



GUNNEBO INDUSTRIES

Product Catalog



LiftingPlus
Hijzen met visie



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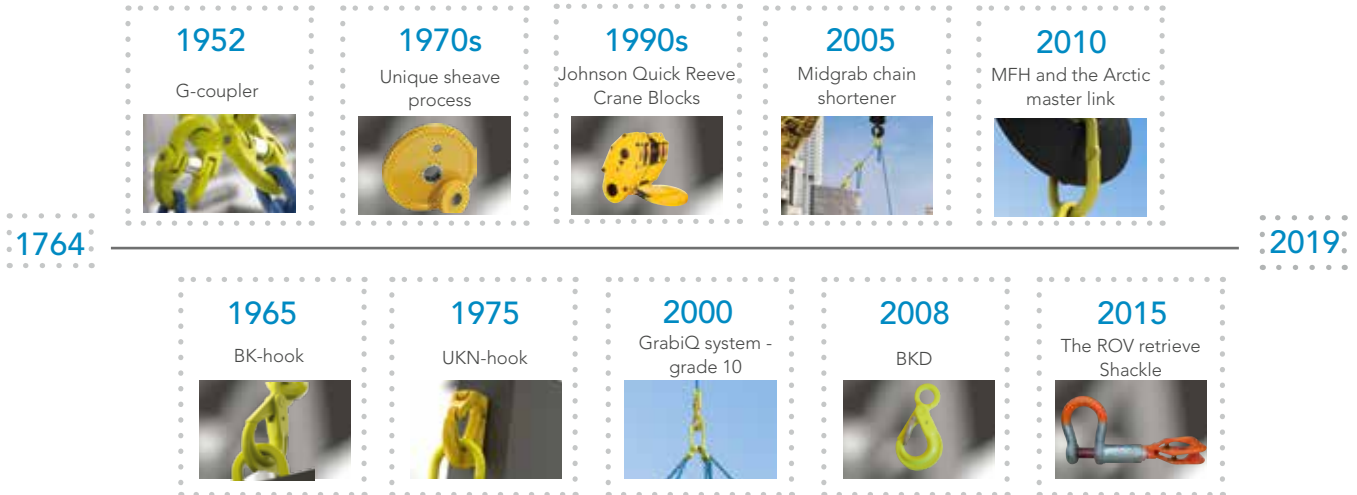
WARNING:

Failure to read, understand and comply with the instructions, working load limits and specifications in this publication may result in serious injury or damage to property.

A legacy of innovation

In 1764 Hans Hultman founded Gunnebo Industries in the shape of a hammer-smithy in Småland, Sweden. Today we are an international corporation, well known in many industries all over the world.

Gunnebo Industries continuously drives innovation through product development to create the optimal solutions for each lifting situation. Since the early 1950's we have developed products that are today's standards on the market and copied by almost all manufacturers of lifting equipment. There is however only one original - Gunnebo Industries. With the original you get the perfect fit and clever details.



Unique quality process for our chain & lifting components

Traceability code

The traceability code consists of letters and numbers that identifies exactly which plant the product was made in, the year and the batch. This gives us the ability to trace the product back through the manufacturing process, all the way back to the specific raw material.

Approved by BG/DGUV

Our products have the H32-stamp which means that they are manufactured and approved in accordance to the rules of Die Berufsgenossenschaft Handel und Warenlogistik (BGHW). This is a proof of quality and ensures that the product contributes to the safest possible working environment for both personnel and load.

Quality assurance

All forged parts and every chain link are individually proof loaded during our manufacturing process.

Manufacturer name

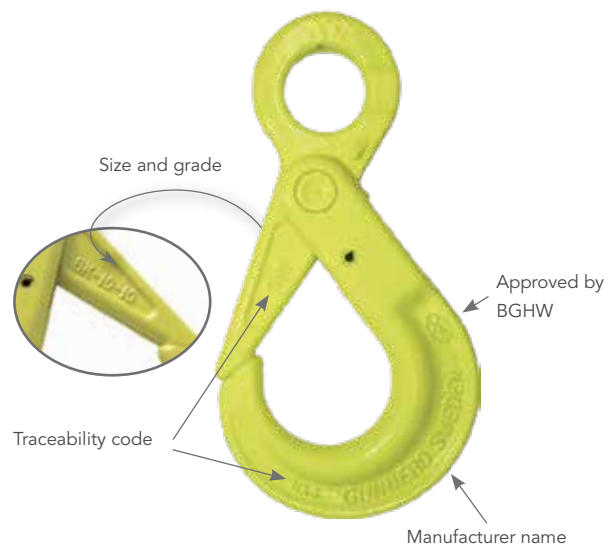
All our forged components are marked with "Gunnebo Sweden".

Component type, size and grade

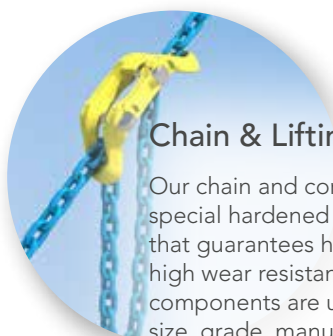
The size and grade is clearly marked on each component, to avoid errors and ensures correct matching of chain and components.

High quality steel

Our components and chain are made only from steel from European suppliers with 100% traceability and quality assurance.



Wide range of products and applications



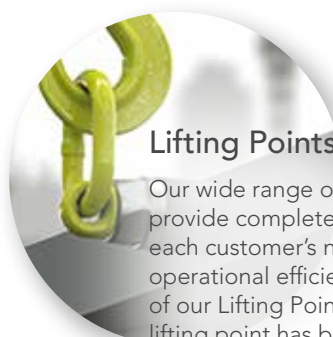
Chain & Lifting Components

Our chain and components are made from special hardened and tempered alloy steel that guarantees high strength, low weight, high wear resistance and long life. All components are uniformly marked with chain size, grade, manufacture's designation and name. Every forged component is tested to the Manufacturing Proof Force before leaving our factories in Sweden.



The GrabiQ System

Our GrabiQ Grade 10 range features integral shortening, reduced number of components and more flexible use of chain slings. This provides a modular concept for cost effective lifting solutions that covers a wide set of applications.



Lifting Points

Our wide range of lifting points allow us to provide complete solutions developed for each customer's needs, enabling improved operational efficiency for our customers. All of our Lifting Points are CE marked. Each lifting point has been proof loaded to 2.5 times the Working Load Limit and visually inspected by a licensed inspector before leaving the factory.



Shackles & Rigging Screws

Our shackles are available in a broad range of steel including acid proof stainless steel and high grade alloy steel to comply with the most stringent specifications. Several of our shackles are also Type Approved to DNV 2.7-1. The production of shackles and rigging screws takes place in our factory located outside Bergen, Norway.



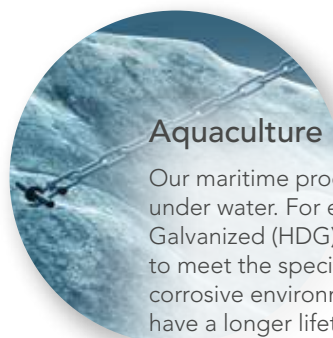
Johnson Products

Johnson products – An extensive product line including crane blocks, overhaul balls, snatch blocks, swivels and wedge sockets. Stringent quality controls make our products the standard of choice in the industry. All Johnson products are manufactured in our own factory in Tulsa, Oklahoma USA.



Johnson Sheaves

We develop and manufacture sheaves for all purposes. Our sheaves are made of high-strength materials and designed to optimize performance and quality. With production facilities in USA and Europe, we serve customers on a global scale, always close, for the best possible support.



Aquaculture

Our maritime products are made for a life under water. For example, our Hot Dip Galvanized (HDG) lifting range is designed to meet the specific challenges from corrosive environments in which they will have a longer lifetime. In the long run our HDG products require less maintenance and are more cost effective.



Arctic Offshore

Adverse weather and rough sea conditions, sometimes in combination with extremely low temperatures, must be considered in the design of offshore lifting sets. Our offshore range is produced from steel that gives improved impact strength at low operating temperatures, as well as reduced risk for hydrogen embrittlement.

Quality, technology & innovation

Outstanding quality level

- Gunnebo Industries environmental and quality management system is certified according to ISO 14001:2015 and ISO 9001:2015.
- A number of different third-party product certificates including DNV type approvals for our offshore master links and hooks.
- Full traceability and individual proof-loading to 200-250% of the working load limit of all forged parts and chain links.
- Extensive testing and inspection process.

World-class manufacturing process

- Automated state-of-the-art production sites.
- Fully integrated manufacturing process with all critical processes in-house.
- Full traceability from finished product to raw material.

Technical expertise

- System design creating operational efficiency through time and weight savings, as well as increased flexibility.
- Design expertise and outstanding customer service.
- Our own R&D department.

Heritage of innovation

- Many of the products that are today's industry standard have been developed by Gunnebo Industries, with innovation since 1764.



Sling Components

Grade 10 • Offshore • Grade 8 • Hot Dip Galvanized



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GrabiQ system for increased efficiency and reduced cost

Our GrabiQ chain sling system for coupling, shortening and lifting in grade 10 is designed to integrate multiple functions in each component.

GrabiQ – Quicker, safer and easier lifting operations

- **Intelligent design:**
Efficient and ergonomic lifts.
- **Multiple functions in each component:**
Fewer components in each sling, resulting in cost effective lifting operations.
- **Built in shortening function:**
Allows the user to instantly adjust the chain sling.
- **Grade 10:**
Lighter slings and 25 % added strength compared to grade 8.
- **High quality:**
All products are proof loaded and visually inspected.



GrabiQTM

GrabiQ components with multiple functions

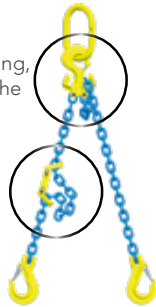
Innovative designs that combines several clever functions in one component.



2

Midgrab - MIG

- Instant mounting, positioning, shortening on any part of the chain.



C-grab Duo - CGD

- Built in shortening function.



Master Grab - MG

- "All-in-one" compact top link
- Every chain leg can instantly be altered.
- Using the built in shortening function you can alter between a straight lift to a looped sling in a matter of seconds.

Fewer components with GrabiQ

With GrabiQ the number of components and the weight is significantly reduced:

4-leg sling with shortening function



- 1 Master link
- 2 C-Grab Duo

Total:
3 GrabiQ components



- 1 Master link with 2 Sublinks
- 8 Berglok Chain Couplers
- 4 Grab Hooks

Total:
15 components

2-leg sling with shortening function



- 1 Master Grab Duo

Total:
1 GrabiQ component

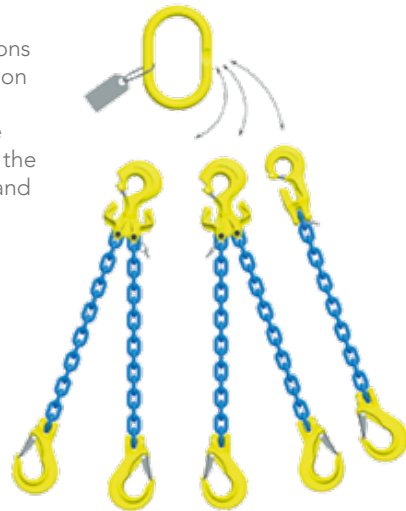


- 1 Master link
- 4 Berglok Chain Couplers
- 2 Grab Hooks

Total:
7 components

Less is more with FlexiLeg™

Thanks to the unique features of our GrabiQ product range we can offer solutions that increase the flexibility in lifting operations even further. Our FlexiLeg solution allows you to have an instant leg change onsite. With one single master link in combination with five Flexi-legs we offer a solution that replaces four complete traditional slings, a total of ten legs. In addition to this Flexi-leg also gives you the opportunity to modify the chain sling to different lifting operations, whenever and wherever it is needed.



GrabiQ FlexiLeg – a total of 5 legs replaces the total of 10 legs with the old traditional system.

The benefits of instant leg-change

- It enables the user to change slings, leg by leg.
- It makes the sling lighter and easier to work with.
- Sling legs that are not being used can easily be removed, thereby increasing safety at the work site.
- The quantity of sling material is greatly reduced, providing cost savings.
- The chain sling can be rebuilt on site, thus increasing efficiency.

GrabiQ™



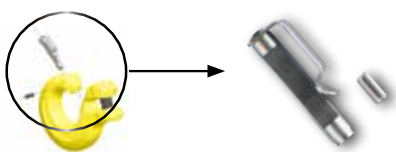
Traditional system



Related products

QuickPin for safe exchange of sling legs

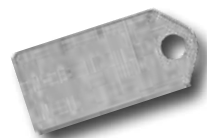
- Fits all C-components (CL, CLD, CG, CGD)
- Has instant close/open function, no tools needed
- Easy to retro-fit
- Made of stainless steel for long product life span



Safety factor 4:1

FlexiTag for every GrabiQ sling

- Specially designed for FlexiLeg
- Fits all other GrabiQ slings
- WLL and chain size pre-stamped for 1 - 4 legs
- Leg angle 45/60 degree shown in contour
- Made of stainless steel for use in all weather conditions



GrabiQ solutions for every need

1-leg Chain slings

2



MG1-GBK
Consist of: Master link MG, Chain KLA, Safety Hook GBK

Dim. mm	WLL t*	Total Components length, mm
6	1.5	171
8	2.6	296
10	4.0	361
13	6.8	453
16	10.3	527



MG1-EGKN
Type: Master link MG, Chain KLA, Hook with latch EGKN

Dim. mm	WLL t*	Total Components length, mm
6	1.5	231
8	2.6	261
10	4.0	331
13	6.8	408
16	10.3	481



TG1-GBK
Master link MF, C-grab CG, Chain KLA, Safety Hook GBK

Dim. mm	WLL t*	Total Components length, mm
6	1.5	200
8	2.6	346
10	4.0	424
13	6.8	504
16	10.3	621

2-leg Chain sling



TG1-EGKN
Consists of: Master link MF, C-grab CG, Chain KLA, Hook with latch EGKN

Dim. mm	WLL t*	Total Components length, mm
6	1.5	286
8	2.6	342
10	4.0	415
13	6.8	507
16	10.3	624



MGD2-EGKN
Consists of: Master link MGD, Chain KLA, Latch Hook EGKN

Dim. mm	WLL tonnes*		Total Components length, mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	2.1	1.5	230
8	3.5	2.6	261
10	5.6	4.0	331
13	9.5	6.8	408
16	14.0	10.3	481



MGD2-GBK
Consists of: Master link MGD, Chain KLA, Safety Hook GBK

Dim. mm	WLL tonnes*		Total Components length, mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	2.1	1.5	235
8	3.5	2.6	296
10	5.6	4.0	361
13	9.5	6.8	453
16	14.0	10.3	527



TG2-GBK
Consists of: Master link MF, C-grab Duo CGD, Chain KLA, Safety Hook GBK

Dim. mm	WLL t*		Total Components length, mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	2.1	1.5	291
8	3.5	2.6	366
10	5.6	4.0	444
13	9.5	6.8	534
16	14.0	10.3	671



TG2-EGKN
Consists of: Master link MF, C-grab Duo CGD, Chain KLA, Latch Hook EGKN

Dim. mm	WLL t*		Total Components length, mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	2.1	1.5	286
8	3.5	2.6	342
10	5.6	4.0	415
13	9.5	6.8	507
16	14.0	10.3	625



MGD2-CL
Consists of: Master link MGD, Chain KLA, C-lok CL

Dim. mm	WLL t*		WLL choked t*		Total Components length, mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	2.1	1.5	1.6	1.2	187
8	3.5	2.6	2.7	2.0	230
10	5.6	4.0	4.4	3.2	285
13	9.5	6.8	7.4	5.4	359
16	14.0	10.3	11.0	8.0	429

Based on EN 818-4:2008 WLL + 25%

*Safety factor 4:1

See 3- and 4-leg GrabiQ solutions on next page

3-leg Chain sling



TG3-GBK
 Consists of: Master link MF,
 C-grab CG, C-grab Duo CGD,
 Chain KLA, Safety Hook GBK

Dim. mm	WLL t*		Total component length mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	3.1	2.2	311
8	5.2	3.7	392
10	8.4	6.0	474
13	14.0	10.0	604
16	21.0	15.0	680



TG3-EGKN
 Consists of: Master link MF, C-grab CG,
 C-grab Duo CGD, Chain KLA,
 Latch Hook EGKN

Dim. mm	WLL t*		Total Component length mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	3.1	2.2	306
8	5.2	3.7	357
10	8.4	6.0	444
13	14.0	10.0	559
16	21.0	15.0	634

4-leg Chain sling



TG4-GBK
 Consists of: Master link MF, C-grab
 Duo CGD, Chain KLA, Safety Hook GBK

Dim. mm	WLL t*		Total Component length mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	3.1	2.2	311
8	5.2	3.7	392
10	8.4	6.0	474
13	14.0	10.0	604
16	21.0	15.0	680



TG4-EGKN
 Consists of: Master link MF, C-grab
 Duo CGD, Chain KLA, Latch Hook EGKN

Dim. mm	WLL t*		Total Component length mm
	β 0-45° α 0-90°	β 45-60° α 90-120°	
6	3.1	2.2	306
8	5.2	3.7	357
10	8.4	6.0	444
13	14.0	10.0	559
16	21.0	15.0	634

WLL tonnes Grade 10 GrabiQ

Based on EN 818-4:2008 WLL + 25%

Sling type	1-leg		2-leg		3- and 4-leg		Choke Hitch	
	Straight	β 0-45° α 0-90°	β 45-60° α 90-120°	β 0-45° α 0-90°	β 45-60° α 90-120°	Choke β 0-45° α 0-90°	Choke β 45-60° α 90-120°	
Load factor	1	1.4	1	2.1	1.5	1.1	0.8	
Chain size								
6	1.50	2.10	1.50	3.10	2.20	1.60	1.20	
7	1.95	2.70	1.95	4.00	2.90	2.10	1.50	
8	2.50	3.50	2.50	5.20	3.70	2.70	2.00	
10	4.00	5.60	4.00	8.40	6.00	4.40	3.20	
13	6.80	9.50	6.80	14.20	10.20	7.40	5.40	
16	10.00	14.10	10.00	21.00	15.00	11.00	8.00	
20	16.00	22.50	16.00	33.60	24.00	17.60	12.80	
22	20.00	28.20	20.00	42.00	30.00	22.00	16.00	
26	27.00	38.00	27.00	56.70	40.50	29.70	21.60	
32	40.00	56.40	40.00	84.00	60.00	44.00	32.00	

Safety factor 4:1. Working load limits are based upon equally loaded and disposed sling legs.

*Safety factor 4:1

Pre-assembled GrabiQ chain sling

Ready to use at arrival

Gunnebo Industries offers the perfect retail solution - pre-assembled chain slings with information tags, supplied with certificate, packed in boxes. Ready to be used the instant they arrive.



2

Technical specification

CE

Art. no.	Code	WLL tonnes*	Length m	Choked WLL	Weight kg	
B790110	MG1-GBK-6-10	1.5	2	-	4.1	
B790111	MG1-GBK-8-10	2.6	3	-	6.4	
B790112	MG1-GBK-10-10	4.0	3	-	10.1	
B790120	MG1-EGKN-6-10	1.5	2	-	2.8	
B790121	MG1-EGKN-8-10	2.6	3	-	6	
B790122	MG1-EGKN-10-10	4.0	3	-	9.7	
B790220	MG2-EGKN-6-10	2.1	2	-	7.1	
B790221	MG2-EGKN-8-10	3.5	3	-	11.7	
B790222	MG2-EGKN-10-10	5.6	3	-	17.6	
B790210	MG2-GBK-6-10	2.1	2	-	7.3	
B790211	MG2-GBK-8-10	3.5	3	-	12.3	
B790212	MG2-GBK-10-10	5.6	3	-	18.9	
B790130	MG2-CL-6-10	2.1	6	1.6	12.4	
B790131	MG2-CL-8-10	3.5	6	2.7	21.8	
B790132	MG2-CL-10-10	5.6	6	4.4	34.9	

FlexiLeg

CE

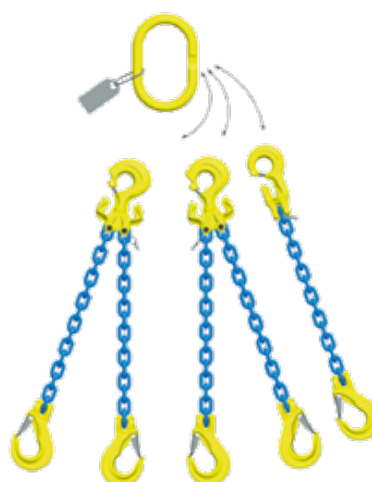
Art. no.	Code	WLL in tonnes*		
		1-leg	2-leg	3- & 4-leg
Z101050	FlexiLeg GBK 6 mm L= 2 m	1.5	2.1	3.15
Z101051	FlexiLeg EGKN 6 mm L= 2 m	1.5	2.1	3.15
Z101052	FlexiLeg GBK 8 mm L= 2 m	2.6	3.5	5.2
Z101053	FlexiLeg EGKN 8 mm L= 2 m	2.6	3.5	5.2
Z101054	FlexiLeg GBK 10 mm L= 2 m	4.0	5.6	8.4
Z101055	FlexiLeg EGKN 10 mm L= 2 m	4.0	5.6	8.4
Z101056	FlexiLeg GBK 13 mm L= 2 m	6.8	9.5	14
Z101057	FlexiLeg EGKN 13 mm L= 2 m	6.8	9.5	14
Z101058	FlexiLeg GBK 16 mm L= 2 m	10.3	14	21
Z101059	FlexiLeg EGKN 16 mm L= 2 m	10.3	14	21

* For different lifting angles - see WLL table page 2:5 - 2:6.

Pre-assembled 6 mm FlexiLeg

CE

Art. no.	Code	Weight kg
Z101016	FlexiLeg FMG 221 GBK 6 mm L= 2 m	13.8
Z101017	FlexiLeg FMG 221 EGKN 6 mm L= 2 m	13.3



Midgrab chain shortener MIG

Product features

- Instant mounting and positioning on any part of the chain.
- Shortening in either chain direction; up-down.
- Designed to prevent inadvertent chain disengagement.
- Can be set idle on the chain leg when shortening is not required.
- LC version offers secure mounting with locking set on any desired part of the chain with one chain direction open for shortening.
- CC version offers close-open function in both chain directions for safe retention of the chain.



Locking devices for Midgrab MIG

Note! The MIG should be used with at least one locking device.

L - fixed locking set

For fixed mounting

Code:

L-8: B14905

L-10: B14915

L-13: B14917



C - close/open locking set

Spring operated locking device. Can be placed either in open or closed position.

Code:

C-8: B14904

C-10: B14914

C-13: B14916



Product code set guide - locking options



MIG C

MIG CC

MIG L

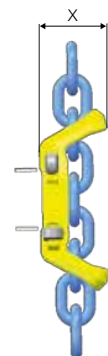
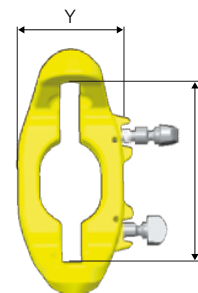
MIG LC

MIG with C pins

Art. no.	Code	WLL tonnes*	L	X	Y	Weight kg
B14303	MIG CC-8-10	2.6	95	50	60	0.7
B14313	MIG CC-10-10	4.0	125	70	77	1.1
B14323	MIG CC-13-10	6.8	150	90	80	2.6

MIG without pins

Art. no.	Code	WLL tonnes*	L	X	Y	Weight kg
B14300	MIG-8-10	2.6	95	50	60	0.6
B14310	MIG-10-10	4.0	125	70	77	1.0
B14320	MIG-13-10	6.8	150	90	80	2.5



*Safety factor 4:1

2:8

All dimensions in mm

Identification of our Master Links

To provide good readability and traceability our master links have the following marking:

Product type

- M - represents single type master link.
- MT - represents master link assembly.
- OS - is an abbreviation for offshore. All Arctic offshore master links are marked with OS and complies with DNV 2.7-1.

Size designation

- The size is linked to the WLL as well as to compatible products, like attachment links and other components.
- Trade size.
- The size expressed in inch.

Approved by BG/DGUV

- H32 – represents Gunnebo Industries' manufacturing ID. The ID also represents a 3rd part audit by BGHW in Germany.

Traceability code

- The traceability code is unique for the production batch and normally consists of a letter and a number; for example A2. The traceability code makes it possible to trace and track the product through the whole production process back to the raw material used for the actual product.

2

Gunnebo Sweden

- To clearly highlight the Gunnebo Industries brand, our master links are marked with *Gunnebo Sweden*.

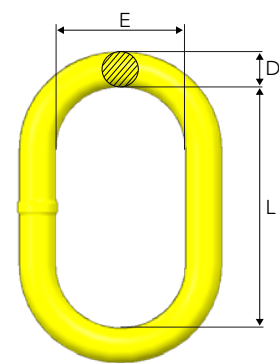
Meets the standards

- The markings fulfills the requirements of EN 1677-4, ASTM A952/A952M-02, ASME B30.26, AS 3775.2 and DNV 2.7-1.



Master Link M

Art. no.	Code	WLL tonnes (SF 5:1)		L	E	D	Weight kg
		EN 1677-4	A952/A952M AS 3775.2				
Z101271	M-6-10	1.5	1.5	100	60	11	0.2
Z101272	M-8-10	2.5	3.2	125	70	14	0.4
Z101273	M-10-10	4.0	5.2	140	80	17	0.8
Z101274	M-13-10	6.8	6.8	150	90	19	1.0
Z101267	M-1310-10	7.5	8.0	160	95	22	1.5
Z101268	M-1613-10	10.0	13.6	190	110	28	2.8
Z101247	M-19-10	12.0	16.0	200	120	30	3.5
Z101269	M-2016-10	17.0	20.6	240	140	34	5.2
Z101270	M-2220-10	25.0	30.9	250	150	40	7.3
Z101275	M-2622-10	28.0	35.0	250	150	42	8.7
Z101284	M-32-10	33.0	38.6	340	180	45	12.9
Z101276	M-3226-10	43.0	46.6	300	200	50	14.8
Z101277	M-3632-10	56.0	65.0	350	200	55	20.7
Z101278	M-4536-10	70.0	72.7	375	210	60	26.4
Z101279	M-90T-10	90.0	100.0	450	250	70	42.8
Z101280	M-125T-10**	125.0	125.0	450	260	80	57.0

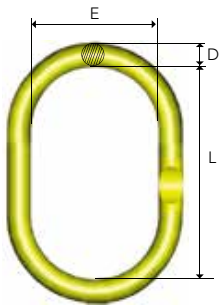


** Dimension L and E not acc. to EN 1677-4.

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02, ASME B30.26, AS 3775:2014 and AS 3776:2015.

Master Link MF

For 1-, 2-, 3- and 4-leg slings. Designed for use with CL, CLD, CG and CGD. 3- and 4 leg chain slings require CLD / CGD.

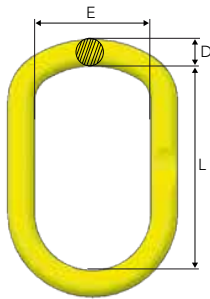


Art. no.	Code	WLL tonnes (SF 5:1)		For chain size, mm			L	E	D	Weight kg
		EN 1677-4	A952/A952M AS 3775.2	1-leg	2-leg	3-4-leg				
B14487	MF-6-10	1.5	1.5	6			100	60	11	0.2
B14481	MF-86-10	2.5	3.2	6, 8	6	-	125	70	14	0.4
B14482	MF-108-10	4.0	5.2	10	8	6	140	80	17	0.8
B14483	MF-1310-10	7.5	8.0	13	10	8	160	95	22	1.5
B14484	MF-1613-10	10.0	13.6	16	13	10	190	110	28	2.8
B14485	MF-2016-10	17.0	20.6	20	16	13	240	140	34	5.2
B14486	MF-2220-10	25.0	30.9	22	20	16	250	150	40	7.3

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02, ASME B30.26, AS 3775:2014 and AS 3776:2011

Master Link MFH

Designed for crane hooks, DIN 15401 and 15402. Designed for use with CL, CLD, CG and CGD. 3- and 4 leg chain slings require CLD / CGD.

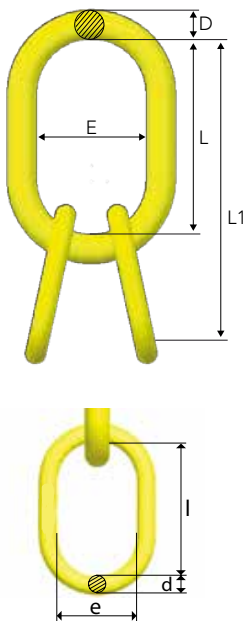


Art. no.	Code	WLL tonnes (SF 5:1)		For chain size, mm			L	E	D	DIN 15401	DIN 15402	Weight kg
		EN 1677-4	A952/A952M AS 3775.2	1-leg	2-leg	3-4 leg						
Z101262	MFH-1310-10	7.5	8.0	13	10	8	230	125	22	≤ 12	≤ 16	2.1
Z101263	MFH-1613-10	10.0	13.6	16	13	10	250	135	28	≤ 12	≤ 16	3.7
Z101264	MFH-2016-10	17.0	20.6	20	16	13	280	135	32	≤ 16	≤ 20	5.3
Z101265	MFH-2220-10	28.0	30.9	26	20	16	320	175	40	≤ 25	≤ 32	9.7
Z101266	MFHW-2220-10	28.0	28.0	26	20	16	355	225	40	≤ 50	≤ 63	11.1

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02, ASME B30.26, AS 3775:2014 and AS 3776:2011

Master Link with Sublinks MT

Designed for use with chain or wire rope. For 3- and 4-leg slings



Art. no.	Code	WLL tonnes (SF 5:1)		L1	L	E	D	l	e	d	Weight kg
		EN 1677-4	A952/A952M AS 3775.2								
Z100902	MT-6-10	3.5	5.0	270	150	90	19	125	70	14	1.8
Z100903	MT-8-10	5.2	8.0	300	160	95	22	140	80	17	3.0
Z101359	MT-9-10	6.9	9.7	340	190	110	28	150	90	19	4.9
Z100904	MT-10-10	11.5	16.0	360	200	120	30	160	95	22	6.4
Z100905	MT-13-10	17.0	26.0	440	250	150	40	190	110	28	14.2
Z100906	MT-16-10	28.0	35.0	500	300	200	50	200	120	32	23
Z101074	MT-20-10	35.0	50.0	550	300	200	55	250	150	40	31.5
Z101281	MT-22-10	53.0	75.0	610	350	200	60	260	140	45	46
Z101282	MT-26-10	70.0	100.0	730	450	250	70	280	160	50	71
Z101283	MT-32-10	90.0	125.0	730	450	260	80	280	160	55	91

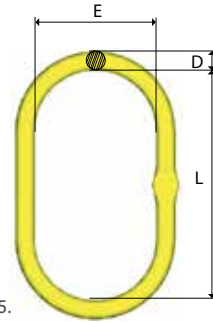
Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02, ASME B30.26, AS 3775:2014 and AS 3776:2011
 Flattened section on the sublinks for sizes up to MT-16-10 except MT-9-10.

Master Link MFX

Oversized, for 1- and 2-leg slings. Designed for use with CL, CLD, CG and CGD.

Art. no.	Code	WLL tonnes (SF 5:1)		For chain 1-leg	For chain 2-leg	L	E	D	Weight kg
		EN 1677-4	A952/A952M AS 3775.2						
Z100550	MFX-108-10	4.25	5.2	8, 10	8	340	180	25	3.7
Z100551	MFX-1310-10	7.5	8.0	13	10	340	180	28	4.7
Z100552	MFX-1613-10	11.2	13.6	16	13	340	180	34	7.1
Z101125	MFX-2016-10	16.0	20.6	20	16	340	180	40	9.6

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02, ASME B30.26, AS 3775:2014 and AS 3776:2015.



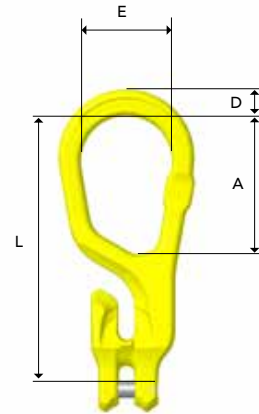
2

Master Grab MG

"All-in-one" compact top link.

Art. no.	Code	WLL tonnes*	L	A	E	D	Weight kg
B14710	MG-6-10	1.5	145	88	60	15	0.5
B14711	MG-8-10	2.6	171	92	60	18	0.9
B14712	MG-10-10	4.0	211	113	75	22	1.8
B14713	MG-13-10	6.8	261	138	90	26	3.5
B14714	MG-16-10	10.3	311	157	105	31	6.1

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

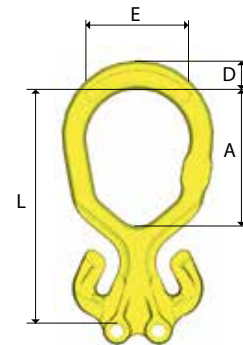


Master Grab Duo MGD

"All-in-one" compact top link for 2-leg slings.

Art. no.	Code	WLL tonnes*	L	A	E	D	Weight kg
B14700	MGD-6-10	2.1	144	90	60	17	0.7
B14701	MGD-8-10	3.5	171	100	75	21	1.3
B14702	MGD-10-10	5.6	211	124	90	24	2.3
B14703	MGD-13-10	9.5	262	149	105	31	5.2
B14704	MGD-16-10	14.0	310	175	120	35	7.9

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

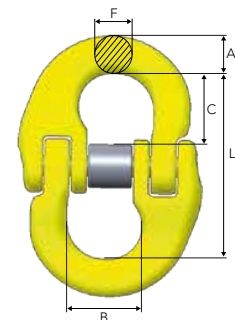


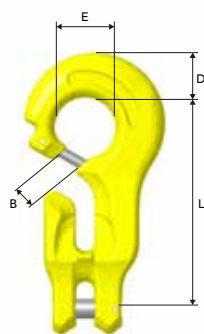
Coupling Link G

For use with master link and eye hook.

Art. no.	Code	WLL tonnes*	L	B	F	A	C	Weight kg
Z100821	G-6-10	1.5	45	15	7	8	16	0.1
Z101358	G-7-10	2.0	56	18	9	11	22	0.2
Z100822	G-8-10	2.6	56	18	9	11	22	0.2
Z100823	G-10-10	4.0	68	25	12	13	26	0.3
Z100824	G-13-10	6.8	89	29	15	17	33	0.7
Z100825	G-16-10	10.3	106	36	19	20	40	1.4
Z101119	G-20-10	16.0	125	43	23	26	44	2.2
Z101339	G-22-10	20.0	152	50	26	28	59	3.6
Z101365	G-26-10	27.3	161	58	32	34	61	5.7
Z101666	G-32-10	40.0	200	70	38	40	77	9.5

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



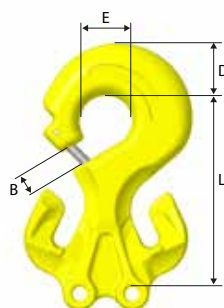


C-Grab CG

For use with master link, eye hooks and choke.

Art. no.	Code	WLL tonnes*	L	B	E	D	Weight kg
B14730	CG-6-10	1.5	80	11	24	19	0.3
B14731	CG-8-10	2.6	107	12	32	24	0.7
B14732	CG-10-10	4.0	134	15	40	29	1.5
B14733	CG-13-10	6.8	172	18	52	38	3.2
B14734	CG-16-10	10.3	215	22	64	47	6.1

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

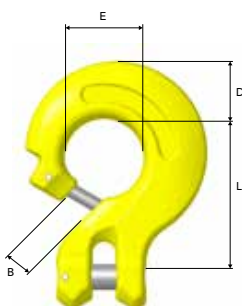


C-Grab Duo CGD

For use with master links.

Art. no.	Code	WLL tonnes*	L	B	E	D	Weight kg
B14720	CGD-6-10	2.1	79	11	24	20	0.6
B14721	CGD-8-10	3.5	107	12	32	29	1.1
B14722	CGD-10-10	5.6	134	15	40	37	2.2
B14723	CGD-13-10	9.5	173	19	48	48	5.4
B14724	CGD-16-10	14.0	215	22	64	57	9.1

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

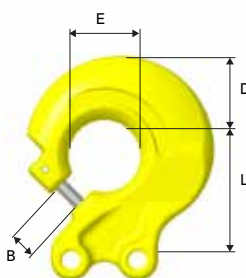


C-Lok CL

For use with master links, eye hooks and choke.

Art. no.	Code	WLL tonnes*	L	B	E	D	Weight kg
B14750	CL-6-10	1.5	43	11	24	18	0.2
B14751	CL-8-10	2.6	58	12	32	24	0.5
B14752	CL-10-10	4.0	74	15	40	29	1.0
B14753	CL-13-10	6.8	94	18	52	38	2.0
B14754	CL-16-10	10.3	119	22	64	48	3.8

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



C-Lok Duo CLD

For use with master links.

Art. no.	Code	WLL tonnes*	L	B	E	D	Weight kg
B14740	CLD-6-10	2.1	43	11	24	22	0.4
B14741	CLD-8-10	3.5	58	12	32	29	0.6
B14742	CLD-10-10	5.6	74	15	40	37	1.2
B14743	CLD-13-10	9.5	94	18	52	46	3.1
B14744	CLD-16-10	14.0	119	25	64	57	5.5

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

GrabiQ Chain KLA, Grade 10 (200)

Short link lifting chain

Heat treatment

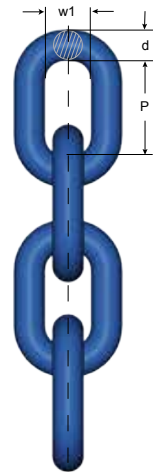
Hardened and tempered.
Note! For chain grade 10 (200) the maximum in service temperature is 200°C.

Surface treatment

Painted blue

Fulfills the requirements in:

ASTM A973/A973M-07(2012)
EN 818+2:2008 (WLL+25%, reduced temperature range)



2

Art. no. Box	Code	WLL tonnes	d nom.	p	w1	Weight kg/m	MPF kN	Breaking force kN
Z802300 - 1 x 200 m	KLA 6-10 (200)	1.5	6	18	8.5	0.8	36.8	58.9
Z802337 - 1 x 200 m	KLA 7-10 (200)	1.95	7	21	10.0	1.1	48	77
Z802301 - 1 x 200 m	KLA 8-10 (200)	2.6	8	24	11.0	1.4	63	102
Z802302 - 1 x 100 m	KLA 10-10 (200)	4.0	10	30	14.0	2.3	98	158
Z802303 - 1 x 100 m	KLA 13-10 (200)	6.8	13	39	17.7	3.8	166	268
Z802304 - 1 x 100 m	KLA 16-10 (200)	10.3	16	48	21.9	5.6	251	402
Z802305 - 1 x 50 m	KLA 20-10 (200)	16.0	20	60	27.0	9.4	393	630
Z802246 - 1 x 50 m	KLA 22-10 (200)	20.0	22	66	29.0	11.9	491	785
Z802248 - 1 x 50 m	KLA 26-10 (200)	27.0	26	78	35.0	16.4	664	1062
Z802440 - 1 x 25 m	KLA 32-10 (200)	40.0	32	96	41.6	25.8	981	1610

GrabiQ Chain KLA, Grade 10 (400)

Short link lifting chain

Heat treatment

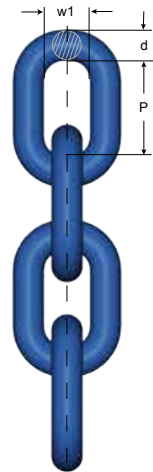
Hardened and tempered.
Note! For chain grade 10 (400) the maximum in service temperature is 400°C.

Surface treatment

Painted blue

Fulfills the requirements in:

EN 818-2:2008 (WLL+25%, material dimension \varnothing +10%)

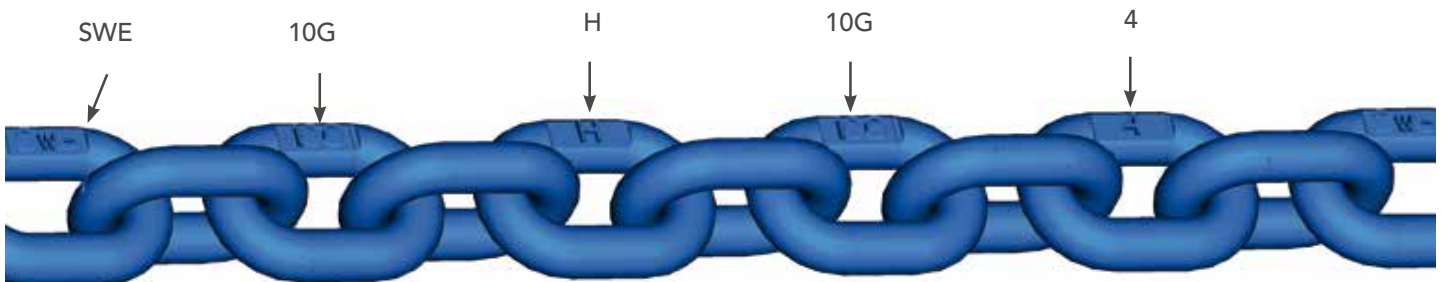


Note: This chain is marked with "8+" in addition to the marking required by the machine directive

Art. no. Box	Code	WLL tonnes	d nom.	p	w1	Weight kg/m	MPF kN	Breaking force kN
Z802306 - 1 x 200 m	KLA 6-10 (400)	1.5	6.6	18	8.9	1.0	36.8	58.9
Z802307 - 1 x 200 m	KLA 8-10 (400)	2.5	8.8	24	11.2	1.7	63	102
Z802308 - 1 x 100 m	KLA 10-10 (400)	4.0	11.0	30	14.4	2.6	98	158
Z802309 - 1 x 100 m	KLA 13-10 (400)	6.7	14.3	39	19.2	4.5	166	268
Z802310 - 1 x 100 m	KLA 16-10 (400)	10.0	17.3	48	23.0	6.7	251	402

For larger sizes, see GrabiQ Grade 10 (200) or Classic Grade 8.

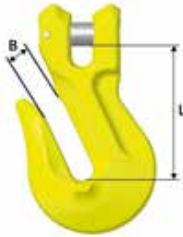
Marking and traceability of Gunnebo Industries chain



*Safety factor 4:1

Grab Hook GG

Clevis shortening hook. No reduction of working load limit, thanks to supporting cradle lugs on either side of hook to prevent chain link deformation.

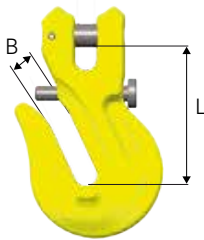


Art. no.	Code	WLL tonnes*	L	B	Weight kg
Z101844	GG-6-10	1.5	54	8	0.2
Z100845	GG-7-10	2.0	57	10	0.3
B14771	GG-8-10	2.6	57	10	0.4
B14772	GG-10-10	4.0	76	12	0.9
B14773	GG-13-10	6.8	97	16	1.8
B14774	GG-16-10	10.3	114	20	3.1
Z101152	GG-20-10	16.0	147	26	7.0

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

Grab Hook GG with Locking Pin

Clevis shortening hook with locking pin for extra safety. No reduction of working load limit, thanks to supporting cradle lugs on either side of hook to prevent chain link deformation.

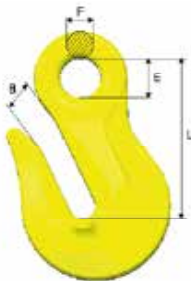


Art. no.	Code	WLL tonnes*	L	B	Weight kg
B14971	GG-8-10 LP	2.6	57	10	0.4
B14972	GG-10-10 LP	4.0	77	12	0.9
B14973	GG-13-10 LP	6.8	97	16	1.9
B14974	GG-16-10 LP	10.3	114	20	3.2

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

Grab Hook OG

Eye shortening hook. No reduction of working load limit, thanks to supporting lugs on either side of hook to prevent chain link deformation.

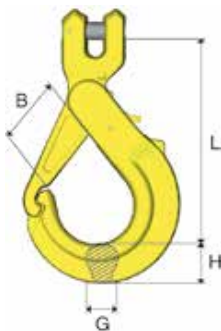


Art. no.	Code	WLL tonnes*	L	B	E	F	Weight kg
Z101296	OG-7/8-10	2.6	65	10	17	10	0.3
Z101297	OG-10-10	4.0	85	12	20	12	0.7
Z101298	OG-13-10	6.8	104	16	26	16	1.6
Z101299	OG-16-10	10.3	131	20	32	19	2.8
Z101300	OG-20-10	16.0	167	26	41	23	6.1
Z101301	OG-22-10	20.0	187	26	46	26	7.75
Z101302	OG-26-10	27.3	228	32	55	38	14
Z101303	OG-32-10	40.0	229	40	50	27	20.7

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

Safety Hook GBK

Safety hook with clevis connector and grab latch.



Art. no.	Code	WLL tonnes*	L	B	G	H	Weight kg
Z100758	GBK-6-10	1.5	87	26	15	17	0.4
Z100849	GBK-7-10	2.0	114	36	20	22	0.5
Z100759	GBK-8-10	2.6	119	36	20	22	0.8
Z100760	GBK-10-10	4.0	150	47	22	29	1.4
Z100761	GBK-13-10	6.8	172	53	29	38	2.7
Z100762	GBK-16-10	10.3	208	68	30	45	4.4

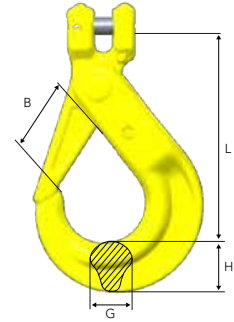
Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

Safety Hook BKG

Safety hook with clevis connector and standard latch.

Art. no.	Code	WLL tonnes*	L	B	G	H	Weight kg
Z101110	BKG-6-10	1.5	91	29	15	21	0.5
Z101098	BKG-7-10	2.0	120	37	17	22	0.5
Z101100	BKG-8-10	2.6	121	37	17	26	0.9
Z101026	BKG-10-10	4.0	144	45	21	31	1.5
Z101034	BKG-13-10	6.8	180	55	30	40	3.0
Z101042	BKG-16-10	10.3	219	62	37	50	5.5
Z101091	BKG-20-10	16.0	240	68	46	64	9.6

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



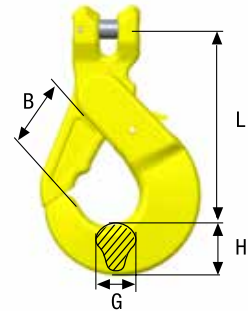
2

Safety Hook BKGC

Safety hook with clevis connector for skip loaders.

Art. no.	Code	WLL tonnes*	L	B	G	H	Weight kg
Z1002401	BKGC-13-10	6.8	164	55	27	43	3.2

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

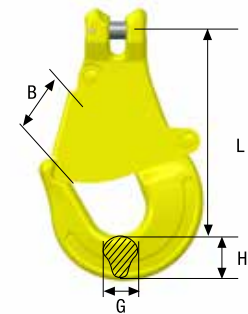


Sling Hook GKC

Sling hook with clevis connector for skip loaders.

Art. no.	Code	WLL tonnes*	L	B	G	H	Weight kg
Z7006461	GKC-13-10	6.8	188	60	27	43	2.5

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

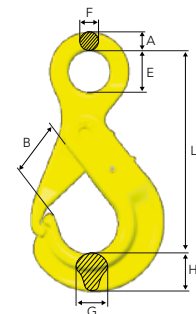


Safety Hook OBK

Safety hook with eye connector and grip latch.

Art. no.	Code	WLL tonnes*	A	L	B	E	F	G	H	Weight kg
Z101048	OBK-6-10	1.5	12	103	26	22	9	15	17	0.4
Z101143	OBK-7/8-10	2.6	14	139	37	28	10	20	22	0.8
Z101145	OBK-10-10	4.0	16	170	47	34	13	22	29	1.3
Z101147	OBK-13-10	6.8	21	206	53	44	15	29	38	2.6
Z101141	OBK-16-10	10.3	26	251	68	56	19	29	45	4.4
Z101240	OBK-18/20-10	16.0	28	293	74	60	22	44	56	8.3

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



BK Safety Hook The Original

Gunnebo Industries continuously works with product development and innovation to create the optimal solutions for each lifting situation. Since the early 1950's we have developed products that have become today's standards on the market. There is however only one original - Gunnebo Industries. With the original you get the perfect fit and smart details.

Back in 1965 Gunnebo Industries developed the BK hook. The mission was to increase the workplace safety of the construction industry. Today this popular and well known hook is the foundation of the innovative and much appreciated BK product family.



Clear markings

- Country of origin.
- Traceability codes.
- Model, size and grade.

Increased flexibility

- The eye design enables connection to not only G-links, but also C-links and Berglok.
- The design makes the BK hook suitable for steel wire ropes.

Flat section

- For attachment to other GrabiQ or wire components.

Heavy duty rivet

- Recessed rivet for a slim design.
- Decreases the risk of snagging.
- Ideal in narrow spaces.

Latch rotation stop

- Protects the trigger mechanism from damage.

Quality is top priority

- Fatigue tested.
- Forged alloy steel.
- Hardened and tempered.
- Every hook is individually proof-loaded at 2,5 x WLL.
- Full traceability back to the raw material.

Precision manufacturing

- Perfect fit between the parts.
- Increases safety during operation.



Replaceable trigger set

- Quick and easy assembly.
- Available as a complete spare part kit.

Recessed trigger

- To avoid the trigger from snagging or being damaged, it has been recessed into the body of the hook.
- Helps to prevent the latch from accidentally opening.

Fluorescent color

- For high visibility in the field.

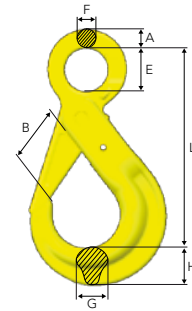
Safety Hook BK

The "original" safety hook with eye connector.

Art. no.	Code	WLL tonnes*	A	L	B	E	F	G	H	Weight kg
Z101108	BK-6-10	1.5	12	109	29	22	10	15	21	0.5
Z101097	BK-7/8-10	2.6	14	138	37	28	11	17	26	0.9
Z101024	BK-10-10	4.0	16	168	45	34	13	21	31	1.5
Z101032	BK-13-10	6.8	20	207	55	44	16	30	40	3.0
Z101040	BK-16-10	10.3	26	254	62	56	20	37	50	5.5
Z101089	BK-18/20-10	16.0	30	289	68	60	22	44	64	9.0
Z101325	BK-22-10	20.0	32	320	80	70	24	50	64	11.3
Z101326	BK-26-10	27.3	35	342	100	80	25	54	68	16.5

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

For larger sizes, see Classic Grade 8.



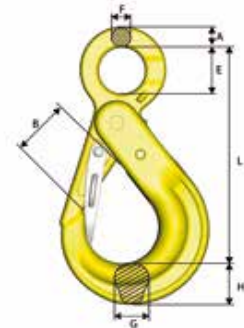
2

Safety Hook BKD

Double latch BK-hook with recessed trigger. Should the first hook latch accidentally open, either through direct impact or excessive wear on the trigger, the extra latch is there to retain the load safely. The secondary latch is designed to be easily operated and will not cause inconvenience for the operator.

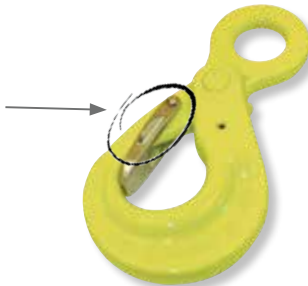
Art. no.	Code	WLL tonnes*	A	L	B	E	F	G	H	Weight kg
Z101154	BKD-13-10	6.8	20	207	44	44	16	30	40	3.2
Z101155	BKD-16-10	10.3	26	254	48	56	20	37	50	5.8
Z101156	BKD-18/20-10	16.0	30	289	52	60	22	46	62	9.1

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



Double latch

Should the hook latch accidentally open, either through direct impact or excessive wear on the trigger, the extra latch is there to retain the load safely. The extra latch is designed to be easily operated.



Shank Safety Hook BKT

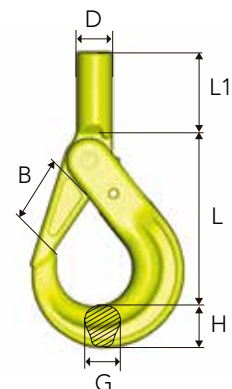
Safety hook with shank for customized machines.

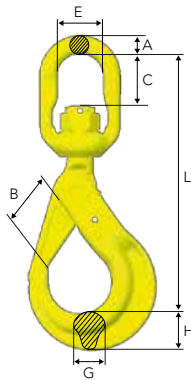
Art. no.	Code	WLL tonnes*	L	B	L1	D	dmin	G	H	Weight kg
Z1011120	BKT-6-10	1.5	90	29	36	20	11	15	21	0.5
Z1011020	BKT-7/8-10	2.6	111	37	47	24	13	17	26	0.9
Z1010690	BKT-10-10	4.0	133	45	51	29	16	21	31	1.6
Z1010710	BKT-13-10	6.8	160	55	77	34	20	30	39	3.0

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

d min = the smallest permitted shank dimension after machining.

Note! After machining of the shank, proof loading must be carried out.



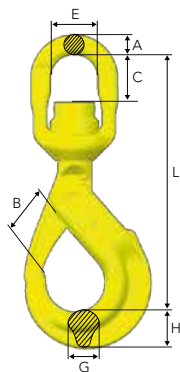


Swivel Safety Hook BKL

Safety hook with swivel for improved positioning of the hook before the load is lifted (360° rotation).

Art. no.	Code	WLL tonnes*	L	B	C	E	A	G	H	Weight kg
Z101114	BKL-6-10	1.5	149	29	23	33	11	15	21	0.7
Z101104	BKL-7/8-10	2.6	183	37	27	38	12	17	26	1.2
Z101028	BKL-10-10	4.0	218	45	37	44	15	21	31	2.0
Z101036	BKL-13-10	6.8	282	55	49	48	19	30	40	4.0
Z101044	BKL-16-10	10.3	341	62	65	61	25	37	50	7.2
Z101093	BKL-18/20-10	16.0	368	68	70	72	31	44	62	11.4

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



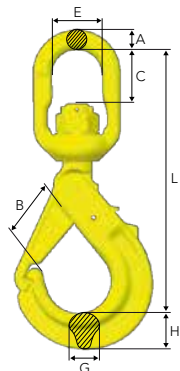
Swivel Safety Hook BKLK

Safety hook with ball-bearing for 360° rotation under full WLL.

Art. no.	Code	WLL tonnes*	L	B	C	E	A	G	H	Weight kg
Z101116	BKLK-6-10	1.5	149	29	24	33	11	15	21	0.7
Z101106	BKLK-7/8-10	2.6	183	37	27	38	12	17	26	1.2
Z101030	BKLK-10-10	4.0	218	45	35	44	15	21	31	2.0
Z101038	BKLK-13-10	6.8	280	55	45	48	19	30	40	4.0
Z101046	BKLK-16-10	10.3	339	62	62	61	25	37	50	7.3
Z101095	BKLK-18/20-10	16.0	368	68	60	72	31	44	62	11.5
Z101294	BKLK-22-10	20.0	436	79	80	80	35	50	62	16.8
Z101295	BKLK-26-10	27.3	486	100	110	102	45	54	68	26.0

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

For larger sizes, see Classic Grade 8.

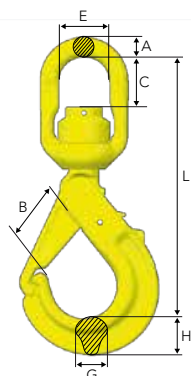


Swivel Safety Hook with Griplatch LBK

Safety hook with griplatch and swivel for improved positioning of the hook before the load is lifted (360° rotation).

Art. no.	Code	WLL tonnes*	L	B	C	E	A	G	H	Weight kg
Z100978	LBK-7/8-10	2.6	177	37	27	38	12	20	22	1.1
Z100960	LBK-10-10	4.0	214	47	37	44	15	22	29	1.8
Z100993	LBK-13-10	6.8	262	53	45	48	19	29	38	3.5
Z100995	LBK-16-10	10.3	324	68	66	61	25	30	45	5.9

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



Swivel Safety Hook with Griplatch LKBK

Safety hook with griplatch and ball-bearing for 360° rotation under full WLL.

Art. no.	Code	WLL tonnes*	L	B	C	E	A	G	H	Weight kg
Z100980	LKBK-7/8-10	2.6	176	37	27	38	12	20	22	1.1
Z100962	LKBK-10-10	4.0	213	47	35	44	15	22	29	1.9
Z100997	LKBK-13-10	6.8	261	53	43	48	19	29	38	3.6
Z100999	LKBK-16-10	10.3	323	68	61	61	25	30	45	6.2

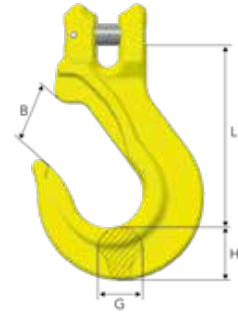
Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

Sling Hook EGK

Sling hook with clevis connector.

