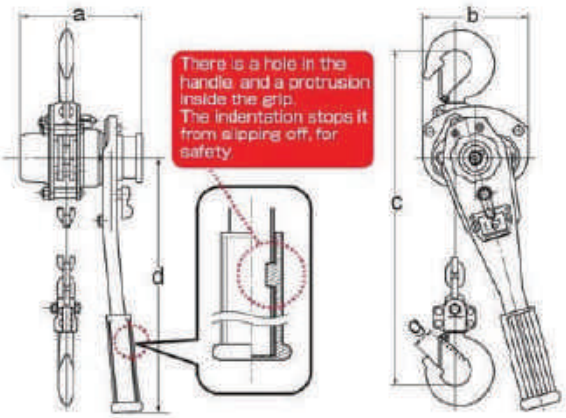
1. Depress the retaining pawl all the way down and pull the grip ring towards you.
2. The chain can be adjusted up and down by hand.
3. To terminate the idling, set the change lever in the down(⇩)position.(See diagram at right).
   Then, depressing the retaining pawl as far as possible, push the grip ring gently so as to let the pawl engage the outer edge of the retaining plate.
   Next, grip the grip ring and handle with a single hand and push them while turning them counterclockwise.
   The retaining pawl returns to its original position.

0.8 t 1 t 1.6 t 3.2 t 6.3 t

Specifications

Model Number			VR2-08	VR2-10	VR2-15	VR2-30	VR2-60
Capacity		(t)	0.8	1	1.6	3.2	6.3
Standard Lift		(m)	1.5	1.5	1.5	1.5	1.5
Net Weight		(kg)	6.9	7.1	9.7	16.3	26.7
Min Distance between Hooks		(mm)	295	310	335	405	550
Pull Required to Lift Full Load		(kgf)	15	20	18	38	39
		(N)	147	196	177	373	382
Chain thickness		(mm)	6.3	6.3	7.1	9.0	9.0
Dimension	a	(mm)	148	148	163.5	191	191
	b	(mm)	128	128	148	181	244
	c	(mm)	295	310	325	395	550
	d	(mm)	256	256	368	368	368
	e	(mm)	27	30	34	43	47

* Hoists with the life in other lengths are also available.



A powerful helper!

HIGH QUALITY

VITAL®

HAND CHAIN HOISTS

VH5

For plated parts, we use trivalent chromate treatment, which is environment friendly.

Moving products from one place to another

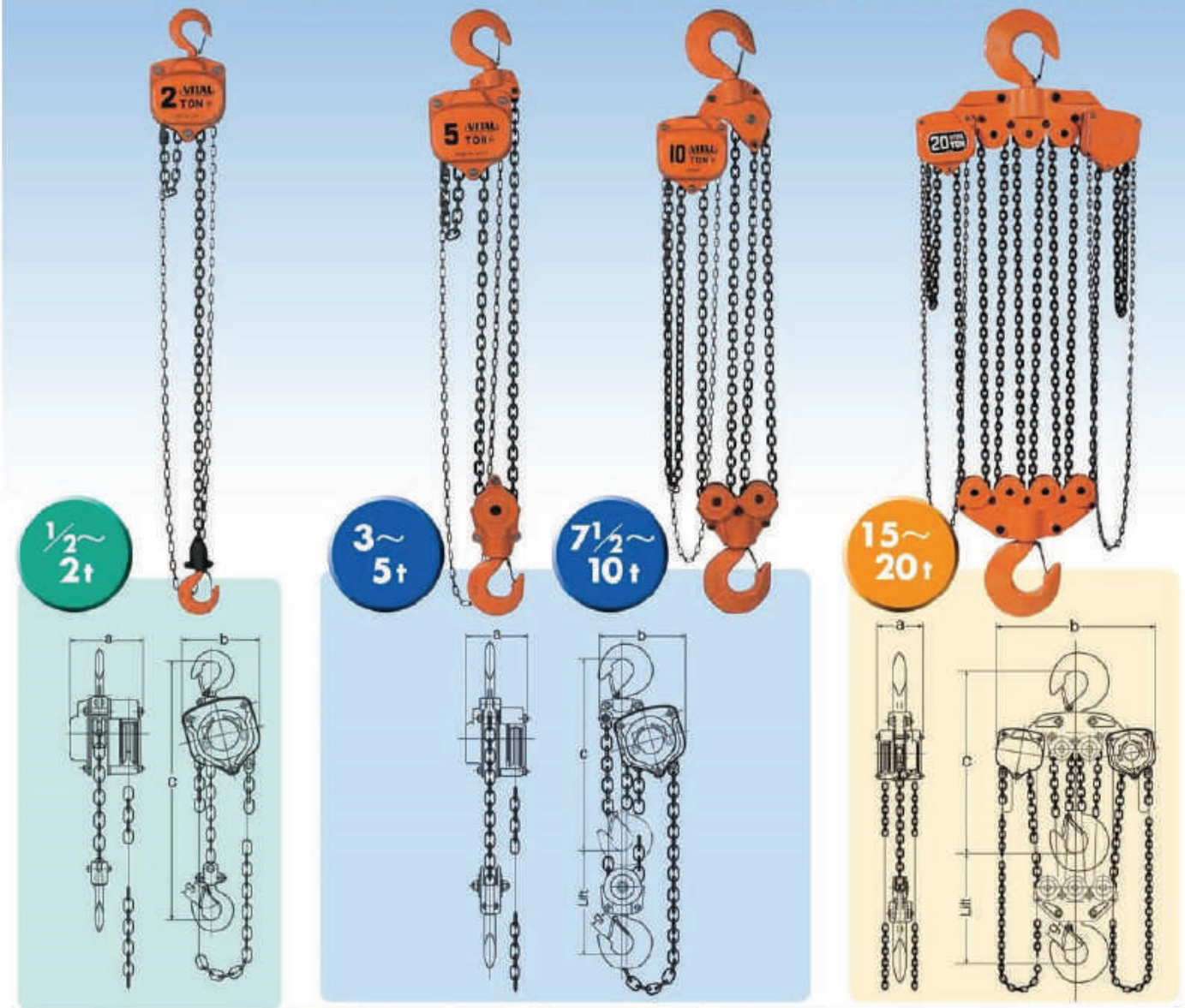
Uprooting trees

Installing under-water pump

Laying conduits and pipelines

All over the world!

VITAL CHAIN BLOCK VH5 Series.



Capacity (t)	Model Number	Standard Lift (m)	Net Weight (kg)	Gross Weight (kg)	Pull to Lift Load (kgf)	Pull to Lift Load (N)	Head Room c (mm)	a (mm)	b (mm)	g (mm)	Test Load (t)
½	VH5-05	2.5	8.6	9.0	25	245	305	129	145	27	0.75
1	VH5-10	2.5	11.5	12.0	33	324	345	149	158	30	1.5
1½	VH5-15	2.5	13.8	14.5	34	333	370	149	177	34	2.25
2	VH5-20	3.0	21.6	22.5	34	333	425	181	204	37	3.0
3	VH5-30	3.0	23.0	23.7	35	343	505	149	208	43	4.5
5	VH5-50	3.0	41.0	42.5	39	382	635	181	263	47	7.5
7½	VH5-75	3.5	60.5	68.0	41	402	740	181	354	67	9.5
10	VH5-90	3.5	78.0	85.0	41	402	760	181	367	67	12.5
15	VH5-92	3.5	150.0	174.0	41×2	402×2	850	209	730	84	18.75
20	VH5-93	3.5	190.0	220.0	41×2	402×2	870	209	858	84	25.0

Hoiste with the lift in other lengths are also available.
'VH' Series.....With a High-hardened special alloy steel load chain,

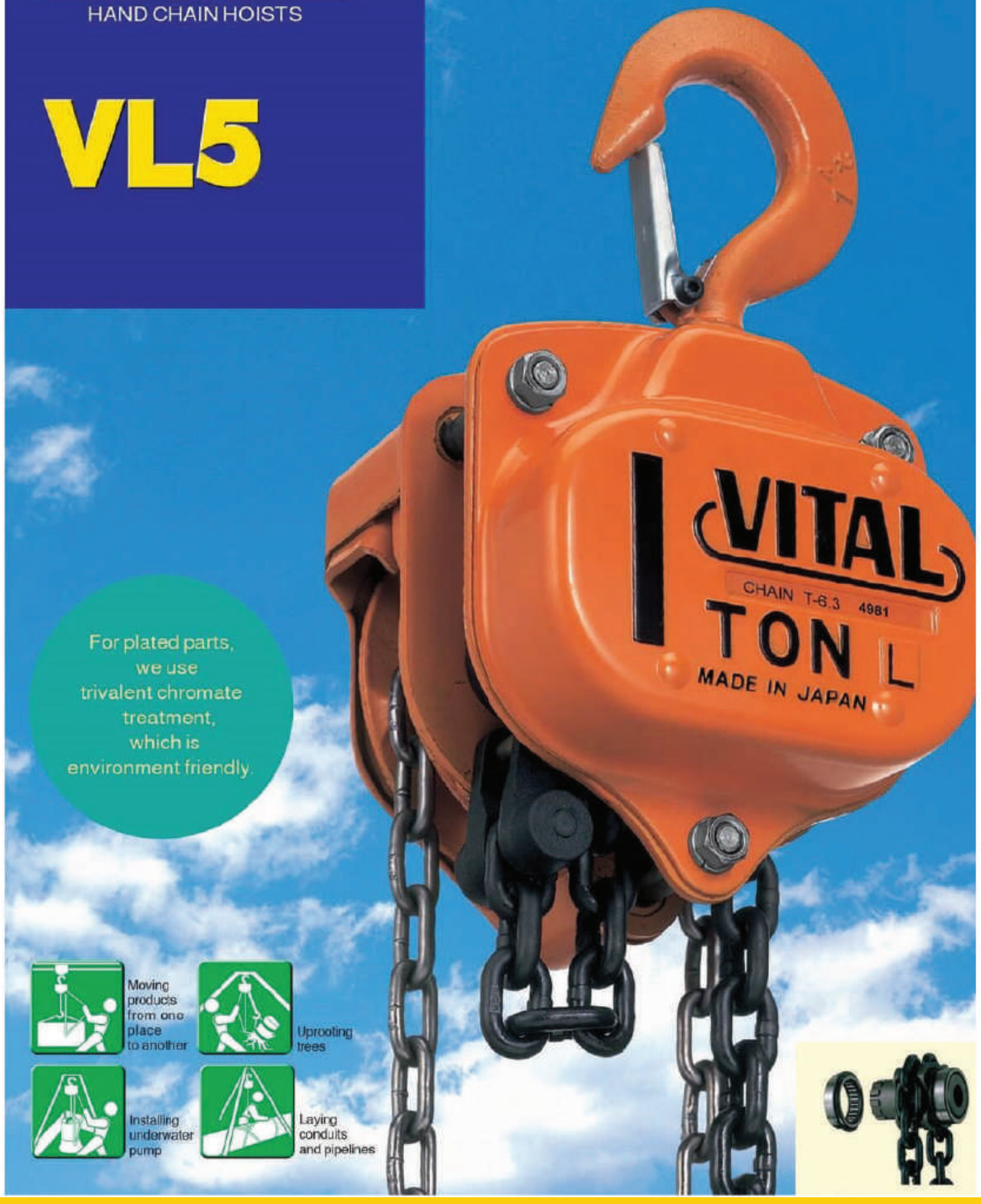
HIGH QUALITY

VITAL®

HAND CHAIN HOISTS

VL5

VL5 is the chain block of the wonderful performance.



For plated parts, we use trivalent chromate treatment, which is environment friendly.

Moving products from one place to another

Uprooting trees

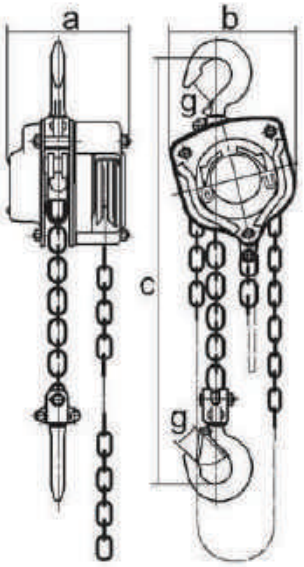
Installing underwater pump

Laying conduits and pipelines

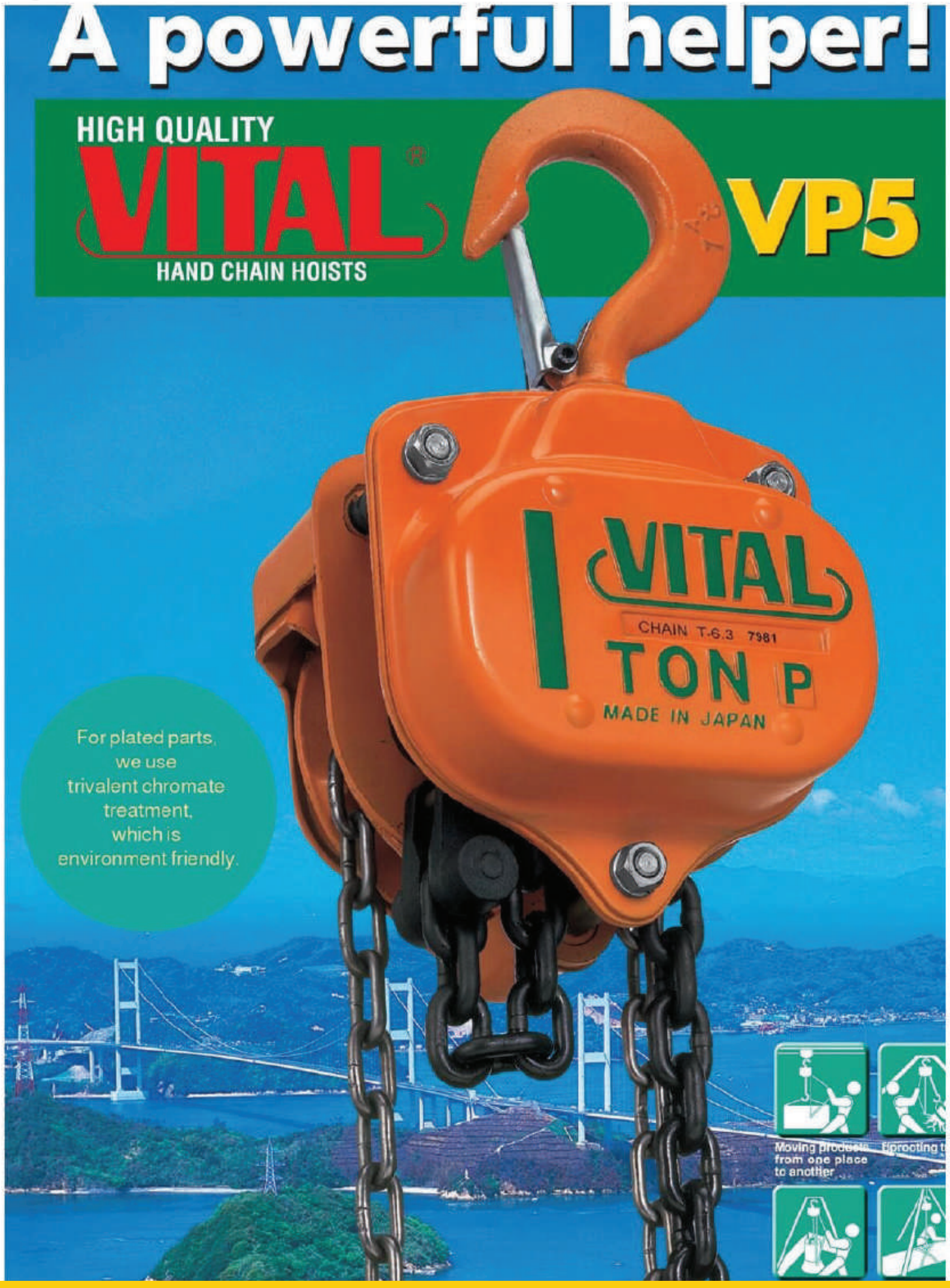
VITAL CHAIN BLOCK VL5 Series

Specifications

Capacity (t)	Model Number	Standard Lift (m)	Net Weight (kg)	Gross Weight (kg)	Pull to Lift Load (kgf)	Pull to Lift Load (N)	Head Room c (mm)	a (mm)	b (mm)	g (mm)	Test Load (t)
½	VL5-05	2.5	8.3	8.7	25	245	285	129	145	27	0.75
1	VL5-10	2.5	11.3	11.8	33	324	315	149	158	30	1.5
1½	VL5-15	2.5	13.5	14.0	34	333	340	149	177	34	2.25
2	VL5-20	3.0	21.0	22.2	34	333	380	181	204	37	3.0
3	VL5-30	3.0	22.0	22.7	35	343	475	149	208	43	4.5
5	VL5-50	3.0	40.0	41.5	39	382	600	181	263	47	7.5
7½	VL5-75	3.5	59.0	66.5	41	402	700	181	354	67	9.5
10	VL5-90	3.5	77.0	84.5	41	402	740	181	367	67	12.5



Hoists with the lift in other lengths are also available.


