

Innovations in
cargo securing



fast forward



COMMITMENT

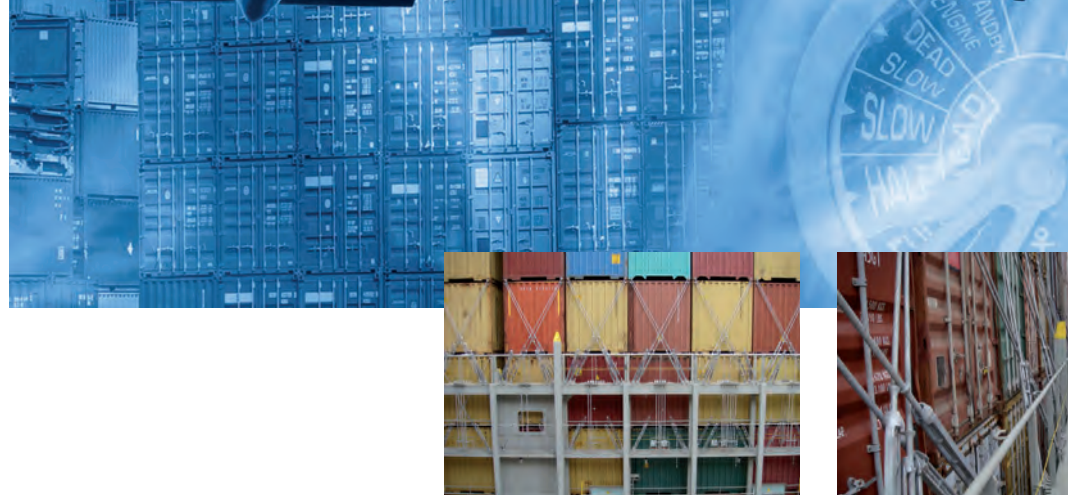
DESIGN AND ENGINEERING

QUALITY

PRODUCTS

WORLDWIDE SERVICE

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Container Securing with System

In the container industry, cycle time for loading and unloading containers is the most important criterion. Innovative container securing systems designed by German Lashing aim specifically at enhancing productivity and safety, both on the vessel and at container terminals.

Commitment

Based on great tradition, German Lashing Robert Böck GmbH is a German-owned company with headquarters in Germany, China and a global network of trained agents. More than three decades of experience in the manufacture and supply of container stowage and lashing systems have turned German Lashing into a leading mark of excellence, which is recognised and preferred worldwide.

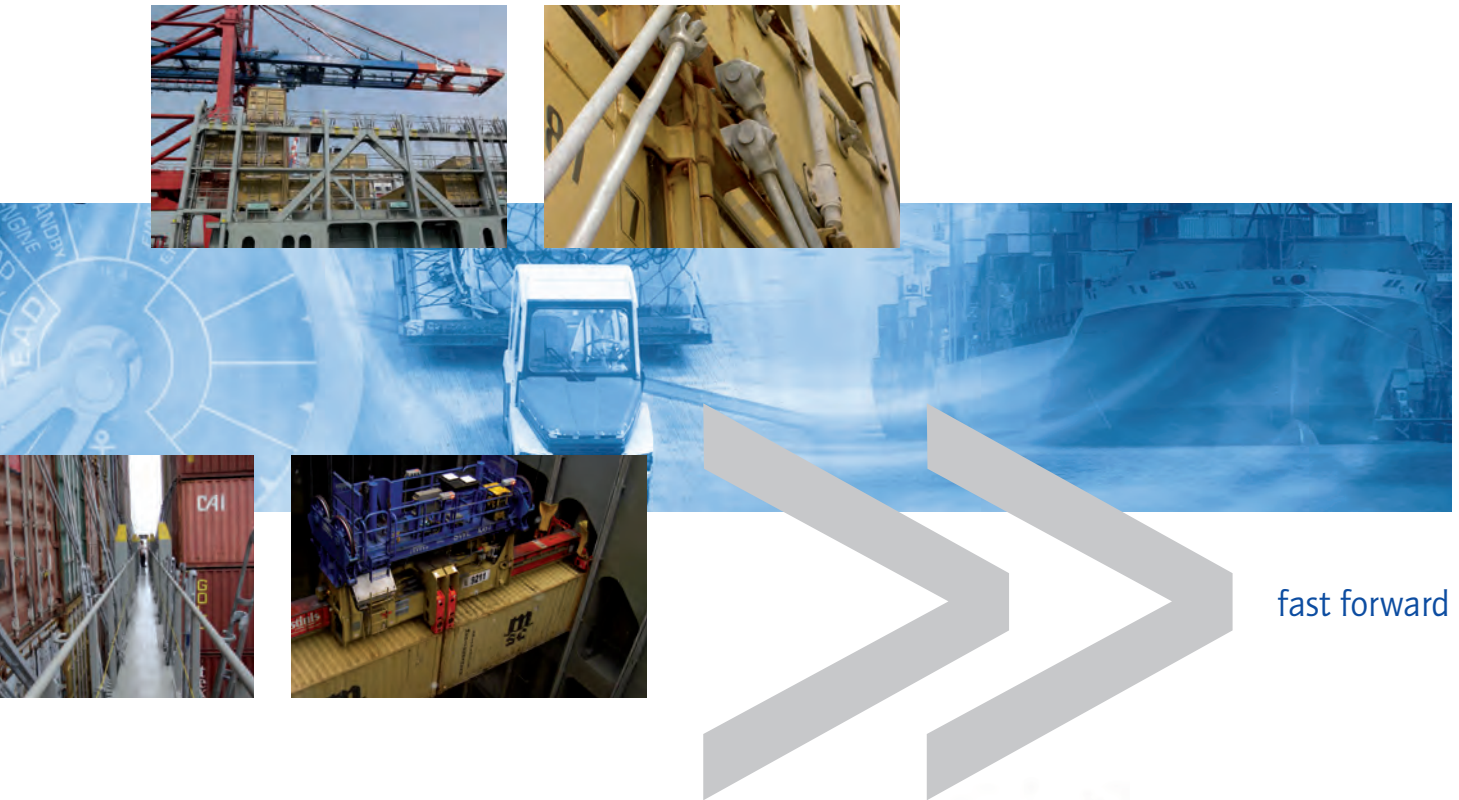
German Lashing designs, manufactures, sells and services complete solutions for the container handling industry, globally accepted and certified by all classification societies. As a leader and specialist in

container securing technology, a dedicated and highly experienced staff is constantly endeavouring to optimise container stowage and lashing systems, to provide highest levels of customer service, workmanship and product reliability. German Lashing has customers around the world including shipyards, ship owners, ship managers and consultants.

Design and Engineering

German Lashing constantly continues its programme of product and service development, focusing on the aim to supply the highest quality products to suit the customer's requirements and their expectations of value, performance and quality. Fully-equipped research and testing facilities provide German Lashing with an R&D capability to develop and improve products and processes.





fast forward



Quality

Esteemed for its reputation for excellent quality, German Lashing's own production centre is certified to ISO 9001 and by all major international classification societies. Accompanied by established Quality Management procedures, the products are tested by equipment that has proved its worth in efficient and safe operation, and is engineered to an exact unvarying world-class standard.



Products

German Lashing's product spectrum is ready to cover all customer needs in the field of container securing systems. The certified own production centre and a highly skilled team ensure the unrivalled quality level, covering specification, design, manufacturing and forwarding to the final destination at the customer. In addition to standard systems, German Lashing can offer expert solutions for individual customer applications.



Worldwide Service

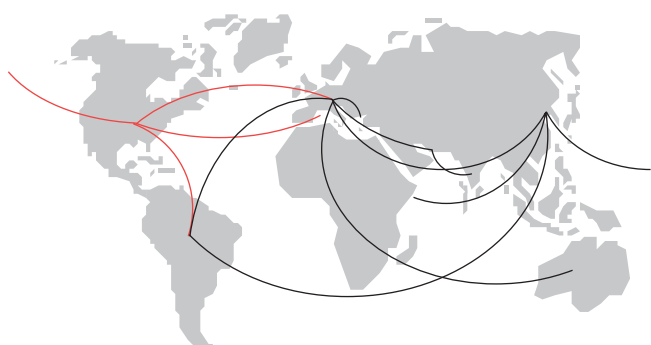
After-sales service plays a leading role in smooth and trouble-free container operation. German Lashing is firmly committed to providing a full and comprehensive product support service to its customers wherever they are in the world. The company guarantees excellent service for its clients through the worldwide delivery of products and services from the service centre network. The German Lashing range is backed up with well-trimmed service packages and training programmes.

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www.germanlashing.de



Head Office

German Lashing
Robert Böck GmbH
Marcusallee 9
D-28359 Bremen Germany
Fon: +49-421-17361-5
Fax: +49-421-17361-97
info@germanlashing.de
www.germanlashing.de

Office China

Unit 2506
Summit Center No. 1088
Yan An Road (W) Shanghai
200052 P.R. China
Fon: +86-21- 5238 8091
Fax: +86-21- 5238 8097
yxi@germanlashing.cn

Photo of CMA CGM CHRISTOPHE COLOMB taken by Thierry Dosogne



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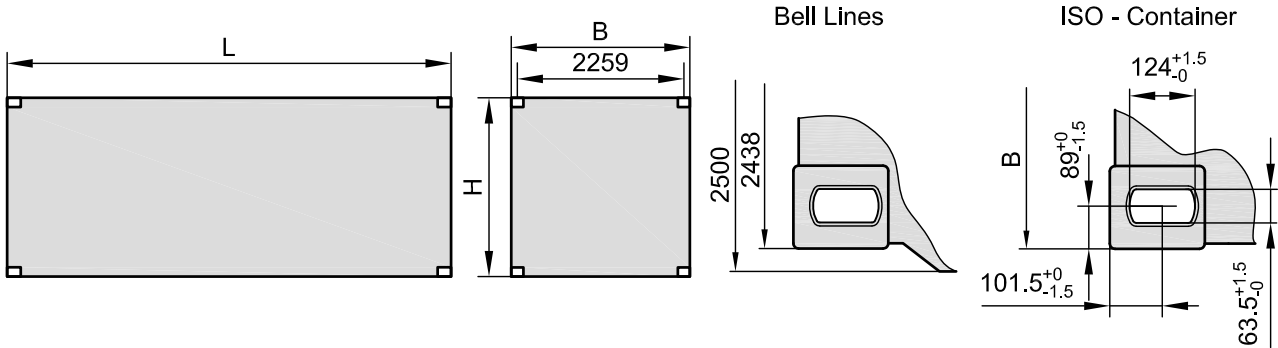
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Other

Container Dimensions



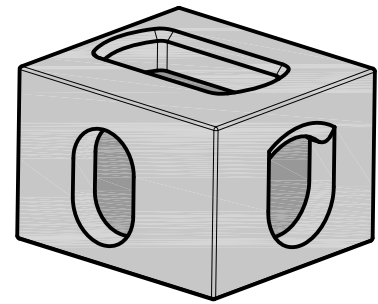
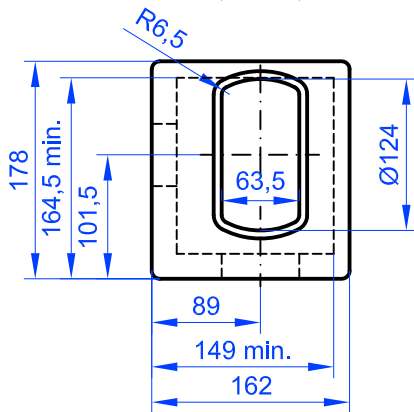
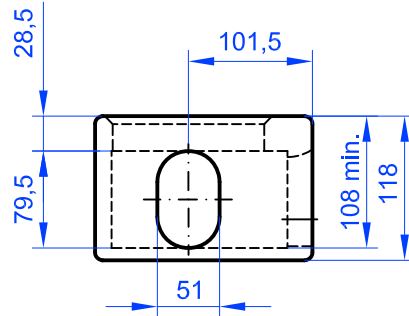
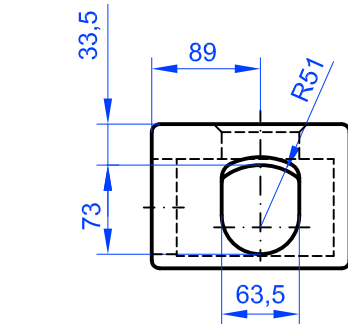
Comparison (side view)	Length (L)		Breadth (B)		Height (H)		Weight (max. gross) tons
	ft	mm	ft	mm	ft	mm	
	53'	16150	8'6"	2591	9'6 1/2"	2908	30,48
	49'	14935		2600	9'6"	2896	30,48
	2x 24 1/2'	2x 7430		2600	9'6"	2896	30,48
	48'	14630	8'6"	2591	9'6 1/2"	2908	30,48
	45'	13716	8'	2438	8'6" 9'6"	2591 2896	30,48
	43'	13103	8'	2438	8'6"	2591	30,48
	40'	12192	8'	2438	8' 8'6" 9' 9'6"	2438 2591 2743 2896	30,48
	40'	12192		2500	8'6" 9' 9'6"	2591 2743 2896	30,48
	30'	9125	8'	2438	8' 8'6"	2438 2591	30,48 (25,40)
	24'	7430	8' 8'6"	2438 2591	8'6" 9'6"	2591 2896	24,00
	2x 20'	2x 6058	8'	2438	8' 8'6" 9'6"	2438 2591 2896	30,48 (24,00)
Tolerances	+ 0 mm -10 mm	+ 0 mm - 6 mm	+ 0 mm - 5 mm		+ 0 mm - 5 mm		old values in brackets



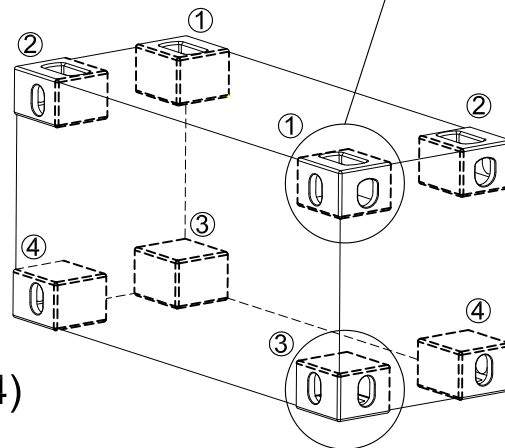
Corner Castings

TOP CORNER (Type 1 and 2) (Type 2 mirror-inverted)

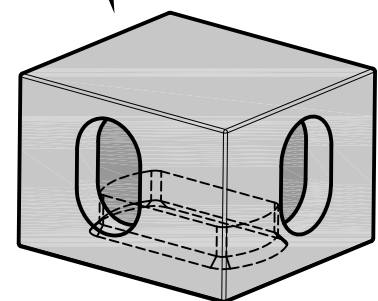
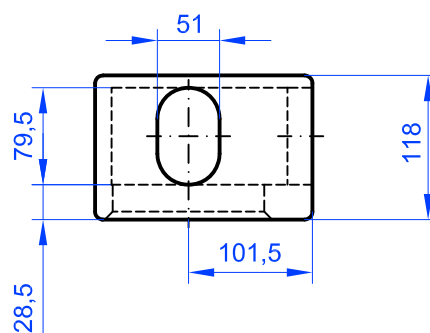
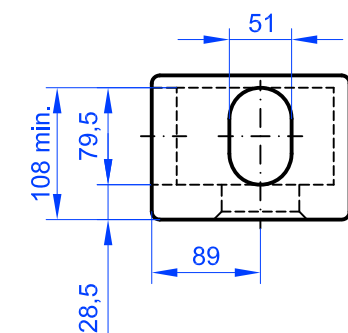
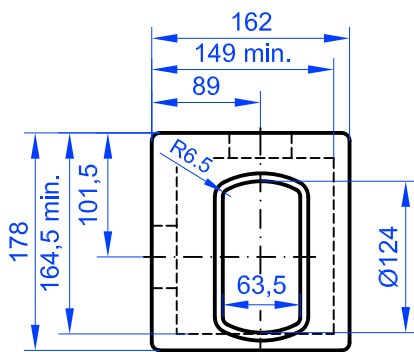
ACCORDING TO ISO 1161



weight: 11,05kg / piece



BOTTOM CORNER (Type 3 and 4) (Type 4 mirror-inverted)



weight: 10,95kg / piece

Notes

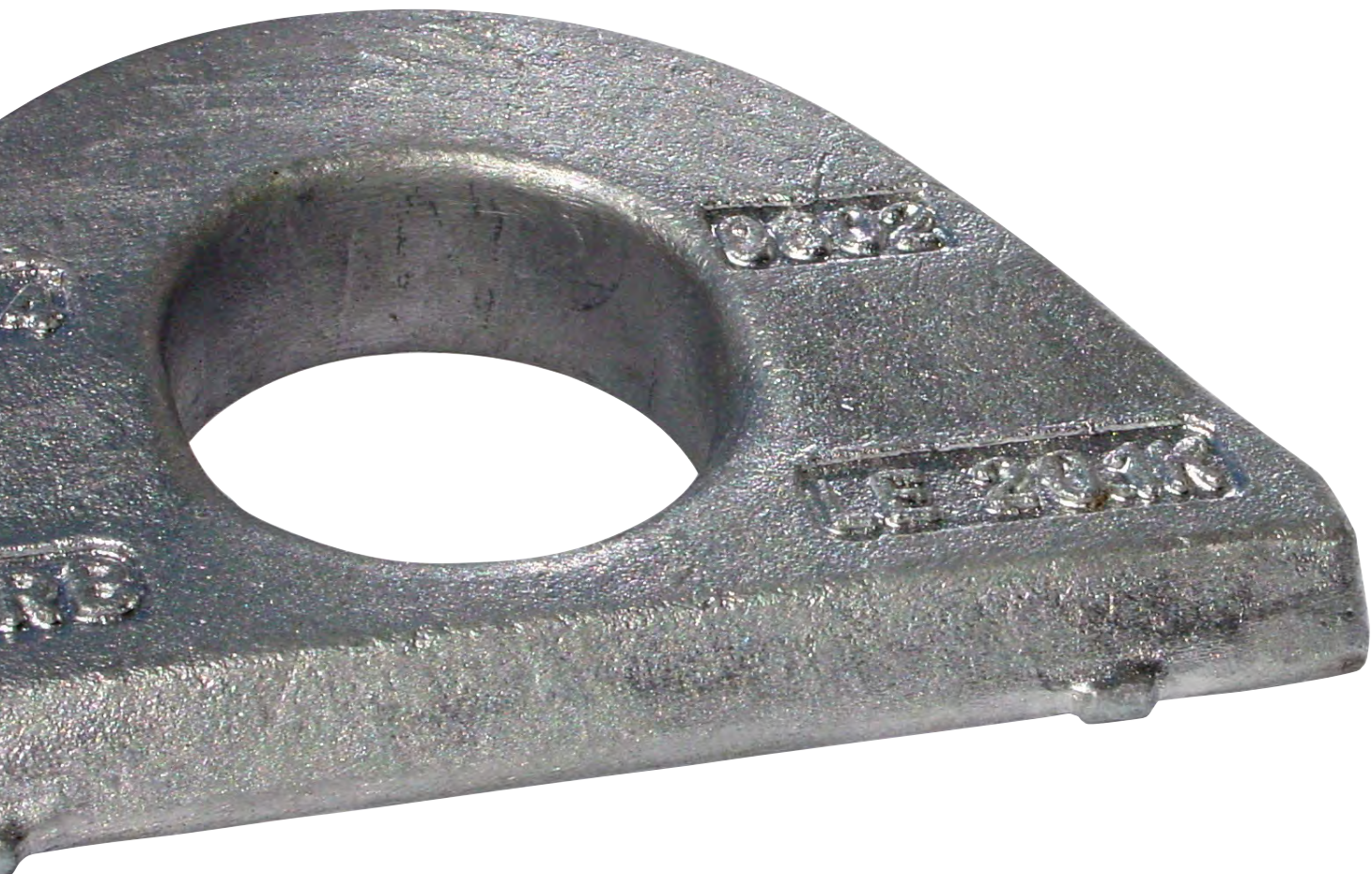
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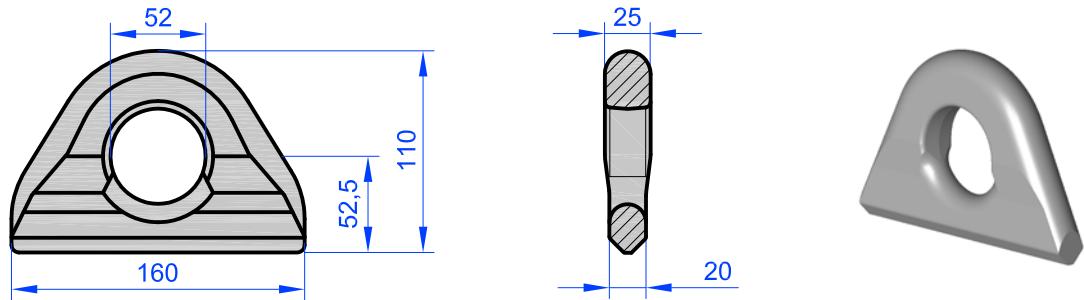
Fixed Fitting Deck

Raised ISO Socket
ISO Sliding Socket
ISO Lifting Socket
Dovetail Plate
Lashing Plate
Lashing Eye
Slewing Eye
Other

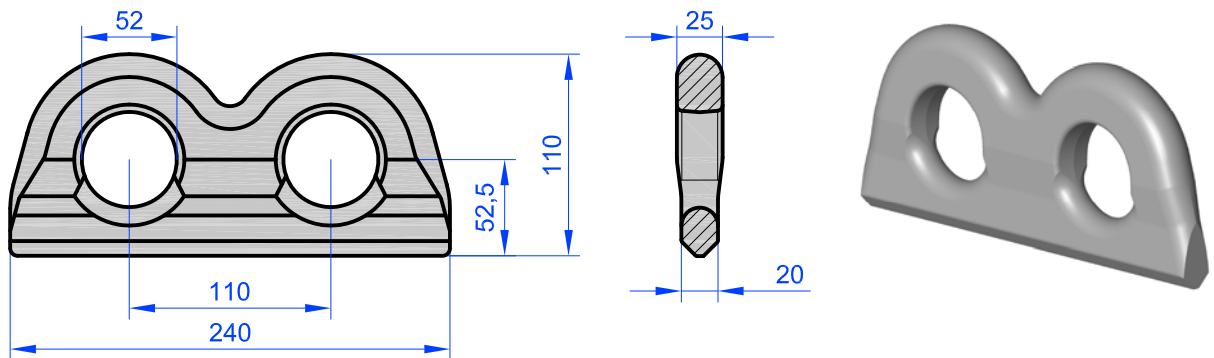


Lashing Plate

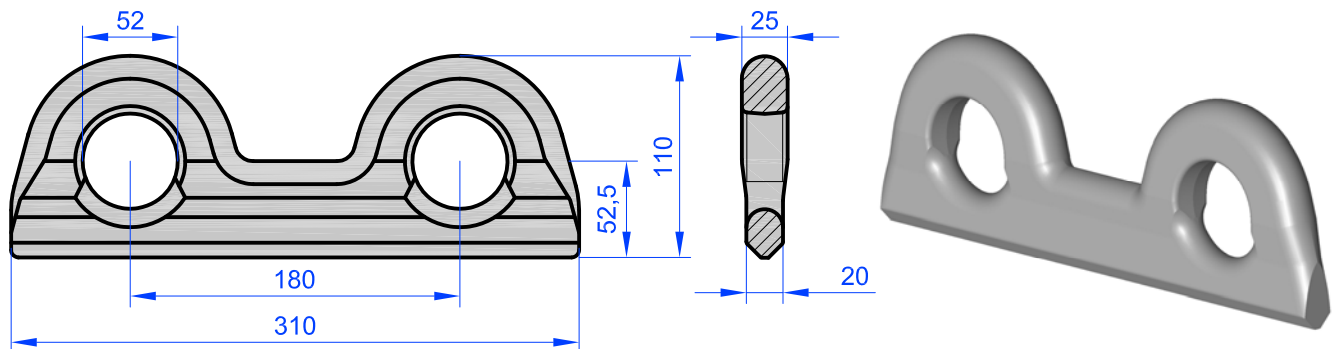
LE-20.1K



LE-20.7K



LE-20.7K-180



Type	Weight
LE-20.1K	1.7 kg
LE-20.7K	2.9 kg
LE-20.7K-180	3.6 kg

Material: Steel, comparable S355J2G3
Finish: Blasted Surface & one Coat Shop Primer
Weight: Table