Art. no.	Code	WLL tonnes*	L	B	G	H	Weight kg
Z100915	EGK-6-10	1.5	86	29	17	20	0.4
Z100918	EGK-7-10	2.0	95	32	17	22	0.5
Z100938	EGK-8-10	2.6	95	32	17	23	0.5
Z100942	EGK-10-10	4.0	121	41	23	31	1.0
Z100946	EGK-13-10	6.8	145	49	28	38	2.0
Z100950	EGK-16-10	10.3	170	61	36	46	3.8
Z101138	EGK-20-10	16.0	209	71	42	60	7.3

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



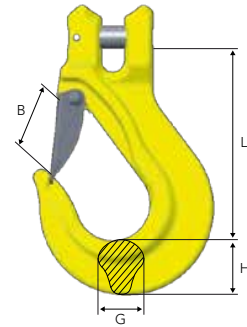
2

Sling Hook EGKN

Sling hook with latch.

Art. no.	Code	WLL tonnes*	L	B	G	H	Weight kg
B14460	EGKN-6-10	1.5	86	25	17	20	0.4
Z100843	EGKN-7-10	2.0	95	27	17	23	0.5
B14461	EGKN-8-10	2.6	95	28	17	23	0.5
B14462	EGKN-10-10	4.0	121	35	23	31	1.1
B14463	EGKN-13-10	6.8	145	42	28	38	2.2
B14464	EGKN-16-10	10.3	170	53	36	46	4.0
Z101127	EGKN-20-10	16.0	209	65	42	60	7.6

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

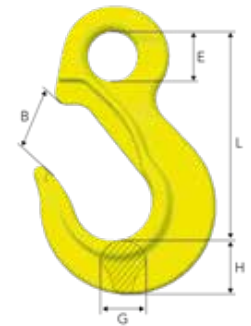


Sling Hook EK

Sling hook with eye connector.

Art. no.	Code	WLL tonnes*	L	B	E	F	G	H	Weight kg
Z101162	EK- 6-10	1.5	93	29	23	10	17	20	0.4
Z101164	EK- 7/8-10	2.6	108	32	28	12	17	23	0.5
Z101166	EK-10-10	4.0	134	41	34	14	23	30	0.9
Z101168	EK-13-10	6.8	166	49	44	18	28	38	2.0
Z101170	EK-16-10	10.3	203	61	56	22	36	47	3.3
Z101306	EK-20-10	16.0	229	71	61	26	42	60	6.2
Z101307	EK-22-10	20.0	267	82	64	31	43	67	8.5
Z101308	EK-26-10	27.3	301	95	66	32	51	75	12.1
Z101309	EK-32-10	40.0	353	105	90	38	61	98	24.6

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

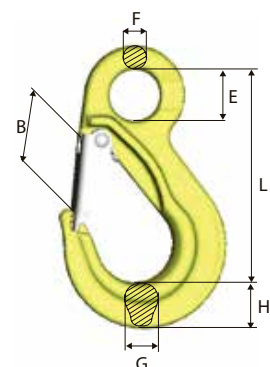


Sling Hook EKN

Sling hook with latch.

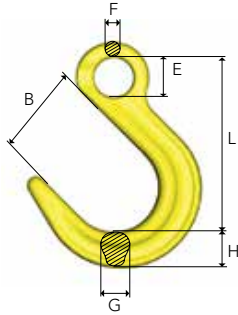
Art. no.	Code	WLL tonnes*	L	B	E	F	G	H	Weight kg
Z101128	EKN- 6-10	1.5	93	25	23	10	17	20	0.4
Z101130	EKN- 7/8-10	2.6	108	26	28	12	17	23	0.6
Z101132	EKN-10-10	4.0	134	37	34	14	23	30	1.0
Z101134	EKN-13-10	6.8	166	42	44	18	28	38	2.1
Z101136	EKN-16-10	10.3	203	53	56	22	36	47	4.0
Z101327	EKN-20-10	16.0	229	60	61	26	42	60	6.4
Z101328	EKN-22-10	20.0	267	73	64	31	43	67	8.9
Z101329	EKN-26-10	27.3	301	82	66	32	51	75	13.0
Z101330	EKN-32-10	40.0	353	96	90	38	61	98	25.0

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.



*Safety factor 4:1

Foundry Hook OKE



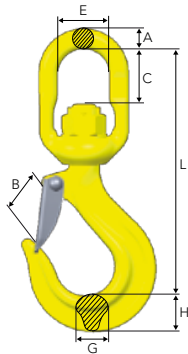
Art. no.	Code	WLL tonnes*	L	B	E	F	G	H	Weight kg
Z100853	OKE-7/8-10	2.6	124	63	28	12	21	26	0.8
Z100854	OKE-10-10	4.0	151	76	34	15	26	30	1.4
Z100855	OKE-13-10	6.8	184	90	44	19	33	39	2.8
Z100898	OKE-16-10	10.3	218	102	56	23	40	46	4.9
Z101340	OKE-20-10	16.0	247	114	60	27	46	60	7.2
Z101341	OKE-22-10	20.0	275	120	64	31	60	70	11.3
Z101342	OKE-26-10	27.3	300	113	70	35	64	77	16.0

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

For larger sizes, see Classic Grade 8.

Swivel Latch Hook LKN

Sling hook with swivel for improved positioning of the hook before the load is lifted (360° rotation).

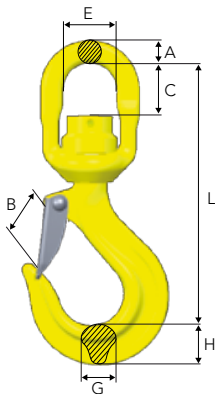


Art. no.	Code	WLL tonnes*	For chain dim.	L	B	C	E	A	G	H	Weight kg
Z101345	LKN-7/8-10	2.6	7, 8	155	28	28	38	12	18	24	0.8
Z101346	LKN-10-10	4.0	10	192	35	37	44	15	23	31	1.5
Z101347	LKN-13-10	6.8	13	238	40	47	48	19	28	38	3.1
Z101348	LKN-16-10	10.3	16	295	53	65	61	25	34	43	5.3

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

Swivel Latch Hook LKNK

Swivel latch hook with ball bearing for 360° rotation under full WLL.

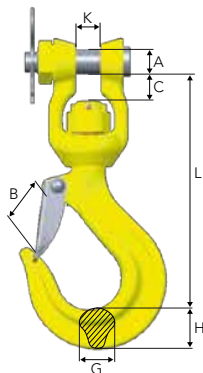


Art. no.	Code	WLL tonnes*	For chain dim.	L	B	C	E	A	G	H	Weight kg
Z101349	LKNK-7/8-10	2.6	7, 8	154	28	28	38	12	18	24	0.9
Z101350	LKNK-10-10	4.0	10	191	35	35	44	15	23	31	1.6
Z101351	LKNK-13-10	6.8	13	236	40	45	48	19	28	38	3.3
Z101352	LKNK-16-10	10.3	16	293	53	62	61	25	34	43	5.6
Z101354	LKNK-22-10	20.0	22	400	74	80	80	35	43	67	15.1

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

Clevis Swivel Hook LKNG

For direct connection to cranes or similar applications.



Art. no.	Code	WLL tonnes*	For chain dim.	L	B	C	A	G	H	K	Weight kg
Z101353	LKNG-16-10	10.3	16	258	53	30	28	34	43	27	5.7

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02 and AS 3776:2015.

Roundsling Hook RH

The RH-hook is the perfect load connection solution, combining the advantages of both soft lifting slings and grade 100 components. It can be inserted into a softsling and is quicker and safer to use than the commonly used shackle. The RH-hook is a connector as well as a hook, which gives the user increased flexibility, safer use and increased durability of the soft slings.

The RH-hook comes with a blocking pin, but thanks to the narrow opening it may be used without blocking pin.



2

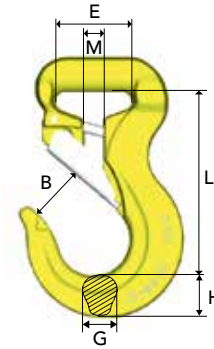
Tested according to EN 1677-2



Art. no.	Code	WLL tonnes*	B	E	G	L	H	M	Weight kg
B14490	RH-1-10	1	24	35	16.6	84	19	8	0.5
B14491	RH-2-10	2	28	40	17	96	22	10	0.7
B14492	RH-3-10	3	33	47	24	117	30	12	1.3
B14493	RH-5-10	5	43	73	27	155	36	16.5	3.2



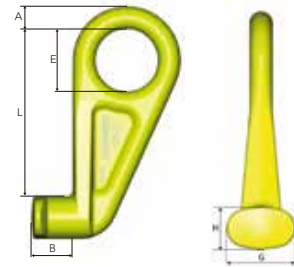
The roundsling hooks are color coded in order to match the corresponding sizes of roundslings marked according to EN 1492: Red=5T, Yellow=3T, Green=2T and Violet=1T.



Container Hook CH

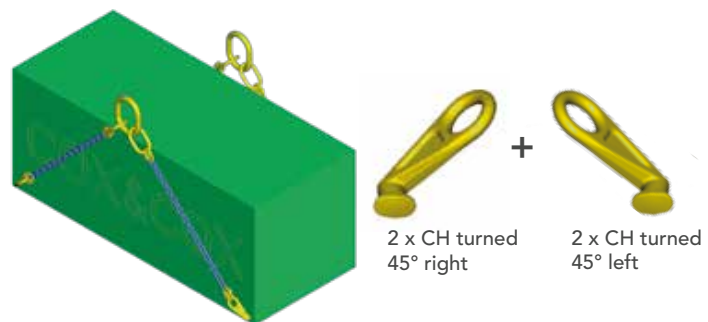
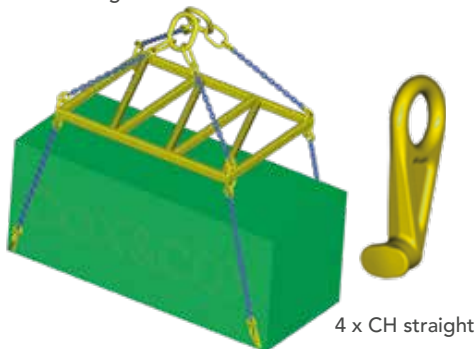
Made for lifting containers in their lower fittings.

Art. no.	Code	WLL tonnes*	A	L	E	B	H	G	Weight kg
Z101220	CH-3	12.5	25	187	70	46	47	75	3.8
Z101221	CH-3, 45° left	12.5	25	187	70	46	47	75	3.8
Z101219	CH-3, 45° right	12.5	25	187	70	46	47	75	3.8



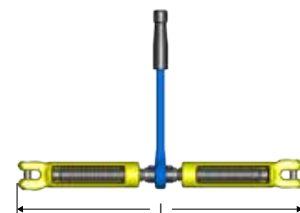
Alt. 1 - Straight lift

Alt. 2 - Angular lift



Chain Tensioner GT for lifting

Art. no	Model	WLL tonnes*	STF (daN)	L = Min. length (mm)	L = Max. length (mm)	Weight (kg)
Z101367	GT-8-10	2.6	2800	400	600	3.3
Z101368	GT-10-10	4.0	2800	400	600	3.3



Offshore Components



Arctic Offshore

Innovation and quality with a purpose

We have developed products to meet the stringent requirements of the offshore oil & gas industry for many years. The working conditions are tough and products have to be able to sustain extreme conditions. Our double latch hook, BKD, was developed with the aerospace industry as a role model; if one system fails another one is ready to save the situation. The extra latch on the BKD will retain the load in case an unintended opening of the first latch should occur.

Our lifting systems have been valued for their long durability and quality. Regardless of the environmental conditions, our systems have provided lifting operations with high safety. Our quality systems give us the tools to work with continuous improvements and we will always put our great efforts into our mission to create the best available products in the market. Our quality is there with a purpose.

DNV 2.7-1 certificate

We are type-approved by DNV to manufacture master links and shackles in accordance with DNV 2.7.1 specification. The approval verifies that Gunnebo Industries has a high consistent level of production stability in the entire process, from raw material to the finished product.



-40°C

Arctic Offshore Master Links

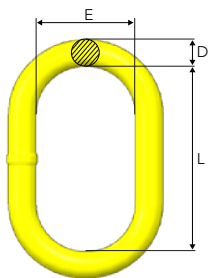
Type approved to DNV 2.7-1

Adverse weather and rough sea conditions - sometimes in combination with extremely low temperatures - must be included in the design and safety factor of container lifting sets. The heat treatment of the components must ensure proper ductility and strength to better handle potential dynamic forces which may be imposed when the container is lifted from the deck of a vessel.

The lifting sets and its included components must be specially designed for the purpose to lift offshore containers. One of the main differences compared to the onshore standard or specification, is that it allows for the dynamic forces at sea by adding an extra enhancement factor to increase the level of safety. Another difference is that the requirements and testing of materials that will be used in cold environments, are more extensive.

Arctic Offshore Master Link M

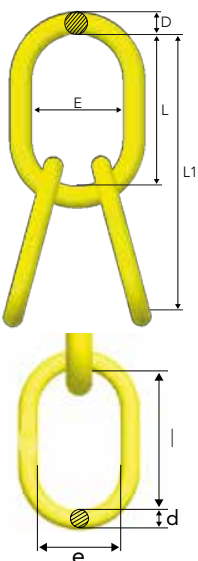
DNV 2.7-1 and DNV 2.7-3 Type Approved.



Art. no.	Code	Working Load Limits				L	E	D	Weight kg
		DNV 2.7-1		EN1677-4	A952/A952M				
		tonnes	Max. Container rating kg	SF 5:1 tonnes	SF 5:1 tonnes				
Z101486	M-9T-OS	9.3	4 500	9.3	9.3	275	145	25	3.0
Z101487	M-12T-OS	12.5	7 500	12.5	12.5	275	145	28	3.8
Z101488	M-18T-OS	18.5	13 500	18.5	18.5	275	145	32	5.1
Z101489	M-24T-OS	24.0	21 000	24.0	24.0	285	155	36	6.5
Z101490	M-30T-OS	30.5	25 000	30.5	30.5	270	140	40	8.2
Z101491	M-40T-OS	40.0	N/A	40.0	40.0	340	180	45	11.9
Z101492	M-50T-OS	50.0	N/A	50.0	50.0	300	200	50	15.3
Z101493	M-65T-OS	65.0	N/A	65.0	65.0	350	200	55	20.7
Z101494	M-90T-OS	90.0	N/A	90.0	90.0	450	250	70	42.7
Z101495	M-125T-OS	125.0	N/A	125.0	125.0	450	260	80	57.5

Arctic Offshore Master Link MT

DNV 2.7-1 and DNV 2.7-3 Type Approved.



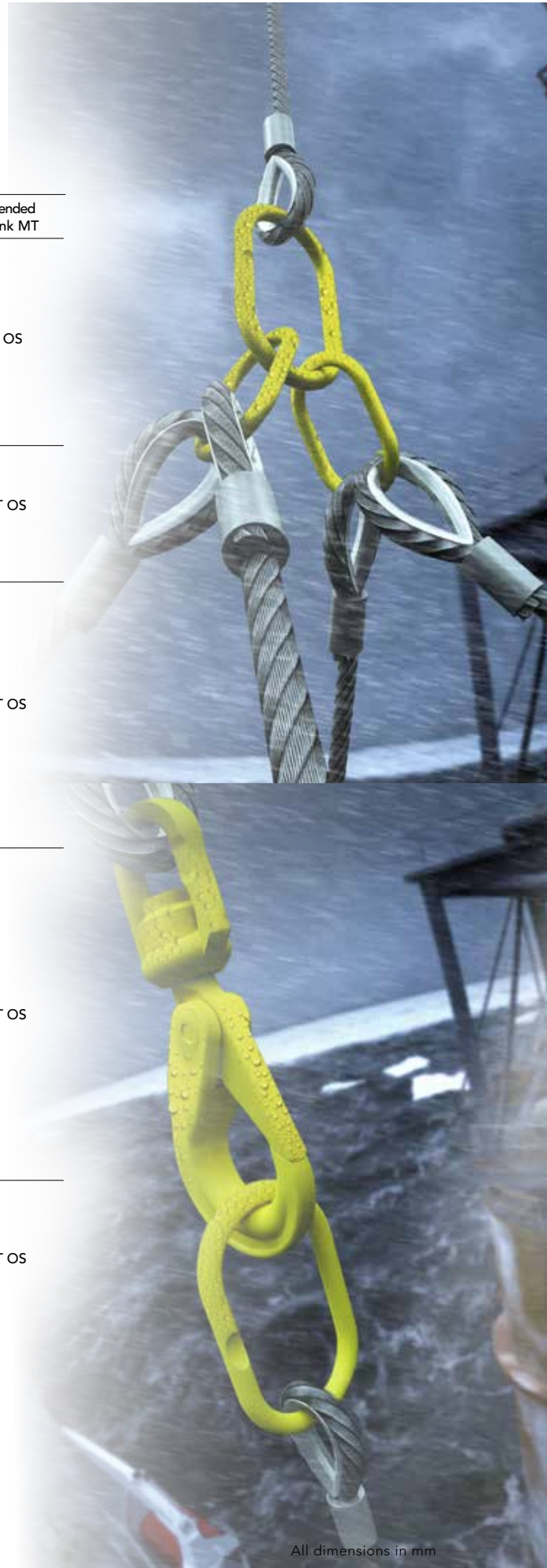
Art. no.	Code	Working Load Limits				L i n k								Weight kg
		DNV 2.7-1		EN 1677-4	A952/A952M	L1	L	E	D	I	e	d		
		tonnes	Max. container rating kg	SF 5:1 tonnes	SF 5:1 tonnes									
Z101586	MT-9T-OS	9.3	4 500	9.3	9.3	435	275	145	25	160	95	22	6.1	
Z101587	MT-12T-OS	12.5	7 500	12.5	12.5	435	275	145	28	160	95	25	7.8	
Z101588	MT-18T-OS	18.5	13 500	18.5	18.5	465	275	145	32	190	110	28	10.9	
Z101589	MT-24T-OS	24.0	21 000	24.0	24.0	560	285	155	36	275	145	32	17.3	
Z101590	MT-30T-OS	30.5	25 000	30.5	30.5	555	270	140	40	285	155	36	22.0	
Z101591	MT-40T-OS	40.0	N/A	40.0	40.0	610	340	180	45	270	140	40	29.3	
Z101592	MT-50T-OS	50.0	N/A	50.0	50.0	640	300	200	50	340	180	45	41.1	
Z101593	MT-65T-OS	65.0	N/A	65.0	65.0	650	350	200	55	300	200	50	50.9	

All sublinks have a WLL of min. 75% of the top link.

Master link selection chart

Reference: DNV 2.7-1 June 2013, table 8.1

Container rating (kg)	Enhancement factor	Min. required WLL (t)	Recommended Master link M	Recommended Master link MT
500	-	7.00		
1000	-	7.00		
1500	-	7.00		
2000	3.500	7.00		
2500	2.880	7.20	M-9T OS	MT-9T OS
3000	2.600	7.80		
3500	2.403	8.41		
4000	2.207	8.83		
4500	2.067	9.30		
5000	1.960	9.80		
5500	1.873	10.30		
6000	1.766	10.60	M-12T OS	MT-12T OS
6500	1.733	11.26		
7000	1.700	11.90		
7500	1.666	12.50		
8000	1.633	13.07		
8500	1.600	13.60		
9000	1.567	14.10		
9500	1.534	14.57		
10000	1.501	15.01		
10500	1.479	15.53	M-18T OS	MT-18T OS
11000	1.457	16.02		
11500	1.435	16.50		
12000	1.413	16.95		
12500	1.391	17.38		
13000	1.368	17.79		
13500	1.346	18.18		
14000	1.324	18.54		
14500	1.302	18.88		
15000	1.280	19.20		
15500	1.267	19.64		
16000	1.254	20.06		
16500	1.240	20.47		
17000	1.227	20.86		
17500	1.214	21.24	M-24T OS	MT-24T OS
18000	1.201	21.61		
18500	1.188	21.97		
19000	1.174	22.31		
19500	1.161	22.64		
20000	1.148	22.96		
20500	1.143	23.44		
21000	1.139	23.92		
21500	1.135	24.39		
22000	1.130	24.86		
22500	1.126	25.33		
23000	1.121	25.79	M-30T OS	MT-30T OS
23500	1.117	26.25		
24000	1.112	26.70		
24500	1.108	27.15		
25000	1.104	27.59		



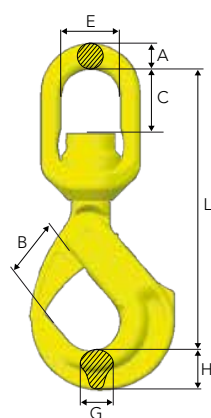
Offshore HDG Safety Hook

- Longer lifetime and less maintenance in corrosive environments
- Type approved to DNVGL-ST-0378 and DNVGL-ST-0377

Offshore HDG Safety hook is a unique DNV type approved offshore safety hook with dual surface treatment. The dual surface treatment optimizes corrosion protection through Hot Dip Galvanization (HDG), and gives high visibility in the field with its fluorescent powder coating.

It has all the benefits that our original BK Safety hook has, but is designed to meet the specific challenges in offshore environments by being manufactured to exacting demands and with preventive actions taken to avoid hydrogen embrittlement.

Swivel Safety Hook BCLK Offshore HDG



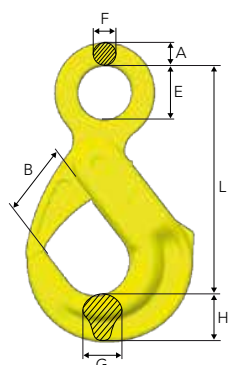
Art. no.	Code	WLL	WLL	L	B	C	E	A	G	H	Weight kg
		tonnes 4:1	tonnes 5:1								
ZG101370	BCLK-13-8 OS W HDG	6.7	5.4	307	55	72	61	25	30	40	4.9
ZG101371	BCLK-16-8 OS W HDG	10.3	8.2	365	62	88	82	26	37	50	8.4
ZG1013561	BCLK-18/20-8 OS W HDG	16.0	12.8	395	68	88	80	35	46	64	13.9
ZG101294	BCLK-22-8 OS HDG	20.0	16.0	436	79	80	80	35	50	62	16.8
ZG101295	BCLK-26-8 OS HDG	27.3	21.6	486	100	110	102	45	54	68	26.5
ZG101344	BCLK-32-8 OS HDG	32.8	26.2	533	120	110	102	45	62	86	32.3
With double latch											
ZGS1167	BCLKD-13-8 OS W HDG	6.7	5.4	307	55	72	61	25	30	40	5.0
ZGS1168	BCLKD-16-8 OS W HDG	10.3	8.2	365	62	88	82	26	37	50	8.8
ZGS1169	BCLKD-18/20-8 OS W HDG	16.0	12.8	395	68	88	80	35	46	64	14.3

Fulfills requirements in: DNVGL-ST-0377:2016, DNVGL-ST-0378:2016, NORSOK R-002:2017, EN 1677:2008 (WLL+25%), ASTM A952/A952M-02, AS3776:2015 and AS 3775:2014.

Double latch

Due to the motion of the sea when loading and unloading offshore, direct impact on the hook could cause the latch to unintentionally open when not being under load, risking the load to unhitch. The double latch safety hook has an extra latch retaining the load in this case.

Safety Hook BK Offshore HDG



Art. no.	Code	WLL	WLL	L	B	E	F	G	H	Weight kg
		tonnes 4:1	tonnes 5:1							
ZG101355	BK-26-8 OS HDG	27.3	21.6	342	100	80	25	54	68	16.5
ZG101364	BK-32-8 OS HDG	32.8	26.2	400	120	90	30	62	86	23.3

Fulfills requirements in: DNVGL-ST-0377:2016, DNVGL-ST-0378:2016, NORSOK R-002:2017, EN 1677:2008 (WLL+25%), ASTM A952/A952M-02, AS3776:2015 and AS 3775:2014.

See our Offshore Shackles in chapter 4





Increased safety in heavy lifting operations

The WRIN STR Handle is a safety handle that provides additional safety to the Gunnebo Industries' BK safety hook family. With the WRIN STR Handle the operator opens and closes the safety hook without placing any hands inside the hook, resulting in a reduced risk of personal injury on worksites. The handle is easily mounted to the safety hook, without compromising the integrity of design and capabilities of the hook.

Improved workplace safety

- With the WRIN STR Handle there is no need to place a hand inside the safety hook, resulting in a reduced risk of personal injury on worksites.

Suitable to any safety hook within the BK family

- The WRIN STR Handle is easily mounted to any safety hook within the BK family.
- For sling shops the WRIN STR Handle is the perfect complement to the BK safety hooks, reducing the need for a large assortment of different safety hooks.
- If the handle is fully operable, it can be mounted and reused on a new hook if the existing hook is worn out.



Unique design

- The handle will keep the integrity of the hook's design and capabilities uncompromised.
- The handle is clamped to the hook and fixed by the hook's trigger pin.
- Hole for attaching a lead line for easy retrieval.
- Made of quality stainless steel according to AISI 316.

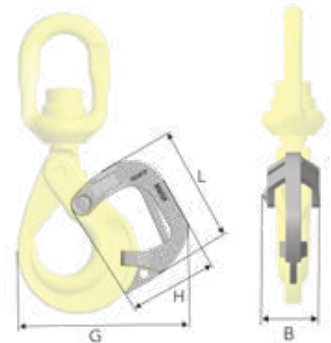


WRIN STR Handle

Suitable to any safety hook within the Gunnebo Industries BK family.

Art. no.	Code	Hook size (mm)	Dimensions (mm)				Suits the following safety hooks:	Weight (kg)
			L	H	B	G		
Z101413	STRG13	13	145	103	60	184	BK, BKD, BKG, BKL, BKLK, BKLKD	0.75
Z101414	STRG16	16	182	140	80	255	BK, BKD, BKG, BKL, BKLK, BKLKD	1.90
Z101415	STRG20	18/20	194	155	90	280	BK, BKD, BKG, BKL, BKLK, BKLKD	2.50
Z101416	STRG22	22	203	164	90	300	BK, BKLK	2.60
Z101417	STRG26	26	215	192	103	348	BK, BKLK	3.45
Z101418	STRG32	32	263	179	103	380	BK, BKLK	3.90

Material: Stainless steel according to AISI 316.



Classic Components



The SK-system with endless possibilities

A range of specialized components for safe and easy assembly to chain, steel wire rope, webbing and roundsling, designed to solve your below-the-hook problems.

The polyester sling system provides:

- Universal coupling of components to chain, wire and synthetic slings.
- Quick and simple assembly - only a hammer needed.
- Easy assembly - standardized dimensions within each size range effectively eliminates the incorrect assembly of components with different safe working loads.
- Heavy hoisting with strong yet lightweight equipment, all components are manufactured from alloy steel for use with Grade 8 chain.



2

SKA - pin & collar

The SKA set, containing pin and collar, can be used to connect all products in the SK-range. This creates a multitude of available combinations, each adaptable to the unique lifting situation.

The SKA-set gives you flexibility - it can be disassembled and put in new combinations, to provide solutions for a versatile lifting environment.



SKLI/SKLU

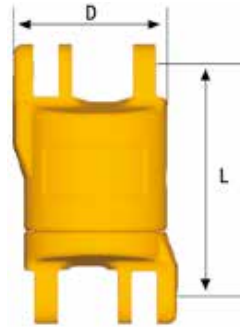
Electrically insulated, lubricated, sealed roller bearing swivel. Fully rotational even at maximum load. Tested to resist 1000 V. Suitable for protection of overhead cranes during welding operations on suspended loads.

By using the SKLI/SKLU with the SK-system you get a versatile solution that will fit almost any situation.

Roller-Bearing Swivel SKLI/SKLU

Electrically insulated, lubricated, sealed roller bearing swivel. Fully rotational even at maximum load. Tested to resist 1000 V. Suitable for protection of overhead cranes during welding operations on suspended loads.

The Gunnebo Industries SKLI is equipped with a heavy duty roller bearing, enabling high durability and safe use also under severe load. It also has heavy duty nylon insulation inside to decrease friction when in use. The SKLI is compatible with the entire Gunnebo Industries SK-range for versatile use.



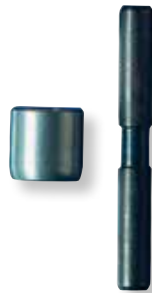
Roller-bearing Swivel SKLI/SKLU

Art. no.	Code	WLL tonnes*	For chain dim.	L	D	Weight kg
Z100316	SKLI-7/8-8	2.0	7, 8	75	48	0.7
Z100414	SKLI-10-8	3.2	10	97	59	1.3
Z100415	SKLI-13-8	5.4	13	120	75	2.8
Z100416	SKLI-16-8	8.0	16	137	90	4.6
Z100417	SKLI-18/20-8	12.8	19	159	104	7.3
RS16520	SKLU-22-8*	15.5	22	160	109	9.2
RS16530	SKLU-26-8*	21.7	26	207	135	18.3

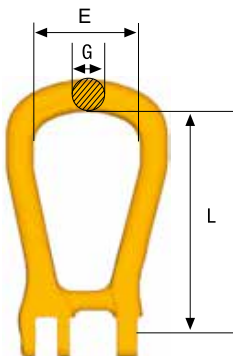
Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

* Uninsulated

Load Pin and Locking Collar - SKA



Art. no.	Code	Weight kg
Z700674	SKA-6-8	0.01
Z323624	SKA-7/8-8	0.02
Z318024	SKA-10-8	0.04
Z303822	SKA-13-8	0.08
Z303725	SKA-16-8	0.14
Z145048	SKA-18/20-8	0.26
Z133530	SKA-22-8	0.35
Z605407	SKA-26-8	0.63
Z650554	SKA-32-8	1.05



Master Link SKG (closed)

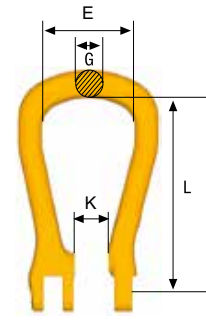
Art. no.	Code	WLL tonnes*	For chain dim.	L	E	G	Weight kg
Z419684	SKG-7/8-8	2.0	7, 8	99	50	14	0.3
Z419781	SKG-10-8	3.2	10	127	66	18	0.6
Z419888	SKG-13-8	5.4	13	145	72	22	1.1
Z419985	SKG-16-8	8.2	16	175	82	25	1.5
Z420086	SKG-18/20-8	12.8	19	204	105	30	3.0

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

Master Link SKO (open)

Art. no.	Code	WLL tonnes*	For chain dim.	L	E	G	K	Weight kg
Z418683	SKO-7/8-8	2.0	7, 8	99	50	14	15	0.3
Z418780	SKO-10-8	3.2	10	127	66	18	20	0.6
Z419383	SKO-13-8	5.4	13	145	72	22	25	1
Z419480	SKO-16-8	8.2	16	175	82	25	30	1.5
Z419587	SKO-18/20-8	12.8	19	204	105	30	36	2.9

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

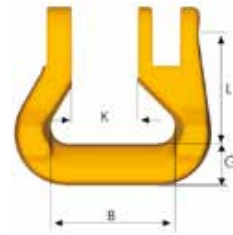


Roundsling Coupling SKR

Special shape for full WLL of the roundsling.

Art. no.	Code	WLL tonnes*	L	B	G	K	Weight kg
Z127840	SKR-7/8-8	2.0	35	40	13	18	0.2
Z143143	SKR-10-8	3.2	42	47	16	24	0.4
Z302538	SKR-13-8	5.4	50	53	19	29	0.7
Z143240	SKR-16-8	8.2	62	67	23	35	1.3
Z143347	SKR-18/20-8	12.8	71	80	28	43	1.9
Z100057	SKR-22-8	15.5	111	125	40	50	5.3
Z100055	SKR-26-8	21.7	129	150	48	58	8.9

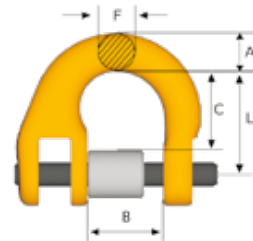
Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.



Half-link SKT (incl. locking set)

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	F	A	C	Weight kg
Z426286	SKT-7/8-8	2.0	7, 8	28	18	9	11	22	0.1
Z426383	SKT-10-8	3.2	10	34	25	11	13	26	0.2
Z426480	SKT-13-8	5.4	13	44	30	15	16	33	0.4
Z426587	SKT-16-8	8.2	16	52	36	19	20	40	0.6
Z426684	SKT-18/20-8	12.8	19	63	43	22	23	47	1.1
Z100225	SKT-22-8	15.5	22	76	50	24	26	59	1.7
Z100226	SKT-26-8	21.7	26	80	58	30	33	61	2.6
Z100227	SKT-32-8	32.8	32	100	70	38	40	78	4.9

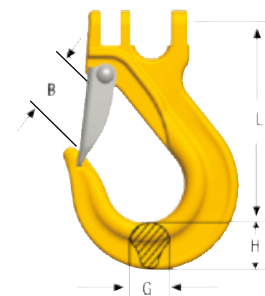
Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.



Sling Hook SKN/ESKN with latch

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	G	H	Weight kg
Z424682	SKN-7/8-8	2.0	7, 8	90	27	18	21	0.4
Z424789	SKN-10-8	3.2	10	115	34	23	29	0.8
Z101214	ESKN-13-8	5.4	13	145	42	28	36	1.8
Z100786	ESKN-16-8	8.2	16	178	52	36	43	3.4
Z100781	ESKN-18/20-8	12.8	19	197	54	42	51	5.0

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.



Universal weld-on hook UKN

The original excavator hook

Excavators are often used for material handling and lifting as they are frequently available on most construction sites. However, rigging gear is often incorrectly attached either to the teeth of the bucket or directly on the excavator arm, which is a dangerous practice that can lead to accidents.

Back in 1975 Gunnebo Industries developed the UKN hook, a solution that transformed the excavator into a lifting crane. The UKN hook has been fitted to excavators, and other applications, for over 40 years, either as an aftermarket product or directly by the manufacturer. Today the UKN is the hook of choice for leading international excavator manufacturers.



Quality is top priority

- Forged alloy steel
- Hardened and tempered

100% Proof-loaded

- Every hook is individually proof-loaded at 3 x WLL.

High durability

- Forged
- Rated with a 5:1 safety factor

Clear markings

- Country of origin
- Traceability code
- Model and size

Prepared for welding

- Base plate prepared for welding

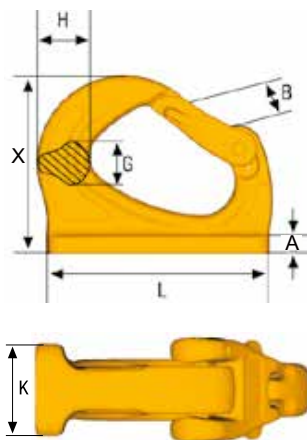


Heavy duty latch

- Latch with handles for easy opening
- Hardened and tempered

Pin & spring

- Spring protection
- Hardened and tempered hinge pin
- Stainless steel spring



Universal Weld-On Hook - UKN

Art. no.	Code	WLL tonnes**	B	G	H	K	L	A	X	Weight kg
Z1002560	UKN-0,75*	0.75	20	13	20	19	81.5	5	56	0.2
Z6511810	UKN-1*	1.0	27	17	25	25	95	6	72	0.6
Z7009060	UKN-2*	2.0	33	20	30	30	114	8	86	0.9
Z6455730	UKN-3	3.0	30	23	32	35	132	10	105	1.3
Z6521160	UKN-4	4.0	30	29	38	42	140	11	114	2.0
Z6455800	UKN-5	5.0	34	30	47	45	165	12	131	3.2
Z6515390	UKN-8	8.0	34	40	51	50	172	13	133	3.6
Z6456030	UKN-10	10.0	47	43	58	55	220	14	170	8.2
Z1007850	UKN-15	15.0	55	50	67	60	240	15	188	9.8
Z1007851	UKN-20	20.0	65	60	85	60	275	15	207	12.4

* Welding plate slightly curved

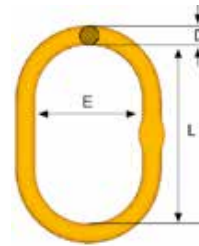
** Safety factor 5:1

Fulfills requirements in: EN 474-1 :2006

Master Link MF

Art. no.	Code	WLL (SF 5:1) tonnes		L	E	D	Weight kg
		EN1677-4	A-952/A952M				
Z100860	MF-86-10	2.5	3.2	125	70	14	0.4
Z100861	MF-108-10	4.0	5.2	140	80	17	0.8
Z100862	MF-1310-10	7.5	8.0	160	95	22	1.5
Z100863	MF-1613-10	10.0	13.6	190	110	28	2.5
Z100864	MF-2016-10	17.0	20.6	240	140	34	5.2
Z100865	MF-2220-10	25.0	30.9	250	150	40	7.3

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02, ASME B30.26 and AS 3776:2015.



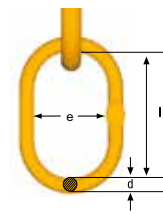
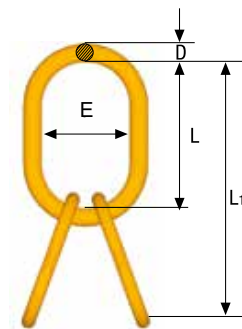
2

Master Link with Sub Links MT

Flattened section on the sublinks.

Art. no.	Code	WLL (SF 5:1) tonnes		For chain 3-4-leg	L1	L	E	D	l	e	d	Weight kg
		EN1677-4	A-952/A952M									
Z100888	MT-6-10	3.5	5.0	6	270	150	90	19	125	70	14	1.8
Z100889	MT-8-10	5.2	8.0	7, 8	300	160	95	22	140	80	17	3.0
Z100890	MT-10-10	11.5	16.0	10	360	200	120	30	160	95	22	6.4
Z100891	MT-13-10	17.0	26.0	13	440	250	150	40	190	110	28	14.2
Z100892	MT-16-10	28.0	35.0	16	500	300	200	50	200	120	32	23

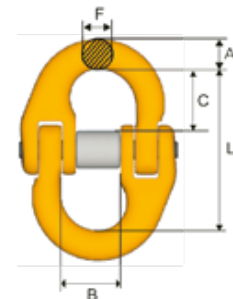
Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M-02, ASME B30.26 and AS 3776:2015.



Coupling Link G

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	F	A	C	Weight kg
Z622882	G-6-8	1.1	6	45	15	7	8	17	0.1
Z279333	G-7/8-8	2.0	7, 8	56	18	9	11	22	0.2
Z279430	G-10-8	3.2	10	68	25	11	13	26	0.3
Z279537	G-13-8	5.4	13	89	30	15	16	33	0.7
Z279634	G-16-8	8.2	16	105	36	19	20	40	1.2
Z279731	G-18/20-8	12.8	19	125	43	22	23	47	1.9
Z279838	G-22-8	15.5	22	152	50	24	26	59	3.0
Z349171	G-26-8	21.7	26	161	58	30	33	61	5.2
Z349189	G-32-8	32.8	32	200	70	38	40	77	9.5

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.



Berglok Chain Coupler BL



Art. no.	Code	WLL tonnes*	For chain dim.	L	E	F	A	Weight kg
Z622036	BL-6-8	1.1	6	27	20	9	14	0.1
Z195823	BL-7/8-8	2.0	7, 8	35	25	11	18	0.2
Z208022	BL-10-8	3.2	10	45	32	14	22	0.4
Z217820	BL-13-8	5.4	13	56	40	17	28	0.8
Z208226	BL-16-8	8.2	16	68	50	22	35	1.4

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

Chain, Classic Grade 8

Short link, KL

Heat treatment

Hardened and tempered.

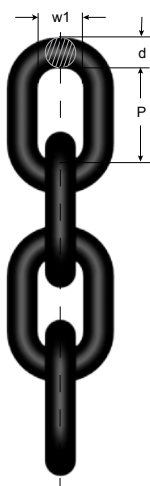
Heat treatment

Painted black (KLB)

Painted yellow (KLU)

Fulfills the requirements in:

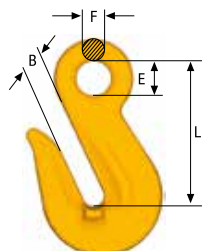
EN 818-2:2008, AS 2321:2014, ASTM A391/A 391M-07 (2012)



Art. no. Box	Code	WLL tonnes*	d nom.	P	w1	Weight kg/m	Manufacturing proof force kN	Breaking force kN
Z802174 - 1 x 200 m	KLB 6-8E	1.1	6	18	8.5	0.8	28.3	45.2
Z802175 - 1 x 200 m	KLB 7-8E	1.5	7	21	10.0	1.1	38.5	62
Z802176 - 1 x 200 m	KLB 8-8E	2.0	8	24	11.0	1.4	50.3	80.6
Z802156 - 1 x 100 m	KLB 10-8E	3.2	10	30	14.0	2.3	79	130
Z802157 - 1 x 100 m	KLB 13-8E	5.4	13	39	17.7	3.8	133	214
Z802177 - 1 x 100 m	KLB 16-8E	8.2	16	48	21.9	5.6	201	322
Z801203 - 1 x 100 m	KLB 19-8E	11.6	19	57	27.0	7.8	284	457
Z801228 - 1 x 50 m	KLB 22-8E	15.5	22	66	29.5	10.6	380	610
Z801231 - 1 x 50 m	KLB 26-8E	21.6	26	78	35.0	14.8	531	850
Z801232 - 1 x 25 m	KLB 32-8E	32.8	32	96	41.6	21.6	804	1300

Grab Hook OG

Not for use with Berglok. No reduction of working load limit, thanks to supporting lugs on either side of hook to prevent chain link deformation.



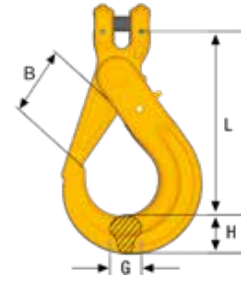
Art. no.	Code	WLL tonnes*	For chain dim.	L	B	E	F	Weight appr. kg
Z100811	OG-7/8-8	2.0	7, 8	65	10	16	10	0.3
Z291022	OG-10-8	3.2	10	85	12	20	12	0.6
Z295220	OG-13-8	5.4	13	104	15	25	16	1.2
Z296221	OG-16-8	8.2	16	130	19	30	19	2.4

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02 and AS 3776:2015.

Safety Hook BKG

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	G	H	Weight appr. kg
Z297222	BKG-7/8-8	2.0	7, 8	120	37	17	26	0.9
Z295929	BKG-10-8	3.2	10	143	45	21	30	1.5
Z291527	BKG-13-8	5.4	13	179	55	30	39	2.8
Z291624	BKG-16-8	8.2	16	217	62	37	48	5.1

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

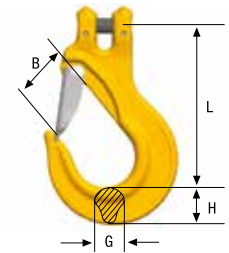


2

Sling Hook EGKN with latch

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	G	H	Weight appr. kg
Z100744	EGKN-7/8-8	2.0	7, 8	95	29	17	22	0.5
Z100772	EGKN-10-8	3.2	10	121	37	20	29	0.9
Z100773	EGKN-13-8	5.4	13	147	42	27	36	2.0
Z100774	EGKN-16-8	8.2	16	170	52	34	44	3.6

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

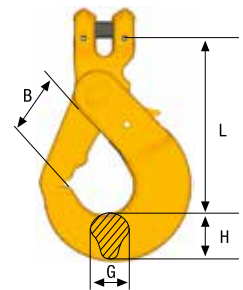


Container Hook BKGC

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	G	H	Weight kg
Z100242	BKGC-16-8	8.2	16	160	55	27	43	3.4

Spare part: RDOBK

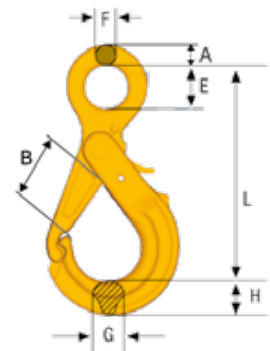
Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

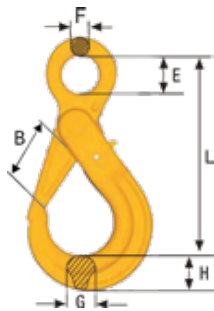


Safety Hook with Griplatch OBK

Art. no.	Code	WLL tonnes*	For chain dim.	A	L	B	E	F	G	H	Weight kg
Z100218	OBK-22-8	15.5	22	30	335	87	70	24	40	58	10.2

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02 and AS 3776:2015.

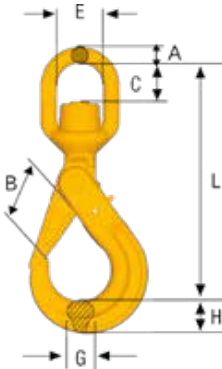




Safety Hook BK

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	E	F	G	H	Weight kg
Z101357	BK-32-8	32.8	32	400	120	90	30	62	86	23.8

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

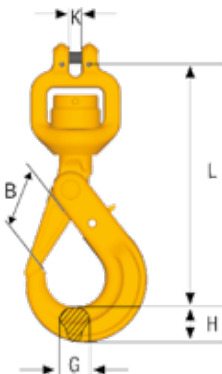


Swivel Safety Hook BCLK

Safety hook with ball-bearing for 360° rotation under full load.

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	C	E	A	G	H	Weight kg
Z101344	BCLK-32-8	32.8	32	533	120	110	102	45	62	86	32.3

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.



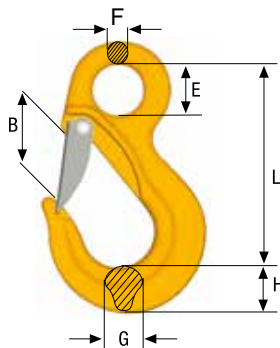
Clevis Swivel Safety Hook BKH

Safety hook with swivel for improved positioning of the hook before the load is lifted (360° rotation).

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	K	G	H	Weight kg
Z336222	BKH-6-8	1.1	6	145	29	6.8	15	21	0.7
Z700809	BKH-7/8-8	2.0	7 - 8	181	37	8.8	17	26	1.2

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

Sling Hook EK (without latch) and EKN (with latch)



Art. no.	Code	WLL tonnes*	For chain dim.	L	B	E	F	G	H	Weight kg
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EN 1677-2

Z100720	EK-32-8	32.8	32	333	105	76	38	61	80	17.7
Z100725	EKN-32-8	32.8	32	333	93	76	38	61	80	17.9

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

DIN 7540 - Also available in ROV version on request

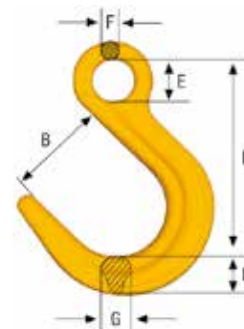
Z101382	DK-50T-8	50.0		442	124	84	50.5	89	116	45.5
Z101361	DKN-50T-8	50.0		442	124	84	50.5	89	116	46.0
Z101384	DK-80T-8	80.0		610	155	102	63	110	145	79.5
Z101363	DKN-80T-8	80.0		610	155	102	63	110	145	80.0

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

Foundry Hook OKE

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	E	F	G	H	Weight Appr. kg
Z645564	OKE-32-8	32.8	32	384	145	90	42	77	94	30

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

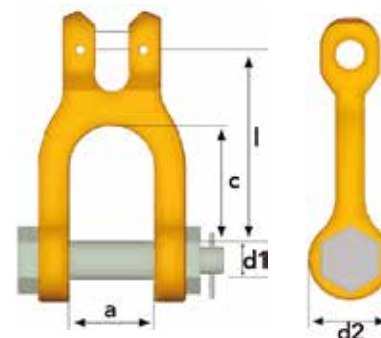


Clevis Shackle GSA

Grade 8 EN 1677-1
 Finish: Painted yellow
 Material: Alloy steel
 Safety factor: 4:1

Art. no.	Code	WLL tonnes	For chain dim.	a	c	d2	l	d1	Weight kgs appr.
Z700882	GSA-7/8-8	2.0	7, 8	32	36	34	60	16	0.4
Z700883	GSA-10-8	3.2	10	34	48	40	80	20	0.8
Z700884	GSA-13-8	5.4	13	50	65	44	98	22	1.4
Z700885	GSA-16-8	8.2	16	60	70	54	114	27	2.4

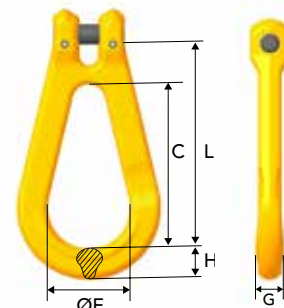
Split pin included.



Clevis Egglink CEL

Art. no.	Code	WLL tonnes*	For chain dim.	C	E	G	H	L	Weight kg
Z700968	CEL-7/8-8	2.0	7, 8	80	40	14	15	100	0.4
Z700969	CEL-10-8	3.2	10	100	50	18	19	126	0.7
Z700970	CEL-13-8	5.4	13	130	65	23	25	162	1.5

Fulfills requirements in: EN 1677:2008, ISO 8539:2009, ASTM A952/A952M-02, AS 3776:2015 and SANS 1595:2003.

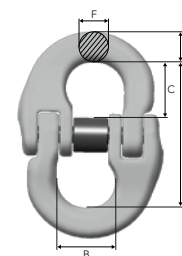


Coupling Link GF Stain Proof**

High strength stainless steel.

Art. no.	Code	WLL tonnes*	For chain dim.	L	B	F	A	C	Weight. kg
B80202	GF-10-8 SP	3.2	10	68	25	11	13	26	0.3
B80203	GF-13-8 SP	5.4	13	89	30	15	16	33	0.7
B80204	GF-16-8 SP	8.2	16	105	36	19	20	40	1.2

**This product comes with a straight pin without recession.



Hot Dip Galvanized lifting range Grade 8

The HDG lifting range is designed to meet the specific challenges from corrosive environments in which they will have a longer lifetime. They require less maintenance than standard products, which means that the HDG products are more cost effective in the long run.

A longer life span

The HDG coating prolongs the life time for equipment in corrosive environments significantly. Not just in coastal and maritime areas but also in industrial plants and buildings with high humidity.

Protective coating with high impact and wear resistance

The HDG coating forms a flexible metallurgical bond with the steel, which gives outstanding resistance to mechanical damage during transport and service. The coating also provides an automatic protection to small areas of exposed steel, which means that minor damages need no touch-up.

Easy inspections and lower maintenance costs

Our HDG lifting components are easily visually inspected; if the coating appears sound and continuous, then it is. Simple and quick means improved productivity.

We are a provider of Peace of mind

Production and galvanizing of products that are sensitive for hydrogen embrittlement requires an in-depth material- and process knowledge.

Each element within the manufacturing process is stringently controlled with our in-house quality systems; this also applies to our galvanizing and heat treating procedures which are critical factors in the product performance. Our products are manufactured to exact demands and with preventive actions taken to avoid hydrogen embrittlement in the material.

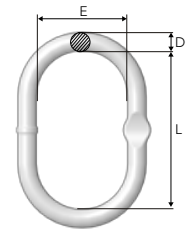
Technical information

Standards: <ul style="list-style-type: none"> • EN 1677-1:2008 • EN 1677-3:2008 • EN 1677-4:2008 • EN 818-1:2008 • EN 818-2:2008 (material dim. Ø +10%) • AS2321:2014 • ASTM A391/A391M-07 2012 (material dim. Ø +10%) • ISO 1461:2009 • Applicable parts of NS9415:2009 	Quality assurance: <ul style="list-style-type: none"> • Fatigue tested construction. • Full traceability back to the raw material. • Strict controls throughout the whole process. • Measurement of coating thickness on random samples from every batch. • 100% proof load of every single component. • Visual inspection. 	What is hot dip galvanizing (HDG)?: <ul style="list-style-type: none"> • Hot-dip galvanizing is the process of coating steel with a layer of zinc for added corrosion resistance. • It involves immersing the steel material in molten zinc through a multi-step galvanizing line. • The resulting material is encased in several layers of zinc and zinc-iron alloys, making it extremely tough.
Material: <ul style="list-style-type: none"> • High tensile steel, hardened and tempered. • Hot dip galvanized coating according to ISO 1461-2009. 	Temperature range: -40 °C to 200 °C	Documentation: Inspection certificate acc. EN-10204 - 3.1



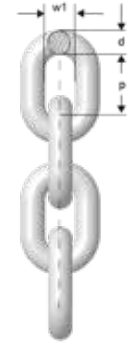
Master Link MF HDG

Art. no.	Code	WLL (SF 5:1) tonnes		L	E	D	Weight kgs
		EN1677-4	A-952/A952M				
BG14481	MF-86-8 HDG	2.0	2.0	125	70	14	0.5
BG14482	MF-108-8 HDG	3.2	3.2	140	80	17	0.8
BG14483	MF-1310-8 HDG	5.4	5.4	160	95	22	1.5
BG14484	MF-1613-8 HDG	8.2	8.2	190	110	28	2.8



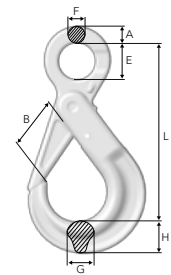
Chain KLZ HDG

Art. no.	Code	WLL tonnes*	d nom.	p	w1	Weight kgs	MPF kN	Breaking force kN	Delivery length
ZG802306	KLZ-6-8 HDG	1.12	6.6	18	8.9	1.0	36.8	45.2	1 x 100 m
ZG802307	KLZ-8-8 HDG	2.0	8.8	24	11.2	1.7	63.0	80.6	1 x 100 m
ZG802308	KLZ-10-8 HDG	3.2	11.0	30	14.4	2.6	98.8	130	1 x 100 m
ZG802309	KLZ-13-8 HDG	5.4	14.3	39	19.2	4.5	166	214	1 x 100 m
ZG802310	KLZ-16-8 HDG	8.2	17.3	48	23.0	6.7	251	322	1 x 100 m



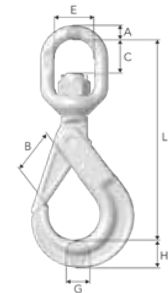
Safety Hook BK HDG

Art. no.	Code	WLL tonnes*	A	L	B	E	F	G	H	Weight kgs
ZG101108	BK-6-8 HDG	1.12	12	109	29	22	10	15	21	0.5
ZG101097	BK-7/8-8 HDG	2.0	14	138	37	28	11	17	26	0.9
ZG101024	BK-10-8 HDG	3.2	16	168	45	34	13	21	31	1.5
ZG101032	BK-13-8 HDG	5.4	20	207	55	44	16	30	40	3.0



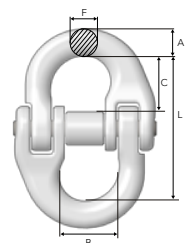
Swivel Safety Hook BKL HDG

Art. no.	Code	WLL tonnes*	L	B	C	E	A	G	H	Weight kgs
ZG101028	BKL-10-8 HDG	3.2	218	45	37	44	15	21	31	2.0
ZG101036	BKL-13-8 HDG	5.4	282	55	49	48	19	30	40	4.0
ZG101044	BKL-16-8 HDG	8.2	344	62	68	61	25	37	50	7.3



Coupling Link G HDG

Art. no.	Code	WLL tonnes*	L	B	F	A	C	Weight kgs
ZG100821	G-6-8 HDG	1.12	45	15	7	8	17	0.1
ZG100822	G-8-8 HDG	2.0	56	18	9	11	22	0.2
ZG100823	G-10-8 HDG	3.2	68	25	11	13	26	0.3
ZG100824	G-13-8 HDG	5.4	89	30	15	16	33	0.7



*Safety factor 4:1

Spare Part BK

Set for BK/BKG safety hooks consisting of trigger, stainless steel spring, retaining pin and assembly kit.



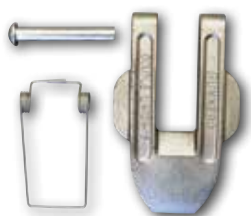
Recessed trigger			Standard trigger (long trigger)		
Art. no.	Code	Weight kg	Art. no.	Code	Weight kg
Z100282	RDBK-6	0.02	Z1002820	RDBK-6	0.01
Z100283	RDBK-8	0.03	Z1002830	RDBK-7/8	0.03
Z100284	RDBK-10	0.03	Z1002840	RDBK-10	0.03
Z100285	RDBK-13	0.05	Z1002850	RDBK-13	0.05
Z100286	RDBK-16	0.10	Z1002860	RDBK-16	0.12
Z100297	RDBK-18/20	0.21			
Z100287	RDBK-22	0.20			
Z100280	RDBK-26	0.50			
Z100294	RDBK-32	0.70			

Spare Part OBK / GBK

Set for OBK/GBK safety hooks consisting of trigger, stainless steel spring, retaining pin and assembly kit.



Art. no.	Code	Weight kg
Z100281	RDOBK-6	0.01
Z100288	RDOBK-7/8	0.02
Z100289	RDOBK-10	0.03
Z100290	RDOBK-13	0.05
Z100291	RDOBK-16	0.08
Z100297	RDOBK-18/20	0.21
Z100323	RDOBK-22-8	0.35



Spare Part BKD / BKLKD

Art. no.	Code	Weight kg
Z101157	RDBKD-13 double latch	0.22
Z101158	RDBKD-16 double latch	0.42
Z101159	RDBKD-18/20 double latch	0.47



Spare Part GKN / OKN

Art. no.	Code	Weight kg
Z622175	RDGKN/OKN-7/8-8	0.05
Z622183	RDGKN/OKN-10-8	0.09
Z622206	RDGKN/OKN-13-8	0.13
Z622214	RDGKN-16-8	0.22



Spare Part LKNG

Art. no.	Code		Weight kg
Z700495	RDLKNG-16	Bolt and Nut	0.7
B60122	RDLKNG-16	Bronze Washer and Retaining pin	0.03

Spare Part GG

Spare part set consisting of pin, spring and locking ring.

