Gunnebo Lifting GrabiQ

The all-inclusive chain sling system for coupling, and shortening

GUNNEBO LIFTING

Gunnebo Lifting - in business with a purpose

Building and construction

To offer products that will increase flexibility, efficiency, maximized value and to minimize costs has taken us some years but the result is a new strong concept called FlexiLeg. Since we introduced the GrabiQ system year 2000 we have in interactions with our clients and business partners accumulated experience and been able to adjust the programme for high satisfaction and increased customer value. That is a concept with a purpose.

Logistical sector

Every day is a day when millions of tons are distributed, on loaded, off loaded around the world. Every hour, year out and year in, a lifting operation is taken place somewhere. The logistical sector is the veins that keep the heart moving. We have developed good concepts for the lifting as well as for the lashing. Our high quality GrabiQ lashing system will provide the user with an assurance that the goods will be kept in place even in tough conditions. Our GrabiQ tensioner will increase the safety in critical moments. That is safety with a purpose

Steel and mining

Our lifting systems have been valued for its long durability and quality. If the working environment has been cold or hot, our system has provided the lifting operation with high safety and functionality. Our quality system gives us the tools to work with continues improvements and we will always put our efforts into the mission to create the best products available in the market. Our quality is there with a purpose.

Oil & Gas / Offshore

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 new BKD safety hook with an extra latch secures a safe operation even when unexpected opening of the hook might occur. We have taken the aerospace industry as a role model; when the normal system fails, another is ready to save the situation. That is innovation with a purpose.

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

Gunnebo Lifting – GrabiQ

The all-inclusive chain sling system for coupling, shortening and lifting in grade 10.

Our GrabiQ sling system is designed to improve and make your lifting as quick and easy as possible. GrabiQ means for example;

- 25 % additional strength in the new grade 10 material.
- All top assemblies consist of no more than three components.
- Shortening function of chain legs is integral with no extra components.

One of the main merits of the GrabiQ system is that the work involved in connecting, adjusting and checking the lift takes less time and can be carried out more easily. The already included shortening function, means for example, that a four-part sling which previously required up to thirteen different top components now needs only three in the GrabiQ system.

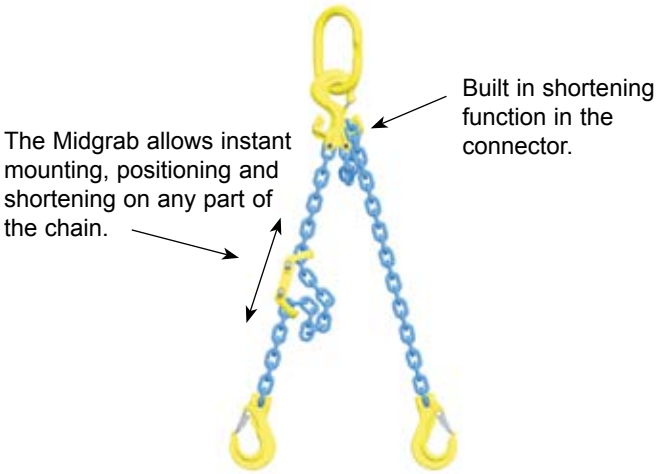
The German Berufsgenossenschaften (BG) launched in the beginning of 2004 a new specification for Grade 10 components, Gunnebo Lifting has passed this new specification as one of the first companies in the world.

Innovative News

The double latch BK-hook with a recessed trigger - the safest self-locking hook in the market

Our latest development in the BK family is our new BKD. The hook has been developed to meet the stringent requirements and demands in the oil & gas and offshore industry. The working conditions and the environment on a platform is the toughest in the world and they can't risk a failure since that might harm the work engineers and in worst cases can jeopardise their lives. The innovative and patent pending solution is as simple as it is good. If their for any reason will be that the latch will accidentally become open, either by a direct hit on the trigger or that the trigger has been worn out, an extra latch will be there to keep the load in its place. The latch will not harm the operators during service but might safe their lives if something happens. The investment for this special device is low, but the safety it provides is priceless. We are happy to announce that we have following sizes ready for the market and that others will follow during the coming year. BKD 13-10, BKD 16-10 and BKD 18/20-20.

Design with a purpose



The option of shortening is always there.

Every chain leg can instantly be altered from straight lift to a loop sling by using the shortening pocket.

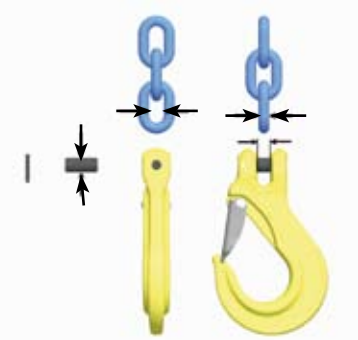
With C-lok as terminal fitting the sling can be altered between choke hitch, basket hitch and leg extension with flattened links.

Oversized or squared shaped master links are ideal for use with large crane hooks (e.g. DIN15401).

With the flexibility of the GrabiQ system a number of different lifting situations can be solved using the same GrabiQ sling.

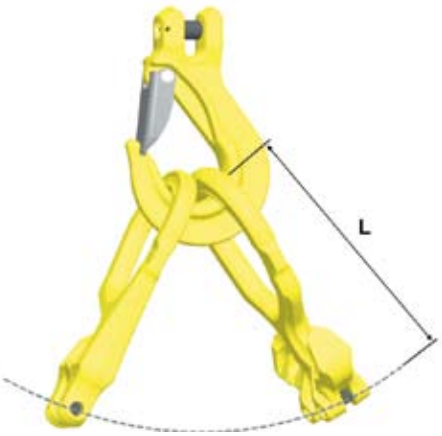
The C-parts are designed to allow for correct size of wire rope thimble to be fitted into the eye. This opens the way for new ideal combinations of chain and wire rope slings.

The GrabiQ system has been designed with special care so that it should be easy to use correctly.

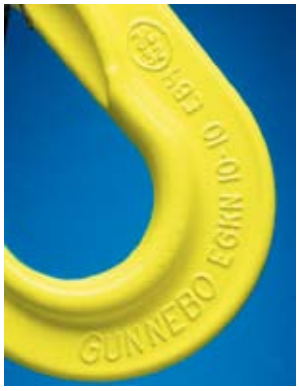


All clevis type connections are snugly matched to the correct size of chain and pin dimension, thereby eliminating any incorrect assembly.

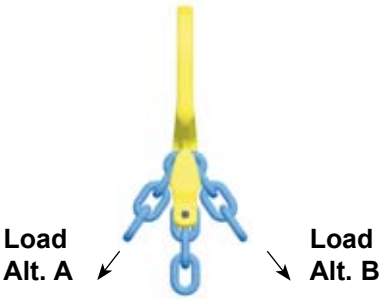
The roundsling hooks are colour coded in order to match the corresponding size of the roundsling.
Red=5T / Yellow=3T/Green=2T/Violet=1T.



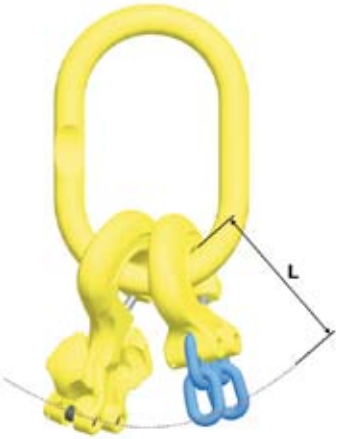
Mastergrab single type MG and duo type MGD have the same length, which allow for equal leg length if they are united in the top end into a common shackle or crane hook.