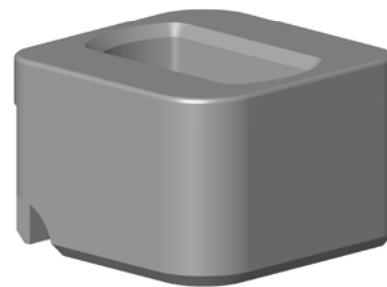
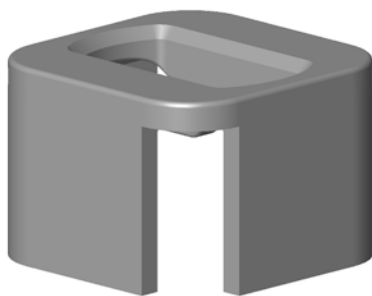
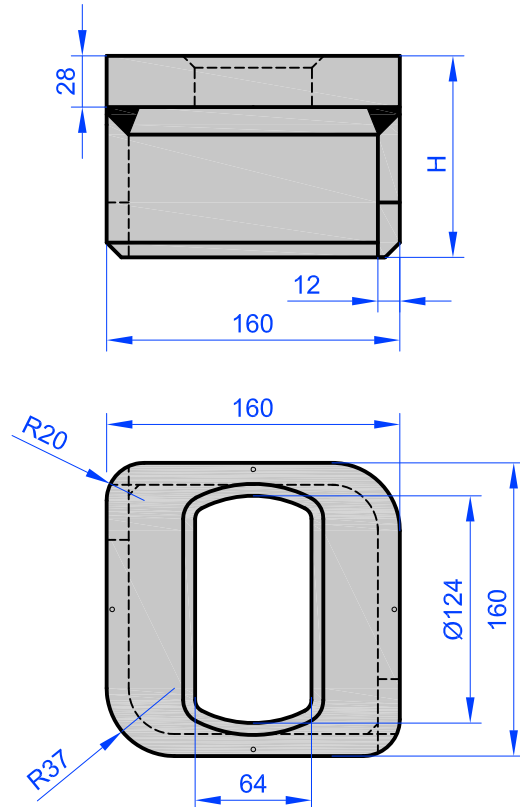
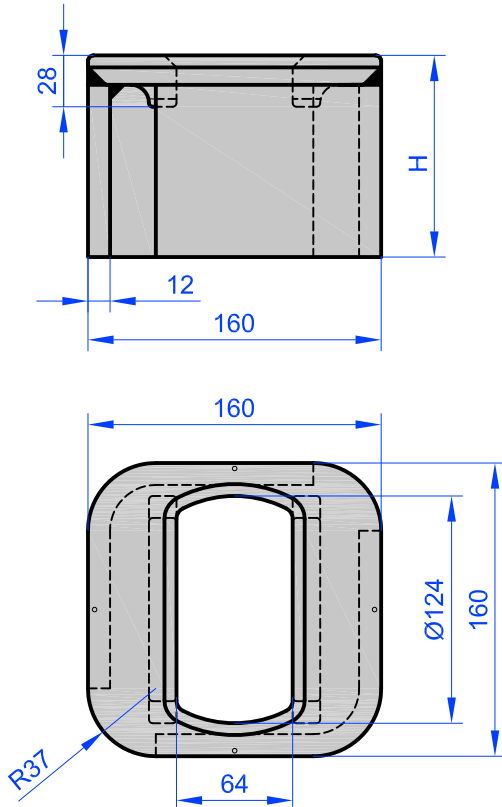
Min. B.L. Tension: : 490 kN
Min. B.L. Shear: : -
Min. B.L. Compression: : -



Raised ISO Socket

RS-11.1...

RS-11.6-1... (Lifting Socket)



Type	H	Weight	Tension
RS-11.1	110	6.4 kg	500 kN
RS-11.1/140	140	7.7 kg	500 kN

Type	H	Weight	Tension
RS-11.6-1	110	8.3 kg	600 kN
RS-11.6-1/140	140	9.9 kg	600 kN

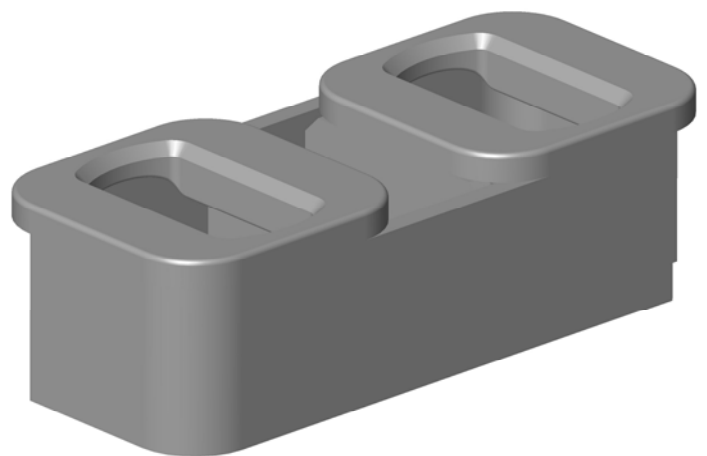
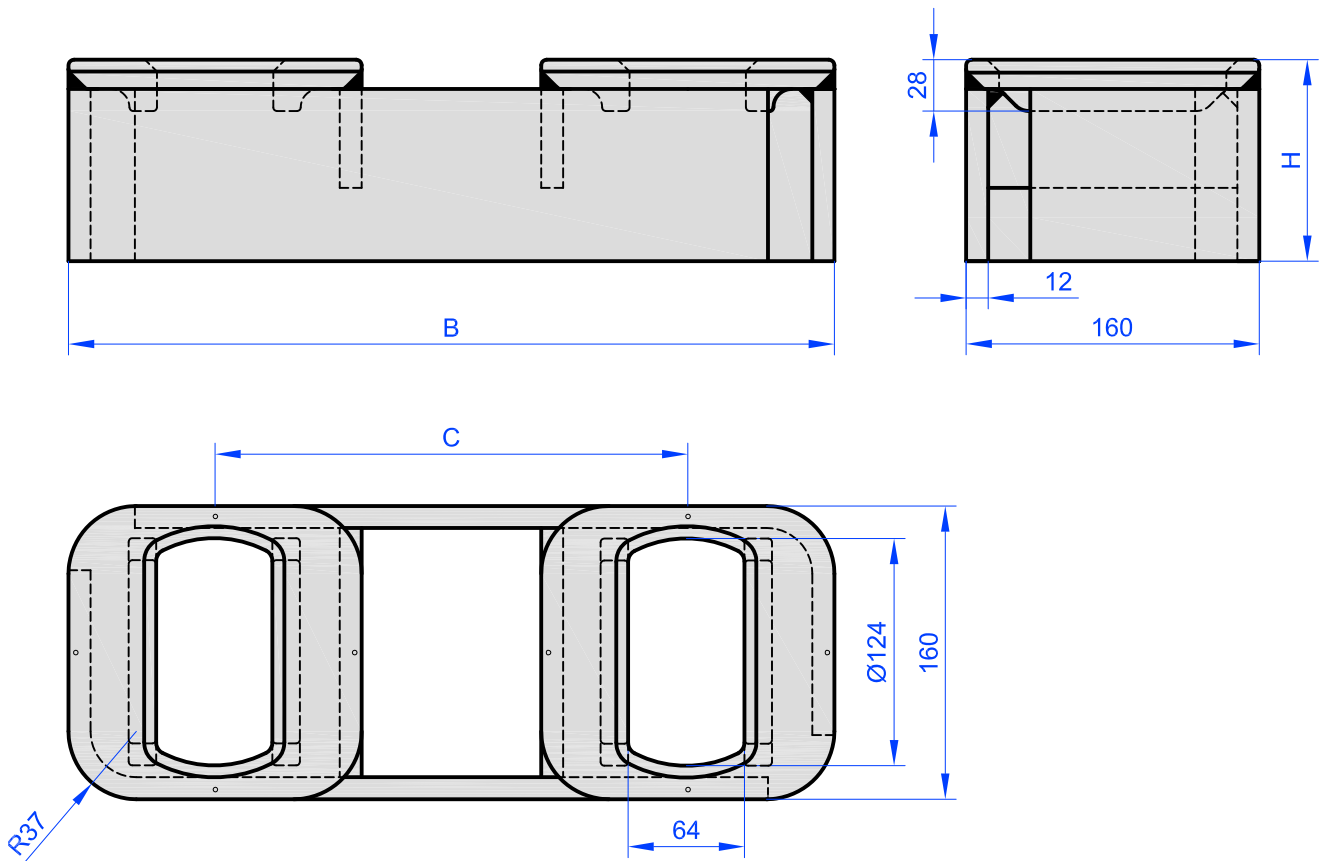
Material: Steel, comparable S355J2G3
Finish: Blasted Surface & one Coat Shop Primer
Weight: Table

Min. B.L. Tension: Table
Min. B.L. Shear: 420 kN
Min. B.L. Compression: 2000 kN



Raised ISO Socket

RS-11.2...



Type	C	B	H	Weight
RS-11.2	203	363	110	14.2 kg
RS-11.21	216	376	110	14.4 kg
RS-11.22	258	418	110	15.1 kg
RS-11.2/140	203	363	140	16.6 kg
RS-11.21/140	216	376	140	16.9 kg
RS-11.22/140	258	418	140	17.9 kg

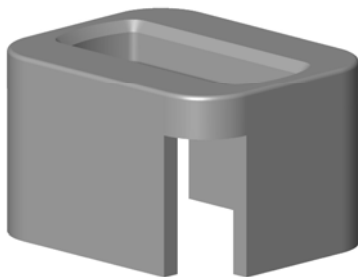
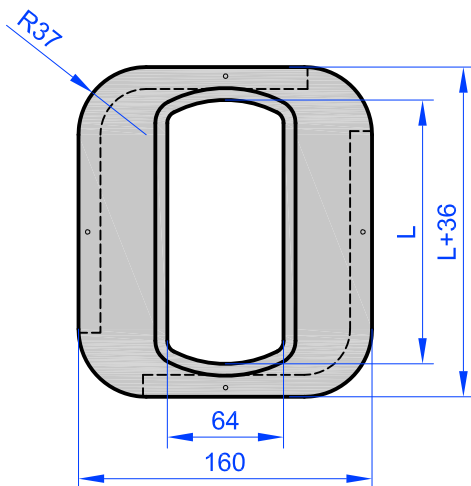
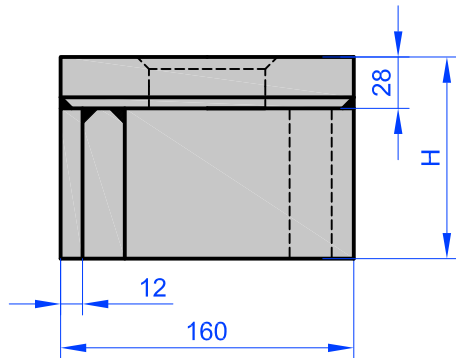
Material: Steel, comparable S355J2G3
Finish : Blasted Surface & one Coat Shop Primer
Weight : Table

Min. B.L. Tension : 500 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN



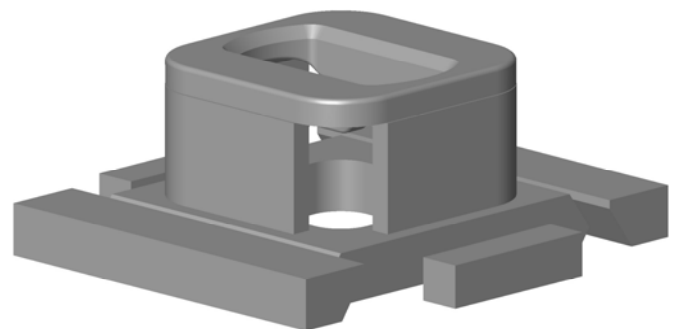
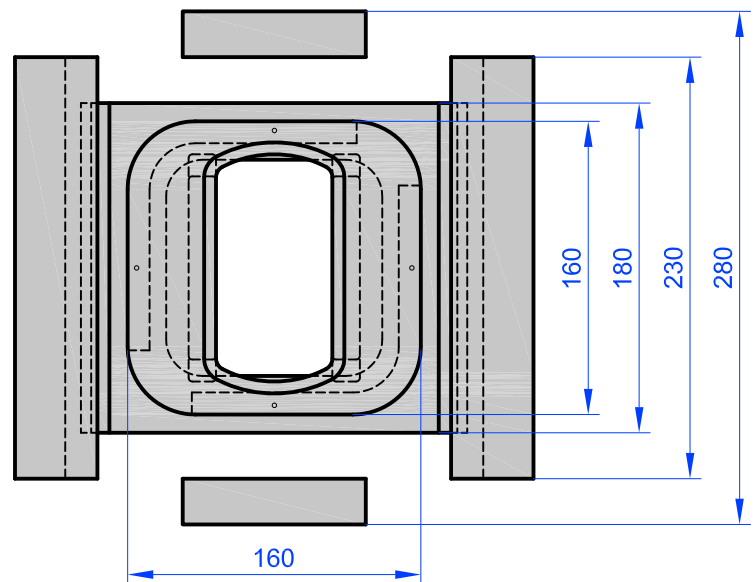
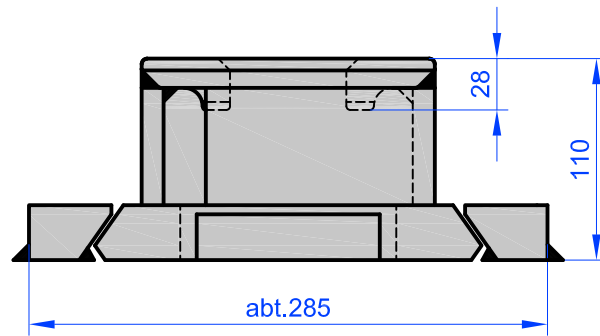
ISO Sliding Socket

RS-11.1-...



Type	L	H	Weight
RS-11.1-144	144	110	9.6 kg
RS-11.1-164	164	110	8.8 kg
RS-11.1-184	184	110	9.5 kg
RS-11.1-144/140	144	140	11.0 kg
RS-11.1-164/140	164	140	10.2 kg
RS-11.1-184/140	184	140	11.1 kg

RS-11.17LS



Type	Weight
RS-11.17LS	15.3 kg

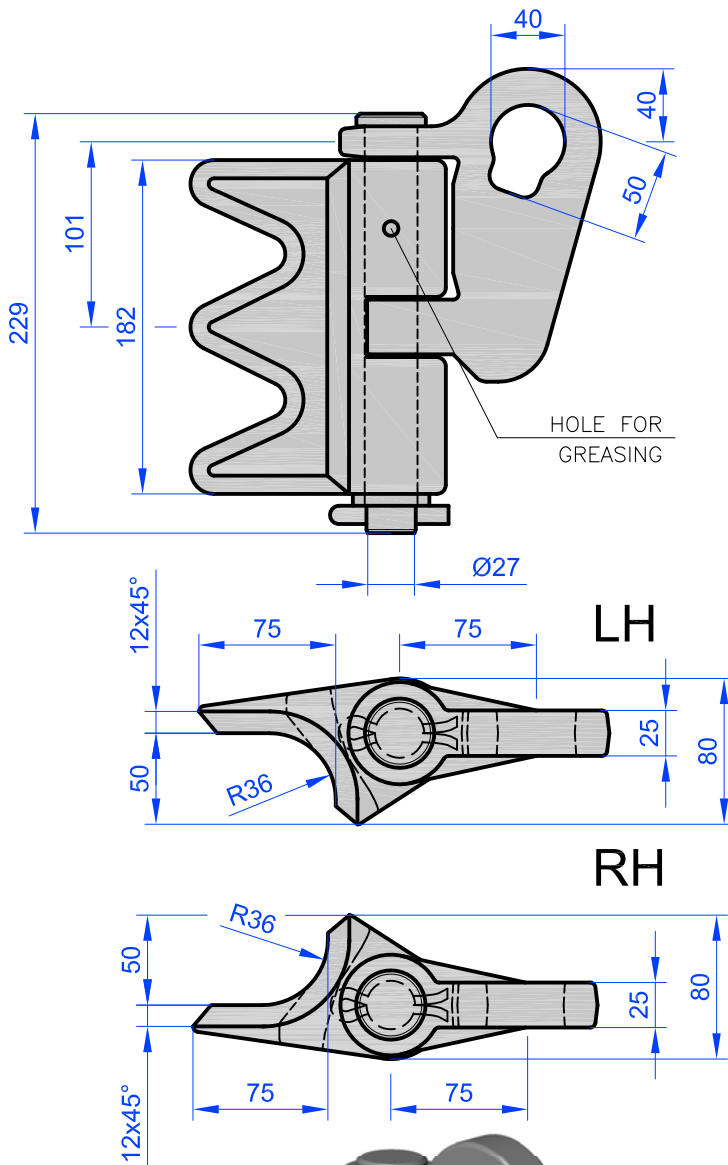
Material : Steel, comparable S355J2G3
Finish : Blasted Surface & one Coat Shop Primer
Weight : Table

Min. B.L. Tension : 500 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN

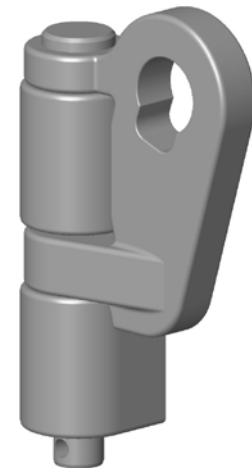
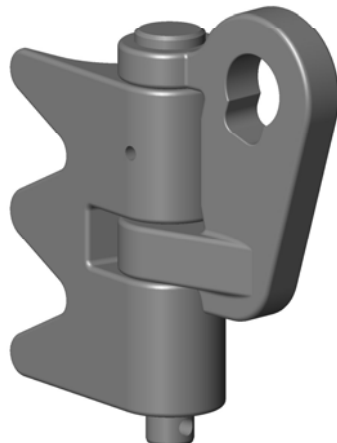
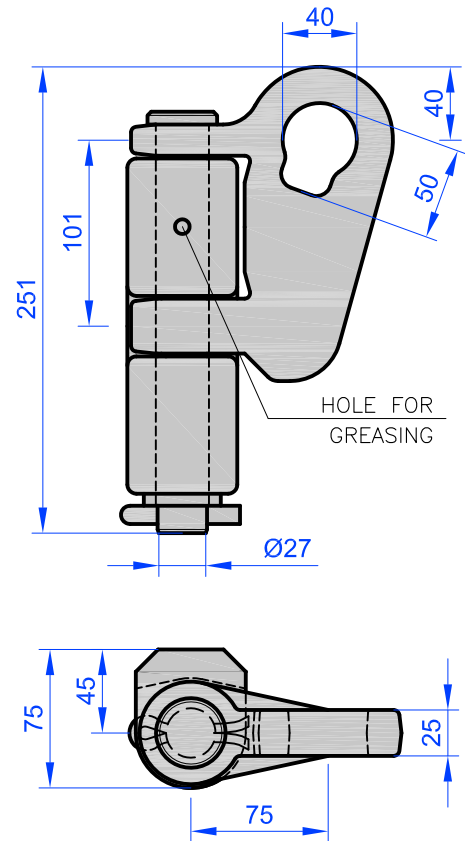


Slewing Eye

LE-20.14



LE-20.17



Type	Weight
LE-20.14 LH	9.4 kg
LE-20.14 RH	9.4 kg
LE-20.17	7.7 kg

Material: Weldable Carbon Steel

Finish : Blasted Surface & one Coat Shop Primer/ Eye Hot Dip Galvanized

Weight : Table

Min. B.L. Tension : 490 kN

Min. B.L. Shear : -

Min. B.L. Compression : -



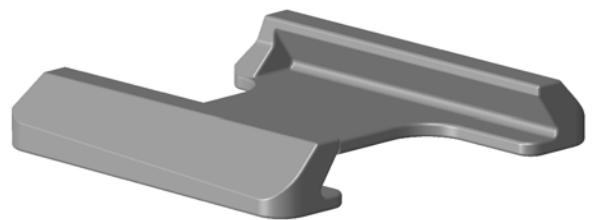
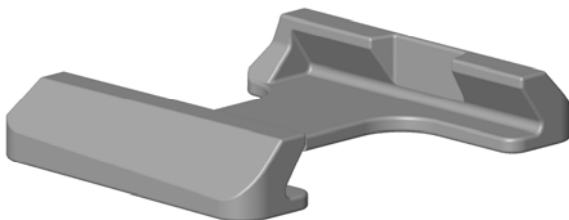
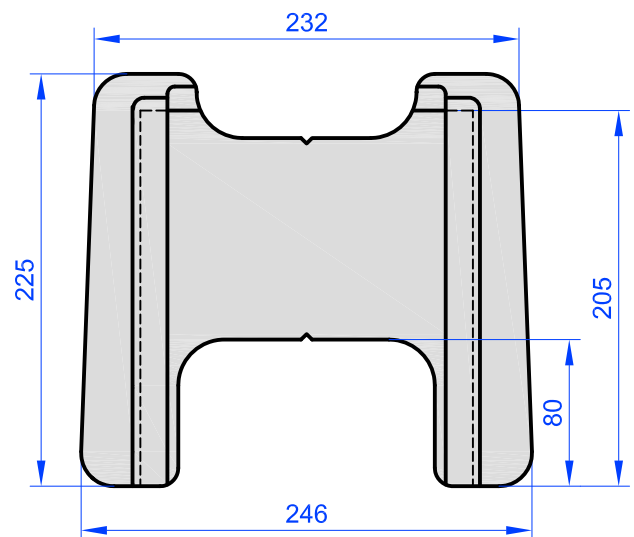
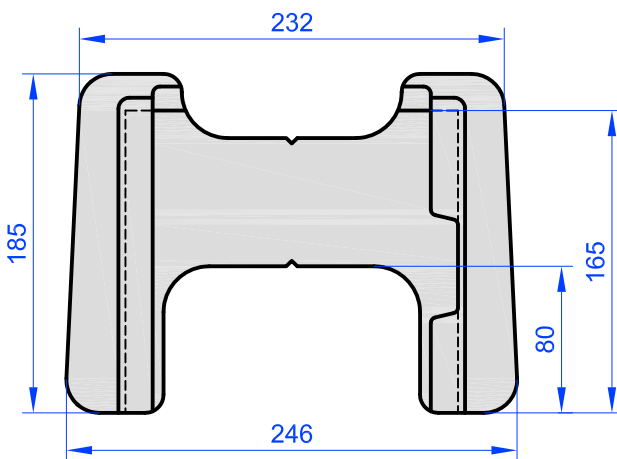
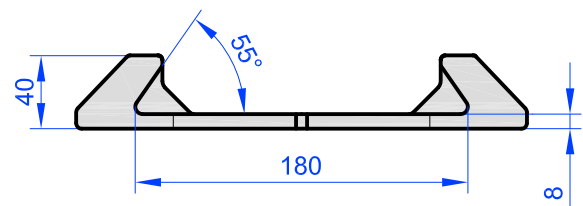
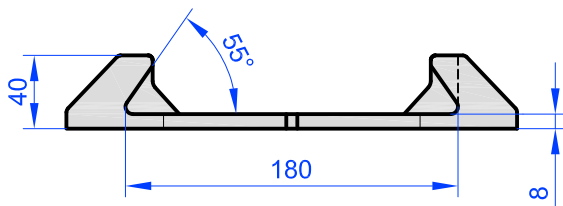
Dovetail Plate