Art. no.	Code	Weight kg
B17930	RDGG-8-10 locking pin	0.03
B17931	RDGG-10-10 locking pin	0.04
B17932	RDGG-13-10 locking pin	0.05
B17933	RDGG-16-10 locking pin	0.06



2

Spare Part LKN / LKNK / EKN / OKN / EGKN / RH / ESKN

Set consisting of latch, stainless steel spring and rivet.

Art.no.	Code	Weight kg
Z100445	RDEKN- 6 / OKN / RH 1	0.03
Z100447	RDEKN- 7/8 /LKN / RH 2	0.05
Z100450	RDEKN-10 / LKN / RH 3	0.06
Z100449	RDEKN-13 / LKN / RH 5	0.13
Z100217	RDEKN-16 / LKN	0.20
Z100453	RDEKN-18/20	0.26
Z100452	RDEKN-22	0.42
Z100742	RDEKN-26	0.53
Z100743	RDEKN-32	0.60



Spare Part SKN, OKN and LKN (old version)

Set consisting of latch, stainless steel spring and rivet.

Art. no.	Code	Weight kg
Z420581	RDSKN/LKN-7/8-8	0.05
Z420688	RDSKN/LKN-10-8	0.10
Z420785	RDSKN/LKN-13-8	0.14
Z420989	RDSKN/OKN-16-8	0.22
Z421087	RDSKN/OKN-18/20-8	0.27
Z700698	RDOKN-22-8	0.48



Spare Part UKN

Spare part set RDUKN (msp) consisting of forged latch, pin, stainless steel spring and retaining pin.

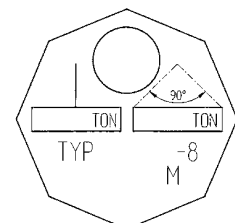
Art. no.	Code	Weight kg
Z100258	RDUKN-0.75	0.06
Z700264	RDUKN-1	0.12
Z700958	RDUKN-2	0.20
Z700266	RDUKN-3/4	0.20
Z700268	RDUKN-5/8	0.36
Z700269	RDUKN-10	0.88
Z700984	RDUKN-15/20	1.20



Id-tag grade 8

Stainless steel.

Art.no.	Code
Z100004	Id-tag

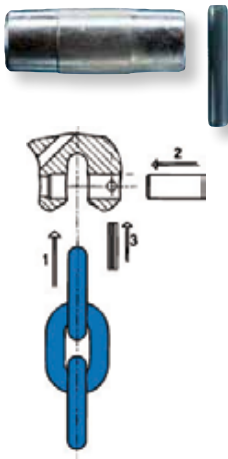


Sling Id-tag Grade 10

Stainless steel.



Art. no.	Code
B14841	Flexitag 6 mm with ferrule and wire
B14842	Flexitag 8 mm with ferrule and wire
B14843	Flexitag 10 mm with ferrule and wire
B14844	Flexitag 13 mm with ferrule and wire
B14845	Flexitag 16 mm with ferrule and wire
Z100971	Flexitag 6 mm
Z100972	Flexitag 8 mm
Z100973	Flexitag 10 mm
Z100974	Flexitag 13 mm
Z100975	Flexitag 16 mm
Z101077	Flexitag 20 mm
Z100899	Flexitag Neutral



Load Pin set CLS

Clevis connection set consisting of one load pin and one spring retaining pin.

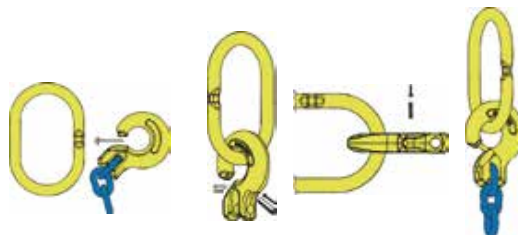
Art. no.	Code	Weight kg
B14930	CLS- 6	0.01
B14931	CLS- 8	0.02
B14932	CLS-10	0.04
B14933R	CLS-13	0.09
B14934	CLS-16	0.16
B14935	CLS-20	0.26

Spare Part CS

C-connection set for CG, CGD, CL, CLD and RH hook, consisting of one blocking pin and one spring retaining pin, for locking.



Art. no.	Code	Weight kg
B14920	CS- 6-10	0.01
B14921	CS- 8-10 / RH-1& -2	0.01
B14922	CS-10-10 / RH-3	0.01
B14923	CS-13-10	0.03
B14924	CS-16-10 / RH-5	0.05



Assembly: C-coupling - C-grab/C-lok with MF

Close/Open Locking set FlexiLeg Quick Pin

Art. no.	Code	Weight kg
Z101010	QP-6-10	0.01
Z101011	QP-8-10	0.01
Z101012	QP-10-10	0.01
Z101013	QP-13-10	0.03
Z101014	QP-16-10	0.06

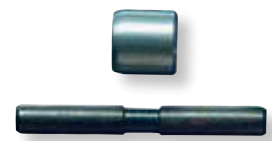


2

Locking set SKA

SKA locking set for G-link, consists of a load pin and locking collar.

Art. no.	Code	Weight kg	Art. no.	Code	Weight kg
Z100989	SKA- 6-10	0.01	Z700674	SKA-6-8	0.01
Z100933	SKA- 7/8-10	0.02	Z323624	SKA-7/8-8	0.02
Z100934	SKA-10-10	0.04	Z318024	SKA-10-8	0.04
Z100990	SKA-13-10	0.08	Z303822	SKA-13-8	0.08
Z100991	SKA-16-10	0.14	Z303725	SKA-16-8	0.14
Z101176	SKA-20-10	0.26	Z145048	SKA-18/20-8	0.26
Z650555	SKA-22-10	0.35	Z133530	SKA-22-8	0.35
Z650556	SKA-26-10	0.63	Z605407	SKA-26-8	0.63
Z650557	SKA-32-10	1.09	Z650554	SKA-32-8	1.05



Load Pin set Berglok BLA

Set for Berglok and Clevis type connections.
Consists of one load pin and two retaining pins.

Art. no.	Code	Weight kg
Z275649	BLA-6-8*	0.01
Z275347	BLA-7/8-8*	0.02
Z275444	BLA-10-8	0.04
Z275648	BLA-13-8	0.08
Z276047	BLA-16-8	0.15
Z276241	BLA-19-8	0.26

* Also for Safety hook BKH



Locking set Midgrab MIG

Art. no.	Code	Weight kg
B14904	C-8	0.02
B14905	L-8	0.02
B14914	C-10	0.02
B14915	L-10	0.02
B14916	C-13	0.08
B14917	L-13	0.05



C - Close/open function



L - Permanent locking function

Technical information

The following information aims to give advice and explain the most common questions in order to ensure safe and proper use of lifting equipment.

It is of the utmost importance that this information is known to the user, and in accordance with the Machinery Directive 2006/42/EC this information must be delivered to the customer.

Extreme environments

The in-service temperature effects the WLL as follows:

Temperature (°C)	Reduction of WLL			
	Grade 10 chain (400)	Grade 10 chain (200)	Grade 10 components	Grade 8 chain & components
-40 to +200 °C	0 %	0 %	0 %	0 %
+200 to +300 °C	10 %	Not allowed	10 %	10 %
+300 to +400 °C	25 %	Not allowed	25 %	25 %

Upon return to normal temperature, the sling reverts to its full capacity within the above temperature range. Chain slings should not be used above or below these temperatures.

Note! A chain sling with Grade 10 (200) chain must not be used in temperatures above 200 °C.

- Chain and components must not be used in alkaline (>pH10) or acidic conditions (<pH6).
- Comprehensive and regular examination must be carried out when used in severe or corrosive inducing environments.
- In uncertain situations consult your Gunnebo Industries dealer.

Surface treatment

Note! Hot-dip galvanizing or plating is not allowed outside the control of the manufacturer.

Protect yourself and others

- Before each use the chain sling should be checked for obvious damage or deterioration.
- Know the weight of the load, the center of gravity and ensure it is ready to move and no obstacles will obstruct the lift.
- Check the conformity of the load with the WLL of the ID tag for the specific working configuration. Never use a sling without a legible valid ID tag!
- Prepare the landing site.
- Never overload a sling and avoid shock loading.
- Never use an improper sling configuration.
- Never use a worn out or damaged sling.
- Never ride on the load.
- Never walk or stand under a suspended load.
- Take into consideration that the load may swing or rotate.
- Watch your feet and fingers while loading/unloading.
- Always ensure that your back is clear.

General advice

- Ensure that the sling is precisely as ordered.
- Ensure that the manufacturers certificate is in order.
- Ensure that the ID-tag corresponds to the information on the certificate (the following ID tag information is compulsory: WLL, number of chain legs, nominal size (mm) individual ID-mark, manufacturer, CE-marking and year of manufacturing).
- Ensure that all details of the chain sling are recorded.
- Ensure that the staff using the chain sling has received the appropriate information and training.

Asymmetrical loading conditions

For unequally loaded chain legs we recommend that the WLL are determined as follows:

- 2-leg slings calculated as the corresponding 1-leg sling
- 3 and 4-leg slings calculated as the corresponding 1-leg sling. (If it is certain that 2-legs are equally carrying the major part of the load, it can be calculated as the corresponding 2-leg sling).

Safe use

A chain sling is usually attached to the load and the crane by means of terminal fittings such as hooks, links etc.

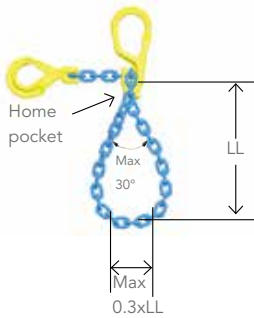
When frequently using a sling to it's maximum load, we recommend increasing the sling size by one dimension.



Chain should be without twists or knots, if the chain leg needs length adjustment use a shortening device. The lifting point should be seated well down in the terminal fitting, never on the point or wedged in the opening. The terminal fitting should be free to incline in any direction.

The chain may be passed under or through the load to form a choke hitch or basket hitch. The chain should be allowed to assume it's natural angle and should not be hammered down.

Where choke hitch is employed the WLL of the chain sling should be reduced by 20% (unless the LK choker hook is used)



Endless chain slings shall be rated in the same way as a 2-legged sling.

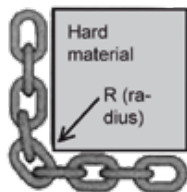
Home pocket loop shall have an internal loop top angle of max. 30°. Rule of thumb: Cross dimension of the load shall be max. 0.3 times the loop length (LL)

Definition: The home pocket is the shortening pocket of

the top component directly above the clevis to which the chain is connected.

Sharp edges

Use edge protectors to prevent sharp edges from damaging the chain. If lifting over sharp edges reduce the working load with the following reduction tor.



Edge load	R > 2 x chain Ø	R > chain Ø	R < chain Ø
Reduction factor	1.0	0.7	0.5

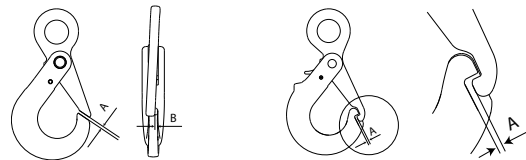
- The angle of the edge must not be below 90°.
- Chain links shall be protected from being bent or deformed and from receiving cuts or gouges.
- Chain sling WLL is to be reduced when chain is rigged over an edge radius R less than two (2) x chain diameter (d).
- Reduced WLL equals chain sling WLL from identification tag x reduction factor.
- Slings shall be padded or protected from the edges of their loads when the edge radius is less than 0.5 of the chain diameter(d).
- Slings shall be rigged to prevent chain from sliding over a load edge radius while lifting.
- Slings used in basket hitch shall have the loads balanced to prevent slipping.

When lifting with chain directly on lugs the lug diameter > 3x the pitch of the chain, otherwise the WLL must be reduced by 50%.

Maintenance

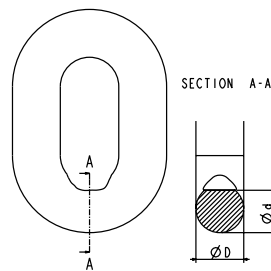
Periodic thorough examination must be carried out at least every 12 months or more frequently according to local statutory regulations, type of use and past experience.

1. Overloaded chain slings must be taken out of service.
2. If the lifting equipment is more than 25 years old, it must be recorded in the inspection register. An investigation into both its previous operating history and its current use should be made, as there is a potentially significant risk of fatigue, environmental impact etc.
3. Chain and components including load pins which have been damaged, deformed, elongated, bent or showing signs of cracks or gouges shall be replaced. Carefully grind away small sharp cuts and burrs. Additional testing by magnetic particle inspection and/or proof loading at max. 2 x WLL may be carried out.
4. The maximum permissible increase in hook aperture must not exceed 10% of the products nominal dimension.
5. Check the function of latches, triggers and retaining pins / bushes, replace when necessary. Always use Gunnebo Industries original spare parts.
6. Max. clearance between hook and latch. Note: For a Griplatch hook measure the difference between dimension A with unloaded spring and dimension A when the latch is pressed against the hook. Clearance B not applicable.



Size	Max. A (mm).	Max. B (mm).
6	2,2	3,5
7/8	2,7	4,5
10	3	6
13	3,3	7
16	4	9
18/20	5,5	10
22	6	11
26	6,5	12
32	7	13

7. The wear of the chain and component shall in no place exceed 10% of the products nominal dimension. The chain link wear is defined and measured as the reduction of the mean diameter measured in two perpendicular directions, see picture.



$$\frac{d_1 + d_2}{2} > 0,9d_n$$

d_n = nominal diameter

Quality assurance

Type testing

In order to prove the design, material, heat treatment and method of manufacture, each size of component and chain has been type tested in the finished condition in order to demonstrate that the component and chain possesses the required mechanical properties. The following testing procedures are particularly relevant:

Test for deformation

The Manufacturing Proof Force (MPF) for the relevant size of the component is applied and removed. The dimensions after proof loading shall not alter from the original dimensions within the tolerances prescribed in our specifications and in the international standards.

Static tensile test

The Breaking Force (BF) for each component and size is verified. The verified value shall be at least equal to the Minimum Breaking Force (MBF) value. The MBF value is equal to the Working Load Limit (WLL) multiplied by the safety factor.

Fatigue test

By fatigue testing in pulsator testing machines the toughest conditions of service are simulated.

Manufacturing testing

During manufacture continuous process tests are carried out according to the requirements in our specifications and in the latest international standards. The following testing procedures are particularly relevant:

Non destructive test

3% of every production batch of forged components are subject to magnetic particle or dye penetrating examination.

Proof force / Visual inspection

Each individual forged component and chain link is tested to the Manufacturing Proof Force (MPF) level before delivery. The MPF level is 2.5 times the WLL, equal to 62,5% of the Minimum Breaking Force. Visual inspection is carried out on each chain link and each forged component to detect defects.

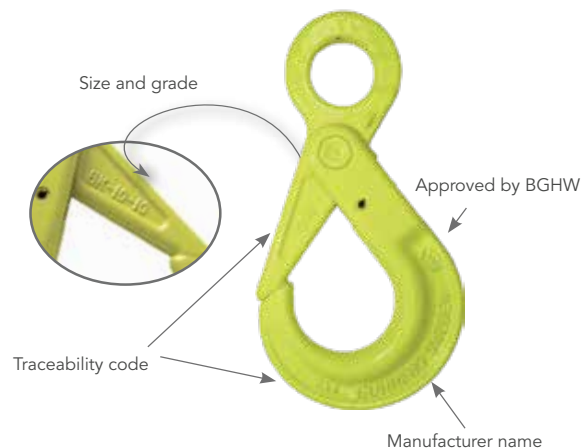
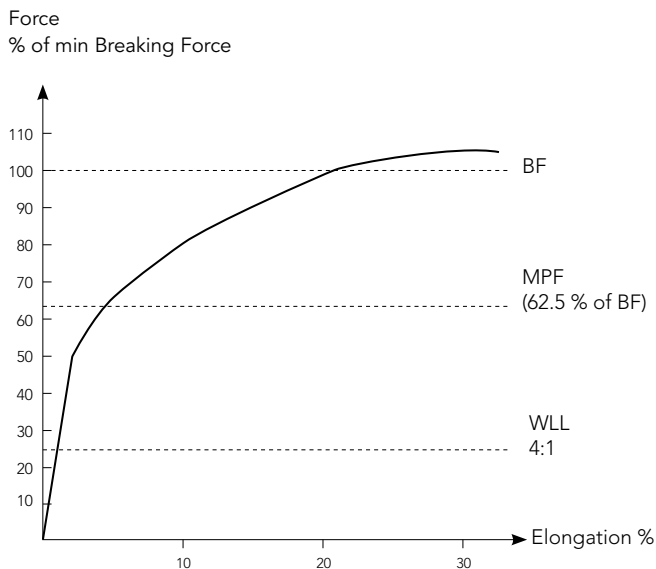
Static tensile and ultimate elongation test

During chain manufacturing, samples are tested and the Minimum Breaking Force (MBF) value and the total ultimate elongation are verified.

Bending deflection

During manufacturing, of chain and master links, samples are taken and the minimum bend deflection is verified.

Stress / elongation diagram


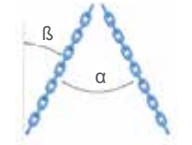
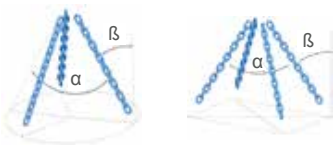
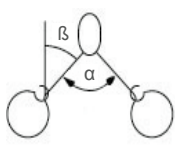




Working load limits - Europe

WLL tonnes Grade 10 GrabiQ


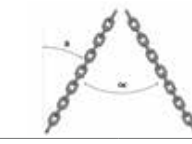
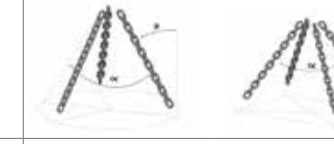

Based on EN 818-4:2008 WLL+25%

							
Sling type	1-leg	2-leg		3- and 4-leg		Choke Hitch	
Condition of use	Straight	β 0-45° α 0-90°	β 45-60° α 90-120°	β 0-45° α 0-90°	β 45-60° α 90-120°	Choke β 0-45° α 0-90°	Choke β 45-60° α 90-120°
Load factor	1	1.4	1	2.1	1.5	1.1	0.8
Chain size							
6	1.50	2.10	1.50	3.10	2.20	1.60	1.20
7	1.95	2.70	1.95	4.00	2.90	2.10	1.50
8	2.50	3.50	2.50	5.20	3.70	2.70	2.00
10	4.00	5.60	4.00	8.40	6.00	4.40	3.20
13	6.80	9.50	6.80	14.20	10.20	7.40	5.40
16	10.00	14.10	10.00	21.00	15.00	11.00	8.00
20	16.00	22.50	16.00	33.60	24.00	17.60	12.80
22	20.00	28.20	20.00	42.00	30.00	22.00	16.00
26	27.00	38.00	27.00	56.70	40.50	29.70	21.60
32	40.00	56.40	40.00	84.00	60.00	44.00	32.00

Safety factor 4:1. Working load limits are based upon equally loaded and disposed sling legs.

WLL tonnes Grade 8 Classic

EN 818-4:2008

						
Sling type	1-leg	2-leg		3- and 4-leg		Choke Hitch
Condition of use	Straight	β 0-45° α 0-90°	β 45-60° α 90-120°	β 0-45° α 0-90°	β 45-60° α 90-120°	Endless sling in choke hitch
Load factor	1	1.4	1	2.1	1.5	1.6
Chain size						
6	1.12	1.60	1.12	2.36	1.70	1.80
7	1.50	2.12	1.50	3.15	2.24	2.50
8	2.00	2.80	2.00	4.25	3.00	3.15
10	3.15	4.25	3.15	6.70	4.75	5.00
13	5.30	7.50	5.30	11.20	8.00	8.50
16	8.0	11.2	8.0	17.0	11.8	12.5
19	11.2	16.0	11.2	23.6	17.0	18.0
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

Safety factor 4:1. Working load limits are based upon equally loaded and disposed sling legs.

Rules for correct WLL

Where choke hitch is employed, the WLL of the chain sling should be reduced by 20 % (unless the LK choker hook is used).

Asymmetrical loading conditions

For unequally loaded chain slings, the following is recommended:

- A two-legged system is treated as a single-legged system.
- A three- or four-legged system is treated as a two-legged system.



Working load limits - United States

WLL tonnes Grade 10 GrabiQ

Based on ASTM A906/A906M-02

Sling type	1-leg	2-leg			3- and 4-leg		
Condition of use	Straight	α 60°	α 45°	α 30°	α 60°	α 45°	α 30°
Load factor	1	1.73	1.41	1	2.59	2.12	1.5
Chain size							
6	1.50	2.50	2.10	1.50	3.80	3.10	2.20
7	1.95	3.40	2.80	1.95	5.10	4.10	2.90
8	2.60	4.50	3.70	2.60	6.70	5.50	3.90
10	4.00	6.90	5.60	4.00	10.40	8.50	6.00
13	6.80	11.80	9.60	6.80	17.70	14.40	10.20
16	10.30	17.70	14.50	10.30	26.60	21.70	15.40
20	16.00	27.70	22.60	16.00	41.60	34.00	24.00
22	19.40	33.60	27.40	19.40	50.30	41.10	29.00
26	27.10	46.80	38.20	27.00	70.60	57.40	40.50
32	40.00	69.30	56.50	40.00	103.90	84.80	60.00

Note 1: WLL for 2-leg sling and single leg basket slings = 2 x 1-leg WLL x sin of horizontal angle α
 Note 2: WLL for 3- and 4-leg sling and 2-leg basket slings = 3 x 1-leg WLL x sin of horizontal angle α
 Note 3: WLL based upon equally loaded and disposed sling legs

WLL tonnes Grade 8 Classic

Based on ASTM A906/A906M-02

Sling type	1-leg	2-leg			3- and 4-leg		
Condition of use	Straight	α 60°	α 45°	α 30°	α 60°	α 45°	α 30°
Load factor	1	1.73	1.41	1	2.59	2.12	1.5
Chain size							
6	1.12	1.94	1.58	1.12	2.91	2.38	1.68
7	1.57	2.72	2.22	1.57	4.08	3.33	2.36
8	2	3.46	2.83	2.00	5.20	4.24	3.00
10	3.2	5.54	4.53	3.20	8.31	6.79	4.80
13	5.4	9.35	7.64	5.40	14.03	11.46	8.10
16	8.2	14.20	11.60	8.20	21.30	17.39	12.30
19	11.6	20.00	16.30	11.60	30.00	24.50	17.40
22	15.5	26.85	21.92	15.50	40.27	32.88	23.25
26	21.6	37.41	30.55	21.60	56.12	45.82	32.40
32	32.8	56.81	46.39	32.80	85.22	69.58	49.20

Note 1: WLL for 2-leg sling and single leg basket slings = 2 x 1-leg WLL x sin of horizontal angle α
 Note 2: WLL for 3- and 4-leg sling and 2-leg basket slings = 3 x 1-leg WLL x sin of horizontal angle α
 Note 3: WLL based upon equally loaded and disposed sling legs



Working load limits - Australia

WLL tonnes Grade 10 GrabiQ

Based on AS 3775.2:2014

Sling type	1-leg			2-, 3- and 4-leg				Basket Slings		GrabiQ home pocket loop		
	Straight	Adjustable with no deration	Reeved sling (Choke)	Straight 60°	Straight 90°	Straight 120°	Reeved (Choke) Max angle 60°	1-leg	2-leg	1-leg α max 30°	2-,3- and 4-leg 60° α max 30°	2-,3- and 4-leg 90° α max 30°
Load factor	1	1	0.75	1.73	1.41	1	1.3	1.3	2.25	1	1.73	1.4
Chain size												
6	1.50	1.50	1.10	2.50	2.10	1.50	1.90	1.90	3.30	1.50	2.50	2.10
7	1.95	1.95	1.40	3.30	2.70	1.95	2.50	2.50	4.30	1.95	3.30	2.70
8	2.50	2.50	1.80	4.30	3.50	2.50	3.20	3.20	5.60	2.50	4.30	3.50
10	4.00	4.00	3.00	6.90	5.60	4.00	5.20	5.20	9.00	4.00	6.90	5.60
13	6.80	6.80	5.10	11.70	9.50	6.80	8.80	8.80	15.30	6.80	11.70	9.50
16	10.00	10.00	7.50	17.30	14.10	10.00	13.00	13.00	22.50	10.00	17.30	14.00
20	16.00	16.00	12.00	27.60	22.50	16.00	20.80	20.80	36.00	-	-	-
22	20.00	20.00	15.00	34.60	28.20	20.00	26.00	26.00	45.00	-	-	-
26	27.00	27.00	20.20	46.70	38.00	27.00	35.10	35.10	60.70	-	-	-
32	40.00	40.00	30.00	69.20	56.40	40.00	52.00	52.00	90.00	-	-	-

2

Note 1: Advice regarding the appropriate deration should be sought by the manufacturer

Note 2: The determination of the angle of the multi-leg sling is the largest angle at the apex of the configuration

Note 3: Reeved (choke) slings and basket slings, in a two leg configuration have a maximum angle for us of 60°

Note 4: In the 2-leg basket sling, the master link to be used shall be of an appropriate WLL and with intermediate links. This ensures that the factor 2,25 can be accommodated and that there is no overcrowding with back hooking.

Note 5: For engineered lifts, see Clause 7.2.2 in AS 3775.2:2014

WLL tonnes Grade 8 Classic in Australia

Based on AS 3775.2:2014

Sling type	1-leg				2-, 3- and 4-leg				2-leg
	Straight	Adjustable with no deration	Reeved sling (Choke)	Basket Max angle 60°	Straight β 60°	Straight β 90°	Straight β 120°	Reeved (Choke) Max angle 60°	Basket
Load factor	1	1	0.75	1.3	1.73	1.41	1	1.3	2.25
Chain size									
6	1.10	1.10	0.80	1.40	1.90	1.50	1.10	1.40	2.40
7	1.50	1.50	1.10	1.90	2.50	2.10	1.50	1.90	3.30
8	2.00	2.00	1.50	2.60	3.40	2.80	2.00	2.60	4.50
10	3.20	3.20	2.40	4.10	5.50	4.50	3.20	4.10	7.20
13	5.40	5.40	4.00	7.00	9.30	7.60	5.40	7.00	12.10
16	8.00	8.00	6.00	10.40	13.80	11.20	8.00	10.40	18.00
19	11.60	11.60	8.70	15.00	20.00	16.30	11.60	15.00	26.10
20	12.50	12.50	9.30	16.20	21.60	17.60	12.50	16.20	28.10
22	15.50	15.50	11.60	20.10	26.80	21.80	15.50	20.10	34.80
26	21.60	21.60	16.20	28.00	37.30	30.40	21.60	28.00	48.60
32	32.80	32.80	24.60	42.60	56.70	46.20	32.80	42.60	73.80

Note 1: Advice regarding the appropriate deration should be sought by the manufacturer

Note 2: The determination of the angle of the multi-leg sling is the largest angle at the apex of the configuration

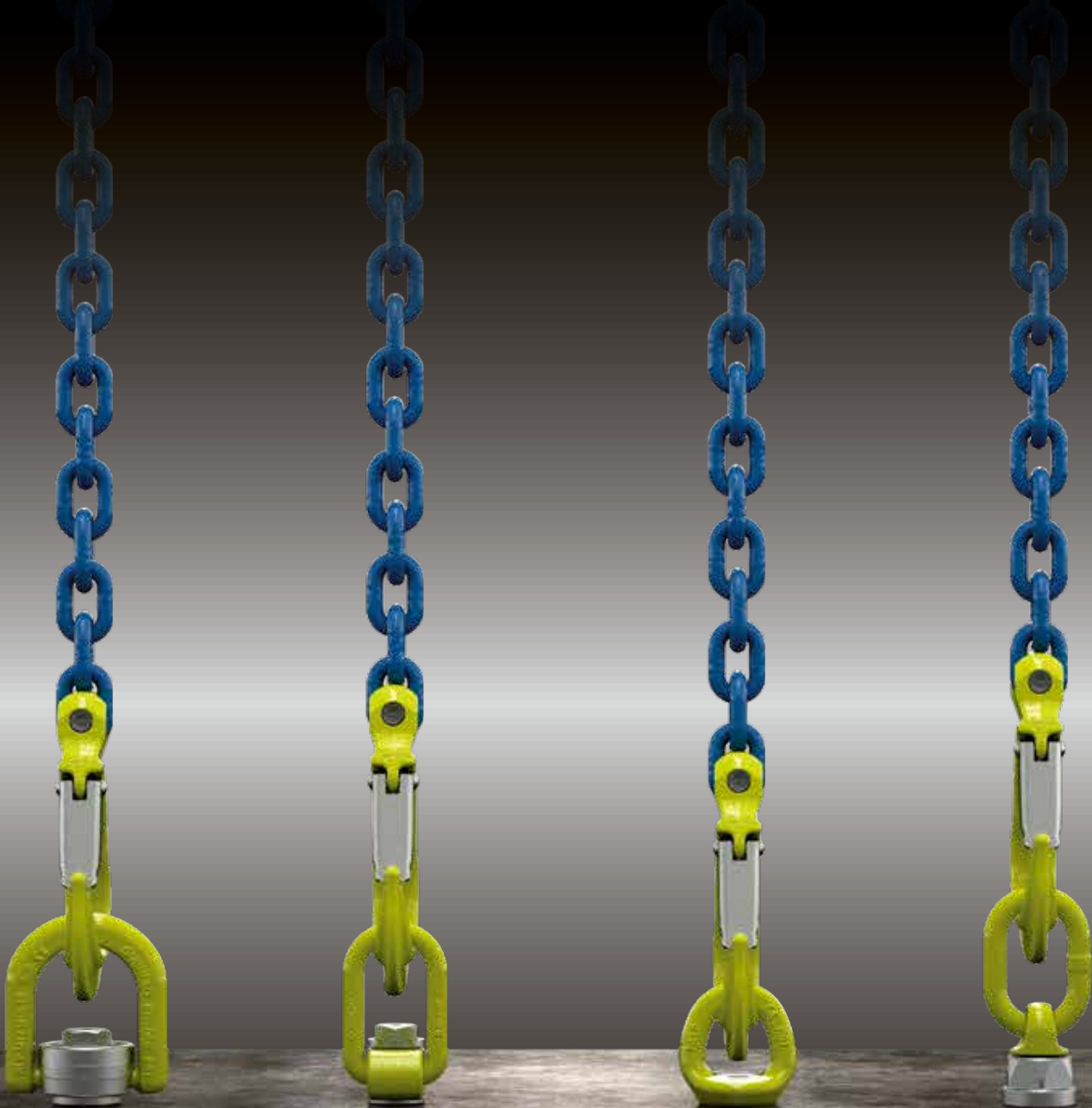
Note 3: Reeved (choke) slings and basket slings, in a two leg configuration have a maximum angle for us of 60°

Note 4: In the 2-leg basket sling, the master link to be used shall be of an appropriate WLL and with intermediate links. This ensures that the factor 2,25 can be accommodated and that there is no overcrowding with back hooking.

Note 5: For engineered lifts, see Clause 7.2.2 in AS 3775.2:2014

Lifting Points

Rotating • Ball-bearing • De-centered • Weldable • Screw-on

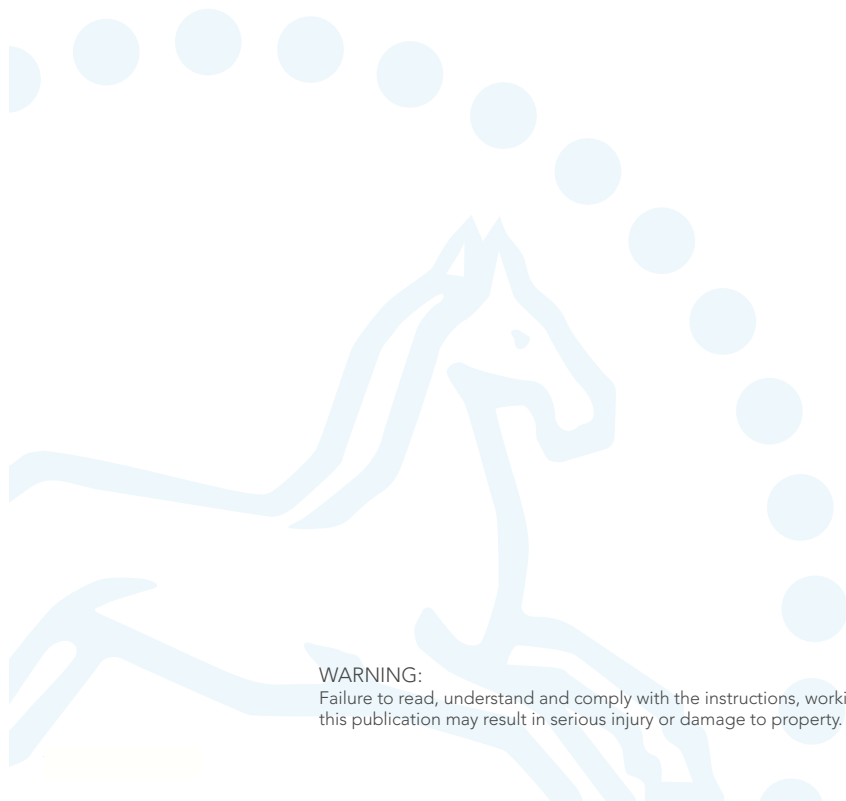


Lifting Points

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WARNING:
Failure to read, understand and comply with the instructions, working load limits and specifications in this publication may result in serious injury or damage to property.

The lifting point family

Gunnebo Industries offer a full range of CE-marked lifting points that will fit most lifting and lashing applications.

Choosing the right lifting point for your operation can be a challenge since most lifting points can be used for several purposes. In order to give some guidance, and to share what we consider to be best practice, we have created a cross-chart that provide indications to which lifting point that might be best suited for your specific purpose.

Rotating eye lifting point RELP

The RELP is a compact and robust lifting point, ideal for top-mounting and when it is important to have quick and easy on-hooking. The lifting point is easy to assemble/disassemble with a standard allen key. On the bolt itself working load limit, mounting torque and manufacturing ID is stamped, so it is always available for the operator.

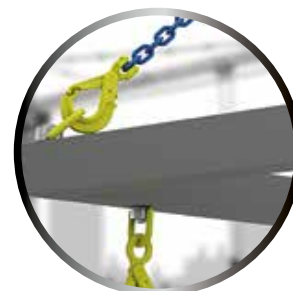
The RELP will automatically adjust to the loading direction which decreases the risk to load it incorrectly and endangering the lifting operation. For sensitive load surfaces the RELP is ideal, as the connecting sling hook will be positioned mainly parallel to the load surface, thus completely avoiding the hook causing damage on impact on the load.



Rotating lifting point RLP

The RLP has an easily dismantlable D-ring to enable assembly of wiresling, master link or hook directly onto the lifting point.

RLP has a hexagon bolt (RFID prepared) to make it easy to disassemble/assemble with a wrench. The bolt is also clearly marked with working load limit, mounting torque and manufacturer ID so it is always available to the operator. The RLP rotates 360° and pivots 180°, making it strong, flexible and reliable.



De-centered lifting point DLP

The design of the DLP allows the link to be folded over the housing when idle, allowing the lifting point to be almost completely stowed away when not in use.

The closed, oblong link is also equipped with a "stay-up"-function for easy on-hooking, (sizes up to M24) especially when there is limited space. This saves both the load from damage due to impacts from the hook, as well as making rigging fast and easy. The DLP is ideal in narrow spaces, such as corners or edge position, as the housing has a compact design. DLP has a hexagon bolt (RFID prepared) to make it easy to disassemble/assemble with a wrench. The bolt is also clearly marked with working load limit, mounting torque and manufacturer ID so it is always available to the operator.



Ball-bearing lifting point BLP

The BLP is a very versatile lifting point and can safely be used for most applications. The ball-bearings in the BLP allow the load to be rotated during the lift, which is especially good when maintenance is needed on heavy tools and other types of equipment.

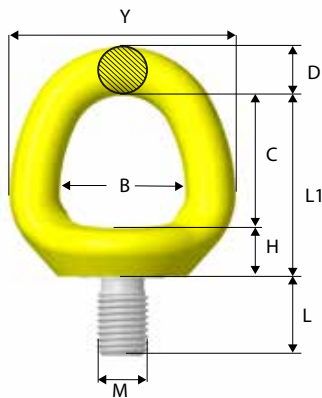
If the load surface is sensitive to impacts or scratches, the BLP is a good choice as it builds out from the load which makes it less likely that the lifting equipment will come in contact with it causing damage. The housing (RFID prepared) of the BLP is in-house drop-forged for increased strength and has a hexagon shape for easy mounting and dismounting. The housing is also clearly marked with working load limit, mounting torque and manufacturer ID so it is always available to the operator.





	RELP	RLP	DLP	BLP
Tight space	✓		✓	✓
Limited height (effective length)	✓	✓		
Vertical lift	✓	✓		✓
Angular lift		✓	✓	✓
Vertical rotation under load				✓
Tilting under load		✓	✓	✓
Sensitive load surface				✓
Single part lift	✓	✓		✓
Multiple part lift		✓	✓	✓
Integrated combination (hook or link)		✓		
RFID prepared		✓	✓	✓

This chart is intended to give guidance in choosing the right lifting point for your operation and is not rules for usage. For further advice contact your closest Gunnebo Industries dealer.



Rotating eye lifting point RELP



Art. no.	Code	Dimensions in mm										Weight kg
		B	C	D	E	H	L	L1	M	Y	Z	
Z102408	REL-P-M8 x 1.25	28	28	11	40	14	15	42	8	50	29	0.2
Z102410	REL-P-M10 x 1.5	28	28	11	40	14	15	42	10	50	29	0.2
Z102412	REL-P-M12 x 1.75	32	33	13	46	13	20	47	12	58	38	0.3
Z102416	REL-P-M16 x 2	39	41	15	53	16	24	57	16	70	40	0.5
Z102420	REL-P-M20 x 2.5	42	43	16	60	18	30	60	20	78	46	0.7
Z102424	REL-P-M24 x 3	50	51	19	68	20	36	71	24	88	44	1.1
Z102430	REL-P-M30 x 3.5	60	62	26	85	28	45	90	30	112	64	2.4
Z102436	REL-P-M36 x 4	72	72	32	97	32	54	104	36	136	74	4.1
Z102442	REL-P-M42 x 4.5	82	82	38	120	37	63	119	42	158	91	6.7
Z102448	REL-P-M48 x 5	94	96	43	142	39	72	135	48	180	102	9.9

Bolt according to: ISO 898-1 Class 10.9



REL with UNC thread

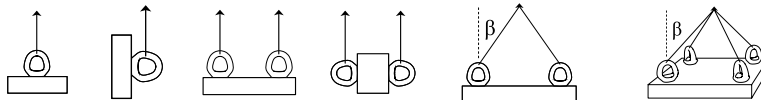


Art. no.	Code	Dimensions in m										M inch	Weight kg
		B	C	D	E	H	L	L1	Y	Z			
Z102508	REL-P-5/16"-18 UNC	28	28	11	40	14	15	42	50	29	5/16"	0.2	
Z102510	REL-P-3/8"-16 UNC	28	28	11	40	14	15	42	50	29	3/8"	0.2	
Z102512	REL-P-1/2"-13 UNC	32	33	13	46	13	20	47	58	38	1/2"	0.3	
Z102516	REL-P-5/8"-11 UNC	39	41	15	53	16	24	57	70	40	5/8"	0.5	
Z102520	REL-P-3/4"-10 UNC	42	43	16	60	18	30	60	78	46	3/4"	0.7	
Z102521	REL-P-7/8"-9 UNC	42	43	16	60	18	30	60	78	46	7/8"	0.7	
Z102524	REL-P-1"-8 UNC	50	51	19	68	20	36	71	88	44	1"	1.1	
Z102530	REL-P-1 1/4"-7 UNC	60	62	26	85	28	45	90	112	64	1 1/4"	2.4	
Z102536	REL-P-1 1/2"-6 UNC	72	72	32	97	32	54	104	136	74	1 1/2"	4.1	
Z102542	REL-P-1 3/4"-5 UNC	82	82	38	120	37	63	119	158	91	1 3/4"	6.8	
Z102548	REL-P-2"-4.5 UNC	94	96	43	142	39	72	135	180	102	2"	10.0	

Bolt according to: ISO 898-1 Class 10.9

Working Load Limits* RELP

Symmetric load (tonnes)



No. of legs	1		2		2 symmetric		3 & 4 symmetric		Tightening torque	Allen key	
	Angle β	0°	90°	0°	90°	0-45°	45-60°	0-45°			45-60°
REL-P-M8 x 1.25		0.7	0.3	1.4	0.6	0.4	0.3	0.6	0.4	10 Nm	8 mm
REL-P-5/16"-18 UNC		0.7	0.3	1.4	0.6	0.4	0.3	0.6	0.4	7 Ft.Lbs	5/16"
REL-P-M10 x 1.5		1.2	0.5	2.4	1.0	0.7	0.5	1.0	0.7	15 Nm	8 mm
REL-P-3/8"-16 UNC		1.2	0.5	2.4	1.0	0.7	0.5	1.0	0.7	11 Ft.Lbs	5/16"
REL-P-M12 x 1.75		2.0	0.8	4.0	1.6	1.1	0.8	1.6	1.2	27 Nm	8 mm
REL-P-1/2"-13 UNC		2.0	0.8	4.0	1.6	1.1	0.8	1.6	1.2	20 Ft.Lbs	5/16"
REL-P-M16 x 2		3.5	1.5	7.0	3.0	2.1	1.5	3.1	2.2	60 Nm	8 mm
REL-P-5/8"-11 UNC		3.5	1.5	7.0	3.0	2.1	1.5	3.1	2.2	44 Ft.Lbs	5/16"
REL-P-M20 x 2.5		6.1	2.4	12.2	4.8	3.3	2.4	5.0	3.6	90 Nm	8 mm
REL-P-3/4"-10 UNC		5.0	2.3	10.0	4.6	3.1	2.3	4.8	3.4	66 Ft.Lbs	5/16"
REL-P-7/8"-9 UNC		6.1	2.9	12.2	5.8	4.1	2.9	6.1	4.3	66 Ft.Lbs	5/16"
REL-P-M24 x 3		8.1	3.3	16.2	6.6	4.6	3.3	6.9	4.9	135 Nm	19 mm
REL-P-1"-8 UNC		8.1	3.3	16.2	6.6	4.6	3.3	6.9	4.9	100 Ft.Lbs	3/4"
REL-P-M30 x 3.5		12.1	4.6	24.2	9.2	6.4	4.6	9.6	6.9	270 Nm	19 mm
REL-P-1 1/4"-7 UNC		12.1	4.6	24.2	9.2	6.4	4.6	9.6	6.9	200 Ft.Lbs	3/4"
REL-P-M36 x 4		16.1	7.1	32.2	14.2	9.9	7.1	14.9	10.6	320 Nm	19 mm
REL-P-1 1/2"-6 UNC		16.1	7.1	32.2	14.2	9.9	7.1	14.9	10.6	236 Ft.Lbs	3/4"
REL-P-M42 x 4.5		24	9.1	48	18.2	12.7	9.1	19.1	13.6	600 Nm	19 mm
REL-P-1 3/4"-5 UNC		24	9.1	48	18.2	12.7	9.1	19.1	13.6	440 Ft.Lbs	3/4"
REL-P-M48 x 5		32	12.1	64	24.2	16.9	12.1	25.4	18.1	800 Nm	19 mm
REL-P-2"-4.5 UNC		32	12.1	64	24.2	16.9	12.1	25.4	18.1	590 Ft.Lbs	3/4"

*Safety factor 4:1

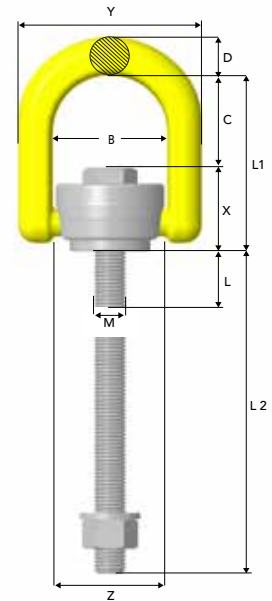
3:4

Rotating lifting point RLP



Art. no. Standard bolt length	L	Art.no. Long bolt length**	L2	Code	B	C	Dimensions in mm						Weight kg***
							D	L1	M	X	Y	Z	
Z101708	16	Z1017080L	101	RLP-M8 x 1.25	42	35	12	62	8	27	64	Ø40	0.3
Z101710	16	Z1017100L	101	RLP-M10 x 1.5	42	35	12	62	10	27	64	Ø40	0.3
Z101712	25	Z1017120L	120	RLP-M12 x 1.75	57	46	19	88	12	42	91	Ø54	1.0
Z101716	25	Z1017160L	160	RLP-M16 x 2	57	46	19	88	16	42	91	Ø54	1.0
Z101720	36	Z1017200L	200	RLP-M20 x 2.5	83	55	28	110	20	55	133	Ø80	2.9
Z101724	36	Z1017240L	240	RLP-M24 x 3	83	55	28	110	24	55	133	Ø80	2.9
Z101730	58	Z1017300L	300	RLP-M30 x 3.5	114	70	34	148	30	78	182	Ø111	7.1
Z101736	58	Z1017360L	300	RLP-M36 x 4	114	70	34	148	36	78	182	Ø111	7.3
Z101742	81	Z1017420L	301	RLP-M42 x 4.5	149	91	40	190	42	99	229	Ø142	14.3
Z101748	81	Z1017480L	301	RLP-M48 x 5	149	91	40	190	48	99	229	Ø142	14.5

** Long Bolt supplied with nut and washer. *** Weight is calculated with standard bolt length.
Bolt, nut and washer according to: ISO 898-1 Class 10.9



3

RLP with UNC thread



Art. no. Standard bolt length	L	Art.no. long bolt length**	L2	Code	B	C	Dimensions in mm						M inch	Weight kg***
							D	L1	X	Y	Z			
Z101808	16	Z1018080L	101	RLP-5/16"-18 UNC	42	35	12	62	27	64	Ø40	5/16"	0.3	
Z101810	16	Z1018100L	101	RLP-3/8"-16 UNC	42	35	12	62	27	64	Ø40	3/8"	0.3	
Z101812	25	Z1018120L	120	RLP-1/2"-13 UNC	57	46	19	88	42	91	Ø54	1/2"	1.0	
Z101816	25	Z1018160L	160	RLP-5/8"-11 UNC	57	46	19	88	42	91	Ø54	5/8"	1.0	
Z101820	36	Z1018200L	200	RLP-3/4"-10 UNC	83	55	28	110	55	133	Ø80	3/4"	2.9	
Z101821	36	Z1018210L	200	RLP-7/8"-9 UNC	83	55	28	110	55	133	Ø80	7/8"	2.9	
Z101824	36	Z1018240L	240	RLP 1"-8 UNC	83	55	28	110	55	133	Ø80	1"	2.9	
Z101830	58	Z1018300L	300	RLP 1 1/4"-7 UNC	114	70	34	148	78	182	Ø111	1 1/4"	7.1	
Z101836	58	Z1018360L	300	RLP 1 1/2"-6 UNC	114	70	34	148	78	182	Ø111	1 1/2"	7.3	
Z101842	81	Z1018420L	301	RLP 1 3/4"-5 UNC	149	91	40	190	99	229	Ø142	1 3/4"	14.4	
Z101848	81	Z1018480L	301	RLP 2"-4.5 UNC	149	91	40	190	99	229	Ø142	2"	14.7	

** Long Bolt supplied with nut and washer. *** Weight is calculated with standard bolt length.
Bolt, nut and washer according to: ISO 898-1 Class 10.9

Working Load Limits* RLP

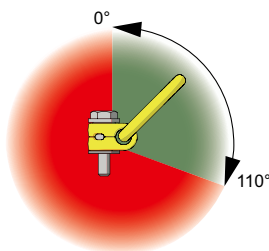
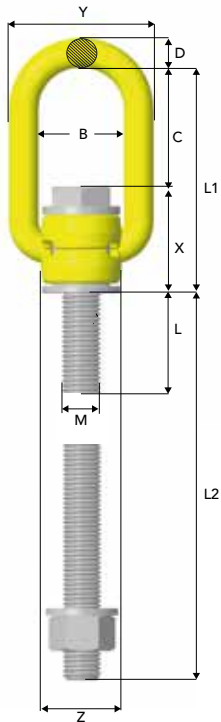
No. of legs	Symmetric load (tonnes)				2 symmetric				3 & 4 symmetric		Tightening torque	Spanner size
	1	1	2	2	0-45°	45-60°	0-45°	45-60°	0-45°	45-60°		
RLP - M8 x 1.25	0.8	0.4	1.6	0.8	0.5	0.4	0.8	0.6	10 Nm	13 mm		
RLP 5/16"-18 UNC	0.8	0.4	1.6	0.8	0.5	0.4	0.8	0.6	7 Ft.Lbs	1/2"		
RLP - M10 x 1.5	1.2	0.7	2.4	1.4	0.9	0.7	1.4	1.0	15 Nm	13 mm		
RLP 3/8"-16 UNC	1.2	0.65	2.4	1.3	0.9	0.6	1.3	0.9	11 Ft.Lbs	1/2"		
RLP - M12 x 1.75	2.0	1.2	4.0	2.4	1.6	1.2	2.5	1.8	27 Nm	24 mm		
RLP 1/2"-13 UNC	2.0	1.2	4.0	2.4	1.6	1.2	2.5	1.8	20 Ft.Lbs	15/16"		
RLP - M16 x 2	3.2	2.0	6.4	4.0	2.8	2.0	4.2	3.0	60 Nm	24 mm		
RLP 5/8"-11 UNC	3.2	2.0	6.4	4.0	2.8	2.0	4.2	3.0	44 Ft.Lbs	15/16"		
RLP - M20 x 2.5	5.6	2.8	11.2	5.6	3.9	2.8	5.8	4.2	90 Nm	32 mm		
RLP 3/4"-10 UNC	5.0	2.5	10.0	5.0	3.5	2.5	5.2	3.7	66 Ft.Lbs	1 5/16"		
RLP 7/8"-9 UNC	5.6	2.8	11.2	5.6	3.9	2.8	5.8	4.2	66 Ft.Lbs	1 5/16"		
RLP - M24 x 3	8.0	4.6	16.0	9.2	6.4	4.6	9.6	6.9	135 Nm	32 mm		
RLP 1"-8 UNC	8.0	4.6	16.0	9.2	6.4	4.6	9.6	6.9	100 Ft.Lbs	1 5/16"		
RLP - M30 x 3.5	12.0	6.0	24.0	12.0	8.4	6.0	12.6	9.0	270 Nm	55 mm		
RLP 1 1/4"-7 UNC	12.0	6.0	24.0	12.0	8.4	6.0	12.6	9.0	200 Ft.Lbs	2 1/4"		
RLP - M36 x 4	14.0	8.0	28.0	16.0	11.2	8.0	16.8	12.0	320 Nm	55 mm		
RLP 1 1/2"-6 UNC	14.0	8.0	28.0	16.0	11.2	8.0	16.8	12.0	236 Ft.Lbs	2 1/4"		
RLP - M42 x 4.5	16.0	14.0	32.0	28.0	19.6	14.0	29.4	21.0	600 Nm	75 mm		
RLP 1 3/4"-5 UNC	16.0	14.0	32.0	28.0	19.6	14.0	29.4	21.0	440 Ft.Lbs	3"		
RLP - M48 x 5	20.0	16.0	40.0	32.0	22.4	16.0	33.6	24.0	800 Nm	75 mm		
RLP 2"-4.5 UNC	20.0	16.0	40.0	32.0	22.4	16.0	33.6	24.0	590 Ft.Lbs	3"		



Disassembly of the RLP is easily done by just folding the D-ring forward and push down.

*Safety factor 4:1

De-centered lifting point DLP



- The DLP can only be loaded from 0° to 110° degrees.
- Rotation around screw axis when loaded at 0°-15° is not allowed.