A powerful helper!
HIGH QUALITY
VITAL®
HAND CHAIN HOISTS
VP5
VITAL
CHAIN T-6.3 7981
1 TON P
MADE IN JAPAN
For plated parts,
we use
trivalent chromate
treatment,
which is
environment friendly.
Moving products
from one place
to another

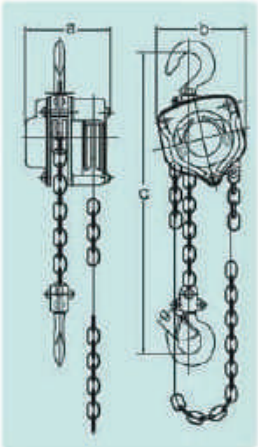
OPI

VITAL CHAIN BLOCK VP5 Series.

Specifications

Load Chain : With special alloy load chain.

Capacity (t)	Model Number	Standard Lift (m)	Net Weight (kg)	Gross Weight (kg)	Pull to Lift Load (kgf)	Pull to Lift Load (N)	Head Room c (mm)	a (mm)	b (mm)	g (mm)	Test Load (t)
½	VP5-05	2.5	8.3	8.7	25	245	285	129	145	27	0.75
1	VP5-10	2.5	11.3	11.8	33	324	315	149	158	30	1.5
1½	VP5-15	2.5	13.5	14.0	34	333	340	149	177	34	2.25
2	VP5-20	3.0	21.0	22.2	34	333	380	181	204	37	3.0
3	VP5-30	3.0	22.0	22.7	35	343	475	149	208	43	4.5
5	VP5-50	3.0	40.0	41.5	39	382	600	181	263	47	7.5



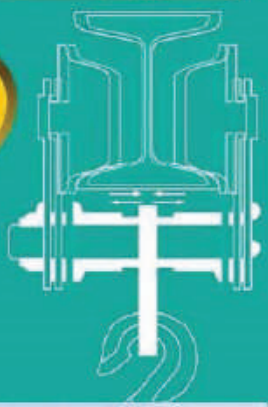
VITAL Safety Trolley

Strong, safe lateral load transportation! Freely adjusts to a wide-range of rail widths!

A-Type

- Can be adjusted to 9 types of rail widths.
- Extremely easy work-site installation.
- Uses high-quality sealed ball bearings.
- Compatible with I-beam and H-beam rails.
- Easily travels over minor rail surface irregularities.

Compatible with 9 types of rail widths!



Patented Design

AP Plain Trolley

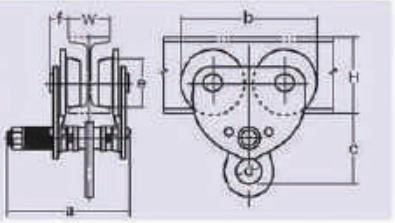
AG Geared Trolley

APD Plain Trolley (Drop Stop)

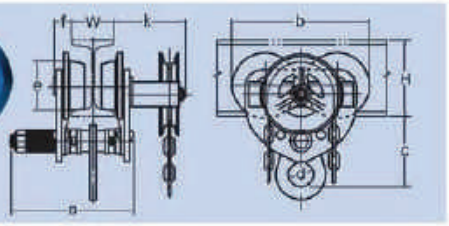
AGD Geared Trolley (Drop Stop)

Great for laterally transporting freight!

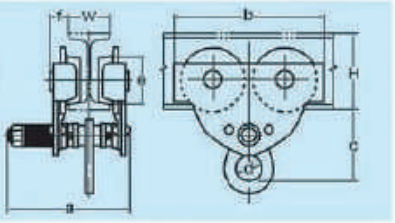
AP Plain Trolley



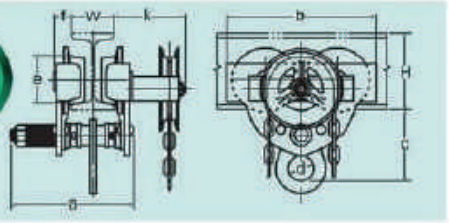
AG Geared Trolley



APD Plain Trolley (Drop Stop)



AGD Geared Trolley (Drop Stop)

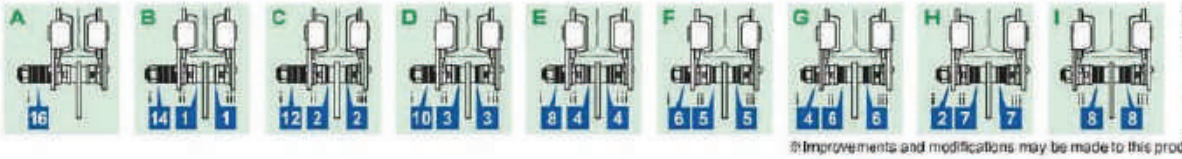


Type	Load Cap. (t)	Compatible Rail Size (mm) Width (W) min.	Width (W) max.	Height (H) min.	Height (H) max.	Dimensions (mm) a	b	c	d ϕ	e ϕ	f	k	min. Rotation Radius (mm)	N/W (kg)	Model Number
Plain Trolley															
AP	1/2	75	125	100	150	207	174	120	45	55	28.5	—	900	6.0	AP-05
	1	75	125	125	250	207	230	120	45	80	28.5	—	1300	10.0	AP-10
	2	100	150	150	400	241	271	155	60	100	33	—	1500	18.5	AP-20
	3	100	150	180	400	252	311	185	70	113	40.5	—	2000	27.0	AP-30
	5	125	175	250	450	284	351	220	80	125	42.5	—	2600	44.0	AP-50
	10	150	175	250	450	284	721	165	63	125	42.5	—	—	96.0	AP-90
APD	1/2	75	125	100	150	207	196	120	45	55	28.5	—	900	7.0	APD-05
	1	75	125	125	250	207	253.5	120	45	80	28.5	—	1300	10.8	APD-10
	2	100	150	150	400	241	300	155	60	100	33	—	1500	19.5	APD-20
	3	100	150	180	400	252	349	185	70	113	40.5	—	2000	30.0	APD-30
	5	125	175	250	450	284	395	220	80	125	42.5	—	2600	48.0	APD-50
	10	150	175	250	450	284	795	165	63	125	42.5	—	—	100.0	APD-90
Geared Trolley															
AG	1	75	125	125	250	207	230	120	45	80	28.5	108	1300	14.0	AG-10
	2	100	150	150	400	241	271	155	60	100	33	109.5	1500	23.5	AG-20
	3	100	150	180	400	252	311	185	70	113	40.5	113	2000	33.5	AG-30
	5	125	175	250	450	284	351	220	80	125	42.5	113	2600	53.5	AG-50
	10	150	175	250	450	284	721	165	63	125	42.5	113	—	101.0	AG-90
AGD	1	75	125	125	250	207	253.5	120	45	80	28.5	108	1300	15.0	AGD-10
	2	100	150	150	400	241	300	155	60	100	33	109.5	1500	25.0	AGD-20
	3	100	150	180	400	252	349	185	70	113	40.5	113	2000	35.9	AGD-30
	5	125	175	250	450	284	395	220	80	125	42.5	113	2600	57.6	AGD-50
	10	150	175	250	450	284	765	165	63	125	42.5	113	—	105.0	AGD-90

Adjusting the Trolley for the Rail Size

Load Capacity (t)	Washer Combination Category Corresponding to Rail Width (W) (mm) (See drawings below.) (min.) A	B	C	D	E	F	G	H	(max.) I
1/2	75	81.3	87.5	93.8	100	106.3	112.5	118.8	125
1	75	81.3	87.5	93.8	100	106.3	112.5	118.8	125
2	100	106.3	112.5	118.8	125	131.3	137.5	143.8	150
3	100	106.3	112.5	118.8	125	131.3	137.5	143.8	150
5	125	131.3	137.5	143.8	150	156.3	162.5	168.8	175
10	150	156.3	162.5	168.8	—	—	—	—	175

Measure the rail width. Locate the rail width in the row corresponding to the trolley size to find the washer combination category (A to I) for that trolley size. Then refer to the illustration corresponding to the washer combination category for the number of washers and washer placement needed to adjust the trolley size. (See the separate table for 10-ton trolleys.)



Washer combinations for 10-ton trolleys.

	I	II	III
A	8	0	0
B	6	1	1
C	4	2	2
D	2	3	3
I	0	4	4

※Improvements and modifications may be made to this product without notification.

坤溢企業®
KYEC

連續型安全輸電軌道
Safe Power Rails

適用於：吊車系統．自動倉儲．遊樂場供電．生產測試系統

OPI

KYEC

公司簡介：

連續性安全電軌，在公司已累積有35年的生產技術經驗，經驗就是信心。

本公司自1974年創立以來，即秉持著技術、服務、可靠的理念，專業從事吊車修理及相關工程改善，並因屢次的零件取得不易，受制於國外的價格，且進口費時，故致力於零組件之生產及改良，而有幸榮獲多項專利，並將之標準化、本土化，目標是一律以現貨供應，縮短工程備料時間，回饋業界。

據知，德國自1912年即開始使用安全電軌，更鑑於裸銅線的安全性差，開始著手研發，進而量產60A～150連續性軌道，現已擴充至800A規格，深獲業界的支持與愛護。

連續性安全電軌，永不斷電，以無氧銅輸送電源、壓降小、導電率佳；且適用於曲線及高低行走的設計，在自動化生產的行列中，絕對是供電系統最佳的選擇。

業界的支持與肯定，是公司繼續研究發展的原動力及努力的進而於2000年通過ISO 9001認證，讓我們一起為各位提供安全性與自動化的相關工程服務。

坤溢企業有限公司
譚中雄　暨全體員工上

INTRODUCTION :

Being specialized in hoist repair and related engineering innovation, we provide our customers with excellent services backed up by persistent devotion, responsibility and advanced technology. In order to overcome the difficulties that we have deen confronted with during part importing, we are dedicating ourselves to the production and innovation of parts and components Also, we have obtained numerous patents approved either by the ROC of overseas countries. We supply our customes with readily available engineering materials and technical assistance to shorten your preparation time.

Power Rails

Knowing that Germany has been using safe power rails since 1912 and bare conductor simply doesn't guarantee safety, we began to research, develop, and then mass produce 60-150 amp continuous rails, and have been highly recommended by our business partners.

With support and affirmation from our customers, we will continue our research and development work, offering our clients safe and automated engineering services.

With five years of experience in manufacturing continuous safety power rails, we feel confident that we will achieve more in the industry than what we have accomplished so far.
Featuring never running out of power, our continuous safety power rails conduct electrialty transmission through oxygen-free copper with high conductivity and little pressure drop, suitable for either curve or high/low path design. We believe that our products are the best cnoice for power supply systems in the automated production industry.

附記：
進口的鐵，要比國內的銅導電率，要好嗎？

評論：
這怎麼可能，翻開電工法則，導電材料物理性質，鐵的導電率爲17%銅爲99%無氧銅更可達99.99%，莫非應證了外國的月亮比較圓，瓢洋過海就等於鍍金，價值非凡。其實大家都知道台灣無開採價值的銅礦，根本銅就是進口的，也算是瓢洋過海，故聰明的業主做工程設備決策時，請別忽視您知的權益，比價、比料、比材質、導體銅的厚薄度，更比施工品質，及廠商信譽，指定品牌KYEC，可確保品質水準及您的權益。

銅單線安全載流量表

直徑(mm)	安全載流量(A)			直徑(mm)	安全載流量(A)		
	棒	第一第二種	第三第四種		棒	第一第二種	第三第四種
1.0		12	8	3.5	91	65	40
1.2		15	10	4.0/7.0	110	80	50
1.4		18	12	4.5	125	90	55
1.6	30	21	14	5.0	140	100	65
1.8	34	25	16	5.5/7.0	170	105	75
2.0	41	30	20	6.0/7.0	190	130	90
2.3	52	35	25	6.0/8.0	210	140	100
2.6	61	45	30	10.0/8.0	260	200	145
2.9	77	45	32	10.0/9.0	300	220	165
3.2	81	50	35	12.0	450	300	210

註：第一種即常用配線　第二種即管線裝線
第三種即管線單條裝線　第四種即管線多條裝線

規格安全載流量表

線徑(mm²)	導線根數 / 每根直徑	安全載流量(A)
5.5	84/0.26	30
3.5	84/0.23	20
2.0	56/0.18	15
1.4	56/0.15	12
0.9	36/0.15	8

壹：選用何種安培數 General technical information

一、總負載電流量 I_G：Total Currents [A.]

①負荷的全載電流量I: 50A. down以下　$I_G = I \times 1.25up$以上〔A.〕
負荷的全載電流量I: 50A. up以上　$I_G = I \times 1.1up$以上〔A.〕

三相交流三相電動機之全載電流表
I: Motor nominal Currents〔A〕

電動機型式	標準籠型感應電動機 (Amp)					同步型 (Amp)			
V / P	110V	220V	440V	550V	2300V	220V	440V	550V	2300V
1/2	4	2	1	0.9					
3/4	5.8	3.3	1.4	1.1					
1	7	3.8	1.8	1.4					
1 1/2	10	5	2.5	2.0					
2	12	6.5	3.2	2.5					
3		9	4.5	4					
5		15	7.5	6					
7 1/2		22	11	8					
10		27	14	11					
15		40	20	16					
20		52	26	21					
25		64	32	25	7	54	27	22	6.4
30		76	38	31	8.5	65	33	26	6.5
40		104	52	41	11.5	90	45	35	8
50		125	63	50	13	108	54	44	10
60		150	75	60	16	128	64	51	12
75		190	92	74	19	161	81	65	15
100		248	123	99	25	211	106	85	20
125		313	155	124	31	267	132	106	25
150		360	180	144	37		158	127	30
200		480	240	192	48		210	165	40

註：1.額定電壓為208及380者可選220V之相當值各增加百分之5及10的負載。
2.交流功率因數為0.9及0.8者，上表有關數值應分別乘以1.1及1.25倍。
3.線數超過6根，及起動轉矩特別大者其冬載電流大於本表之標準值，以銘牌之標示值為準。
4.換線自電工法則p.14。