All GrabiQ components are uniformly marked with the equivalent chain size, grade, traceability code, manufacturers name and designation, for positive identification.



With the following GrabiQ design the outgoing chains from the shortening pocket are allowed on either side for loading, thereby eliminating misuse.
The GrabiQ shortening components fulfil the new requirements from BG, Germany.



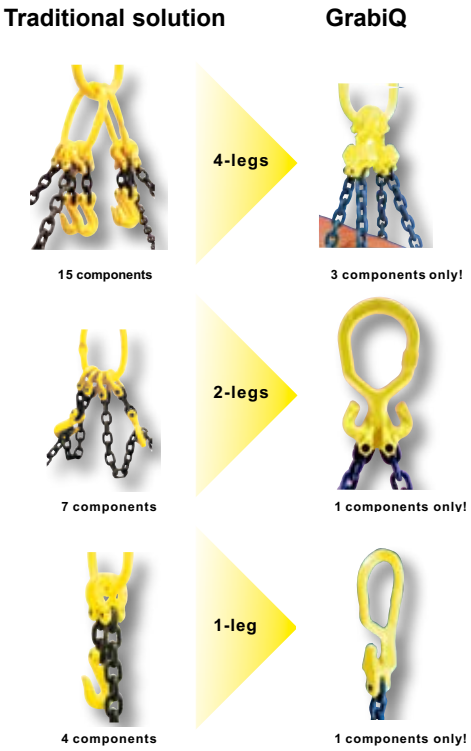
With two extra chain links, CL and CLD will have the same effective length as CG and CGD.

Economical

The cost for a product or complete lifting equipment can not only be isolated to the time of purchase, the total cost during the entire lifecycle must also be taken into consideration.

Due to the radical reengineering which GrabiQ offers, the total cost can be reduced! How can that be possible?
With the new innovative GrabiQ system the number of unique components has been reduced, which means:

- Less components required.
- Less components to assemble, requires less time.
- Less wear points means less wear points to inspect.
- Lower inventory required.
- Multifunctional slings reduces the number of slings required to a minimum.
- Increased lifting capacity.



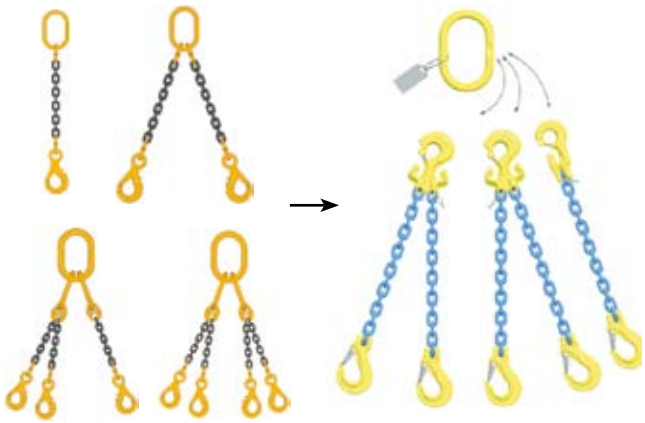
FlexiLeg TM

1+2+3+4

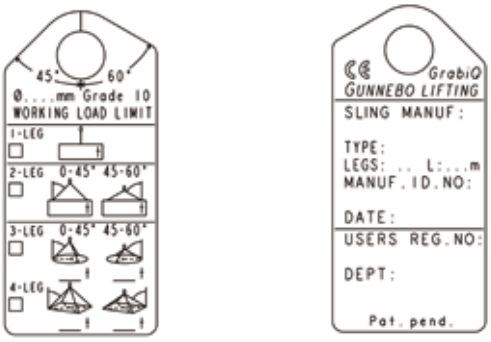
By using the unique features of the GrabiQ range, Gunnebo Lifting has increased the flexibility even further. GrabiQ FlexiLeg is a flexible solution with instant leg shift, where one single master link and a combination of five legs replace ten legs with the traditional system.

Traditional system - a total of 10 legs.

GrabiQ FlexiLeg – a total of 5 legs



QuickPin - For flexible exchange of sling legs.
- Instant close/open function
- Fits all GrabiQ C-connectors



ID tag in stainless steel, special designed for the GrabiQ FlexiLeg system.

The backside contains information about the sling manufacturer and users reg. number.

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:

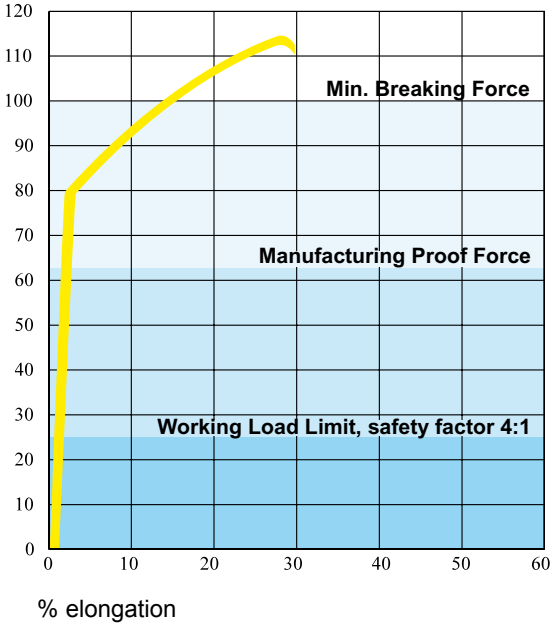
- Test for deformation
The manufacturing Proof Force (MPF) for the relevant size of the component is applied and removed. The dimensions after proof loading shall not alter from the original dimensions within the tolerances prescribed in our specifications and in the international standards.

- 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 condition of service is simulated.

Stress/elongation diagram

Chain grade 10, type KL
% of min. Breaking Force



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.

- **Proof force**
  Each individual 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.

- **Non destructive test / visual inspection**
  3% of every production batch of forged components are subject to magnetic particle or dye penetrating examination. Visual inspection is carried out on each chain link and each forged component to detect defects.

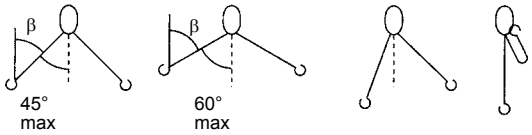
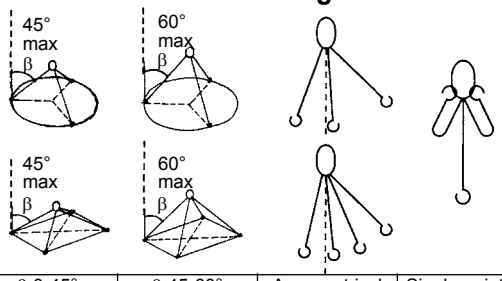
- **Static tensile test and ultimate elongation test**
  During manufacture, samples are tested and the Minimum Braking Force (MBF) value and the total ultimate elongation are verified.