Art. no. Standard bolt length	L	Art.no. Long bolt length**	L2	Code	Dimensions in mm										Weight Kg***	
					B	C	D	E	F	G	L1	M	X	Y		Z
Z102208	13	Z1022080L	97.5	DLP-M8 x 1.25	35	48	10	39	14	10	78	8	30	55	26	0.3
Z102210	13	Z1022100L	97.5	DLP -M10 x 1.5	35	48	10	39	14	10	78	10	30	55	26	0.3
Z102212	23	Z1022120L	118	DLP -M12 x 1.75	35	48	12	51	20	14	91	12	44	59	32	0.5
Z102216	23	Z1022160L	158	DLP-M16 x 2	35	48	12	51	20	14	91	16	44	59	32	0.5
Z102220	34	Z1022200L	198	DLP-M20 x 2.5	54	88	18	71	28	18	145	20	58	90	48	1.6
Z102224	34	Z1022240L	238	DLP-M24 x 3	54	88	18	71	28	18	145	24	58	90	48	1.7
Z102230	53	Z1022300L	295	DLP-M30 x 3.5	82	94	26	104	39	27	182	30	88	122	75	5.0
Z102236	53	Z1022360L	295	DLP-M36 x 4	82	94	26	104	39	27	182	36	88	122	75	5.2
Z102242	73	Z1022420L	293	DLP-M42 x 4.5	100	104	36	136	54	34	216	42	113	156	110	11.6
Z102248	73	Z1022480L	293	DLP-M48 x 5	100	103	36	136	54	34	216	48	113	156	110	11.9

** Long Bolt supplied with nut and washer. *** Weight is calculated with standard bolt length.
Bolt, nut and washer according to: ISO 898-1 Class 10.9

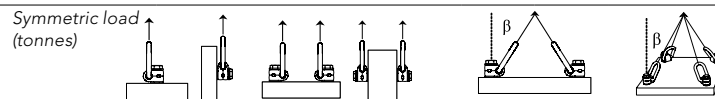
DLP with UNC thread



Art. no. Standard bolt length	L	Art.no. Long bolt length**	L2	Code	Dimensions in mm										M inch	Weight kg***
					B	C	D	E	F	G	L1	X	Y	Z		
Z102308	13	Z1023080L	97.5	DLP-5/16"-18 UNC	35	48	10	39	14	10	78	30	55	26	5/16"	0.3
Z102310	13	Z1023100L	97.5	DLP-3/8"-16 UNC	35	48	10	39	14	10	78	30	55	26	3/8"	0.3
Z102312	23	Z1023120L	118	DLP-1/2"-13 UNC	35	48	12	51	20	14	91	44	59	32	1/2"	0.5
Z102316	23	Z1023160L	158	DLP-5/8"-11 UNC	35	48	12	51	20	14	91	44	59	32	5/8"	0.5
Z102320	34	Z1023200L	198	DLP-3/4"-10 UNC	54	88	18	71	28	18	145	58	90	48	3/4"	1.6
Z102321	34	Z1023210L	198	DLP-7/8"-9 UNC	54	88	18	71	28	18	145	58	90	48	7/8"	1.6
Z102324	34	Z1023240L	238	DLP-1"-8 UNC	54	88	18	71	28	18	145	58	90	48	1"	1.7
Z102330	53	Z1023300L	295	DLP- 1 1/4"-7 UNC	82	94	26	104	39	27	182	88	122	75	1 1/4"	5.5
Z102336	53	Z1023360L	295	DLP-1 1/2"-6 UNC	82	94	26	104	39	27	182	88	122	75	1 1/2"	5.7
Z102342	73	Z1023420L	293	DLP-1 3/4"-5 UNC	100	103	36	136	54	34	216	113	156	110	1 3/4"	11.7
Z102348	73	Z1023480L	293	DLP-2"- 4.5 UNC	100	103	36	136	54	34	216	113	156	110	2"	12.1

** Long Bolt supplied with nut and washer. *** Weight is calculated with standard bolt length.
Bolt, nut and washer according to: ISO 898-1 Class 10.9

Working Load Limits* DLP



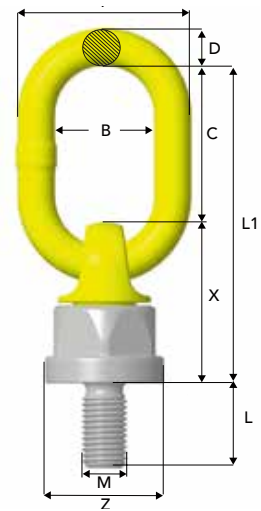
No. of legs	1		2		2 symmetric		3 & 4 symmetric		Tightening torque	Spanner size
	Angle β	$0^\circ < \beta < 90^\circ$	$0^\circ < \beta < 90^\circ$	0.45°	$45-60^\circ$	0.45°	$45-60^\circ$			
DLP -M8 x 1.25		0.35	0.70	0.5	0.35	0.7	0.5	10 Nm	13 mm	
DLP 5/16"-18 UNC		0.35	0.70	0.5	0.35	0.7	0.5	7 Ft.Lbs	1/2"	
DLP -M10 x 1.5		0.65	1.30	0.9	0.65	1.4	1.0	15 Nm	13 mm	
DLP 3/8"-16 UNC		0.60	1.20	0.8	0.60	1.3	0.9	11 Ft.Lbs	1/2"	
DLP -M12 x 1.75		1.0	2.0	1.4	1.0	2.1	1.5	27 Nm	24 mm	
DLP 1/2"-13 UNC		1.0	2.0	1.4	1.0	2.1	1.5	20 Ft.Lbs	15/16"	
DLP -M16 x 2		1.8	3.6	2.5	1.8	3.7	2.7	60 Nm	24 mm	
DLP 5/8"-11 UNC		1.6	3.2	2.2	1.6	3.3	2.4	44 Ft.Lbs	15/16"	
DLP -M20 x 2.5		2.6	5.2	3.6	2.6	5.4	3.9	90 Nm	32 mm	
DLP -3/4"-10 UNC		2.2	4.4	3.0	2.2	4.6	3.3	66 Ft.Lbs	15/16"	
DLP -7/8"-9 UNC		2.6	5.2	3.6	2.6	5.4	3.9	66 Ft.Lbs	15/16"	
DLP -M24 x 3		4.1	8.2	5.7	4.1	8.6	6.1	135 Nm	32 mm	
DLP -1"-8 UNC		4.1	8.2	5.7	4.1	8.6	6.1	100 Ft.Lbs	15/16"	
DLP -M30 x 3.5		5.0	10.0	7.0	5.0	10.5	7.5	270 Nm	55 mm	
DLP -1 1/4"-7 UNC		5.0	10.0	7.0	5.0	10.5	7.5	200 Ft.Lbs	2 1/4"	
DLP -M36 x 4		7.0	14.0	9.8	7.0	14.7	10.5	320 Nm	55 mm	
DLP -1 1/2"-6 UNC		7.0	14.0	9.8	7.0	14.7	10.5	236 Ft.Lbs	2 1/4"	
DLP -M42 x 4.5		15.0	30.0	21.0	15.0	31.5	22.5	600 Nm	75 mm	
DLP -1 3/4"-5 UNC		15.0	30.0	21.0	15.0	31.5	22.5	440 Ft.Lbs	3"	
DLP -M48 x 5		20.0	40.0	28.0	20.0	42.0	30.0	800 Nm	75 mm	
DLP -2"-4.5 UNC		20.0	40.0	28.0	20.0	42.0	30.0	590 Ft.Lbs	3"	

*Safety factor 4:1

Ball-bearing lifting point BLP



Art. no.	Code	Dimensions in mm									Weight kg
		B	C	D	L	L1	M	X	Y	Z	
Z102008	BLP-M8 x 1.25	35	55	13	16	112	8	57	62	Ø42	0.6
Z102010	BLP -M10 x 1.5	35	55	13	20	112	10	57	61	Ø42	0.6
Z102012	BLP -M12 x 1.75	35	55	13	24	112	12	57	61	Ø42	0.6
Z102016	BLP-M16 x 2	35	55	13	30	112	16	57	61	Ø42	0.6
Z102020	BLP-M20 x 2.5	34	57	17	30	132	20	75	67	Ø59	1.3
Z102024	BLP-M24 x 3	50	70	17	36	145	24	75	84	Ø59	1.5
Z102030	BLP-M30 x 3.5	54	96	22	45	102	30	106	99	Ø74	3.4
Z102036	BLP-M36 x 4	54	96	22	54	102	36	106	99	Ø74	3.5
Z102042	BLP-M42 x 4.5	70	120	28	63	242	42	122	127	Ø93	6.5
Z102048	BLP-M48 x 5	70	120	28	72	242	48	122	127	Ø93	6.8



3

BLP with UNC thread



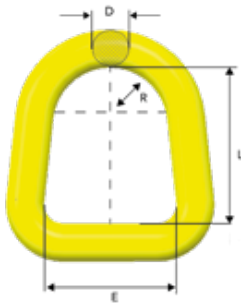
Art. no.	Code	Dimensions in mm								M inch	Weight kg
		B	C	D	L	L1	X	Y	Z		
Z102108	BLP-5/16"-18 UNC	35	55	13	16	112	57	61	Ø42	5/16"	0.6
Z102110	BLP-3/8"-16 UNC	35	55	13	20	112	57	61	Ø42	3/8"	0.6
Z102112	BLP-1/2"-13 UNC	35	55	13	24	112	57	61	Ø42	1/2"	0.6
Z102116	BLP-5/8"-11 UNC	35	55	13	30	112	57	61	Ø42	5/8"	0.6
Z102120	BLP-3/4"-10 UNC	34	57	17	30	132	75	67	Ø59	3/4"	1.3
Z102121	BLP-7/8"-9 UNC	34	57	17	30	132	75	67	Ø59	7/8"	1.3
Z102124	BLP-1"-8 UNC	50	70	17	38	145	75	84	Ø59	1"	1.5
Z102130	BLP-1 1/4"-7 UNC	54	96	22	48	202	106	99	Ø74	1 1/4"	3.4
Z102136	BLP-1 1/2"-6 UNC	54	96	22	57	202	106	99	Ø74	1 1/2"	3.6
Z102142	BLP-1 3/4"-5 UNC	70	120	28	67	242	122	127	Ø93	1 3/4"	6.6
Z102148	BLP-2"-4.5 UNC	70	120	28	76	242	122	127	Ø93	2"	7.0

Working Load Limits* BLP

No. of legs	1		2		2 symmetric		3 & 4 symmetric		Tightening torque	Spanner size	
	Angle β	0°	90°	0°	0-45°	90°	0-45°	45-60°			0-45°
BLP -M8 x 1.25	0.6	0.3	1.2	0.4	0.6	0.4	0.3	0.6	0.45	10 Nm	36 mm
BLP -5/16"-18 UNC	0.6	0.3	1.2	0.4	0.6	0.4	0.3	0.6	0.45	7 Ft.Lbs	1 1/2"
BLP -M10 x 1.5	1.0	0.5	2.0	0.7	1.0	0.7	0.5	1.3	0.75	15 Nm	36 mm
BLP -3/8"-16 UNC	0.8	0.4	1.6	0.5	0.8	0.5	0.4	0.8	0.6	11 Ft.Lbs	1 1/2"
BLP -M12 x 1.75	1.5	0.75	3.0	1.1	1.5	1.1	0.75	1.5	1.1	27 Nm	36 mm
BLP -1/2"-13 UNC	1.5	0.75	3.0	1.1	1.5	1.0	0.75	1.5	1.1	20 Ft.Lbs	1 1/2"
BLP -M16 x 2	3.0	1.5	6.0	2.1	3.0	2.1	1.5	3.1	2.2	60 Nm	36 mm
BLP -5/8"-11 UNC	3.0	1.5	6.0	2.1	3.0	2.1	1.5	3.1	2.2	44 Ft.Lbs	1 1/2"
BLP -M20 x 2.5	5.0	2.5	10.0	3.5	5.0	3.5	2.5	5.2	3.7	90 Nm	50mm
BLP -3/4"-10 UNC	4.5	2.25	9.0	3.1	4.5	3.1	2.25	4.7	3.3	66 Ft.Lbs	2"
BLP -7/8"-9 UNC	6.0	3.0	12.0	4.2	6.0	4.2	3.0	6.3	4.5	66 Ft.Lbs	2"
BLP -M24 x 3	7.0	4.0	14.0	5.6	8.0	5.6	4.0	8.4	6.0	135 Nm	50mm
BLP -1"-8 UNC	7.0	4.0	14.0	5.6	8.0	5.6	4.0	8.4	6.0	100 Ft.Lbs	2"
BLP -M30 x 3.5	12.0	6.0	24.0	8.4	12.0	8.4	6.0	12.6	9.0	270 Nm	65 mm
BLP -1 1/4"-7 UNC	12.0	6.0	24.0	8.4	12.0	8.4	6.0	12.6	9.0	200 Ft.Lbs	2 5/8"
BLP -M36 x 4	14.0	8.0	28.0	11.2	16.0	11.2	8.0	16.8	12.0	320 Nm	65 mm
BLP -1 1/2"-6 UNC	14.0	8.0	28.0	11.2	16.0	11.2	8.0	16.8	12.0	236 Ft.Lbs	2 5/8"
BLP -M42 x 4.5	16.0	10.0	32.0	14.0	20.0	14.0	10.0	21.0	15.0	600 Nm	85 mm
BLP -1 3/4"-5 UNC	16.0	10.0	32.0	14.0	20.0	14.0	10.0	21.0	15.0	440 Ft.Lbs	3 1/8"
BLP -M48 x 5	18.0	13.0	36.0	18.2	26.0	18.2	13.0	27.3	19.5	800 Nm	85 mm
BLP -2"-4.5 UNC	18.0	13.0	36.0	18.2	26.0	18.2	13.0	27.3	19.5	590 Ft.Lbs	3 1/8"

*Safety factor 4:1

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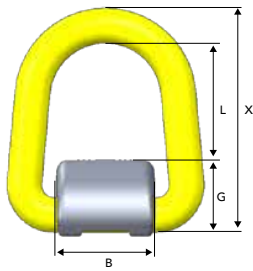


Master link D



Art. no.	Code	WLL tonnes*	E	D	L	R	Weight kg
Z7008771	D-14-10	2.5	55	14	65	24	0.4
Z7008781	D-17-10	4.0	64	17	62	29	0.5
Z7008801	D-22-10	7.0	76	22	90	33	1.0
Z7008791	D-27-10	10.0	85	27	98	38	1.9
Z7008792	D-32-10	16.0	114	32	139	50	3.5

The load bearing width must be at least $0.5 \times E$.

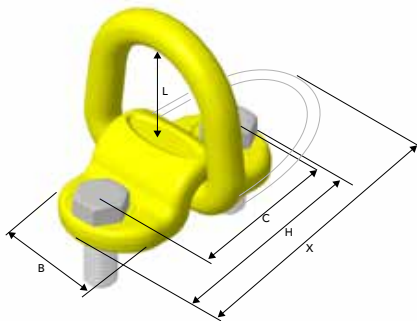


Weldable lifting point WLP



Art. no.	Code	WLL tonnes*	B	G	L	X	Weight kg
Z7009001	WLP-2.5T	2.5	50	27	53	95	0.5
Z7009011	WLP-4T	4.0	58	34	48	97	0.8
Z7009021	WLP-7T	7.0	64	41	73	135	1.8
Z7009031	WLP-10T	10.0	65	52	73	152	3.4
Z7009041	WLP-16T	16.0	90	66	105	203	6.7

Supplied with spring for stay up function.
 Master Link measurements, see Master Link D above.
 Working Load Limits on page 3:13.

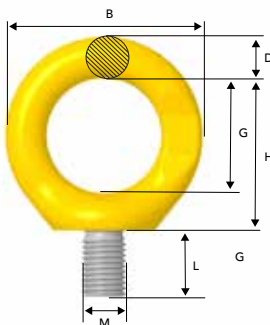


Screw-on lifting point SLP



Art. no.	Code	WLL tonnes*	B	C	H	L	M	X	Bolt protrusion	Weight kg
Z7009881	SLP-1T	1.0	50	72	98	54	M14	139	25	0.8
Z7009871	SLP-3T	3.0	58	84	114	49	M16	144	28	1.3
Z7009861	SLP-5T	5.0	64	116	160	71	M20	203	34	2.6

Supplied with bolt and spring for stay up function.
 Bolt according to: ISO 898-1 Class 10.9.
 Master Link measurements, see Master Link D above.
 Working Load Limits on page 3:13.



Eye lifting point ELP

Art. no.	Code	WLL tonnes*	B	D	G	H	L	M	Weight kg
Z100434	ELP-16-8	1.0**	72	16	42	55	24	M16	0.4
Z100435	ELP-20-8	1.5**	72	16	42	58	30	M20	0.4
Z100436	ELP-24-8	2.0**	88	19	48	69	36	M24	0.9
Z100437	ELP-30-8	3.0**	106	22	60	84	45	M30	1.4

** In case of 1-leg application where loading is limited to straight loading in the direction of thread (no bending force) it is possible to use ELP with four times higher WLL. Note! Threaded depths need to be at least $1 \times M$ for steel, $1.25 \times M$ for cast iron and $2 \times M$ for aluminum alloy.
 Working Load Limits on page 3:13.

Spare parts

Standard length bolt and long bolt for RLP and DLP are available as spare parts.

RDRLP Metric

Standard length bolt incl. locking ring

Art. no.	Code
Z1017081	RDRLP-M8x1,25
Z1017101	RDRLP-M10x1,5
Z1017121	RDRLP-M12x1,75
Z1017161	RDRLP-M16x2
Z1017201	RDRLP-M20x2,5
Z1017241	RDRLP-M24x3
Z1017301	RDRLP-M30x3,5
Z1017361	RDRLP-M36x4
Z1017421	RDRLP-M42x4,5
Z1017481	RDRLP-M48x5



RDRLP Metric

Long bolt incl. nut, locking ring and washer

Art. no.	Code
Z10170801L	RDRLP-M8x1.25 LB
Z10171001L	RDRLP-M10x1.5 LB
Z10171201L	RDRLP-M12x1.75 LB
Z10171601L	RDRLP-M16x2 LB
Z10172001L	RDRLP-M20x2.5 LB
Z10172401L	RDRLP-M24x3 LB
Z10173001L	RDRLP-M30x3.5 LB
Z10173601L	RDRLP-M36x4 LB
Z10174201L	RDRLP-M42x4.5 LB
Z10174801L	RDRLP-M48x5 LB



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RDRLP UNC

Standard length bolt incl. locking ring

Art. no.	Code
Z1018081	RDRLP-UNC 5/16"-18
Z1018101	RDRLP-UNC 3/8"-16
Z1018121	RDRLP-UNC 1/2"-13
Z1018161	RDRLP-UNC 5/8"-11
Z1018201	RDRLP-UNC 3/4"-10
Z1018211	RDRLP-UNC 7/8"-9
Z1018241	RDRLP-UNC 1"-8
Z1018301	RDRLP-UNC 1 1/4"-7
Z1018361	RDRLP-UNC 1 1/2"-6
Z1018421	RDRLP-UNC 1 3/4"-5
Z1018481	RDRLP-UNC 2"-4.5



RDRLP UNC

Long bolt incl. nut, locking ring and washer

Art. no.	Code
Z10180801L	RDRLP-UNC 5/16"-18 LB
Z10181001L	RDRLP-UNC 3/8"-16 LB
Z10181201L	RDRLP-UNC 1/2"-13 LB
Z10181601L	RDRLP-UNC 5/8"-11 LB
Z10182001L	RDRLP-UNC 3/4"-10 LB
Z10182101L	RDRLP-UNC 7/8"-9 LB
Z10182401L	RDRLP-UNC 1"-8 LB
Z10183001L	RDRLP-UNC 1 1/4"-7 LB
Z10183601L	RDRLP-UNC 1 1/2"-6 LB
Z10184201L	RDRLP-UNC 1 3/4"-5 LB
Z10184801L	RDRLP-UNC 2"-4.5 LB



RDDL P Metric

Standard length bolt incl. locking ring

Art. no.	Code
Z1022081	RDDL P-M8x1.25
Z1022101	RDDL P-M10x1.5
Z1022121	RDDL P-M12x1.75
Z1022161	RDDL P-M16x2
Z1022201	RDDL P-M20x2.5
Z1022241	RDDL P-M24x3
Z1022301	RDDL P-M30x3.5
Z1022361	RDDL P-M36x4
Z1022421	RDDL P-M42x4.5
Z1022481	RDDL P-M48x5



RDDL P Metric

Long bolt incl. nut, locking ring and washer

Art. no.	Code
Z10220801L	RDDL P M8x1.25 LB
Z10221001L	RDDL P M10x1.5 LB
Z10221201L	RDDL P M12x1.75 LB
Z10221601L	RDDL P M16x2 LB
Z10222001L	RDDL P M20x2.5 LB
Z10222401L	RDDL P M24x3 LB
Z10223001L	RDDL P M30x3.5 LB
Z10223601L	RDDL P M36x4 LB
Z10224201L	RDDL P M42x4.5 LB
Z10224801L	RDDL P M48x5 LB



*Safety factor 4:1

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RDDL - UNC

Standard length bolt incl. locking ring

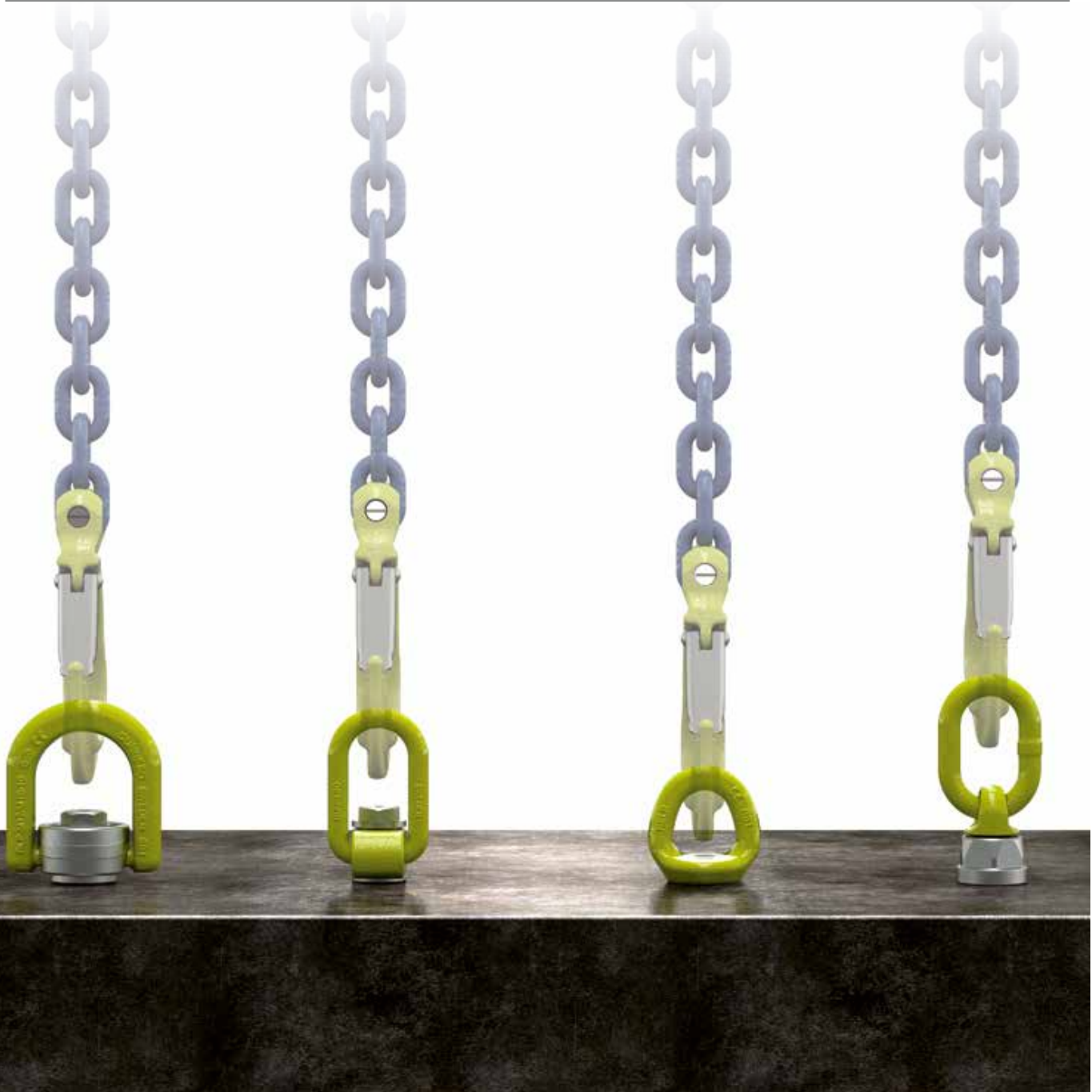
Art. no.	Code
Z1023081	RDDL UNC 5/16"-18
Z1023101	RDDL UNC 3/8"-16
Z1023121	RDDL UNC 1/2"-13
Z1023161	RDDL -UNC 5/8"-11
Z1023201	RDDL -UNC 3/4"-10
Z1023211	RDDL -UNC 7/8"-9
Z1023241	RDDL -UNC 1"-8
Z1023301	RDDL -UNC 1 1/4"-7
Z1023361	RDDL UNC 1 1/2"-6
Z1023421	RDDL -UNC 1 3/4"-5
Z1023481	RDDL -UNC 2"-4.5



RDDL - UNC

Long bolt incl. nut, locking ring and washer

Art. no.	Code
Z10230801L	RDDL UNC 5/16"-18 LB
Z10231001L	RDDL UNC 3/8"-16 LB
Z10231201L	RDDL UNC 1/2"-13 LB
Z10231601L	RDDL UNC 5/8"-11 LB
Z10232001L	RDDL UNC 3/4"-10 LB
Z10232101L	RDDL UNC 7/8"-9 LB
Z10232401L	RDDL UNC 1"-8 LB
Z10233001L	RDDL UNC 1 1/4"-7 LB
Z10233601L	RDDL UNC 1 1/2"-6 LB
Z10234201L	RDDL UNC 1 3/4"-5 LB
Z10234801L	RDDL UNC 2"-4.5 LB



Technical information

The following information aims to give advice and explain the most common questions in order to ensure safe and proper use of lifting points. Always refer to the user instructions of the specific model of lifting point before use. It is of the most importance that this information is known to the user and in accordance with the Machinery Directive 2006/42/EC this information must be delivered to the customer.

General advice

Reference should be made to relevant standards and other statutory regulations. Inspections must be carried out only by people who possess sufficient knowledge.

Before installation and before every use, visually inspect the lifting points, paying particular attention to any evidence of corrosion, wear, weld cracks or deformations. Please ensure compatibility of bolt thread and tapped hole.

The material construction, to which the lifting point will be attached, should be of adequate strength to withstand forces during lifting without deformation.

Ensure minimum thread depth, see table (d refers to bolt diameter).

RLP, RELP, BLP, DLP

Thread depth	Yield limit of base material
1 x d	For steel, yield limit >200 MPa
1,25 x d	For cast iron, yield limit >200MPa
2,5 x d	Aluminum
	For other metal alloys or base materials consult your Gunnebo Industries distributor.

- If the bolt length needs to be adjusted the bolt should be cut in a cold saw or lathe and temperature kept as low as possible during cutting. After cutting check the shape of the threads nearest the cut with an appropriately sized die (there must not be any burrs).
- The surface facing around the thread hole shall be flat (plane), clear of dirt and smooth to ensure perfect contact with the shoulder surface of the Lifting Point.

Nut and washer

The nut and washer must be the original equipment supplied from Gunnebo Industries to ensure the correct mechanical properties. No warranty, insurance or liability will be accepted if bolts not supplied by Gunnebo Industries have been used.

Extreme environments

The in-service temperature affects the WLL as follows:

RLP

Temperature (°C)	Reduction of WLL
-40 to +200 °C	0 %
+200 to +300 °C	10 %
+300 to +400 °C	25 %
Temperatures below -40°C or above 400 °C are not allowed.	

RELP

Temperature (°C)	Reduction of WLL
-40 to +100 °C	0 %
+100 to +200 °C	15 %
+200 to +250 °C	20%
+250 to +350 °C	25 %
Temperatures above 350 °C are not allowed.	

BLP / DLP

Temperature (°C)	Reduction of WLL
-40 to +200 °C	0 %
Temperatures below -40° C or above 200° C are not allowed.	

Severe environments

Lifting points must not be used in alkaline (> pH10) or in acidic condition (< pH6).

Comprehensive and regular examination must be carried out when used in severe or corrosive environments. In uncertain situations consult your Gunnebo Industries distributor.

Surface treatment

- Hot dip galvanizing or plating is not allowed outside the control of the manufacturer.
- Acid or Alkaline cleaning is not allowed.

Protect yourself and others

- Before each use the Lifting Point should be checked for obvious damage or deterioration.
- Know the weight of the load and its center of gravity.
- Ensure the load is ready to move and that no obstacles will obstruct the lifting.
- Check the conformity of the load with the Working Load Limit.
- Prepare the landing site.
- Never overload and avoid shock loading.
- Never use an improper configuration.
- Never use a worn or damaged Lifting Point.
- Do not ever ride on the load.
- Do not ever walk or stand under a suspended load.
- Take into consideration that the load may swing or rotate.
- Watch your feet and fingers while loading/unloading.

Inspection

Periodic thorough examination must be carried out at least every 12 months or more frequently according to local statutory regulations, type of use and past experience.

- Ensure correct bolt and nut size, quality and length.
- Ensure compatibility of bolt thread and tapped hole – control of the torque.
- The lifting point should be complete.
- The working load limit and manufacturers stamp should be clearly visible.
- Check for deformation of the component parts such as body, load ring and bolt.
- Check for mechanical damage, such as notches, particularly in high stress areas.
- Wear should be no more than 10 % of cross sectional diameter.
- Evidence of corrosion.
- Evidence of cracks.
- Damage to the bolt, nut and/or thread.
- The body of the lifting point must be free to rotate.

Symmetric loading conditions

- For three and four leg lifts, the lifting points should be arranged symmetrically around the center of gravity and in the same plane if possible.
- The WLL for Gunnebo Industries lifting points is based on symmetrical loading.
- The lifting point must be positioned on the load in such way that movement is avoided during lifting.
- For single leg lifts, the lifting point should be vertically above the center of gravity of the load.
- For two leg lifts, the lifting points must be equidistant to or above the center of gravity of the load.

Asymmetric loading conditions

- For unequally loaded lifts we recommend that the WLL is determined as follows:
- 2-leg slings are calculated as the corresponding 1-leg sling.
- 3 and 4-leg slings are calculated as the as the corresponding 1-leg sling*

* (If 2-legs with full certainty are carrying the major part of the load, the WLL can be calculated as for the corresponding 2-leg sling).

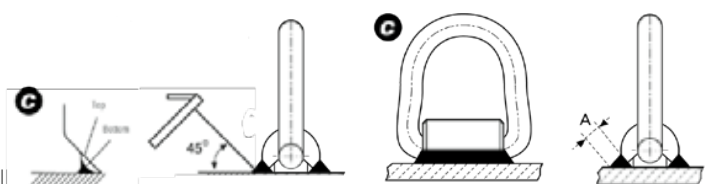
WLP - Welding

Preheat the structure if the temperature is below 0°C; otherwise follow AS 1554 or other suitable national standard.

- Ensure that the WLP cannot move during welding by welding the corners of the welding block.
- Continue the weld around the welding block without interruption in a single operation.
- The nozzle or electrode should be at 45° (see Fig. C), so that the required penetration is obtained.
- The minimum throat (A) should be maintained.

Product	Min. plate gauge (Rm-1250 N/mm ²) t _{min} (mm)	Min. throat thickness (mm)
WLP 2.5 T	11	11
WLP 4 T	19	13
WLP 7 T	24	16
WLP 10 T	30	18
WLP 16 T	40	20

- The weld should not contain cracks or pores.
- Do not cool the weld with water. It should be left cool natural



Working Load Limits* WLP

		1-leg	2-leg		3- and 4-leg	
Typ	WLL tonnes*		α 0-90° β 0-45°	α 90-120° β 45-60°	α 0-90° β 0-45°	α 90-120° β 45-60°
WLP-2.5T	2.5		3.5	2.5	5.2	3.7
WLP-4T	4.0		5.6	4.0	8.4	6.0
WLP-7T	7.0		9.8	7.0	14.8	10.5
WLP-10T	10.0		14.1	10.0	21.2	15.0
WLP-16T	16.0		22.5	16.0	33.6	24.0

Working Load Limits* SLP

		1-leg	2-leg		3- and 4-leg	
Typ	WLL tonnes*		α 0-90° β 0-45°	α 90-120° β 45-60°	α 0-90° β 0-45°	α 90-120° β 45-60°
SLP-1T	1.0		1.4	1.0	2.1	1.5
SLP-3T	3.0		4.2	3.0	6.3	4.5
SLP-5T	5.0		7.0	5.0	10.6	7.5

Working Load Limits* ELP

		1-leg	2-leg		3- and 4-leg	
Typ	WLL tonnes*		α 0-90° β 0-45°	α 90-120° β 45-60°	α 0-90° β 0-45°	α 90-120° β 45-60°
ELP-16-8	1.0**		1.4	1.0	2.1	1.5
ELP-20-8	1.5**		2.1	1.5	3.1	2.3
ELP-24-8	2.0**		2.8	2.0	4.2	3.0
ELP-30-8	3.0**		4.2	3.0	6.3	4.5

Note! The above loads apply to normal usage and equally loaded legs. For asymmetric loaded chain slings, the following is recommended:

- A two-legged system is rated as a single-legged system.
- A three- or four-legged system is rated as a two-legged system.

** In case of 1-leg application where loading is limited to straight loading in the direction of thread (no bending force) it is possible to use ELP with four times higher WLL. Note! Threaded depths need to be at least 1xM for steel, 1,25xM for cast iron and 2xM for aluminum alloy.

Shackles & Rigging Screws

- Dee and Bow
- Arctic
- Aquaculture
- ROV
- Stainless Steel



Shackles

About Gunnebo Industries Shackles	4:2
Dee and Bow Shackles	4:3 - 4:4
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Stainless Steel Shackles	4:12 - 4:13
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Rigging Screws

Rigging Screws, Alloy Steel	4:14
Rigging Screws, Hot Dip Galvanized	4:14

Technical Information, Shackles

Instructions for safe use	4:15
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WARNING:
Failure to read, understand and comply with the instructions, working load limits and specifications in this publication may result in serious injury or damage to property.

Feel confident in every situation

Our lifting systems are valued for their long durability and high quality. Whether the working environment is hot or cold, our systems assure lifting operations with high safety and functionality.

Gunnebo Industries shackles are made from a range of steel qualities, including acid proof stainless steel and high grade alloy steel to comply with the most stringent specifications. Our workshops comprise all facilities and systems for the manufacturing and control of a top quality product. This includes tool design, an advanced tool shop, forging, heat treatment, machining, hot dip galvanizing and quality control.

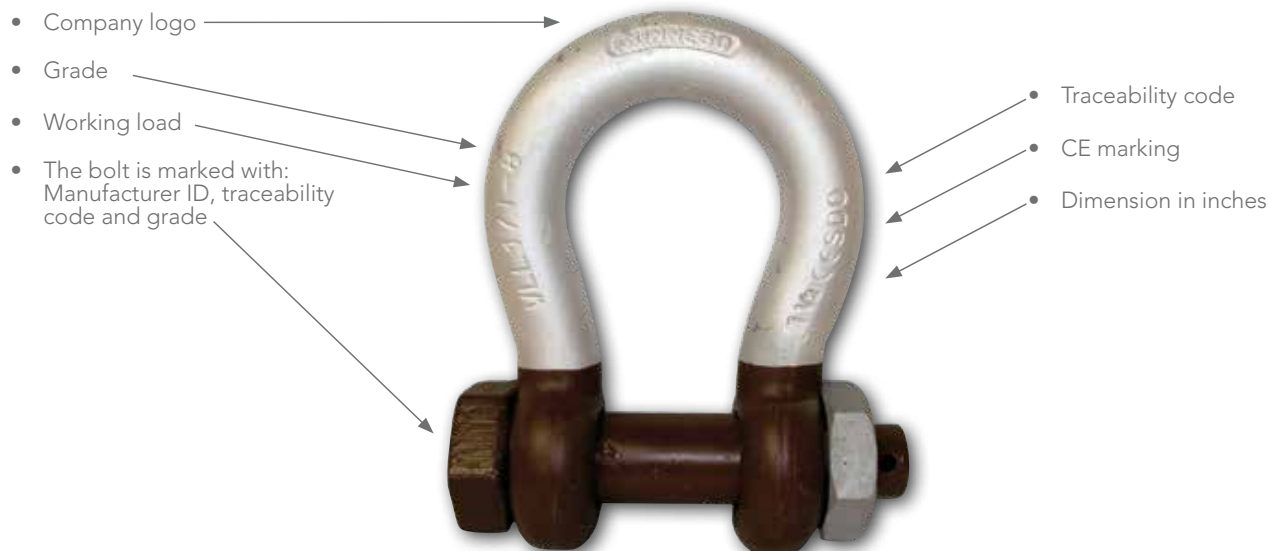
We offer a range of DNV 2.7-1 Type approved lifting shackles for offshore containers, developed for the tough conditions of the offshore industry, where safety must be of the highest priority at all times. The heat treatment of these products ensures the proper ductility and strength to sustain shock loads which may be imposed when the container is lifted from the deck of a vessel.

Furthermore we offer Standard shackles, Super lifting shackles with increased working load limit, ROV shackles, Heavy duty shackles, Wide-Body shackles, Mooring shackles, Stainless Steel shackles etc.

Make sure you have the original

- High quality shackles according to EN 13889 and U.S. Fed.Spec RR-C. 271 (grade A and grade B)
- Consistent product quality
- Long experience of shackle production using modern manufacturing methods
- Local availability of expertise from Gunnebo Industries subsidiary or distributors

To ensure you have a genuine Gunnebo Industries Shackle, it should be marked as below:

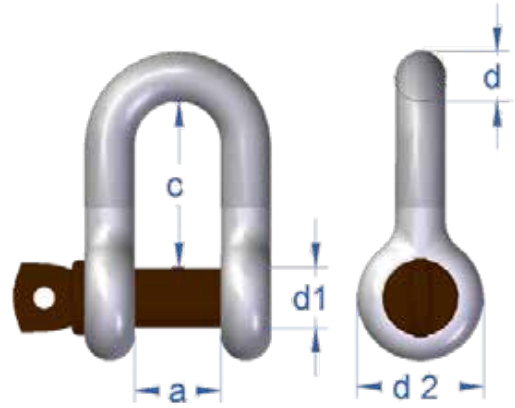


Dee Shackle No 834

Standard:	EN 13889 and U.S Fed. Spec. RR-C-271
Material:	High Tensile Carbon Steel, Quenched and tempered, Grade 6
Finish:	All parts hot dip galvanized, pin brown painted on top of galv.
Safety factor:	6:1
Documentation:	Test certificate and traceable raw material /inspection certificate according to EN 10204 - 3.1
Temperature:	-20°C to 200°C

CE

Art. no. Screw pin	WLL tonnes 6:1	Dim. d1	d Trade size		Inner width a*	Inner length c*	Eye outer d2	Screw pin kg
			mm	inch				
A083416	3.25	19	16	5/8"	27	51	40	0.55
A083419	4.75	22	19	3/4"	31	60	48	1.00
A083422	6.5	25	22	7/8"	37	71	52	1.30
A083425	8.5	28	25	1"	43	81	60	1.90
A083428	9.5	32	28	1 1/8"	46	90	64	2.80
A083432	12.0	35	32	1 1/4"	52	100	72	3.60
A083435	13.5	38	35	1 3/8"	57	111	76	4.60
A083438	17.0	42	38	1 1/2"	60	122	84	6.50
A083445	25.0	50	45	1 3/4"	74	149	105	11.50



Shackle No 834 with screw pin

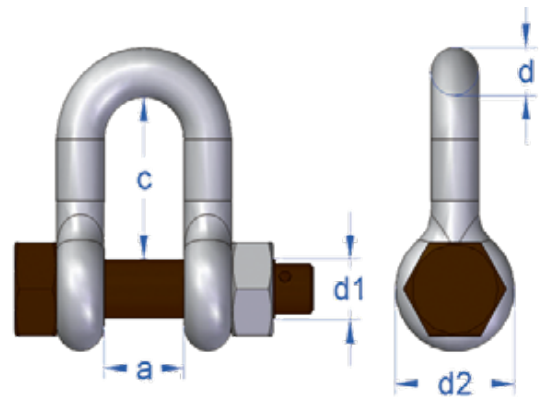
* Forging tolerance: +/- 5% on inside width/length.

Dee Shackle No 835

Standard:	DNV 2.7-1 Type Approved, EN 13889 and U.S Fed. Spec. RR-C-271
Material:	High Tensile Carbon Steel, Quenched and tempered, Grade 6
Finish:	All parts hot dip galvanized, pin brown painted on top of galv.
Safety factor:	6:1
Documentation:	Test certificate and traceable raw material / inspection certificate according to EN 10204 - 3.1. DNV 2.7-1 and DNV 2.7-3 Type Approval Certification.
Temperature:	-20°C to 200°C

CE

Art. no. Safety bolt	WLL tonnes 6:1	Dim. d1	d Trade size		Inner width a*	Inner length c*	Eye outer d2	Safety bolt kg
			mm	inch				
A083516	3.25	19	16	5/8"	27	51	40	0.60
A083519	4.75	22	19	3/4"	31	60	48	1.10
A083522	6.5	25	22	7/8"	37	71	52	1.50
A083525	8.5	28	25	1"	43	81	60	2.20
A083528	9.5	32	28	1 1/8"	46	90	64	3.10
A083532	12.0	35	32	1 1/4"	52	100	72	4.20
A083535	13.5	38	35	1 3/8"	57	111	76	5.60
A083538	17.0	42	38	1 1/2"	60	122	84	7.50
A083545	25.0	50	45	1 3/4"	74	149	105	13.00



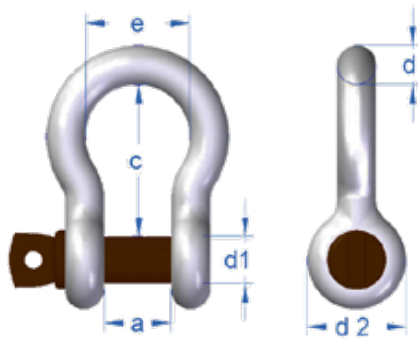
Shackle No 835 with safety bolt

* Forging tolerance: +/- 5% on inside width/length.

Split pin included

Bow Shackle No 854

Standard: EN 13889 and U.S Fed. Spec. RR- C-271
 Material: High Tensile Carbon Steel, Quenched and tempered, Grade 6
 Finish: All parts hot dip galvanized, brown painted bolts on top of galv.
 Safety factor: 6:1
 Documentation: Test certificate and traceable raw material / inspection certificate according to EN-10204 - 3.1.
 Temperature: -20°C to 200°C



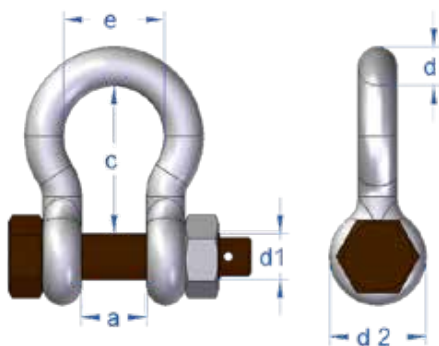
Shackle No 854 with screw pin

Art. no. Screw pin	WLL tonnes 6:1	Dim. d1	d Trade size		inner width a*	inner length c*	Bow width e	Eye outer d2	Screw pin kg
			mm	inch					
A085413	2.0	16	13	1/2"	21	47	33	33	0.37
A085416	3.25	19	16	5/8"	27	60	42	40	0.65
A085419	4.75	22	19	3/4"	31	71	49	48	1.10
A085422	6.5	25	22	7/8"	37	84	60	52	1.50
A085425	8.5	28	25	1"	43	95	68	60	2.21
A085428	9.5	32	28	1 1/8"	46	108	74	64	3.10
A085432	12.0	35	32	1 1/4"	52	119	83	72	4.20
A085435	13.5	38	35	1 3/8"	57	132	89	76	6.00
A085438	17.0	42	38	1 1/2"	60	146	98	84	8.00
A085445	25.0	50	45	1 3/4"	74	178	127	105	13.50
A085452	35.0	57	50	2"	83	197	138	112	19.00
A085464	55.0	70	65	2 1/2"	105	260	180	145	38.00

* Forging tolerance: +/- 5% on inside width/length.

Bow Shackle No 855

Standard: DNV 2.7-1 Type Approved, EN 13889 and U.S Fed. Spec. RR-C-271
 Material: High Tensile Carbon Steel, Quenched and tempered, Grade 6
 Finish: All parts hot dip galvanized, brown painted bolts on top of galv.
 Safety factor: 6:1
 Documentation: Test certificate and traceable raw material/inspection certificate according to EN-10204 -3.1. DNV 2.7-1 and DNV 2.7-3 Type Approval
 Temperature: -20°C to 200°C



Shackle No 855 with safety bolt

Art. no. Safety bolt	WLL tonnes 6:1	Dim. d1	d Trade size		inner width a*	inner length c*	Bow width e	Eye outer d2	Safety bolt kg
			mm	inch					
A085513	2.0	16	13	1/2"	21	47	33	33	0.42
A085516	3.25	19	16	5/8"	27	60	42	40	0.70
A085519	4.75	22	19	3/4"	31	71	49	48	1.20
A085522	6.5	25	22	7/8"	37	84	60	52	1.70
A085525	8.5	28	25	1"	43	95	68	60	2.58
A085528	9.5	32	28	1 1/8"	46	108	74	64	3.40
A085532	12.0	35	32	1 1/4"	52	119	83	72	4.80
A085535	13.5	38	35	1 3/8"	57	132	89	76	7.00
A085538	17.0	42	38	1 1/2"	60	146	98	84	9.00
A085545	25.0	50	45	1 3/4"	74	178	127	105	15.00
A085552	35.0	57	50	2"	83	197	138	112	21.00
A085564	55.0	70	65	2 1/2"	105	260	180	145	39.00

* Forging tolerance: +/- 5% on inside width/length.

Split pin included

Arctic Shackle No 856

Bow shackle with safety bolt

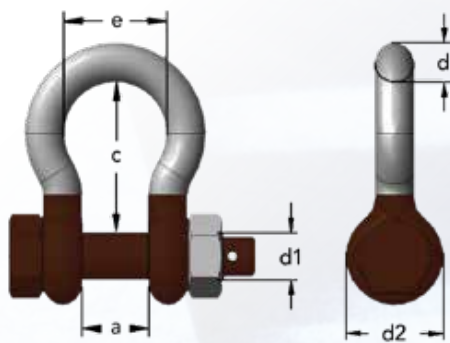
Unique benefits with the Arctic Shackle

Adverse weather and rough sea conditions in combination with extremely low temperatures, as often encountered for instance in the North Sea, places tough requirements on the products used. Gunnebo Industries has a range of shackles specially designed for these conditions. The Arctic Shackle is type approved to DNV 2.7-1 Offshore containers and meets the impact requirements of 42 J at - 40 degrees °C.

The Arctic Shackle is a grade 8 shackle with all parts hot dipped galvanized, including the safety bolt, and has the characteristic brown color marking.



- Standard: DNV 2.7-1, U.S. Fed. Spec. RR.C-271 and EN-13889
- Material: Special Alloy Steel, Quenched and Tempered, Grade 8
- Finish: All parts hot dip galvanized + brown color marking
- Safety factor: As specified in the table below
- Documentation: Test certificate and traceable raw material / inspection certificate according to EN 10204 - 3.1 DNV 2.7-1 and DNV 2.7-3 Type Approval Certification.
- Temperature: - 40 °C to 200 °C



Art. no.	WLL tonnes	Dim. d1	d Trade size		a	c	d 2	e	Weight kg	Safety factor
			mm	inch						
A085613	2.0	16	13	1/2"	21	47	33	33	0.42	8.00
A085616	3.25	19	16	5/8"	27	60	40	42	0.7	8.00
A085619	4.75	22	19	3/4"	31	71	48	49	1.2	8.00
A085622	6.5	25	22	7/8"	37	84	52	60	1.7	7.85
A085625	8.5	28	25	1"	43	95	60	68	2.5	7.25
A085628	9.5	32	28	1 1/8"	46	108	64	74	3.4	6.94
A085632	12.0	35	32	1 1/4"	52	119	72	83	4.8	6.40
A085635	13.5	38	35	1 3/8"	57	132	76	89	7	6.10
A085638	17.0	42	38	1 1/2"	60	146	84	98	9	6.00
A085645	25.0	50	45	1 3/4"	74	178	105	127	15	6.00
A085652	35.0	57	50	2"	83	197	116	138	21	6.00
A085664	55.0	70	65	2 1/2"	105	260	145	180	39	6.00

Split pin included

Super Shackle No 858

Bow shackle with safety bolt

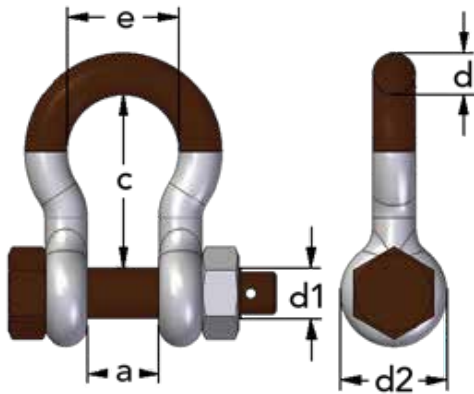
Unique benefits with the Super Shackle

In certain situations, a demand for extra Working Load Limit occurs, in others the lifting environment has limited space for the lifting application. Gunnebo Industries has therefore added the Super Shackle to the range, enabling the same Working Load Limit on a 22 mm Super shackle as for a 28 mm Standard shackle.

The Super shackle meets the US Federal Specification RR.C-271. It is a grade 8 shackle and has all parts hot dipped galvanized, including the safety bolt.



Standard:	U.S. Fed. Spec. RR.C-271 Type IVA Class 3, Grade B
Material:	High Tensile Steel. Quenched and Tempered, Grade 8
Finish:	All parts hot dip galvanized + brown color marking
Safety factor:	5:1
Documentation:	Test certificate and traceable 3.1 certificate
Temperature:	-20 °C to 200 °C



CE

Art.no	WLL tonnes	Dim. d1	d Trade size		a	c	d2	e	Weight kg
			mm	inch					
A085813	3.3	16	13	1/2"	21	51	33	33	0.4
A085816	5.0	19	16	5/8"	27	60	40	42	0.7
A085819	7.0	22	19	3/4"	31	71	48	49	1.2
A085822	9.5	25	22	7/8"	37	84	52	60	1.7
A085825	12.5	28	25	1"	43	95	60	68	2.5
A085828	15.0	32	28	1 1/8"	46	108	64	74	3.4
A085832	18.0	35	32	1 1/4"	52	119	72	83	4.8
A085835	21.0	38	35	1 3/8"	57	132	76	89	7
A085838	30.0	42	38	1 1/2"	60	146	84	98	8.8
A085845	40.0	50	45	1 3/4"	74	178	105	127	15

Split pin included

Aquaculture

Because safety is everything

Gunnebo Industries have an in-depth knowledge of the demands aquaculture puts on the products supplied. With over 100 years of experience gained manufacturing shackles and chain for maritime use, which allows us to provide our clients with the highest level of satisfaction, even in the most extreme environments.

Whilst other producers have been focusing on low cost to the detriment of performance, we have focused on quality and improved properties to give best value for money. Products such as our hot dip galvanized chain and shackles are designed to satisfy the specific demands from the global fishing industry.

Gunnebo Industries products are the best choice when safety and quality comes first. We have always and will continue to provide the Aquaculture industry with the preferred products available on the market. All of our aquaculture products are independently approved according to Norwegian standard NS 9415. NS 9415 with this being the first national standard for aquaculture mooring systems.

Our continuous focus on quality has been proven by our achievements with the key industry standards:

- Approved according to ISO 9001
- Approved according to ISO 14001
- Product certification according to NS 9415



Mooring Shackle No 852

Unique benefits with Mooring Shackle

The Mooring Shackle has a sunken bolt that locks into the shackle to prevent rotation (unintentional loosening of the nut). The sunken bolt also reduces the risk of the shackle interacting with the net.

Fatigue resistance is increased by the addition of 25% extra material in the bow (increased life span and safety).

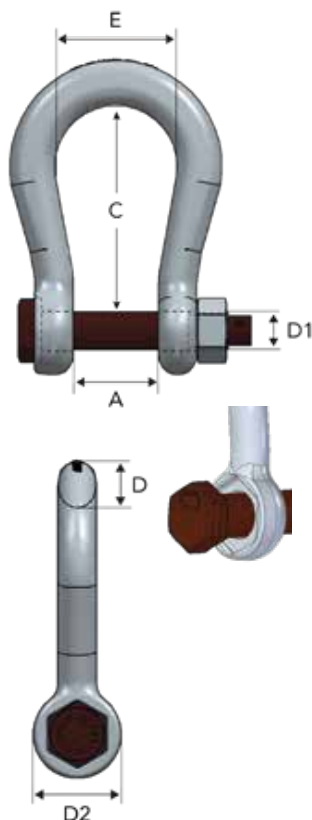
The shackle has a spacious bow for connecting thimbles, rope and mooring/connecting plates.

Standard: Third party approved according to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized + brown color marking

Plastic clip provided as standard safety pin for 28T - 90T, stainless steel A4 split pins provided as standard for 110T and 150T.



Art.no	MBL tonnes	D Trade size		A	C	E	D2	D1
		mm	inch					
*A085219	28	19	3/4"	44	100	58	48	22
*A085222	40	22	7/8"	52	125	68	52	25
*A085228	60	28	1 1/8"	62	150	89	64	28
*A085232	90	32	1 1/4"	82	170	98	72	32
A085242	110	42	1 5/8"	112	200	150	90	45
A085244	150	45	1 3/4"	126	200	126	105	50

* These sizes come with a sunken hexagon bolt head that will greatly reduce the risk of the bolt unscrewing in service as well as making the fitting easier for the user.

Customized securing options

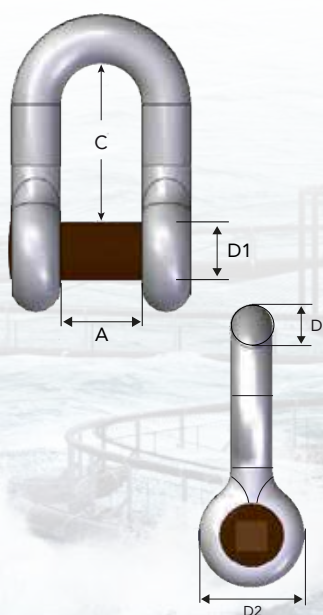
- Clips (28T to 40T) - Yellow
- Clips (60T to 90T) - Green
- Plastic covered seizing wire
- Plastic covered steel wire
- Stainless steel cotter pin

Countersunk Shackle No 830

Standard: Third party approved according to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized + brown color marking



Art.no	Art.no*	WLL tonnes	Dim. D		A	C	D1	D2	Square hole	Recommending Key
			mm	inch						
A083013	A083013DP	2.0	13	1/2"	21	41	16	33	10x10	3/8"
A083016	A083016DP	3.25	16	5/8"	27	51	19	40	10x10	3/8"
A083019	A083019DP	4.75	19	3/4"	31	60	22	48	10x10	3/8"
A083022	A083022DP	6.5	22	7/8"	37	71	25	52	14x14	1/2"
A083025	A083025DP	8.5	25	1"	43	81	28	60	14x14	1/2"

* Countersunk Shackles can also be supplied with a secondary securing for Double Protection (DP), for mooring applications.

Long link Chain LLZ - see chapter 5



4:8

All dimensions in mm

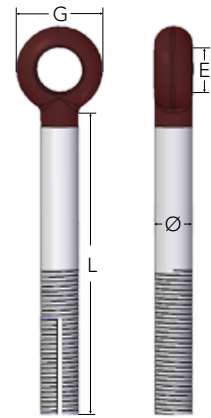
Mooring bolt - Eye Bolt No 8250

Standard: Third party approved according to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized + brown color marking

Art.no	MBL tonnes	Dim Ø x L	G	E
A825032	40	Ø32 x 400	72	37
A825038	60	Ø38 x 500	84	44
A825045	80	Ø45 x 600	105	47



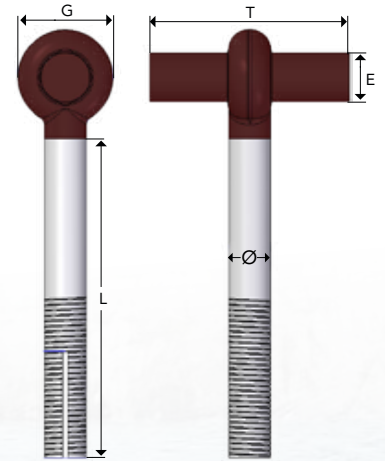
Mooring bolt - T-bolt No 8252

Standard: Third party approved according to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 6

Finish: All parts hot dip galvanized + brown color marking

Art.no	MBL tonnes	Dim Ø x L	G	E	T
A825232	40	Ø32 x 400	72	35	300
A825238	60	Ø38 x 500	84	42	350
A825445	80	Ø45x500	105	45	400
A825245	80	Ø45 x 600	105	45	400
A825450	100	Ø50x500	100	45	400
A825250	100	Ø50 x 700	110	45	400
A825265	170	Ø65 x 800	140	58	400



4

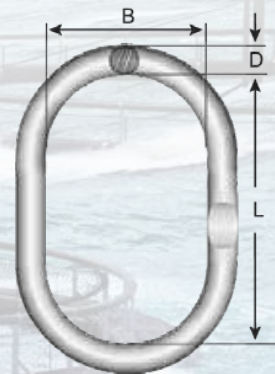
Galvanized Master Link

Standard: Third party approved according to relevant Norwegian aquaculture standards

Material: High Tensile Steel. Quenched and Tempered, Grade 7

Finish: All parts hot dip galvanized

Art.no	MBL tonnes	Dim Ø - D	B	L
A825922	40	Ø22	95	160
A825928	60	Ø28	110	190
A825934	80	Ø34	140	240
A825940	110	Ø40	150	250

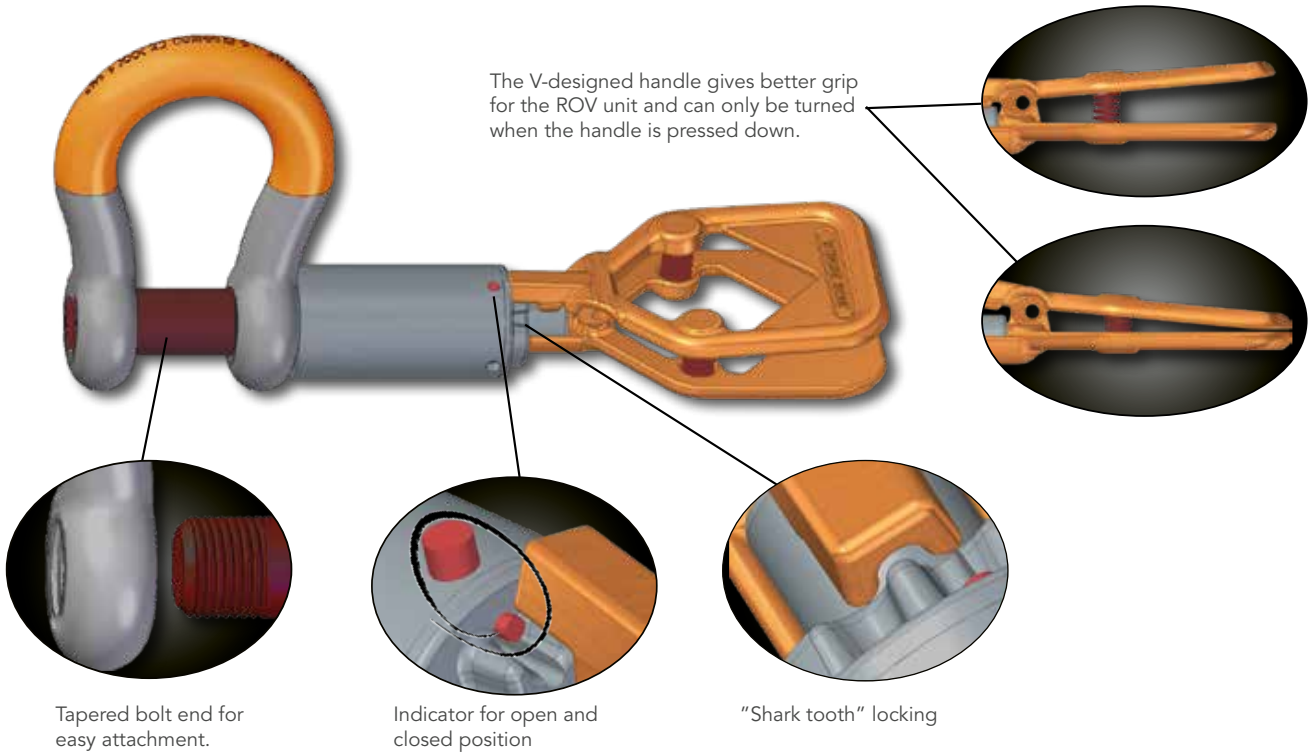


ROV Shackles

The ROV Retrieve Shackle is designed for smooth and easy use in retrieving and releasing subsea lifting and rigging operations. It has no loose parts, in closed or opened position, and there is therefore no need for wires or monkey fists that will risk snagging or getting in the way.

The high visibility handles are close-die forged and has double safety functions - shark tooth locking with indicator that will show if the shackle is in open or locked position as well as the spring loaded handle. The handle is the same size, regardless of size of shackle.

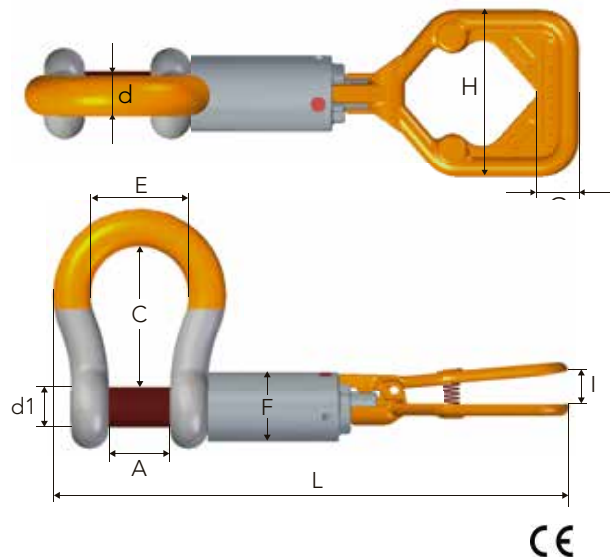
The ROV Retrieve Shackle no. 861 is an easy to operate shackle, saving valuable time and money.