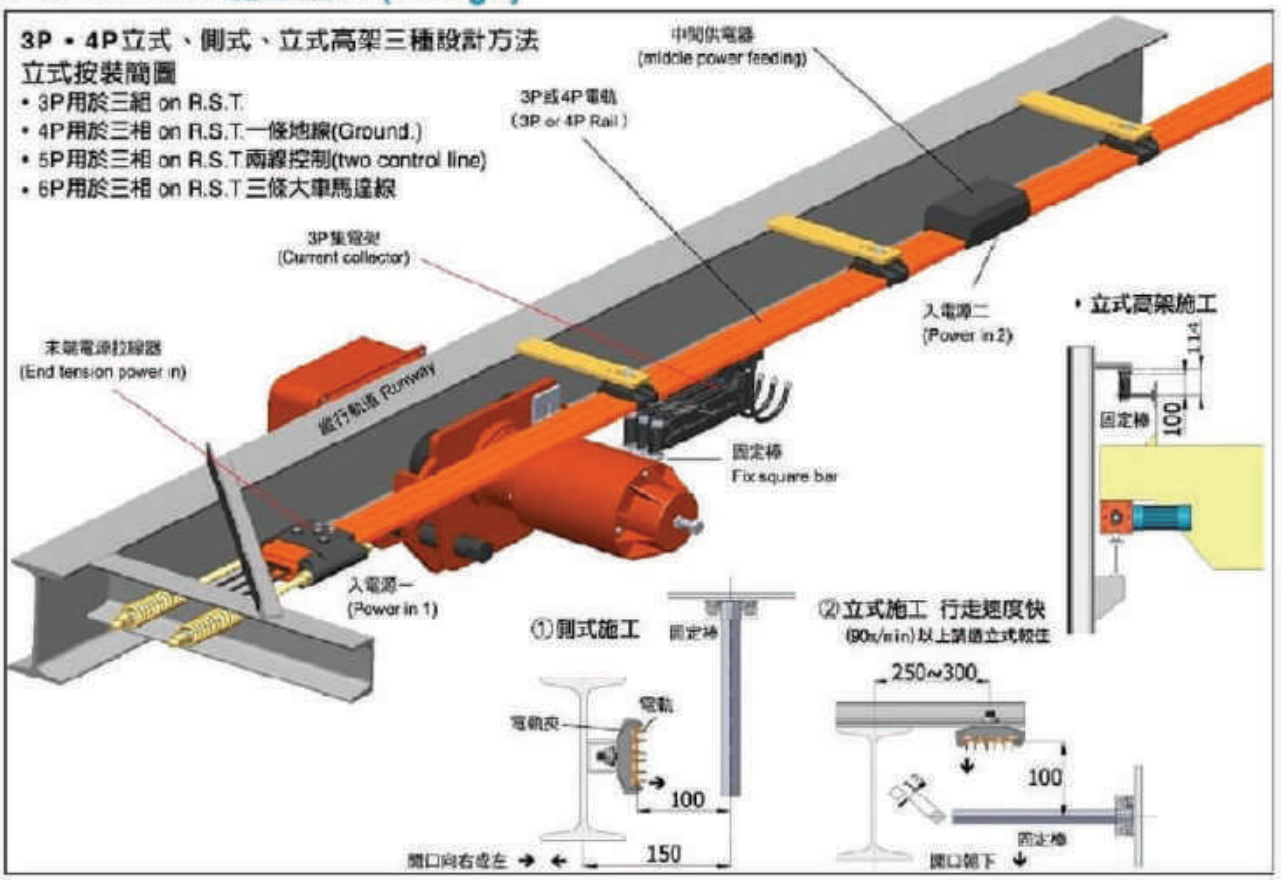
安培容量
磁珠磁夾板配線（依絕緣物溫度）之安培容量表（周溫35℃以下）

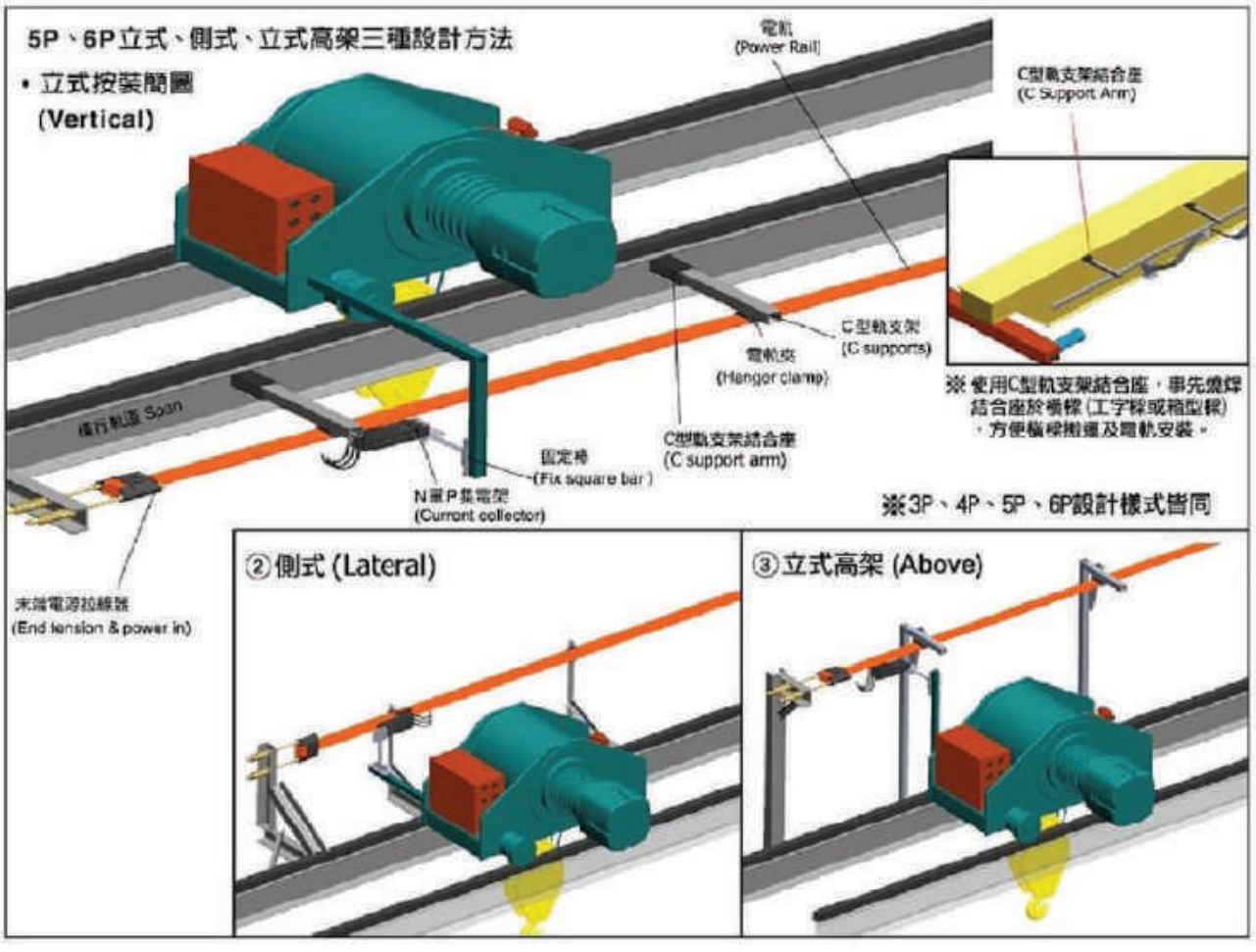
線別	銅導線 公稱截面積(mm2)	根數 / 直徑(mm)	60℃ 絕緣物	75℃ 絕緣物	80℃ 絕緣物	90℃ 絕緣物
			安培容量(A)			
單線		1.6	20			
		2.0	30			
		2.6	40			
絞線	2.0	7/0.6	20			
	3.5	7/0.8	30			
	5.5	7/1.0	40			
	8	7/1.2	55	65	70	80
	14	7/1.6	80	95	100	110
	22	7/2.0	100	125	135	145
	30	7/2.3	125	150	160	170
	38	7/2.6	145	180	190	205
	50	19/1.8	175	210	220	245
	60	19/2.0	200	240	250	260
	80	19/2.3	230	285	300	330
	100	19/2.6	270	330	350	360
	125	19/2.9	310	380	400	440
	150	37/2.3	360	440	460	505
	200	37/2.6	425	520	550	600
	250	61/2.3	505	615	650	600
	325	61/2.6	590	720	760	650
	400	61/2.9	680	825	870	955
	500	61/3.2	785	930	985	1,080

②依照計算出來的總負荷電流量IG
選擇使用下列安全電軌 3p. 4p. 5p. 6p —90A. 200A
工字型 —150A.
W型 —120A. 320A. 500A. 800A

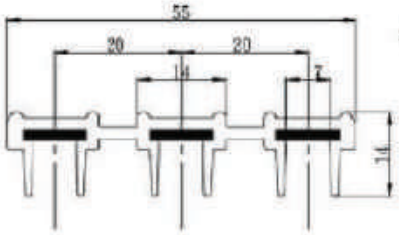
二、電壓降△U的計算：
$\triangle U = \sqrt{3} \cdot \ell \cdot IG$（請參照W型目錄p.3）

3P&4P&5P施工設計 (Design)





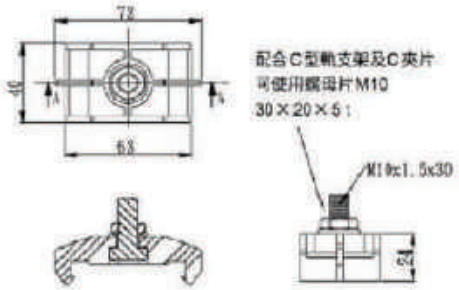
3P安全電軌零件圖 Parts Diagram



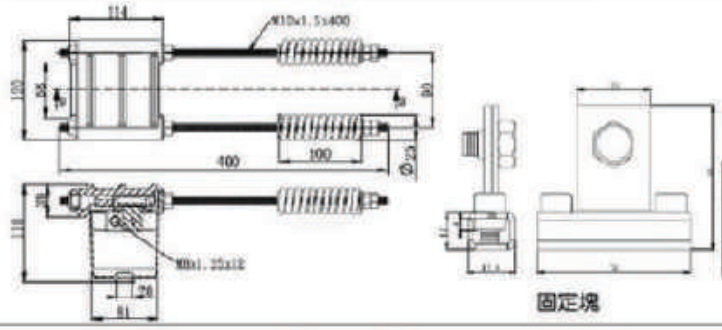
無氧銅99.9 %Cu以上含銅量
100 %以上導電率(Good Conductor rate)
(依CNS 273-H2010規範)

三合一電軌 Three in one

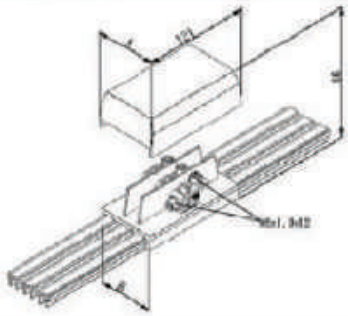
料號	安培容量 (A)	厚度 (mm)	寬度 (mm)	重量 (Kg/m)
KY-AN3007	75	2	10	0.8
KY-AN3010	100	2.8	10	1.03
KY-AN3015	150	3	10	1.14



KY-AN3100
3P電軌夾
Hanger clamp
0.075 kg / 只

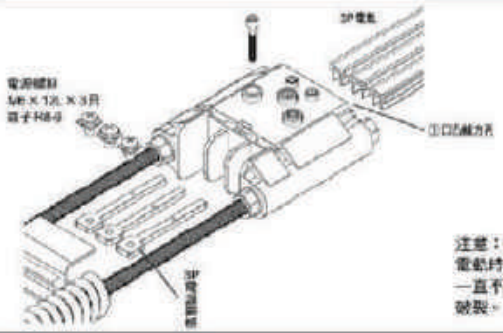


KY-AN3200
3P末端電源拉線器
End tension & Power in
舊型要剝皮
1.73 kg / 支



型式 \ 尺寸	A	B
3P	70	62
4P	90	82
6P	130	122

KY-AN3300
3P中間供電器(接頭)
Middle power feed-in
0.21 kg / 只

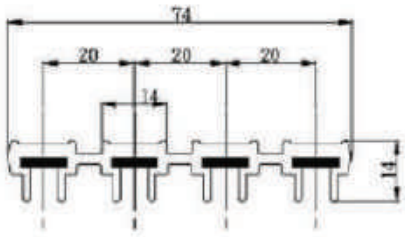


安裝步驟：
1.將電軌由①凸緣方孔插入到底。
2.電軌定位螺絲鎖緊固定拉盒電軌。
3.電源線夾緊端子，鎖上電源銅板即完成。

注意：電軌定位螺絲下旋，碰到電軌時再下旋2圈半即可，切勿一直不停下旋，開口會撐壞基座破裂。

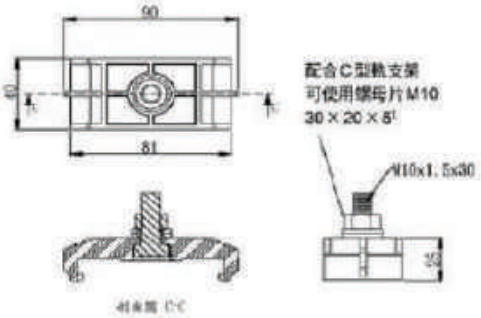
KY-AN3200N
免剝皮3P拉線器
End tension & Power in
1.5 kg / 支

4P安全電軌零件圖Parts Diagram

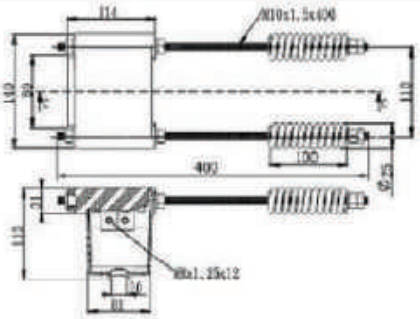


集軌銅99.9%Cu以上含銅量
100%以上導電率(Good Conductor rate)
依CNS 273-H2010規範)

四合一電軌 Four in one				
料號	安培容量 (A)	厚度 (mm)	寬度 (mm)	重量 (Kg/m)
KY-AN4007	75	2	10	1.1
KY-AN4010	100	2.8	10	1.4

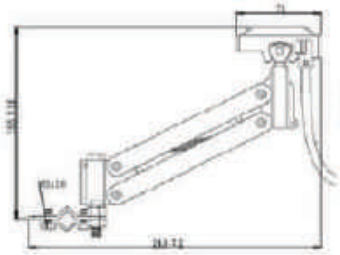


KY-AN4100
4P電軌夾
(Hanger Clamp)
0.083 kg / 只

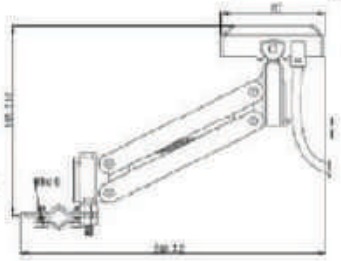


KY-AN4200
4P末端電源拉線器
End Tension & Power in
1.74 kg / 支

KY-AN3703 30Amp

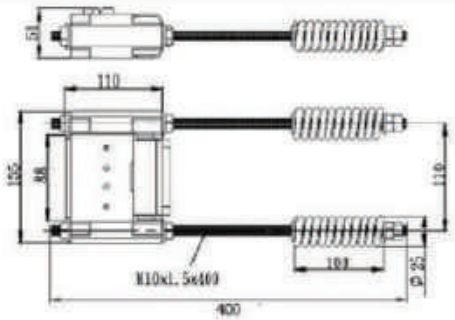


KY-AN3706 60Amp



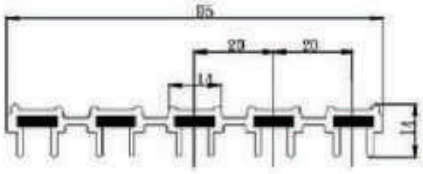
※N雙臂集電架較
N單臂集電架
1.耐用、結構強
2.靈活、裕度大

KY-AN3703
KT-AN3706
N雙臂集電器
Current Collector
0.24 kg / 支
0.27 kg / 支



KY-AN4200N
4P免剝皮拉線器
End Tension & Power in
1.28 kg / 支

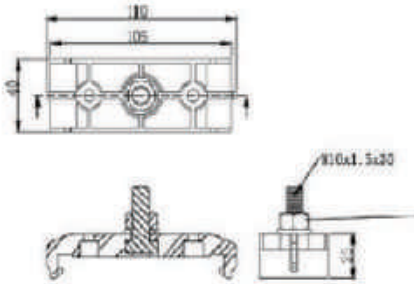
5P安全電軌零件圖 Parts Diagram



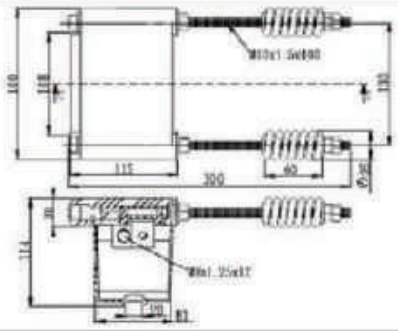
無氧銅99.9%Cu以上含銅量
100%以上導電率(Good Conductor rate)

五合一電軌 Five in one				
料號	安培容量 (A)	厚度 (mm)	寬度 (mm)	重量 (Kg/m)
KY-AN5010	100	2.8	10	1.7

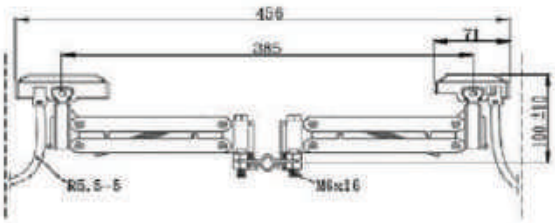
※5P中間供電器(接頭)與6P共用



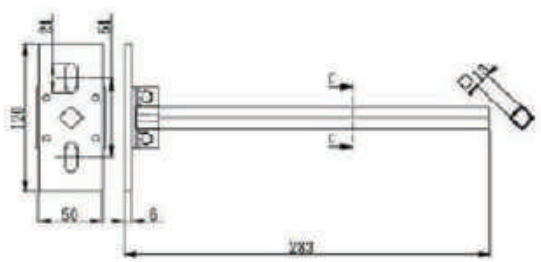
KY-AN5100
5P電軌夾
(Hanger Clamp)
0.09 kg / 只



KY-AN5200
5P末端電源拉線器
End Tension &
Power in
1.75 kg / 支

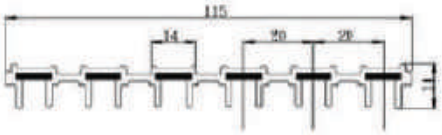


訂製品
N雙臂雙支組
集電架



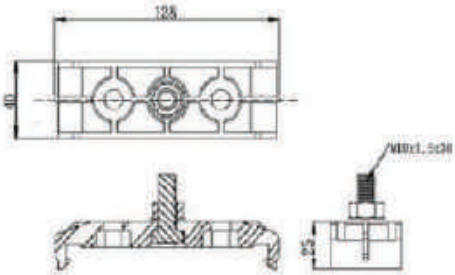
KY-AN3800
N單P固定桿
(Fix square bar)
0.7 kg / 支

6P安全電軌零件圖 Parts Diagram



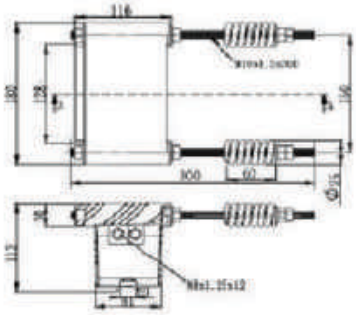
無氧銅99.9 %Cu以上含銅量
100 %以上導電率(Good Conductor rate)

六合一電軌 Four in one				
料號	安培容量 (A)	厚度 (mm)	寬度 (mm)	重量 (Kg/m)
KY-AN6007	75	2	10	1.64
KY-AN6010	100	2.8	10	2.05