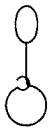
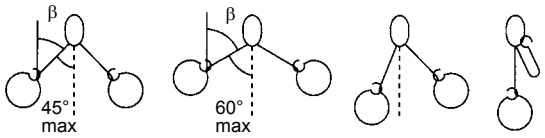
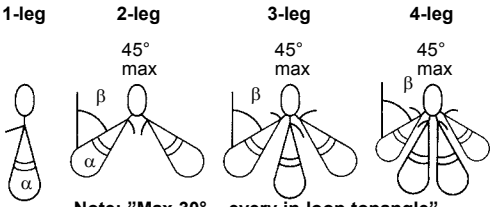
- **Bending deflection**
  During manufacturing, of chain and master links, samples are taken and the minimum bend deflection is verified.

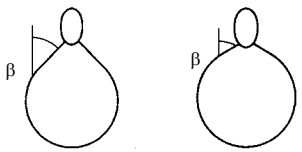
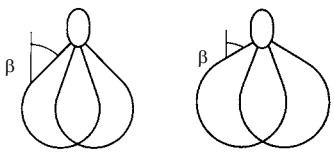
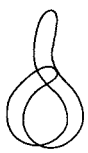
Dimension control

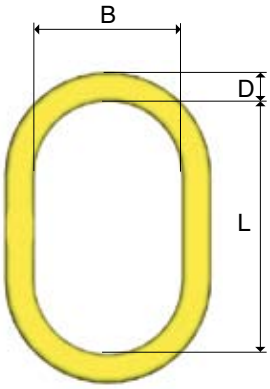
Every single component is proof loaded and inspected

Grablq® …working load limits (tonnes)

Sling type	1-leg					3- and 4-leg			
									
Condition of use	Straight	β 0-45°	β 45-60°	Asymmetrical load	Single point lift	β 0-45°	β 45-60°	Asymmetrical load	Single point lift
Load factor	1	1.4	1	1	1	2.1	1.5	1	1
Chain size									
6	1.5	2.12	1.5	1.5	1.5	3.15	2.24	1.5	1.5
8	2.5	3.5	2.5	2.5	2.5	5.2	3.7	2.5	2.5
10	4.0	5.6	4.0	4.0	4.0	8.4	6.0	4.0	4.0
13	6.7	9.5	6.7	6.7	6.7	14.0	10.0	6.7	6.7
16	10.0	14.0	10.0	10.0	10.0	21.0	15.0	10.0	10.0
20	16.0	22.4	16.0	16.0	16.0	33.6	24.0	16.0	16.0

Sling type	1-leg	Choke hitch				Home pocket loop			
		2-leg 				1-leg 2-leg 3-leg 4-leg  Note: "Max 30° – every in-loop topangle"			
Condition of use	Straight	β 0-45°	β 45-60°	Asymmetrical load	Single point lift	α max 30°	β 0-45° α max 30°	β 0-45° α max 30°	β 0-45° α max 30°
Load factor	0.8	1.1	0.8	0.8	0.8	1	1.4	2.1	2.1
Chain size									
6	1.2	1.6	1.2	1.2	1.2	1.5	2.12	3.15	3.15
8	2.0	2.7	2.0	2.0	2.0	2.5	3.5	5.2	5.2
10	3.2	4.4	3.2	3.2	3.2	4.0	5.6	8.4	8.4
13	5.2	7.4	5.3	5.3	5.3	6.7	9.5	14.0	14.0
16	8.0	11.0	8.0	8.0	8.0	10.0	14.0	21.0	21.0
20	12.8	17.6	12.8	12.8	12.8	-	-	-	-

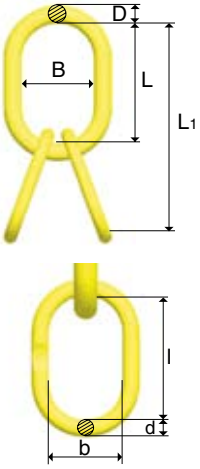
Sling type	Basket slings				Endless choke sling
	Single 2-leg top assembly 		Double 4-leg assembly 		
Condition of use	β 0-45°	β 45-60°	β 0-45°	β 45-60°	
Load factor	1.4	1.0	2.1	1.5	1.6
Chain size					
6	2.12	1.5	3.15	2.24	2.5
8	3.5	2.5	5.2	3.7	4.0
10	5.6	4.0	8.4	6.0	6.4
13	9.5	6.7	14.0	10.0	10.7
16	14.0	10.0	21.0	15.0	16.0
20	22.4	16.0	33.6	24.0	25.6



Master Link, MF

For 1-, 2-, 3- and 4 leg slings.

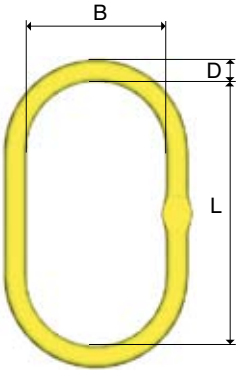
Code	WLL Tonnes* β 0-45°	For chain size, mm 1-leg	2-leg	3-4-leg	L	B	D	Weight kgs
MF 86-10	2,5	6, 8	6	-	120	70	14	0,4
MF 108-10	4	10	8	6	140	80	17	0,7
MF 1310-10	7,5	13	10	8	160	95	22	1,5
MF 1613-10	10	16	13	10	190	110	25	2,2
MF 2016-10	17	20	16	13	240	140	34	5,1
MF 2220-10	25	-	20	16	250	150	38	7,2



Master Link, MT

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

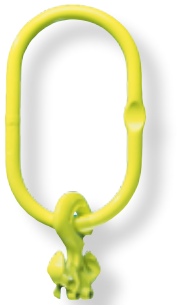
Code	WLL Tonnes* β 0-45°	L1	L	B	D	l	b	d	Weight kgs
MT 6-10	3,5	270	150	90	19	120	70	14	1,8
MT 8-10	5,2	300	160	95	22	140	80	17	3,0
MT 10-10	11,5	360	200	120	30	160	95	22	6,5
MT 13-10	17	450	250	150	40	200	120	30	15
MT 16-10	28	500	300	200	50	200	120	32	23
MT 20-10	35	550	300	200	55	250	150	38	33

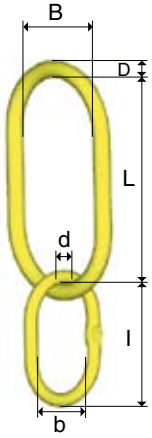


Master Link, MFX

Oversized, for 1- and 2-leg sling.

Code	WLL Tonnes* β 0-45°	For chain size, mm 1-leg	2-leg	L	B	D	Weight kgs
MFX 108-10	4	8, 10	8	340	180	25	3,7
MFX 1310-10	6,7	13	10	340	180	28	4,7
MFX 1613-10	10	16	13	340	180	34	7,0
MFX 2016-10	16	-	16	340	180	38	8,9





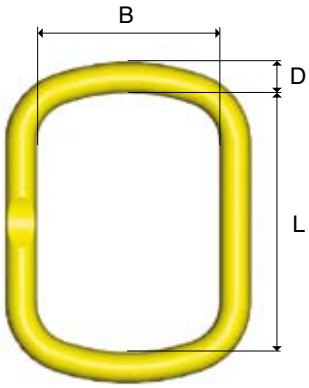
Master Link, MTX

Oversized, for 3- and 4-leg sling.