DP-12.63

Single

DP-12.66

Single / Sliding



Type	Function	Weight
DP-12.63	Single	4.1 kg
DP-12.66	Sliding	5.4 kg

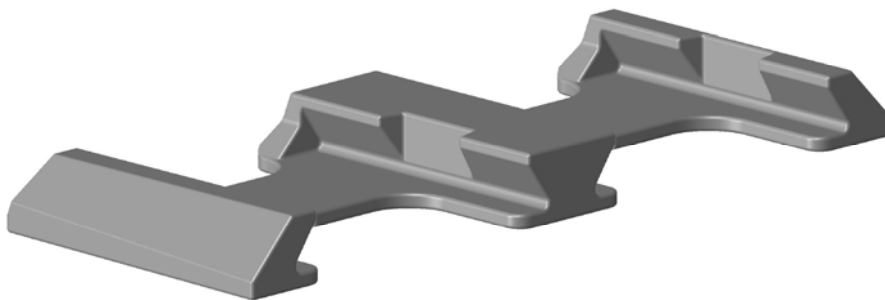
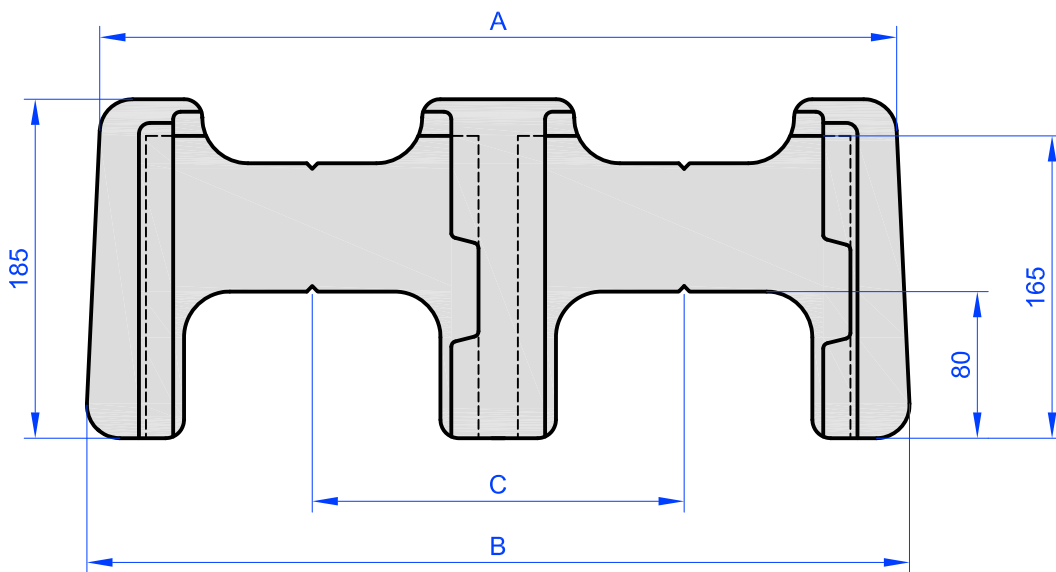
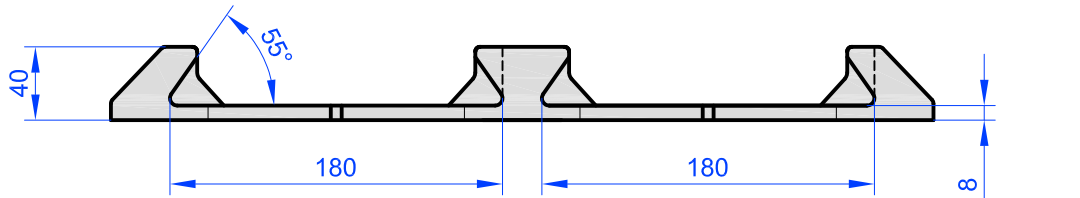
Material: Weldable Carbon Steel
Finish: Blasted Surface & one Coat Shop Primer
Weight: Table

Min. B.L. Tension: 500 kN
Min. B.L. Shear: 420 kN
Min. B.L. Compression: 2000 kN



Dovetail Plate

DP-12...



Type	C	A	B	Weight
DP-12.71	203	435	449	7.2 kg
DP-12.81	216	448	462	7.4 kg
DP-12.91	258	490	504	8.2 kg

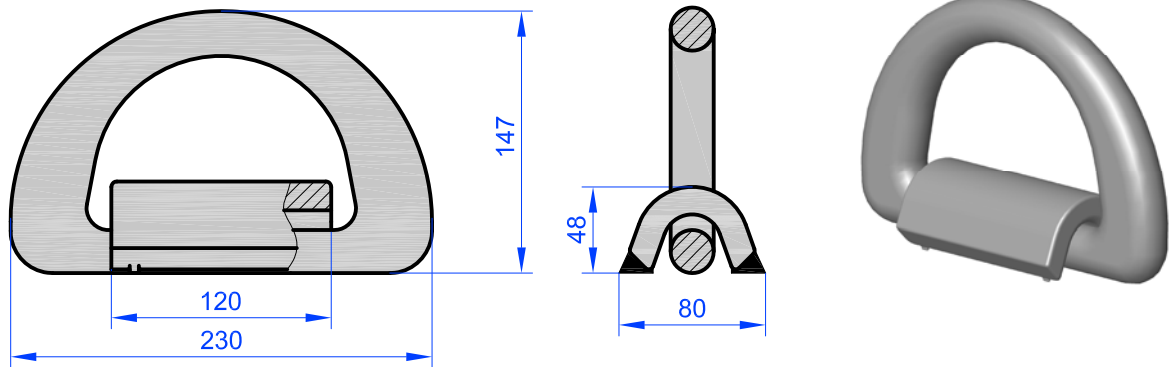
Material: Weldable Carbon Steel
Finish: Blasted Surface & one Coat Shop Primer
Weight: Table

Min. B.L. Tension: 500 kN
Min. B.L. Shear: 420 kN
Min. B.L. Compression: 2000 kN

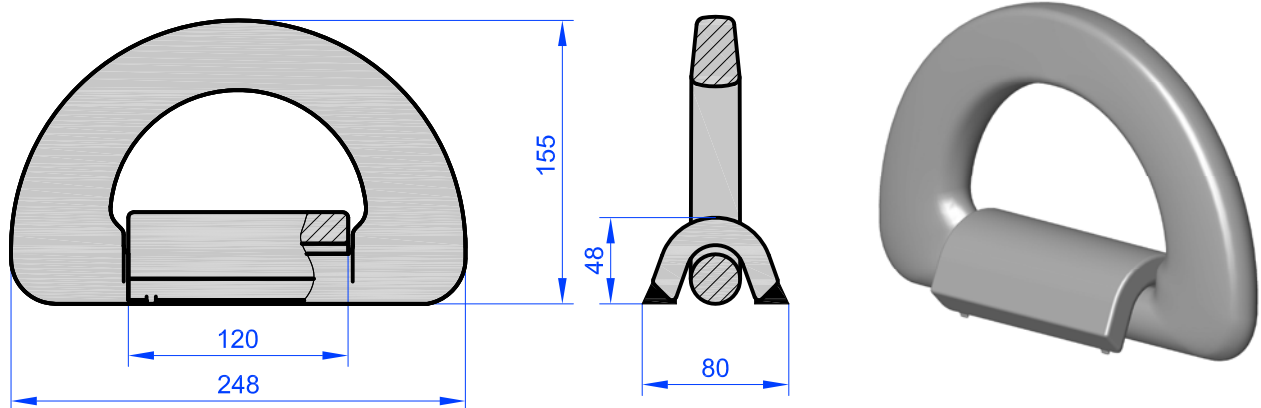


Lashing Eye

LE-23.24



LE-23.25



Type	Tension	Weight
LE-23.24	360 kN	4.5 kg
LE-23.25	490 kN	5.2 kg

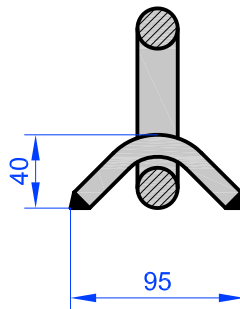
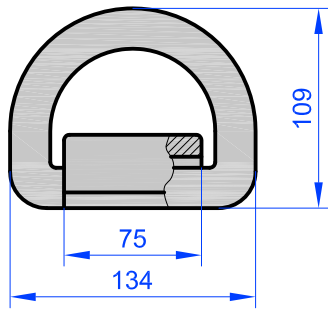
Material: Heat Treatable Steel, comparable S355J2G3
Finish: Blasted Surface & one Coat Shop Primer
Weight: Table

Min. B.L. Tension: Table
Min. B.L. Shear: -
Min. B.L. Compression: -

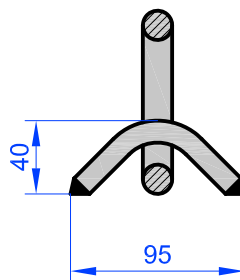
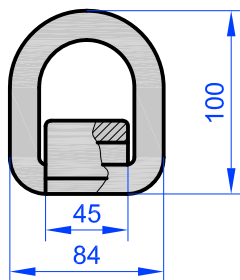


Lashing Eye

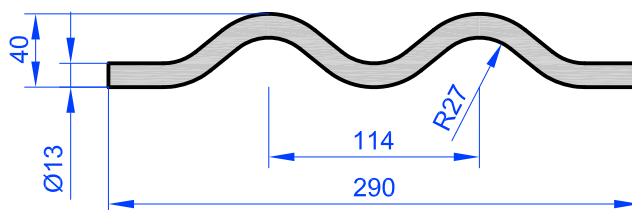
LE-23.23-1



LE-23.23-2



LE-24.1



Type	Tension	Weight
LE-23.23-1	200 kN	1.8 kg
LE-23.23-2	150 kN	0.9 kg
LE-24.1	60 kN	0.3 kg

Material: Heat Treatable Steel, comparable S355J2G3
Finish: Blasted Surface & one Coat Shop Primer
Weight: Table

Min. B.L. Tension: Table
Min. B.L. Shear: -
Min. B.L. Compression: -



Notes

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cargo securing



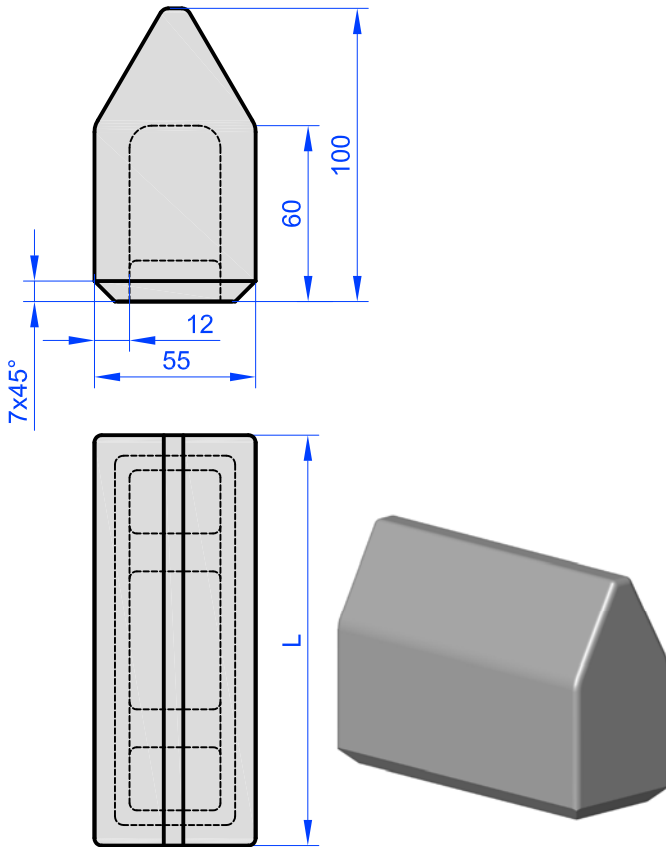
Fixed Fitting Hold

Guide Fitting
Weld on Cone
Flush ISO Socket
Lashing Pot
Counter Bearing
Support Rail
Other

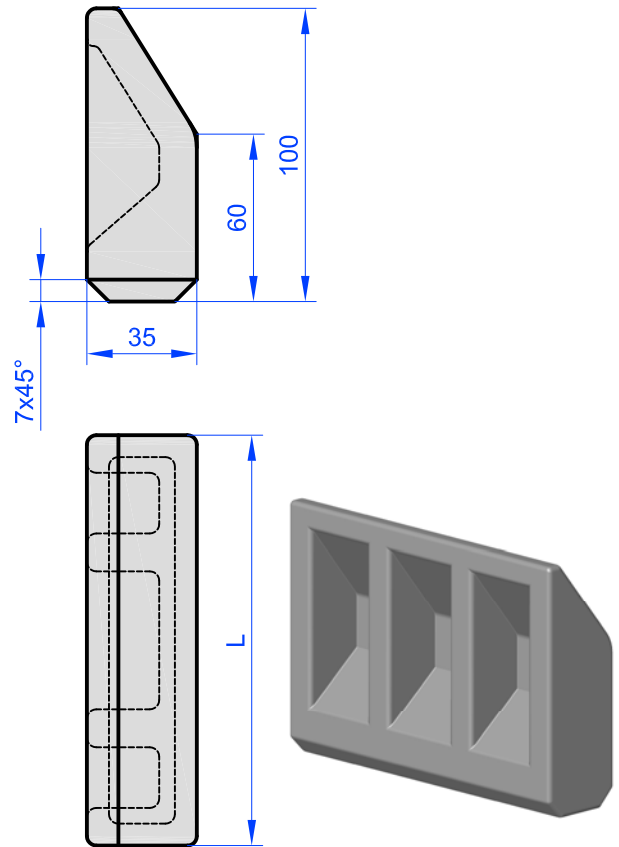


Guide Fitting / Weld on Cone

DP-13.46C-...



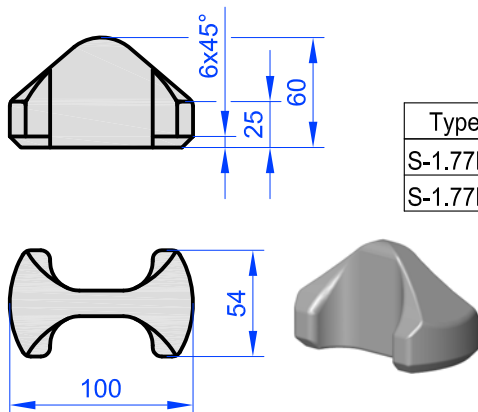
DP-13.47C-...



Type	L	Weight	Min. B.L. Shear
DP-13.46C-140/55-100	140	3.7 kg	420 kN
DP-13.46C-280/55-100	280	6.8 kg	840 kN

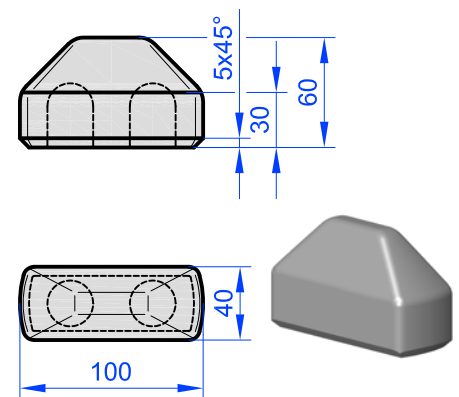
Type	L	Weight	Min. B.L. Shear
DP-13.47C-140/35-100	140	2.5 kg	420 kN
DP-13.47C-280/35-100	280	4.6 kg	840 kN

S-1.77FA



Type	Weight	Min. B.L. Shear
S-1.77FA	0.9 kg	420 kN
S-1.77FA-40	1.1 kg	420 kN

S-1.77FA-40



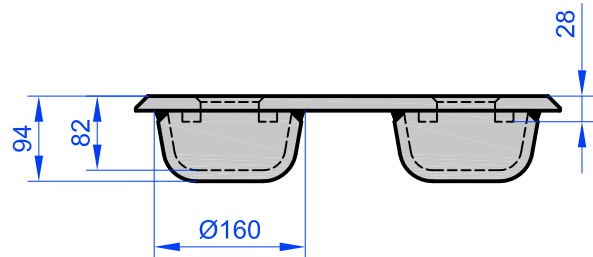
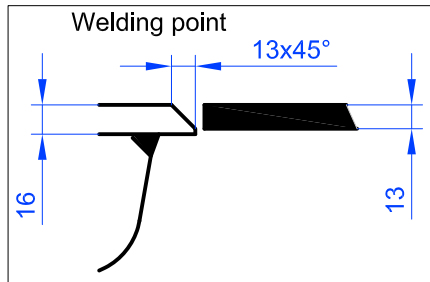
Material: Weldable Carbon Steel
Finish: Blasted Surface & one Coat Shop Primer
Weight: Table

Min. B.L. Tension: -
Min. B.L. Shear: Table
Min. B.L. Compression: -

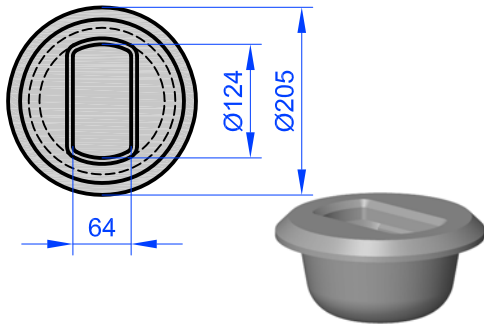


Flush ISO Socket

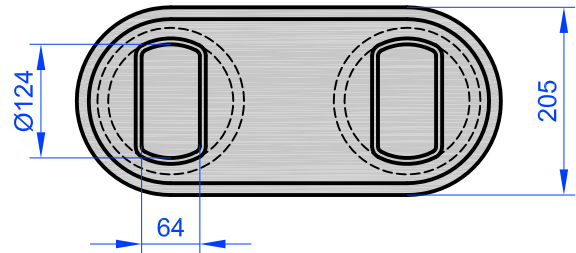
FS-14...



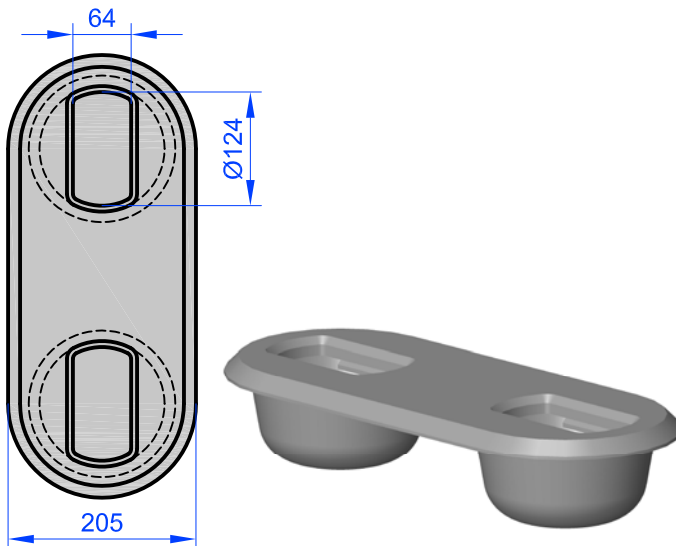
FS-14.1-205F



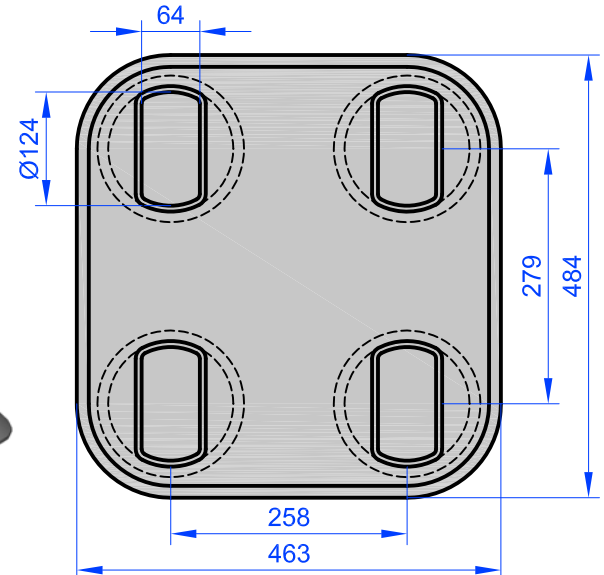
FS-14.22-205463F



FS-14.4-484205F



FS-14.52-484463F



Type	Weight
FS-14.1-205F	6.5 kg
FS-14.22-205463F	15.5 kg
FS-14.4-484205F	16.0 kg
FS-14.52-484463F	36.8 kg

Material: Steel, comparable S355J2G3

Finish : Blasted Surface & one Coat Shop Primer

Weight : Table

Min. B.L. Tension : 500 kN

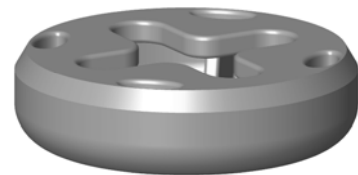
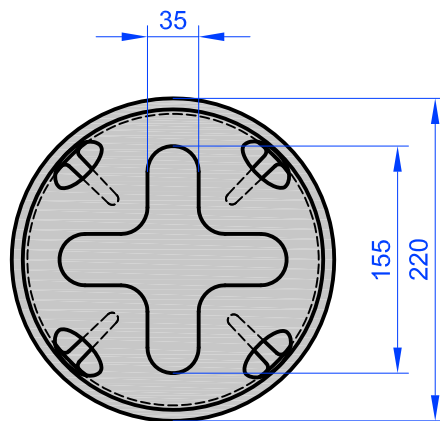
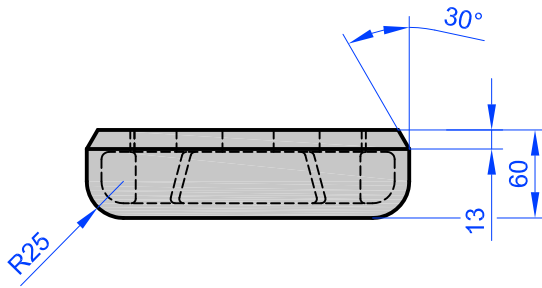
Min. B.L. Shear : 420 kN

Min. B.L. Compression : 2000 kN



Lashing Pot

LP-17.1



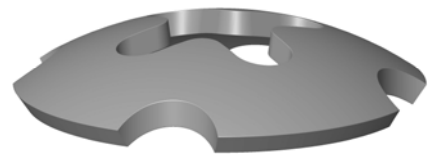
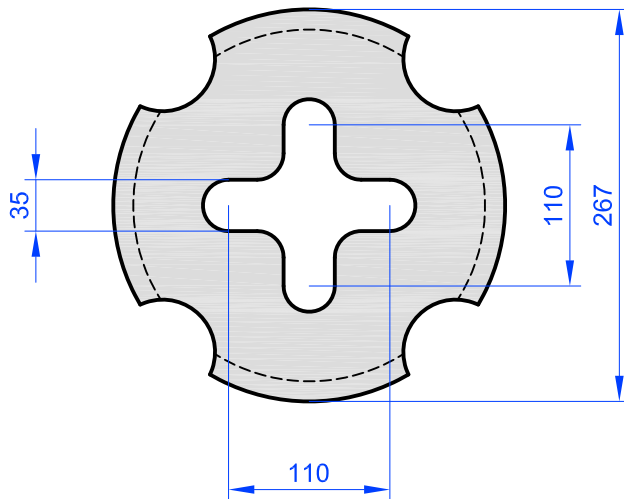
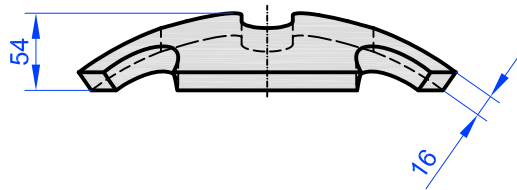
Material: Weldable Carbon Steel
Finish: Blasted Surface & one Coat Shop Primer
Weight: 7.8 kg