ROV Retrieve Shackle No 861

All shackles have unique marking

Standard:	Dim. according to EN 13889
Material:	High Tensile Steel, Quenched and Tempered
Finish:	All load bearing parts hot dip galvanized
Safety factor:	6:1
Documentation:	Test certificate and traceable 3.1 certificate supplied on request.
Temperature:	-40 °C to 200 °C



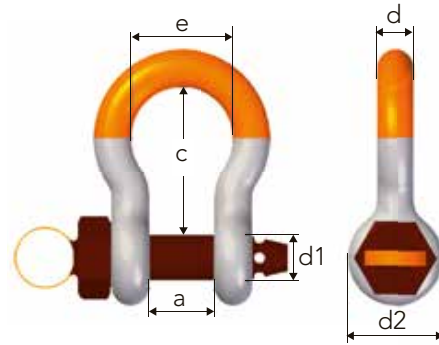
Art. no	WLL tonnes	d1	d	A	C	E	F	L	I	H	G	Weight kg
A086128	9.5	32	28	46	108	74	60	440	31	132	33	6.5
A086132	12.0	35	32	52	119	83	60	460	31	132	33	8.0
A086138	17.0	42	38	60	146	98	63.5	501	31	132	33	10.5
A086145	25.0	50	45	74	178	127	70	565	31	132	33	16.5
A086152	35.0	57	50	83	197	138	76	604	31	132	33	20.5
A086164	55.0	70	65	105	260	180	88	712	31	132	33	42.0

ROV Shackle No 860

Threaded bolt with one locking pin

Standard:	Dim. according to EN 13889
Material:	High Tensile Steel, Quenched and Tempered
Finish:	All load bearing parts hot dip galvanized
Safety factor:	6:1
Documentation:	Test certificate and traceable 3.1 certificate supplied on request.
Temperature:	-40 °C to 200 °C

Art. no.	WLL tonnes	d1	d	a	c	d2	e	Weight kg
A086028	9.5	32	28	46	108	64	68	3.4
A086032	12.0	35	32	52	119	72	83	5.0
A086038	17.0	42	38	60	146	84	98	7.8
A086045	25.0	50	45	74	178	105	127	13.9
A086052	35.0	57	50	83	197	127	138	17.0
A086064	55.0	70	65	105	260	152	180	37.0



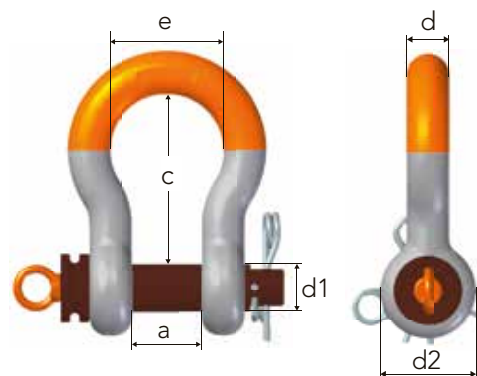
4

ROV Release Shackle No 863

Equipped with bolt and two locking pins

Standard:	Dim. according to EN 13889
Material:	High Tensile Steel, Quenched and Tempered
Finish:	All load bearing parts hot dip galvanized
Safety factor:	5:1
Documentation:	Test certificate and traceable 3.1 certificate supplied on request.
Temperature:	-40 °C to 200 °C

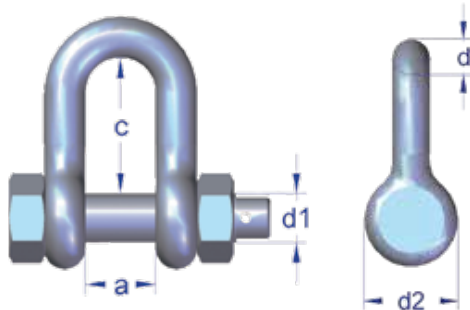
Art. no.	WLL tonnes	d1	d	a	c	d2	e	Weight kg
A086322	6.5	25	22	37	84	52	58	1.6
A086328	9.5	32	28	46	108	64	74	3.4
A086332	12.0	35	32	52	119	72	83	5.0
A086338	17.0	42	38	60	146	84	98	7.8
A086345	25.0	50	45	74	178	105	127	13.9
A086352	35.0	57	50	83	197	127	138	17.0
A086364	55.0	70	65	105	260	152	180	37.0



Stainless Steel Shackle No 735

Dee shackle with safety bolt

Material: AISI 316
 Finish: Highly Polished
 Safety factor: 6:1
 Documentation: Test certificate and traceable 3.1 certificate supplied on request.



CE

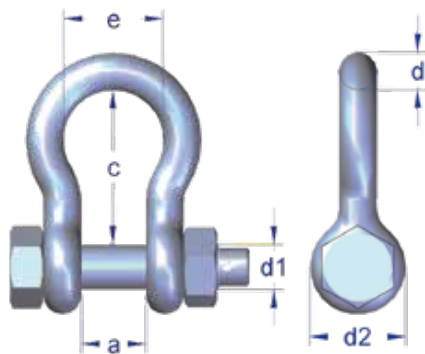
Art. no.	WLL tonnes	d1	d	a	c	d2	Weight kg
A073510	0.6	10	10	20	38	20	0.2
A073512	0.9	12	12	26	50	24	0.3
A073516	1.5	16	13	24	52	33	0.4
A073520	2.5	19	16	28	65	40	0.7
A073522	3.0	22	19	31	60	48	1.5
A073524	4.5	25	22	37	71	52	1.3
A073533	7.5	32	28	46	90	64	3.0
A073536	10.0	35	32	52	100	72	4.1

Split pin included

Stainless Steel Shackle No 755

Bow shackle with safety bolt

Material: AISI 316
 Finish: Highly Polished
 Safety factor: 6:1
 Documentation: Test certificate and traceable 3.1 certificate supplied on request.



CE

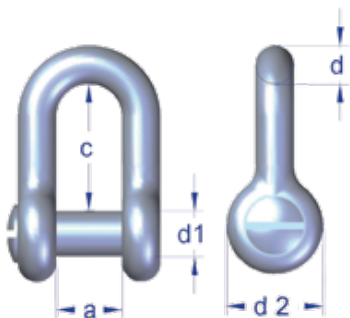
Art. no.	WLL tonnes	d1	d	a	c	e	d2	Weight kg
A075510	0.6	10	10	20	36	27	20	0.2
A075512	0.9	12	12	25	47	37	26	0.3
A075516	1.5	16	13	25	47	33	34	0.4
A075520	2.5	20	16	28	60	42	40	0.8
A075522	3.0	22	19	31	71	51	48	1.3
A075524	4.5	25	22	37	84	58	52	1.7
A075533	7.5	32	28	46	108	74	64	3.4
A075536	10.0	35	32	52	119	83	72	5.2

Split pin included

Stainless Steel Shackle No 732

Dee shackle with countersunk pin

Material: AISI 316
 Finish: Highly Polished
 Safety factor: 6:1
 Documentation: Test certificate supplied on request.



CE

Art. No.	WLL tonnes	Dim. d1 mm	d1	d	a	(c)	d2	Weight kg
A073216	2.0	M16	16	13	24	52	34	0.3
A073220	3.0	M20	20	16	28	65	40	0.6
A073222	3.0	M22	22	19	31	60	48	1.4

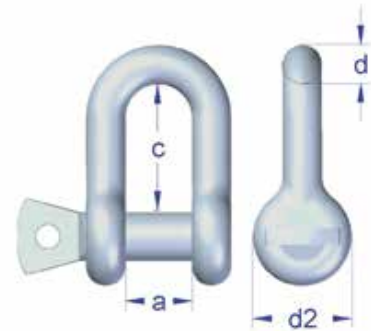
Stainless Steel Shackle No 730

Dee shackle with screw pin

Material: AISI 316
 Finish: Highly Polished
 Safety factor: 6:1
 Documentation: Test certificate supplied on request.



Art. no.	WLL tonnes	Dim. d1 mm	d	a	c	d2	Weight kg
A073008S	0.4	M8	8	16	30	16	0.06
A073010S	0.6	M10	10	20	38	20	0.1
A073012S	0.9	M12	12	26	50	24	0.2
A073016S	1.5	M16	13	24	52	34	0.3
A073020S	2.5	M20	16	28	65	40	0.6
A073022S	3.0	M22	19	30	72	48	0.9



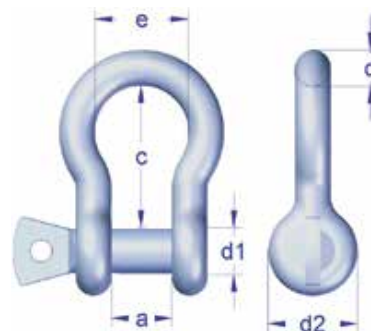
Stainless Steel Shackle No 750

Bow shackle with screw pin

Material: AISI 316
 Finish: Highly Polished
 Safety factor: 6:1
 Documentation: Test certificate supplied on request.



Art. no.	WLL tonnes	Dim. d1 mm	d1	d	a	c	e	d2	Weight kg
A075008S	0.4	M8	8.0	8	16	30	23	16	0.07
A075010S	0.6	M10	10.0	10	20	36	27	20	0.11
A075012S	0.9	M12	12.0	12	25	47	37	26	0.25
A075016S	1.5	M16	13.0	13	25	47	34	33	0.33
A075020S	2.5	M20	16.0	16	28	60	42	40	0.96
A075022S	3.0	M22	19.0	19	31	71	51	48	1.0



Shackle SA

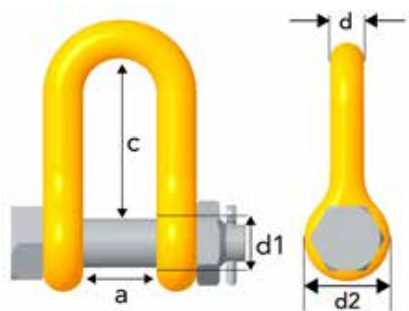
EN 1677-1

Finish: Painted yellow
 Material: Alloy steel, Grade 8
 Safety factor: 4:1



Art. no.	Code	WLL tonnes	For chain dim. mm	c	a	d	d2	d1	Weight kg appr.
Z100706	SA-7/8-8	2.0	7, 8	30	15	8	20	M10	0.1
Z298728	SA-10-8	3.2	10	52	24	13	34	M16	0.4
Z292528	SA-13-8	5.4	13	65	28	16	40	M20	0.7
Z293024	SA-16-8	8.2	16	72	30	18	46	M22	1
Z299622	SA-19-8	11.5	19	86	36	22	52	M27	1.7
Z294122	SA-22-8	15.5	22	94	40	25	60	M30	2.5
Z304328	SA-26-8	21.7	26	116	48	32	76	M38	5.2

Split pin included



Alloy Steel Rigging Screw, No 801, 802, 804

Grade 6

Standard: Working load according to U.S. Fed. spec. FF-T-791.b
Supplied with closed body from 2,5-17 T, larger dimensions open body.

Material: Quenched and tempered alloy steel

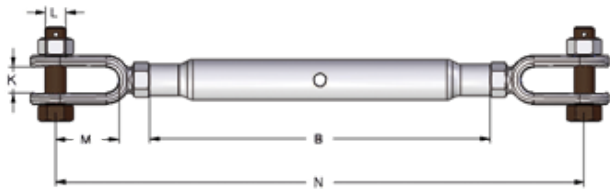
Surface treatment: Hot dip galvanized

Safety factor: 5:1

Certificate: Test certificate and traceable 3.1 certificate supplied on request.

Tolerances: +/- 5%

Temperature: -20 °C to 200 °C



Art. no. Jaw/Jaw	Art. no. Jaw/Eye	Art. no. Eye/Eye	Thread M/UNC	WLL tonnes	Take up range mm	B	N	K	L	M	F	G	H	Weight kg/ea
A801420	A802420	A804420	M 20	2.5	210	270	455	20	16	50	13	21	45	2.3
A801424	A802424	A804424	M 24	5.0	250	340	570	28	22	65	19	28	56	4.6
A801432	A802432	A804432	1.1/4"	7.0	270	370	680	38	28	85	22	35	70	8.0
A801438	A802438	A804438	1.1/2"	10.0	300	400	790	45	32	100	25	40	78	14.0
A801445	A802445	A804445	1.3/4"	13.0	360	500	870	50	39	105	30	45	90	24.0
A801450	A802450	A804450	2"	17.0	450	600	1030	58	45	120	35	45	100	38.0
A801464			*2.1/2"	27.2	534	780	1312	75	57	142				88.0
A801470			*2.3/4"	34.0	576	780	1418	90	70	145				98.0

* Open turnbuckle body without nut and split pin

Rigging Screw No 401, 402, 404 - Hot Dip Galvanized

Design: Jaw-Jaw (jaw-eye and eye-eye on request)

Standard: According to B.S. 4429, closed body - with locking nut

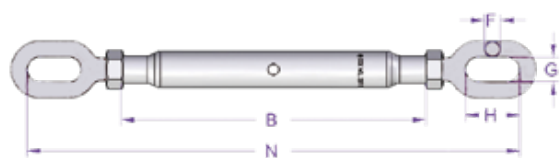
Material: St. 42/St. 52, normalized

Surface treatment: Hot dip galvanized (M6 & M8 zinc plated)

Safety factor: 5:1

Note: The items marked with * below are not for lifting

Tolerances: +/-5%



Art. no. Jaw/ Jaw	Art. no. Jaw/ Eye	Art.no Eye/Eye	Thread M/ UNC	WLL tonnes	Take up range (mm)	B	N	L	M	K	F	G	H	Weight kg/pcs
	*A402406		M 6	-	80	100	175	5	18	8	5	10	10	0.13
	*A402408		M 8	-	85	110	210	6	21	9	6	12	12	0.25
A401510	*A402410	*A404410	M 10	0.5	90	145	225	8	20	9.5	7	13	13	0.3
A401512	*A402412	*A404412	M 12	0.7	155	195	315	10	30	13	10	14	28	0.65
A401516	*A402416	*A404416	M 16	1.2	185	230	380	12	44	18	12	18	45	1.25
A401520	A402420	A404520	M 20	1.5	210	270	450	16	50	20	13	21	45	2.2
A401422	A402422	A404422	M 22	2.2	230	295	500	20	60	25	16	24	50	3.3
A401424	A402424	A404424	M 24	3.2	250	325	555	22	65	28	19	28	56	4.6
A401432	A402432	A404432	1.1/4"	4.8	290	370	680	28	85	38	22	35	70	8.5
A401438	A402438	A404438	1.1/2"	6.0	300	400	760	32	100	45	25	40	90	14.5
A401445	A402450	A404445	1.3/4"	8.5	290	400	760	38	105	50	30	45	90	20.9
A401452	A402452	A404452	2"	11.0	290	400	820	45	120	58	35	45	100	24.0

* Will not be delivered with lifting certificate.

Technical information

2006/42/EC highlights the responsibility of the manufacturer, distributor and end user of lifting gear. Gunnebo Industries shackles are specified, monitored and documented in compliance with the most stringent requirements for the product concerned. A certified ISO 9001:2008 system is an evidence of our quality standard.

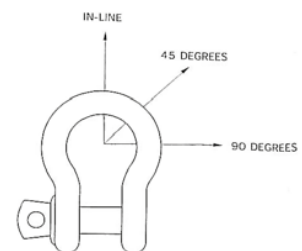
Instructions for safe use

1. The user is obliged to keep a valid Test Certificate for any shackle being used in a lifting operation.
2. Before use each shackle should be inspected to ensure that:
 - all markings in the body and the pin of the shackle are legible and in compliance with the relevant Test Certificate.
 - the shackle pin is of the correct type.
 - the body and pin are not distorted or unduly worn.
 - The body and pin are free from nicks, cracks, grooves and corrosion.
 - If there is any doubt with regards to the above criteria being met, the shackle should not be used for a lifting operation.
3. It is important to ensure that the pin is safely locked after assembly. For repeated lifting between inspections of the gear, it is recommended to use a safety bolt type shackle with nut and split-pin - the user must ensure that the split-pin is fitted, to prevent the nut from unscrewing during use.
4. Incorrect seating of a pin may be due to a bent pin, damaged threads or misalignment of the holes. Do not use the shackle under these circumstances, but refer the matter to a competent person (i.e. dealer, manufacturer)
5. Shackles should be fitted to the load in a manner that allows the shackle body to take the load in a true line along its centerline to avoid undue bending stresses which will reduce the load capacity of the shackle. When using shackles in conjunction with multi-leg slings, due consideration should be given to the effect of the angle between the sling legs. When a shackle is used to secure the top block of a set of rope blocks the load on this shackle is increased by the value of the hoisting effect.
6. To avoid eccentric loading of the shackle it is recommended to distribute the load as far as possible over the total length of the pin or to use loose spacers.
7. Never modify, repair or reshape a shackle by welding, heating or bending as this will affect the nominal WLL.
8. Never heat treat a shackle as this may affect the WLL.

4

Reduction for side loading

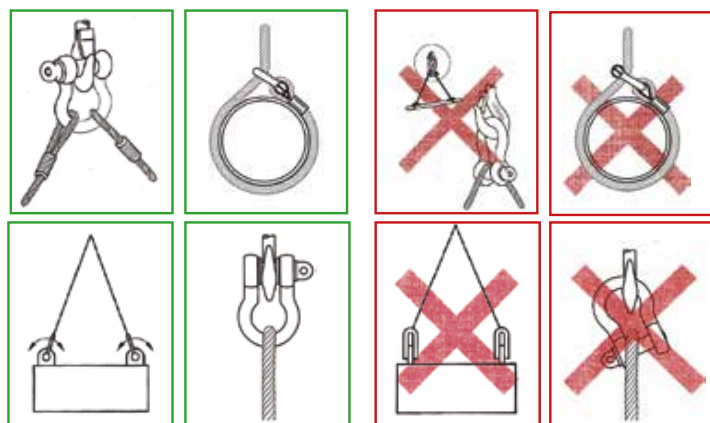
Load angle	New Working Load Limit
0°	100% of original WLL
45°	70% of original WLL
90°	50% of original WLL



Side loads should be avoided as the products are not designed for this purpose. If side loads cannot be avoided, the following reduction factors must be taken into account:

Avoid applications where, due to load movement, the shackle pin can rotate

Shackle must be loaded in straight direction



Temperature

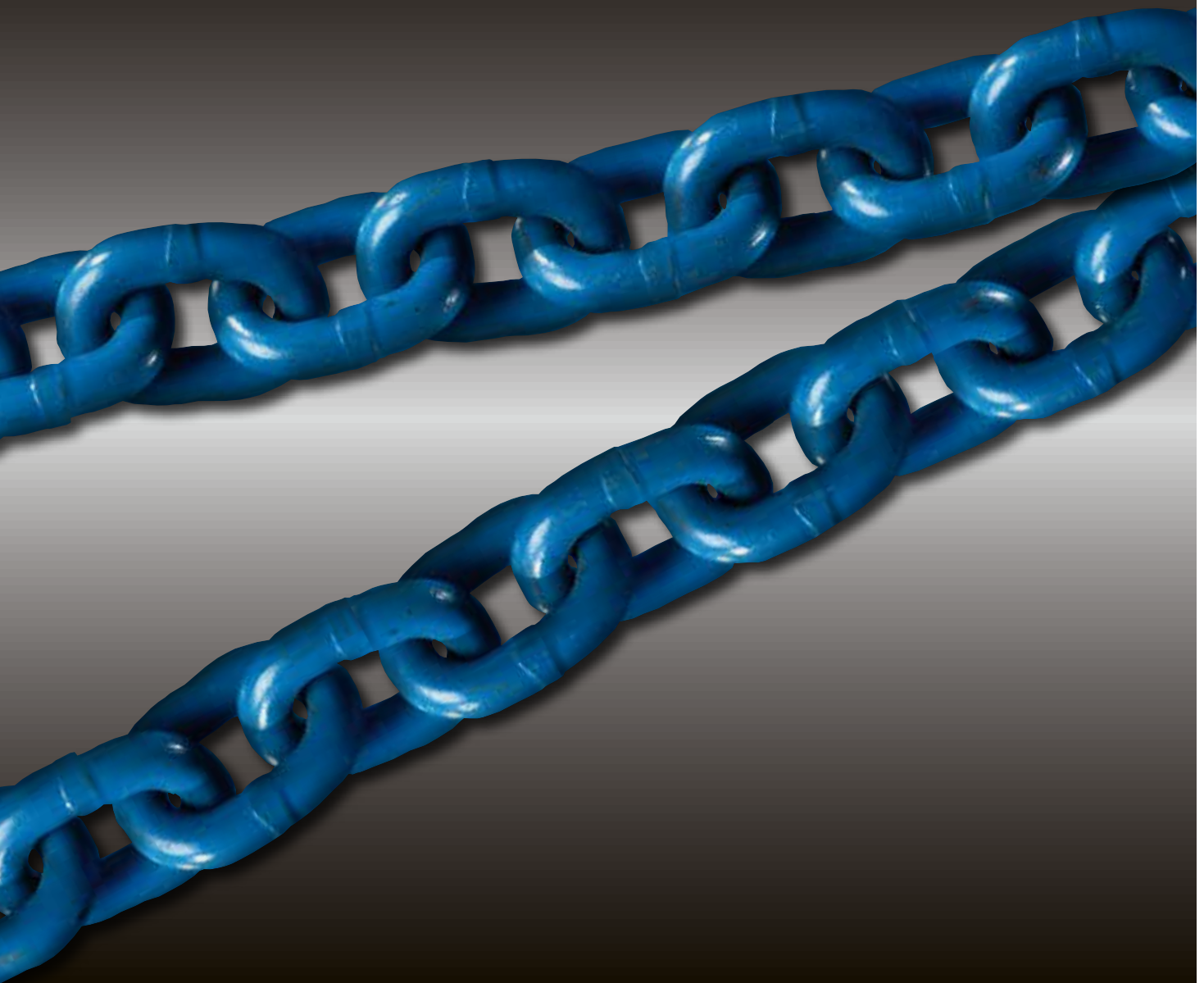
If extreme temperature situations are applicable, the following load reductions must be taken into account.

Reduction for elevated temperatures

Temperature:	New Working Load Limit
0 - 200 °C	100% of original Working Load Limit
200 - 300 °C	90% of original Working Load Limit
300 - 400 °C	75% of original Working Load Limit
> 400 °C	not allowed

Chain

Grade 10 • Grade 8 • Short Link • Mid-link • Long-link



Chain

GrabiQ Chain KLA, Grade 10 (200)	5:2
GrabiQ Chain KLA, Grade 10 (400)	5:3
Classic Chain KLB/KLU, Grade 8	5:3
Galvanized Chain KLZ, Grade 8	5:3
Short Link Chain KLFU, Grade 8	5:4
Mid-link Chain MLFU, Grade 8	5:4
Long Link Chain LLU, Grade 8	5:4
Short Link Chain KLFZ, Grade 7	5:5
Mid-link Chain MLFZ, Grade 7	5:5
Long Link Chain LLZ, Grade 6	5:5

Technical Information

Chain manufacturing	5:6
Safe use and extreme environments	5:7
Definitions	5:7



WARNING:
Failure to read, understand and comply with the instructions, working load limits and specifications in this publication may result in serious injury or damage to property.



GrabiQ Chain KLA, Grade 10 (200)

Short link lifting chain

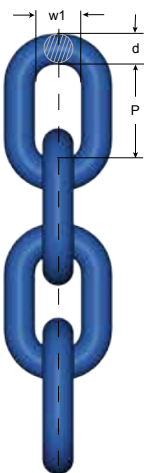
Heat treatment

Hardened and tempered.
 Note! For chain grade 10 (200) the maximum in service temperature is 200°C.

Surface treatment

Painted blue

Fulfills the requirements in:
 ASTM A973/A973M-07(2012)
 EN 818+2:2008 (WLL+25%,
 reduced temperature range)



Art. no. Box	Code	WLL tonnes	d nom.	p	w1	Weight kg/m	MPF kN	Breaking force kN
Z802300 - 1 x 200 m	KLA 6-10 (200)	1.5	6	18	8.5	0.8	36.8	58.9
Z802337 - 1 x 200 m	KLA 7-10 (200)	1.95	7	21	10.0	1.1	48	77
Z802301 - 1 x 200 m	KLA 8-10 (200)	2.6	8	24	11.0	1.4	63	102
Z802302 - 1 x 100 m	KLA 10-10 (200)	4.0	10	30	14.0	2.3	98	158
Z802303 - 1 x 100 m	KLA 13-10 (200)	6.8	13	39	17.7	3.8	166	268
Z802304 - 1 x 100 m	KLA 16-10 (200)	10.3	16	48	21.9	5.6	251	402
Z802305 - 1 x 50 m	KLA 20-10 (200)	16.0	20	60	27.0	9.4	393	630
Z802246 - 1 x 50 m	KLA 22-10 (200)	20.0	22	66	29.0	11.9	491	785
Z802248 - 1 x 50 m	KLA 26-10 (200)	27.0	26	78	35.0	16.4	664	1062
Z802440 - 1 x 25 m	KLA 32-10 (200)	40.0	32	96	41.6	25.8	981	1610

All dimensions in mm

GrabiQ Chain KLA, Grade 10 (400)

Short link lifting chain

Heat treatment

Hardened and tempered.

Note! For chain grade 10 (400) the maximum in service temperature is 400°C.

Surface treatment

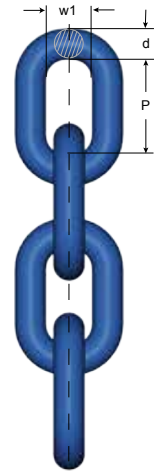
Painted blue

Fulfills the requirements in:

EN 818-2:2008 (WLL+25%, material dimension \varnothing +10%)

Note: This chain is marked with "8+" in addition to the marking required by the machine directive

Art. no. Box	Code	WLL tonnes	d nom.	p	w1	Weight kg/m	MPF kN	Breaking force kN
Z802306 - 1 x 200 m	KLA 6-10 (400)	1.5	6.6	18	8.9	1.0	36.8	58.9
Z802307 - 1 x 200 m	KLA 8-10 (400)	2.5	8.8	24	11.2	1.7	63	102
Z802308 - 1 x 100 m	KLA 10-10 (400)	4.0	11.0	30	14.4	2.6	98	158
Z802309 - 1 x 100 m	KLA 13-10 (400)	6.7	14.3	39	19.2	4.5	166	268
Z802310 - 1 x 100 m	KLA 16-10 (400)	10.0	17.3	48	23.0	6.7	251	402



Classic Chain KLB/KLU, Grade 8

Short link lifting chain

Heat treatment

Hardened and tempered.

Surface treatment

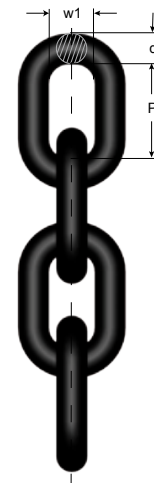
Painted black (KLB)

Painted yellow (KLU)

Fulfills the requirements in:

EN 818-2:2008, AS 2321:2014, ASTM A391/A 391M-07 (2012)

Art. no. Box	Code	WLL tonnes*	d nom.	p	w1	Weight kg/m	MPF kN	Breaking force kN
Z802174 - 1 x 200 m	KLB 6-8E	1.12	6	18	8.5	0.8	28.3	45.2
Z802175 - 1 x 200 m	KLB 7-8E	1.57	7	21	10.0	1.1	38.5	62
Z802176 - 1 x 200 m	KLB 8-8E	2.0	8	24	11.0	1.4	50.3	80.6
Z802156 - 1 x 100 m	KLB 10-8E	3.2	10	30	14.0	2.3	79	130
Z802157 - 1 x 100 m	KLB 13-8E	5.4	13	39	17.7	3.8	133	214
Z802177 - 1 x 100 m	KLB 16-8E	8.2	16	48	21.9	5.6	201	322
Z801203 - 1 x 100 m	KLB 19-8E	11.6	19	57	27.0	7.8	284	457
Z801228 - 1 x 50 m	KLB 22-8E	15.5	22	66	29.5	10.6	380	610
Z801231 - 1 x 50 m	KLB 26-8E	21.6	26	78	35.0	14.8	531	850
Z801232 - 1 x 25 m	KLB 32-8E	32.8	32	96	41.6	21.6	804	1300



5

Galvanized Chain KLZ, Grade 8

Short link lifting chain

Heat treatment

Hardened and tempered.

Surface treatment

Hot Dip Galvanized

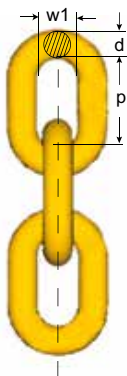
Fulfills the requirements in:

EN 818-2:2008 (material dim. \varnothing +10%)
ISO 1461:2009
ASTM A391/A391M-07 2012 (material dim. \varnothing +10%)

Art. no.	Code	WLL tonnes*	d nom.	p	w1	Weight kg	MPF kN	Breaking force kN	Delivery length
ZG802306	KLZ-6-8 HDG	1.12	6.6	18	8.9	1.0	36.8	45.2	1 x 100 m
ZG802307	KLZ-8-8 HDG	2.0	8.8	24	11.2	1.7	63.0	80.6	1 x 100 m
ZG802308	KLZ-10-8 HDG	3.2	11.0	30	14.4	2.6	98.8	130	1 x 100 m
ZG802309	KLZ-13-8 HDG	5.4	14.3	39	19.2	4.5	166	214	1 x 100 m
ZG802310	KLZ-16-8 HDG	8.2	17.3	48	23.0	6.7	251	322	1 x 100 m



Short Link Chain KLFU, Grade 8



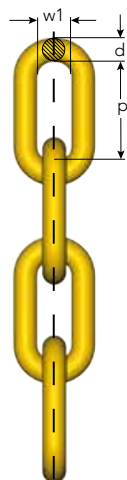
Not for lifting purposes

Heat treatment
 Hardened and tempered,
 Stress relieved

Surface treatment
 Painted yellow

Art. no.	Code	d. nom.	p	w1	Weight kg/m	Min. breaking load tonnes	Delivery length
Z802330	KLFU-10-8	10	30	14.0	2.2	12.6	1 x 100 m
Z802331	KLFU-13-8	13	39	17.6	3.7	21.4	1 x 100 m
Z801146	KLFU-16-8	16	48	21.5	5.8	32.2	1 x 100 m
Z327377	KLFU-19-8	19	57	27.0	8.0	45.4	1 x 100 m
Z327385	KLFU-22-8	22	66	30.0	11.0	61.0	1 x 50 m
Z801505	KLFU-26-8	26	78	35.0	14.8	86.0	1 x 50 m

Mid-link Chain MLFU, Grade 8



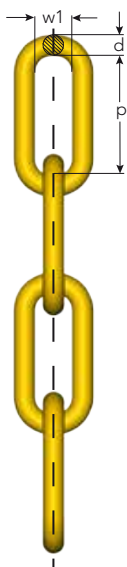
Not for lifting purposes

Heat treatment
 Hardened and tempered,
 Stress relieved

Surface treatment
 Painted yellow

Art. no.	Code	d nom.	p	w1	Weight kg/m	Min. breaking load tonnes	Delivery length
Z802332	MLFU-10-8	10	40	14.4	2.0	12.6	1 x 100 m
Z802333	MLFU-13-8	13	55	20.2	3.3	21.4	1 x 100 m
Z800564	MLFU-16-8	16	65	20.5	5.0	32.2	1 x 100 m
Z800476	MLFU-19-8	19	75	29.0	7.1	45.4	1 x 100 m
Z800661	MLFU-22-8	22	88	30.0	9.4	61.0	1 x 50 m
Z801770	MFLU-26-8	26	91	34.0	13.9	86.0	1 x 50 m

Long Link Chain LLU, Grade 8



Not for lifting purposes

Heat treatment
 Hardened and tempered,
 Stress relieved

Surface treatment
 Painted yellow

Art. no.	Code	d nom.	p	w1	Weight kg/m	Min. breaking load tonnes	Delivery length
Z801935	LLU-11-8	11	64	18.5	2.1	15.4	4 x 100 m
Z801936	LLU-13-8	13	80	21.1	2.9	21.4	3 x 100 m
Z802160	LLU-16-8	16	100	27.0	4.6	32.2	1 x 100 m
Z601983	LLU-19-8	19	100	27.0	6.5	45.4	1 x 100 m
Z700526	LLU-22-8	22	120	35.0	8.7	61.0	1 x 50 m

Short Link Chain KLFZ, Grade 7

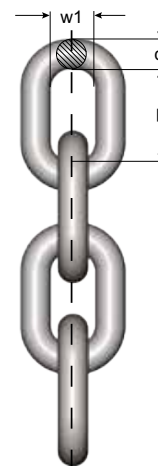
Not for lifting purposes

Heat treatment
Hardened and tempered

Surface treatment
Hot Dip Galvanized (HDG)

Art. No	Code	d nom.	p	w1	Min. breaking load tonnes	Weight kg/m	Delivery length
Z800666	KLFZ-10-7	10	30	14.0	11	2.2	1 x 100 m
Z802329	KLFZ-13-7	13	39	17.2	18	3.7	1 x 100 m
Z801644	KLFZ-16-7	16	48	21.5	28	5.8	1 x 100 m
Z801409	KLFZ-17-7	17	48	23.2	30	6.4	1 x 100 m
Z801407	KLFZ-19-7	19	57	27.0	40	8.0	1 x 100 m

Fulfills requirements in: EN 1461:2009 (Average surface thickness 85 µm)



Mid-link Chain MLFZ, Grade 7

Not for lifting purposes

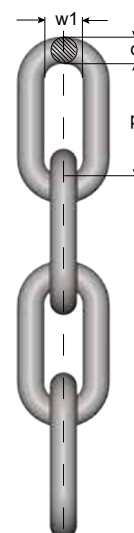
Heat treatment
Hardened and tempered

Surface treatment
Hot Dip Galvanized (HDG)

Art. No	Code	d nom.	p	w1	Min. breaking load tonnes	Weight kg/m	Delivery length
Z802455	MLFZ 10-6**	10	40	14.4	10	2.0	1 x 100 m
Z802335	MLFZ-13-7	13	55	20.2	18	3.3	1 x 100 m
Z801645	MLFZ-16-7	16	65	20.5	26.2	5.0	1 x 100 m
Z801477	MLFZ-19-7	19	75	29.0	37	7.1	1 x 100 m

Fulfills requirements in: EN 1461:2009 (Average surface thickness 85 µm)

** Average surface thickness 70 µm



5

Long Link Chain LLZ, Grade 6

Not for lifting purposes

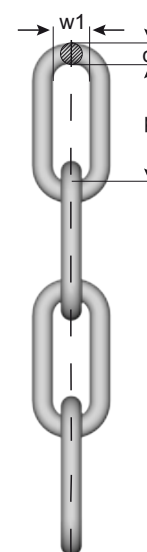
Heat treatment
Hardened and tempered

Surface treatment
Hot Dip Galvanized (HDG)

Art. No	Code	d nom.	p	w1	Min. breaking load tonnes	Weight kg/m	Delivery length
Z802454	LLZ-11-6**	11	64	18.5	11.6	2.1	4 x 100 m
Z800682	LLZ-13-6	13	80	21.1	16.3	2.9	3 x 100 m
Z802207	LLZ-13-6	13	80	21.1	16.3	2.9	1 x 229,5 m
Z801567	LLZ-16-6	16	100	28	24.7	4.6	1 x 100 m
GS1073	LLZ-16-6	16	100	28	24.7	4.6	1 x 200 m
Z801458	LLZ-19-6	19	100	28	34.8	6.5	1 x 120 m
Z801887	LLZ-22-6	22	120	36	46.6	8.7	1 x 50 m
Z802447	LLZ-25-6	25	140	39	60.0	12.0	1 x 50 m
Z802449	LLZ-28-6	28	150	39	75.3	14.9	1 x 50 m
Z802451	LLZ-32-6	32	170	44	98.3	19.0	1 x 50 m

Fulfills requirements in: EN 1461:2009 (Average surface thickness 85 µm)

** Average surface thickness 70 µm



Technical information

Chain manufacturing - Quality and strength requirements

Chains are divided into grades based on minimum nominal breaking stress.

Chain Grade	Surface treatment	Code	Minimum breaking stress N/mm ²	Load factors			Typical use
				WLL	MPF	Breaking force	
8	Yellow U	KL	800	1	2.5	4	General lifting (KL), Container lashing (LL). Extra heavy towing (ML), Lashing (KL, LL). Fishing (KL, ML, LL)
	Black B	ML	800	-	1	4	
	Hot Dipped Galvanized Z	LL	800	-	1	4	
10	Blue A	KL	1000	1	2.5	4	General lifting

Testing and quality control GrabiQ & Classic Chain (Grade 10 & 8)

In each step of the manufacturing of the chain, our systematic quality monitoring will ensure the highest safety and the longest life span in the product. Here are some especially important aspects of quality:

Material

The incoming material is supplied with test certificates only from qualified manufacturers and according to our stated material specifications.

Manufacturing

During forming and welding, the operators continuously control that the links meet the specified dimensions both before and after welding.

Single link samples are continuously mandrel tested on the weld. Shape, dimensions and deburring are then inspected visually.

Sample lengths are heat treated and then destruction load tested. Following these tests, the chain is heat treated.

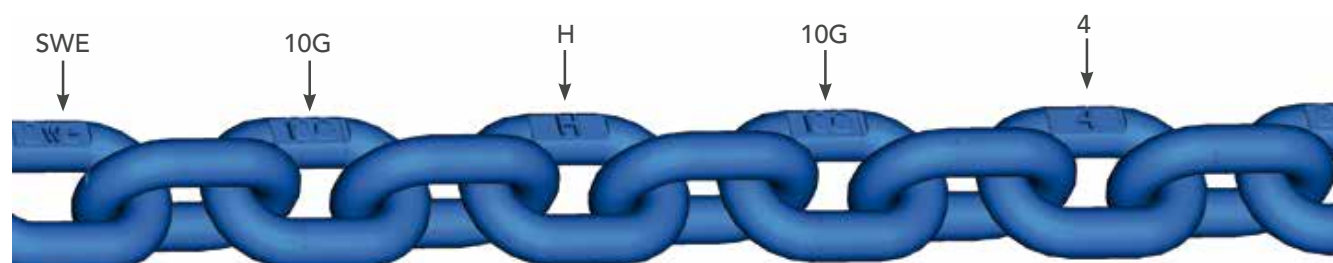
Hardening and tempering is carried out continuously in computer controlled induction furnaces with regular samplings.

Proof force

The entire chain is test loaded. The manufacturing proof force for short link chain is 2.5 times the permitted working load limit. This gives the chain high safety in use. The chain is then visually inspected and cut into delivery lengths. A sample is taken from every length and tested to destruction. Dimensions and shape are also checked. All results are documented.

Marking and traceability

The international standards for lifting chain require that the chain is marked with Grade and Manufacturers ID. On our chain we stamp "SWE - 10G - H - 10G - 4", where the "H" and the "4" is the combination for the traceability code. In case of the unlikely event of chain failure, we can trace the specific chain link back to the very batch and raw material as well as the year and place of manufacture. Each individual delivery length also has its unique batch number.



Use

- Never lift with a twisted chain.
- Use shortening hooks, knotting is not allowed.
- Use edge protectors to prevent sharp edges from damaging the chain.

Maintenance

Periodic thorough examination must be carried out at least every 12 months or more frequently according to local statutory regulations, type of use and past experience.

1. Overloaded chain slings must be taken out of service.
2. Chain and components including load pins which have been damaged, deformed, elongated, bent or showing signs of cracks or gouges shall be replaced. Carefully grind away small nicks and burrs.
3. Additional testing by magnetic particle inspection and/or proof loading at max. 2 x WLL may be carried out. The wear of the chain and component shall in no place exceed 10% of the original dimensions.
4. The chain link wear - max. 10% - is defined as the reduction of the mean diameter measured in two directions.

Severe environment

Chain and components must not be used in alkaline (>pH10) or acidic conditions (<pH6). Comprehensive and regular examination must be carried out when used in severe or corrosive inducing environments. In uncertain situations consult your Gunnebo Industries dealer.

Extreme temperature conditions

The in service temperature effects the WLL as following :

Temperature (°C)	Reduction of WLL			
	Grade 10 chain (400)	Grade 10 chain (200)	Grade 10 components	Grade 8 chain & components
-40 to +200 °C	0 %	0 %	0 %	0 %
+200 to +300 °C	10 %	Not allowed	10 %	10 %
+300 to +400 °C	25 %	Not allowed	25 %	25 %

After short heat exposure, maximum one hour, the sling reverts to its full capacity. Upon return to normal temperature, the sling reverts to its full capacity within the above temperature range. Chain slings should not be used above or below these temperatures. **For chain grade 10 the maximum in service temperature is 200° C.**

Definitions

Proof force:

Each individual chain link is tested to the Manufacturing Proof Force (MPF) level before delivery. The MPF level is 2.5 times the WLL, equal to 62.5% of the Minimum Breaking Force.

Breaking force (BF):

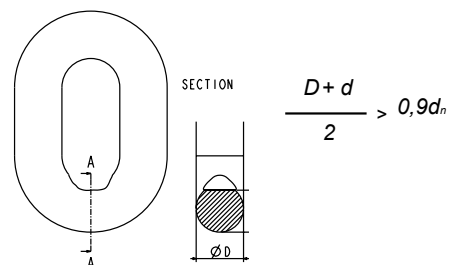
The highest static force a chain is exposed to during test loading before breaking.

Working load limit (WLL):

The maximum permitted load on a lifting chain under normal (vertical) lifting conditions.

Total ultimate elongation:

The elongation of the test item, relative to the original length, at the moment of breaking.



Johnson Products

Crane Blocks • Snatch Blocks • Oilfield Blocks • Swivels •
Custom Engineered Products



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Shorty "J" Crane Block	6:3
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Top Swivel Overhaul Ball	6:15
Top-Swivel Overhaul Ball with BK Hook	6:17
Non-Swivel Overhaul Ball	6:17
Swivels	6:18 - 6:21
Wedge Sockets	6:22
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WARNING:
Failure to read, understand and comply with the instructions, working load limits and specifications in this publication may result in serious injury or damage to property.

Johnson Blocks

With 50 years of excellence and industry leadership, Johnson Blocks has deep roots in the oilfield and the OEM crane industries. Our crane blocks are dominant in the North American lifting industry and the benefits of using Johnson blocks are many; with a proven record of engineering innovations and dependability, we have provided blocks all over the world for decades, always delivered with the highest quality, providing our customers a peace of mind.



Quick Reeve - Mobile Crane Block



Standard features

- Quick release, zinc plated, rope retention pin meets OSHA requirements for rope retention. Cannot be completely removed from block to avoid pin loss.
- J-Latch™ is standard equipment for blocks up to 250 short tons. Larger blocks are equipped with standard bar latches.
- Johnson J-Latch™ heavy duty, steel, lockable, spring loaded latch meets OSHA personnel lifting requirements.
- The Johnson J-Latch™ provides a fast hook deformation inspection point.
- Quick Reeve™ upright design rests on its own hook for a stable base while reeving.
- No bulky, drop down, trap door to handle or damage.
- Wire rope end fitting will pass through block without removal from wire rope.
- 5 – 330 short tons capacity
- 4:1 design factor
- 1, 2, 3, 5 or 7 sheaves
- 250 mm - 760 mm sheave diameters
- Reeving pins for all models
- Roller bearing sheaves
- Direct-channel sheave bearing lubrication through center pin
- Flame hardened grooves on sheave sizes 400 mm - 610 mm in diameters
- Dual action (swing/swivel) roller thrust bearing hooks
- Forged steel hooks, up to 30 short tons
- Total disassembly possible
- Meet ASME 30.5 standard

Optional features

- Forged steel hooks, 35 - 300 short tons
- Duplex hooks available from 25 short tons
- Anti-rotation hook locking devices, all models
- Swivel safety anchor shackles, all models
- Center top dead end available for blocks with 3 sheaves or less
- Sheave shrouds, all models
- All weighted models have detachable cheek weights in cast iron or steel
- Proof test and certification, radiographic, magnetic particle, and other non-destructive testing to specification by customer
- Bronze bushings available
- Other sheave combinations available
- Can be manufactured to API, Lloyd's, DNV, ABS, CCS and CE



WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

Shorty "J" Crane Blocks

Shorty "J" represents the broadest line of standard crane blocks in the industry. In all, we manufacture more than 1500 standard models of crane blocks not including options.

Standard features

- 10 - 325 short tons capacity
- 4:1 design factor
- 1, 2, 3, 5 or 7 sheaves
- 300 mm - 610 mm in sheave diameters
- Roller bearing sheaves
- Direct-channel sheave bearing lubrication through centre pin
- Flame hardened grooves on sheave sizes 406 mm - 610 mm in diameters
- Dual action (swing/swivel) roller thrust bearing hooks
- Forged steel hooks, up to 30 short tons
- J-Latch™ is standard equipment for blocks up to 250 short tons. Larger blocks are equipped with standard bar latches
- Johnson J-Latch™ heavy duty, steel, lockable, spring loaded latch meets OSHA personnel lifting requirements.
- The Johnson J-Latch™ provides a fast hook deformation inspection point.
- Meet ASME 30.5 standard

Optional features

- Forged steel single barb hooks, 35 - 300 short tons
- Duplex hooks available from 25 short tons
- Anti-rotation hook locking devices, all models
- Swivel safety anchor shackles, all models
- Sheave shrouds, all models
- All weighted models have detachable cheek weights in cast iron or steel
- Bronze bushings available
- Other sheave combinations available
- Proof test and certification, radiographic, magnetic particle, and other non-destructive testing to specification by customer
- Can be manufactured to API, Lloyd's, DNV, ABS, CCS, CMAA and CE



6

Fixed Bail Construction and Marine Rigging Blocks

Beginning with 100 standard models, you are assured of selections that fit your every need. The lowest weight to capacity ratios, the quickest rigging and the easiest maintenance are a few additional benefits that prove once again that Johnson Blocks are consistent in quality and value.

Standard features

- 10 to 135 short tons
- 4:1 design factor
- 1 to 6 sheaves
- Full coverage side plates and center plates
- Top dead-end shackle
- Tapered roller bearings
- Oval pattern side plates

Optional features

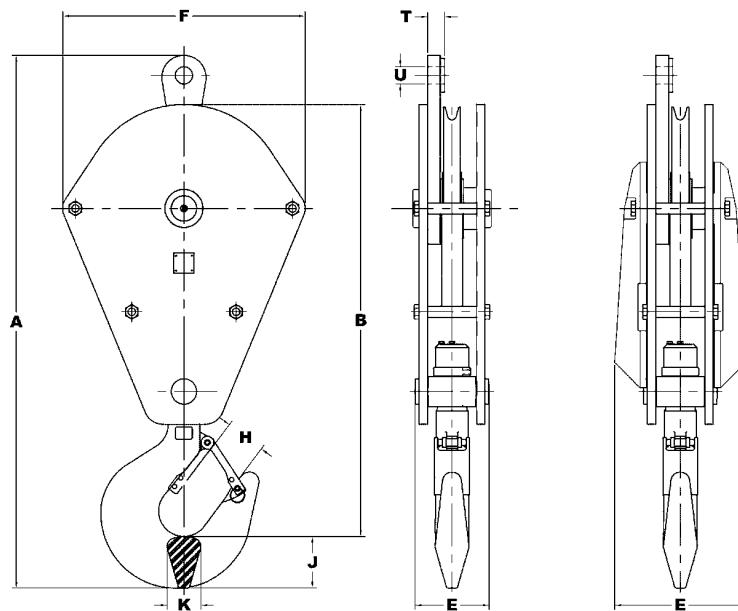
- Bronze bushings
- Diamond pattern side plates
- Fully galvanized for corrosion resistance
- High capacity, custom engineered blocks available upon request



One Sheave Shorty "J" Crane Blocks

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



12-inch 1-Sheave Shorty "J" Crane Blocks, 10-20 short tons, 3/8" to 9/16" or 10mm to 15mm

Model	WLL (short tons)	Wt. kg	A Overall Length	B Net Length	E Thickness	F Width	H Throat Opening w/Latch	J Hook Thick.	K Hook Width
J-10S12RTB	10	122	825	667	246	406	49	64	49
J-15S12RTB	15	119	825	667	246	406	49	64	49
J-20S12RTB	20	147	962	775	259	406	89	76	60

Model	WLL (short tons)	Wt. kg	A Overall Length	B Net Length	E Thickness	F Width	H Throat Opening w/Latch	J Hook Thick.	K Hook Width	T Deadend Thick.	U Hole Dia.
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16-inch 1-Sheave Shorty "J" Crane Blocks, 15-30 short tons, 5/8" to 3/4" or 16mm to 19mm

J15S16RTB	15	168	949	768	243	511	49	67	49	35	42
J20S16RTB	20	197	1086	876	256	511	71	95	76	35	42
J20S16RTB	20	197	1086	876	256	511	71	95	76	35	42
J30S16RTB	30	203	1149	927	256	511	83	89	76	38	42

20-inch 1-Sheave Shorty "J" Crane Blocks, 25-40 short tons, 7/8" to 1" or 22mm to 26mm

J25S20RTB	25	333	1264	1038	290	629	83	95	76	38	52
J30S20RTB	30	339	1276	1051	290	629	83	89	76	38	52
J40S20RTB	40	430	1499	1191	310	629	83	108	86	44	58

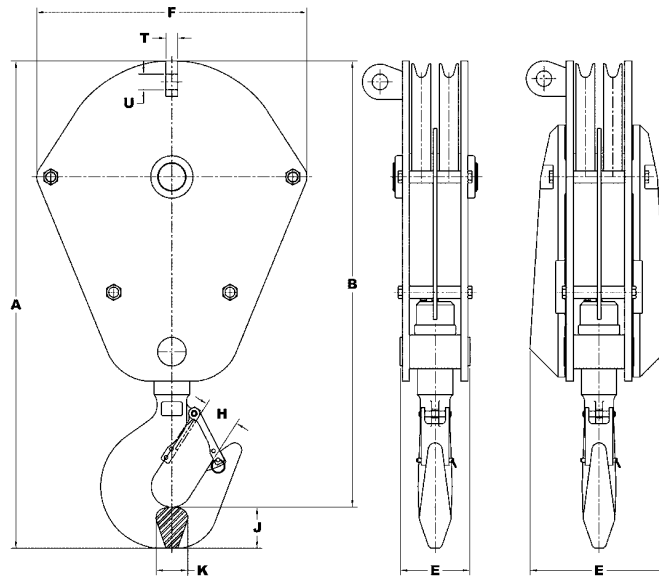
24-inch 1-Sheave Shorty "J" Crane Blocks, 30-55 short tons, 1-1/8" or 29mm

J30S24RTB	30	567	1372	1146	373	730	83	89	76	38	52
J40S24RTB	40	668	1546	1292	395	730	83	108	86	44	58
J55S24RTB	55	706	1657	1353	395	730	118	156	102	51	64

Two Sheave Shorty "J" Crane Blocks

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



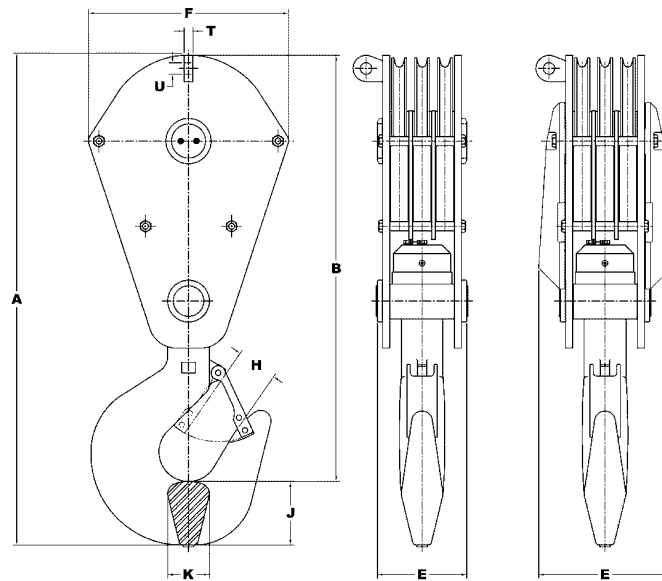
Model	WLL (short tons)	Wt. kg	A Overall Length	B Net Length	E Thickness	F Width	H Throat Opening w/Latch	J Hook Thick.	K Hook Width
12-inch 2-Sheave Shorty "J" Crane Blocks, 10-25 short tons, 3/8" to 9/16" or 10mm to 15mm									
J-10D12RTB	10	129	733	667	246	406	49	64	49
J-15D12RTB	15	132	733	667	246	406	49	64	49
J-20D12RTB	20	156	870	775	259	406	71	76	60
J-25D12RTB	25	156	870	775	259	406	71	76	60
16-inch 2-Sheave Shorty "J" Crane Blocks, 20-30 short tons, 5/8" to 3/4" or 16mm to 19mm									
J-20D16RTB	20	220	972	876	256	511	71	76	60
J-25D16RTB	25	220	972	876	256	511	71	76	60
J-30D16RTB	30	230	1022	876	256	511	83	89	76
20-inch 2-Sheave Shorty "J" Crane Blocks, 25-55 short tons, 7/8" to 1" or 22mm to 26mm									
J-25D20RTB	25	372	1133	1038	290	629	83	76	60
J-30D20RTB	30	378	1146	1051	290	629	83	89	76
J-40D20RTB	40	475	1299	1191	313	629	83	108	86
J-55D20RTB	55	509	1410	1254	313	629	118	156	102
24-inch 2-Sheave Shorty "J" Crane Blocks, 40-70 short tons, 1-1/8" or 29mm									
J40D24RTB	40	733	1400	1292	395	730	83	108	86
J55D24RTB	55	767	1508	1353	395	730	118	156	102
J70D24RTB	70	771	1514	1356	395	730	111	159	114

6

Three Sheave Shorty "J" Crane Blocks

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



Model	WLL (short tons)	Wt. kg	A Overall Length	B Net Length	E Thickness	F Width	H Throat Opening w/Latch	J Hook Thick.	K Hook Width
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12-inch 3-Sheave Shorty "J" Crane Blocks, 15-30 short tons, 3/8" to 9/16" or 10mm to 15mm

J-15T12RTB	15	147	695	629	305	406	49	64	49
J-20T12RTB	20	172	756	679	317	406	71	76	60
J-25T12RTB	25	172	756	679	317	406	71	76	60
J-30T12RTB	30	193	889	794	317	406	83	89	76

16-inch 3-Sheave Shorty "J" Crane Blocks, 25-40 short tons, 5/8" to 3/4" or 16mm to 19mm

J25T16RTB	25	247	857	781	314	511	71	76	60
J30T16RTB	30	269	1016	921	314	511	83	89	76
J40T16RTB	40	300	1149	1041	314	511	83	108	86

20-inch 3-Sheave Shorty "J" Crane Blocks, 30-80 short tons, 7/8" to 1" or 22mm to 26mm

J30T20RTB	30	443	1070	975	365	629	83	89	76
J40T20RTB	40	530	1299	1191	365	629	83	108	86
J55T20RTB	55	567	1410	1254	365	629	118	156	102
J60T20RTB	60	567	1410	1254	365	629	118	156	102
J70T20RTB	70	582	1416	1257	365	629	111	159	114
J80T20RTB	80	677	1524	1346	397	629	121	171	121

24-inch 3-Sheave Shorty "J" Crane Blocks, 55-100 short tons, 1-1/8" or 29mm

J55T24RTB	55	840	1508	1353	460	730	118	156	102
J60T24RTB	60	840	1508	1353	460	730	118	156	102
J70T24RTB	70	855	1514	1356	460	730	111	159	114
J80T24RTB	80	942	1626	1448	479	730	121	171	121
J90T24RTB	90	1069	1654	1460	492	730	121	194	140
J100T24RTB	100	1069	1654	1460	492	730	121	194	140



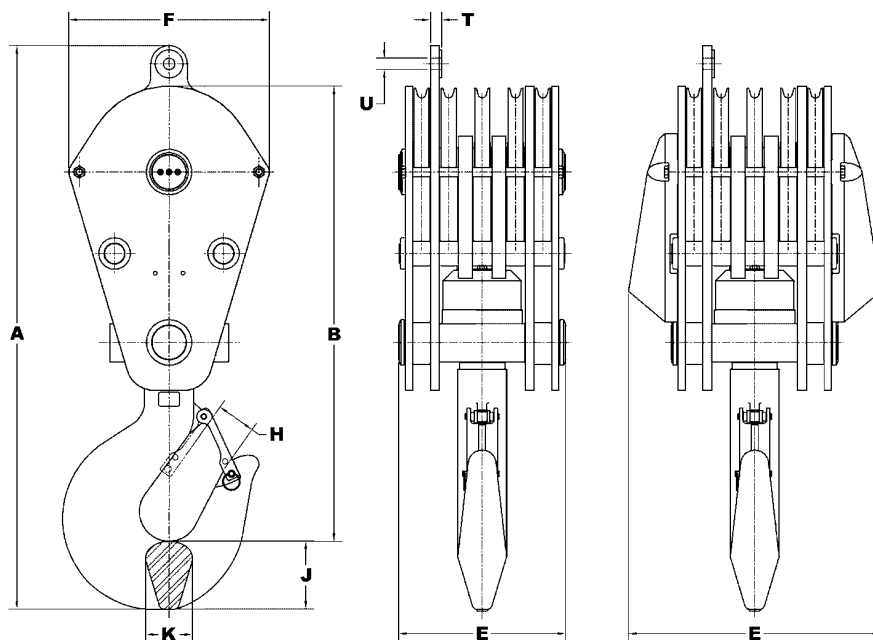
WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