Code	WLL Tonnes* β 0-45°	For chain size mm 3-4-leg	L	B	D	l	b	d	Weight kgs
MTX 8-10	5,2	8	340	180	28	160	95	22	6,2
MTX 10-10	8,4	10	340	180	34	200	120	30	10,5
MTX 13-10	14	13	340	180	38	200	120	32	12,9
MTX 16-10**)	21	16	340	180	45	–	–	–	13,7

**) Note! Without sublink

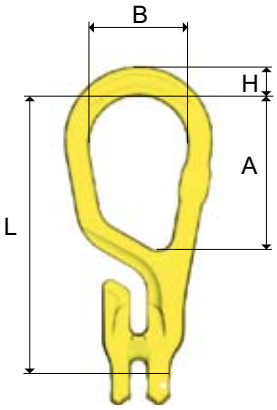
*Safety factor 4:1



Master Link, MFS

Designed for crane hooks, DIN 15401.

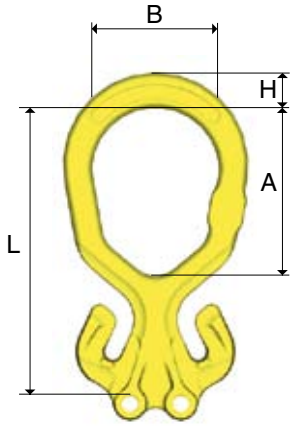
Code	WLL Tonnes* β 0-45°	For chain size, mm 1-leg	2-leg	3-4-leg	L	B	D	Weight kgs	For crane hook DIN 15401
MFS 1310-10	7,5	13	10	8	200	125	22	1,9	12
MFS 1613-10	10	16	13	10	220	135	25	2,7	12
MFS 2016-10	17	20	16	13	240	135	32	4,5	16
MFS 2220-10	28		20	16	250	175	38	7,6	25
MFSW 2220-10	25		20	16	320	225	38	9,5	50



Master Grab, MG

All-in-one compact top link.

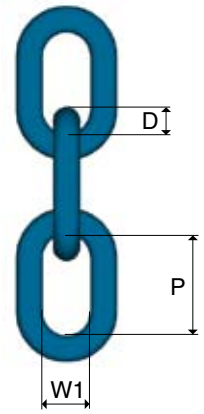
Code	WLL Tonnes*	L	A	B	H	Weight kgs
MG 6-10	1,5	145	85	60	15	0,5
MG 8-10	2,5	171	95	60	18	1,0
MG 10-10	4	211	115	75	22	1,8
MG 13-10	6,7	261	138	90	26	3,5
MG 16-10	10	310	162	105	30	5,8



Master Grab Duo, MGD

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

Code	WLL Tonnes* β 0-45°	L	A	B	H	Weight kgs
MGD 6-10	2,1	144	90	60	17	0,7
MGD 8-10	3,5	171	100	75	21	1,4
MGD 10-10	5,6	211	124	90	24	2,5
MGD 13-10	9,5	262	148	105	29	5
MGD 16-10	14	310	175	120	35	8,9



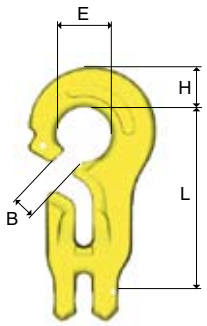
Chain KLA

Grade 8+ or grade 10

Code	WLL Tonnes*	ØD mm (nom)	P	W1	Weight kgs/m
KLA 6	1,5	6	18	8	1,0
KLA 8	2,5	8	24	11	1,7
KLA 10	4	10	30	14	2,6
KLA 13	6,7	13	39	18	4,5
KLA 16	10	16	48	22	6,6
KLA 20	16	20	60	29	9.1

*Safety factor 4:1

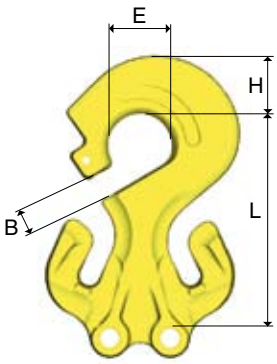
Note! For chain grade 10 the maximum in service temperature is 200°C.



C-Grab, CG

For use with master links, eye hooks and choke.

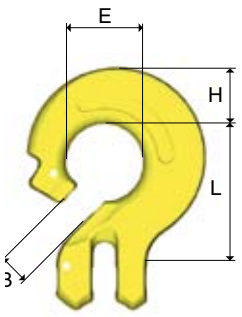
Code	WLL Tonnes*	L	B	E	H	Weight kgs
CG 6-10	1,5	79	11	24	19	0,3
CG 8-10	2,5	107	12	32	24	0,8
CG 10-10	4	134	15	40	29	1,5
CG 13-10	6,7	172	18	52	38	3,2
CG 16-10	10	215	22	64	47	6,1



C-Grab Duo, CGD

For use with master links.

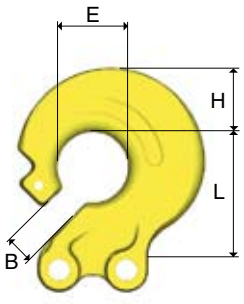
Code	WLL Tonnes* β 0-45°	L	B	E	H	Weight kgs
CGD 6-10	2,1	79	11	24	20	0,5
CGD 8-10	3,5	107	12	32	29	1,3
CGD 10-10	5,6	134	15	40	37	2,5
CGD 13-10	9,5	172	18	52	46	5,5
CGD 16-10	14	215	22	64	57	10,2



C-Lok, CL

For use with master links, eye hooks and choke.

Code	WLL Tonnes*	L	B	E	H	Weight kgs
CL 6-10	1,5	43	11	24	18	0,2
CL 8-10	2,5	58	12	32	24	0,5
CL 10-10	4	74	15	40	29	0,9
CL 13-10	6,7	94	18	52	38	2
CL 16-10	10	119	22	64	48	3,8



C-Lok Duo, CLD

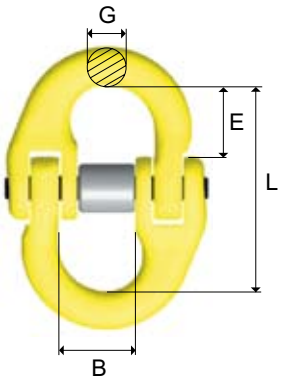
For use with master links.

Code	WLL Tonnes* β 0-45°	L	B	E	H	Weight kgs
CLD 6-10	2,1	43	11	24	22	0,3
CLD 8-10	3,5	58	12	32	29	0,8
CLD 10-10	5,6	74	15	40	37	1,5
CLD 13-10	9,5	94	18	52	46	3,2
CLD 16-10	14	119	25	64	57	6

*Safety factor 4:1

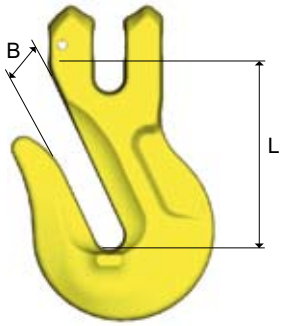
All GrabiQ C-connectors can be equipped with QuickPin.