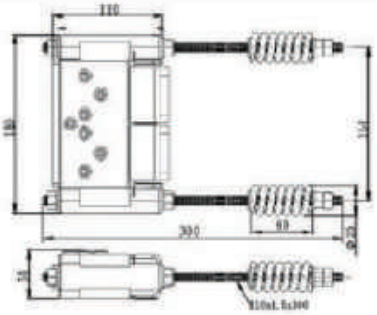


配合C型軌支架
可使用螺母片M10
30×20×5t

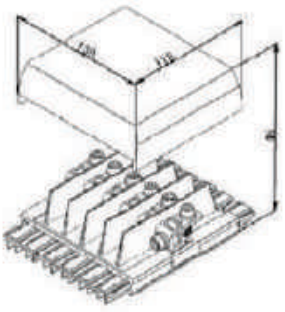
KY-AN6100
6P電軌夾
(Hanger Clamp)
0.1 kg / 只



KY-AN6200
6P末端電源拉線器
End Tension & Power in
1.9 kg / 支

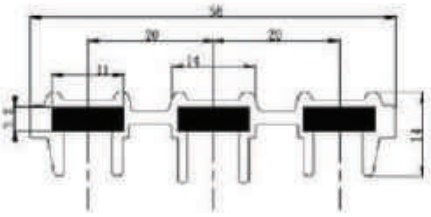


KY-AN6200N
6P免剝皮拉線器
End Tension & Power in
1.9 kg / 支



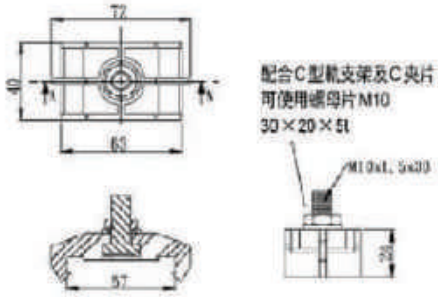
KY-AN6300
6P中間供電器(接頭)
End tension & Power in
0.38 kg / 支

3P 200A零件圖Parts Diagram



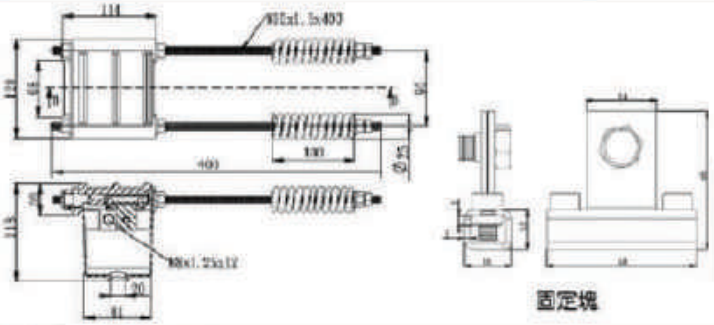
無氧銅99.9%Cu以上含銅量
100%以上導電率(Good Conductor rate)
(依CNS 273-H2010規範)
3.8t厚×11寬
斷面積41.8mm²

KY-AN3020
三合一電軌
Three in one
1.42 kg / M



配合C型軌支架及C夾片
可使用螺母片M10
30×20×5t

KY-AN3120
3P電軌夾
Hanger clamp
0.075 kg / 只



固定塊

KY-AN3220
3P末端電源拉線器
End tension &
Power in
1.75 kg / 支

電軌測試結果報告書

測試項目	材質	測試內容(R/M)		測試內容(V)		端點壓降(V/M)	220V/100M壓降率	溫度℃	備註
W型電軌800A	鋁	電阻係數	0.000100	耐壓	6KV × 30min	0.08	3.6%	23	
W型電軌500A	鋁	電阻係數	0.000107	耐壓	6KV × 30min	0.054	2.5%	23	
W型電軌320A	鋁+紅銅	電阻係數	0.000184	耐壓	6KV × 30min	0.059	2.7%	23	
3P電軌100A	紅銅	電阻係數	0.000630	耐壓	6KV × 30min	0.057	2.6%	23	
3P電軌100A	紅銅+白鐵	電阻係數	0.000512	耐壓	6KV × 30min	0.047	2.1%	23	
3P電軌75A	紅銅	電阻係數	0.000882	耐壓	6KV × 30min	0.066	3.0%	23	

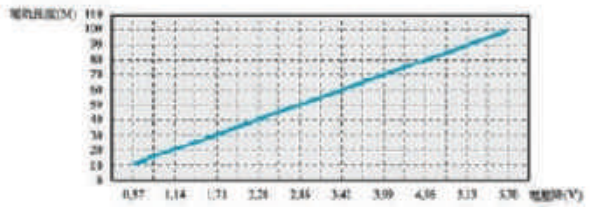
量測機構：工業技術研究院(量測中心)
測試儀器請參照附件

製造廠及型號：
ESI 242P
KIKUSUI TOS-5700
TAMA-TDV-20ADS

儀器名稱：
PRECISION RES. MEASUREMENT SYSTEM
WITHTAND ING VOLTAGE TESTER
HIGH VOLTAGE DIGITAL METER

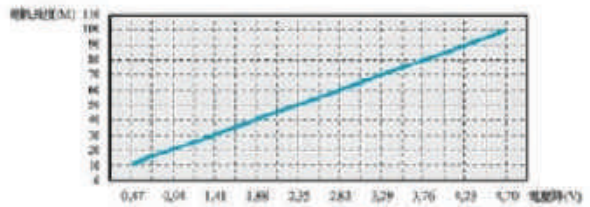
3P 100A(銅)

長度(M)	10	20	30	40	50	60	70	80	90	100
電壓降(V)	0,57	1,14	1,71	2,28	2,85	3,42	3,99	4,56	5,13	5,70

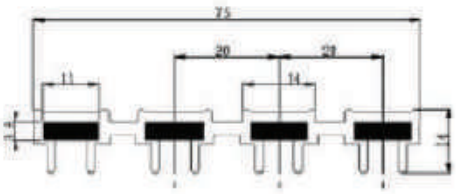


3P 100A(日鐵)

長度(M)	10	20	30	40	50	60	70	80	90	100
電壓降(V)	0.47	0.94	1.41	1.88	2.35	2.82	3.29	3.76	4.23	4.70

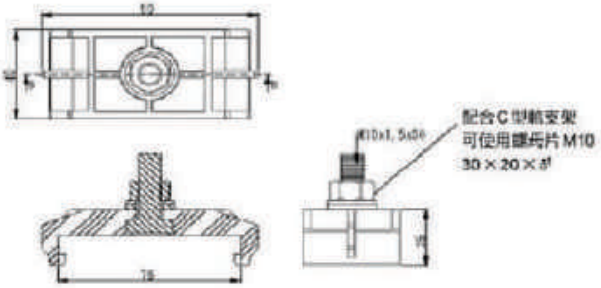


4P 200A零件圖Parts Diagram

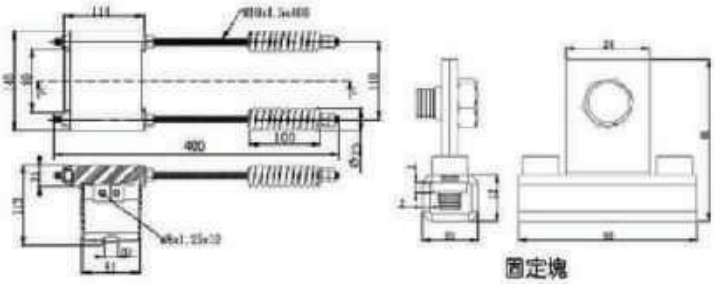


無氧銅 99.9%Cu以上含銅量
100%以上導電率(Good Conductor rate)
(依CNS 273-H2010規範)
3.8t厚 × 11寬
斷面積41.8mm²

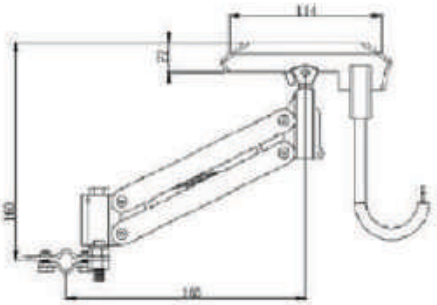
KY-AN4020
四合一電軌
(Four in one)
1.9 kg / M



KY-AN4120
4P電軌夾
Hanger clamp
0.083 kg / 只



KY-AN4220
4P末端電源拉線器
End tension &
Power in
1.75 kg / 支



KY-AN3710
N雙臂集電器 100A
Current Collector

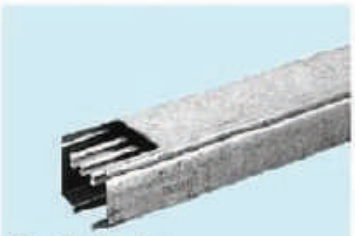
KY-AN4300
4P中間供電器(接頭)
End tension &
Power in
0.34 kg / 只

※可配合另一含碳刷之集電器，組成雙支組，移動清潔電軌

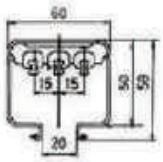
清潔刷
訂製品

盒型安全電軌　鐵殼本體

耐高溫



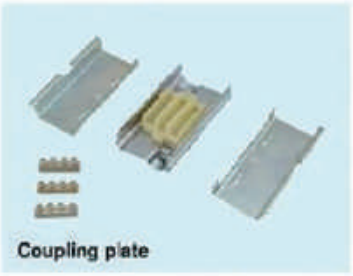
Straight line duct



KY-D3003 (6133)
ND3P盒型電軌
3 kg / M

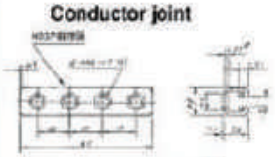
KY-D3702 (6175)
ND3P集電滑車 20A
0.7 kg / 只

Trolley 3P20A



Coupling plate

Conductor joint



KY-D3500(61331)
ND3P電軌接頭
0.3 kg / 只

KY-D3704(6276)
ND3P集電滑車 40A
0.8 kg / 只

Trolley 3P40A

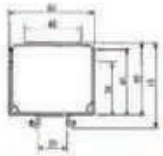
Hanger

KY-D3100(6111)
ND3P電軌吊夾
0.3 kg / 只

KY-D3600(6117)
ND3P滑車撥桿

Trolley-pulling bracket

End cap

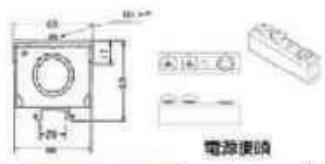


KY-D3201(6112)
ND3P電軌末端蓋
0.4 kg / 只

K-YD3001(6001)
ND3P滾動電刷
KY-D3902(6102)
ND3P集電刷 20A
KY-D3904(6104)
ND3P集電刷 40A

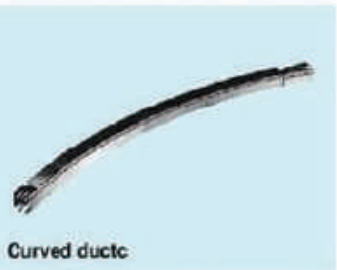
Trolley collectors

Feed-in boxs



KY-D3200(6173)
ND3P末端入電盒
1.2 kg / 只

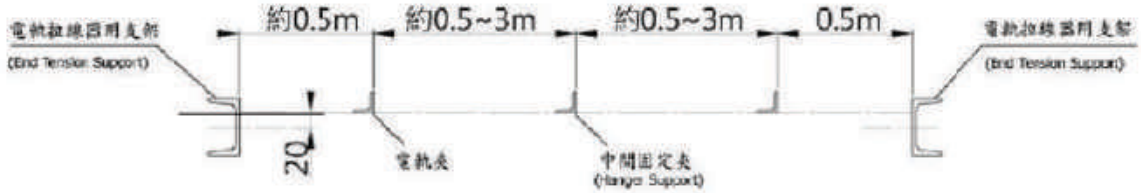
特殊定製品
水平彎曲電軌



Curved ductc

3P、4P、5P、6P施工圖Working Diagram

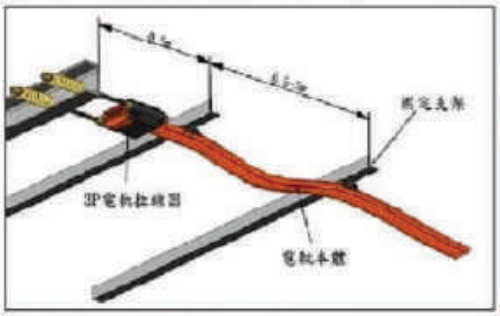
第一步　按裝設計 (Supports design)



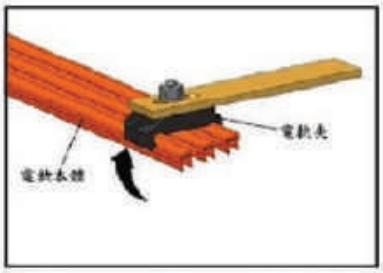
附註：• 3P、4P、5P、6P電軌配有弧度時，必須採用側式施工。
• 在轉彎處起點開始算，每0.5M配一只電軌夾。

• 3P、4P、5P、6P電軌拉線器架設須比電軌夾高約5mm以防水順電軌而下至電源拉線器處，造成短路現象。
★註：拉線器與電軌接合處應塗上矽膠
★3P、4P、5P、6P、7P電軌不適用於室外或酸鹼成份高之場所，易短路。

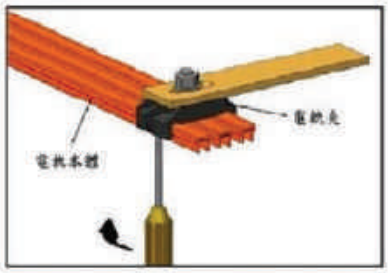
第二步　末端拉線器按裝 (End tension & power in parts)　＊於地面先裝好一端
第三步　電軌夾部分 (Set, Hanger clamp)



• 電軌本體一邊對準電軌吊夾向上推進即可完成
• 若電軌裝上如要拆下時，利用一平口起子，在電軌夾兩側凹槽處輕輕往起即可。

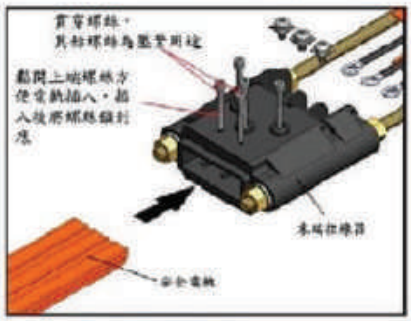


• 電軌本體一邊對準電軌吊夾向上推進即可完成

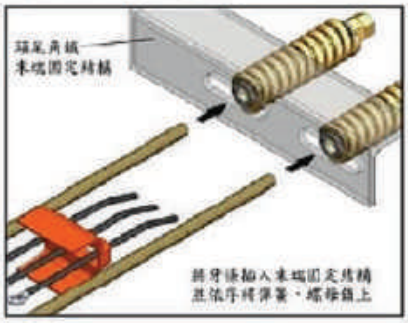


• 若電軌裝上如要拆下時，利用一平口起子，在電軌夾兩側凹槽處輕輕往起即可。

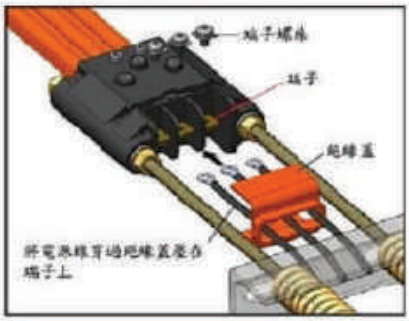
第四步　末端拉線器按裝 (End tension & power in parts)　＊待上好電軌，再行按裝另一端



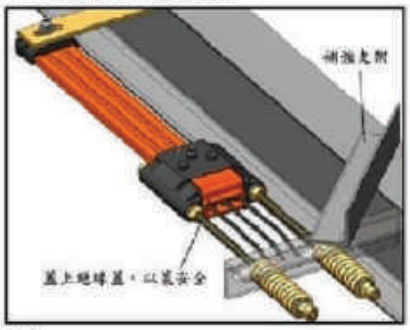
4-1 以3P電軌作為安裝範例



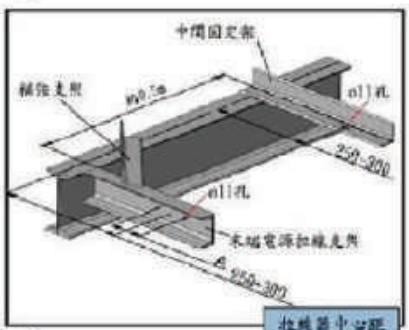
4-2



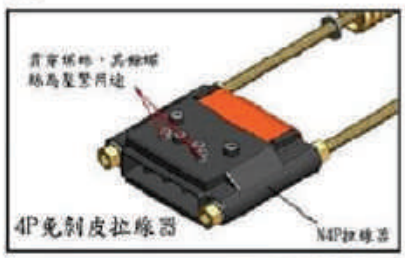
4-3



4-4



4-5

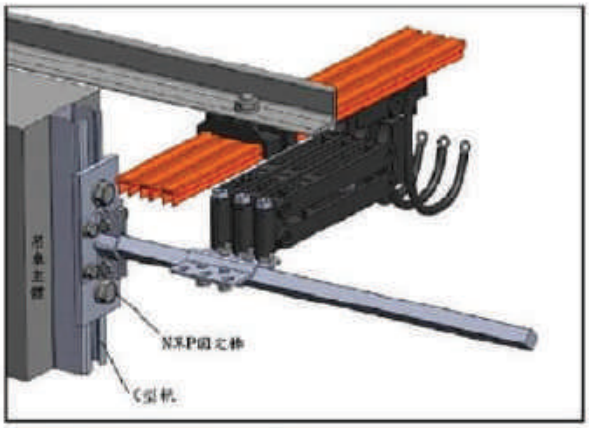


拉線器中心距	
	A
3P	90
4P	110
5P	130
6P	150
7P	170

★請注意兩頭電源拉線器內三個端子板螺絲M8×16務必鎖緊，以防鬆脫短路。

第五步　N單P固定桿與集電架按裝
(Fix square bar/current collector)