Min. B.L. Tension: : 250 kN
Min. B.L. Shear: : -
Min. B.L. Compression: : -



Lashing Pot

LP-17.6



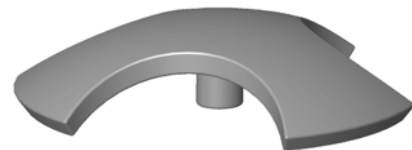
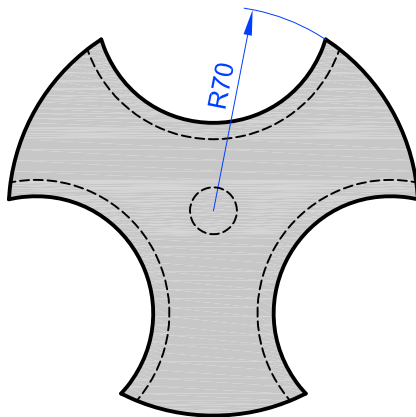
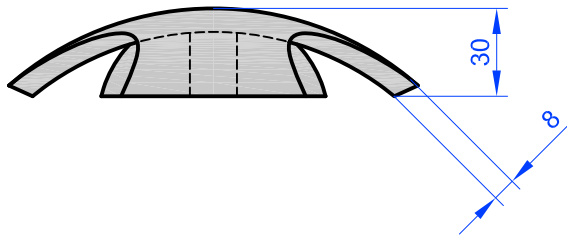
Material: Steel, comparable S355J2G3
Finish : Blasted Surface & one Coat Shop Primer
Weight : 5.5 kg

Min. B.L. Tension : 300 kN
Min. B.L. Shear : -
Min. B.L. Compression : -



Lashing Pot

LP-1/SP



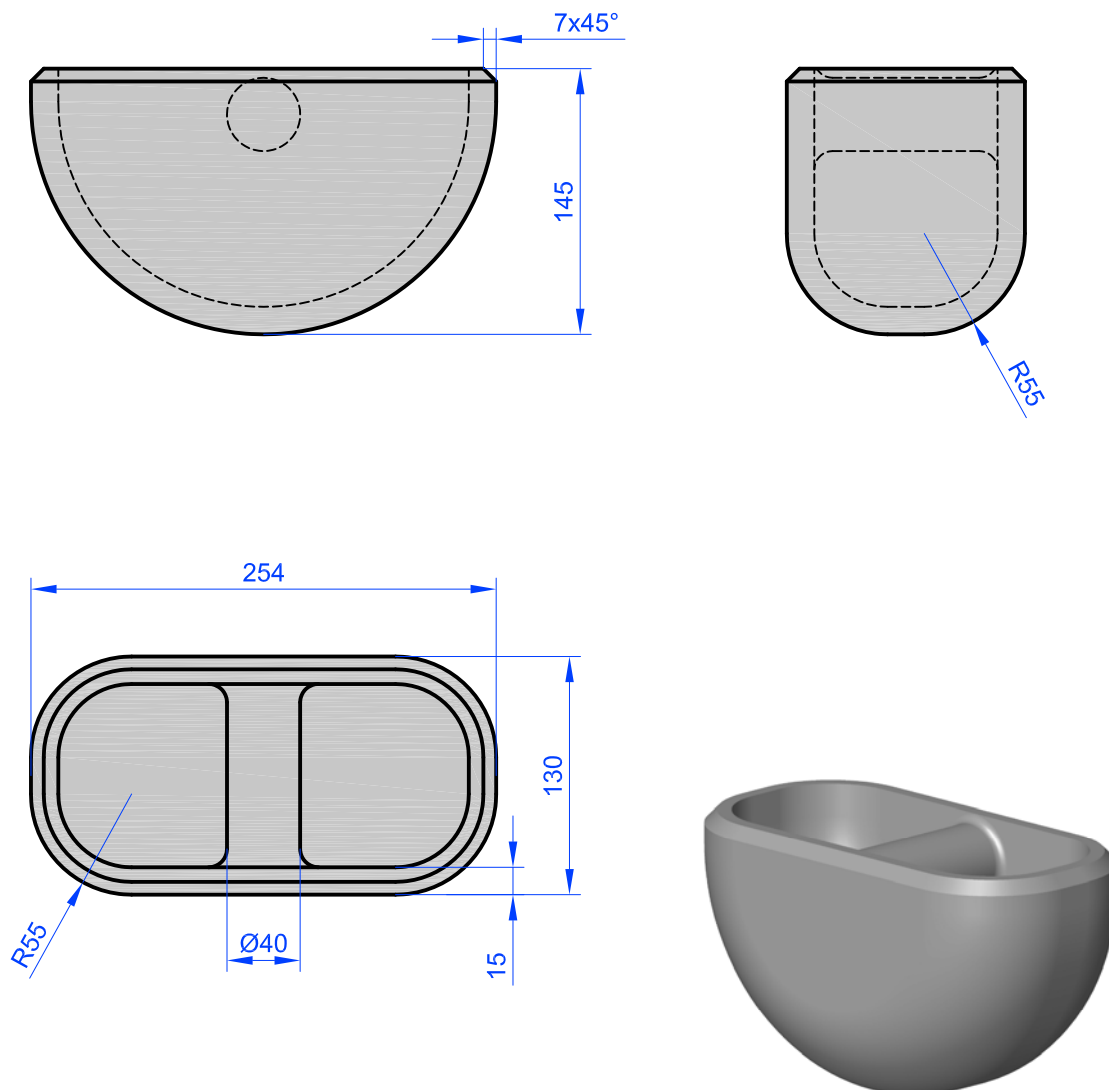
Material: Steel, comparable S355J2G3
Finish : Blasted Surface & one Coat Shop Primer
Weight : 0.6 kg

Min. B.L. Tension : 100 kN
Min. B.L. Shear : -
Min. B.L. Compression : -



Lashing Pot

LP-17.88



Material: Weldable Carbon Steel
Finish : Blasted Surface & coating on request
Weight : 10.3 kg

Min. B.L. Tension : 360 kN
Min. B.L. Shear : -
Min. B.L. Compression : -



Notes

Innovations in
cargo securing



Loose Fitting Deck



Smartlock
Twistlock
Smart Base Midlock
Midlock
Turnbuckle
Lashing Rod
Other

Smartlock | SL-1

- Full automatic locking and unlocking by smart shape
 - **Function Follows Form**
- Less Port-Time by immediate start of discharging / container operation
- Weight optimized robust One-Piece design
 - **One Piece Design**
 - Fast and easy handling
 - No movable parts
 - No spare parts
 - No maintenance
 - No greasing
- Corrosion protection by fully Hot-Dip-Galvanizing
- 10 years functional guarantee
- Optimal use in ISO Gap because no parts juts out of the length or breadth of the container
- Consistent Lock-Clearance in accordance with ISO 3874 / ISO 1161 and class requirement for safe container securing arrangement at each container tier.
- Minimum tension breaking load 500 kN
- Minimum shear breaking load 420 kN
- Minimum compression breaking load 2000 kN
- Optimized weight less than 5 kg
- International Patented



Coning



Certified by:



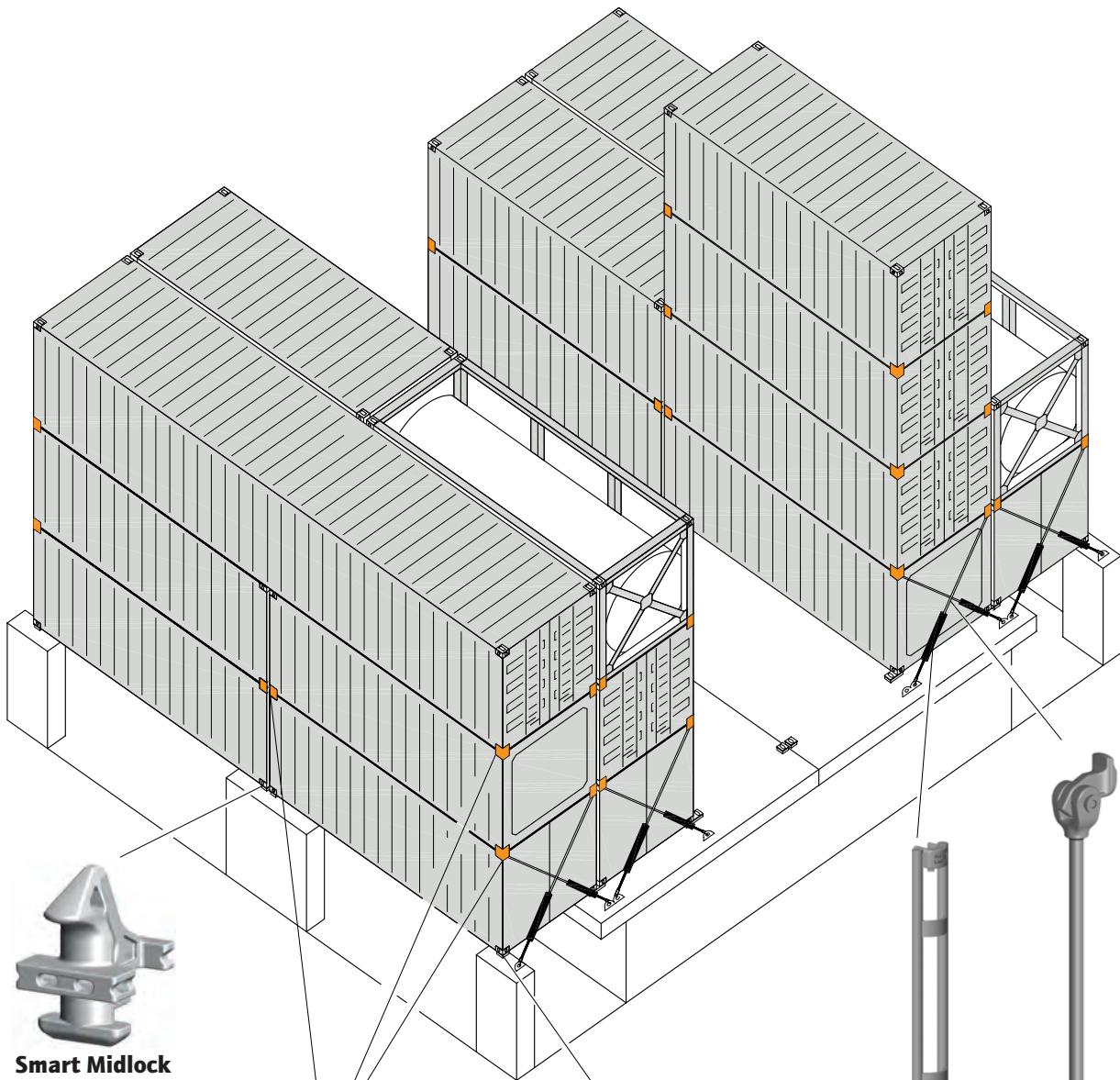
In compliance with
LR Rules for Classification
of Ships, Part 3, Ch 14



Original is best

Smartlock | SL-1

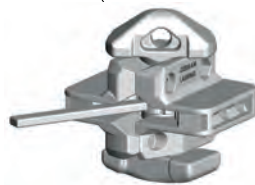
Location within a Securing System



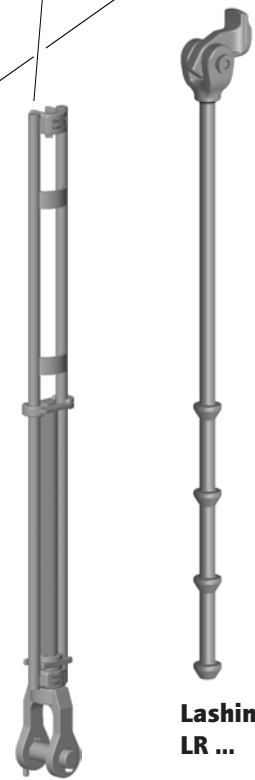
Smart Midlock
For Securing of 20' Container
in ISO Gap at Bottom Tier



Smartlock | SL-1
For Securing of Container
between Tiers



Twistlock
For Securing of Container
at Bottom Tier



**Turnbuckle
TB ...**

**Lashing Rod
LR ...**

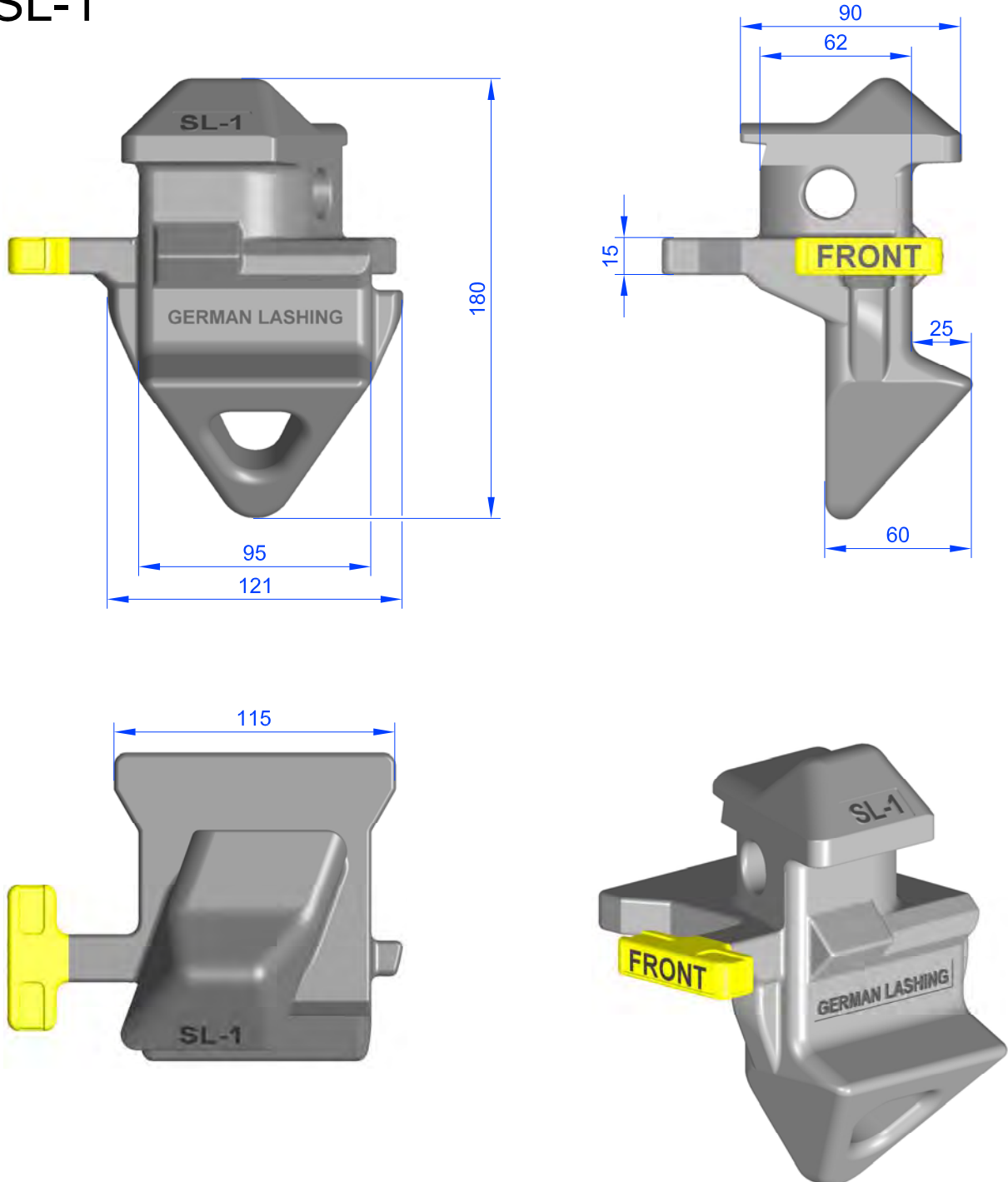
Original is best

Smartlock

Automatic Function in One-Piece-Design

For Containers according to ISO 668

SL-1



Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 4.9 kg



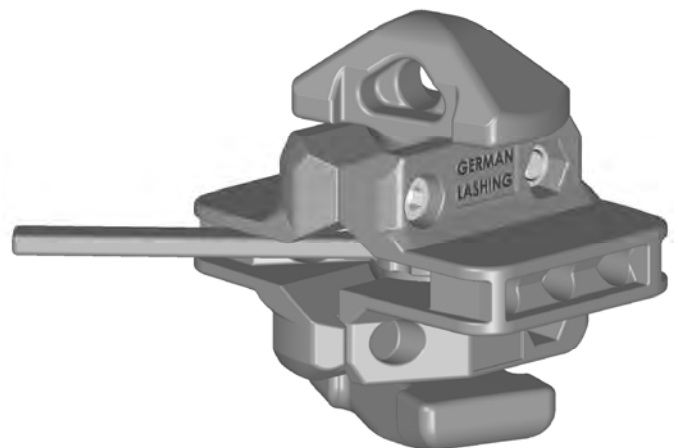
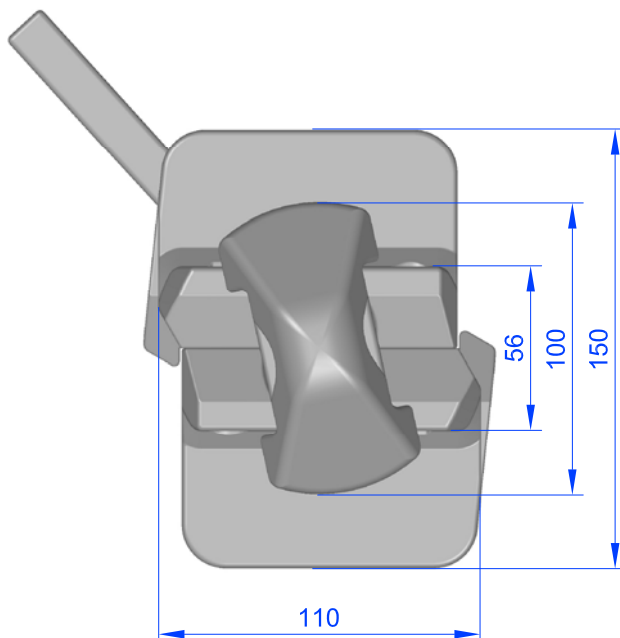
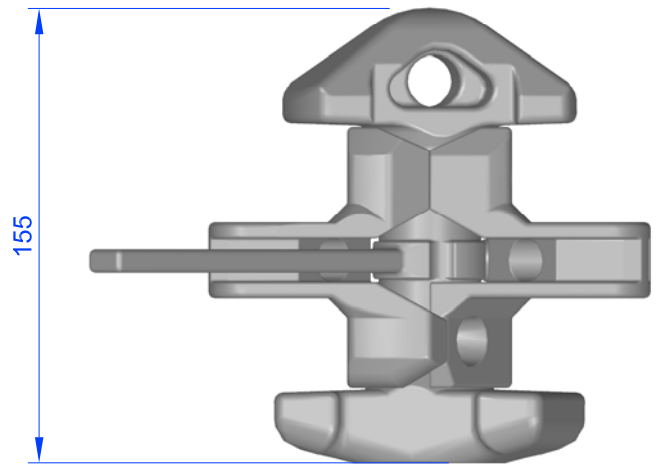
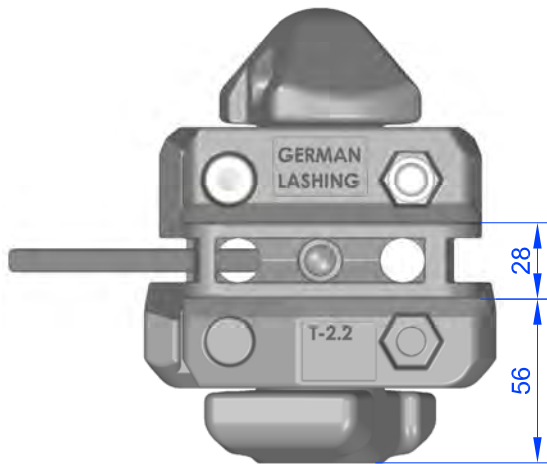
Min. B.L. Tension : 500 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN



Locked Base Twistlock

Large Seat, Left Locked

T-2.2A



Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: 5.7 kg

Min. B.L. Tension: 500 kN
Min. B.L. Shear: 420 kN
Min. B.L. Compression: 2000 kN



Dual-Function Twistlock T-2.3C

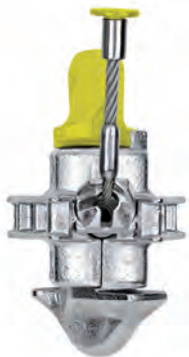
- Dual function Twistlock for semi-automatic or conventional use
- Automatic locking after positioning of the container.
- Minimum tension BL. 500 kN.
- Minimum shear BL. 420 kN.
- Minimum compression BL. 2000 kN.
- Strengthening of the stainless steel cable with steel knob resulting in essential prolongation of service life.
- Optimized weight less than 6 kg and therefore easy handling.
- International Patented.