Coupling link G



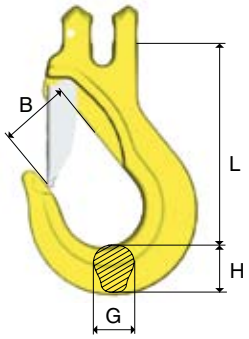
Code	WLL Tonnes*	L	B	G	E	Weight kgs
G 6-10	1,5	45	15	8	16	0.1
G 8-10	2,5	56	18	9	22	0.2
G 10-10	4,0	68	25	12	26	0.3
G 13-10	6,7	89	29	15	33	0.7
G 16-10	10	104	36	19	40	1.2
G 20-10	16	125	43	26	70	2.2

Grab hook GG



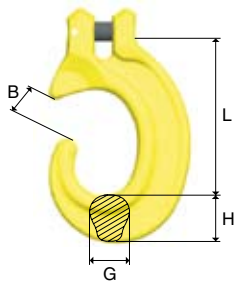
Code	WLL Tonnes*	L	B	Weight kgs
GG 8-10	2.5	57	10.5	0.4
GG 10-10	4	83	12	0.8
GG 13-10	6.7	97	16	1.7
GG 16-10	10	124	20	3.1
GG 20-10	16	147	26	6.8

Sling hook EGKN



Code	WLL Tonnes*	L	B	G	H	Weight kgs
EGKN 6-10	1.5	86	27	17	20	0.4
EGKN 8-10	2.5	95	31	17	22	0.5
EGKN 10-10	4	121	41	23	30	1.0
EGKN 13-10	6.7	145	49	28	38	2.0
EGKN 16-10	10	170	59	36	45	3.8
EGKN 20-10	16	209	73	42	60	7.6

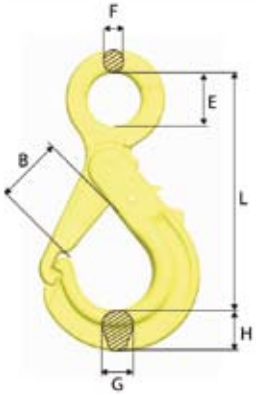
C-hook GC



Code	WLL Tonnes*	L	B	G	H	Weight kgs
GC 8-10	2,5	79	20	16	27	0.5
GC 10-10	4	105	27	22	31	1.0
GC 13-10	6,7	138	35	32	38	2.1

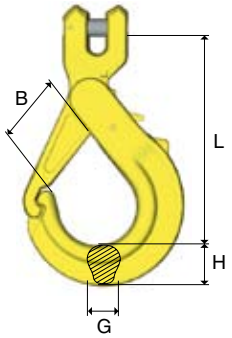
*Safety factor 4:1

Safety hook OBK



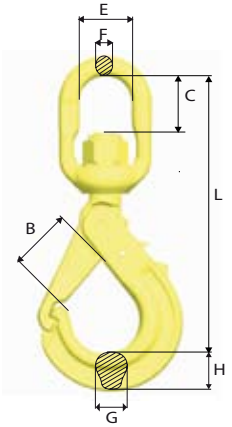
Code	WLL Tonnes*	L	B	E	F	G	H	Weight kgs
OBK 6-10	1.5	103	26	22	9	14	17	0.4
OBK 7/8-10	2.5	139	37	28	10	20	22	0.8
OBK 10-10	4	170	47	34	13	22	29	1.3
OBK 13-10	6.7	205	54	44	15	27	35	2.4
OBK 16-10	10	249	68	56	19	29	43	4.2

Safety hook GBK



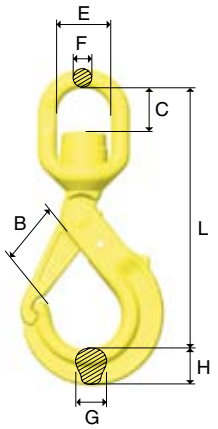
Code	WLL Tonnes*	L	B	G	H	Weight kgs
GBK 6-10	1.5	87	26	14	17	0.4
GBK 8-10	2.5	119	37	20	22	0.8
GBK 10-10	4	150	47	22	29	1.3
GBK 13-10	6.7	172	54	27	35	2.4
GBK 16-10	10	207	68	29	43	4.3

Swivel safety hook with griplatch LBK



Code	WLL Tonnes*	L	B	C	E	F	G	H	Weight kgs
LBK 7/8-10	2.5	176	37	27	38	12	20	22	0.8
LBK 10-10	4	213	47	35	42	15	22	29	1.8
LBK 13-10	6.7	236	54	47	48	19	27	35	3.8
LBK 16-10	10	324	68	66	61	23	29	43	6.0

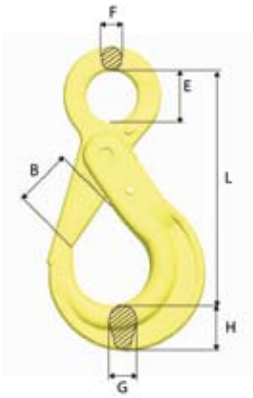
Swivel safety hook with griplatch LKBK
With ball-bearing



Code	WLL Tonnes*	L	B	C	E	F	G	H	Weight kgs
LKBK 7/8-10	2.5	176	37	27	38	12	20	22	0.8
LKBK 10-10	4	213	47	35	42	15	22	29	1.8
LKBK 13-10	6.7	236	54	47	48	19	27	35	3.8
LKBK 16-10	10	320	68	61	61	23	29	43	6.0

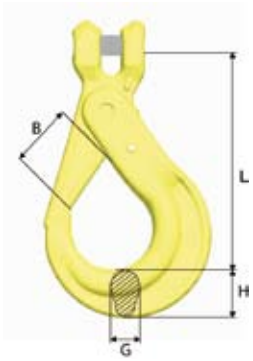
*Safety factor 4:1

Safety hook BK



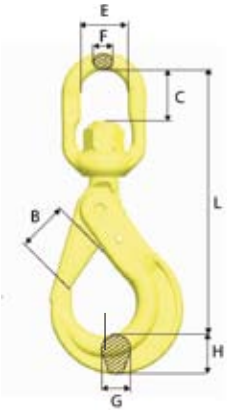
Code	WLL Tonnes*	L	B	E	F	G	H	Weight kgs
BK 6-10	1.5	109	29	22	10	15	21	0.5
BK 7/8-10	2.5	137	37	28	11	17	25	0.9
BK 10-10	4	168	44	34	13	21	30	1.5
BK 13-10	6.7	207	54	44	16	30	39	2.8
BK 16-10	10	253	62	56	20	37	49	5.6
BK 18/20-10	16	290	68	60	22	42	63	8.3

Safety hook BKG



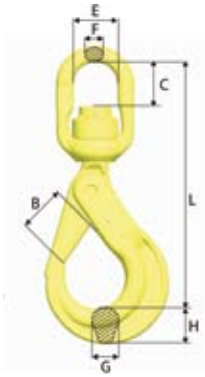
Code	WLL Tonnes*	L	B	G	H	Weight kgs
BKG 6-10	1.5	91	29	15	21	0.5
BKG 8-10	2.5	121	37	17	25	0.9
BKG 10-10	4	142	44	21	30	2.1
BKG 13-10	6.7	180	54	30	39	3.0
BKG 16-10	10	225	62	37	49	5.7
BKG 20-10	16	240	68	42	63	8.3

Swivel safety hook BKL



Code	WLL Tonnes*	L	B	C	E	F	G	H	Weight kgs
BKL 7/8-10	2.5	183	37	27	38	12	17	25	1.2
BKL 10-10	4	218	44	36	42	15	21	30	2.0
BKL 13-10	6.7	280	54	47	48	19	30	39	3.8
BKL 16-10	10	343	62	67	61	22	37	49	7.1
BKL 18/20-10	16	367	69	70	74	26	42	63	11.1

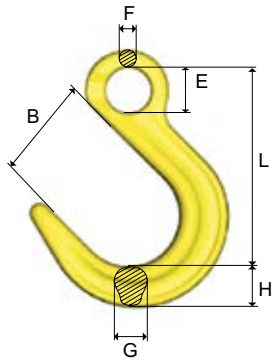
Swivel safety hook BKLK
With ball-bearing