- 桿固定於主體可電焊或鎖螺絲
- 桿固定其角度，為角桿兩對角線正線為水平及垂直
- 桿與設備與電軌平行
- 長度可視需要切短



※電刷片損耗時，僅需換上新電刷片即可。

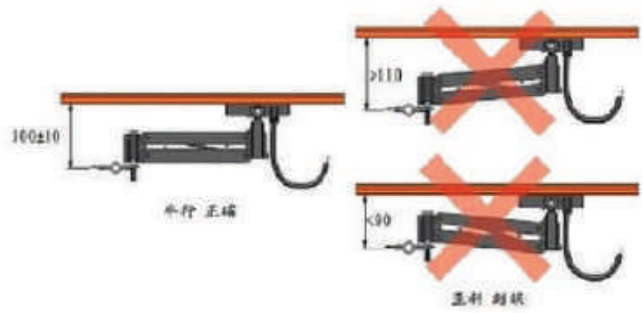
※雙支組集電架裝於上下起伏或彎形等特別設計上。

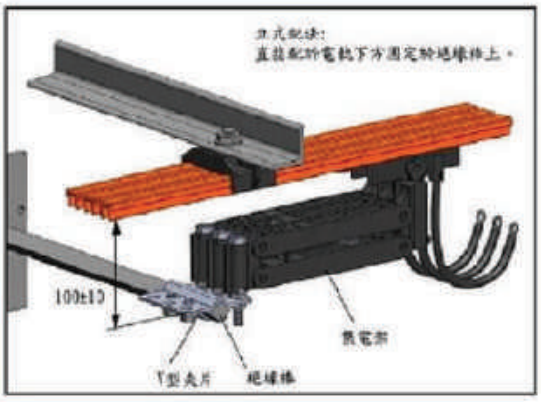
您車間的桁車使用管道式滑觸線時，
有突然斷電或接觸不良的困擾嗎？
此種吊在半空中的危險畫面，
請改用連續型無接頭式四合一安全電軌，
馬上解決您上述頭痛的問題！

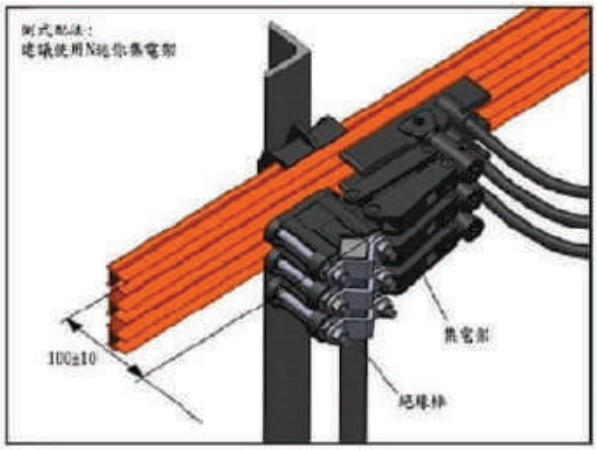
• 此參考表適用於大陸地區 •

KYEC連續型無接頭電軌	他牌管道式滑觸線
1. 導體為無氧銅、導電佳、質純、色均亮	1. 表面色暗不均勻
2. 銅與銅膠密合接觸，不因振動而接觸不良	2. 銅與塑膠間隙大，易因行走振動而接觸不良
3. 絕緣體為氯乙烯＋耐衝擊、抗紫外線、特殊配方、物理性佳	3. PVC＋滑石粉過多，易脆及不耐衝擊
4. 無接頭、壓降小	4. 4M銜接、接頭多、故障多、壓降大
5. 零件少電動夾為卡入式按裝易，按裝時間可省1/2	5. 零件多、需調整、按裝繁瑣、按裝費時
6. 集電頭、臂長、彈力拉簧、活動空間大	6. 活動空間小，有起伏易接觸不良

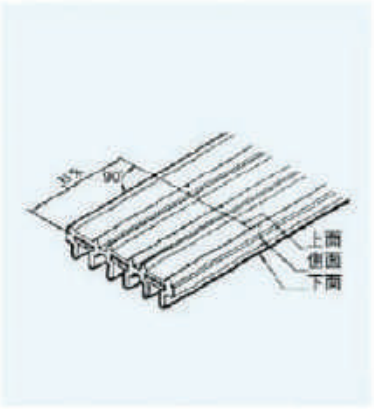
集電架按裝法
(Three or Four or Five in one Current Collector)

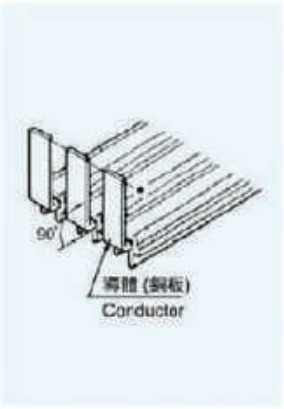


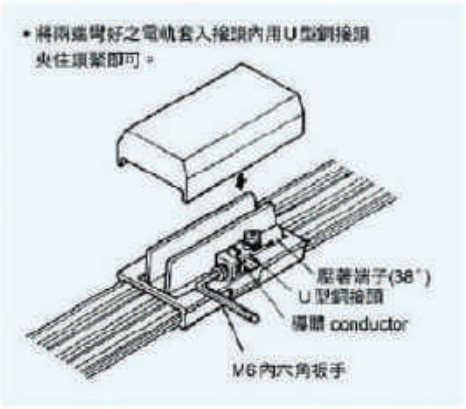




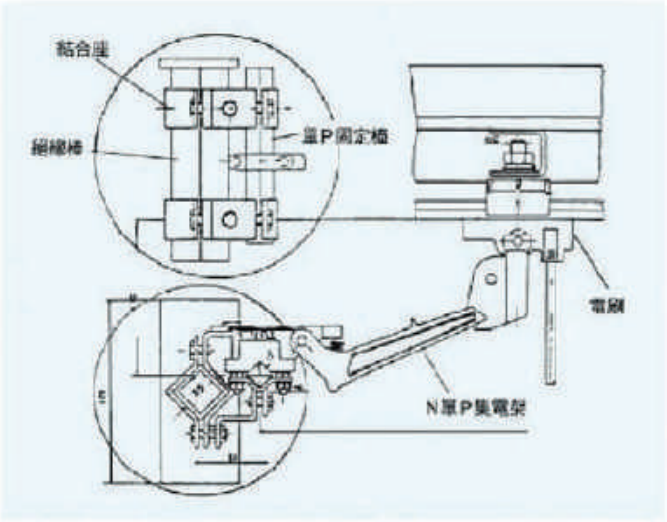
3P電軌接頭 (3P Connector & Middle power feed in)







結合 (Fixing Parts for N&P Corrent Collector)



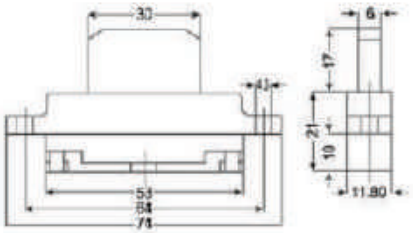
迷你集電架 訂製品

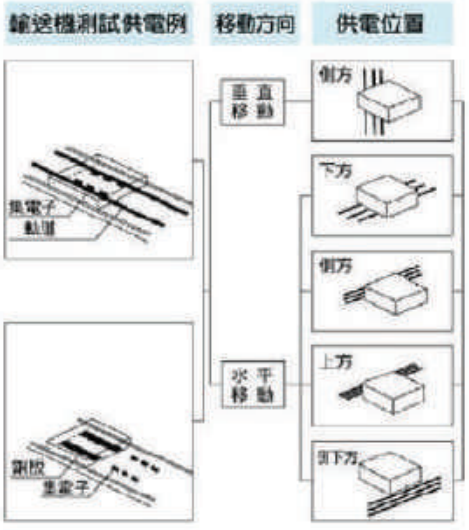
1. 本結合座專為更換舊型三合一集電架為N單P集電架用，可結合口25×25絕緣棒，與N單P棒
2. N單P集電架若配上此結合座，將可與其他品牌電軌共同（如Insul 8、Duct O Bar、SAFE T Bar.等）

集電子 輸送機測試系統用

DH-6832

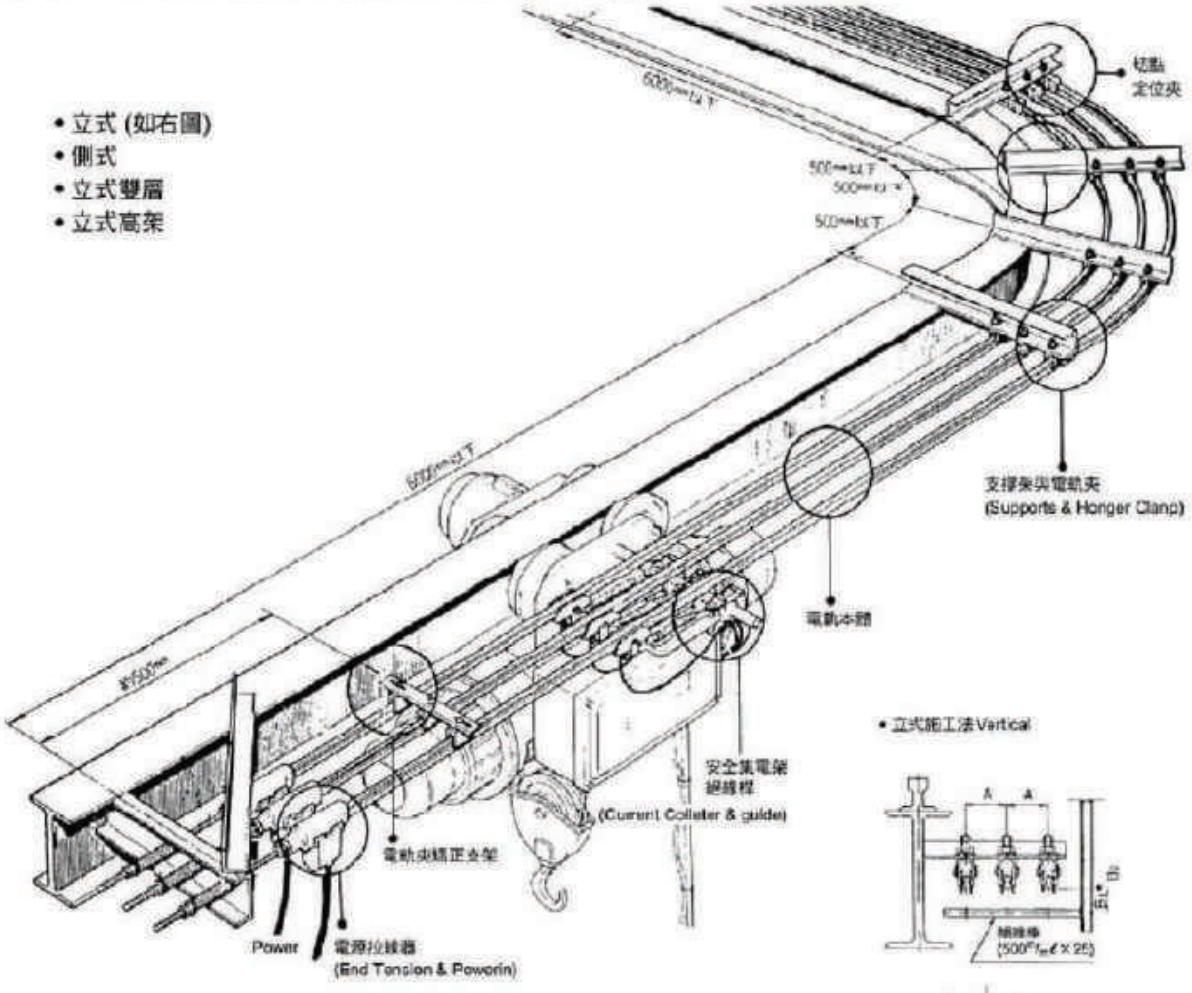
DH-6813





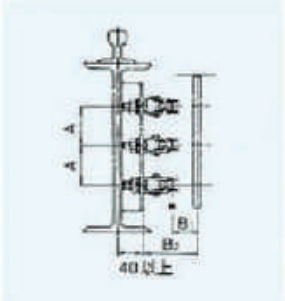
參：工字型安全電軌施工設計 (Design)

- 立式 (如右圖)
- 側式
- 立式雙層
- 立式高架

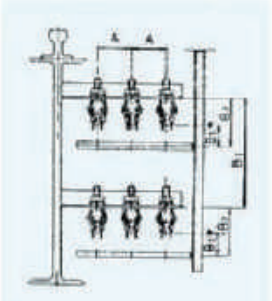


• 立式施工法 Vertical

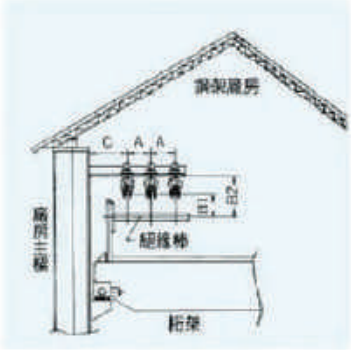
• 側式施工法 (On Side)



• 立式雙層施工法 Vertical (Double)



• 立式高架施工法 (Above)

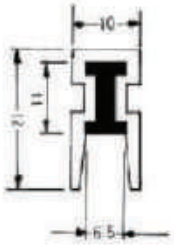


A		
	最小 min	75
	標準 standard	100

B		
	B 1	95
	B 2	130
	B 3	290

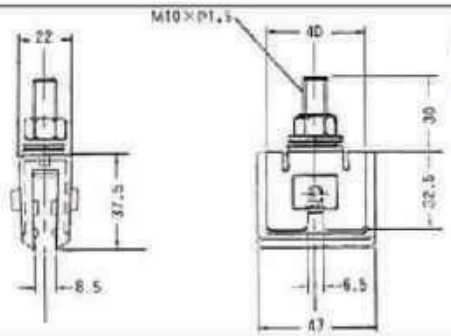
C		
	最小 (min)	150
	標準 standard	200

工字型安全電軌零件圖(Parts Diagram)



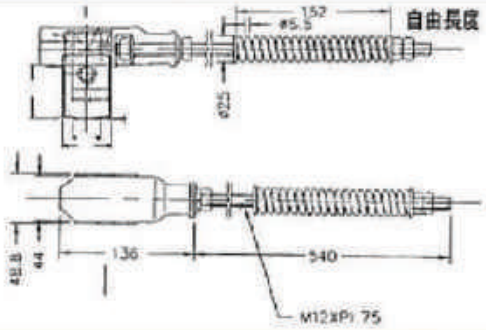
無氧銅99.9%Cu以上含銀量
100%以上導電率(Good Conductor rate)
(依CNS 273-H2010規範)

KY-AN1015
工字型電軌
"I" Tpye
0.47 kg / M

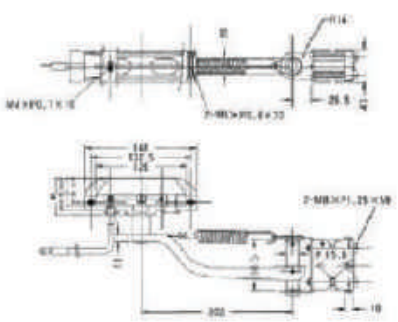


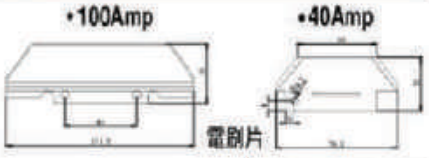
配合C型軌支架
可使用螺母片M10
30×20×5

KY-AN1100
工電軌夾
"I" Hanger Clamp
0.11 kg / 只



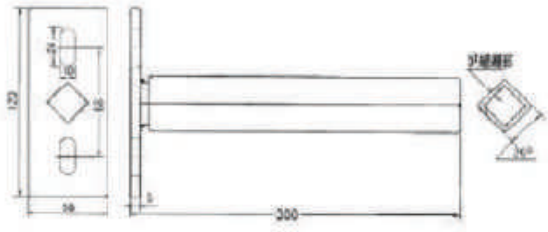
KY-AN1200
工末端電源拉線器
End Tension &
Power in
1.1 kg / 支