Five Sheave Shorty "J" Crane Blocks

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



Model	WLL (short tons)	Wt. kg	A Overall Length	B Net Length	E Thickness	F Width	H Throat Opening w/Latch	J Hook Thick.	K Hook Width
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6

12-inch 5-Sheave Shorty "J" Crane Blocks, 25-30 short tons, 3/8" to 9/16" or 10mm to 15mm

J-25QN12RTB	25	211	883	705	433	406	71	76	61
J-30QN12RTB	30	225	994	794	433	406	83	89	76

16-inch 5-Sheave Shorty "J" Crane Blocks, 30-80 short tons, 5/8" to 3/4" or 16mm to 19mm

J30QN16RTB	30	342	1124	921	430	511	83	89	76
J40QN16RTB	40	372	1238	1022	430	511	83	108	86
J50QN16RTB	50	453	1368	1108	446	511	118	156	102
J55QN16RTB	55	453	1368	1108	446	511	118	156	102
J70QN16RTB	70	474	1403	1102	557	511	111	159	114
J80QN16RTB	80	626	1575	1260	570	511	121	171	121

20-inch 5-Sheave Shorty "J" Crane Blocks, 55-100 short tons, 7/8" to 1" or 22mm to 26mm

J55QN20RTB	55	788	1556	1260	557	629	118	156	102
J70QN20RTB	70	803	1562	1260	557	629	111	159	114
J80QN20RTB	80	810	1667	1346	576	629	121	171	121
J90QN20RTB	90	965	1689	1362	576	629	121	194	140
J100QN20RTB	100	965	1689	1362	576	629	121	194	140

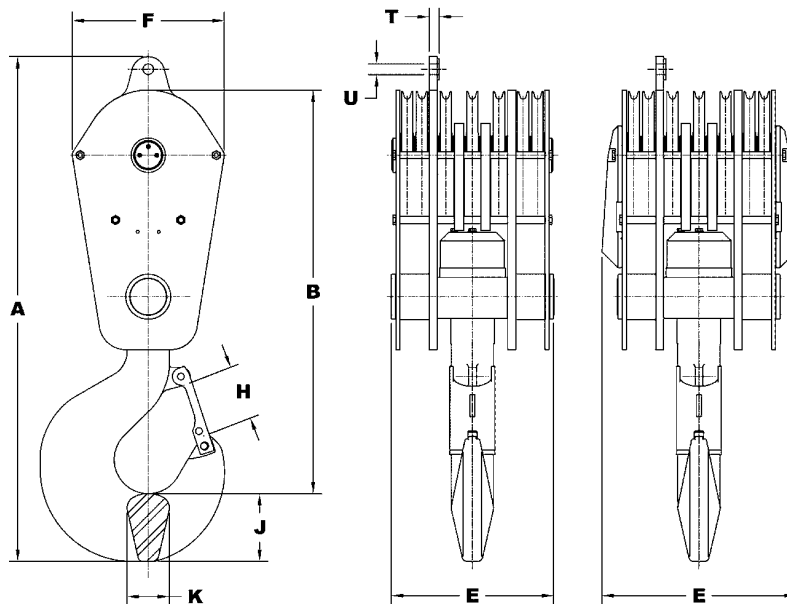
24-inch 5-Sheave Shorty "J" Crane Blocks, 200 short tons, 1-1/8" or 29mm

J-200QN24RTB	200	2495	2210	1803	792	730	229	257	152
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Seven Sheave Shorty "J" Crane Blocks

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



Model	WLL (short ton)	Wt. kg	A Overall Length	B Net Length	E Thickness	F Width	H Throat Opening w/Latch	J Hook Thick.	K Hook Width
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24-inch 7-Sheave Shorty "J" Crane Blocks, 250-325 short tons, 1-1/8" or 29mm

J-250SV24RTB	250	2848	2423	1937	933	730	216	325	203
J-265SV24RTB	265	2848	2423	1937	933	730	216	325	203
J-300SV24RTB	300	3243	2419	1937	987	730	232	323	229
J-325SV24RTB	325	3243	2419	1937	987	730	232	323	229



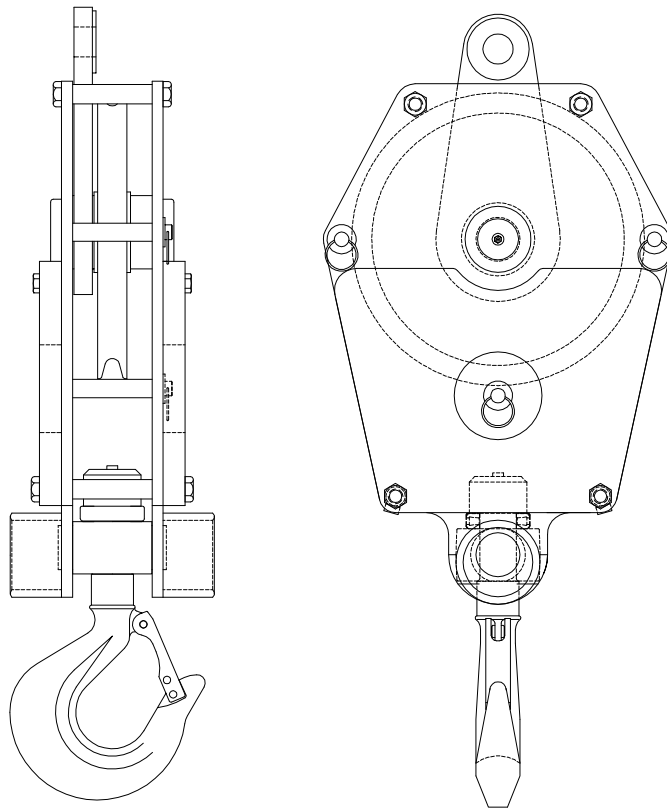
WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

Quick Reeve Crane Blocks™

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



6

Model number	Working Load Limit (short tons)	Number of Sheaves	Sheave Diameter	Weight kg
12-inch 1-Sheave QRJ Blocks, 10-15 short tons, 3/8" to 9/16" or 10mm to 15mm				
QRJ10S12RTB	10	1	305	122
QRJ15S12RTB	15	1	305	119
16-inch 1-Sheave QRJ Blocks, 10-20 short tons 5/8" to 3/4" or 16mm to 19mm				
QRJ10S16RTB	10	1	406	214
QRJ20S16RTB	20	1	406	197
20-inch 1-Sheave QRJ Blocks, 20-30 short tons 7/8" to 1" or 22mm to 26mm				
QRJ20S20RTB	20	1	508	333
QRJ25S20RTB	25	1	508	333
QRJ30S20RTB	30	1	508	339
24-inch 1-Sheave QRJ Block, 30 short tons 1-1/8" or 29mm				
QRJ30S24RTB	30	1	610	594

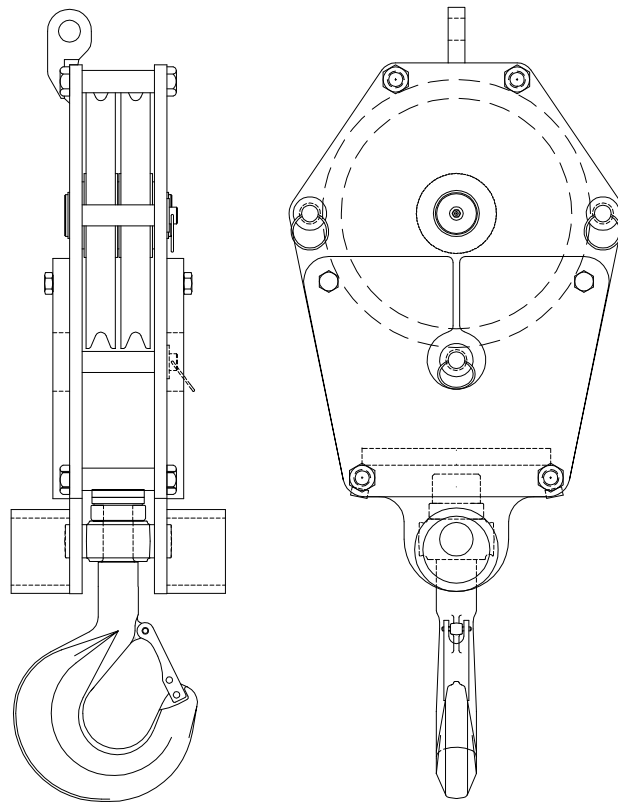


WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

Quick Reeve Crane Blocks™

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



Model number	Working Load Limit (short tons)	Number of Sheaves	Sheave Diameter	Weight kg
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12-inch 2-Sheave QRJ Blocks, 15-25 short tons 3/8" to 9/16" or 10mm to 15mm

QRJ15D12RTB	15	2	305	132
QRJ20D12RTB	20	2	305	156
QRJ25D12RTB	25	2	305	156

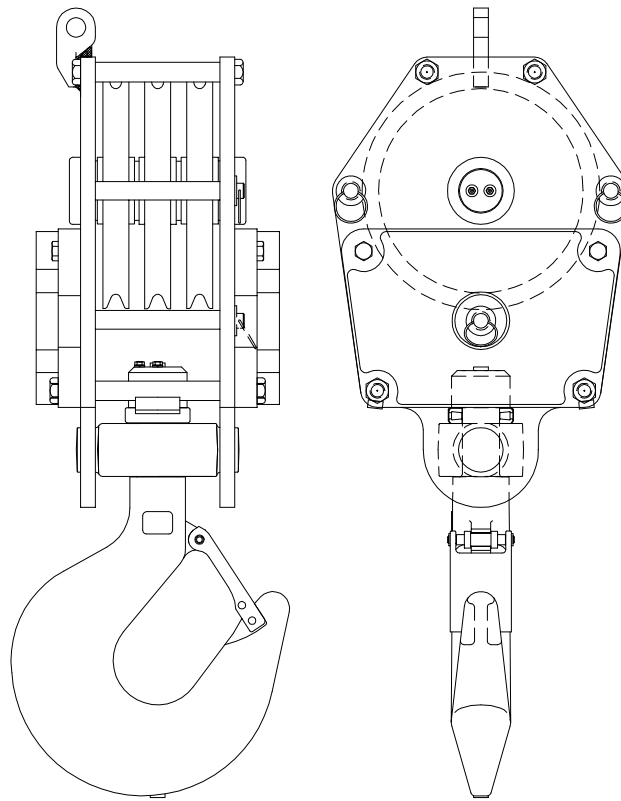
16-inch 2-Sheave QRJ Blocks, 15-40 short tons 5/8" to 3/4" or 16mm to 19mm

QRJ15D16RTB	15	2	406	186
QRJ20D16RTB	20	2	406	220
QRJ25D16RTB	25	2	406	220
QRJ30D16RTB	30	2	406	230
QRJ40D16RTB	40	2	406	264

Quick Reeve Crane Blocks™

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



6

Model number	Working Load Limit (short tons)	Number of Sheaves	Sheave Diameter	Weight kg
12-inch 3-Sheave QRJ Blocks, 15-30 short tons, 3/8" to 9/16" or 10mm to 15mm				
QRJ15T12RTB	15	3	305	147
QRJ20T12RTB	20	3	305	172
QRJ25T12RTB	25	3	305	172
QRJ30T12RTB	30	3	305	193
16-inch 3-Sheave QRJ Blocks, 25-50 short tons, 5/8" to 3/4" or 16mm to 19mm				
QRJ25T16RTB	25	3	406	247
QRJ30T16RTB	30	3	406	269
QRJ40T16RTB	40	3	406	300
QRJ50T16RTB	50	3	406	333
20-inch 3-Sheave QRJ Block, 50 short tons, 7/8" to 1" or 22mm to 26mm				
QRJ50T20RTB	50	3	508	567

WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

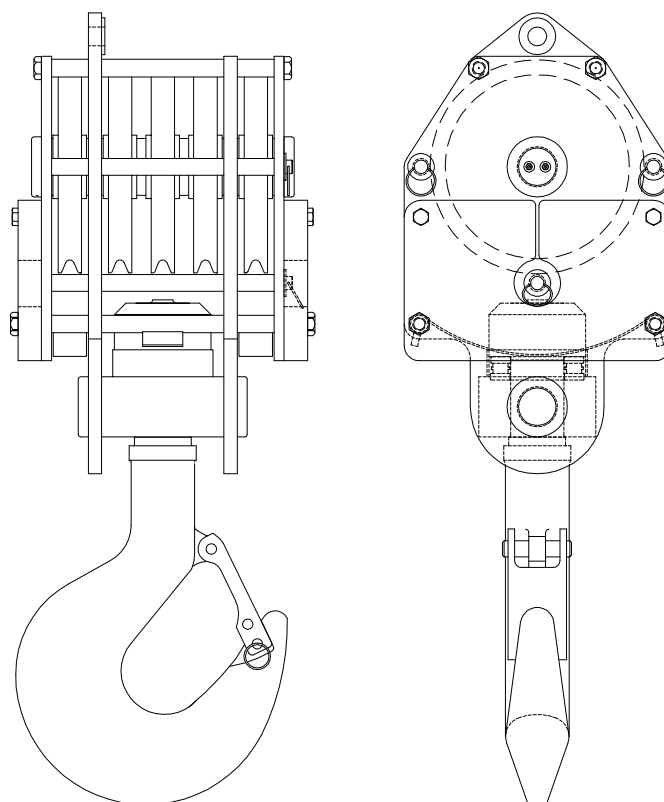
6:11

All dimensions in mm

Quick Reeve Crane Blocks™

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43

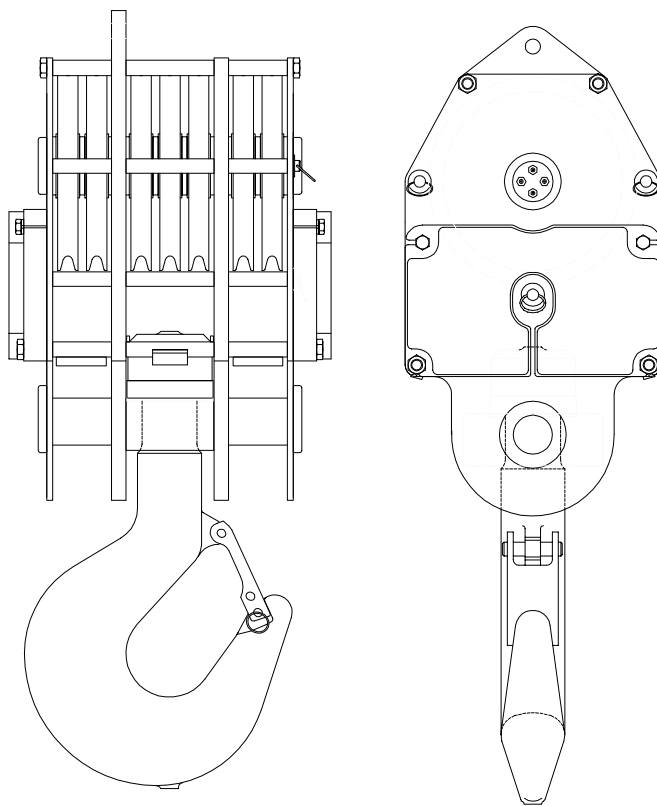


Model number	Working Load Limit (short tons)	Number of Sheaves	Sheave Diameter	Weight kg
16-inch 5-Sheave QRJ Blocks, 40-80 short tons, 5/8" to 3/4" or 16mm to 19mm				
QRJ40QN16RTB	40	5	406	372
QRJ50QN16RTB	50	5	406	453
QRJ70QN16RTB	70	5	406	474
QRJ80QN16RTB	80	5	406	626
20-inch 5-Sheave QRJ Blocks, 70-100 short tons, 7/8" to 1" or 22mm to 26mm				
QRJ70QN20RTB	70	5	508	803
QRJ80QN20RTB	80	5	508	810
QRJ90QN20RTB	90	5	508	965
QRJ100QN20RTB	100	5	508	965
24-inch 5-Sheave QRJ Blocks, 90-100 short tons, 1-1/8" or 29mm				
QRJ90QN24RTB	90	5	610	1312
QRJ100QN24RTB	100	5	610	1312

Quick Reeve Crane Blocks™

Design Factor 4:1

For crane block warnings and use limitations see pages: 6:42 and 6:43



6

Model number	Working Load Limit (short tons)	Number of Sheaves	Sheave Diameter	Weight kg
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20-inch 7-Sheave QRJ Blocks, 100-140 short tons, 7/8" to 1" or 22mm to 26mm

QRJ100SV20RTB	100	7	508	1179
QRJ140SV20RTB	140	7	508	1405



WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

Overhaul Balls

Provide the overhaul weight necessary to counter bearing friction and winch-to-boom-tip line weight. Because these units must meet a wide range of field applications, we offer an equally wide range of unit sizes. It is in fact, one of the widest ranges available. Over 240 models; 3 - 25 metric tonnes WLL. Non-swivel balls are also available.

Standard features

- 3 to 25 metric tonnes
- 4:1 design factor
- Heavy duty J-Latch standard

Optional features

- High capacity, custom engineered balls available upon request.



Split Ball

Non-Swivel

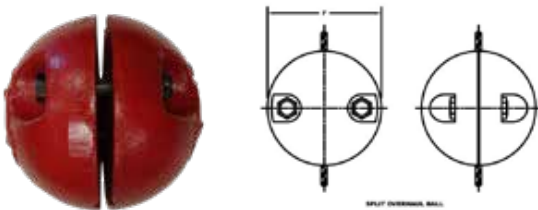
Top Swivel

Bottom Swivel

Gunnebo Industries BK Safety Hook

Split Overhaul Ball

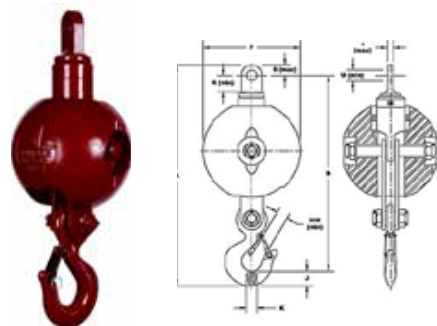
Design Factor 4:1



Art.no.	Model No.	Weight kg	Wire Rope Size	F Ball Dia.
452245	OB 50 SPLIT	22.7	Suits 13 - 22 mm wire rope	184
452179	OB 100 SPLIT	45.4	Suits 16-22 mm wire rope	235

Top Swivel Overhaul Ball 3 - 25 metric tonnes

Design Factor 4:1



Key to Top Swivel Overhaul Ball Model Numbers:

OB - Overhaul Ball
4EE - Swivel Model
85 - Ball Weight (lb)
4 - Type

To order please specify the model number.

Art. no.	Model No.	WLL metric tonnes	Weight of Assembly kg	A Overall Length	B Net Length	F Ball Dia.	H Throat Opening	J Hook Thickness	K Hook Width	R Pin to Obstruction	S Pin to End of Fitting	T Thickness of Eye	U Hole Dia.
471995	OB3JEM28-4	2.7	17.2	342	271	202	28	37	28	31	31	23	28
471538	OB4EE35-4	3.6	26.8	599	510	191	28	37	28	39	34	26	34
471539	OB7EE35-4	6.4	28.6	622	545	191	35	46	37	39	34	26	34



WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

6:14

All dimensions in mm

471541	OB7EE85-4	6.4	46.3	625	545	241	35	46	37	39	34	26	34
471545	OB7EE150-4	6.4	77.6	692	612	286	35	46	37	39	34	26	34
471550	OB12EE200-4	10.9	112.5	864	747	305	46	66	49	57	52	33	45
471861	OB12EE285-4	10.9	163.3	864	747	353	46	66	49	57	52	33	46
471552	OB12EE350-4	10.9	183.3	864	747	368	46	66	49	57	52	33	46
473734	OB19EE350-4	17.2	197.3	953	825	368	71	76	61	62	52	33	46
473735	OB19EE650-4	17.2	332.5	1004	876	456	71	76	61	62	52	33	46
473738	OB25EE650-4	22.7	346.5	1042	903	456	71	76	61	71	64	42	53
473739	OB25EE1150-4	22.7	568.4	1042	903	549	71	76	61	71	64	42	53

Model no.	Working Load Limit (short tons)	Weight of Assembly kg	A Overall Length	B Net Length	F Ball Dia.	H Throat Opening with Latch	J Hook Thickness	K Hook Width	R Pin to Obstruction	S Pin to End of Fitting	T Thickness of Eye	U Hole Diameter
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Type 4 Overhaul Ball, 7 short tons

OB 7EE 35-4	7	28.6	625	545	190	35	46	37	39	34	26	33
OB 7EE 85-4	7	45.4	625	545	241	35	46	37	39	34	26	33
OB 7EE 150-4	7	77.6	692	612	286	35	46	37	39	34	26	33
OB 7EE 200-4	7	95.3	692	612	305	35	46	37	39	34	26	33
OB 7EE 220-4	7	113	692	612	324	35	46	37	39	34	26	33
OB 7EE 285-4	7	144	692	612	353	35	46	37	39	34	26	33

Type 4 Overhaul Ball, 12 short tons

OB 12EE 85-4	12	63.0	801	684	241	46	66	49	57	52	33	45
OB 12EE 150-4	12	94.8	864	747	286	46	66	49	57	52	33	45
OB 12EE 200-4	12	112	864	747	305	46	66	49	57	52	33	45
OB 12EE 220-4	12	131	864	747	324	46	66	49	57	52	33	45
OB 12EE 285-4	12	163	864	747	353	46	66	49	57	52	33	45
OB 12EE 350-4	12	180	864	747	368	46	66	49	57	52	33	45
OB 12EE 500-4	12	265	915	798	433	46	66	49	57	52	33	45
OB 12EE 650-4	12	319	915	798	456	46	66	49	57	52	33	45
OB 12EE1150-4	12	531	915	798	549	46	66	49	57	52	33	45

6

Type 4 Overhaul Ball, 19 short tons

OB 19EE 85-4	19	77.1	889	761	241	71	76	60	62	52	33	45
OB 19EE 150-4	19	109	953	825	286	71	76	60	62	52	33	45
OB 19EE 200-4	19	127	953	825	305	71	76	60	62	52	33	45
OB 19EE 350-4	19	197	953	825	368	71	76	60	62	52	33	45
OB 19EE 500-4	19	267	1004	876	433	71	76	60	62	52	33	45
OB 19EE 650-4	19	332	1004	876	456	71	76	60	62	52	33	45
OB 19EE1150-4	19	545	1004	876	549	71	76	60	62	52	33	45

Type 4 Overhaul Ball, 25 short tons

OB 25EE 350-4	25	209	992	852	368	71	76	60	71	64	42	53
OB 25EE 500-4	25	289	1042	903	433	71	76	60	71	64	42	53
OB 25EE 650-4	25	356	1042	903	456	71	76	60	71	64	42	53
OB 25EE1150-4	25	568	1042	903	549	71	76	60	71	64	42	53

Type 4 Overhaul Ball, 30 short tons

OB 30EE 650-4	30	396	1250	1061	456	76	116	95	71	73	41	58
OB 30EE1150-4	30	609	1250	1061	549	76	116	95	71	73	41	58

Bottom Swivel Overhaul Balls available upon request

WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

Top-Swivel with BK Hook and Non-Swivel Overhaul Balls

For overhaul ball warnings and use limitations see pages 6:45 – 6:46.

Design Factor 4:1



**Top-Swivel
with BK Hook**

Overhaul ball assembly



**Non-Swivel
Overhaul Balls**

With BK-13-10 Hook

Model Number	Working Load Limit (short tons)	Weight kg
OBK4EE35-4	4	27.7
OBK4EE85-4	4	45.8
OBK4EE150-4	4	76.7
OBK4EE200-4	4	94.3

With BK-16-10 Hook

OBK7EE35-4	7	29.5
OBK7EE85-4	7	47.2
OBK7EE150-4	7	78
OBK7EE200-4	7	96.2

With BK-18/22-10 Hook

OBK12EE85-4	12	64
OBK12EE150-4	12	95.3
OBK12EE200-4	12	113
OBK12EE285-4	12	163
OBK12EE350-4	12	183
OBK12EE650-4	12	330
OBK12EE1150-4	12	532

Model Number	Working Load Limit (short tons)	Weight kg
OB4NS35-2	4	29.5
OB4NS85-2	4	53.1
OB4NS150-2	4	83.9
OB4NS200-2	4	107
OB7NS35-2	7	31.3
OB7NS85-2	7	54.9
OB7NS150-2	7	85.7
OB7NS200-2	7	108
OB12NS85-2	12	65.8
OB12NS150-2	12	97.5
OB12NS200-2	12	120
OB12NS285-2	12	158
OB12NS350-2	12	190
OB12NS650-2	12	322
OB12NS1150-2	12	553
OB19NS85-2	19	81.2
OB19NS150-2	19	113
OB19NS200-2	19	136
OB19NS350-2	19	205
OB19NS650-2	19	337
OB19NS1150-2	19	567
OB25NS350-2	25	218
OB25NS650-2	25	352
OB25NS1150-2	25	573
OB30NS650-2	30	368
OB30NS1150-2	30	651



NEVER EXCEED RATED WORKING LOAD LIMIT

Swivels

Our Johnson thrust bearing swivels are widely used for the primary purpose of allowing the natural twist in wire rope to rotate as necessary without affecting the suspended load. Standard swivels are available in six different end fitting combinations, from 3 to 30 metric tonnes WLL.

Simple and compact, the swivels are engineered for long life and economical cost. Hooks are forged alloy steel, lubrication fittings are recessed, and a generous bronze bushing assures toughness and long life.

Standard equipment

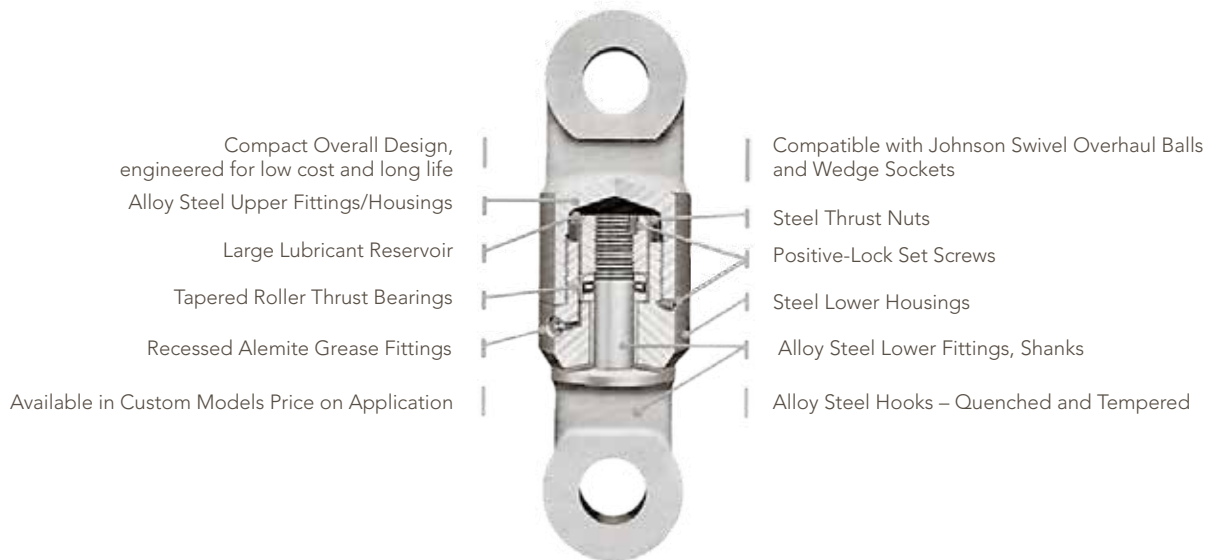
- Forged hook with latch
- Roller thrust bearing
- Large bronze thrust bushing
- Recessed lubrication fitting
- Large lubricant reservoir
- Proof load test

Optional equipment

- Custom end fitting sizes
- Custom sizes above 30 metric tonnes WLL
- Anti-corrosion coatings
- CE compliant upon request.



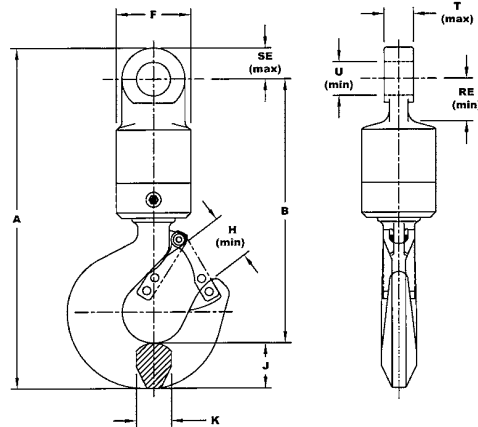
The simple and compact design of a Johnson Swivel



6

Swivel Eye/Hook, 3 - 30 metric tonnes

Design Factor - see table



Key to Eye/Hook Swivel Model Numbers:

3 - Working Load Limit (metric metric tonnes)

E - Top Fitting (E = Eye)

H - Bottom Fitting (H = Hook)

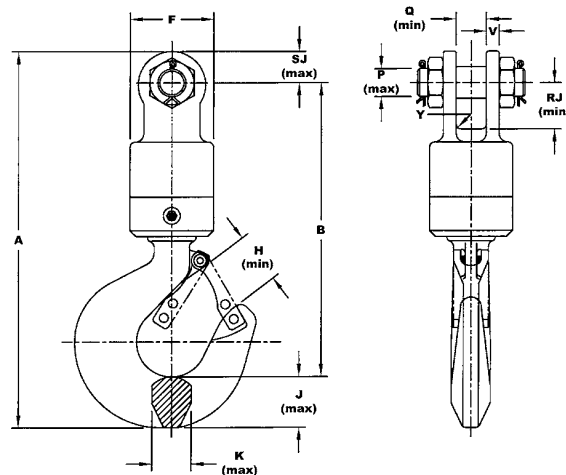
M - Midget Swivel

To order please specify the model number.

Art.no.	Model No.	WLL metric tonnes	A Overall Length	B Net Length	F Swivel Dia.	H Throat Opening with Latch	J Hook Thickness	K Hook Width	RE Hole to Obstruction Min	SE Hole to End of Fitting Max	T Thickness of Eye Max	U Hole Dia. Min	Weight kg	Design Factor
471266	3EHM	3.0	269	201	67	28	38	28	31	31	23	26	3.5	5
471268	3EH	3.0	342	273	83	28	38	28	39	34	26	33	6.8	5
471270	5EH	5.0	350	281	83	28	38	28	39	34	26	33	6.8	4
471272	7EH	7.0	37	299	83	35	46	35	39	34	26	33	7.3	4
471274	9EH	9.0	471	356	102	49	64	49	57	52	33	45	15.4	4
471276	12EH	12.0	480	365	113	49	64	49	62	52	33	45	17.7	4
471278	15EH	15.0	480	365	113	49	64	49	62	52	33	45	17.7	4
471280	20EH	20.0	580	443	133	71	76	61	71	64	42	53	31.3	4
471281	25EH	25.0	629	480	133	83	89	76	71	64	42	53	41.0	5
471282	30EH	30.0	674	515	165	83	89	76	71	73	41	59	53.0	4

Swivel Jaw/Hook, 3 - 15 metric tonnes

Design Factor - see table



Key to Jaw/Hook Swivel Model Numbers:

3 - Working Load Limit (metric metric tonnes)

J - Top Fitting (J = Jaw)

H - Bottom Fitting (H = Hook)

M - Midget Swivel

To order please specify the model number.

Art.no.	Model No.	WLL metric tonnes	A Overall Length	B Net Length	F Swivel Dia.	H Throat Opening with Latch	J Hook Thickness	K Hook Width	P Pin Dia. Max	Q Width Between Ears Min	RJ Pin to Obstruction Min	SJ Pin to End of Fitting Max	V Thickness of Ear	Y Jaw Radius	Weight kg	Design Factor
471267	3JHM	3.0	267	201	67	28	38	28	25	25	27	31	13	2	3.9	5
471269	3JH	3.0	348	276	83	28	38	28	32	37	53	36	14	6	8.2	5
471271	5JH	5.0	357	284	83	28	38	28	32	37	53	36	14	6	8.6	4
471273	7JH	6.4	383	302	83	35	46	35	32	37	53	36	14	6	9.0	4
471275	9JH	9.0	473	358	102	49	64	49	45	43	68	52	19	6	18.1	5
471277	12JH	12.0	486	371	113	49	64	49	45	49	75	52	19	6	20.4	4
471279	15JH	15.0	486	371	113	49	64	49	45	49	75	52	19	6	20.4	4



WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

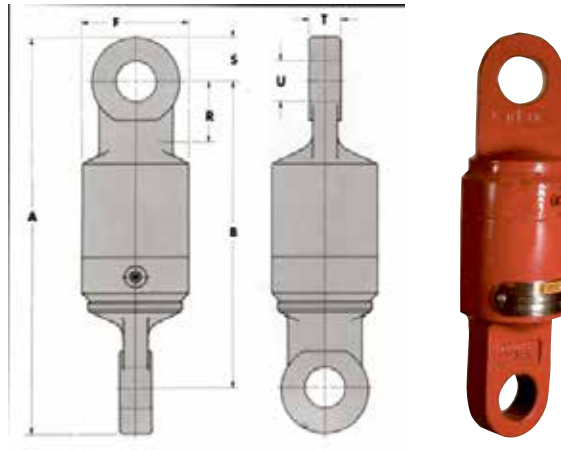
Swivel Eye/Eye, 3 - 30 metric tonnes

Design Factor 5:1, CE marked

Key to Eye/Eye Swivel Model Numbers:

- 3 - Working Load Limit (metric metric tonnes)
- E - Top Fitting (E = Eye)
- E - Bottom Fitting (E = Eye)
- M - Midget Swivel

To order please specify the model number.



CE

Art.no.	Model No.	WLL metric tonnes	A Overall Length	B Net Length	F Swivel Dia.	R Hole to Obstruction Min	S Hole to End of Fitting Max	T Thickness of Eye Max	U Hole Dia. Min	Weight kg
471430	3EEM	3.0	204	144	67	32	32	23	26	2.7
471769	4EE	4.0	306	241	83	39	34	26	33	6.3
471434	7EE	7.0	302	237	83	39	34	26	33	6.2
471438	12EE	12.0	388	287	102	62	52	33	45	12.0
471442	19EE	19.0	404	302	113	63	52	33	45	14.3
471446	25EE	25.0	450	329	133	71	61	42	53	22.8
471447	30EE	30.0	513	374	165	66	71	41	59	38.5

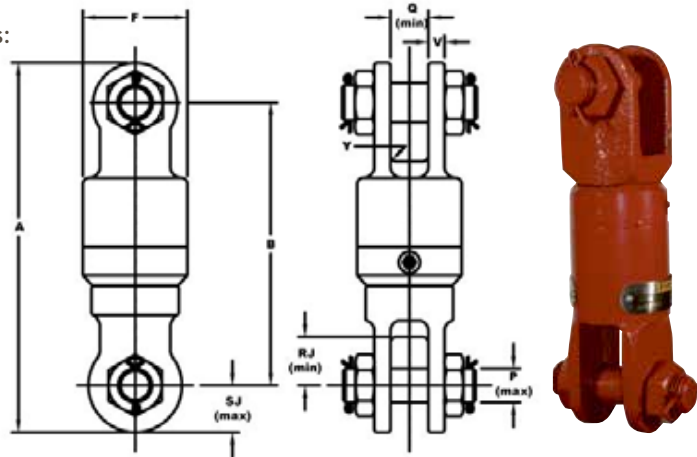
Swivel Jaw/Jaw, 3 - 19 metric tonnes

Design Factor 5:1, CE marked

Key to Jaw/Jaw Swivel Model Numbers:

- 3 - Working Load Limit (metric tonnes)
- J - Top Fitting (J = Jaw)
- J - Bottom Fitting (J = Jaw)
- M - Midget Swivel.

To order please specify the model number.



CE

Art.no.	Model No.	WLL metric tonnes	A Overall Length	B Net Length	F Swivel Dia.	P Pin Dia. Max	Q Width Between Ears Min	R Pin to Obstruction Min	S Pin to End of Fitting Max	V Thickness of Ear	Y Jaw Radius	Weight kg
471433	3JJM	3.00	209	150	67	25	25	34	32	13	2	3.8
471772	4JJ	4.00	317	247	82	32	37	53	37	14	6	9.9
471437	7JJ	7.00	317	247	82	32	37	53	37	14	6	9.9
471441	12JJ	12.00	397	295	102	44	43	68	52	19	6	19.1
471445	19JJ	19.00	423	321	113	44	49	75	52	19	6	21.5



WARNING

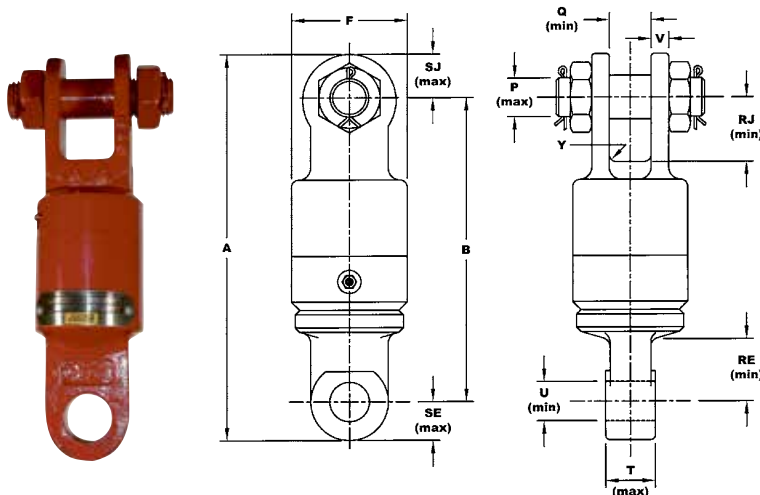
NEVER EXCEED RATED WORKING LOAD LIMIT

6:19

All dimensions in mm

Swivel Jaw/Eye, 3 - 19 metric tonnes

Design Factor 5:1, CE marked



Key to Jaw/Eye Swivel Model Numbers:

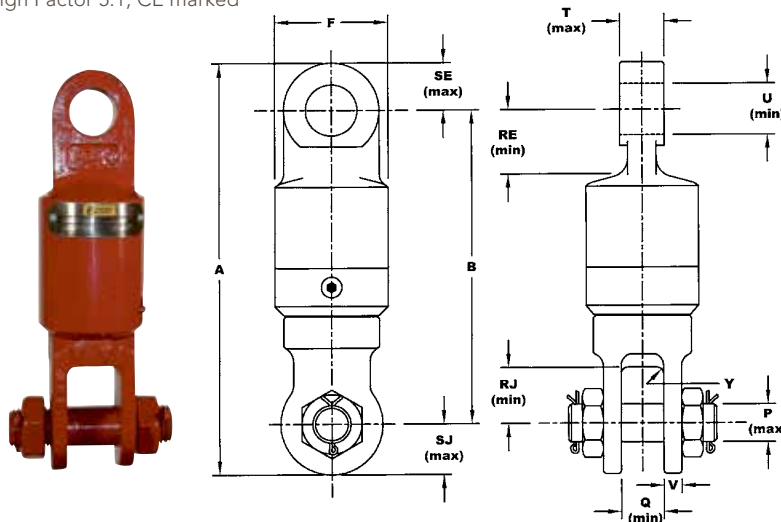
- 3 - Working Load Limit (metric tonnes)
- J - Top Fitting (J = Jaw)
- E - Bottom Fitting (E = Eye)
- M - Midget Swivel

To order please specify the model number.

Art.no.	Model No.	WLL metric tonnes	A Overall Length	B Net Length	F Swivel Dia.	P Pin Dia. Max.	Q Width Between Ears Min.	RE Hole to Obstruction Min.	RJ Pin to Obstruction Min.	SE Hole to End of Fitting Max.	SJ Pin to End of Fitting Max.	T Thickness of Eye Max.	U Hole Dia. of Fitting Min.	V Thickness of Ear	Y Jaw Radius	Weight kg
471432	3JEM	3.0	202	144	67	25	24	34	34	32	31	24	26	13	2	3.2
471771	4JE	4.0	309	240	83	32	37	39	53	36	35	24	33	14	6	7.7
471436	7JE	7.0	312	241	83	32	37	39	54	35	35	25	32	14	6	7.7
471440	12JE	12.0	395	293	102	45	44	62	69	52	52	33	45	19	6	15.0
471444	19JE	19.0	404	302	113	45	50	62	75	52	52	33	45	19	6	17.2

Swivel Eye/Jaw, 3 - 19 metric tonnes

Design Factor 5:1, CE marked



Key to Eye/Jaw Swivel Model Numbers:

- 3 - Working Load Limit (metric tonnes)
- E - Top Fitting (E = Eye)
- J - Bottom Fitting (J = Jaw)
- M - Midget Swivel

To order please specify the model number.

Art.no.	Model No.	WLL metric tonnes	A Overall Length	B Net Length	F Swivel Dia.	P Pin Dia. Max.	Q Width Between Ears Min.	RE Hole to Obstruction Min.	RJ Pin to Obstruction Min.	SE Hole to End of Fitting Max.	SJ Pin to End of Fitting Max.	T Thickness of Eye Max.	U Hole Dia. Min.	V Thickness of Ear	Y Jaw Radius	Weight kg
471431	3EJM	3.0	210	150	67	25	25	32	34	31	31	23	26	13	2	3
471770	4EJ	4.0	311	244	82	32	37	41	53	33	37	26	33	14	6	8
471435	7EJ	7.0	311	244	82	32	37	41	53	33	37	26	33	14	6	8
471439	12EJ	12.0	397	295	102	44	43	64	68	52	52	33	45	19	6	16
471443	19EJ	19.0	416	315	113	44	49	62	75	52	52	33	45	19	6	19



WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

6:20

All dimensions in mm

Open Wedge Sockets

Open Wedge Sockets combine positive attachment with optimum versatility. Easy-to-change Johnson Wedge Sockets are a high strength cast alloy steel with Charpy value of 34J (25ft-lb) at -20C (-4F). Each socket accepts at least two different ductile iron wedges. This allows the socket to be used with more than one rope size. Together, wedge and body act as a vise which grips the wire rope and locks it into place.

Key to Open Wedge Socket Model Numbers:

- WS - Wedge Socket
- FS - Federal Specification
- 6 - Body Number
- 19 mm - Wire Rope Wedge Size

To order please specify the model number.



Open Wedge Socket 9.5 mm to 38 mm

Design Factor 4:1

Art.no.	Model No.	Wire Rope mm	Weight kg	A Overall Length	B Net Length	E Total Thickness	P Pin Dia.	Q Width Between Ears Min	R Pin to End of Fitting	S Pin to End of Fitting	V Thickness of Ear
472371	WS-4 3/8"	10	1.5	165	137	66	26	24	31	29	11
472372	WS-4 7/16"	11	1.5	165	137	66	26	24	31	29	11
472373	WS-4 1/2"	13	1.5	165	137	66	26	24	31	29	11
472374	WS-5 1/2"	13	4.0	222	184	90	32	35	46	37	17
472375	WS-5 9/16"	14	4.0	222	184	90	32	35	51	37	17
472376	WS-5 5/8"	16	4.0	222	184	90	32	35	51	37	17
472377	WS-6 5/8"	16	4.2	224	186	90	32	38	48	38	16
472378	WS-8A 5/8"	16	7.3	286	232	106	42	43	66	54	13
472379	WS-6 3/4"	19	4.2	224	186	90	32	38	36	38	16
472380	WS-8A 3/4"	19	7.3	286	232	106	42	43	61	54	13
472381	WS-7 7/8"	22	7.3	283	241	90	32	33	58	41	18
472382	WS-8 7/8"	22	8.2	289	241	106	42	43	53	48	21
472383	WS-7 1"	26	7.3	283	241	90	32	33	64	41	18
472384	WS-8 1"	26	8.2	289	241	106	42	43	56	48	21
472385	WS-10 1 1/8"	28	20.9	392	337	106	42	45	79	56	21
472386	WS-11 1 1/8"	28	24.5	406	343	132	64	62	112	64	22
472387	WS-10 1 1/4"	32	20.9	392	337	106	42	45	79	56	21
472388	WS-11 1 1/4"	32	24.5	406	343	132	64	62	109	64	22
474271	FS-26 1 3/8"	35	43.1	467	381	162	77	67	107	86	33
472389	FS-26 1 1/2"	38	43.1	467	381	162	77	67	107	86	33

Provides a termination efficiency 80%, based on the catalog minimum breaking force of 6x19, 6x25, and 6x36, IWRC wire rope.



WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT



Snatch Blocks

Johnson Snatch Blocks have the convenient side opening feature. This is true even of our heavy duty top dead-end models, and makes it easy to reeve the block without removing any fitting from the end of the wire rope. Other features include choice of swivel hook, shackle, eye fittings or Tailboard Blocks which have no fittings at all.

Standard features

- Rugged and reliable
- 4:1 design factor
- Easy-open side plates
- Metric rated
- Large hand nuts
- Retainer on latch pin
- Bow shackle with retainer pin
- Bronze bushing

Optional features

- Proof load
- Roller bearings
- Marine epoxy paint
- Heavy duty J-latch
- Larger sizes
- Customized blocks
- CE compliant upon request

Wide range

We offer over 250 models and sizes, from 2 to 30 metric tonnes. Sheave sizes from 76 mm to 610 mm in diameter. Multiple rope sizes and end fittings available.

Rugged

Johnson's famous durability is well established in the industry. These blocks stand up to the toughest applications, whether in blistering sun or under icy blizzard conditions.

Reliable

From built-in strength comes the reliability long associated with the Johnson name. These blocks are performers, day after day and year after year.

Many choices

Singles, doubles, top dead end, towing, oilfield, pipe laying and general construction. Sizes and specific models for all.

Convenient

Large, easy to grip hand nuts on all models, especially on the smallest models. Makes it easier to open and close under all conditions without removing gloves, and easy to tap with a hammer to loosen or lock down.

Secondary securement

All hand nuts and shackles are fitted with "R" pins as a secondary securement device, for example where inspection is limited or infrequent due to location or other factors.

Snatch Block - Tailboard

Single Sheave

Design Factor 4:1, CE marked



Art.no.	Model	WLL metric tonnes	Sheave Diameter	Wire Rope Size	Weight kg
474572012QR3	SB2S3BT	2	3" / 80 mm	5/16" - 3/8" / 8 - 10 mm	1.4
474562016QR3	SB4S4BT	4	4" / 100 mm	3/8" - 1/2" / 10 - 13 mm	4.5
474621016QR3	SB4S6BT	4	6" / 150 mm	3/8" - 1/2" / 10 - 13 mm	5.9
474624016QR3	SB4S8BT	4	8" / 200 mm	3/8" - 1/2" / 10 - 13 mm	7.7
474542024QR3	SB8S6BT	8	6" / 150 mm	5/8" - 3/4" / 16-20 mm	7.2
474369024QR3	SB8S8BT	8	8" / 200 mm	5/8" - 3/4" / 16-20 mm	11.3
474375024QR3	SB8S10BT	8	10" / 250 mm	5/8" - 3/4" / 16-20 mm	14.1
474381024QR3	SB8S12BT	8	12" / 300 mm	5/8" - 3/4" / 16-20 mm	15.4
474410028QR3	SB12S6BT	12	6" / 150 mm	3/4" - 7/8" / 20 - 22 mm	12.7
474416028QR3	SB12S8BT	12	8" / 200 mm	3/4" - 7/8" / 20 - 22 mm	19
474422028QR3	SB12S10BT	12	10" / 250 mm	3/4" - 7/8" / 20 - 22 mm	24.5
474733036QR3	SB20S8BT	20	8" / 200 mm	1" - 1 1/8" / 26 - 29 mm	20.9
474734036QR3	SB20S10BT	20	10" / 250 mm	1" - 1 1/8" / 26 - 29 mm	29.5
474742040QR3	SB30S20BT	30	20" / 500mm	1 1/8" - 1 1/4" / 29-32 mm	93



WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

6:22

All dimensions in mm

Snatch Block with Shackle

Single Sheave

Design Factor 4:1, CE marked

Art.no.	Model	WLL metric tonnes	Sheave diameter	Wire Rope Size	Weight kg
474602012QR3	SB2S3BS	2	3" / 80 mm	5/16" - 3/8" / 8-10 mm	2.3
474603016QR3	SB4S4BS	4	4" / 100 mm	3/8" - 1/2" / 10-13 mm	7.7
474620016QR3	SB4S6BS	4	6" / 150 mm	3/8" - 1/2" / 10-13 mm	9.0
474623016QR3	SB4S8BS	4	8" / 200 mm	3/8" - 1/2" / 10-13 mm	10.8
474644016QR3	SB4S10BS	4	10" / 250 mm	3/8" - 1/2" / 10-13 mm	15.0
474365024QR3	SB8S6BS	8	6" / 150 mm	5/8" - 3/4" / 16-19 mm	12.7
474371024QR3	SB8S8BS	8	8" / 200 mm	5/8" - 3/4" / 16-19 mm	16.8
474377024QR3	SB8S10BS	8	10" / 250 mm	5/8" - 3/4" / 16-19 mm	19.5
474587024QR3	SB8S12BS	8	12" / 300 mm	5/8" - 3/4" / 16-19 mm	24.5
474412028QR3	SB12S6BS	12	6" / 150 mm	3/4" - 7/8" 20-22 mm	22.7
474418028QR3	SB12S8BS	12	8" / 200 mm	3/4" - 7/8" 20-22 mm	29.0
474424028QR3	SB12S10BS	12	10" / 250 mm	3/4" - 7/8" 20-22 mm	34.5
474582028QR3	SB12S12BS	12	12" / 300 mm	3/4" - 7/8" 20-22 mm	41.7
474436028QR3	SB12S14BS	12	14" / 350 mm	3/4" - 7/8" 20-22 mm	49.9
474455028QR3	SB15S8BS	15	8" / 200 mm	3/4" - 7/8" 20-22 mm	29.0
474461028QR3	SB15S10BS	15	10" / 250 mm	3/4" - 7/8" (20-22 m	35.4
474647036QR3	SB20S8BS	20	8" / 200 mm	1" - 1 1/8" 26-29 mm	43.1
474728036QR3	SB20S10BS	20	10" / 250 mm	1" - 1 1/8" 26-29 mm	51.7
474729036QR3	SB20S12BS	20	12" / 300 mm	1" - 1 1/8" 26-29 mm	53.0
474730036QR3	SB20S14BS	20	14" / 350 mm	1" - 1 1/8" 26-29 mm	58.0
474731036QR3	SB20S16BS	20	16" / 400 mm	1" - 1 1/8" 26-29 mm	73.0
474740040QR3	SB30S20BS	30	20" / 500 mm	1 1/8" - 1 1/4" 29-32 mm	135.2



Snatch Block with Hook and Latch

Single Sheave

Design Factor 4:1, CE marked

Art.no.	Model	WLL metric tonnes	Sheave diameter	Wire Rope Size	Weight kg
475092012QR3	SB2S3BH	2	3" / 80 mm	5/16" - 3/8" / 8-10 mm	2.3
475090016QR3	SB4S6BH	4	6" / 150 mm	3/8" - 1/2" / 10-13 mm	8.6
475093016QR3	SB4S8BH	4	8" / 200 mm	3/8" - 1/2" / 10-13 mm	10.0
474655016QR3	SB4S4BH	4	4" / 100 mm	3/8" - 1/2" / 10-13 mm	7.3
474601024QR3	SB8S8BH	8	8" / 200 mm	5/8" - 3/4" / 16-19 mm	15.9
475104024QR3	SB8S10BH	8	10" / 250 mm	5/8" - 3/4" / 16-19 mm	19.0
474583024QR3	SB8S12BH	8	12" / 300 mm	5/8" - 3/4" / 16-19 mm	24.0
475109028QR3	SB12S6BH	12	6" / 150 mm	3/4" - 7/8" / 20-22 mm	20.9
474577028QR3	SB12S8BH	12	8" / 200 mm	3/4" - 7/8" 20-22 mm	27.2
474594028QR3	SB12S10BH	12	10" / 250 mm	3/4" - 7/8" 20-22 mm	32.6
474581028QR3	SB12S12BH	12	12" / 300 mm	3/4" - 7/8" / 20-22 mm	39.9
475119028QR3	SB15S8BH	15	8" / 200 mm	3/4" - 7/8" / 20-22 mm	29.9
475121028QR3	SB15S10BH	15	10" / 250 mm	3/4" - 7/8" / 20-22 mm	36.3
475123028QR3	SB15S12BH	15	12" / 300 mm	3/4" - 7/8" / 20-22 mm	44.0
475129036QR3	SB20S8BH	20	8" / 200 mm	1" - 1 1/8" / 26-29 mm	36.7
475131036QR3	SB20S10BH	20	10" / 250 mm	1" - 1 1/8" / 26-29 mm	45.3
475133036QR3	SB20S12BH	20	12" / 300 mm	1" - 1 1/8" / 26-29 mm	46.7
474823040QR3	SB30S20BH	30	20" / 500 mm	1 1/8" - 1 1/4" / 26-29 mm	125
475142040QR3	SB30S24BH	30	24" / 610 mm	1 1/8" - 1 1/4" / 29-32 mm	155



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WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

6:23

All dimensions in mm

Top Deadend Snatch Block with Shackle and Latch Single Sheave

Design Factor 4:1



Art.no.	Model	WLL metric tonnes	Sheave diameter	Wire Rope Size	Weight kg
474748016	TD4S6BS	4	6" / 150 mm	3/8" - 1/2" / 10-13 mm	10.4
474756024	TD8S8BS	8	8" / 200 mm	5/8" - 3/4" / 16-19 mm	18.1
474755024	TD8S6BS	8	6" / 150 mm	5/8" - 3/4" / 16-19 mm	15.9
474757024	TD8S10BS	8	10" / 250 mm	5/8" - 3/4" / 16-19 mm	21.3
474758024	TD8S12BS	8	12" / 300 mm	5/8" - 3/4" / 16-19 mm	26.8
474767028	TD12S10BS	12	10" / 250 mm	3/4" - 7/8" / 20-22 mm	35.8
474769028	TD12S14BS	12	14" / 350 mm	3/4" - 7/8" / 20-22 mm	50.8
475205028	TD15S10BS	15	10" / 250 mm	3/4" - 7/8" / 20-22 mm	34.9
475210028	TD15S12BS	15	12" / 300 mm	3/4" - 7/8" / 20-22 mm	43.5
474771036	TD20S14BS	20	14" / 350 mm	1" - 1 1/8" / 26-29 mm	66.2



Top Deadend Snatch Block with Shackle Double Sheave

Design Factor 4:1

Art.no.	Model	WLL metric tonnes	Sheave diameter	Wire Rope Size	Weight kg
474774016	DB8S4BS	8	4" / 100 mm	3/8" - 1/2" / 10-13 mm	13.6
474781024	DB12D6BS	12	6" / 150 mm	5/8" - 3/4" / 16-19 mm	24.5
474792028	DB15D8BS	15	8" / 200 mm	3/4" - 7/8" / 20-22 mm	32.2
474801036	DB20D10BS	20	10" / 250 mm	1" - 1 1/8" / 26-29 mm	65.3

Top Deadend Snatch Block with Hook and Latch Single Sheave

Design Factor 4:1



Art.no.	Model	WLL metric tonnes	Sheave diameter	Wire Rope Size	Weight kg
475253024	TD8S6BH	8	6" / 150 mm	5/8" - 3/4" / 16-19 mm	13.6
475257024	TD8S10BH	8	10" / 250 mm	5/8" - 3/4" / 16-19 mm	20.4
475249024	TD8S12BH	8	12" / 150 mm	5/8" - 3/4" / 16-19 mm	25.9
475261028	TD12S10BH	12	10" / 250 mm	3/4" - 7/8" / 20-22 mm	15.4
475263028	TD12S14BH	12	14" / 350 mm	3/4" - 7/8" / 20-22 mm	59.9
475270028	TD15S10BH	15	10" / 250 mm	3/4" - 7/8" / 20-22 mm	35.8
4752271028	TD15S12BH	15	12" / 150 mm	3/4" - 7/8" / 20-22 mm	44.5
475485036	TD20S14BH	20	14" / 350 mm	1" - 1 1/8" / 26-29 mm	59.9

Top Deadend Snatch Block with Hook and Latch Double Sheave

Design Factor 4:1



Art.no.	Model	WLL metric tonnes	Sheave diameter	Wire Rope Size	Weight kg
475285016	DB8D6BH	8	6" / 150 mm	3/8" - 1/2" / 10-13 mm	16.8
475301024	DB12D10BH	12	10" / 250 mm	5/8" - 3/4" / 16-19 mm	35.4
475321028	DB15D10BH	15	10" / 250 mm	3/4" - 7/8" / 20-22 mm	38.1
475323028	DB15D12BH	15	12" / 350 mm	3/4" - 7/8" / 20-22 mm	48.5
475342036	DB20D14BH	20	14" / 350 mm	1" - 1 1/8" / 26-29 mm	83.9


WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

Tilt Wall Blocks – Shackle Models

Model Number	Working Load Limit (metric tonnes)	Wire Rope Size	Sheave O.D.	Wt. kg
30 MT				
TW30S16TS	30	1" / 26 mm	16" / 406 mm	107 kg
TW30S16TS	30	1-1/8" / 29 mm	16" / 406 mm	107 kg
TW30S16TS	30	1-1/4" / 32 mm	16" / 406 mm	107 kg
TW30S16TS	30	1-3/8" / 35 mm	16" / 406 mm	107 kg
TW30S16TS	30	1-1/2" / 38 mm	16" / 406 mm	107 kg
TW30S20TS	30	1" / 26 mm	20" / 508 mm	113 kg
TW30S20TS	30	1-1/8" / 29 mm	20" / 508 mm	113 kg
TW30S20TS	30	1-1/4" / 32 mm	20" / 508 mm	113 kg
TW30S20TS	30	1-3/8" / 35 mm	20" / 508 mm	113 kg
TW30S20TS	30	1-1/2" / 38 mm	20" / 508 mm	113 kg
40 MT				
TW40S18TS	40	1" / 26 mm	18" / 457 mm	150 kg
TW40S18TS	40	1-1/8" / 29 mm	18" / 457 mm	150 kg
TW40S18TS	40	1-1/4" / 32 mm	18" / 457 mm </td <td>150 kg</td>	150 kg
TW40S18TS	40	1-3/8" / 35 mm	18" / 457 mm	150 kg
TW40S18TS	40	1-1/2" / 38 mm	18" / 457 mm	150 kg
TW40S24TS	40	1" / 26 mm	24" / 609 mm	191 kg
TW40S24TS	40	1-1/8" / 29 mm	24" / 609 mm	191 kg
TW40S24TS	40	1-1/4" / 32 mm	24" / 609 mm	191 kg
TW40S24TS	40	1-3/8" / 35 mm	24" / 609 mm	191 kg
TW40S24TS	40	1-1/2" / 38 mm	24" / 609 mm	191 kg
TW40S24TS	40	1-5/8" / 41 mm	24" / 609 mm	191 kg
TW40S24TS	40	1-3/4" / 44 mm	24" / 609 mm	191 kg
TW40S24TS	40	1-7/8" / 48 mm	24" / 609 mm	191 kg
TW40S24TS	40	2" / 51 mm	24" / 609 mm	191 kg
55 MT				
TW55S20TS	55	1" / 26 mm	20" / 508 mm	177 kg
TW55S20TS	55	1-1/8" / 29 mm	20" / 508 mm	177 kg
TW55S20TS	55	1-1/4" / 32 mm	20" / 508 mm	177 kg
TW55S20TS	55	1-3/8" / 35 mm	20" / 508 mm	177 kg
TW55S20TS	55	1-1/2" / 38 mm	20" / 508 mm	177 kg
TW55S24TS	55	1" / 26 mm	24" / 609 mm	204 kg
TW55S24TS	55	1-1/8" / 29 mm	24" / 609 mm	204 kg
TW55S24TS	55	1-1/4" / 32 mm	24" / 609 mm	204 kg
TW55S24TS	55	1-3/8" / 35 mm	24" / 609 mm	204 kg
TW55S24TS	55	1-1/2" / 38 mm	24" / 609 mm	204 kg
TW55S24TS	55	1-5/8" / 41 mm	24" / 609 mm	204 kg
TW55S24TS	55	1-3/4" / 44 mm	24" / 609 mm	204 kg
TW55S24TS	55	1-7/8" / 48 mm	24" / 609 mm	204 kg
TW55S24TS	55	2" / 51 mm	24" / 609 mm	204 kg
TW55S24TS	55	2-1/4" / 57 mm	24" / 609 mm	204 kg



6

Tailboard models available upon request

Oilfield Tubing Blocks



Art.no.	Model No.	WLL (short tons)	Sheave diameter	Number of Sheaves	*Wire rope Size	Rod Hook Clevis Working Load Limit (short tons)	Weight (lb)	Weight (Kg)
475667028QR1	TB 75T 20TTA	75	20" / 508 mm	3	7/8" / 22 mm	25	1 685	764
475688028QR1	TB 75T 20TTB	75	20" / 508 mm	3	7/8" / 22 mm	25	2 140	971
475671032QR1	TB 100T 24TTA	100	24" / 609 mm	3	1" / 26 mm	35	2 252	1 022
475689032QR1	TB 100T 24TTB	100	24" / 609 mm	3	1" / 26 mm	35	2 950	1 338
475672032QR1	TB 100Q 24TTA	100	24" / 609 mm	4	1" / 26 mm	35	2 815	1 277
475690032QR1	TB 100Q 24TTB	100	24" / 609 mm	4	1" / 26 mm	35	3 514	1 594
475731032QR1	TB 125T 24TTA	125	24" / 609 mm	3	1" / 26 mm	35	2 252	1 022
475732032QR1	TB 125T 24TTB	125	24" / 609 mm	3	1" / 26 mm	35	2 950	1 338
475729032QR1	TB 125Q 24TTA	125	24" / 609 mm	4	1" / 26 mm	35	2 815	1 277
475730032QR1	TB 125Q 24TTB	125	24" / 609 mm	4	1" / 26 mm	35	3 514	1 594
475674036QR1	TB 150T 30TTA	150	30" / 762 mm	3	1 1/8" / 29 mm	35	3 560	1 615
475691036QR1	TB 150T 30TTB	150	30" / 762 mm	3	1 1/8" / 29 mm	35	4 702	2 133
475675036QR1	TB 150Q 30TTA	150	30" / 762 mm	4	1 1/8" / 29 mm	35	3 965	1 799
475692036QR1	TB 150Q 30TTB	150	30" / 762 mm	4	1 1/8" / 29 mm	35	5 106	2 316
475757036QR1	TB175T 30TTA	175	30" / 762 mm	3	1 1/8" / 29 mm	35	3 560	1 615
475758036QR1	TB175T 30TTB	175	30" / 762 mm	3	1 1/8" / 29 mm	35	4 702	2 133
475759036QR1	TB175Q 30TTA	175	30" / 762 mm	4	1 1/8" / 29 mm	35	3 965	1 799
475760036QR1	TB175Q 30TTB	175	30" / 762 mm	4	1 1/8" / 29 mm	35	5 106	2 316

* Note: Additional Wire Rope Sizes Upon Request

- API 8C PSL1 compliant
- Concurrent hardening™ on sheave grooves
- Equipped with tapered roller bearings
- Optional cheek weight kits available
- Non-spring loaded duplex hook
- Hook positioning locking device, 8 positions
- Includes rod hook clevis as standard
- Hook latches with self-retaining bolt

Tubing Block Rod Hook Clevis



Art.no.	WLL (short tons)	Weight (lb)	Weight (Kg)	Tubing Block Capacity (short tons)
475695	25	46	21	75
475696	35	71	32	100
475696	35	71	32	125
475697	35	111	50	150

- High capacity rating
- Life cycle tested
- API 8C PSL1 compliant



WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

Manhandler Snatch Block

Design Factor 12:1, CE marked

Johnson's Manhandler Snatch Blocks (MHSB) are suitable for personnel hoisting when properly incorporated into a compliant personnel hoist system and maintained in good working order.