Code	WLL Tonnes*	L	B	C	E	F	G	H	Weight kgs
BKLK 7/8-10	2.5	184	37	27	38	12	17	25	1.2
BKLK 10-10	4	218	44	35	42	15	21	30	1.9
BKLK 13-10	6.7	281	54	45	48	19	30	39	3.8
BKLK 16-10	10	339	62	63	61	22	37	49	7.2
BKLK 18/20-10	16	367	69	59	74	26	42	63	11.3

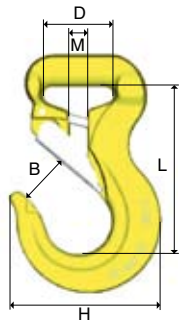
*Safety factor 4:1

Foundry hook OKE



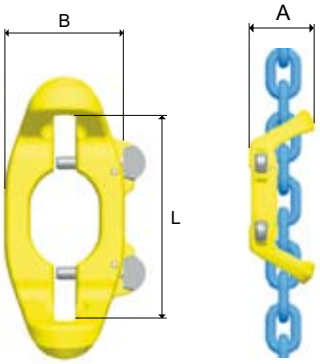
Code	WLL Tonnes*	L	B	E	F	G	H	Weight kgs
OKE 7/8-10	2,5	123	63	28	11,5	20	26	0,7
OKE 10-10	4	151	76	34	15	26	29	1,3
OKE 13-10	6,7	184	90	44	19	33	39	2,8
OKE 16-10	10	217	102	56	23	40	46	4,9

Roundsling Hook, RH



Code	WLL Tonnes*	B	D	L	H	M	Weight kgs
RH 1-10	1	24	35	84	73	8	0.4
RH 2-10	2	28	40	96	86	10	0.7
RH 3-10	3	33	47	117	108	12	1.4
RH 5-10	5	43	73	155	131	16,5	3.2

Midgrab shortener MIG



Code	WLL Tonnes*	L	A	B	Weight kgs
MIG 8-10	2.5	95	50	60	0.7
MIG 10-10	4.0	125	70	77	1.1
MIG 13-10	6.7	150	90	80	2.6

Locking options for the MIG

MIG C

MIG CC

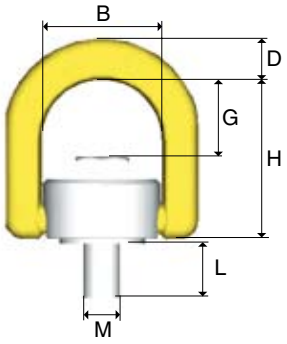
MIG L

MIG LC

Locking set options, see page 22.

*Safety factor 4:1

Rotating Lifting Point, RLP

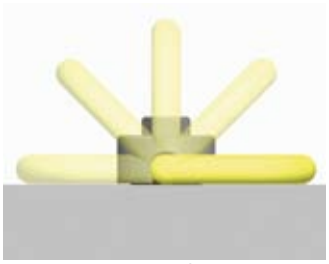


Code	WLL Tonnes*	L	M	B	D	G	H	Weight kgs
RLP M8-10**	0,3	15	M8	42	12	35	60	0,3
RLP M10-10**	0,5	20	M10	42	12	34	60	0,3
RLP M12-10**	0,75	19	M12	57	19	46	85	0,9
RLP M16-10**	1,5	24	M16	57	19	44	85	0,9
RLP M20-10**	2,5	32	M20	83	28	56	111	2,8
RLP M24-10	3,5	37	M24	83	28	53	111	2,8
RLP M30-10	6	49	M30	114	34	69	144	7,0
RLP M36-10	8	61	M36	114	34	65	144	7,3
RLP M42-10	14	65	M42	149	40	90	185	14,0
RLP M48-10	16	75	M48	149	40	86	185	14,9

*Safety factor 4:1

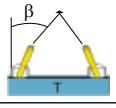
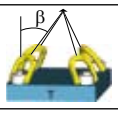
Straight pull gives a higher WLL, see table below.
Longer bolt can be supplied on special request.
**Available in UNC thread; 5/16", 3/8", 7/16", 5/8", 3/4".

180°



360°

Working Load Limits (tonnes)

								
No. of legs	1	1	2	2	2 symmetric		3 and 4 symmetric	
β	0°	90°	0°	90°	0-45°	45-60°	0-45°	45-60°
Load factor	*)	1	*)	2	1,4	1	2,1	1,5
RLP-M 8-10	0,60	0,30	1,20	0,60	0,42	0,30	0,63	0,45
RLP-M10-10	1,00	0,50	2,00	1,00	0,70	0,50	1,05	0,75
RLP-M12-10	1,50	0,75	3,00	1,50	1,00	0,75	1,60	1,13
RLP-M16-10	3,00	1,50	6,00	3,00	2,10	1,50	3,15	2,25
RLP-M20-10	5,00	2,50	10,00	5,00	3,50	2,50	5,25	3,75
RLP-M24-10	7,00	3,50	14,00	7,00	4,90	3,50	7,35	5,25
RLP-M30-10	12,00	6,00	24,00	12,00	8,40	6,00	12,60	9,00
RLP-M36-10	14,00	8,00	28,00	16,00	11,20	8,00	16,80	12,00
RLP-M42-10	16,00	14,00	32,00	28,00	19,60	14,00	29,40	21,00
RLP-M48-10	20,00	16,00	40,00	32,00	22,40	16,00	33,60	24,00

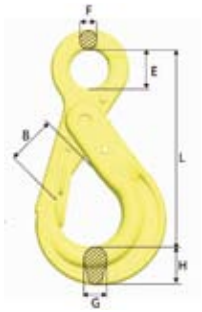
*) Provided only axial loading takes place, i.e. no bending force applied in the direction of the thread.

RLP- Rotating Lifting Point, Grade 10

The patented new design of the RLP makes it suitable also in applications where a conventional Lifting point would not be fully adequate. Intended to be used as a Lifting point, Lashing point or Towing attachment.

- Dismountable open D-ring. Enables assembly of roundsling, master link, link or hook directly onto the RLP.
- Hexagon-headed screw for easy assembly/disassembly by means of an ordinary wrench.
- RLP can rotate 360° and articulate 180°.
- Forged in Grade 10 material permits higher WLL than Grade 8 and DIN 580 eyebolts.

The double latch BK-hook with a recessed trigger - The safest self-locking hook in the market
Our latest development in the BK family is our new BKD hook. The innovative and patent pending solution for the offshore oil & gas industry, is as simple as it is good. If there for any reason will be that the latch will accidentally become open, either by a direct hit on the trigger or that the trigger has been worn out, an extra latch will be there to keep the load in its place.



*Safety factor 4:1

Safety hook BKD

Code	WLL Tonnes*	L	B	E	F	G	H	Weight kgs
BKD 13-10	6.7	207	44	44	16	30	39	3.0
BKD 16-10	10	253	48	56	20	37	49	6.0
BKD 18/20-10	16	290	57	60	22	42	63	8.7

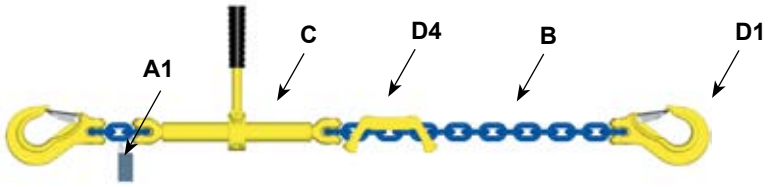
GrabiQ in Box
Pre-assembled chain slings ready to use

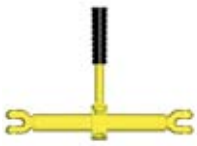
The perfect retailer concept - it is just to "Grab & Go"!