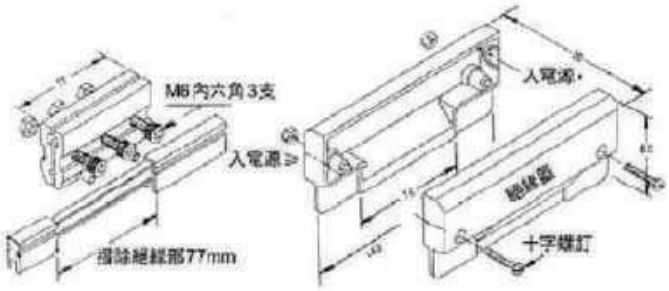


舊型電刷座要鎖螺絲，
拆裝不便已停產，
現已改卡入式一體成型

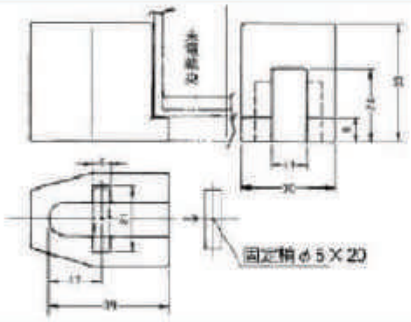
KY-AN1704
KY-AN1710
工集電架40Amp
100Amp
0.83 kg / 支
1.17 kg / 支



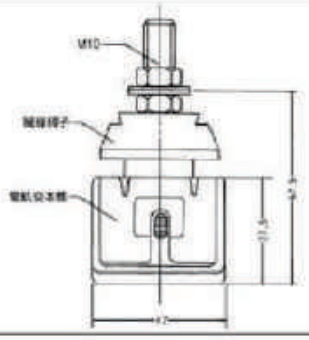
KY-AN1800 380L
KY-AN6800 500L
絕緣棒
Insulator guide
1.45 kg / 支
1.82 kg / 支



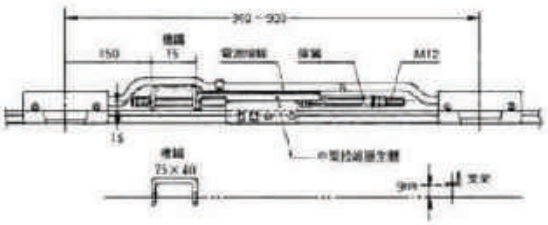
KY-AN1300
工中間供電器工接頭
Middle power feed in
0.28kg / 只



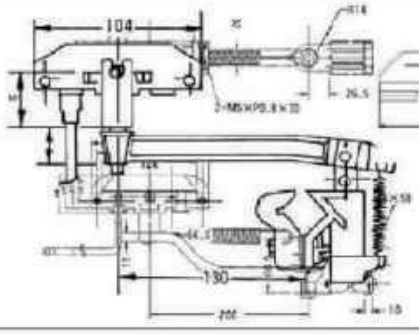
KY-A1600
末端擋頭
Fixed end insulator
0.07kg / 只

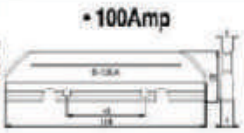


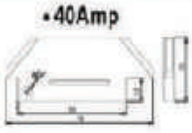
KY-AN1100S
工字子電軌夾
"I" Insulator hanger
0.15kg / 只



中間拉線器(訂製品)
Intermediate tension insulator







舊型電刷已停產

KY-AXE0804
KY-AXE0810
8字集電架40Amp
100Amp

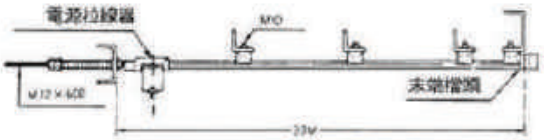
舊型電刷座要鎖螺絲，
拆裝不便已停產，
現已改卡入式一體成型

鋁單臂集電架

工字型安全電軌施工圖 (Working Diagram)

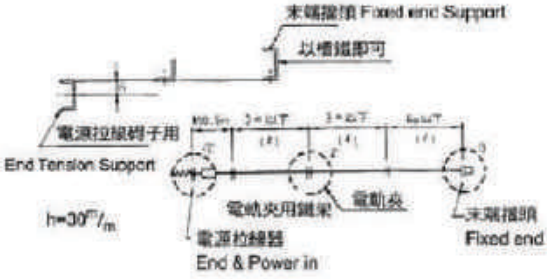
第一步 按裝設計 Support Design

A. 30M以內施工用法

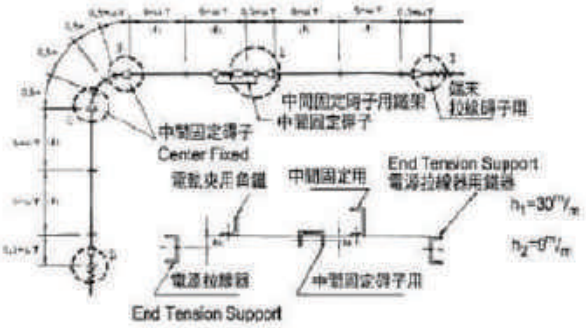


B. 30M以上施工用法

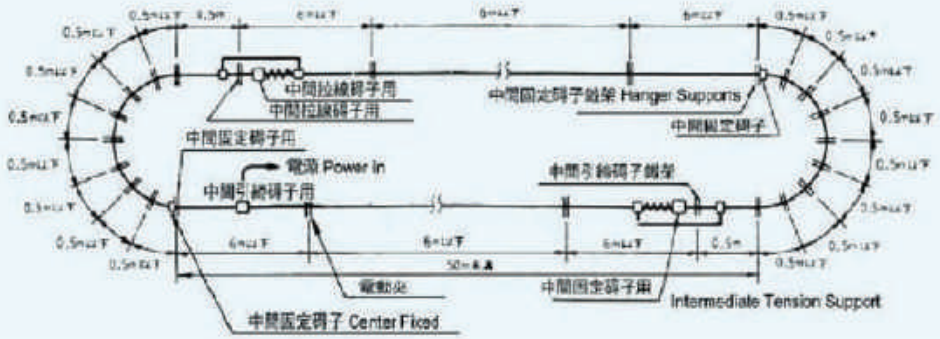
直線施工 (Line Case)



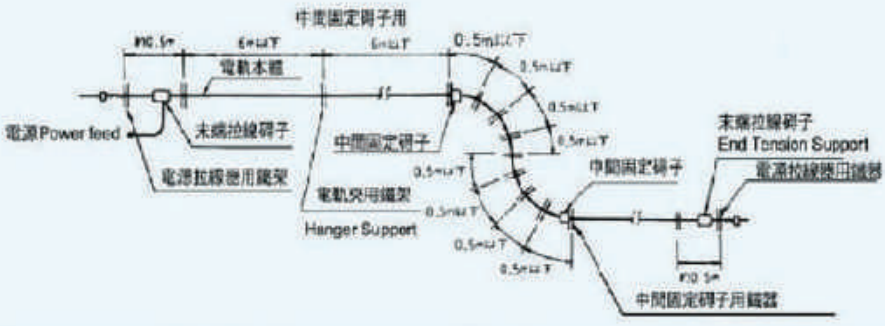
曲線施工 (Curve Case)



環型施工法 Around type



S型施工法 ("S" type)

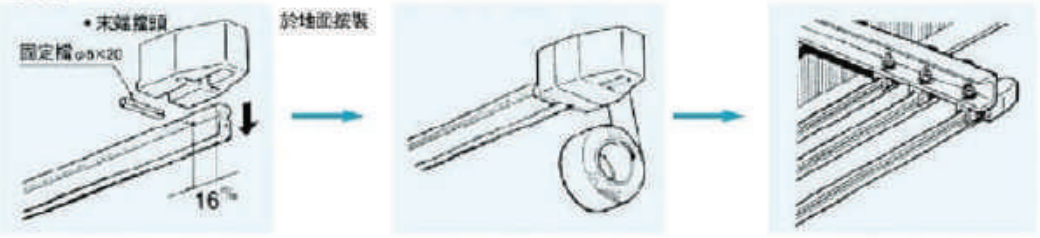


高低起伏環狀施工法

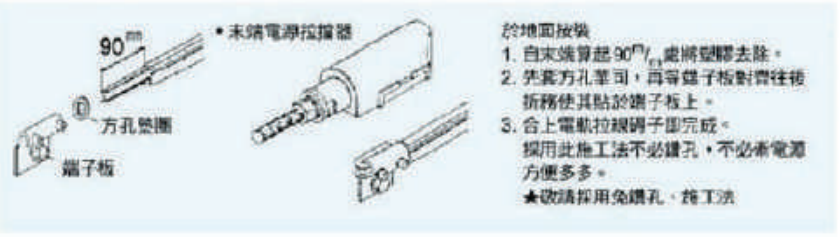
1. 如環型施工方式，全線碍子距離設於0.5M以下。
2. 拉上電軌方式，可使用轉盤放於吊車主樑上，供臨時電源給大車馬達，利用吊車行走，邊走邊上電軌。(如尾頁圖片)

第二步

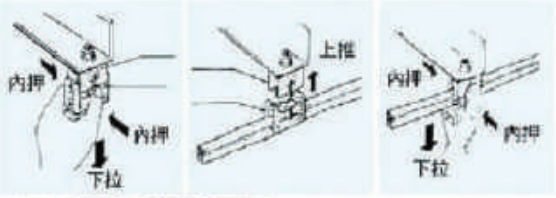
按裝30M以內



按裝30M以上

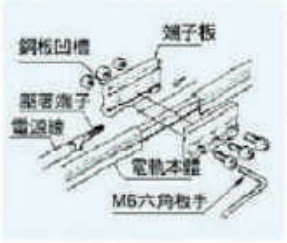


第三步　電軌夾按裝Set，Hanger Clamp



• 由PC夾兩側向內押下拉即可取出

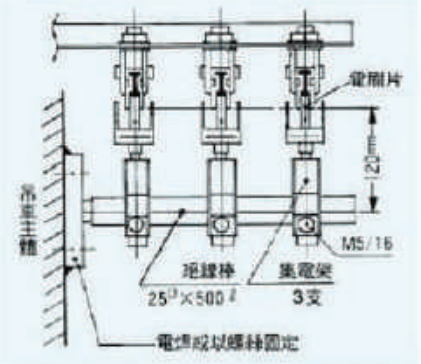
中間供電部份 (Middle power feed in)

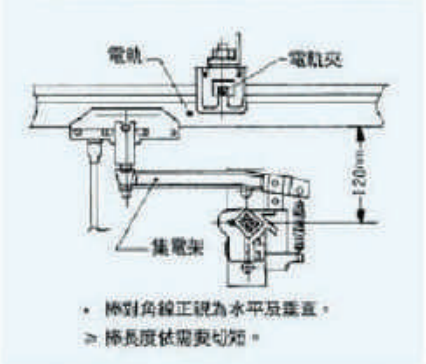


• 中間供電處80mm將膠切之。
• 用隔片銅夾板合於工字鋼上並旋緊。
• 在φ 5m/m鑽頭作鋁平板下方凹處鑽穿電軌，打入固定螺絲可。

第四步　另一端電源拉線器按裝 (Set, End Tension & Powerin) 於軌道上按裝，同第二步驟。

第五步　絕緣棒與工集電架按裝 (Set, guide & Current Collector)