See the Manhandler Warnings and Use Limitations Brochure available from Gunnebo Industries and your distributor.

- Standard painted finish
- For lifting personnel
- Sealed roller bearings
- Interlocking internal design
- R-pins retainers
- Secondary tether attachment points



Art. no	Model	WLL kg	Wire rope mm	Sheave diameter mm	Weight kgs
687431014	MHSB1S8RS	680	10 - 11	200	10.4

Galvanized Derrick Block

Design Factor 4:1

- 4 - 20 metric tonnes WLL
- Standard galvanized finish
- Handling slots in the body
- Large knock-off handles
- Interlocking internal design
- For lifting materials
- R-Pin retainers

Art. no	Model	WLL metric tonnes	Wire rope mm	Sheave diameter mm	Weight kg
687710016	MHSB4S8TS	4	3/8"-1/2" / 10 - 13mm	200	15
687334018	MHSB12S10TS	12	1/2"-9/16" / 13 - 14mm	250	39.9
687853024	MHSB12S14TS	12	5/8"-3/4" / 16 - 19mm	355	58.0
693030028	MHSB20S14TS	20	3/4" - 7/8" / 19 - 22 mm	355	81.2



6



WARNING

NEVER EXCEED RATED WORKING LOAD LIMIT

6:27

All dimensions in mm

Oilfield Blocks

We have produced Johnson oilfield equipment for over five decades. Because of our expertise in sheaves and blocks, Gunnebo Industries has become a respected manufacturer for the Petroleum industry. We know the needs and we have the know-how to fulfil them with quality lifting devices. High capacity, custom engineered oilfield blocks available upon request.



Laydown Block

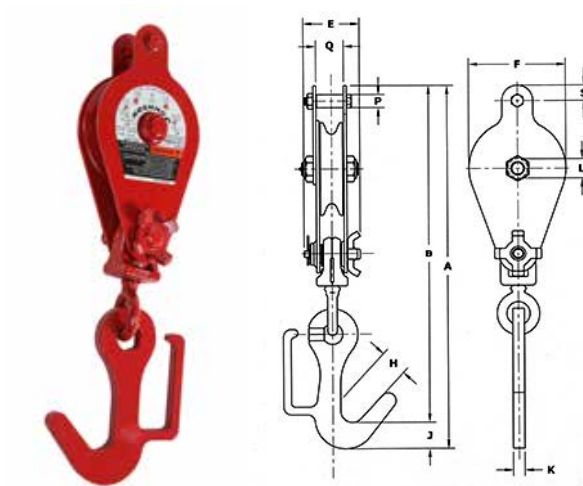
Tong Line Block

Hayfork Pulley

Guy Line Block

Laydown Block, 1 metric tonnes

Design Factor 4:1



Key to Laydown Block Model Numbers:

- LD – Laydown Block
- 1 – Working Load Limit
- S – Number of sheaves: S = 1
- 6 – Sheave diameter (In inches)
- B – Sheave Bearing: B = Bronze Bushed
- H – Type of fitting: H = Hook

To order please specify the model number

Art.no.	Model No.	Weight kg	A Overall Length	B Net Length	E Total Thickness	F Width	H Throat Opening	J Hook Thickness	K Hook Width	L Center Pin Dia.	P Pin Dia. Max	Q Width Between Ears Min	S Pin to End of Fitting Max
474812020	LD1S6BH	9,5	599	555	92	159	76	44	19	645	541	1135	683

Tong Line Block

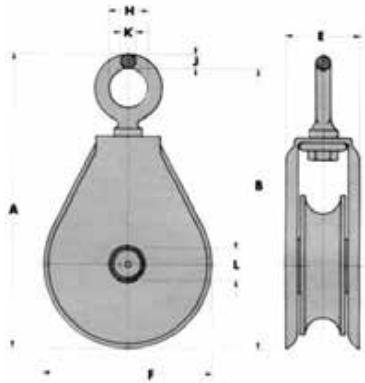
Design Factor 4:1

Art.no.	Model	WLL metric tonnes	Sheave diameter	Wire Rope Size	Weight kg
474805020	TL2.8S6RE	2.8	6" / 150 mm	Suits 13 - 16 mm wire rope	6.8
474807020	TL2.8S8RE	2.8	8" / 200 mm	Suits 13 - 16 mm wire rope	9.1



Hay Fork Pulley, 1 short ton

Design Factor 3.3:1



Key to Hay Fork Pulley Model Numbers:

- HF - Hay Fork Pulley
- 1 - Working Load Limit (U.S. Tons)
- S - Number of sheaves: S = 1
- 4 - Sheave Diameter
- B - Sheave bearing: B = Bronze Bushed | R = Roller Bearing
- E - Type of Fitting: E = Eye | H = Hook
- MR - Rope Size: MR = 32mm Manilla Rope | WR = 13 mm Wire Rope

To order please specify the model number



Art.no.	Model No.	Manilla/ Wire Rope	A Overall Length	B Net Length	E Total Thickness	F Width	H Throat Opening	J Eye Thickness	K Eye Width	L Center Pin Dia.	Weight kg
453865040	HF1S4BE-MR	32	229	218	60	130	22	11	11	25	3.2
453866016	HF1S4BE-WR	32	229	218	60	130	22	11	11	25	3.2
453869040	HF1S4RE-MR	13	229	218	60	130	22	11	11	25	3.2
453870016	HF1S4RE-WR	13	229	218	60	130	22	11	11	25	3.2

6

Guyline Block

Design Factor 3:1

Art.no.	Model	WLL metric tonnes	Sheave diameter	Wire Rope Size	Weight kg
475541020	GL 15D6	15	6" / 150 mm	Suits 16 mm wire rope	19.1
475540020	GL 7.5S 6	7.5	6" / 150 mm	Suits 16 mm wire rope	11.3



WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

6:29

All dimensions in mm

J-Latch Replacement Kit



Johnson's exclusive J-Latch is a uniquely engineered hook latch system providing outstanding flexibility and durability. Its heavy-duty design incorporates a steel beam that positively engages a special recessed area in the hook tip. The removable two-position pin allows the J-Latch to function either as a locked bar or as an automatic spring latch.

The J-Latch meets OSHA requirements and is standard equipment on Johnson crane blocks through 330 short tons, all Johnson overhaul balls, and all swivels and snatch blocks with hooks.



Art.no.	J-Latch Kit no.	Crane Block WLL (short tons)	Weight (lb)	Weight (Kg)	Hook Part Numbers
471782	JL3-5	3-5	0.2	0.09	2590 / 10390 / 10153
471784	JL10-15	10-15	0.4	0.18	2217 / 10392
471786	JL30	30	1.5	0.68	2635
471787	JL35-45	35-45	2.1	0.95	2633
471788	JL50-70	50-70	5.0	2.3	2636 / 2637
471789	JL75-110	75-110	7.3	3.3	2638 / 2639
471790	JL115-175	115-175	8.5	3.9	2600 / 2630
474206	JL200-300	200-330	35	15.9	1096 / 4012 / 11363

Note: J-Latches fit only Johnson hooks with a lock pin hole drilled through hook tip.



General Precautions

Stay within the Working Load Limits of all Gunnebo Industries products. The Working Load Limits assigned Gunnebo Industries products reflect our best engineering assessment. They should never be exceeded, regardless of the strength of the wire rope being used. Nor will we accept responsibility for any rating request which would result in a lower design factor than that we judge to be adequate. (See design factors indicated in this catalog. Standard: 4 to 1.)

Note that Working Load Limits apply only to loads held uniformly in direct tension. They do not apply to shock loads, which can multiply the static weight factor many times over. Likewise, they do not allow for hook tip loading, side loading, or for bending, torsional and related loads.

Note also that Working Load Limits apply only to new products as they are shipped from the factory. Age, type of service and environmental conditions can subsequently affect these limits, and periodic tests should be undertaken to assure the product will perform in accord with existing regulations and sound operating practices.

Do not misuse Gunnebo Industries Blocks hook latch attachments. Gunnebo Industries Blocks hook latch kits are designed solely for loose sling retention. They are not anti-fouling devices, and caution must be exercised to prevent a latch from supporting any portion of the load. Protect the latch, and thereby the workmen below, by: 1) continuous inspection to see that the latch is undamaged, in place, and properly centered on the hook; 2) taking care not to "crowd" the latch with over-sized ropes or "stiff" riggings; making sure the load is properly seated prior to each lift.

Use caution in applying standard Gunnebo Industries products to severe vibration or sharp-blow situations. Activities such as pile driving can have adverse effects upon the life of the product and, therefore, may not be covered by the warranty. Standard cheek weights and overhaul balls, for example, are not designed as load-bearing members. They can break under extreme vibration or sharp blows.

Severe working conditions can also create problems for the undersized swivel or standard block. If you anticipate such conditions, have the factory fabricate the block to your particular job requirements. Or, in the case of an existing block, take the following precautions.

- 1) Make sure the block's capacity rating is high enough. If the block has a hook and latch, consider replacing them with the swivel tee and safety anchor shackle that is available as an option on all "J" Blocks.
- 2) Remove any cast iron cheek weights and replace the existing tie bolts with shorter ones. If additional weight is required, have Gunnebo Industries supply steel plate cheek weights to your specifications.
- 3) Tack weld and all tie bolt nuts, trunnion nuts and lower fitting shank nuts to the ends of their respective shafts. Weld the center pin nut, if any, to the side plates of the block itself.

Never use the yielding point of a hook, bail or other fitting as a "gauge" of its capacity. Trusting a fitting to bend before it breaks is a dangerous practice and should never be used as an excuse to exceed the Working Load Limit.

Lift only those loads for which our product was designed. Federal crane regulations prohibit the transport of personnel on any load or wire rope attachment (OSHA 1910.180-h-3-v).

Never "two-block," or allow any block, ball, or other attachment to be drawn into another under power.

Inspect your equipment regularly for excessive wear. Wear is a fact of life, and it will eventually affect load fitting cross sections and other critical component dimensions. Since worn components do not have the same WLL rating, the responsibility for their maintenance and continued use is entirely up to the purchaser/user. To be certain, arrange with federal and local regulations. For general maintenance instructions, see page 14-16, this catalog.

When using wedge sockets note that two precautions should be taken.

1. Make sure that a sudden jolt or impact does not dislodge a wedge. When installing wire rope, always pre-load the wedge with wire rope in place. Check frequently to re-tighten or reposition as necessary.
2. Make allowance for the crimping effect common with all types of wedge sockets. Experience shows it will reduce the Safe Working Limit of a line by 20 percent.

General Precautions

Never weld any load bearing components such as hooks, shackles or other load fittings. Any welding to a load fitting could adversely affect the strength capabilities of the material.

Do not immerse standard Gunnebo Industries products in water. Contact our Engineering Department for those special product designs necessary to meet fresh and salt water applications.

Make sure your wire rope is sufficiently rated for its overhaul ball and socket assembly attachments.

Gunnebo Industries offers a variety of wedge socket overhaul balls. As with other products, some of these balls have strengths substantially greater than the ropes to which they have been applied. To be sure, consult the chart "Working Load Limits of Wire Rope." Type, application and WLL are the sole responsibility of the customer and the end user.

See website or user instructions for assembly instructions.


Meets listed current specifications and standards at time of publication of this catalogue.

Attention to the service temperature (ST) given on the WLL nameplate is required. Gunnebo Industries blocks have

a temperature at which lifting precautions are required because temperatures below the given ST affect the block material properties. Lifting above 75% of the WLL AND BETWEEN THE ST and -40F (-40C), must be done at a slow and steady rate to avoid stress spikes common in normal hoisting dynamics. 75% of the WLL must not be exceeded when lifting in temperatures below -40F unless extreme temperature materials have been used in the block construction. Blocks are available with extreme temperature materials on special request.

Do not overload individual sheave bearings by subjecting a partially reeved block to full load applications. Bearing life expectancy is based on the use of all available sheaves under maximum parts of line. For example, in a 30-ton block with three sheaves, each sheave will have a bearing capacity of 10 tons. If only one sheave is used, it is reduced to 10 tons.

Typical WLL nameplate

 JOHNSON BLOCKS		SERIAL NO.	
MODEL			
ASSY. NO.		DESIGN FACTOR	
WLL	TONS	MTONS	
WIRE ROPE	in	mm	
WEIGHT	lb	kg	
SERV TEMP	°F	°C	
GUNNEBO INDUSTRIES TULSA, OK. U.S.A.		PN: 56413	

Important safety information is provided by the two plates affixed to each product.

Typical safety caution plate

WARNING – USE CAUTION READ BEFORE USING	
Violation of these instructions will be at sole risk of user. WORKING LOAD LIMIT (W.L.L.) shown on nameplate or catalog SHOULD NEVER BE EXCEEDED. Doing so will permanently void warranty. DESIGN FACTOR is the ratio of ultimate (breaking) strength to W.L.L. Yielding will occur at loads well below ultimate. NEVER EXCEED THE W.L.L. THE OPERATOR SHALL NOT hoist, lower, swing, support or transport personnel on this hook assembly unless complying with applicable federal and local regulations. Doing otherwise is at the sole risk of user. See other safety and maintenance instructions in JOHNSON BLOCKS catalog. Do not paint over or remove this plate or nameplate.	
Gunnebo Industries Corp. Tulsa, Oklahoma	
PN-1160	160

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WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

Inspection and Maintenance

Company policy Regarding Product Repair and Parts Replacement

1. Any claim arising from the use of Gunnebo Industries products is subject to the strict performance of the inspection and maintenance activities outlined in the following schedules. Maintenance instructions are shipped by the factory with each product or invoice line item and are available in quantity at no extra charge.
2. Should any Gunnebo Industries product become worn or deficient, any attempt at unauthorized field repairs will be taken entirely at the user's own risk and cost. A better approach is to call the Tulsa plant in advance to discuss the specifics. Then, to return the item in question, the freight prepaid, for a repairs cost estimate.
3. Gunnebo Industries name plates and caution plates must remain in place and visible at all times. In the event either of these plates is lost or rendered illegible, arrangements for their replacement are to be made promptly with the factory.

Nut/Retainer Checklist

All nuts, set screws, and other retainers should be checked for tightness every 14 to 30 days, depending on the operating conditions. Review general precautions relating to high vibration application.

Center Pin Retaining Nuts

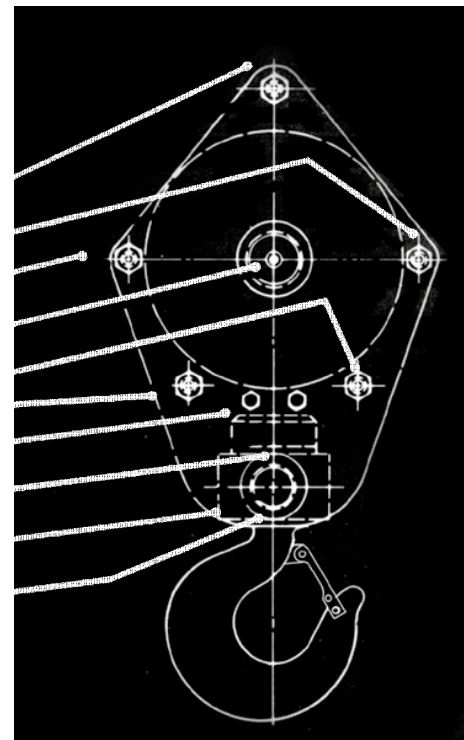
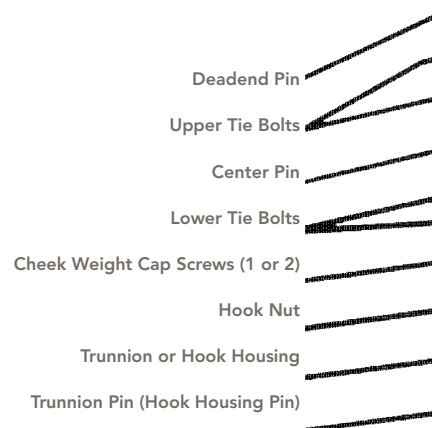
Check regularly for any signs of backing off due to high

vibration or other causes. If the block has tapered roller bearings (as indicated by T on name plate), tighten the center pin retaining nut(s) until all side play has been eliminated from the sheaves and re-set the lock type set screws.

For other sheave bearing types (bronze bushing – B: roller bearing – R), a running clearance of 1/32 inches (0.79 mm) at the sheave hub is required. Since to ignore this clearance is to risk sheave bearing damage, it may be approximated as follows:

- (1) Slowly tighten the retaining nut(s), testing the roller capability of the sheaves with your hand as you do so.
- (2) When there is any one of the sheaves that can no longer be turned in this fashion, stop. Back off the nut(s) just enough so that all sheaves will rotate freely. Then re-stake or tighten all set screws as applicable.

Note that any re-working of a block without prior factory authorization will be done entirely at the user's own risk and expense.



Providing innovative, safe and reliable solutions since 1764



Inspection and Maintenance

- Cheek Weight Cap Screws**
 Cap screws should always be tightened down and locked with a self-locking jam nut inside the side plate, or with a lock washer located under the head of the cap screw (all the way inside the cheek weight counter-sink hole).
- Cotter Pins**
 Where furnished, cotter pins must always remain in place. Replace any damaged or missing pins before resuming work.
- Load Fitting Set Screws**
 These screws are staked in place by the factory. Should they attempt to back out, re-tighten and re-stake thoroughly.

NOTE: A GALLED HOOK NUT CANNOT BE FORCED WITHOUT ENDANGERING THE THREADS. In the event foreign matter has caused the nut assembly to gall, locking it in place, return the product, prepaid, to our plant. Or call us for instructions.
- All Side Nuts With Set Screws**
 Where used with center pin nuts, hook trunnion pin nuts, etc., set screws will be jammed radially into the threads by the factory. Check all for tightness and tighten as necessary to re-establish the jamming action.
- All Side Nuts Without Set Screws**
 Any tie bolt or other nut that does not utilize set screws should be checked to see that it remains in its original position. Re-tighten and re-stake as necessary. If still uncertain: a) tack weld any center pin nuts to their respective side plates; b) weld any trunnion nuts to the ends of the pins themselves.
- Spirolox Retaining Rings**
 Where furnished on the ends of block center pins and trunnions, these rings must remain in place. If damaged or missing, contact the factory for a replacement. Do not resume work.
- Tie Bolt Nuts – Upper**
 Inspect and re-tighten firmly as required. Re-stake thoroughly.
- Tie Bolt Nuts – Lower**
 Re-tighten any loose nuts firmly. If originally staked, re-stake. If held by set screws, reset these screws securely.
- Trunnion Pin Nuts – Lower**
 Re-tighten nut to the point where the trunnion is just able to rotate. Secure the set screw.
- Swivel Barrel Set Screws**
 Check for any signs of backing out. Re-tighten and re-stake thoroughly as necessary. If you still have reservations, replace the swivel and have it returned to the factory for inspection.

Lubrication Schedule

Lubrication Frequency		Item
Under Continuous Operating Conditions	Under Intermittent Operating Conditions	
24 hours	14 days	Swivels and swivel overhaul balls
8 hours	14 days	Blocks with bronze bushed sheaves
24 hours	14 days	Blocks with roller bearing sheaves

Lubricant: either sodium or lithium base greases may be used.
 Soda soap base greases are more fibrous and cohesive.
 Lithium soap base greases are particularly applicable where excessive moisture is present.

Inspection and Maintenance

Inspection and Maintenance Schedule/General

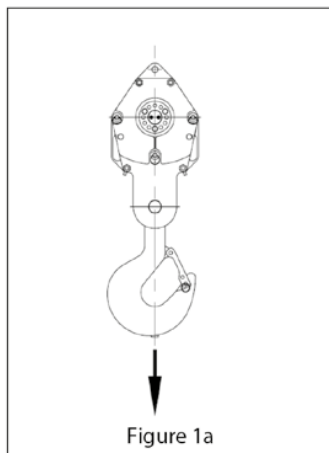
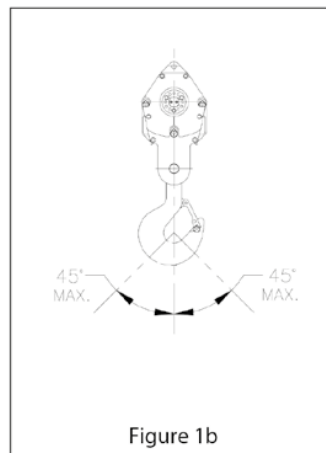
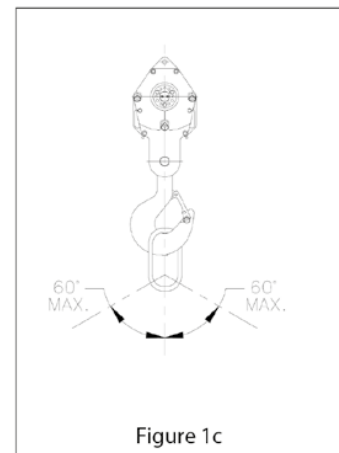
Inspection frequency	Item	What to check for	Appropriate Action
Daily	Hook Latch	Missing or off center	Replace immediately
		Permanent deformation or stretching	A clear indication of overload. Take out of service immediately and replace.
	Hooks and Other Fittings	Cracks or other defects	Any suspicion of fractures calls for an immediate investigation and, if necessary, the replacement of the defective part. USAS B 30.5-1968 suggests that hooks should be tested at least once a year by magnafluxing. X-ray or other qualified method. Intermittent tests can be conducted, however, by the readily available, though less accurate, oil stain method. (Immerse hook in lube oil, wipe dry; whitewash surface; inspect for signs of fracture seepage.)
14 days Under Continuous Operating Conditions	Swivels	End Play or Gap of more than 1/16" (1.6 mm) along the Axis	Remove from service immediately.
	Plates	Side plate spread Looseness	Indicates overload. Remove for repairs. Sign that retaining nuts may be backing out. Tighten and re-stake in accord with Nut/Retainer Checklist.
30 days Under Intermittent Operating Conditions	Sheaves	Misalignment, as evidenced by wobble or uneven groove flange wear	Indicates severe bearing wear. Remove from service and forward to factory for repairs estimate.
		Striations or Corrugations in sheave groove	Result of rope wear. If serious, have factory remachine or replace.

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WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

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INFORM A RIGGER – PASS THE WORD

Figure 1a

Figure 1b

Figure 1c

When using a latch to close the throat opening of the hook, care shall be taken that the rigging load is not carried by the latch. Hook latches aid in the retention of loose slings under slack rigging conditions only and are not intended to be anti-fouling devices during lifting. Such fouling is extremely dangerous and shall be avoided by proper rigging and controlled lifting dynamics.

- **Never use a worn-out or damaged crane block.** Avoid structural or mechanical failure.

Each day before use, the crane block and its fasteners and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during crane block use where service conditions warrant. Damaged or defective crane blocks shall be immediately removed from service. In addition to the daily inspection, a thorough periodic inspection shall be made on a regular basis, to be determined on the basis of (A) frequency of crane block use; (B) severity of service conditions; (C) nature of lifts being made; and (D) experience gained on the service life of crane blocks used in similar circumstances.

Such inspections shall in no event be at intervals greater than once every 12 months.

The following findings shall be cause for crane block removal from service until repaired or replaced;

- Elongated center pin and hook trunnion holes exceeding 5% of original diameter,
- Bent side plates,
- Severe corrosion pitting,
- Corroded hook threads,
- Bent or twisted hook,
- Welding on hook,
- Damaged or dysfunctional hook latch,
- Cracks in sheaves, side plates, cheek weights, center pins, hook trunnion, dead end connections and hook,
- Material loss due to wear exceeding 10% of original section,
- Sheave wobble,
- Deeply corrugated (not imprinted) sheave grooves or,
- Sheave wire rope groove diameter smaller than 2.5% or greater than 10% of the nominal wire diameter,

- Missing or damaged retaining nuts, snap rings, set screws, cotter pins, tie bolts, hook nut cap screws and lock wire or,
- Missing or illegible rating and warning tags.

The following findings shall be cause for crane block removal from service until corrected;

- Loosened tie bolt nuts, center pin round nuts, cheek weight cap screws and hook nut cap screws. Tie bolt nuts to be torqued to 35-40 ft-lb and restaked, all other fasteners wrench tight.
- Lack of sheave and hook bearing lubrication. Continuous operation: lubricate bushings every 8 hours and roller bearings every 24 hours. Intermittent operation: lubricate bushings and bearing every 14 days.

- **Never use a crane block in extreme temperatures.** Sudden failure can occur.

Crane blocks shall not be heated above 180 degrees F (82 °C). Crane block Working Load Limit is valid between 180 degrees F and service temperature given on the identification tag with normal lifting precautions.

Additional lifting precautions are required below the service temperature given on the identification tag because cold temperature begins to affect the crane block material properties.

Lifting above 75% of the Working Load Limit (WLL), at temperatures between the service temperature given on the identification tag and -40 degrees F (-40 °C), must be done at a slow and steady rate to avoid stress spikes common in normal hoisting dynamics.

75% of the WLL must not be exceeded, when lifting in temperatures below -40 degrees F.

- **Never use a crane block in alkaline or acidic conditions.**

Gunnebo Industries Crane Blocks shall not be used in alkaline or acidic conditions. Resulting metal embrittlement and accelerated corrosion can cause sudden failure.

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 P/N 63516 REV -



NEVER EXCEED RATED WORKING LOAD LIMIT

Crane Block Warnings and Use Limitations

This document contains warnings and use limitation information applicable to Gunnebo Industries Crane Blocks and is furnished with all Gunnebo Industries shipments. Crane Block distributors and lift system manufacturers must pass on this information in their warnings and use limitation literature where Gunnebo Industries Crane Blocks are involved.

Never use a crane block without training. OSHA regulation

Protect yourself and others

- **NEVER** use a crane block without training.
- **ALWAYS** inform yourself ... Ask your employer for the manufacturer's crane block use limitations.
- **ALWAYS** comply with applicable Country regulations.
- **ALWAYS** know load weight.
- **NEVER** use a crane block without a legible rated load tag.
- **NEVER** overload a crane block.
- **NEVER** ride on a crane block or load.
- **NEVER** use an improperly rigged crane block.
- **NEVER** use a worn – out or damaged crane block.
- **NEVER** use a crane block in extreme temperatures.
- **NEVER** use a crane block in acidic conditions.

requires responsible work practice.

“The employer shall permit only those employees qualified by training or experience to operate equipment or machinery.” OSHA 1926.20 (b) (4).

“Employee shall be knowledgeable of all warnings and cautions on the crane block.” - OSHA 1910 Subpart N and 1926 Subpart N.

Employee training should include information given in OSHA training literature, ASME B30.10- 2005 Hook Safety Standards, ASME B30.5-2007 Mobile and Locomotive Cranes and Gunnebo Industries DVD of “Recommended Inspection Practices for Johnson Lifting Accessories” and this document.

Always inform yourself. Ask your employer for crane block safe use instruction.

“The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to injury.”-OSHA 1926.21 (b) (2).

Always comply with applicable Country regulations. Federal and Local regulations govern worksite activity.

Understand all governing laws and safety standards before use of crane blocks. OSHA 1910.180 and 1926.550 regulates product requirements, operating practices, product identification, inspection requirements, and use limitation obligations.

“If a particular standard is specifically applicable to a condition, practice, means, method, operation, or process, it shall prevail over any different general standard...” OSHA 1910.5 (c) (1).

Contact OSHA at 800-321-6742, www.osha.gov and ASME at 800-843-2763, www.asme.org for reference assistance.

Always know load weight. Avoid crane block failure.

The weight of the load shall be within the rated load of the crane block.

Weight of the load to be lifted must be known for determination of proper reeving and rigging of crane block.

- **Never use a crane block without a legible identification**

tag. Crane block tag is required to insure proper block application.

“All hook and ball assemblies and load blocks shall be labeled with their rated capacity and weight.”- ASME B30.5-1.7.6.

- **Never overload a crane block.** Understand Working Load Limits. Overload can cause crane block failure or permanent damage.

Maximum crane block Working Load Limit (Rated Load) is valid only when all crane block sheaves are reeved. Partial reeving requires a Maximum Working Load Limit reduction; $WLL_{PR} = WLL_{MAX}$ times the No. of reeved sheaves divided by the maximum No. of sheaves.

- **Never ride on a crane block or load.** Avoid death or injury.

“All employees shall be kept clear of loads about to be lifted and of suspended loads.” -OSHA 1926.550 (a) (19).

“No hoisting, lowering, swinging or traveling shall be done while anyone is on the load or hook assembly. ” -OSHA 1910.180 (h) (3) (v).

The use of a crane block to hoist employees on a personnel platform is prohibited. Except when the erecting, use, and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold, would be more hazardous or is not possible because of structural design or worksite conditions. - OSHA 1926.550 (g) (2).

Follow Crane Operators’ Manual for personnel lifting requirements.

Never rig a crane block to a crane or a load improperly. Avoid dropped loads and crane block damage.

Crane block shall not be;

- allowed to “two-block”,
- unsymmetrically reeved,
- used with reeving off lead greater than 2.5 degrees,
- used with a single part of line unless expressly permitted,
- used as a wrecking ball,
- used to drag a load,
- subjected to high vibration,
- immersed in water.

Hook load rigging shall be centered in the base (bowl/saddle) of the hook to avoid point loading of the hook and rigging disengagement. (See figure 1a, 1b, & 1c.)

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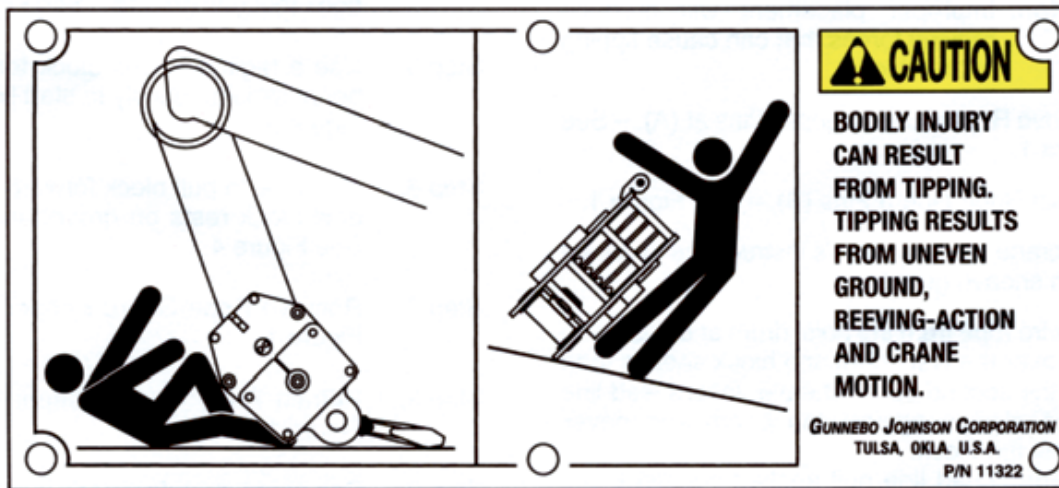


WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

"Quick Reeve" Product Advisory

AVOID BODILY INJURY. Read and understand this safety advisory before attempting to install or remove wire rope from a Gunnebo Industries Model QRJ "Quick Reeve" block.

This advisory is intended for the attention of all "Quick Reeve" Crane Block users and should be forwarded to the field with the product.



This advisory is a **CAUTION** concerning the potential for **BODILY INJURY** resulting from tipping of the "Quick Reeve" Crane Block during crane to block reeving. Crane block tipping can result from uneven ground, reeving action and crane motion.

The Gunnebo Industries "Quick Reeve" Crane Block is stable, when positioned and reeved, in accordance with the following instructions.

Contact the factory at 1-800-331-5460 with any questions or for additional copies of this safety advisory.

P/N 51695, Rev. C Form PSA-1, Rev. 01/08

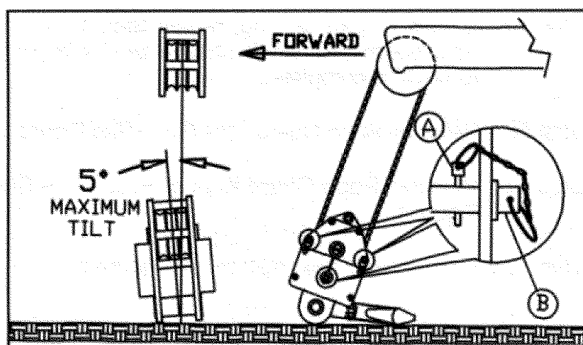


Figure 1

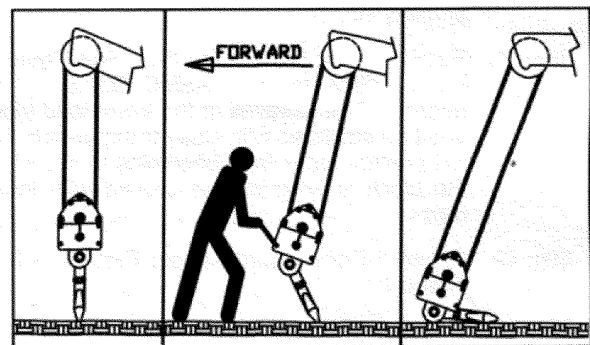


Figure 2

Figure 3

Figure 4

P/N 51695, Rev. C
Form PSA-1, Rev. 02/06

Overhaul Ball Warnings and Use Limitations

This document contains warnings and use limitation information applicable to Gunnebo Industries Overhaul Ball Assemblies and is furnished with all Gunnebo Industries shipments. Overhaul Ball distributors and lift system manufacturers must pass on this information in their warnings and use limitation literature where Gunnebo Industries Overhaul Ball Assemblies are involved.

Protect yourself and others

- **NEVER** use an overhaul ball without training.
- **ALWAYS** inform yourself ... Ask your employer for the manufacturer's overhaul ball use limitations.
- **ALWAYS** comply with applicable Country regulations.
- **ALWAYS** know load weight.
- **NEVER** use an overhaul ball without a legible rated load tag.
- **NEVER** overload an overhaul ball.
- **NEVER** ride on an overhaul ball or load.
- **NEVER** use an improperly rigged overhaul ball.
- **NEVER** use a worn – out or damaged overhaul ball.
- **NEVER** use an overhaul ball in extreme temperatures.
- **NEVER** use an overhaul ball in acidic conditions.

- **Never use an overhaul ball without training.** OSHA regulation requires responsible work practice.

"The employer shall permit only those employees qualified by training or experience to operate equipment or machinery." - OSHA 1926.20 (b) (4).

"Employee shall be knowledgeable of all warnings and cautions on the overhaul ball." - OSHA 1910 Subpart N and 1926 Subpart N.

Employee training should include information given in OSHA training literature, ASME B30.10-2005 Hook Safety Standards, ASME B30.5-2007 Mobile and Locomotive Cranes and Gunnebo Industries DVD of "Recommended Inspection Practices for Johnson Lifting Accessories" and this document.

- **Always inform yourself.** Ask your employer for overhaul ball safe use instruction.

"The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to injury." - OSHA 1926.21 (b) (2).

- **Always comply with applicable Country regulations.** Federal and local regulations govern worksite activity.

Understand all governing laws and safety standards before use of overhaul ball. OSHA 1910.180 and 1926.550 regulates product requirements, operating practices, product identification, inspection requirements, and use limitation obligations.

"If a particular standard is specifically applicable to a condition, practice, means, method, operation or process, it shall prevail over any different general standard..." - OSHA 1910.5 (c) (1).

Contact OSHA at 800-321-6742, www.osha.gov and ASME at 800-843-2763, www.asme.org for reference assistance.

- **Always know load weight.** Avoid overhaul ball failure.

The weight of the load shall be within the rated load of the overhaul ball.

Weight of the load to be lifted must be known for determination of proper rigging of overhaul ball.

- **Never use an overhaul ball without a legible identification tag.** Overhaul ball tag is required to insure proper ball application.

All hook and ball assemblies and load blocks shall be labeled with their rated capacity and weight. - ASME B 30.5-1.7.6.

- **Never overload an overhaul ball.** Understand Working Load Limits. Overload can cause overhaul ball failure or permanent damage.

- **Never ride on an overhaul ball or load.** Avoid death or injury.

"All employees shall be kept clear of loads about to be lifted and of suspended loads." - OSHA 1926.550 (a) (19).

"No hoisting, lowering, swinging or traveling shall be done while anyone is on the load or hook assembly." - OSHA 1910.180 (h) (3) (v).

The use of an overhaul ball to hoist employees on a personnel platform is *prohibited*. Except when the erecting, use, and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold, would be more *hazardous* or is *not possible* because of structural design or worksite conditions.

Follow crane operator's manual for proper personnel lifting requirements.

- **Never rig an overhaul ball to a crane or a load improperly.** Avoid dropped loads and overhaul ball damage.

Overhaul ball shall not be;

- allowed to "two-block",
- used as a wrecking ball,
- used to drag a load,
- subjected to high vibration or
- immersed in water.

Hook load rigging shall be centered in the base (bowl/saddle) of the hook to avoid point loading of the hook and rigging disengagement. (See figure 1a, 1b, & 1c).

When using a latch to close the throat opening of the hook, care shall be taken that the rigging load is not carried by the latch. Hook latches aid in the retention of loose slings under slack rigging conditions only and are not intended to be anti-fouling devices during lifting. Such fouling is extremely dangerous and shall be avoided by proper rigging and controlled lifting dynamics.

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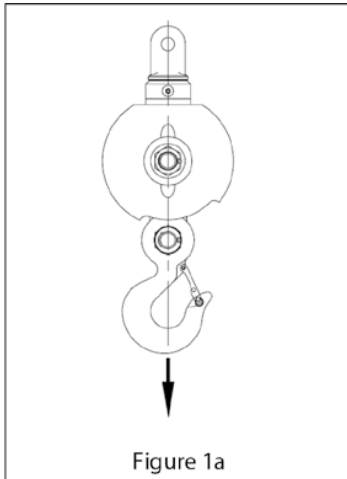


Figure 1a

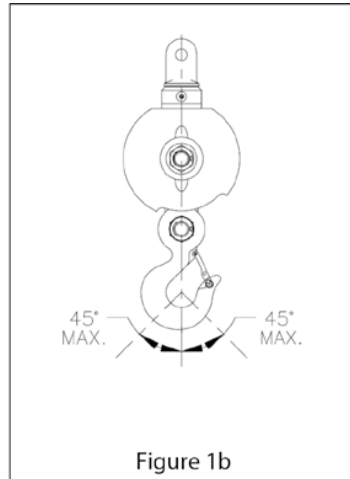


Figure 1b

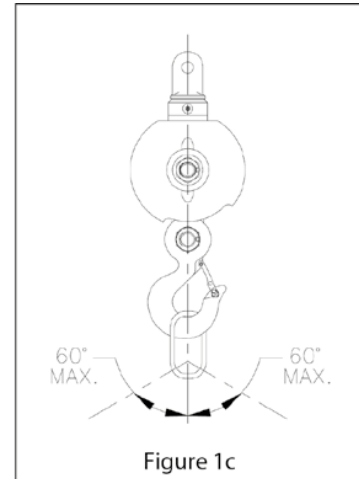


Figure 1c

- **Never use a worn-out or damaged overhaul ball.** Avoid structural or mechanical failure.

Each day before use, the overhaul ball and its fasteners and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during overhaul ball use where service conditions warrant. Damaged or defective overhaul ball shall be immediately removed from service. In addition to the daily inspection, a thorough periodic inspection shall be made on a regular basis, to be determined on the basis of (A) frequency of overhaul ball use; (B) severity of service conditions; (C) nature of lifts being made; and (D) experience gained on the service life of overhaul ball used in similar circumstances. Such inspections shall in no event be at intervals greater than once every 12 months.

The following findings shall cause overhaul ball removal from service until replaced or repaired;

- Elongated ball pin holes, hook latch pin holes and swivel eye exceeding 5% of original diameter,
- Swivel end play gap exceeding .08". Excessive end play indicates damaged internal set screw, (See Figure 2)
- Bent connector plates,
- Severe corrosion pitting,
- Bent or twisted hook,
- Welding on hook,
- Damaged or dysfunctional hook latch,
- Cracks in connector plates, ball casting, ball pin, hook latch pin, swivel and hook,
- Material loss due to wear exceeding 10% of original section,
- Loose, missing or damaged retaining nuts, cotter pins or swivel set screws or
- Missing or illegible rating and warning tags.

The following findings shall cause overhaul ball removal from service until corrected;

- Lack of swivel bearing lubrication. Continuous operation: Lubricate every 24 hours. Intermittent operation: Lubricate every 14 days.

- **Never use an overhaul ball in extreme temperatures** Sudden failure can occur.

Overhaul ball shall not be heated above 180 degrees F. (82 °C). Overhaul ball Working Load Limit is valid between 180 degrees F and service temperature given on the identification tag with normal lifting precautions.

Additional lifting precautions are required below the service temperature given on the identification tag because cold temperature begins to affect the overhaul ball material properties.

Lifting above 75% of the Working Load Limit (WLL), at temperatures between the service temperature given on the identification tag and -40 degrees F (-40 °C), must be done at a slow and steady rate to avoid stress spikes common in normal hoisting dynamics.

75% of the WLL must not be exceeded, when lifting in temperatures below -40 degrees F (-40 °C).

- **Never use an overhaul ball in alkaline or acidic conditions.**

Overhaul balls shall not be used in alkaline or acidic conditions. Resulting metal embrittlement and accelerated corrosion can cause sudden failure.

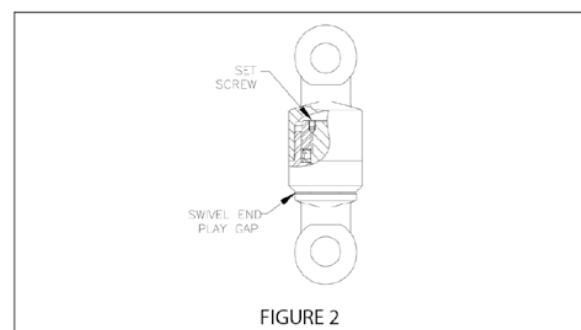


FIGURE 2

Wedge Sockets

Gunnebo Industries open wedge sockets combine positive attachment with optimum versatility.

Easy-to-change Gunnebo Industries wedge sockets consist of a normalized and tempered steel body, a steel bar stock pin with cotters, and a ductile iron wedge to specific wire rope size. Together, wedge and body act as a vise which grips the wire rope and locks it in place.

Gunnebo Industries wedge sockets may be used with multiple sizes of wire rope.

To switch from an overhaul ball application calling for a 7/8-inch (22 mm) wire rope to a block application calling for a 1-inch (25 mm) rope, it is not necessary to buy a complete wedge socket. A simple change-out of wedges will suffice. Of the 18 models of wedge sockets offered by Gunnebo Industries, all can be adapted to at least two sizes of wire rope. The WS-4 and WS-5, in fact, will adapt to three sizes.

Be sure that the wedge is correct for the wire rope size.

Each socket manufactured by Gunnebo Industries has a model number and acceptable rope sizes cast into its body. Each wedge has the rope size and particular socket model it will fit. Wedges are also coded by means of color. Red indicates that the wedge is for the largest size of wire rope stated on its socket. Green indicates that the Wedge is for the smallest size of rope stated on its socket. Blue indicates that the wedge is a rope size of 9/16 (14 mm) inches; black for 7/16 (11 mm) inches.

When using wedge sockets note that two precautions should be taken.

1. Make sure that a sudden jolt or impact does not dislodge a wedge. When installing wire rope, always pre-load the wedge with wire rope in place. Check frequently to re-tighten or re-position as necessary.
2. Make allowance for the crimping effect common with all types of wedge sockets. Experience shows that it will reduce the Safe Working Limit of a line by 20 percent.

Effect of Crimping Action of Wedge Socket on Safe Working Limits of Wire Rope*

Wire Rope O.D. (Inches)	Weight Per Foot (pounds)	Line S.W.L. Without Wedge Socket (short tons)	Line S.W.L. With Wedge Socket (short tons)
3/8" (10 mm)	26 (12 kg)	1.6	1.3
1/2" (13 mm)	46 (21 kg)	2.9	2.3
9/16" (14 mm)	59 (27 kg)	3.6	2.9
5/8" (16 mm)	72 (33 kg)	4.5	3.6
3/4" (19 mm)	1.04 (0.47 kg)	6.4	5.1
7/8" (22 mm)	1.42 (0.64 kg)	8.7	7.0
1" (26 mm)	1.85 (0.84 kg)	11.2	9.0
1-1/8" (32 mm)	2.34 (1.1 kg)	14.1	11.3
1-1/4" (32 mm)	2.89 (1.3 kg)	17.4	13.9
1-1/2" (38 mm)	4.16 (1.9 kg)	24.7	19.8

*Figures based on 20% reduction in safe working limit of single line having 4 to 1 design factor.



WARNING
NEVER EXCEED RATED WORKING LOAD LIMIT

Snatch Block Warnings and Use Limitations

This document contains warnings and use limitation information applicable to Gunnebo Industries Snatch Blocks and is furnished with all Gunnebo Industries shipments. Component distributors and lift system manufacturers must pass on this information in their warnings and use limitation literature where Gunnebo Industries Snatch Blocks are involved.



Protect yourself and others

- **NEVER** use a Snatch Block without training.
- **ALWAYS** inform yourself ... Ask your employer for the Snatch Block safe use instructions.
- **ALWAYS** comply with applicable Federal and local regulations.
- **ALWAYS** know applied lift system load.
- **NEVER** use a Snatch Block without a legible product identifier.
- **NEVER** overload a Snatch Block.
- **NEVER** ride on a Snatch Block or load.
- **NEVER** rig a Snatch Block improperly.
- **NEVER** use a worn – out or damaged Snatch Block.
- **NEVER** use a Snatch Block in extreme temperatures.
- **NEVER** use a Snatch Block in alkaline acidic conditions.

- **Never use a Snatch Block without training.** OSHA regulation requires responsible work practice.

“The employer shall permit only those employees qualified by training or experience to operate equipment or machinery” – OSHA 1926.20 (b) (4).

Employee training should include information given in OSHA training literature, ASME B30.26 - 2010 “Rigging Hardware” standard, lift system manufacturer’s literature, Gunnebo Industries DVD of “Recommended Inspection Practices for Johnson Lifting Accessories”, and this document.

- **Always inform yourself.** Ask your employer for Snatch Block safe use instruction.

The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury” – OSHA 1926.21 (b) (2).

- **Always comply with applicable Federal and local regulations.** Federal and local regulations govern worksite activity.

Understand all governing laws and safety standards before use of Snatch Blocks in lift systems.

“If a particular standard is specifically applicable to a condition, practice, means, method, operation, or process, it shall prevail over any different general standard...” — OSHA 1910.5 (c) (1).

Contact OSHA at (800) 321-6742, or www.OSHA.gov and ASME at (800) 843-2763, or www.ASME.org for reference assistance.

- **Always know applied lift system load.** Avoid improper Snatch Block selection.

Lift system load (LSL) applied to the snatch block fitting is

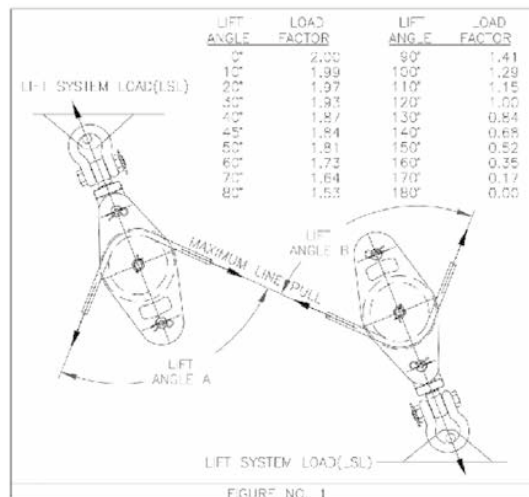
based upon line pull (LP) and load factor (LF) for a given lift angle (LA).

Maximum LSL applied to snatch block fitting must be known for proper snatch block selection.

LSL is calculated by the following formula:

$LSL = (LP) * (LF)_{LA}$ See illustration and table in Figure No. 1. LSL must be calculated for each snatch block in the lift system.

Snatch Block Working Load Limit (WLL) with appropriate design factor shall be equal to or greater than the corresponding maximum LSL.



- **Never use a Snatch Block without a legible product identifier.** Product Identification is required to insure proper application.

Snatch Blocks have a product identifier giving WLL, design factor, wire rope range, and important user warnings. The information is required for confirmation of proper application prior to use.

Example of Product Identifier



Johnson Sheaves

- Forged sheaves • Cast sheaves •
- Machined sheaves •



Johnson Sheaves

Johnson Sheaves by Gunnebo Industries	7:3
Applications	7:4
Sheaves Overview	7:5
Information needed for quotation	7:6
Tapered roller bearing sheaves	7:7
Finish bored sheaves	7:8 - 7:9
Sheaves with PD 18x steel wire rope diameter	7:10
Sheaves with PD 19x steel wire rope diameter	7:11
Sheaves with PD 20x steel wire rope diameter	7:12
Sheaves with PD 22x steel wire rope diameter	7:13
Sheaves with PD 24x steel wire rope diameter	7:14
Sheaves with PD 25x steel wire rope diameter	7:15



WARNING:

Failure to read, understand and comply with the instructions, working load limits and specifications in this publication may result in serious injury or damage to property.



A solution provider since 1764

With more than 80 years experience in the sheaves business and a 250-year legacy in the lifting and rigging industry, Gunnebo Industries has an in-depth knowledge of the industry, and an extensive product offering to all markets and applications.

- At Gunnebo Industries, we develop and manufacture sheaves for all purposes. It is our commitment to always **provide optimized solutions** for our customers' specific needs. Regardless if it's time, price, weight, volume or something else, we will supply the best possible solution based on application and need.
- With production facilities in USA and Europe, **we serve customers on a global scale**, always close, for the best possible support.
- We have one of the **world's largest engineering** staffs within our field, in order to be able to offer **flexible design, quick delivery and long-lasting high quality** products. The combination of our long heritage of technical knowhow and innovation, together with an extensive engineering team, makes our offering unique.
- We offer our Johnson sheaves **from 76 mm, up to 7.5 m and 20 000 kg**. We have standard sheaves as well as customized solutions. We offer sheaves in all geographies, for every application. Our sheaves have a proven track record and have been in use in the industry for decades.