Art.nr	Type	Weight	
B790 110	**MG1-BKG-6** L= 2 m, WLL 1,5 ton	4,1	
B790 111	**MG1-GBK-8** L= 3 m, WLL 2,5 ton	6,4	
B790 112	**MG1-GBK-10** L= 3 m, WLL 4,0 ton	10,4	
B790 120	**MG1-EGKN-6** L= 2 m, WLL 1,5 ton	4,0	
B790 121	**MG1-EGKN-8** L= 3 m, WLL 2,5 ton	6,0	
B790 122	**MG1-EGKN-10** L= 3 m, WLL 4,0 ton	9,7	
B790 210	**MG2-BKG-6** L= 2 m, WLL 2,1 ton	7,3	
B790 211	**MG2-GBK-8** L= 3 m, WLL 3,5 ton	12,6	
B790 212	**MG2-GBK-10** L= 3 m, WLL 5,6 ton	20,3	
B790 220	**MG2-EGKN-6** L= 2 m, WLL 2,1 ton	7,1	
B790 221	**MG2-EGKN-8** L= 3 m, WLL 3,5 ton	11,7	
B790 222	**MG2-EGKN-10** L= 3 m, WLL 5,6 ton	18,9	
B790 130	**MG2-CL-6** L= 6 m, WLL 2,1 ton choked 1,6 ton	12,4	
B790 131	**MG2-CL-8** L= 6 m, WLL 3,5 ton choked 2,7 ton	21,8	
B790 132	**MG2-CL-10** L= 6 m, WLL 5,6 ton choked 4,4 ton	34,9	

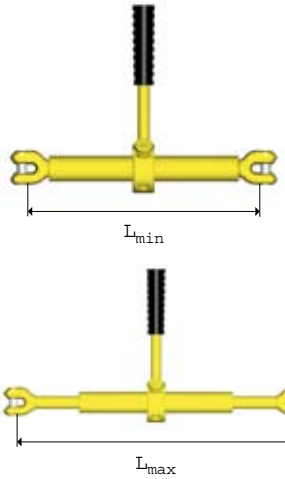
Lashing chain according to EN12195-3

With the new ratchet chaintensioner (T) for lashing chain according to EN12195-3 Gunnebo Lifting is adding yet another component to the multifunctional GrabiQ range and is offering a full range of GrabiQ chain and components, also for cargo securing. The T chain tensioner in combination with the new patented Midgrab shortener (MIG) is the ultimate solution for safe lashing. All parts of the lashing chain fully conforms to the requirements of EN12195-3.



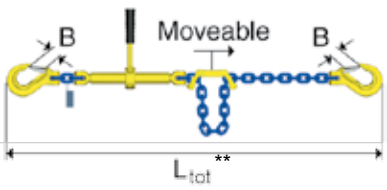
Product features – Customer benefits		
See picture above	A	**Complete lashing equipment** Contains the following components: B – Tensioning element – Round steel link chain C – Tensioning device – Ratchet chain tensioner A1 – Marking D – Connecting components – Shortening component, Lashing hook
	B	High tensile short link chain grade 10 = 1000N/mm^2 type KLA-10-10, LC = 8.000 daN Surface treatment: Powder Coated ID-Marking of chain: H32 and 8+G or 10G
	C	Ratchet chain tensioner with foolproof clevis connection in both ends in Grade 10. Extremely robust and user friendly design of housing and ratchet mechanism – standing up against tough handling. • The thread is enclosed in the housing, thereby protecting the thread from external damage. • The openings of the housing are sealed with O-rings thereby protecting thread from sand or dirt. • The interior is greased in the factory and effectivly sealed – which makes the chain tensioner practicly maintenance free. • The chain tensioner is provided with a safely device in order to avoid unintentional dismounting. • Ergonomically designed rubber handle for effective tensioning and reduced slip risk. • Dismountable handle in case of tensioning in narrow spaces or need for replacement. No need for safety chain. Marked with positive indication of the manufacturer, product designation, size, batch number and grade.
	A1	ID-tag with indication of: • Lashing Capacity (LC) in kN (t) • Standard Tension Force (S_{TF}) • Manufacturer • Traceability code • Applicable standard, EN12195-3 • Information “Not for lifting”
	D4	Midgrab shortening device in grade 10 with heavy duty securing devices against working loose. The Midgrab shortener offers the possibility to be assembled either fixed on the securing chain or moveable in either direction of the chain. The Midgrab shortener can also offer the possibility of shortening in either direction of the chain. Marked with positive indication of the manufacturer, product designation, size, batch number and grade.
	D1	Lashing hooks in grade 10 such as the EGKN sling hook with a heavy duty latch against working loose or the GBK Griplatch Safety Hook. Marked with positive indication of the manufacturer, product designation, size, batch number and grade.

Advice for safe use:
Consider the required lashing capacity taking into account the mode of use and the load to be secured.
Choose a lashing chain strong enough and plan the fitting removal operation before the journey starts.
Never mix lashing chain with web lashing securing the same load.
Before release of the load assure the stability of the load
Protect the lashing chain from sharp edges, use correct padding
Never overload the lashing chain
Don’t use a lashing chain that are twisted or knotted.
Check the lashing chain from signs of damage or wear.



Chain Tensioner - T

Chain size (mm)	Code	Breaking force (kN)	Min. length L_{min} (mm)	Max length L_{max} (mm)	Tensioning length L_{ten} (mm)	Weight (kg)
8	T 8-10	102	355	535	200	3,0
10	T 10-10	158	355	535	200	3,1
13	T 13-10	268	484	785	300	7,4

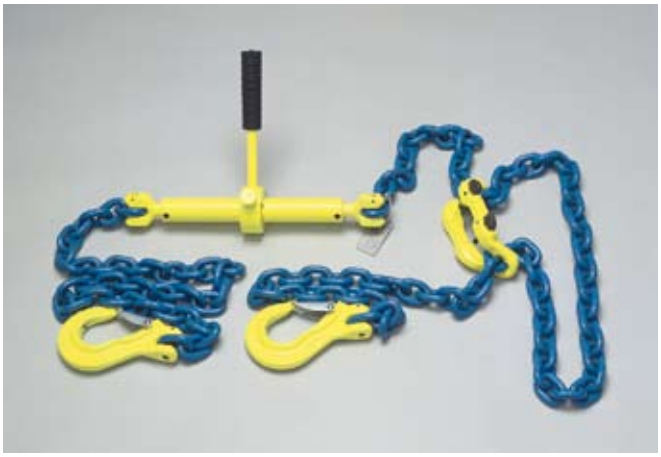


Chain Lashing set - T-MIG

MIG Shortener locked firmly on the chain

Chain size (mm)	Code	Lashing capacity kN (t)	S_{TF} daN	Min. length L_{min} (mm)	Hook opening B (mm)	Weight (kg)
8	T-MIG-LC-8-10	50 - (5)	2500	765	33	9,3
10	T-MIG-LC-10-10	80 - (8)	2800	870	43	12,7
13	T-MIG-LC-13-10	130 - (13)	2800	1165	49	26,2

**)L_{tot} standard total length 3500 mm. Other lengths on request.



GrabiQ Lashing set. (T-MIG-CC)

Cargo securing of agricultural equipment.