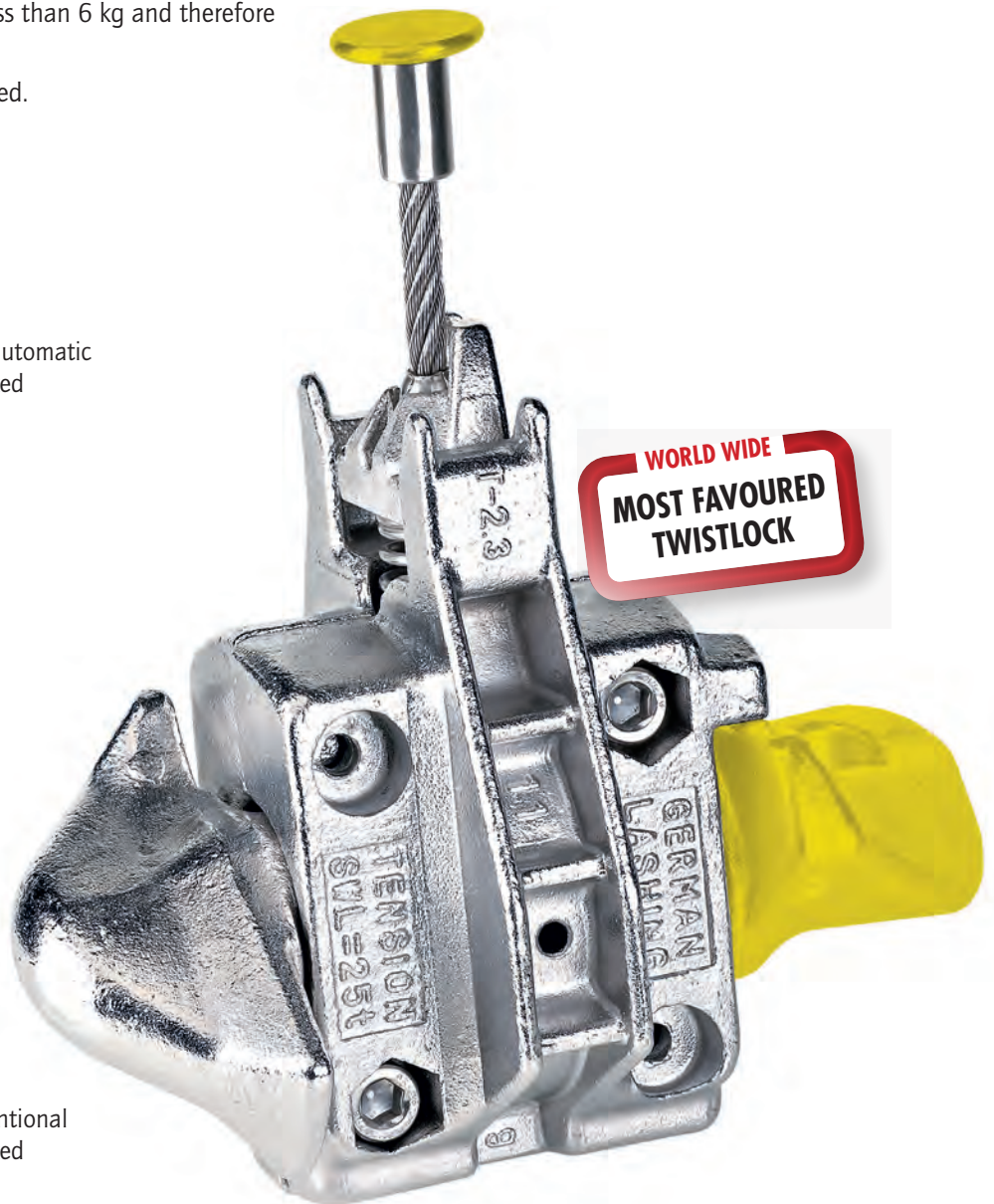
Semi-automatic
unlocked



Fully
locked



Conventional
unlocked

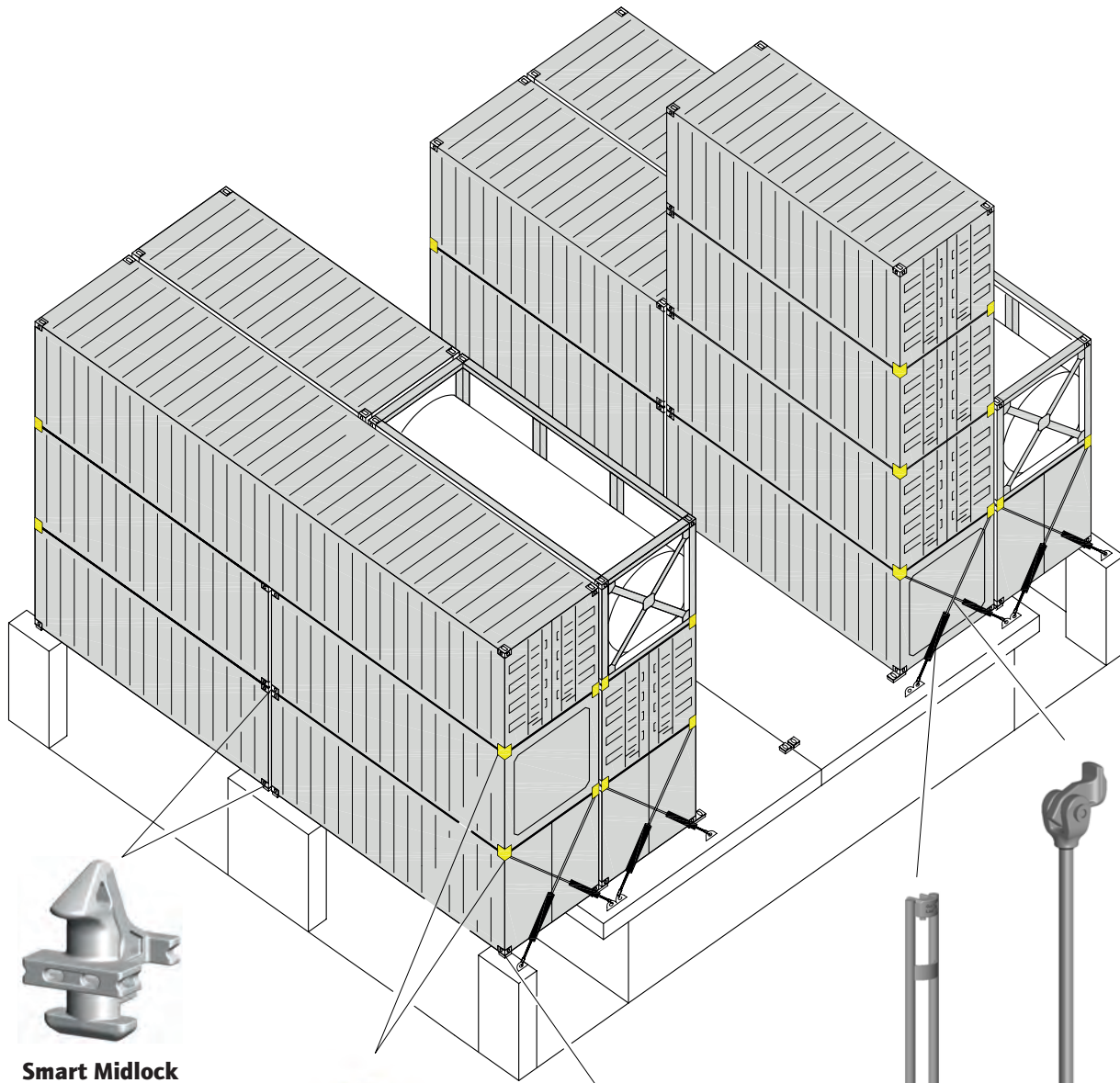


Certified as well by:



Original is best

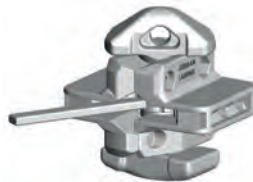
Location of T-2.3C within a Securing System



Smart Midlock
For Securing of 20' Container
in ISO Gap



Twistlock T-2.3C
For Securing of Container
between Tiers



Twistlock
For Securing of Container
at Bottom Tier



**Turnbuckle
TB ...**

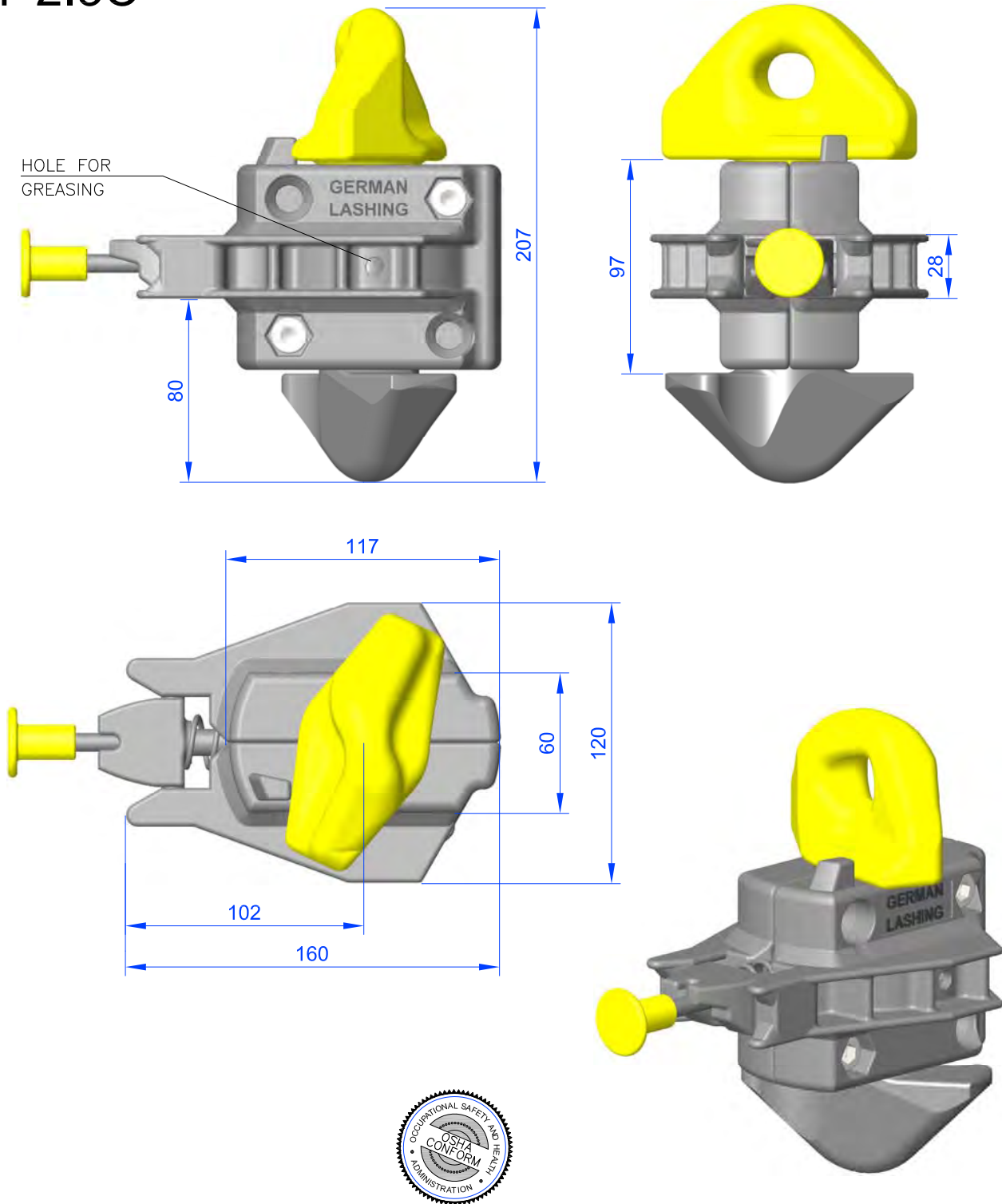


**Lashing Rod
LR ...**

Original is best

Dual-Function Twistlock

T-2.3C



Material: Heat Treatable Steel
Wire for Handle and Springs: Stainless Steel
Finish : Hot Dip Galvanized
Weight : 5.9 kg

Min. B.L. Tension : 500 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN



Semi-Automatic Twistlock T-2.3D

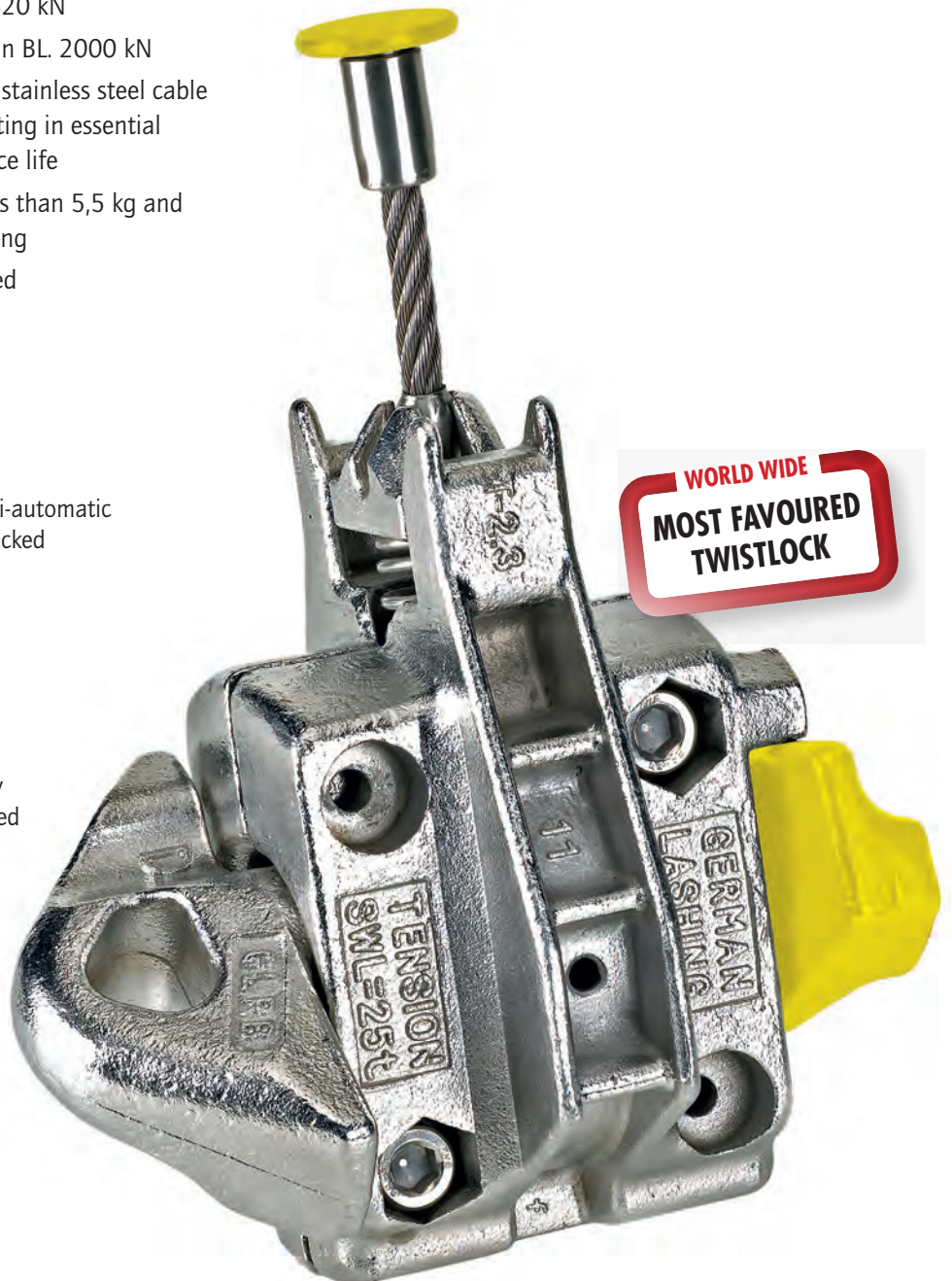
- Semi-Automatic Twistlock for OSHA-conform safety
- Automatic locking after positioning of the container
- Minimum tension BL. 500 kN
- Minimum shear BL. 420 kN
- Minimum compression BL. 2000 kN
- Strengthening of the stainless steel cable with steel knob resulting in essential prolongation of service life
- Optimized weight less than 5,5 kg and therefore easy handling
- International Patented



Semi-automatic
unlocked



Fully
locked



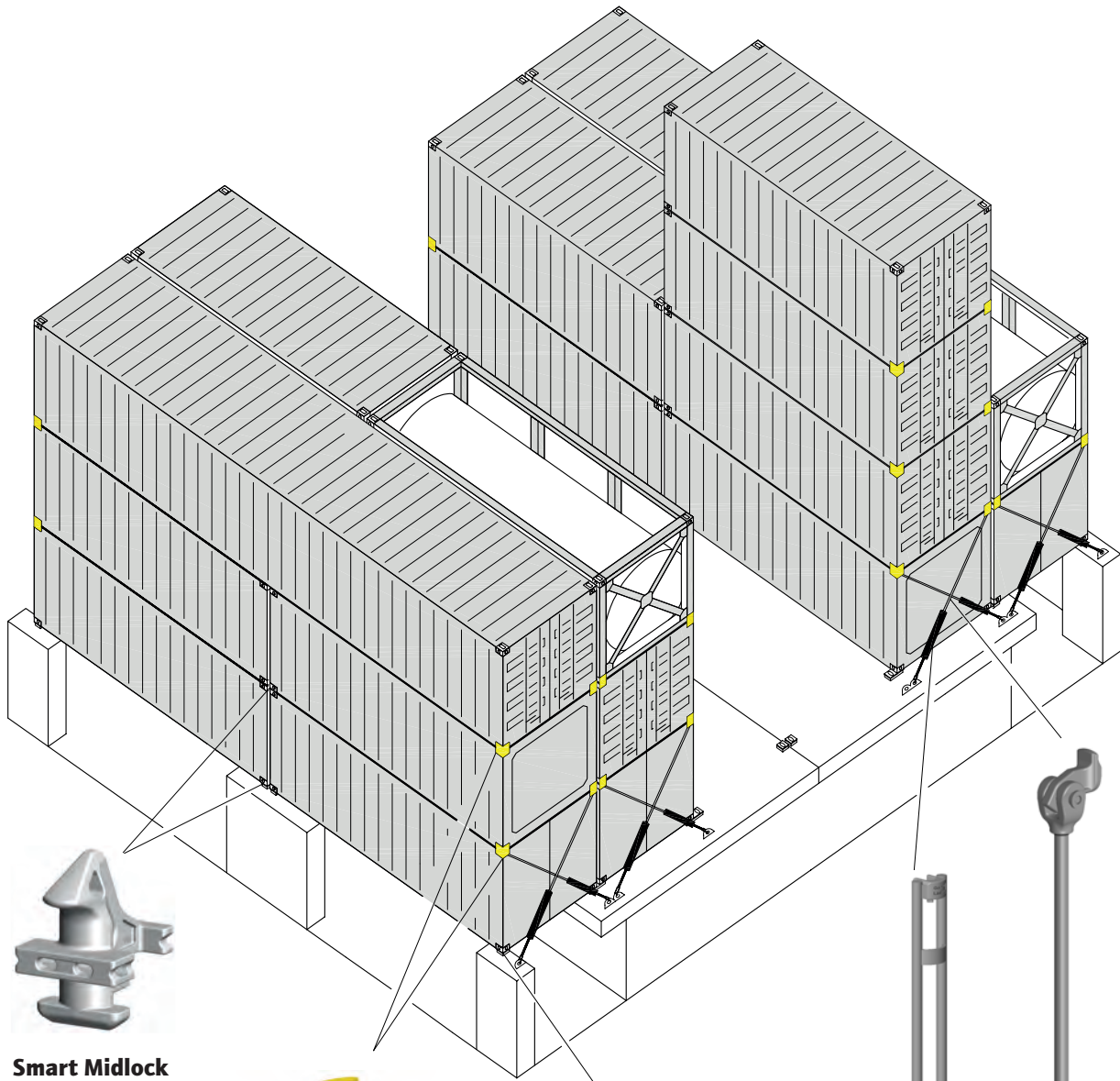
**WORLD WIDE
MOST FAVOURED
TWISTLOCK**

Certified as well by:



Original is best

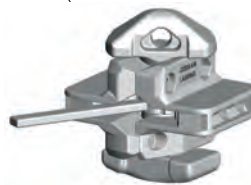
Location of T-2.3D within a Securing System



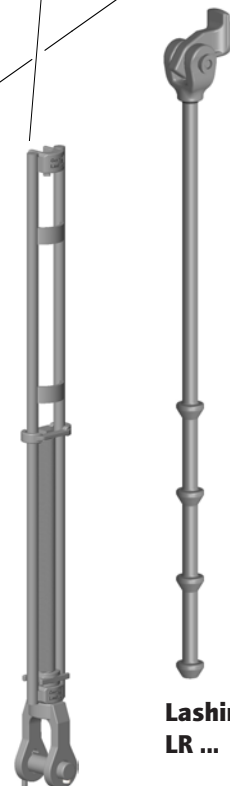
Smart Midlock
For Securing of 20' Container
in ISO Gap



Twistlock T-2.3D
For Securing of Container
between Tiers



Twistlock
For Securing of Container
at Bottom Tier



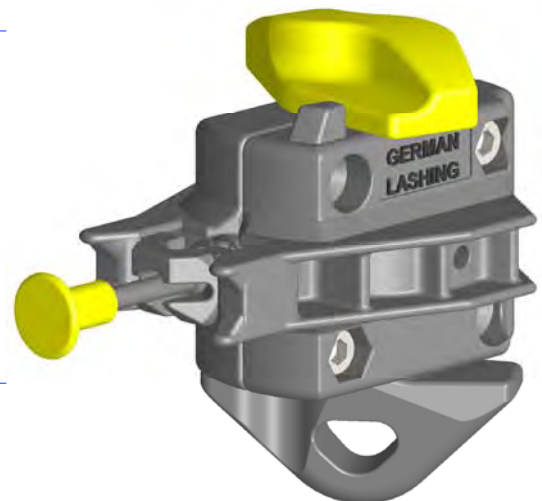
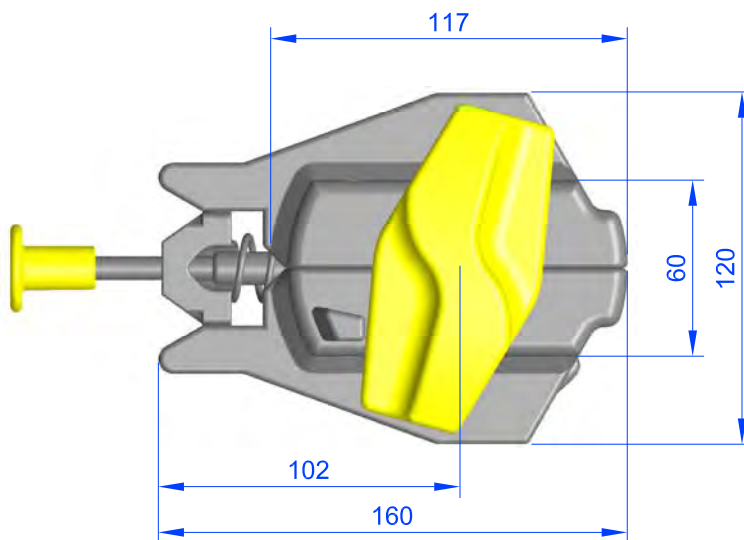
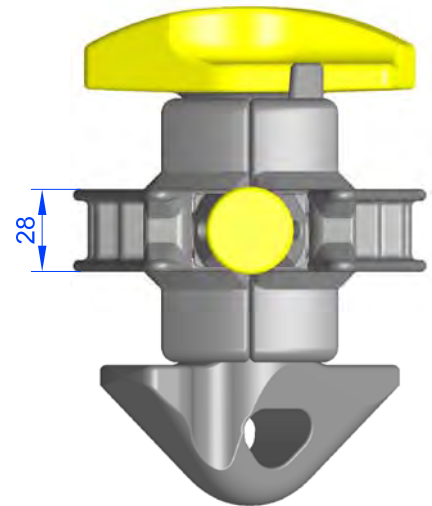
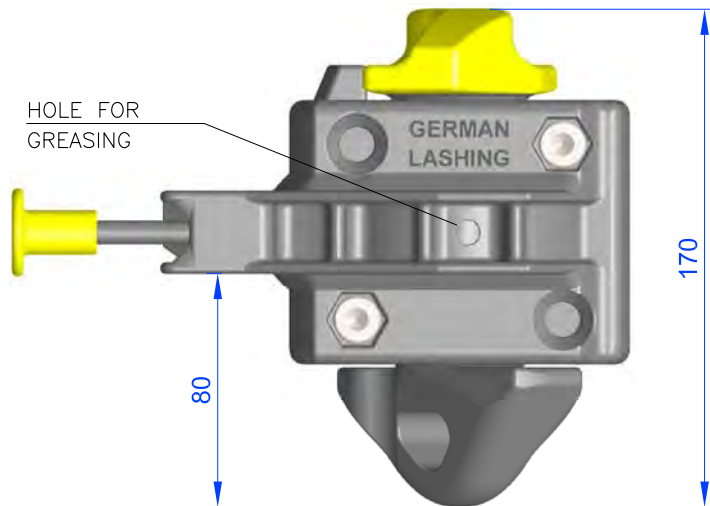
**Turnbuckle
TB ...**

**Lashing Rod
LR ...**

Original is best

Semi-Automatic Twistlock

T-2.3D



Material: Heat Treatable Steel
Wire for Handle and Springs: Stainless Steel
Finish : Hot Dip Galvanized
Weight : 5.3 kg

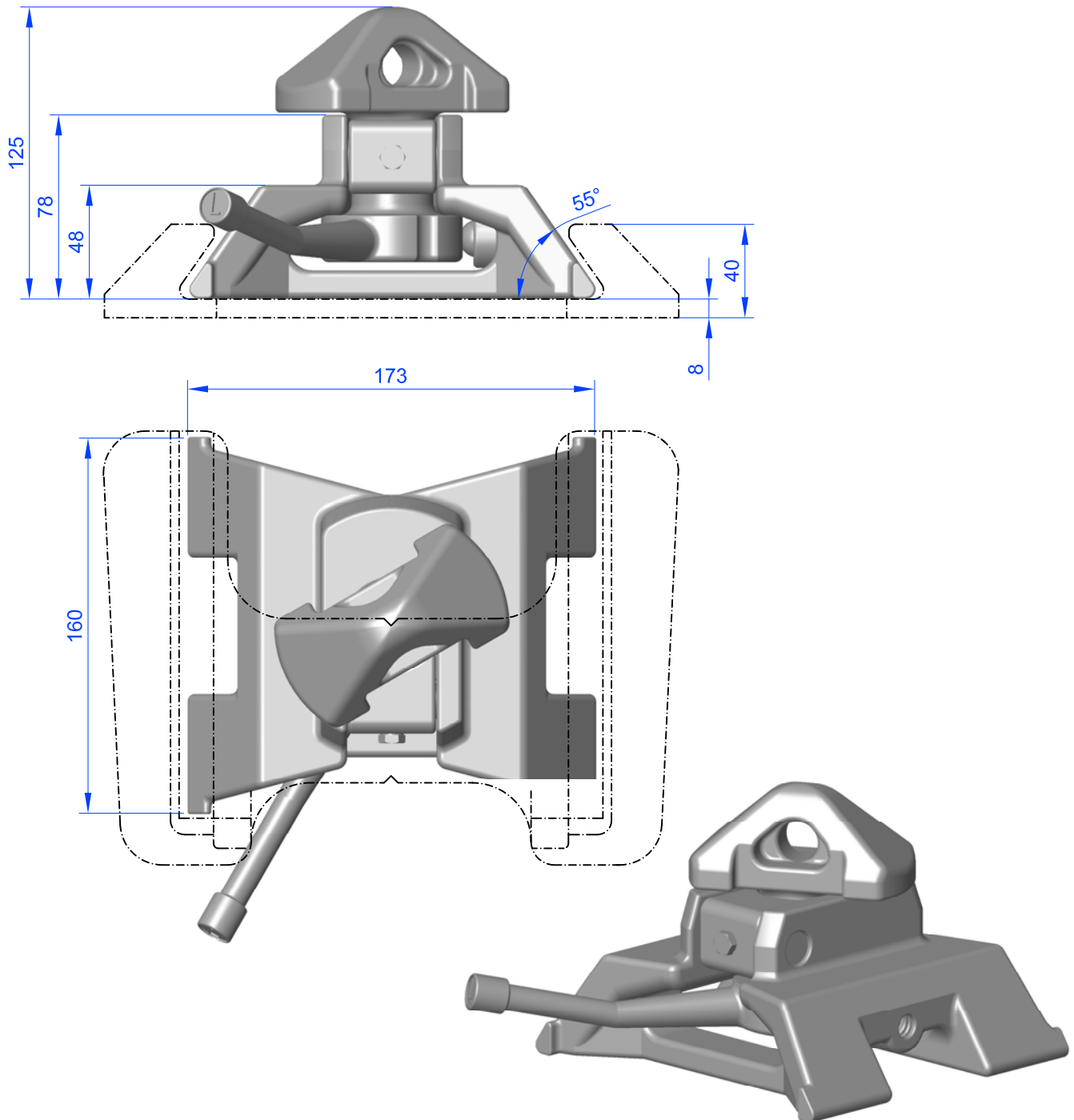
Min. B.L. Tension : 500 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN



Bottom Twistlock

Longitudinal Type, Left Locked

T-2.48D



Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 6.1 kg

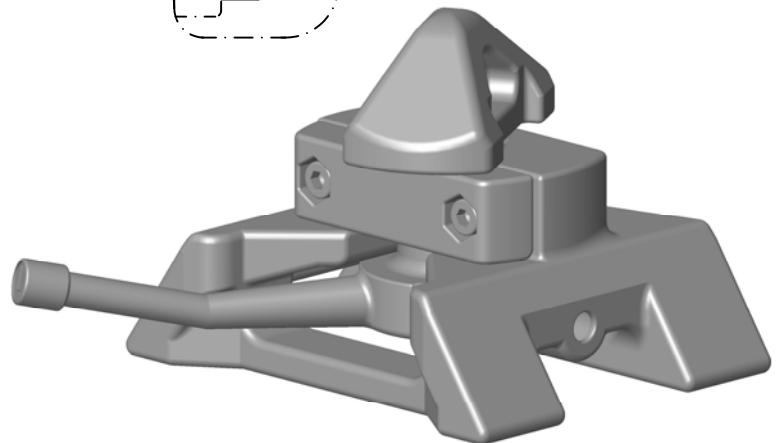
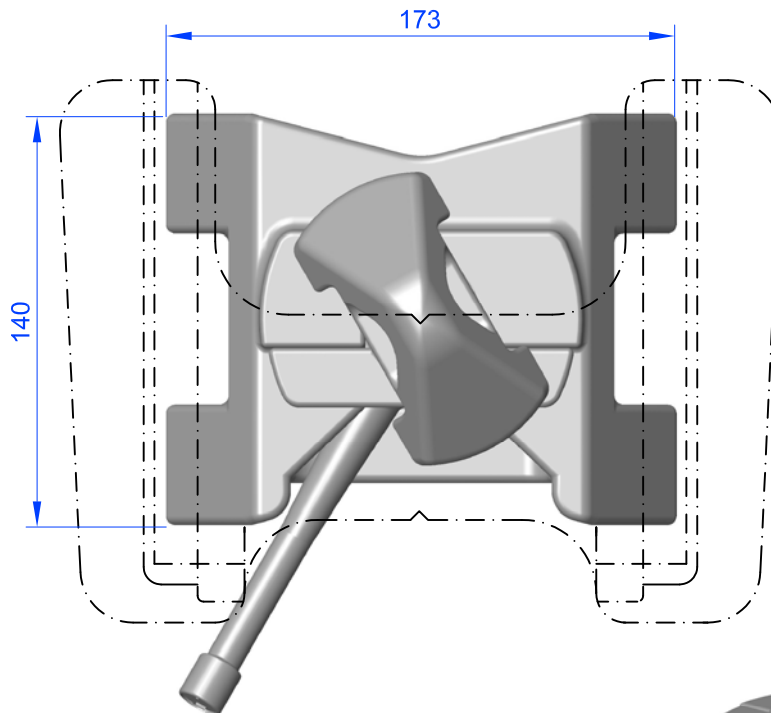
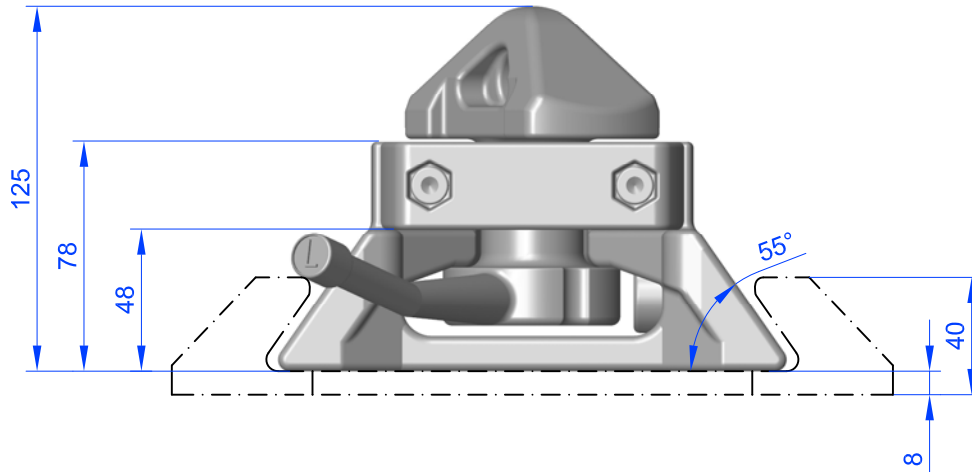
Min. B.L. Tension : 500 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN



Bottom Twistlock

Transversal Type, Left Locked

T-2.68D



Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 6.0 kg

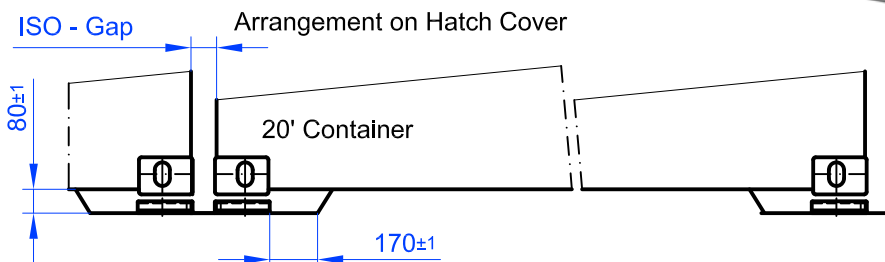
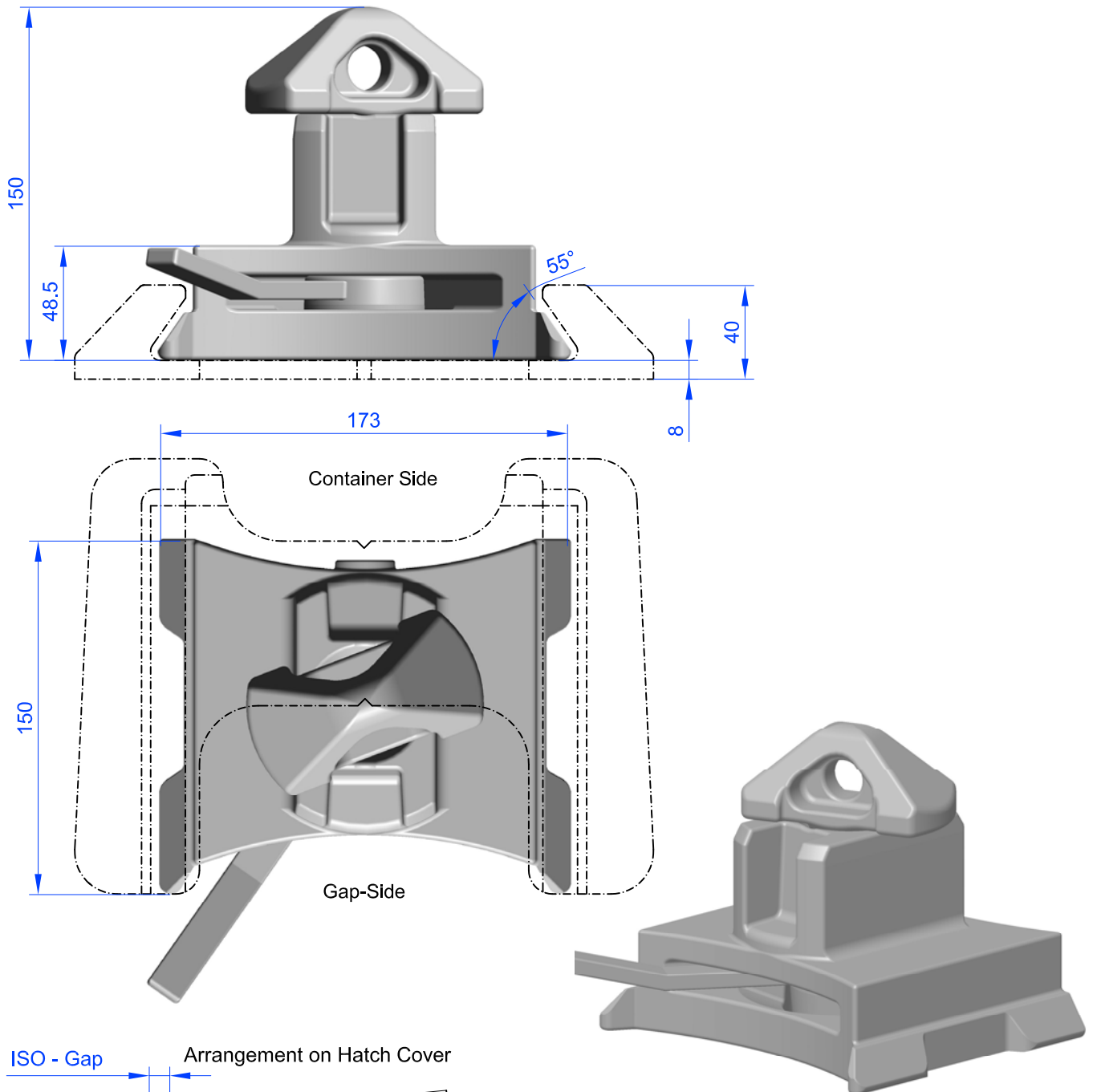
Min. B.L. Tension : 500 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN



Bottom Twistlock

Line Load (80mm Ditch Depth), Left Locked

T-2.78



Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: 8.5 kg

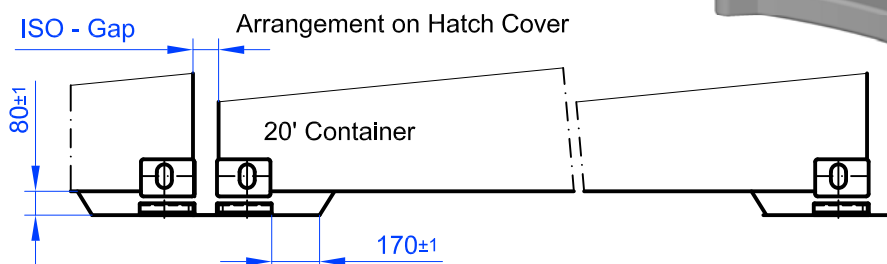
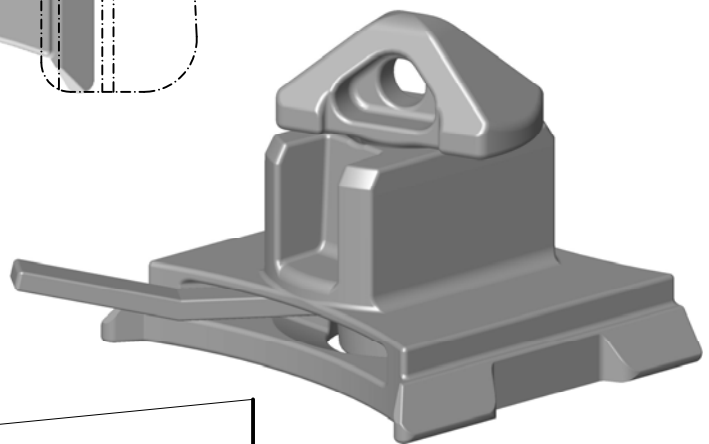
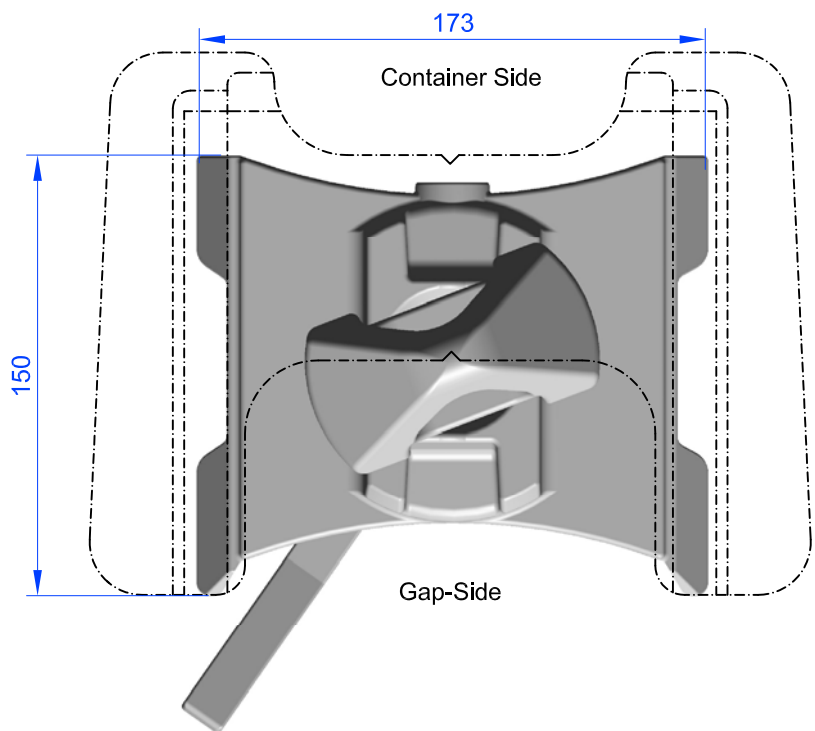
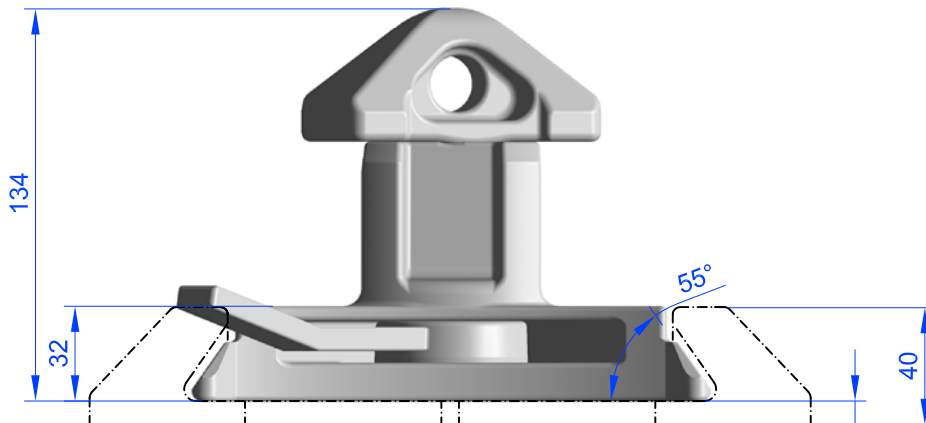
Min. B.L. Tension: 500 kN
Min. B.L. Shear: 420 kN
Min. B.L. Compression: 2000 kN



Bottom Twistlock

Line Load (62mm Ditch Depth), Left Locked

T-2.78/62



Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: 6.8 kg

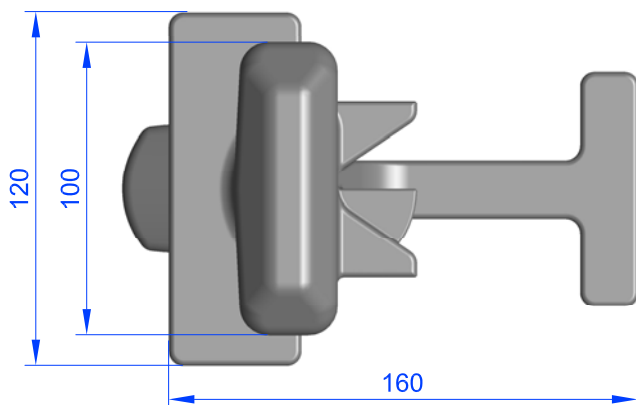
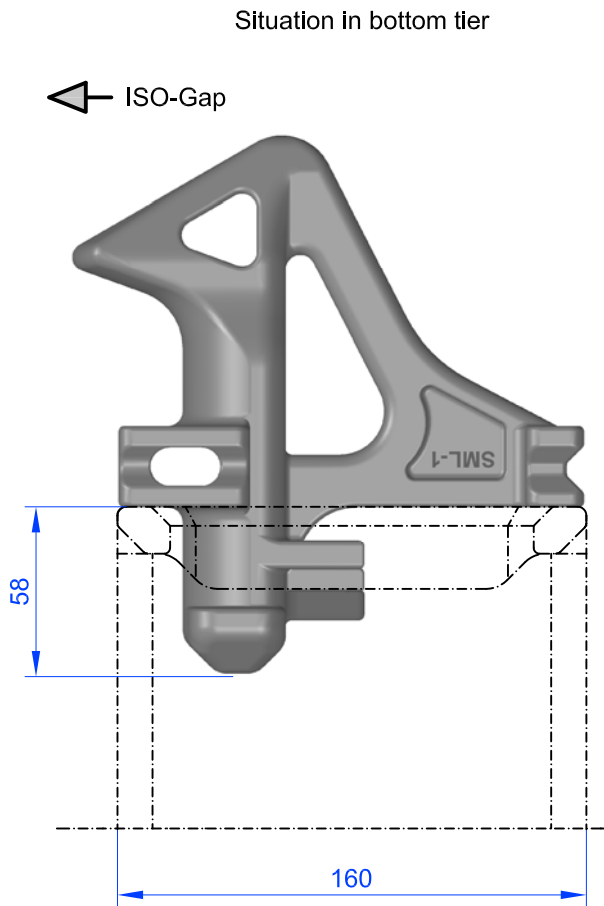
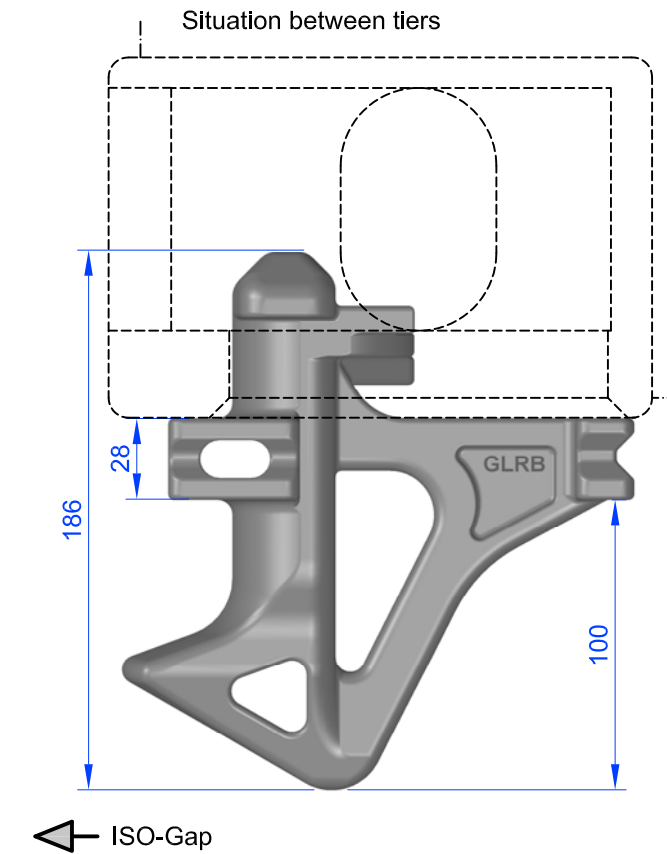
Min. B.L. Tension: 500 kN
Min. B.L. Shear: 420 kN
Min. B.L. Compression: 2000 kN



Smart Midlock

Between Tiers and Bottom Tier

SML-1



Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: 4.2 kg

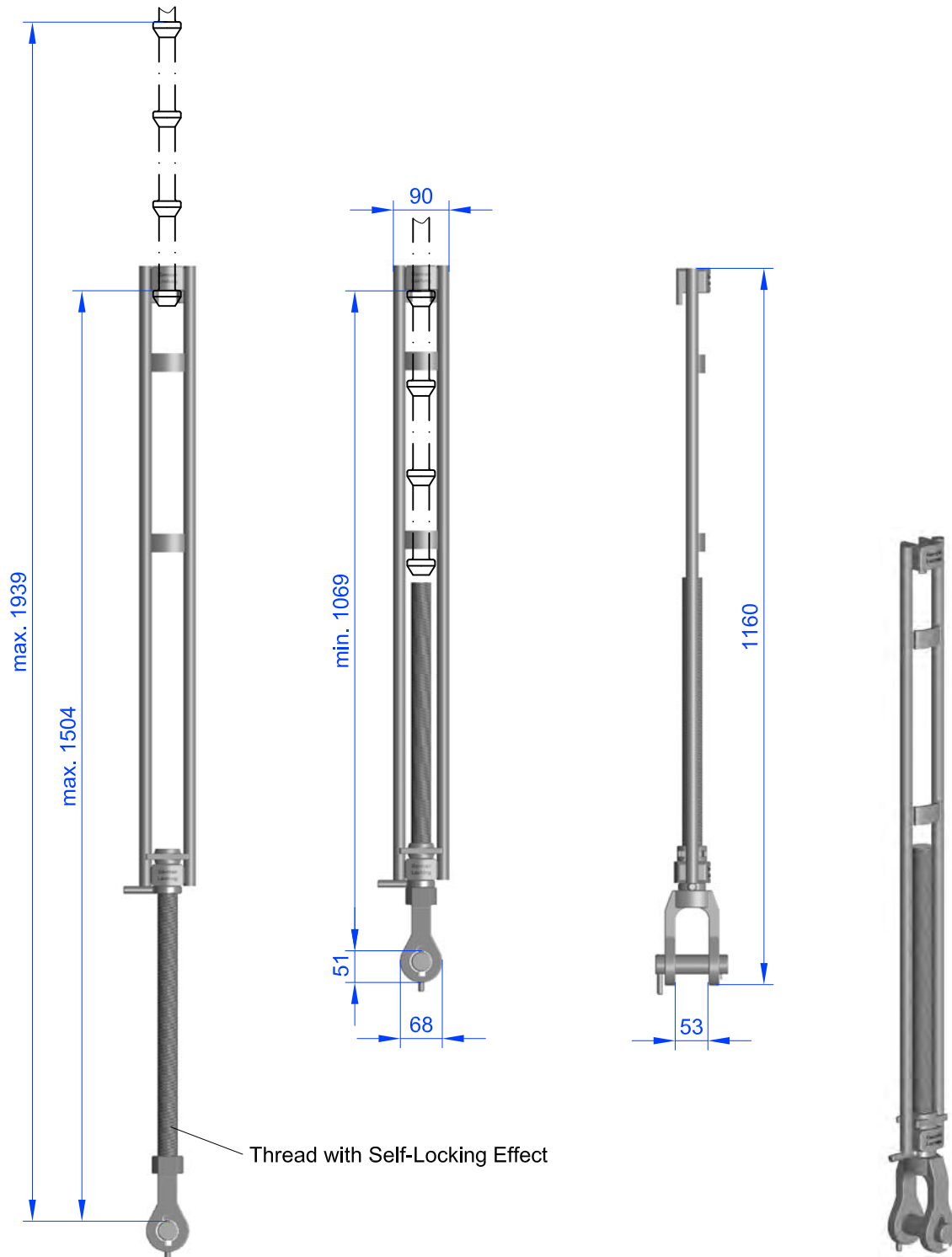
Min. B.L. Tension: 500 kN
Min. B.L. Shear: 420 kN
Min. B.L. Compression: 2000 kN



Turnbuckle

Knob Type / Fast Adjustment / Self-Locking Effect

TB-3AR (For Lashing Rod LR-1.., LRE.., LRV..)



Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 12.1 kg

Min. B.L. Tension : 490 kN
Min. B.L. Shear : -
Min. B.L. Compression : -

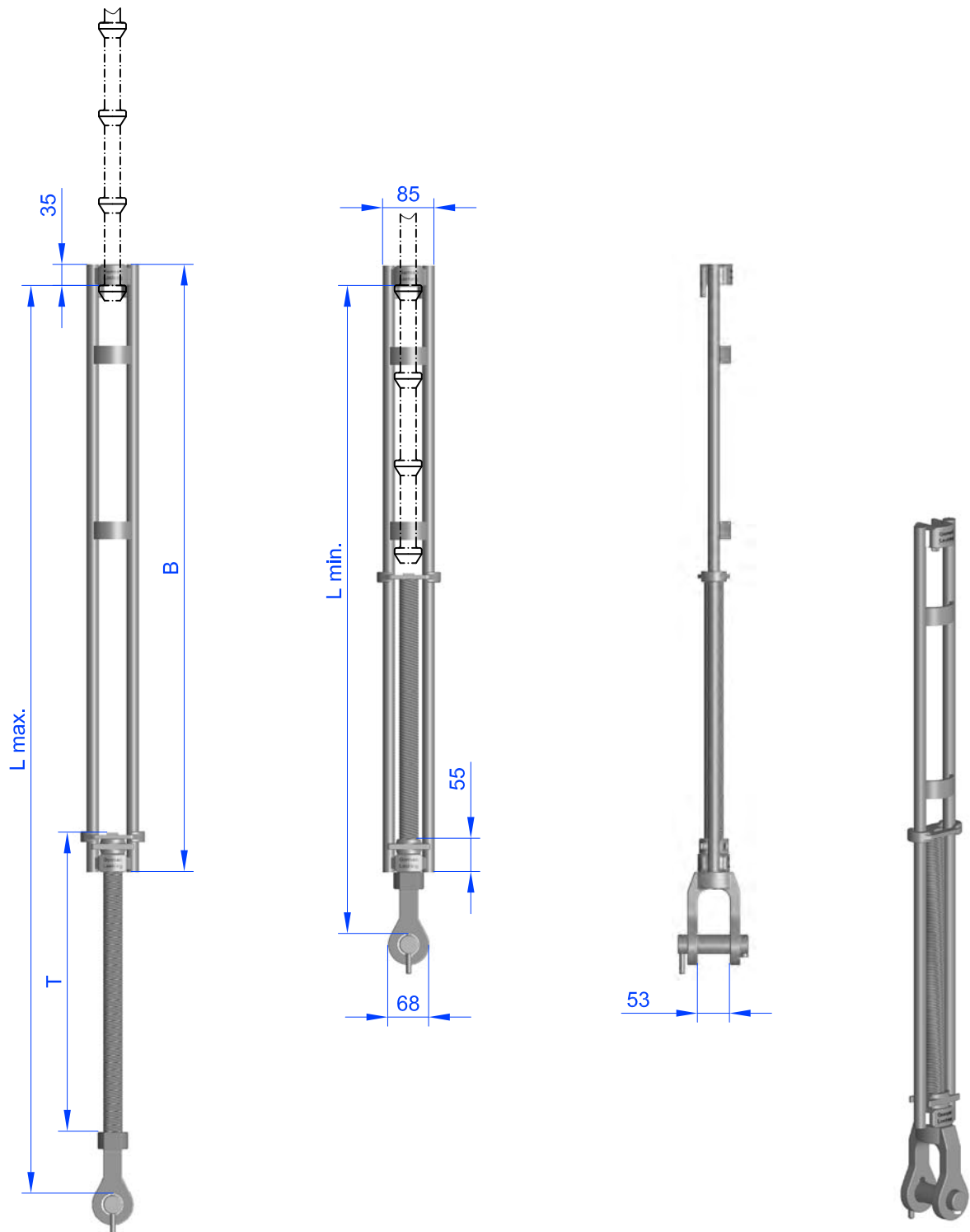


Turnbuckle

Knob Type / Fast Adjustment / Positiv Locking Mechanism

TB-SL-B-T

(For Lashing Rod External LRE-23...)



Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: Depending on Length

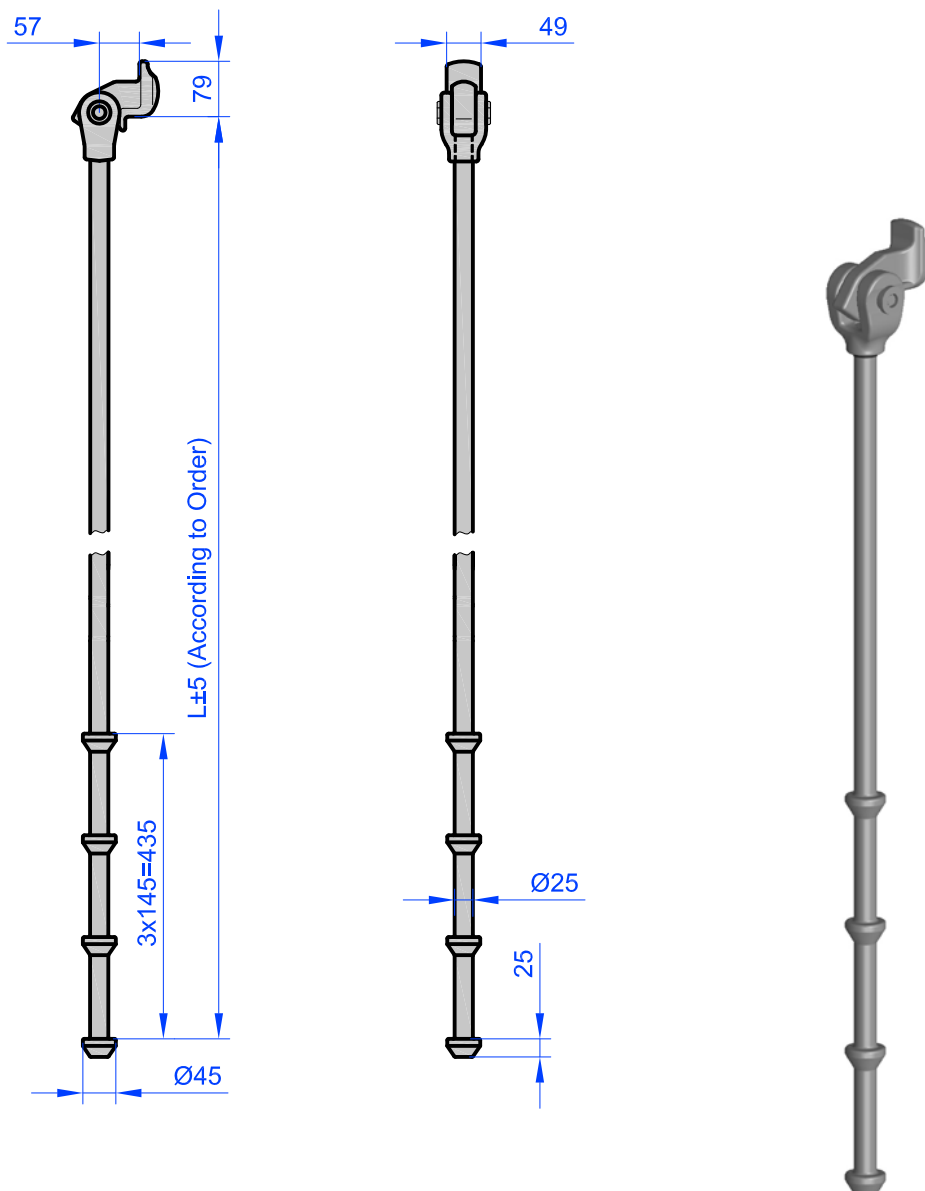
Min. B.L. Tension: : 490 kN
Min. B.L. Shear: : -
Min. B.L. Compression: : -



Lashing Rod

Multi Knob Type

LR-1... (For Turnbuckle: TB-3..)



Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: Depending on Length

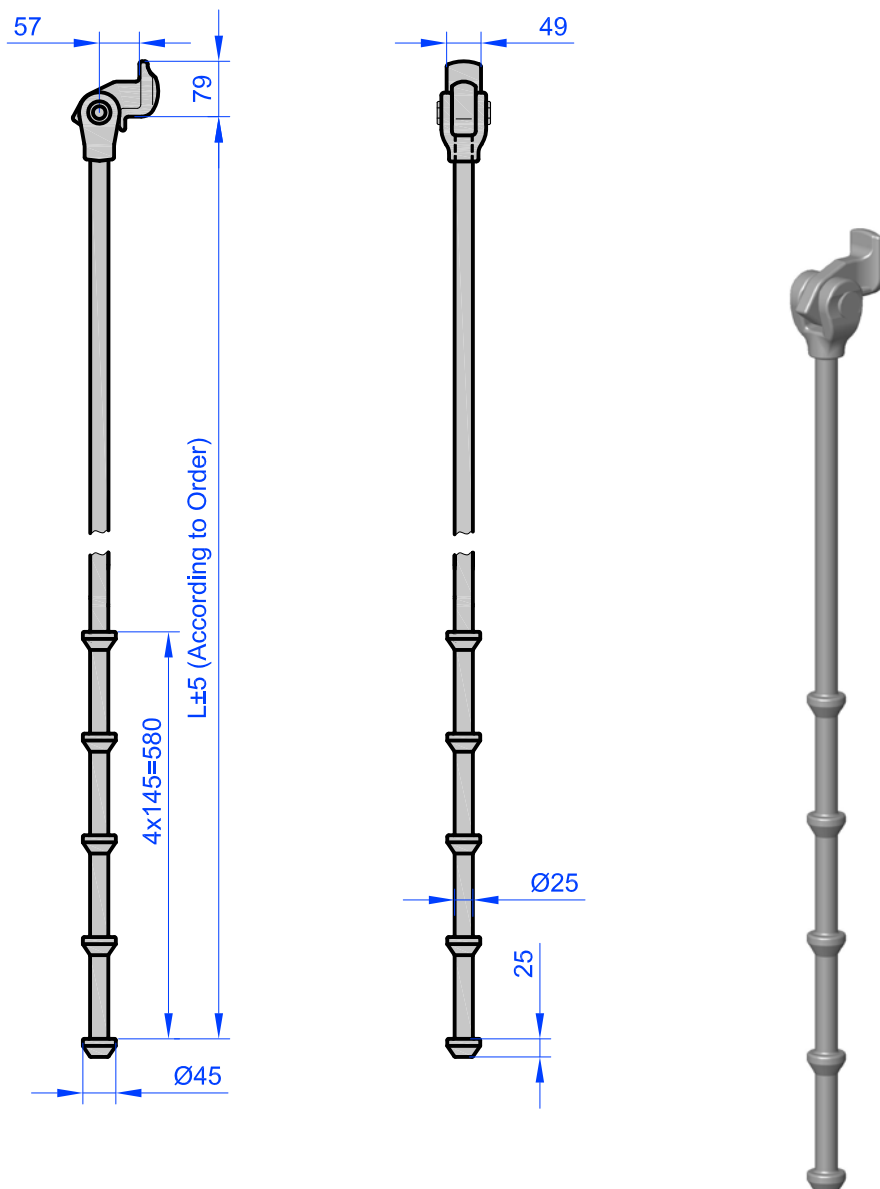
Min. B.L. Tension: : 490 kN
Min. B.L. Shear: : -
Min. B.L. Compression: : -



Lashing Rod

Multi Knob Type

LR-2... (For Turnbuckle: TB-3..)



Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: Depending on Length

Min. B.L. Tension: : 490 kN
Min. B.L. Shear: : -
Min. B.L. Compression: : -

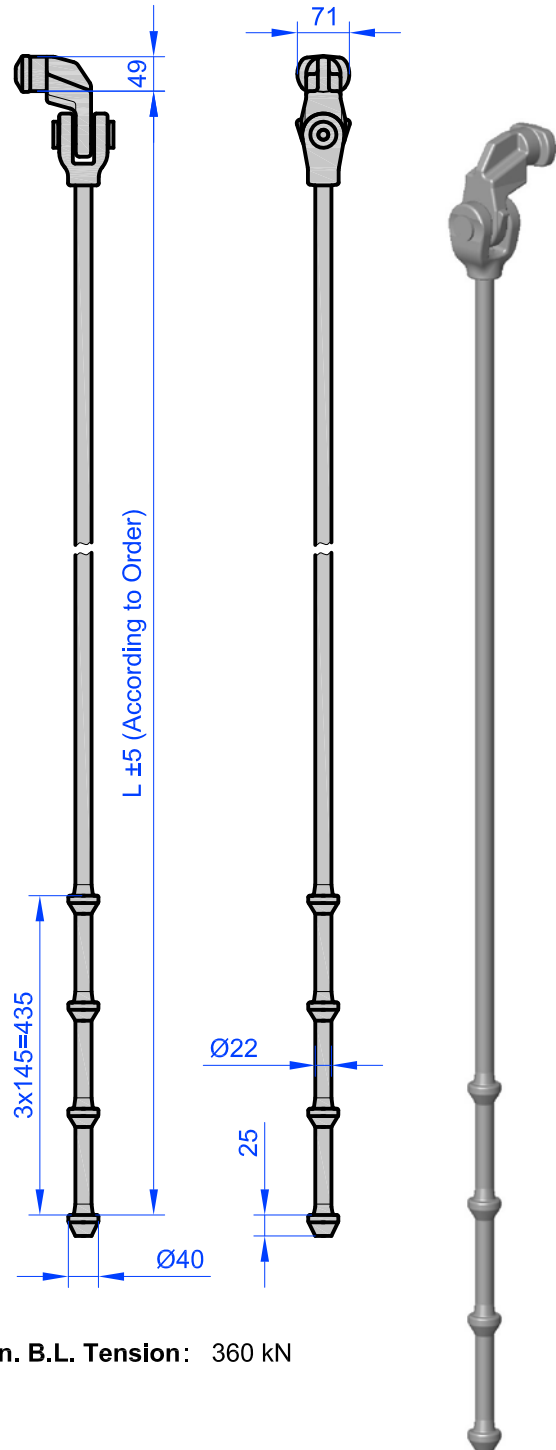
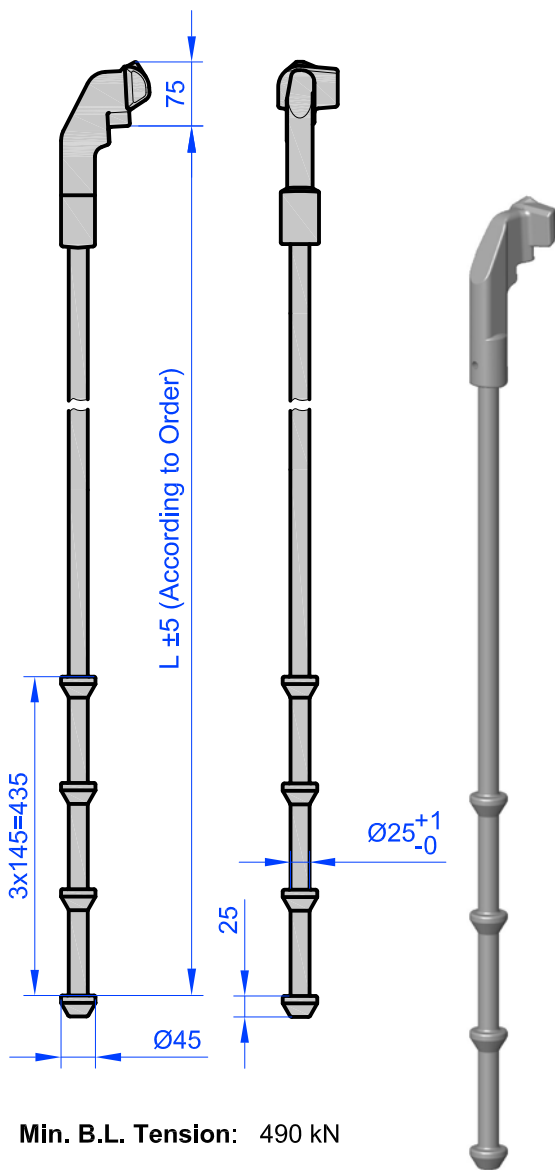


Lashing Rod

Vertical Knob Type

LRV-1/... (For: TB-3...)

LRV-2-36/... (For: TB-3...)



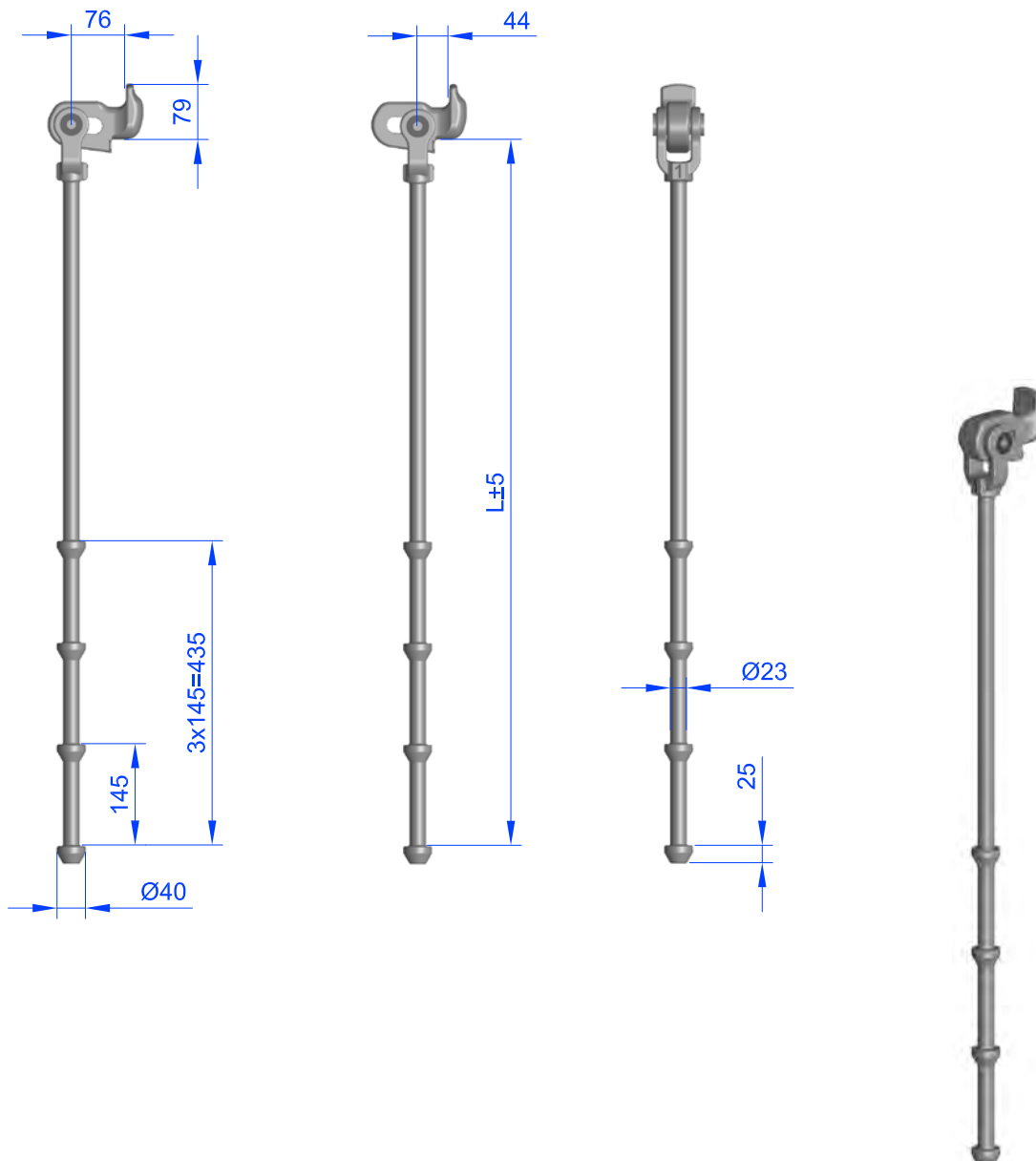
Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: Depending on Length

Min. B.L. Tension: : -
Min. B.L. Shear: : -
Min. B.L. Compression: : -



Lashing Rod External

LRE-23...



Material : Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : Depending on Length

Min. B.L. Tension : 490 kN
Min. B.L. Shear : -
Min. B.L. Compression : -

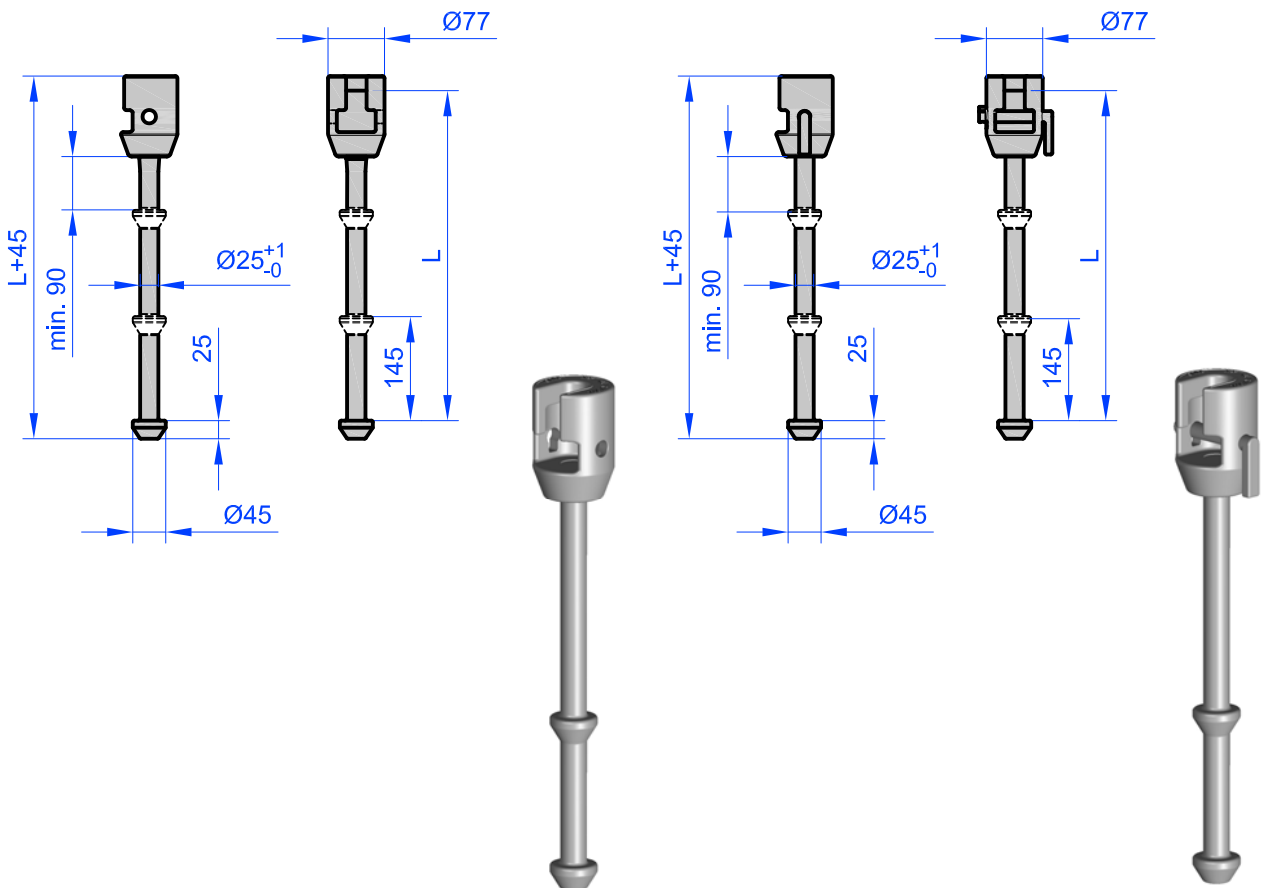


Extension Rod

Multi Knob Type / Lockable

R-7.92/...