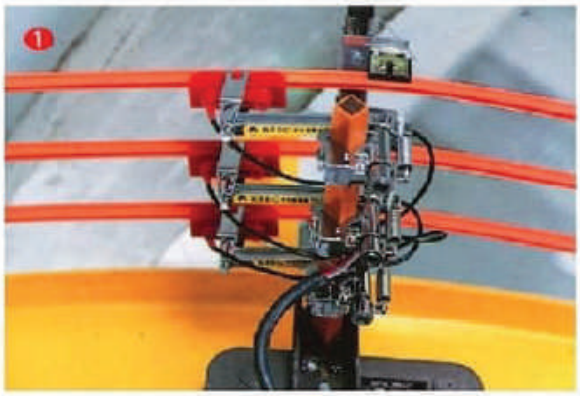




*注意事項

• 電軌裝置時誤差不得超斜15°以上，如超過須以矯正支架附電軌夾矯正之架否則會接觸不良。
• 拉好電軌後，要以強迫方式調整傾斜部份。

坤溢企業® KYEC



※本公司另備有各機種零組件及各項相關工程技術服務，歡迎來電查詢——工程技術部。

說明① 安全集電架組　② 三合一實例
③ 環型轉盤配電　④ 五合一實例
⑤ 遊樂設施工程　⑥ 自動倉儲工程

感謝：中鋼、台船、台電、台塑關係企業、奇美、友達、廣運、盟立、中華汽車、裕隆等公司採用

OPI

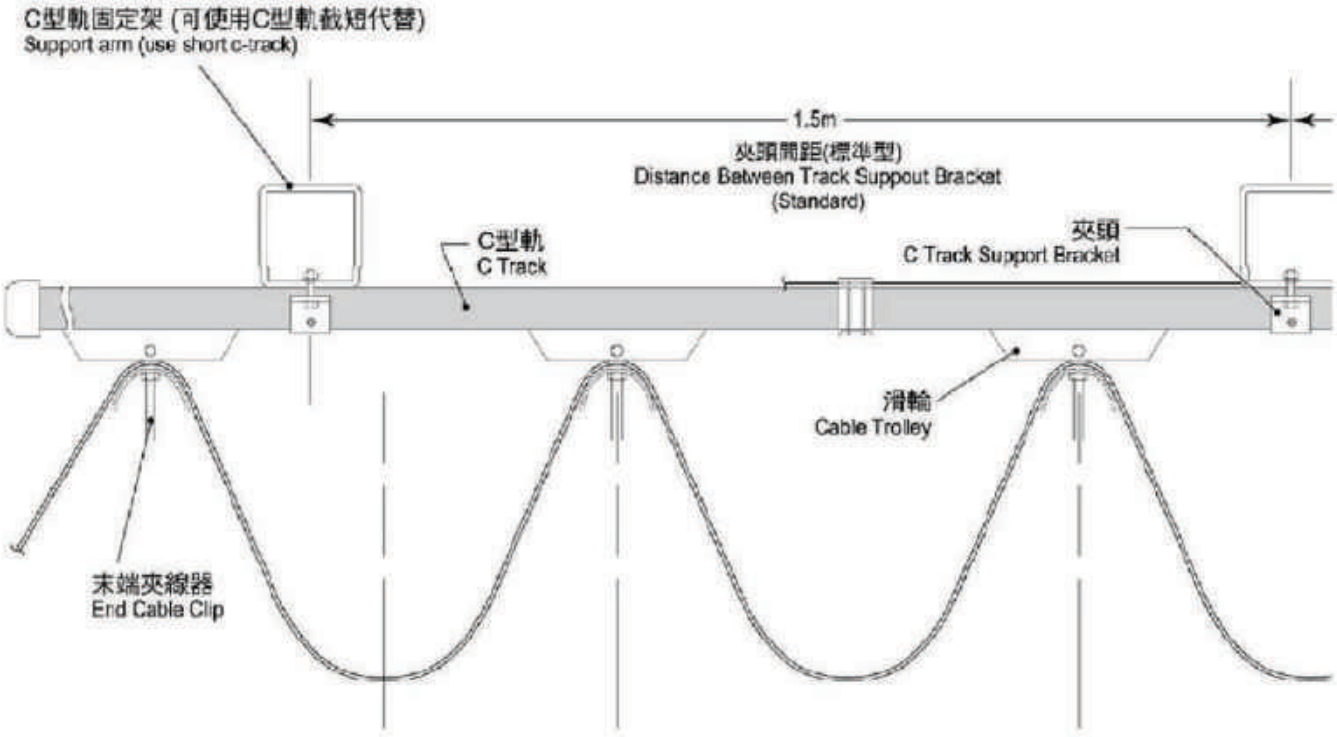
坤溢企業® KYEC

C型軌 扁電纜 供電系統

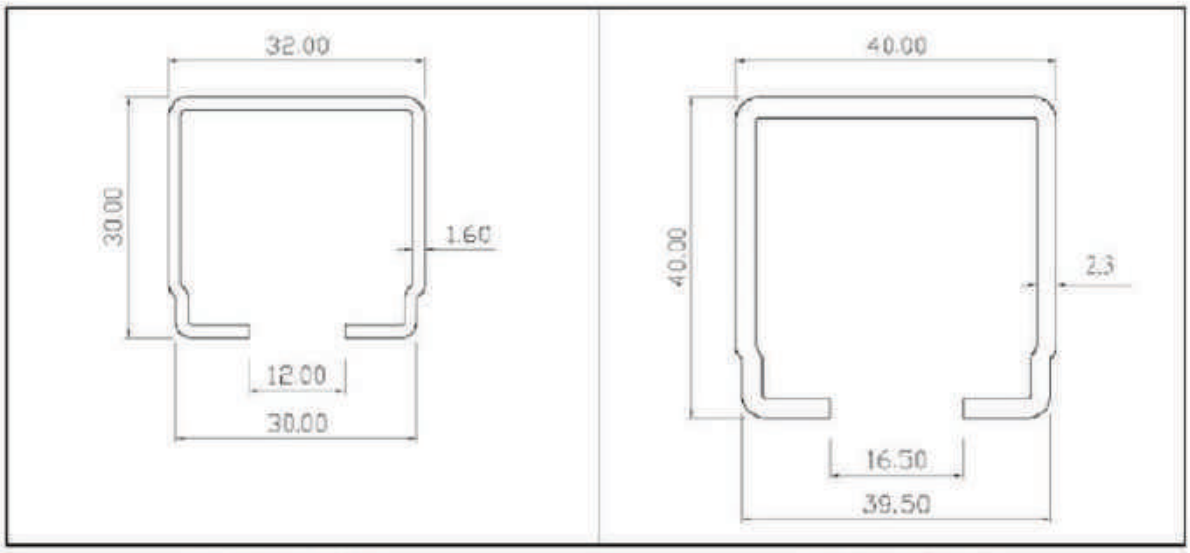
應用範圍：

- 吊車橫行供電系統
- 自動電鍍設備
- 污水處理廠供電系統
- 石材機械、移動式控制系統
- 一般重工機械吊車移動式供電

壹、設計 Design

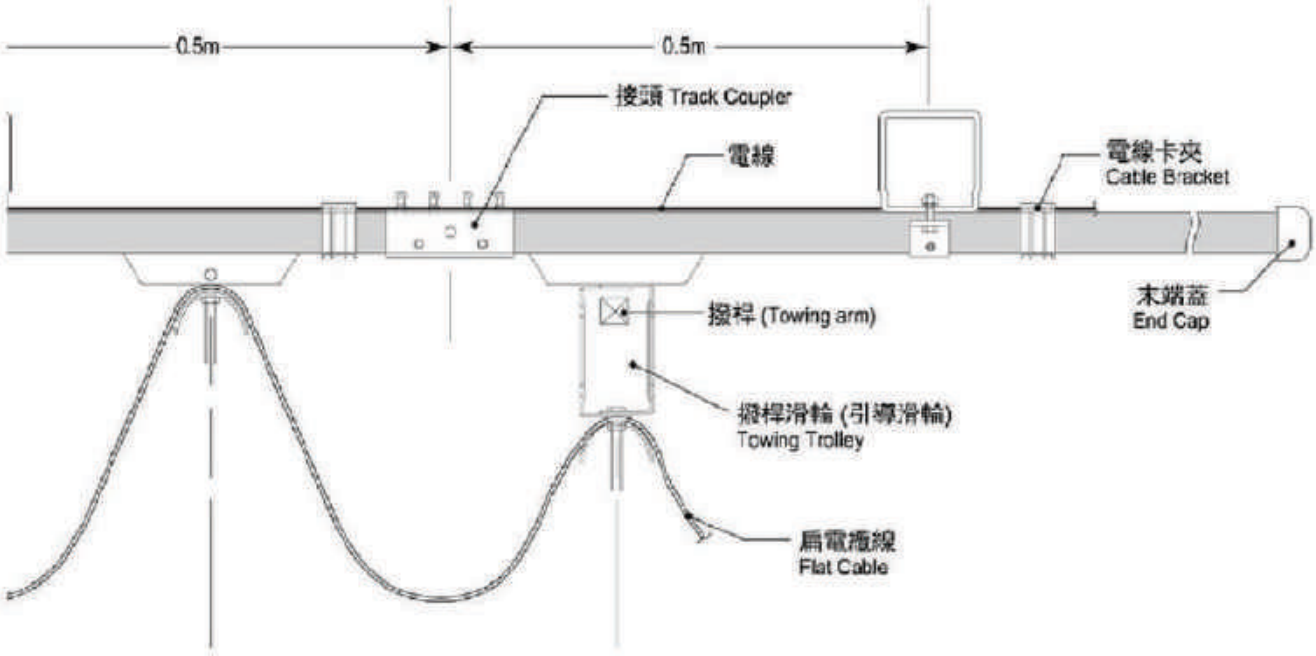


一、結構數據

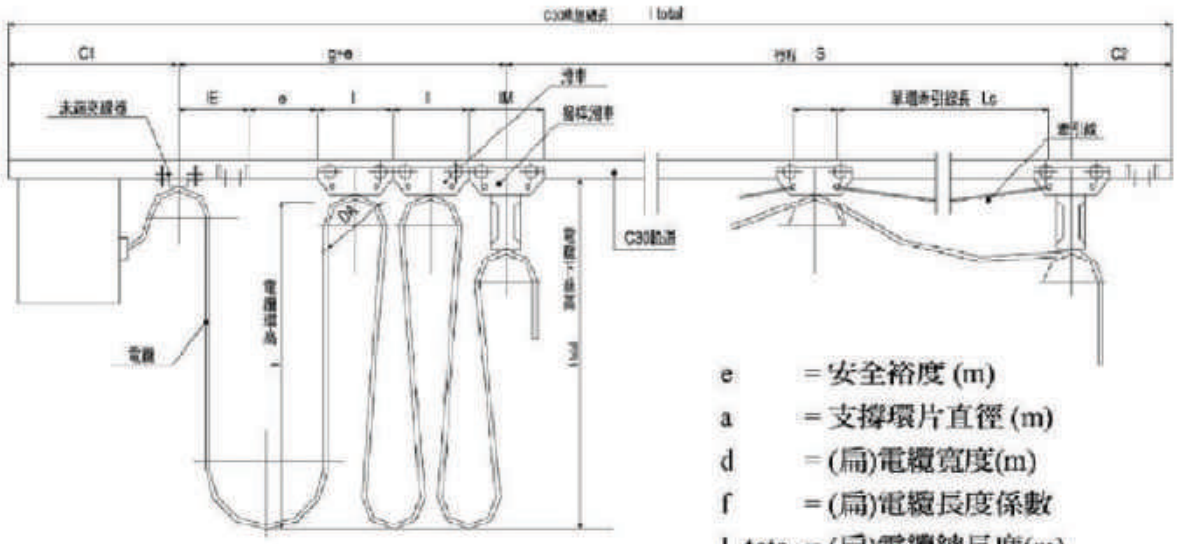


C30軌道斷面圖　　C40軌道斷面圖

編號	材質	長度 (mm)	長度公差 (mm)	厚度S (mm)	物理性質			單位重量 (Kg/m)
					Ix (cm^4)	Wx (cm^3)	e (mm)	
KYEC-BC3030	鍍鋅鋼板	3000	±5	1.6±0.1	1.97	1.23	16	1.15±0.1
KYEC-BC4030	鍍鋅鋼板	3000	±5	2.3±0.1	6.74	3.08	21.6	2.23±0.1



二、規劃



I total = C30或C40軌道總長(m)
s = L 行程(m)
h = 電纜環高(m)
h total= 電纜下垂高(m)
n = 電纜的環數(環)
g = 滑車及配件需求長(m)
l = 滑車長(m)

e = 安全裕度 (m)
a = 支撐環片直徑 (m)
d = (扁)電纜寬度(m)
f = (扁)電纜長度係數
L tota = (扁)電纜總長度(m)
L loop = (扁)電纜總單環長度(m)
Ls = 單環牽引線長(m)

$$n=f\times\frac{s+g}{2h} \qquad h=f\times\frac{s+g}{2n}$$

f=1.1 (滑行速度50 m/min)

三、C30、C40軌道設計資料

1. C30軌道　已知--

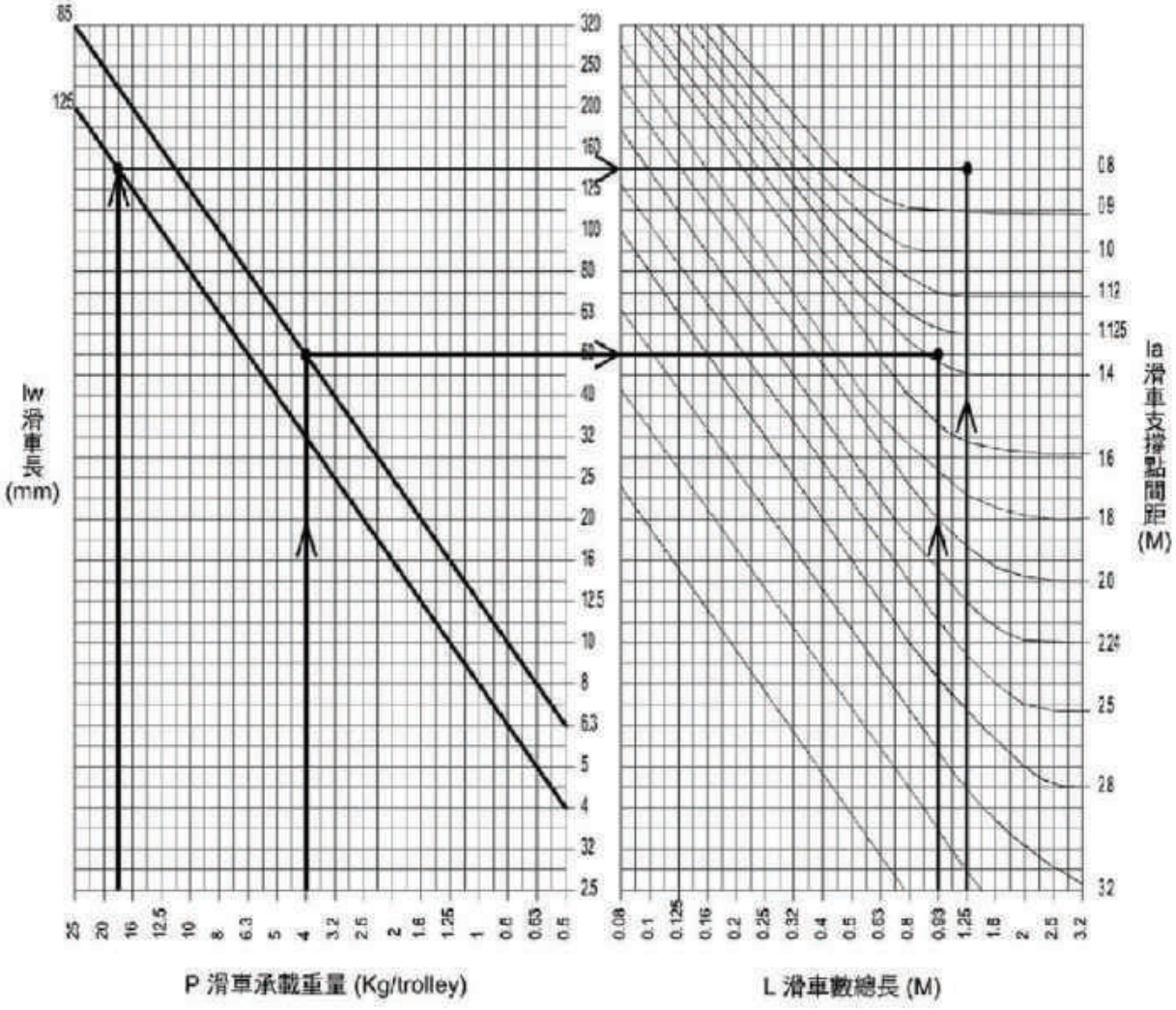
P =4　　單組滑車承載重量(Kg)

Iw =85　滑車長 (mm)

Z =11　　滑車數量 (組)　　所以滑車數總長L=Z×Iw/1000=0.93 (M)

☆☆ 所以可從下表求得—

Ia =1.3　C30夾頭支撐點間距 (M)



2. C40軌道　已知--

P =18　單組滑車承載重量(Kg)

Iw =125 滑車長 (mm)

Z =10　滑車數量 (組)　　所以滑車數總長 L=Z×Iw/1000=1.25

=10×125/1000=1.25 (M)

☆☆ 所以可從表求得—

Ia =0.8　C40夾頭支撐點間距 (M)

貳、PVC移動性扁電纜線 PVC Flat Cable

DESCRIPTION:

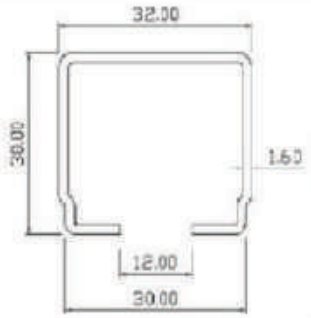
- Bare Stranded copper conductor.
- PVC insulation, Rated temp 60℃, 80℃ or 1105% available.
- PVC jacket, Acid bafe resistence available or UL Type

產品說明：

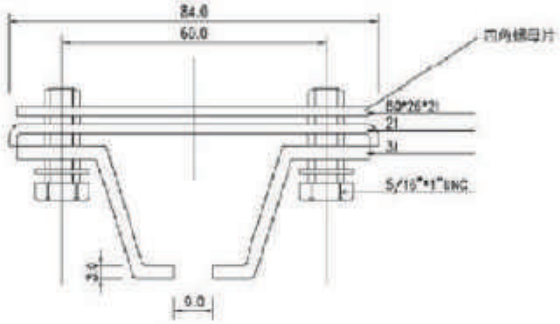
- 導體：裸軟銅線絞合。
- 蕊線：PVC材質，耐溫60℃，80℃或指定105℃
- 外被：PVC被覆，亦可指定耐酸鹼材質或UL規範。

導體		蕊線數	絕線厚度	蕊線外徑	完成外徑	導體電阻	試驗電壓	絕線電阻	備註
Conductor		No. of Core	Insulation thickness	Insulation Diameter	Overall Diameter	Characteristics			
斷面積 MM²	線數 / 線徑 No. / mm		mm	No. / mm	mm	20℃(Ω/KM)	V/MIN	M /KM	
0.75	30/0.18	24	0.6	2.3	8.3×40.3	25.8	1500	50	
0.75	30/0.18	36	0.6	2.3	11×51	25.8	1500	50	
0.75	30/0.18	60	0.43	2.0	11.6×74	25.8	1500	50	
1.25	50/0.18	3	0.8	3.0	5.0×11.2	16	1500	50	
1.25	50/0.18	4	0.8	3.0	5.8×15.7	16	1500	50	
1.25	50/0.18	5	0.8	3.0	6.1×18.8	16	1500	50	
1.25	50/0.18	8	0.8	3.0	5.0×28.7	16	1500	50	
1.25	50/0.18	10	0.8	3.0	5.1×34.6	16	1500	50	
1.25	50/0.18	13	0.8	3.0	5.2×43	16	1500	50	
1.25	24/0.18								
2.0	37/0.26	3	0.8	3.2	5.0×11.4	10.2	1500	50	
2.0	37/0.26	4	0.8	3.2	6.8×18.6	10.2	1500	50	
2.0	37/0.26	8	0.8	3.2	6.0×29.5	10.2	1500	50	
3.5	140/0.18	3	0.8	4.2	6.3×16.2	5.54	1500	50	
3.5	140/0.18	4	0.8	4.2	7.5×19.5	5.54	1500	40	
3.5	140/0.18	8	0.8	4.2	6.8×39	5.54	1500	40	
5.5	217/0.18	3	1.0	5.2	7.5×20	3.56	1500	40	
5.5	217/0.18	4	1.0	5.2	8.0×23	3.56	1500	40	
8	315/0.18	3	1.0	6.2	9.0×21.6	2.54	1500	40	
8	315/0.18	4	1.0	6.2	10×30	2.45	1500	40	
14	550/0.18	3	1.0	7.6	12×28.8	1.43	1500	40	
14	550/0.18	4	1.0	7.6	10.6×33	1.46	1500	40	
22	855/0.18	3	1.2	10.0	15×35	0.919	1500	40	
22	855/0.18	4	1.2	10.2	13×47	0.919	1500	40	
38	1480/0.18	3	1.2	12.5	17.8×42.5	0.75	1500	40	
38	1480/0.18	4	1.2	12.5	20×53	0.75	1500	40	

叁、C30軌道零件圖 C30 Track Design



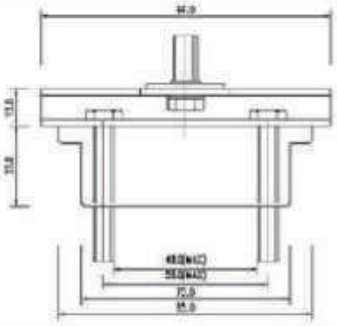
KY-BC3030
C30型軌 3M/支
C Track
KY-BCS3030白鐵

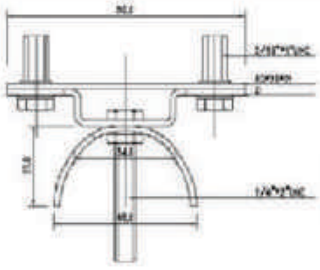


KY-BC3100
C30夾頭
C Track Support Bracket
KY-BCS3100白鐵

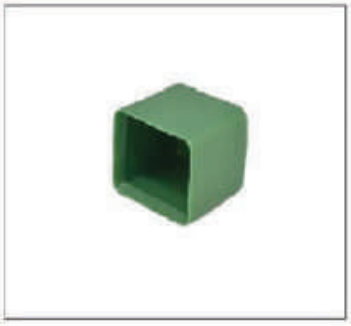
KY-BC3103
C夾片
Track Clip

KY-BC3102
C30支架結合座
Support Arm



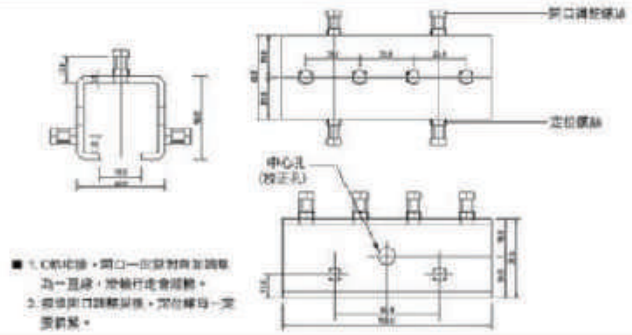


KY-BC3200
C30末端夾線器
End Cable Clip
KY-BCS3200白鐵



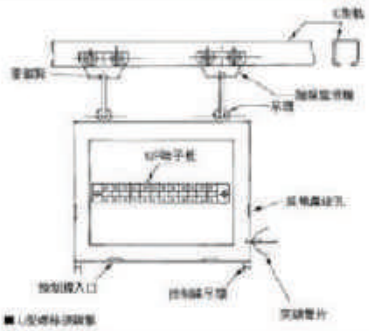
KY-BC3201
C30末端蓋
End Cap

KY-BC3202
C30電線卡夾
Cable Bracket

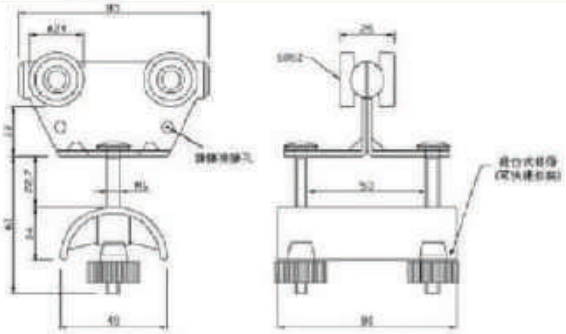


KY-BC3300
C30接頭
Track Coupler
KY-BCS3300白鐵

KY-BC3412A
快速接頭滑車(火車頭)

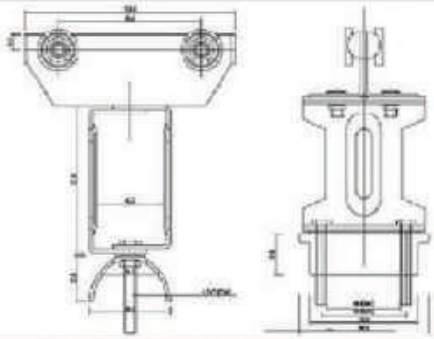


KY-BC3412
C30接線盒
C Connect Box.