As experts within the sheaves business, we support our customers to find the best solution for their specific need, every day, everywhere.

Johnson Sheaves by Gunnebo Industries

Solutions for every application and all conditions

Johnson sheaves are highly trusted, preferred and utilized by many crane and rig manufacturers around the world. Our sheaves are designed to optimize performance and quality, providing a number of advantages to our customers;

Superior durability

- Made of high-strength materials to handle tough applications
- Optimized material specification enables the best possible weight, sheave performance and service life

Optimal design

- Superior stress flow to assure high resistance against fatigue
- Optimized weight to fit project needs
- Adjustable designs to provide capacity in extreme load case
- Design to optimize product functionality

Reliable delivery

- Flexibility in production to shorten lead-times
- Custom sheaves can be made in small and large quantities with virtually no tooling cost
- We can also build to your forecast to maximize the efficiency of your production schedule and shorten lead time

Longer life

- Deep hardening of the sheave groove extends life of the rope and the sheave
- Broad range of hardnesses to accommodate wire and sheave properties for maximum service life
- Our unique concurrent hardening can be provided for forged sheaves 0.6 m - 1.8 m which provides the additional benefit of hardened groove walls

World-class engineering team

- Engineering team with comprehensive know-how of the rules and regulations for most class societies - DNV GL, ABS, API, CCS, BV, LRS, Machine Directive
- Capacity to provide solutions for extraordinary project specifications, up to 20 000 kg and 7.5 meters
- Specialists in delivering large sheave diameters with FEM analysis. Design reports available upon request



Applications

Gunnebo Industries offers a wide range of sheaves, for all applications. Below are some of the most common applications where we serve our customers with different sheaves. Sheaves can be manufactured for ForgeFab, cast ductile iron, cast steel or welded assemblies depending on the size, quantity, delivery and application requirements.

Offshore crane sheaves – Specially designed to handle heavy loads and large fleet angles. Can be designed to meet the requirements of API 2C, ABS, DNV, LR, BV and CCS. Sizes up to 7.5 m in diameter available.

Drilling and well servicing sheaves – Manufactured to API specification 8C to withstand the high intensity application on drilling and well servicing rigs. These sheaves are used in crown assemblies, drilling/traveling blocks and tubing blocks. These are available from 0.5 m - 2 m in diameter.

Riser tensioning and motion compensation sheaves – Fully optimized for the high load and long life requirements of an offshore environment. Available up to 2.7 m outer diameter.

Launch and recovery systems (LARS) sheaves – Optimized weight/capacity ratio and come in standard outer diameter size of 1580 mm, or as customized sizes. These are manufactured with a standard groove size with other sizes available upon request.

Mobile crane sheaves – Used in boom points, boom extensions and hook blocks. Available in variety of sizes from 0.25 m to 1.2 m in diameter and can be grooved for up to 38 mm wire rope ideally suited for heavy lifting.

Overhead crane sheaves - Used both in upper sheave nests and hook blocks and are designed for continuous heavy use. Sizes available from 127 mm up to 1.2 m in diameter.

Mooring sheaves - Designed to be used in an offshore environment for towing, pulling and anchoring of ships. Available in 457 mm to 1.5 m in diameters.

Deflector sheaves - Used in a fairleader block to accommodate the directional change of the wire rope. Available in 76 mm up to 3 m in diameter.

General industrial sheaves – Built for a high variety of applications where wire rope is used to lift or pull such as tilting and lifting of flare stacks, roll on and roll off truck bodies, tower erection and anywhere the change of direction of wire rope is required.



For information about our forged Johnson wire rope sheaves, please contact your Gunnebo Industries representative.

High quality sheaves - flexible design

All sheaves are designed and manufactured according to customer requirements and applicable class regulations. The sheaves can be supplied with bearings, bushings or as plain bore. If required, the groove for the steel wire rope can be hardened up to a hardness of 550 HB. Sheaves can be compliant with the following classes: DNV GL, ABS, Lloyd's Register, BV, CCS, API.

Forged sheaves

Our forged sheaves are field proven and have a short manufacturing time. Forging provides good material flow in the groove providing longer service life for both sheave and wire rope.

- Size: 0.25 - 1.8 m
- Ideal for any application, especially high use applications
- 2 - 6 weeks manufacturing time. Suitable for any quantity
- Steel construction sustains low temperatures

Cast sheaves, iron

We offer cast sheaves in iron, with a flexible design in any size. Cast design provides a smooth stress flow giving long durability.

- Size: 0.2 - 7.5 m
- Flexible design, casting provides smoother stress flow, lower weight and can be optimized to specific applications
- 6 - 14 weeks manufacturing time. Minimum order might apply

Cast sheaves, steel

Our cast sheaves, made in steel, enables a flexible design and are available in any size. These have similar advantages as to our casted sheaves in iron.

- Size: 0.2 - 7.5 m
- Flexible design, no welds means smoother stress flow
- 6 - 14 weeks manufacturing time. Minimum order might apply
- Sustains low temperatures

Machined sheaves, steel

Our machined sheaves, in steel, are field proven and have a fast delivery time. They are available in any size and can endure low temperature.

- Size: < 2 m
- Manufacturing lead times from 2 week. Suitable for small quantities
- Sustains low temperatures

Optional features:

- Custom design to customer shaft, bearing mounting, hub, sheave O.D. or wire rope size requirement
- Modifications as required to API and other applicable industry standards
- Electroplating, inorganic zinc compound and other corrosion resistant coatings available
- Hub-located grease fittings
- AISE No. 6 specifications
- Cold weather properties
- Special shaft, furnished for any sheave listed

ForgeFab® sheaves

Our ForgeFab sheaves have been the first choice for many crane and rig manufacturers for decades. Our unique production process supports quick deliveries without compromising on the high quality of our sheaves.

Unique production process for a long product life



Each ForgeFab sheave begins as precision disc cut from superior chemistry alloy steel plate



The steel disc is heated to forging temperature and its edge rotated against a system of staged rollers to forge the sheave rim and wire rope groove



A precisely machined hub is arc welded to the forged disc. A variety of welding techniques is used, including: fillet, submerged arc, partial penetration and full penetration, depending on the application



The result: A precision built ForgeFab sheave, resistant to wear giving a long product life span as well as decreased wear on the wire rope

ForgeFab concurrent hardened sheaves

Concurrent hardening up to 440 HB
Strengthens groove as well as entire flange and penetrates deeply into webbing to handle the most difficult applications. (0.6 m to 2 m diameter)



ForgeFab flame hardened sheaves

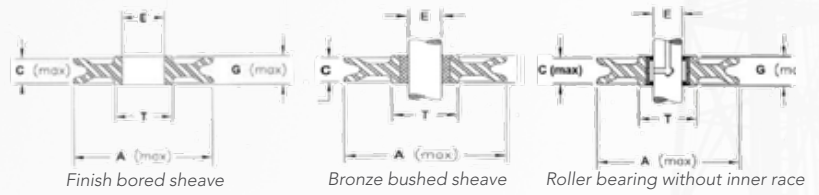
Flame hardened to minimum 325 HB
Toughens the groove for long life in most applications. (0.4 m to 0.6 m in diameter)



Information needed for quotation

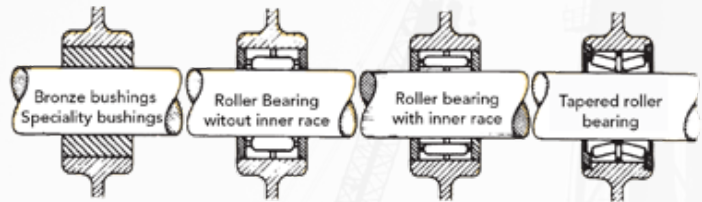
Dimensional information

- Wire line diameter
- Sheave outside diameter (A or OD)
- Bore size, if plain or finished bore (E)
- Hub width (G)
- Hub outside diameter (T)
- Shaft size with bearing (E)
- Rim width (C)
- Tread diameter (TD)



Bearing options

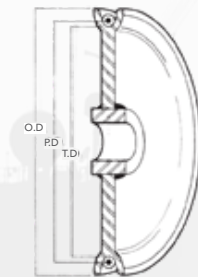
- Finish/plain bore
- Bronzed bushing
- Roller bearing
- Tapered roller bearing
- Ball bearing
- Full complement cylindrical roller bearing



A full range of standard bronze bushing and roller bearing models is also available, as well as custom sizes.

Type of application

- Description
- Line load
- Line speed
- Degree of wrap
- Fleet angle
- Weight restrictions
- Pitch Diameter (PD)



Are there other requirements?

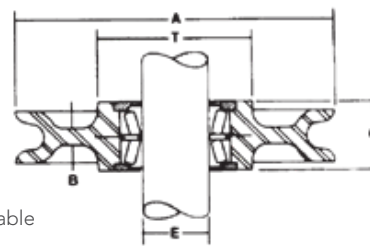
- Flame hardened groove
- Hardness level
- Paint or finish requirements
- DVR (Design Verification Review) by a 3rd party
- Third party inspection/approval

Tapered roller bearing sheaves

Rim width (not shown) allows for adequate running clearance.

To order, please specify; nominal sheave O.D., model number and wire rope size.

Wire Wrap:	180° contact around sheave.
Bearing:	Tapered Roller Bearing.
Surface Coating:	Standard Enamel with or 2 or 3 coat marine system available upon request.
Hardening of Wire Groove:	Flame hardened to a minimum 35 Rc. Concurrent hardening upon request.
Certificate:	Certification according to ABS, API-8C, BV, CCS, DNVGL or Lloyds on request.



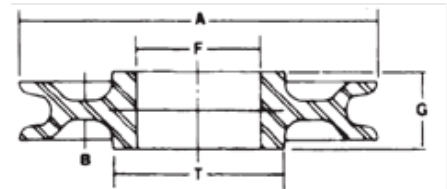
Art.number	Code	Material	Wire Rope Size		A Nominal O.D. (mm)	E Shaft size (mm)	G Hub width (mm)	T Hub O.D. (mm)	B Web (mm)	Weight (kg)
			Min. (mm)	Max. (mm)						
452254	16-25T	F.F.	13	19	406	53.95	54.0	121	19	24
452255	18-25T	F.F.	13	22	457	53.95	54.0	121	19	29
453960	18-25TM	F.F.	16	28	457	66.65	73.0	140	19	30
452246	18-250T	F.F.	16	28	457	107.92	85.7	216	19	32
452256	20-25T	F.F.	13	22	508	53.95	54.0	121	19	36
453961	20-25TM	F.F.	16	28	508	66.65	73.0	140	19	37
452247	20-250T	F.F.	16	28	508	107.92	85.7	216	19	39
452257	24-25T	F.F.	16	22	610	53.95	54.0	121	19	50
453962	24-25TM	F.F.	16	28	610	66.65	73.0	140	19	51
455166	24-240T	F.F.	16	28	610	107.92	88.9	216	19	56
452248	24-250T	F.F.	16	28	610	107.92	85.7	216	19	54
452249	26-250T	F.F.	16	28	660	107.92	85.7	216	19	63
455167	28-240T	F.F.	16	28	711	107.92	88.9	216	19	73
452250	30-250T	F.F.	26	35	762	107.92	85.7	216	25	98
452258	30-350T	F.F.	32	38	762	165.07	95.3	292	32	105
455168	34-250T	F.F.	28	35	864	107.92	85.7	216	25	127
452259	36-350T	F.F.	32	41	914	165.07	95.3	292	32	175
455169	42-340T	F.F.	35	50	1067	165.07	95.3	292	38	281
452260	42-350T	F.F.	35	50	1067	165.07	95.3	292	38	283
452261	48-350T	F.F.	35	50	1219	165.07	95.3	292	38	293
455170	52-550T	F.F.	35	50	1321	203.17	95.3	356	38	425
458453	52-560T	F.F.	35	57	1321	234.92	117.5	432	38	435
458454	52-560TA	F.F.	35	57	1321	253.97	101.6	432	38	421

Material F.F. = ForgeFab

1.4 m and larger diameters available on request.

Finish bored sheaves

Wire Wrap: 180° contact around sheave.
 Bearing: A wide range of bearing options available.
 Surface Coating: Standard Enamel with or 2 or 3 coat marine system available upon request.
 Hardening of Wire Groove: Flame hardened to a minimum 35 Rc. Concurrent hardening upon request.
 Certificate: Certification according to ABS, API-8C, BV, CCS, DNVGL or Lloyds on request.



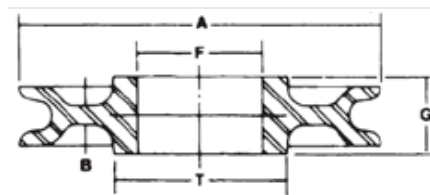
Art.number	Material	Wire Rope Size		A Nominal O.D. (mm)	F Hub bore (mm)	G Hub width (mm)	T Hub O.D. (mm)	B Web thick (mm)	Weight (kg)
		Min. (mm)	Max. (mm)						
3183	D.I.	13	28	356	63.487/63.513	50.8	114	-	11
5513	D.I.	13	28	356	65.052/65.077	44.5	114	-	10
5520	D.I.	13	28	356	76.175/76.200	50.8	114	-	15
3184	D.I.	13	28	356	82.514/82.540	50.8	114	-	16
3185	F.F.	13	19	406	63.487/63.513	50.8	95	19	21
5629	F.F.	13	19	406	76.167/76.192	50.8	121	19	22
3186	F.F.	13	19	406	82.514/82.540	50.8	121	19	22
3301	F.F.	13	28	406	69.863/69.888	63.5	95	19	22
3302	F.F.	13	28	406	88.862/88.887	63.5	121	19	22
5661	F.F.	13	28	406	95.212/95.237	63.5	121	19	21
6084	F.F.	13	28	406	101.575/101.600	63.5	140	19	21
4322	F.F.	13	28	406	114.262/114.287	60.3	140	19	21
6085	F.F.	13	28	406	114.262/114.287	63.5	140	19	21
4321	F.F.	13	28	406	114.262/114.287	69.9	140	19	21
1742	F.F.	13	19	457	76.175/76.200	50.8	121	19	28
1741	F.F.	13	19	457	82.514/82.540	50.8	121	19	27
5694	F.F.	13	28	457	88.862/88.887	63.5	121	19	27
5695	F.F.	13	28	457	95.212/95.237	63.5	121	19	27
5707	F.F.	13	28	457	101.575/101.600	63.5	140	19	28
5708	F.F.	13	28	457	114.262/114.287	63.5	140	19	27
5441	F.F.	13	28	457	114.262/114.287	60.3	140	19	26
4324	F.F.	13	28	457	152.362/152.397	60.3	191	19	27
4770	F.F.	13	28	457	165.059/165.097	57.2	216	19	28
5761	F.F.	13	28	508	88.862/88.887	63.5	121	19	33
5762	F.F.	13	28	508	95.212/95.237	63.5	121	19	33
5754	F.F.	13	28	508	101.575/101.600	63.5	140	19	34
5466	F.F.	13	28	508	114.262/114.287	60.3	140	19	33
5758	F.F.	13	28	508	114.262/114.287	63.5	140	19	33
4326	F.F.	13	28	508	152.362/152.397	60.3	191	19	33
4325	F.F.	16	28	508	152.362/152.397	69.9	191	19	34
4772	F.F.	13	28	508	165.059/165.097	57.2	216	19	34
5803	F.F.	16	28	610	88.862/88.887	63.5	121	19	46
5804	F.F.	16	28	610	95.212/95.237	63.5	121	19	47
5797	F.F.	16	28	610	101.575/101.600	63.5	140	19	48
4433	F.F.	16	28	610	114.262/114.287	60.3	140	19	46
5798	F.F.	16	28	610	114.262/114.287	63.5	140	19	46
4522	F.F.	16	28	610	152.362/152.397	60.3	191	19	46
4521	F.F.	16	28	610	152.362/152.397	69.9	191	19	47
5814	F.F.	16	28	610	165.059/165.097	57.2	216	19	48
4929	F.F.	16	28	610	165.024/165.049	85.7	216	19	51

Material F.F. = ForgeFab D.I. = Cast Ductile Iron

1.4 m and larger diameters available on request.

Finish bored sheaves

Wire Wrap:	180° contact around sheave.
Bearing:	A wide range of bearing options available.
Surface Coating:	Standard Enamel with or 2 or 3 coat marine system available upon request.
Hardening of Wire Groove:	Flame hardened to a minimum 35 Rc. Concurrent hardening upon request.
Certificate:	Certification according to ABS, API-8C, BV, CCS, DNVGL or Lloyds on request.



Art.number	Material	Wire Rope Size		A Nominal O.D. (mm)	F Hub bore (mm)	G Hub width (mm)	T Hub O.D. (mm)	B Web thick (mm)	Weight (kg)
		Min. (mm)	Max. (mm)						
4967	F.F.	16	28	660	152.359/152.397	60.3	191	19	54
4966	F.F.	16	28	660	152.359/152.397	69.9	191	19	55
4774	F.F.	16	28	660	152.359/152.397	57.2	216	19	55
4931	F.F.	16	28	711	165.024/165.049	85.7	216	19	65
4249	F.F.	28	35	762	152.359/152.397	60.3	191	25	94
4776	F.F.	25	35	762	165.059/165.097	57.2	216	25	94
4775	F.F.	32	38	762	225.374/225.400	95.3	292	32	122
4768	F.F.	28	35	864	152.359/152.397	60.3	191	25	120
4771	F.F.	28	35	864	152.359/152.397	69.9	191	25	121
4769	F.F.	32	35	864	165.059/165.097	57.2	216	25	117
4777	F.F.	35	38	914	225.374/225.400	95.3	292	32	169
4932	F.F.	35	50	1067	225.374/225.400	88.9	292	38	270
4778	F.F.	35	50	1067	225.374/225.400	95.3	292	38	272
4779	F.F.	35	50	1219	225.374/225.400	95.3	292	38	284
4934	F.F.	35	50	1321	276.149/276.174	92.1	356	38	416
1794	F.F.	35	57	1321	326.923/326.974	114.3	432	38	425
1798	F.F.	35	57	1321	347.561/ 347.612	101.6	432	38	411

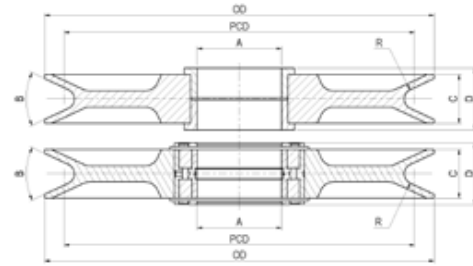
Material F.F. = ForgeFab

1.4 m and larger diameters available on request.

Sheaves with PD 18x steel wire rope diameter

These sheaves have a universal design for use onshore, offshore and subsea in adverse service conditions.

Wire Wrap:	180° contact around sheave.
Bearing:	Glide bearing or double row cylindrical roller bearing.
Surface Coating:	NORSOK M-501 System No. 1 with topcoat colour RAL 1003 (Signal Yellow) with option for System No. 7 or other topcoat colour on request.
Hardening of Wire Groove:	Induction hardening on request up to 550 Brinell Hardness.
Certificate:	Manufacturer work certificate acc. to DNV GL, Lloyds, ABS, BV or CCS.
Regulations:	European Machinery Directive.



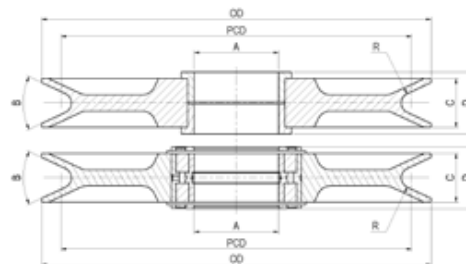
Art.number	Wire Rope Diameter (mm)	Roller Bearing	R (mm)	PD (mm)	OD (mm)	A (mm)	B (°)	C (mm)	"D (mm)"		"Weight (kg)"	
									Roller Bearing	Glide Bearing	Roller Bearing	Glide Bearing
AS1020010001	10	5006-PP	5.3	180	200	30	50	24	34	34	3	4
AS1020010017	12	5008-PP	6.4	216	240	40	45	27	37	38	5	4
AS1020010018	14	5013-PP	7.4	252	280	65	50	34	50	46	8	7
AS1020010019	16	5015-PP	8.5	288	320	75	50	40	50	54	10	12
AS1020010020	18	5015-PP	9.5	324	360	75	50	40	50	54	13	14
AS1020010021	20	5016-PP	10.6	360	400	80	50	46	62	60	18	19
AS1020010022	22	5018-PP	11.7	396	440	90	50	51	61	67	23	24
AS1020010023	24	5020-PP	12.7	432	480	100	40	51	71	67	33	34
AS1020010024	26	5020-PP	13.8	468	520	100	40	51	71	67	34	36
AS1020010025	28	5026-PP	14.8	504	560	130	50	75	95	95	60	64
AS1020010026	30	5026-PP	15.9	540	600	130	50	75	95	95	70	74
AS1020010027	32	5028-PP	17	576	640	140	50	73	93	95	75	79
AS1020010028	34	5030-PP	18	612	680	150	40	77	97	100	92	96
AS1020010029	36	5030-PP	19.1	648	720	150	40	77	97	100	108	112
AS1020010116	38	5026-PP	20.2	684	760	130	30	75	95	95	104	95
AS1020010117	40	5028-PP	21.2	720	800	140	30	73	93	95	133	107
AS1020010118	42	5030-PP	22.3	756	840	150	30	77	97	100	152	156
AS1020010119	44	5030-PP	23.4	792	880	150	30	77	97	100	180	185
AS1020010120	46	5034-PP	24.4	828	920	170	40	97	117	122	185	188
AS1020010121	48	5034-PP	25.5	864	960	170	40	97	117	122	238	240
AS1020010122	50	5034-PP	26.5	900	1000	170	30	97	117	122	278	280
AS1020010123	52	5036-PP	27.6	936	1040	180	40	108	128	136	298	300
AS1020010124	54	5036-PP	28.7	972	1080	180	40	108	128	136	352	354
AS1020010125	56	5036-PP	29.7	1008	1120	180	30	116	128	136	373	373
AS1020010126	58	5040-PP	30.8	1044	1160	200	30	116	136	150	408	414
AS1020010128	60	5040-PP	31.8	1080	1200	200	30	126	136	150	483	489
AS1020010130	62	5044-PP	32.9	1116	1240	220	30	126	146	160	537	544
AS1020010154	64	5048-PP	34	1152	1280	240	30	150	146	160	585	593
AS1020010155	66	5060-PP	35	1188	1320	260	40	150	170	190	705	714
AS1020010156	68	5060-PP	36.1	1224	1360	260	40	150	170	190	714	724
AS1020010157	70	5060-PP	37.1	1260	1400	260	40	150	170	190	777	786

Machined or cast ductile iron depending on quantity.

Sheaves with PD 19x steel wire rope diameter

These sheaves have a universal design for use onshore, offshore and subsea in adverse service conditions.

Wire Wrap:	180° contact around sheave.
Bearing:	Glide bearing or double row cylindrical roller bearing.
Surface Coating:	NORSOK M-501 System No. 1 with topcoat colour RAL 1003 (Signal Yellow) with option for System No. 7 or other topcoat colour on request.
Hardening of Wire Groove:	Induction hardening on request up to 550 Brinell Hardness.
Certificate:	Manufacturer work certificate acc. to DNV GL, Lloyds, ABS, BV or CCS.
Regulations:	European Machinery Directive.



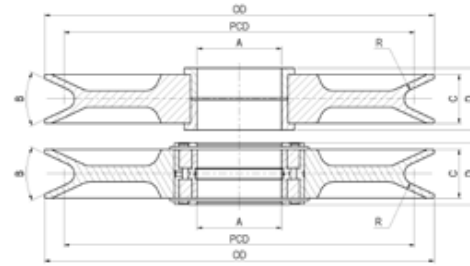
Art.number	Wire Rope Diameter (mm)	Roller Bearing	R (mm)	PD (mm)	OD (mm)	A (mm)	B (°)	C (mm)	"D (mm)"		"Weight (kg)"	
									Roller Bearing	Glide Bearing	Roller Bearing	Glide Bearing
AS1020010258	10	5006-PP	5.3	190	210	30	50	24	34	34	4	4
AS1020010259	12	5008-PP	6.4	228	252	40	45	27	37	38	5	5
AS1020010260	14	5013-PP	7.4	266	294	65	50	34	50	46	8	9
AS1020010261	16	5015-PP	8.5	304	336	75	50	40	50	54	10	13
AS1020010262	18	5015-PP	9.5	342	378	75	50	40	50	54	13	14
AS1020010263	20	5016-PP	10.6	380	420	80	50	46	62	60	18	19
AS1020010264	22	5018-PP	11.7	418	462	90	50	51	61	67	23	24
AS1020010265	24	5020-PP	12.7	456	504	100	40	51	71	67	32	33
AS1020010266	26	5020-PP	13.8	494	546	100	40	51	71	67	35	37
AS1020010267	28	5026-PP	14.8	532	588	130	50	75	95	95	57	60
AS1020010268	30	5026-PP	15.9	570	630	130	50	75	95	95	62	64
AS1020010269	32	5028-PP	17	608	672	140	50	73	93	95	72	75
AS1020010270	34	5030-PP	18	646	714	150	40	77	97	100	87	88
AS1020010271	36	5030-PP	19.1	684	756	150	40	77	97	100	102	104
AS1020010272	38	5026-PP	20.2	722	798	130	30	75	95	95	114	117
AS1020010273	40	5028-PP	21.2	760	840	140	30	73	93	95	130	134
AS1020010274	42	5030-PP	22.3	798	882	150	30	77	97	100	164	167
AS1020010275	44	5030-PP	23.4	836	924	150	30	77	97	100	179	183
AS1020010276	46	5034-PP	24.4	874	966	170	40	97	117	122	202	202
AS1020010277	48	5034-PP	25.5	912	1008	170	40	97	117	122	224	228
AS1020010278	50	5034-PP	26.5	950	1050	170	30	97	117	122	267	272
AS1020010279	52	5036-PP	27.6	988	1092	180	40	108	128	136	292	297
AS1020010280	54	5036-PP	28.7	1026	1134	180	40	108	128	136	315	320
AS1020010281	56	5036-PP	29.7	1064	1176	180	30	116	128	136	380	385
AS1020010282	58	5040-PP	30.8	1102	1218	200	30	116	136	150	440	449
AS1020010283	60	5040-PP	31.8	1140	1260	200	30	126	136	150	518	526
AS1020010284	62	5044-PP	32.9	1178	1302	220	30	126	146	160	605	614
AS1020010285	64	5048-PP	34	1216	1344	240	30	150	146	160	693	702
AS1020010286	66	5060-PP	35	1254	1386	260	40	150	170	190	672	683
AS1020010287	68	5060-PP	36.1	1292	1428	260	40	150	170	190	754	765
AS1020010288	70	5060-PP	37.1	1330	1470	260	40	150	170	190	868	879

Machined or cast ductile iron depending on quantity.

Sheaves with PD 20x steel wire rope diameter

These sheaves have a universal design for use onshore, offshore and subsea in adverse service conditions. This size is also suited for systems with heave compensation

Wire Wrap:	180° contact around sheave.
Bearing:	Glide bearing or double row cylindrical roller bearing.
Surface Coating:	NORSOK M-501 System No. 1 with topcoat colour RAL 1003 (Signal Yellow) with option for System No. 7 or other topcoat colour on request.
Hardening of Wire Groove:	Induction hardening on request up to 550 Brinell Hardness.
Certificate:	Manufacturer work certificate acc. to DNV GL, Lloyds, ABS, BV or CCS.
Regulations:	European Machinery Directive.



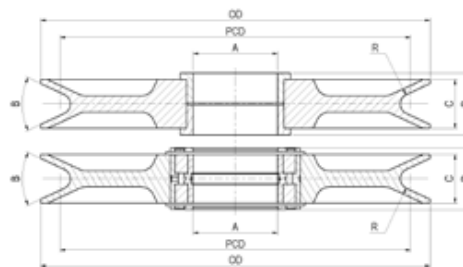
Art.number	Wire Rope Diameter (mm)	Roller Bearing	R (mm)	PD (mm)	OD (mm)	A (mm)	B (°)	C (mm)	"D (mm)"		"Weight (kg)"	
									Roller Bearing	Glide Bearing	Roller Bearing	Glide Bearing
AS1020010196	10	5006-PP	5.3	200	220	30	50	24	34	34	4	4
AS1020010197	12	5008-PP	6.4	240	264	40	45	27	37	38	5	7
AS1020010198	14	5013-PP	7.4	280	308	65	50	34	50	46	8	9
AS1020010199	16	5015-PP	8.5	320	352	75	50	40	50	54	12	13
AS1020010200	18	5015-PP	9.5	360	396	75	50	40	50	54	14	15
AS1020010201	20	5016-PP	10.6	400	440	80	50	46	62	60	20	22
AS1020010202	22	5018-PP	11.7	440	484	90	50	51	61	67	25	27
AS1020010203	24	5020-PP	12.7	480	528	100	40	51	71	67	33	34
AS1020010204	26	5020-PP	13.8	520	572	100	40	51	71	67	42	44
AS1020010205	28	5026-PP	14.8	560	616	130	50	75	95	95	67	70
AS1020010206	30	5026-PP	15.9	600	660	130	50	75	95	95	80	83
AS1020010207	32	5028-PP	17	640	704	140	50	73	93	95	84	87
AS1020010187	34	5030-PP	18	680	748	150	40	77	97	100	102	104
AS1020010208	36	5030-PP	19.1	720	792	150	40	77	97	100	122	125
AS1020010209	38	5026-PP	20.2	760	836	130	30	75	95	95	143	145
AS1020010210	40	5028-PP	21.2	800	880	140	30	73	93	95	157	160
AS1020010211	42	5030-PP	22.3	840	924	150	30	77	97	100	185	189
AS1020010212	44	5030-PP	23.4	880	968	150	30	77	97	100	203	207
AS1020010213	46	5034-PP	24.4	920	1012	170	40	97	117	122	238	242
AS1020010214	48	5034-PP	25.5	960	1056	170	40	97	117	122	265	269
AS1020010215	50	5034-PP	26.5	1000	1100	170	30	97	117	122	312	317
AS1020010216	52	5036-PP	27.6	1040	1144	180	40	108	128	136	334	339
AS1020010217	54	5036-PP	28.7	1080	1188	180	40	108	128	136	377	382
AS1020010218	56	5036-PP	29.7	1120	1232	180	30	116	128	136	430	435
AS1020010219	58	5040-PP	30.8	1160	1276	200	30	116	136	150	507	514
AS1020010220	60	5040-PP	31.8	1200	1320	200	30	126	136	150	574	582
AS1020010221	62	5044-PP	32.9	1240	1364	220	30	126	146	160	627	636
AS1020010222	64	5048-PP	34	1280	1408	240	30	150	146	160	665	674
AS1020010223	66	5060-PP	35	1320	1452	260	40	150	170	190	768	779
AS1020010224	68	5060-PP	36.1	1360	1496	260	40	150	170	190	820	831
AS1020010225	70	5060-PP	37.1	1400	1540	260	40	150	170	190	902	912

Machined or cast ductile iron depending on quantity.

Sheaves with PD 22× steel wire rope diameter

These sheaves have a universal design for use onshore, offshore and subsea in adverse service conditions. This size is also suited for systems with heave compensation.

Wire Wrap:	180° contact around sheave.
Bearing:	Glide bearing or double row cylindrical roller bearing.
Surface Coating:	NORSOK M-501 System No. 1 with topcoat colour RAL 1003 (Signal Yellow) with option for System No. 7 or other topcoat colour on request.
Hardening of Wire Groove:	Induction hardening on request up to 550 Brinell Hardness.
Certificate:	Manufacturer work certificate acc. to DNV GL, Lloyds, ABS, BV or CCS.
Regulations:	European Machinery Directive.



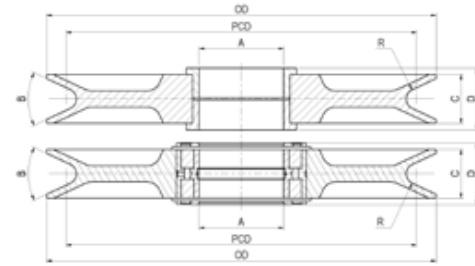
Art.number	Wire Rope Diameter (mm)	Roller Bearing	R (mm)	PD (mm)	OD (mm)	A (mm)	B (°)	C (mm)	"D (mm)"		"Weight (kg)"	
									Roller Bearing	Glide Bearing	Roller Bearing	Glide Bearing
AS1020010226	10	5006-PP	5.3	220	240	30	50	24	34	34	4	4
AS1020010227	12	5008-PP	6.4	264	288	40	45	27	37	38	5	5
AS1020010228	14	5013-PP	7.4	308	336	65	50	34	50	46	11	11
AS1020010229	16	5015-PP	8.5	352	384	75	50	40	50	54	13	2
AS1020010230	18	5015-PP	9.5	396	432	75	50	40	50	54	17	17
AS1020010231	20	5016-PP	10.6	440	480	80	50	46	62	60	22	23
AS1020010232	22	5018-PP	11.7	484	528	90	50	51	61	67	29	30
AS1020010233	24	5020-PP	12.7	528	576	100	40	51	71	67	36	37
AS1020010234	26	5020-PP	13.8	572	624	100	40	51	71	67	43	44
AS1020010235	28	5026-PP	14.8	616	672	130	50	75	95	95	64	67
AS1020010236	30	5026-PP	15.9	660	720	130	50	75	95	95	79	81
AS1020010237	32	5028-PP	17	704	768	140	50	73	93	95	86	88
AS1020010238	34	5030-PP	18	748	816	150	40	77	97	100	104	105
AS1020010239	36	5030-PP	19.1	792	864	150	40	77	97	100	121	122
AS1020010240	38	5026-PP	20.2	836	912	130	30	75	95	95	139	142
AS1020010241	40	5028-PP	21.2	880	960	140	30	73	93	95	160	164
AS1020010242	42	5030-PP	22.3	924	1008	150	30	77	97	100	190	194
AS1020010243	44	5030-PP	23.4	968	1056	150	30	77	97	100	231	235
AS1020010244	46	5034-PP	24.4	1012	1104	170	40	97	117	122	264	268
AS1020010245	48	5034-PP	25.5	1056	1152	170	40	97	117	122	293	297
AS1020010246	50	5034-PP	26.5	1100	1200	170	30	97	117	122	365	369
AS1020010247	52	5036-PP	27.6	1144	1248	180	40	108	128	136	400	405
AS1020010248	54	5036-PP	28.7	1188	1296	180	40	108	128	136	431	437
AS1020010249	56	5036-PP	29.7	1232	1344	180	30	116	128	136	554	560
AS1020010250	58	5040-PP	30.8	1276	1392	200	30	116	136	150	598	606
AS1020010251	60	5040-PP	31.8	1320	1440	200	30	126	136	150	692	701
AS1020010252	62	5044-PP	32.9	1364	1488	220	30	126	146	160	717	726
AS1020010253	64	5048-PP	34	1408	1536	240	30	150	146	160	827	836
AS1020010254	66	5060-PP	35	1452	1584	260	40	150	170	190	910	921
AS1020010255	68	5060-PP	36.1	1496	1632	260	40	150	170	190	973	984
AS1020010256	70	5060-PP	37.1	1540	1680	260	40	150	170	190	1056	1069

Machined or cast ductile iron depending on quantity.

Sheaves with PD 24x steel wire rope diameter

These sheaves have a universal design for use onshore, offshore and subsea in adverse service conditions. This size is also suited for systems with heave compensation.

Wire Wrap:	180° contact around sheave.
Bearing:	Glide bearing or double row cylindrical roller bearing.
Surface Coating:	NORSOK M-501 System No. 1 with topcoat colour RAL 1003 (Signal Yellow) with option for System No. 7 or other topcoat colour on request.
Hardening of Wire Groove:	Induction hardening on request up to 550 Brinell Hardness.
Certificate:	Manufacturer work certificate acc. to DNV GL, Lloyds, ABS, BV or CCS.
Regulations:	European Machinery Directive.



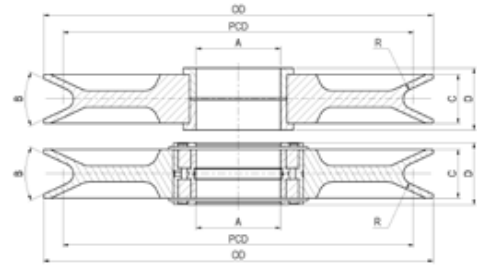
Art.number	Wire Rope Diameter (mm)	Roller Bearing	R (mm)	PD (mm)	OD (mm)	A (mm)	B (°)	C (mm)	"D (mm)"		"Weight (kg)"	
									Roller Bearing	Glide Bearing	Roller Bearing	Glide Bearing
AS1020010440	10	5006-PP	5.3	240	260	30	50	24	34	34	5	5
AS1020010441	12	5008-PP	6.4	288	312	40	45	27	37	38	8	8
AS1020010442	14	5013-PP	7.4	336	364	65	50	34	50	46	12	13
AS1020010443	16	5015-PP	8.5	384	416	75	50	40	50	54	18	19
AS1020010444	18	5015-PP	9.5	432	468	75	50	40	50	54	24	25
AS1020010445	20	5016-PP	10.6	480	520	80	50	46	62	60	33	33
AS1020010446	22	5018-PP	11.7	528	572	90	50	51	61	67	43	43
AS1020010447	24	5020-PP	12.7	576	624	100	40	51	71	67	58	59
AS1020010448	26	5020-PP	13.8	624	676	100	40	51	71	67	67	69
AS1020010449	28	5026-PP	14.8	672	728	130	50	75	95	95	102	104
AS1020010450	30	5026-PP	15.9	720	780	130	50	75	95	95	113	115
AS1020010451	32	5028-PP	17	768	832	140	50	73	93	95	127	130
AS1020010452	34	5030-PP	18	816	884	150	40	77	97	100	155	159
AS1020010453	36	5030-PP	19.1	864	936	150	40	77	97	100	177	180
AS1020010454	38	5026-PP	20.2	912	988	130	30	75	95	95	205	208
AS1020010455	40	5028-PP	21.2	960	1040	140	30	73	93	95	234	237
AS1020010456	42	5030-PP	22.3	1008	1092	150	30	77	97	100	274	278
AS1020010457	44	5030-PP	23.4	1056	1144	150	30	77	97	100	312	315
AS1020010458	46	5034-PP	24.4	1104	1196	170	40	97	117	122	369	374
AS1020010459	48	5034-PP	25.5	1152	1248	170	40	97	117	122	415	419
AS1020010460	50	5034-PP	26.5	1200	1300	170	30	97	117	122	460	464
AS1020010461	52	5036-PP	27.6	1248	1352	180	40	108	128	136	523	490
AS1020010462	54	5036-PP	28.7	1296	1404	180	40	108	128	136	582	587
AS1020010463	56	5036-PP	29.7	1344	1456	180	30	116	128	136	650	655
AS1020010464	58	5040-PP	30.8	1392	1508	200	30	116	136	150	720	729
AS1020010465	60	5040-PP	31.8	1440	1560	200	30	126	136	150	805	813
AS1020010466	62	5044-PP	32.9	1488	1612	220	30	126	146	160	903	912
AS1020010467	64	5048-PP	34	1536	1664	240	30	150	146	160	969	979
AS1020010468	66	5060-PP	35	1584	1716	260	40	150	170	190	1195	1205
AS1020010469	68	5060-PP	36.1	1632	1768	260	40	150	170	190	1213	1223
AS1020010470	70	5060-PP	37.1	1680	1820	260	40	150	170	190	1312	1323

Machined or cast ductile iron depending on quantity.

Sheaves with PD 25x steel wire rope diameter

These sheaves have a universal design for use onshore, offshore and subsea in adverse service conditions. This size is also suited for systems with heave compensation.

Wire Wrap:	180° contact around sheave.
Bearing:	Glide bearing or double row cylindrical roller bearing.
Surface Coating:	NORSOK M-501 System No. 1 with topcoat colour RAL 1003 (Signal Yellow) with option for System No. 7 or other topcoat colour on request.
Hardening of Wire Groove:	Induction hardening on request up to 550 Brinell Hardness.
Certificate:	Manufacturer work certificate acc. to DNV GL, Lloyds, ABS, BV or CCS.
Regulations:	European Machinery Directive.



Art.number	Wire Rope Diameter (mm)	Roller Bearing	R (mm)	PD (mm)	OD (mm)	A (mm)	B (°)	C (mm)	"D (mm)"		"Weight (kg)"	
									Roller Bearing	Glide Bearing	Roller Bearing	Glide Bearing
AS1020010370	10	5006-PP	5.3	250	270	30	50	24	34	34	7	7
AS1020010371	12	5008-PP	6.4	300	324	40	45	27	37	38	10	5
AS1020010372	14	5013-PP	7.4	350	378	65	50	34	50	46	15	15
AS1020010373	16	5015-PP	8.5	400	432	75	50	40	50	54	20	22
AS1020010374	18	5015-PP	9.5	450	486	75	50	40	50	54	29	30
AS1020010375	20	5016-PP	10.6	500	540	80	50	46	62	60	40	42
AS1020010376	22	5018-PP	11.7	550	594	90	50	51	61	67	55	55
AS1020010377	24	5020-PP	12.7	600	648	100	40	51	71	67	68	69
AS1020010378	26	5020-PP	13.8	650	702	100	40	51	71	67	86	88
AS1020010379	28	5026-PP	14.8	700	756	130	50	75	95	95	123	125
AS1020010380	30	5026-PP	15.9	750	810	130	50	75	95	95	144	148
AS1020010381	32	5028-PP	17	800	864	140	50	73	93	95	154	158
AS1020010382	34	5030-PP	18	850	918	150	40	77	97	100	180	184
AS1020010383	36	5030-PP	19.1	900	972	150	40	77	97	100	210	214
AS1020010384	38	5026-PP	20.2	950	1026	130	30	75	95	95	243	245
AS1020010385	40	5028-PP	21.2	1000	1080	140	30	73	93	95	279	283
AS1020010386	42	5030-PP	22.3	1050	1134	150	30	77	97	100	325	329
AS1020010387	44	5030-PP	23.4	1100	1188	150	30	77	97	100	374	377
AS1020010388	46	5034-PP	24.4	1150	1242	170	40	97	117	122	430	434
AS1020010389	48	5034-PP	25.5	1200	1296	170	40	97	117	122	485	490
AS1020010390	50	5034-PP	26.5	1250	1350	170	30	97	117	122	541	545
AS1020010391	52	5036-PP	27.6	1300	1404	180	40	108	128	136	614	619
AS1020010392	54	5036-PP	28.7	1350	1458	180	40	108	128	136	680	685
AS1020010393	56	5036-PP	29.7	1400	1512	180	30	116	128	136	752	757
AS1020010394	58	5040-PP	30.8	1450	1566	200	30	116	136	150	835	844
AS1020010395	60	5040-PP	31.8	1500	1620	200	30	126	136	150	934	943
AS1020010396	62	5044-PP	32.9	1550	1674	220	30	126	146	160	1028	1037
AS1020010397	64	5048-PP	34	1600	1728	240	30	150	146	160	1118	1128
AS1020010398	66	5060-PP	35	1650	1782	260	40	150	170	190	1298	1309
AS1020010399	68	5060-PP	36.1	1700	1836	260	40	150	170	190	1407	1418
AS1020010400	70	5060-PP	37.1	1750	1890	260	40	150	170	190	1523	1534

Machined or cast ductile iron depending on quantity.

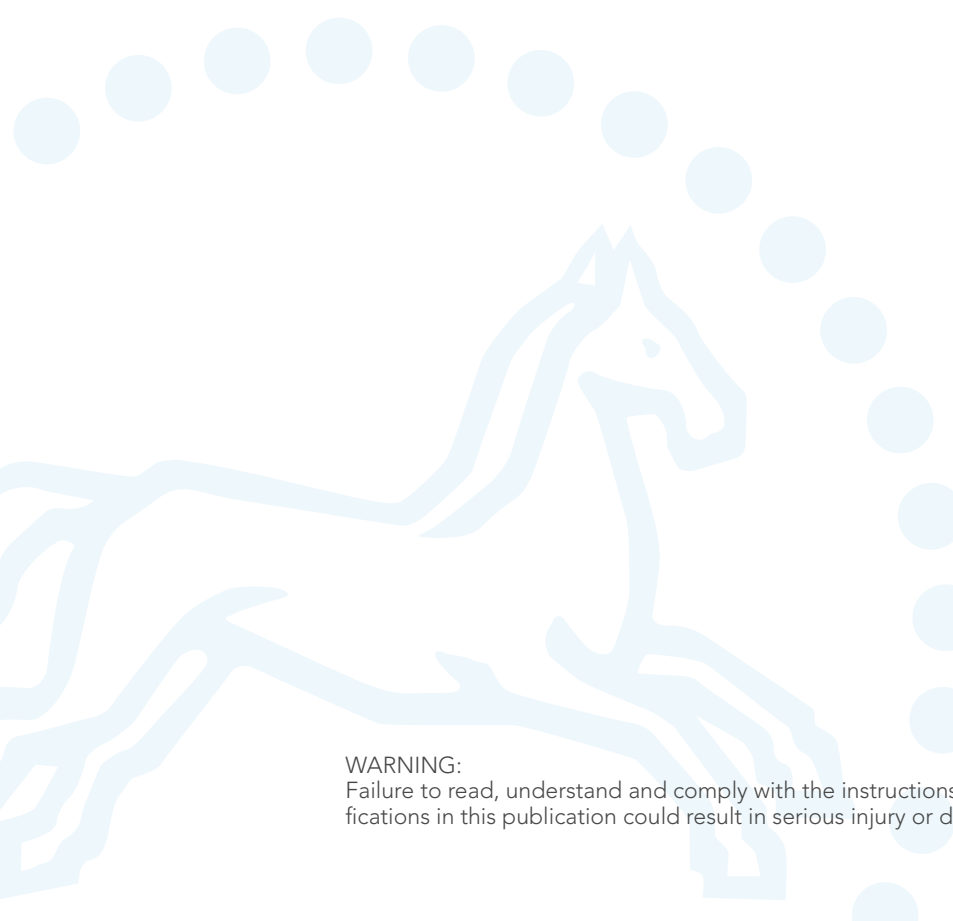
Lashing Components

Chain Tensioner • Other Lashing Products



Lashing Components

Chain Tensioner GT	8:2 - 8:4
Chain	8:4
Midgrab chain shortener MIG	8:4
Grab Hook GG with Locking Pin	8:5
Sling Hook	8:5
Safety Hook	8:5
Weldable Lifting Point	8:5
Screw-on Lifting Point	8:5



WARNING:
Failure to read, understand and comply with the instructions, working load limits and specifications in this publication could result in serious injury or damage to property.

Chain Tensioner GT

The chain tensioner from Gunnebo Industries, GT, is integral in one set. It is made of high strength Grade 10 material and the ratchet handle contributes to a fast and ergonomic lashing procedure. The GT is fitted with safety pins to prevent unintended release of the threaded end fittings.

GT has 25% increased Lashing Capacity (LC) compared to Grade 8 lashings and high Standard Tension force (STF) thanks to the unique ratchet handle .

Our chain tensioner is designed to be compatible with the GrabiQ product range, enabling the choice of robust end-hooks with latches. Can also be provided as approved for lifting purposes.



Unique benefits with our Chain Tensioner



Short handle

- Fully protected ratched mechanism with 8 steps per 90 degree pull, enabling use in very narrow spaces.
- Easy to change direction.
- The rubber handle decreases the risk of slipping and is convenient in cold climates.

Open design

- For easier and faster cleaning and lubrication.
- Allows dirt to fall through instead of building up.
- Two drain holes in the body prevent water residue.

Trapezoidal thread

- Makes the thread less sensitive to dirt and particles.
- Low-friction treated for trouble free operation.
- Makes lashing faster.
- Safety pins prevents unintended unwinding.

Chain Lashing System

Gunnebo Industries offers a complete chain lashing system approved according to EN 12195-3. The system has been developed with focus on the user's needs and working environment, and with safety as highest priority. The unique Midgrab chain shortener saves valuable time and effort, and is a natural part of an efficient and effective chain lashing system.

GT Chain Lashing System offers 25% increased Lashing Capacity (LC) compared to Grade 8 lashings.

End fitting

Lashing hooks in grade 10, such as the EGKN Sling Hook with a heavy duty latch or the GBK Griplatch Safety Hook. Marked with positive indication of the manufacturer, product designation, size, batch number and grade.

ID-tag

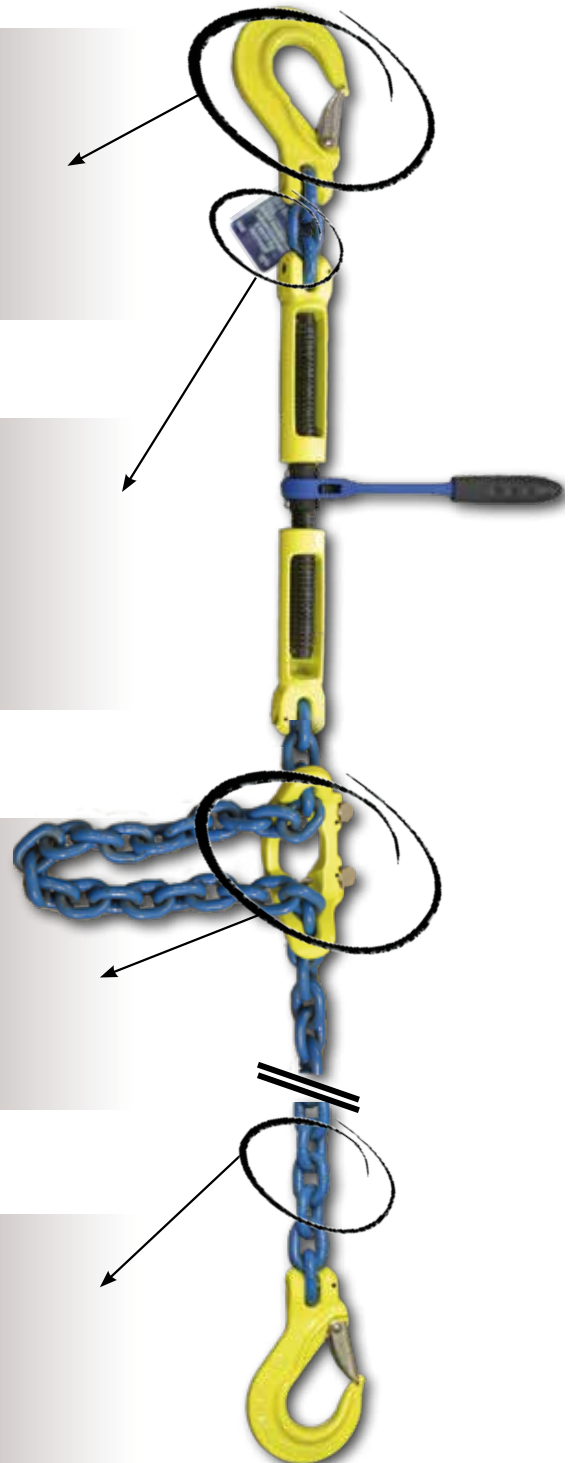
The ID-tag must state the lashing standard, capacity, tension force, traceability and name of manufacturer. It must also clearly say that the set is for lashing only, lifting is prohibited

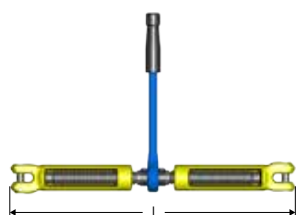
Shortening function

The Midgrab offers instant mounting on any part of the chain, with the ability to shorten the chain in either direction. It is designed to prevent the chain from disengaging. Marked with positive indication of the manufacturer, product designation, size, batch number and grade.

Chain

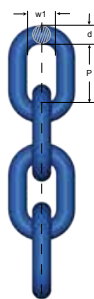
Gunnebo Industries high tensile short link chain, grade 10 = 1000 N/mm² type KLA-10-10, LC = 80 kN. Surface treatment: Powder coated. ID-marking of the chain: 10G





Chain Tensioner GT

Art. no	Model	Lashing capacity (kN)	STF (daN)	L = Min. length (mm)	L = Max. length (mm)	Weight kg
Z101336	GT-8-10	50	2800	400	600	3.3
Z101337	GT-10-10	80	2800	400	600	3.3



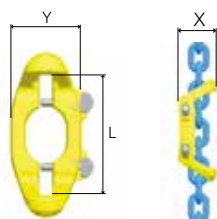
Chain, GrabiQ Grade 10 (200)

Short link, KL

Art. no.	Code	WLL tonnes	Lashing capacity (kN)	d nom. mm	P mm	w1 mm	Weight kg/m	MPF kN
Z802301	KLA-8-10	2.6	51	8	24	11.0	1.4	63
Z802302	KLA-10-10	4.0	80	10	30	14	2.3	100

Fulfills the requirements in ASTM A973/A973M-07(2012) EN 818+2:2008 (WLL +25%, reduced temperature range).

See our full range of chain in chapter 5



Midgrab MIG with locking pins

Art. no.	Code	WLL tonnes	Lashing capacity (kN)	L	X	Y	Weight kg
B14303	MIG CC-8-10	2.6	51	95	50	60	0.7
B14313	MIG CC-10-10	4.0	80	125	70	77	1.1

Complete set for Lashing GT
with chain, hooks and MIG Shortener



Lashing GT
with GG hooks



Lashing Chain GrabiQ
with hooks in both ends



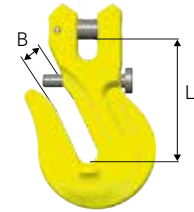
Chain Tensioner GT for lifting see page 2:21

Grab Hook GG with Locking Pin

Clevis shortening hook with locking pin for extra safety. No reduction of working load limit, thanks to supporting cradle lugs on either side of hook to prevent chain link deformation.

Art. no.	Code	WLL tonnes*	Lashing capacity (kN)	L	B	Weight kg
B14971	GG-8-10 LP	2.6	51	57	10	0.4
B14972	GG-10-10 LP	4.0	78	77	12	0.9
B14973	GG-13-10 LP	6.8	133	97	16	1.9
B14974	GG-16-10 LP	10.3	202	114	20	3.2

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M and AS 3776:2015.

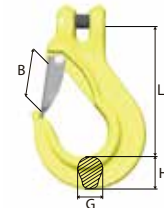


Sling Hook EGKN

Sling hook with latch.

Art. no.	Code	WLL tonnes	Lashing capacity (kN)	L	B	G	H	Weight kg
B14461	EGKN-8-10	2.6	51	95	28	17	23	0.5
B14462	EGKN-10-10	4.0	78	121	35	23	31	1

Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M and AS 3776:2015.

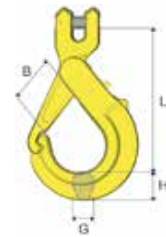


Safety Hook GBK

Safety hook with clevis connector and grab latch.

Art. no.	Code	WLL tonnes	Lashing capacity (kN)	L	B	G	H	Weight kg
Z100759	GBK-8-10	2.6	51	119	36	20	22	0.8
Z100760	GBK-10-10	4.0	78	150	47	22	29	1.4

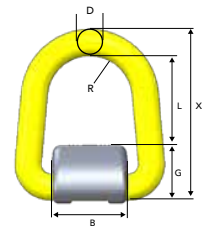
Fulfills requirements in: EN 1677:2008 (WLL +25%), ASTM A952/A952M and AS 3776:2015.



Weldable Lifting Point WLP

Art. no.	Code	WLL tonnes*	Lashing capacity (kN)	B	D	G	L	R	X	Weight kg
Z7009001	WLP-2.5T	2.5	49	50	14	27	53	24	95	0.5
Z7009011	WLP-4T	4.0	78	58	17	34	48	29	97	0.8
Z7009021	WLP-7T	7.0	137	64	22	41	73	33	135	1.8
Z7009031	WLP-10T	10.0	196	65	27	52	73	38	152	3.4
Z7009041	WLP-16T	16.0	313	90	32	66	105	50	203	8.5

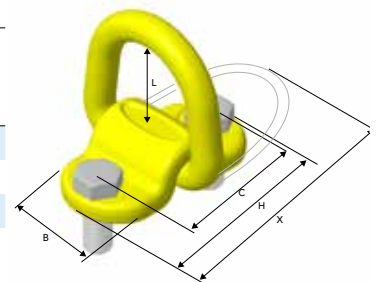
Supplied with spring for stay up function.



Screw-on Lifting Point SLP

Art. no.	Code	WLL tonnes*	Lashing capacity (kN)	B	C	H	L	M	X	Bolt protrusion	Weight kg
Z7009881	SLP-1T	1.0	19	50	72	98	54	M14	139	25	0.8
Z7009871	SLP-3T	3.0	58	58	84	114	49	M16	144	28	1.3
Z7009861	SLP-5T	5.0	98	64	116	160	71	M20	203	34	2.6

Supplied with spring for stay up function.
Bolt according to: ISO 898-1 Class 10.9.



Waar kunt u ons vinden?

Wij zijn gevestigd te Meppel, centraal gelegen tussen de snelwegen A32 en A28. Dankzij deze optimale ligging kunnen wij u altijd de beste service bieden. Tevens zijn wij 24/7 bereikbaar in geval van calamiteiten.

Tevens bieden wij samen met onze transportpartners een haal- en brengservice, zodat u geen kostbare tijd verliest.



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