Information for safe use and maintenance

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 utmost importance that this information is known to the user, and in accordance with the Machinery Directive 98/37/EC this information must be delivered to the customer.

Extreme temperature conditions

The in service temperature of the G8+ chain and G10 components affects the WLL as follows.

Temp. of sling (°C)	Reduction of WLL
-40 to 200	None
+200 to 300	10%
+300 to 400	25%

Upon return to normal temperature, the sling reverts to it's 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.

Surface treatment

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

Asymmetric 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.)

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 Lifting dealer.

General advice

- Ensure that the sling is precisely as ordered
- Ensure that the manufacturers certificate is in order.
- Ensure that the identification and the WLL on the ID-tag correspond 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.

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 centre 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 go under a suspended load.
- Take into consideration that the load may swing or rotate
- Watch your feet and fingers while loading / unloading.

Method of connection

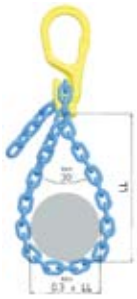
A chain sling is usually attached to the load and the crane by means of terminal fittings such as hooks, links etc. Chain should be without twists or knots. The lifting point should be seated well down in the terminal fitting, never on the point or wedged in the opening. The terminal fitting should be 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 no more than 80% of that marked.

Use edge protection to prevent sharp edges from damaging the lifting equipment. A rule of thumb is that the radius of the edge >2 x chain diameter. When lifting with chain directly on lugs we recommend that the lug diameter >3 x the pitch of the chain. With a lug, diameter which is less than stipulated above, the WLL must be reduced with 50%.

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.

Assembly:

G-link assembly:

1. Join the link halves
2. Place the retaining bush between them.
3. Insert the load pin and ensure that the load pin snaps into place.

C-lok / C-grab assembly:

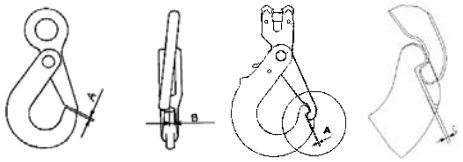
Note: Either dismountable or permanent assembly is possible

1. Assemble the master link, C-parts and locking pin.
2. Fit the retaining pin
3. Assemble the chain, clevis connection and load pin.
4. Fit the retaining pin / pins.
5. Make sure that the load pins and locking pins is properly secured by the retaining pins.

Maintenance

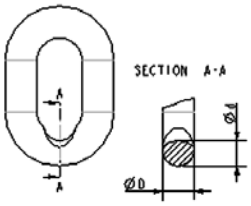
Periodic thorough examination must be carried out at least every 12 months or more frequently according to statutory regulations, type of use and past experience.

1. Overloaded chain slings must be taken out of service.
2. Chain and components incl. load pins which has been damaged, deformed, elongated, bent or showing signs of cracks or gauges shall be replaced. Grind of small sharp cuts and burrs.
   Additional testing by magnetic particle inspection and/or proof loading at max. 2 x WLL may be carried out.
3. Check the function of latches, triggers and retaining pins / bushes, replace when necessary. Always use Gunnebo Lifting original spare parts.
4. Max. clearance between hook and latch.
   Note: For a Griplatch hook measure the difference between measure A with unloaded spring and measure 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
20	5.5	10

5. The wear of the chain and component shall in no place exceed 10% of the original dimensions. The chain link wear - max. 10% - is defined as the reduction of the mean diameter measured in two directions.



$$\frac{D+d}{2} > 0{,}9d_n$$

Spare Parts

CS, the C-connection set for CG, CGD, CL, CLD and RH hook consists of one blocking pin and one spring retaining pin,for dismountable.

Code:
CS-6
CS-8
CS-10
CS-13
CS-16
CS-20

CLS, the clevis connections set consist of one load pin and one spring retaining pin.

Code:
CLS-6
CLS-8
CLS-10
CLS-13
CLS-16
CLS-20

CLP single, permanent locking set for single leg components. Includes one spring retaining pin for permanent locking of C-part.

Code:
CLP-6 single
CLP-8 single
CLP-10 single
CLP-13 single
CLP-16 single

CLPD duo, permanent locking set for duo components. Includes one spring retaining pin for permanent locking of C-part.

Code:
CLPD6 duo
CLPD-8 duo
CLPD-10 duo
CLPD-13 duo
CLPD-16 duo

SKA, locking set for coupling links G, consists of load pin and bush.

Code:
SKA-6
SKA-7/8
SKA-10
SKA-13
SKA-16
SKA-20

RDOBK, spare part set for GBK, LBK, LKBK safety hook.

Code:
RDOBK-6
RDOBK-7/8
RDOBK-10
RDOBK-13
RDOBK-16

RDBK, spare part set for BK, BKG, BKL, BKLK safety hooks.

Code:
RDBK-6
RDBK-7/8
RDBK-10
RDBK-13
RDBK-16
RDBK-18/20

RDEKN, spare part set for EGKN sling hook and RH hook.

Code:
RDEKN-6 (RH-1)
RDEKN-8 (RH-2)
RDEKN-10 (RH-3)
RDEKN-13 (RH-5)
RDEKN-16
RDEKN-18/20

RDRLP, set consists of bolt and metal clip.
Fits; RLP M8-10 — RLP M48-10.

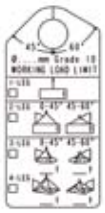
C, close/open locking set for MIG.

Spring operated locking device. Can be placed either in open or closed position.
Code:
C-8
C-10
C-13

L, fixed locking set for MIG.

For fixed mounting of MIG shortener on a chain leg.
Code:
L-8
L-10
L-13

Sling id tag



Code:
FlexiTag 6 mm
FlexiTag 8 mm
FlexiTag 10 mm
FlexiTag 13 mm
FlexiTag 16 mm
FlexiTag 20 mm
FlexiTag Neutral
FlexiTag Sub-id tag
Lashing chain id tag

QuickPin, QP. Fits all GrabiQ C-connectors.
Instant close/open function.

Code: QP-6 -- QP-16

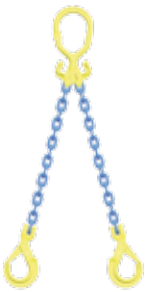
BK Tool kit

Tool kit for replacement BK-trigger set.
Tool kit in a plastic box, suit BK and griplatch hooks, sizes 6-16 mm.

Popular slings

MG1-GBK

MG2-GBK



TG3-GBK

TG4-GBK

BDGG

TG1-CL

Alt.

TG2-CG

Alt.

MG1-MG

Alt.

Alt.

When ordering state: Code eff. Lenght, size or max load.
Example: MG2-GBK, 3m, 13mm.

Lifting with GrabiQ sling.

RH hook in action.

Cargo securing.

GUNNEBO INDUSTRIER AB (publ)
Business Area Lifting
P.O. Box 44
SE-730 60 Ramnäs, Sweden
Tel: +46 220 384 00
Fax: +46 220 384 98
E-mail: export@gunnebolifting.com
www.gunnebolifting.com

R400E Rev 9 August 2007 Lindströms Tryckeri, Alvesta, 38628