KY-BC35250
C30大C滑輪
Cable
Trolley/Wide

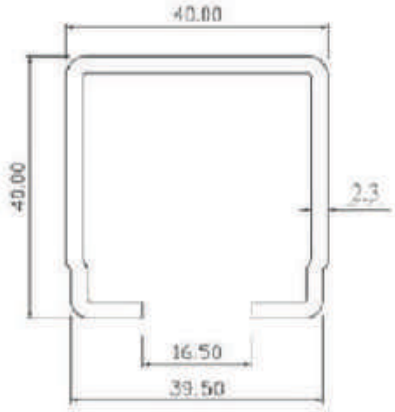
KY-BC3525
C30滑輪
Cable Trolley
KY-BCS3525白鐵



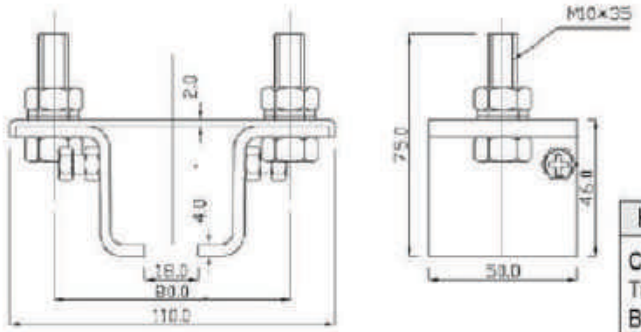
KY-BC3625
C30搬埠滑輪
(引導滑輪)
Towing Trolley
KY-BCS3625白鐵

KY-BGNL20X2
扁電纜抗拉帶
寬度x厚度
45mmx1.8mm

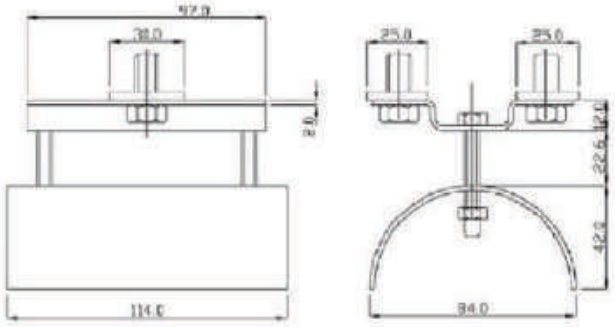
肆、C40軌道零件圖 C40 Track Design



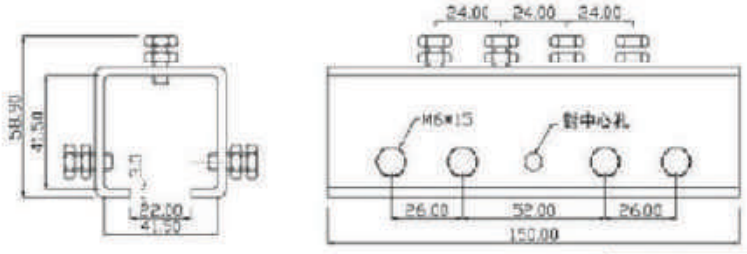
KY-BC4030
C40型軌道
C Track
KY-BCS4030白鐵



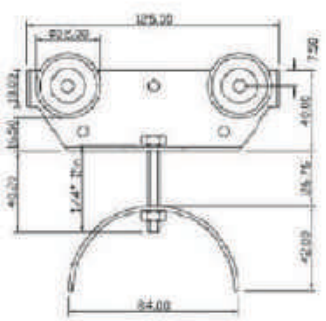
KY-BC4100
C30夾頭
Track Support
Bracket
KY-BCS4100白鐵

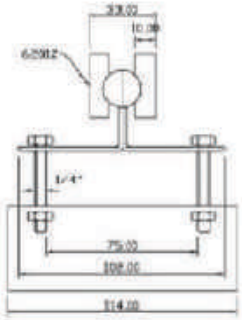


KY-BC4200
C40末端夾線器
End Cable Clip
KY-BCS4200白鐵

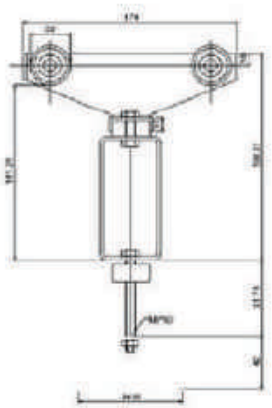


KY-BC4300
C40接頭
Track Coupler
KY-BCS4300白鐵





KY-BC4533
C40滑輪
Cable Trolley
KY-BCS4533白鐵



KY-BC4633
C40熔焊滑輪
(引導滑輪)
Towing Trolley
KY-BCS4633白鐵

伍、鋁軌道零件圖 Aluminum Track Photog.

KY-BD3030
鋁軌道
Al. Track

KY-BD3300
鋁軌接頭
Coupler

KY-BD3100
鋁軌夾頭
Support Bracket

KY-BD3522
鋁軌鐵滑輪
Cable Trolley

陸、安裝示意圖

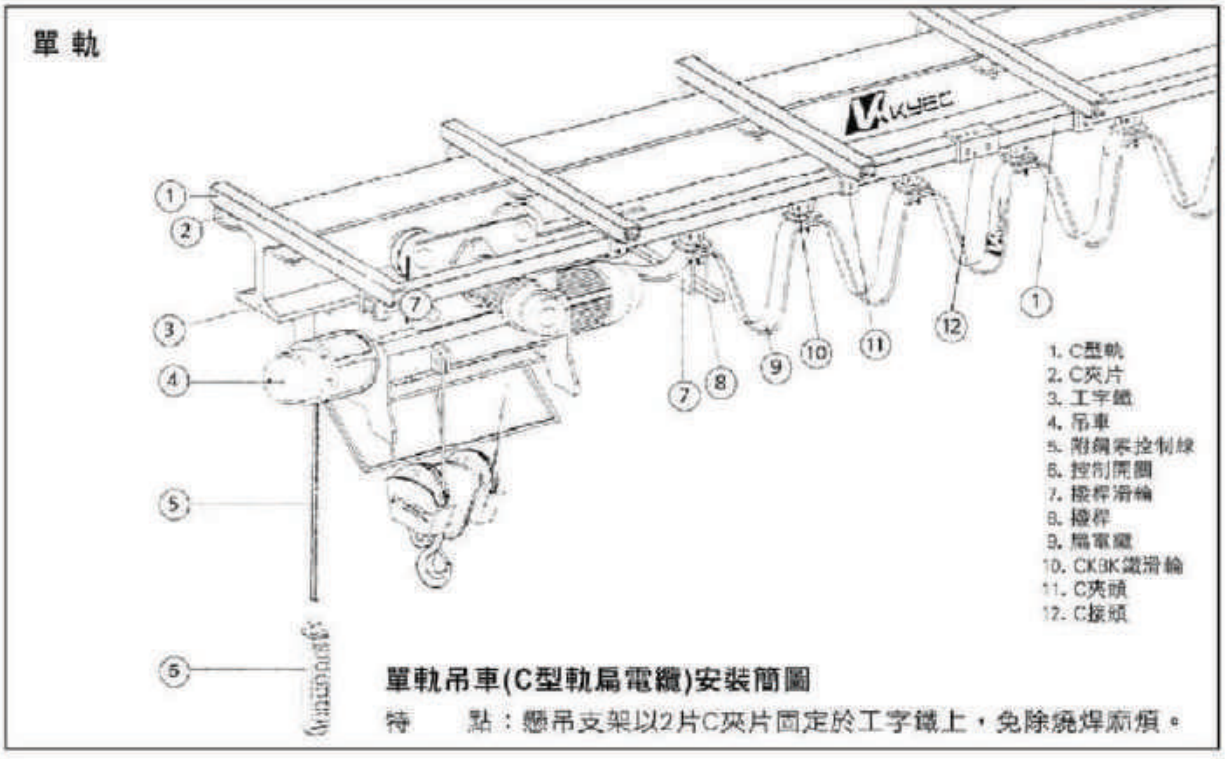
電線卡夾

雙軌吊車(C型軌扁電纜 分離式控制安裝簡圖)。

特　　點：吊車移動、開關免隨其移動。

適用場所：適用於吊長型機件或大型圓桶，鋼桶等。

單 軌



單軌吊車(C型軌扁電纜)安裝簡圖

特　　點：懸吊支架以2片C夾片固定於工字鐵上，免除燒焊麻煩。

鋼索式滑車

KY-OWS005
鋼索鐵滑輪
夾扁電纜

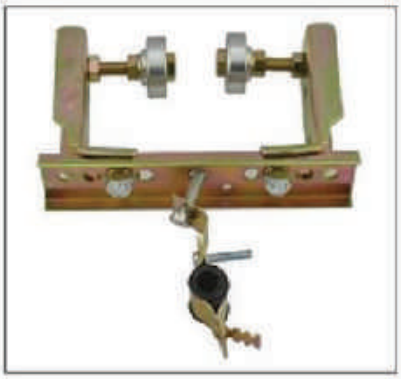
KY-OWS107
鋼索鐵滑輪

KY-OWP206
專利滑輪

工字鐵吊輪

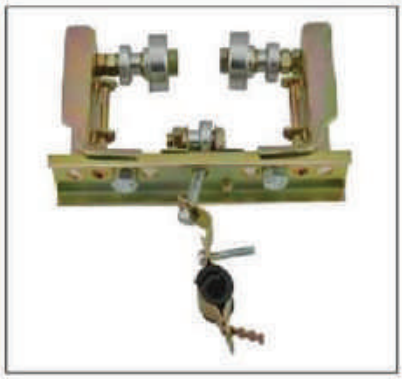
KY-OIW125150
W型吊輪(大)
工字鐵
125~150mm

KY-OIW075150
W型吊輪(小)
工字鐵
75~100mm



KY-OIU075125C
U型吊輪(彎)
工字鐵
75~125mm

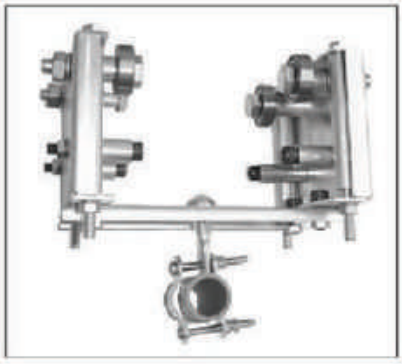
KY-OIU075150
U型吊輪(直)
工字鐵
75~150mm



訂 製 品

H滑車
(進口型式)

KY-OIH250W
H滑車



柒、彎曲方管

扁電纜搭配方管之彎曲式電源供電應系統

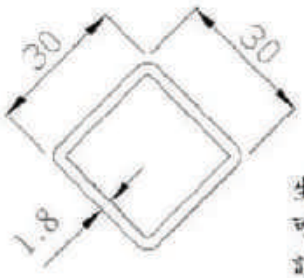
產品應用：

- 彎曲式電源供應系統
- 防爆式電源供應系統
- 跨距式吊車供電系統
- 自動電鍍設備
- 污水處理工廠
- 重型機械供電系統
- 移動式電源供應系統

Dim. 45×1.8L-100m

※增加一條抗拉帶可降低電纜斷裂的機率。

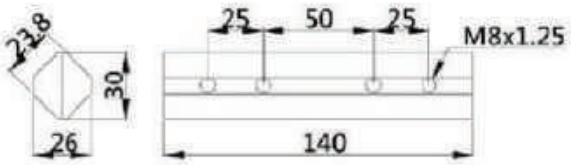
捌、方管軌道（普通鐵 / 白鐵）



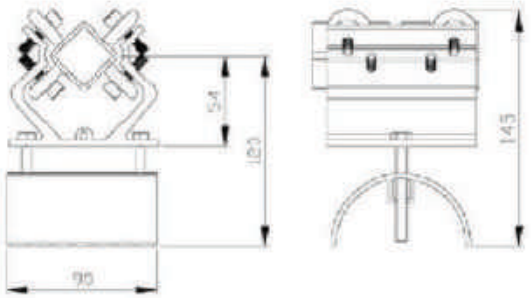
生產長度：6M/PC
可運送長度：3M/PC
訂購長度必須為6的倍數

KY-OISP300
方管軌道
30 X 30 X 2

連接螺絲：
六角形螺絲 M8X50

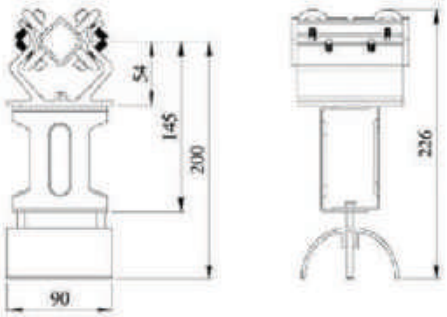


KY-OISP308
方管接頭
鋁製



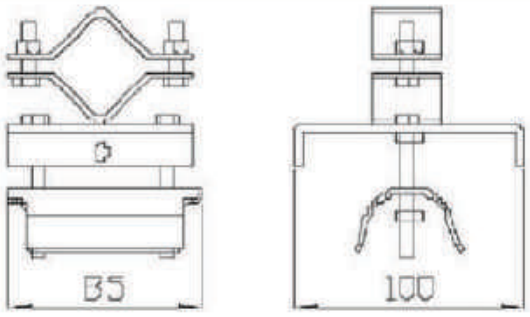
- 內六角平圓頭螺絲M6X35
- 六角形螺絲 M6X15
- 六角形螺絲 M6X50

KY-OISP306
方管滑車



- 內六角平圓頭螺絲M6X35
- 六角形螺絲 M6X50

KY-OISP326
方管擋桿滑車



KY-OISP346
方管末端夾

坤溢企業®
KYEC

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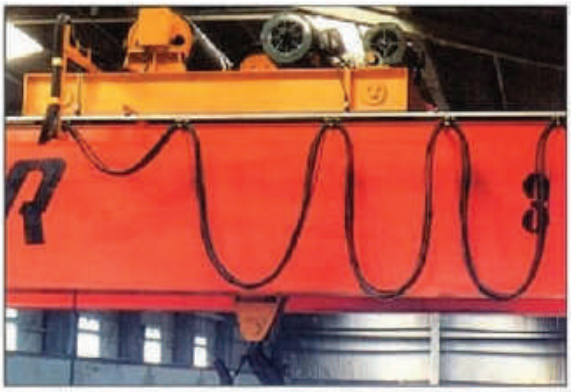
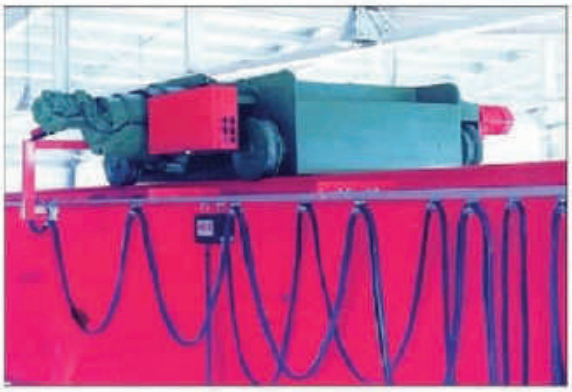



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