R-7.92L/...



-  **LENGTH 200mm - 320mm = 1 KNOB**
-  **LENGTH 330mm - 460mm = 2 KNOBS**
-  **LENGTH 470mm - 610mm = 3 KNOBS**
-  **LENGTH 620mm - 1500mm = 4 KNOBS**

**FOR LOCKABLE TYPE R-7.92L:
IN ACCORDANCE WITH IMO CSS-CODE ANNEX 14 (MSC.1/CIRC.1352)**

Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: Depending on Length

Min. B.L. Tension: : 490 kN
Min. B.L. Shear: : -
Min. B.L. Compression: : -

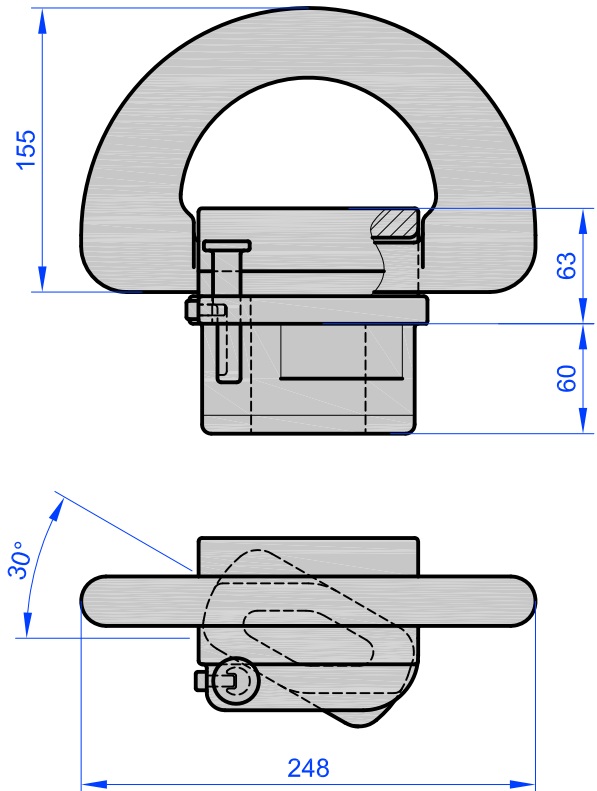
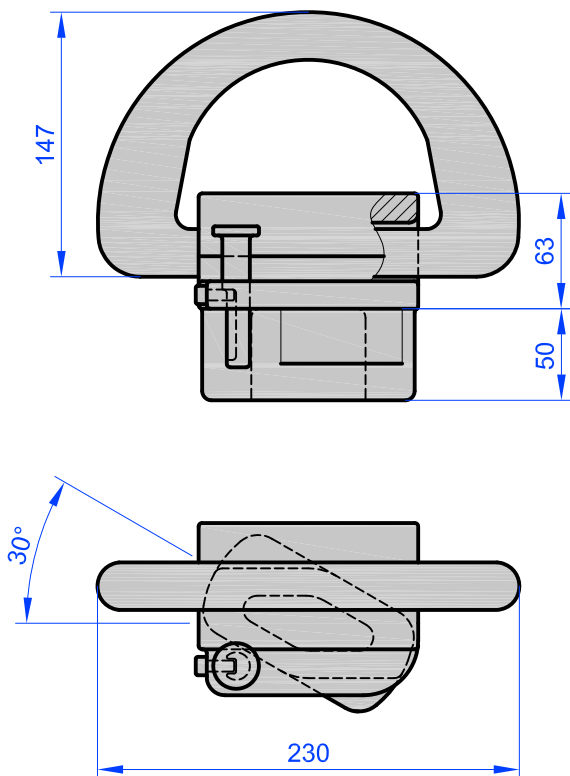


Lashing Eye

Lockable Fixed Base, Suitable for ISO-Hole

LE-23.73

LE-23.73-50



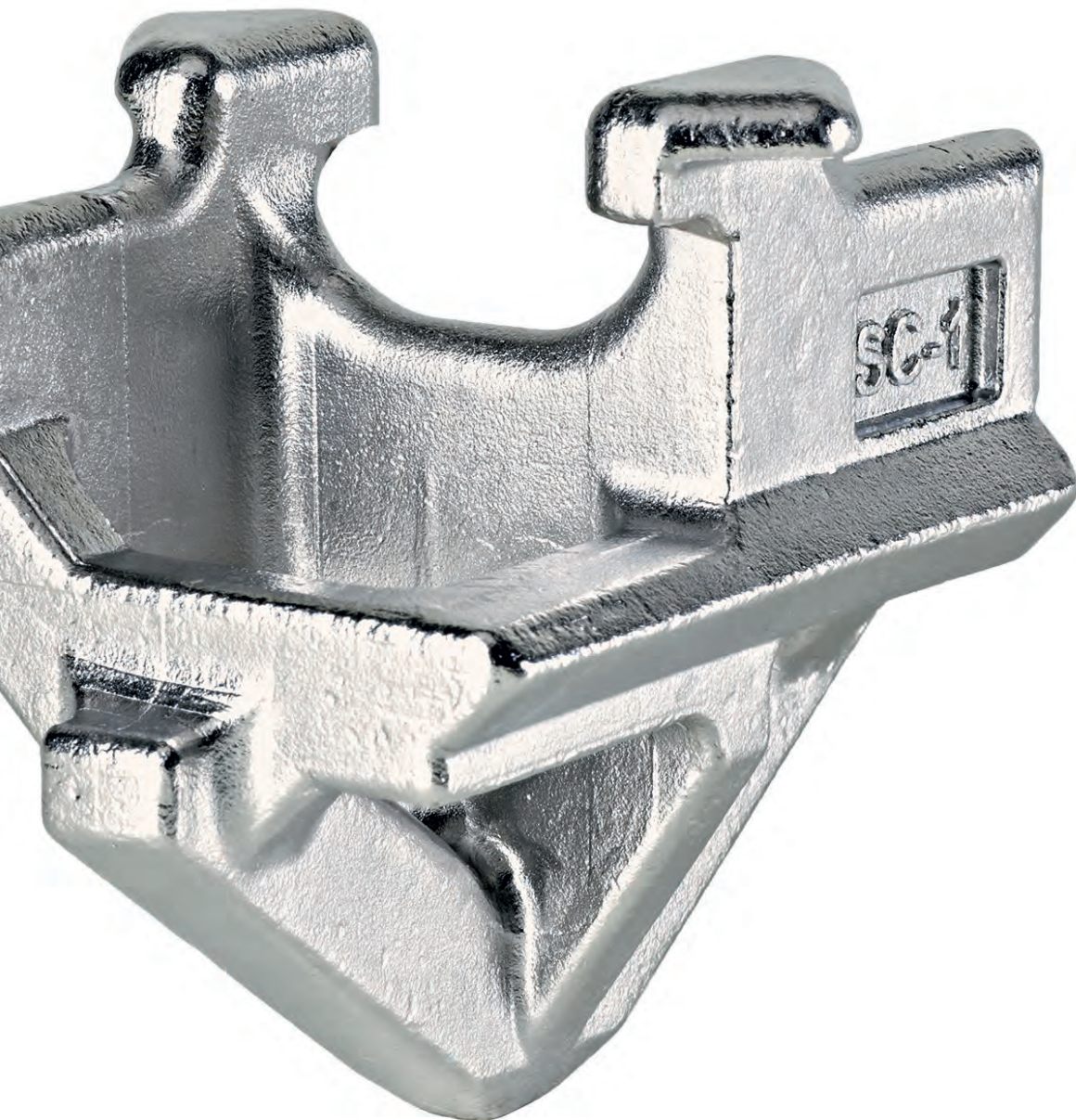
Type	Weight	Tension
LE-23.73	7.9 kg	360 kN
LE-23.73-50	8.7 kg	490 kN

Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : Table

Min. B.L. Tension : Table
Min. B.L. Shear : -
Min. B.L. Compression : -



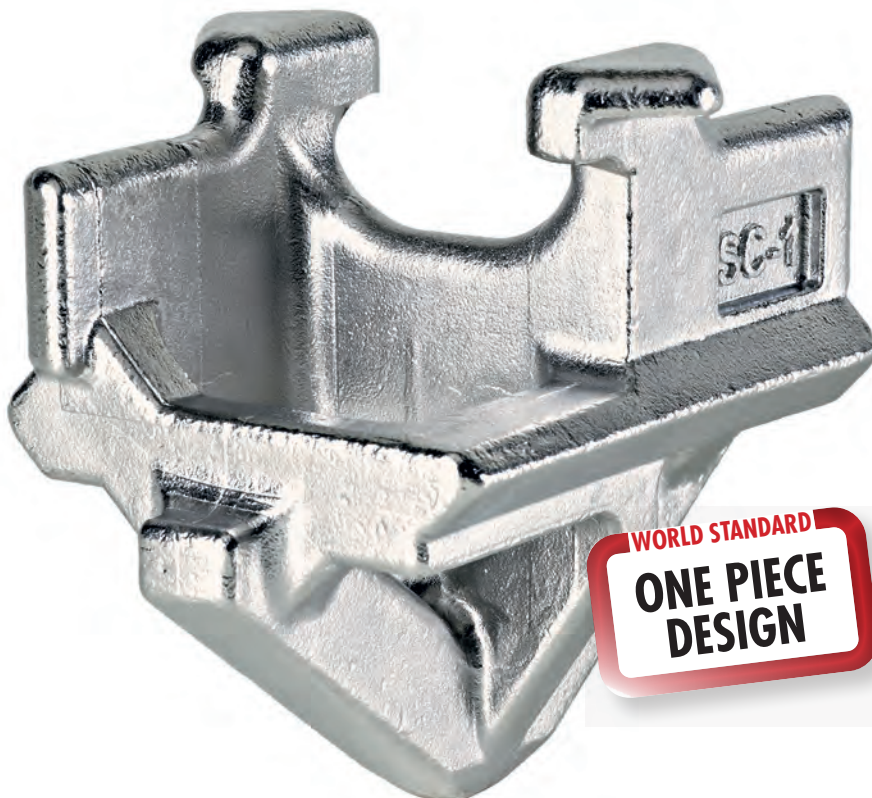
Loose Fitting Hold



Smartcone
Stacking Cone
Pressure Tension Element
Bridge Fitting
Compensation Stacker
Other

Smartcone | SC-1

- Weight optimized robust One-Piece design
 - **One Piece Design**
 - Fast and easy handling
 - No movable parts
 - No spare parts
 - No maintenance
 - No greasing
- The necessary quantity of Lockable Stacking Cones (LSC) will be reduced to 50% by application of Two Pieces ISO Gap System, because the LSC are required in the 20' Container ISO gap only. The conventional LSC with intermediate plate must also be used at the 20' ends where the container is located in the 40' cell guide because otherwise the container will be at an angle.
- Further advantages of the Smartcone SC-1:
 - The height of the 20' container stack will be reduced.
 - Direct optimal transmission of the vertical pressure forces to the container corner castings, therefore no wear and tear to the SC-1 due to this stress.
- Minimum shear breaking load 420 kN
- Optimized weight less than 1,5 kg
- Corrosion protection by fully Hot-Dip-Galvanizing



WORLD STANDARD
ONE PIECE
DESIGN



Certified by:

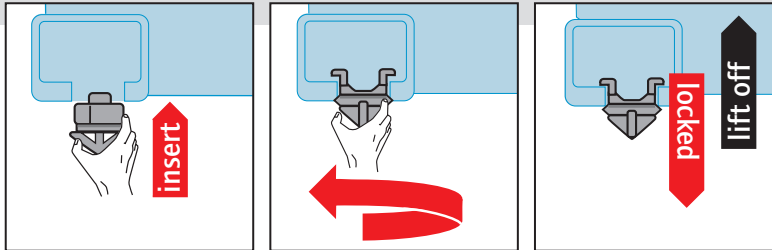


Original is best

Smartcone | SC-1

Operation Instructions Two Pieces ISO Gap System

Coning

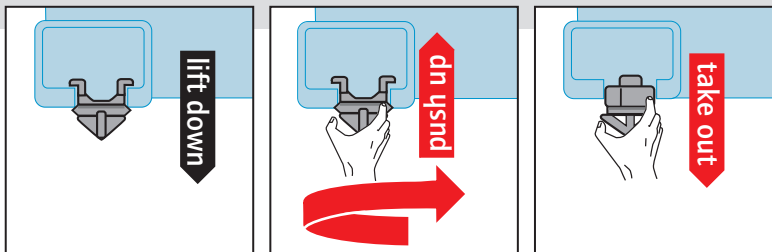


Insert the Smartcone in the lower corner casting

Twist the Smartcone to the left

The Smartcone locked by gravity and the container can be moved to the ship

Deconing



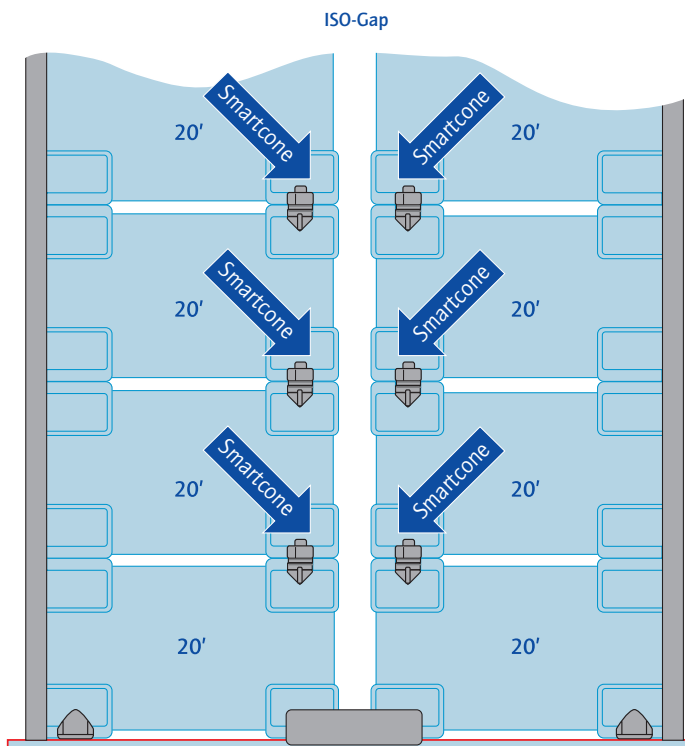
The container will be moved from the ship

Push up the Smartcone and twist it to the right

Take out the Smartcone and place it in a stowage bin

Two Pieces ISO Gap System

20' Container Stowage in 40' Cell Guide



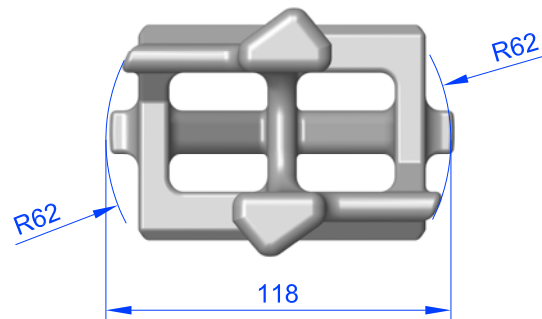
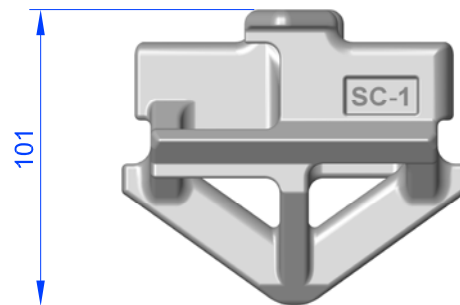
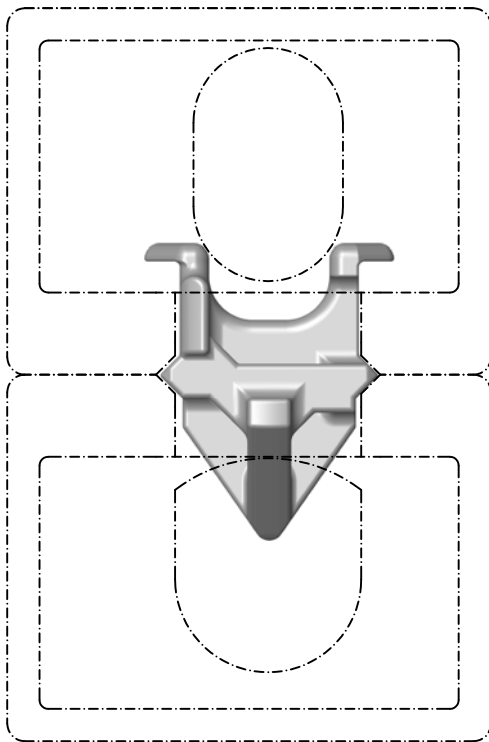
Cone or Guide Fitting on Double Bottom

Original is best

Smartcone

Flangeless / One Piece Design

SC-1



Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 1,3 kg



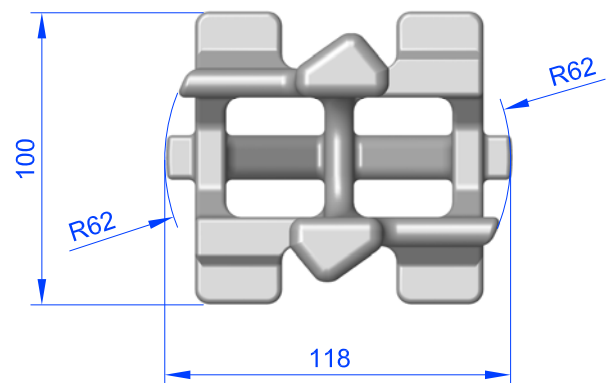
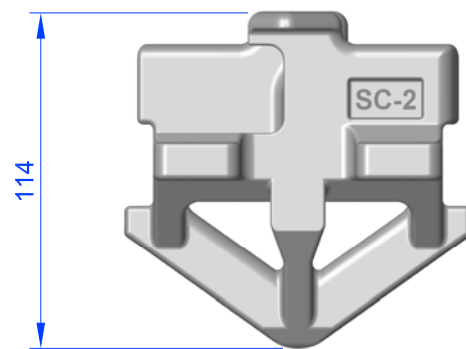
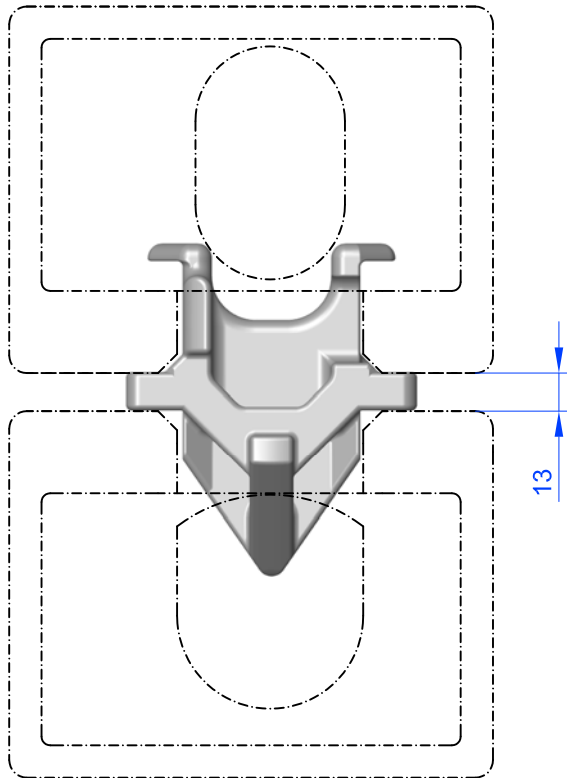
Min. B.L. Tension : -
Min. B.L. Shear : 420 kN
Min. B.L. Compression : -



Smartcone

13 mm Flange / One Piece Design

SC-2



Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 1.6 kg



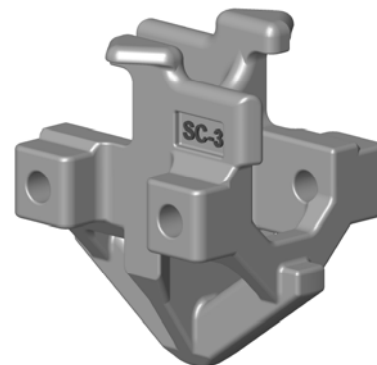
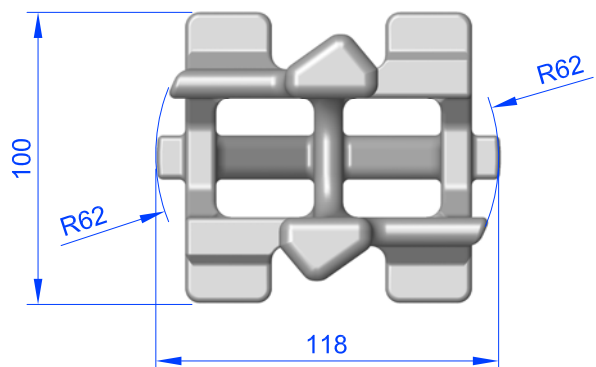
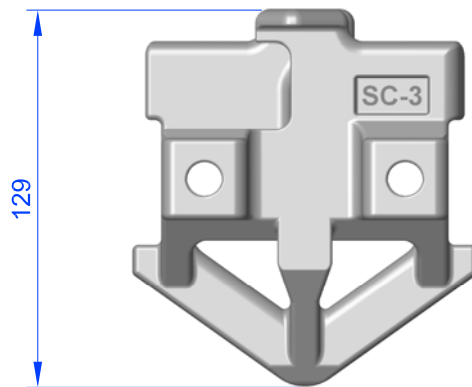
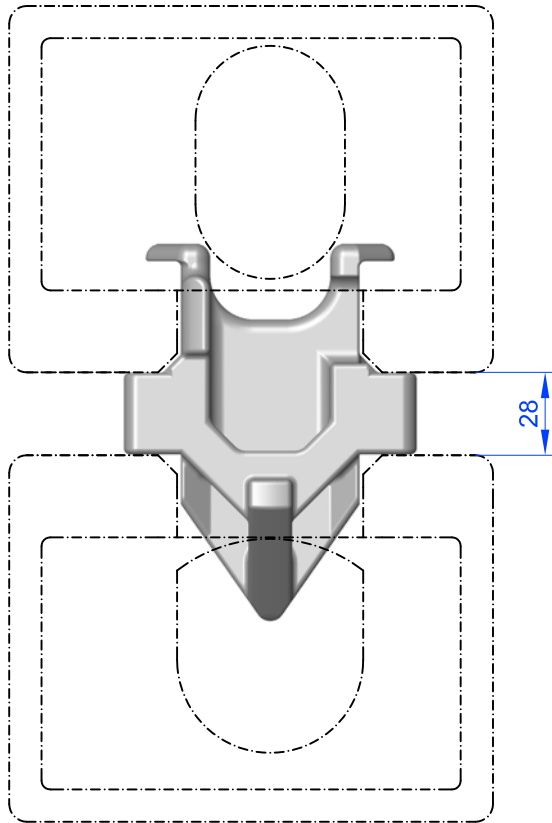
Min. B.L. Tension : -
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN



Smartcone

28 mm Flange / One Piece Design

SC-3



Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 2.0 kg



Min. B.L. Tension : -
Min. B.L. Shear : 420 kN
Min. B.L. Compression : 2000 kN

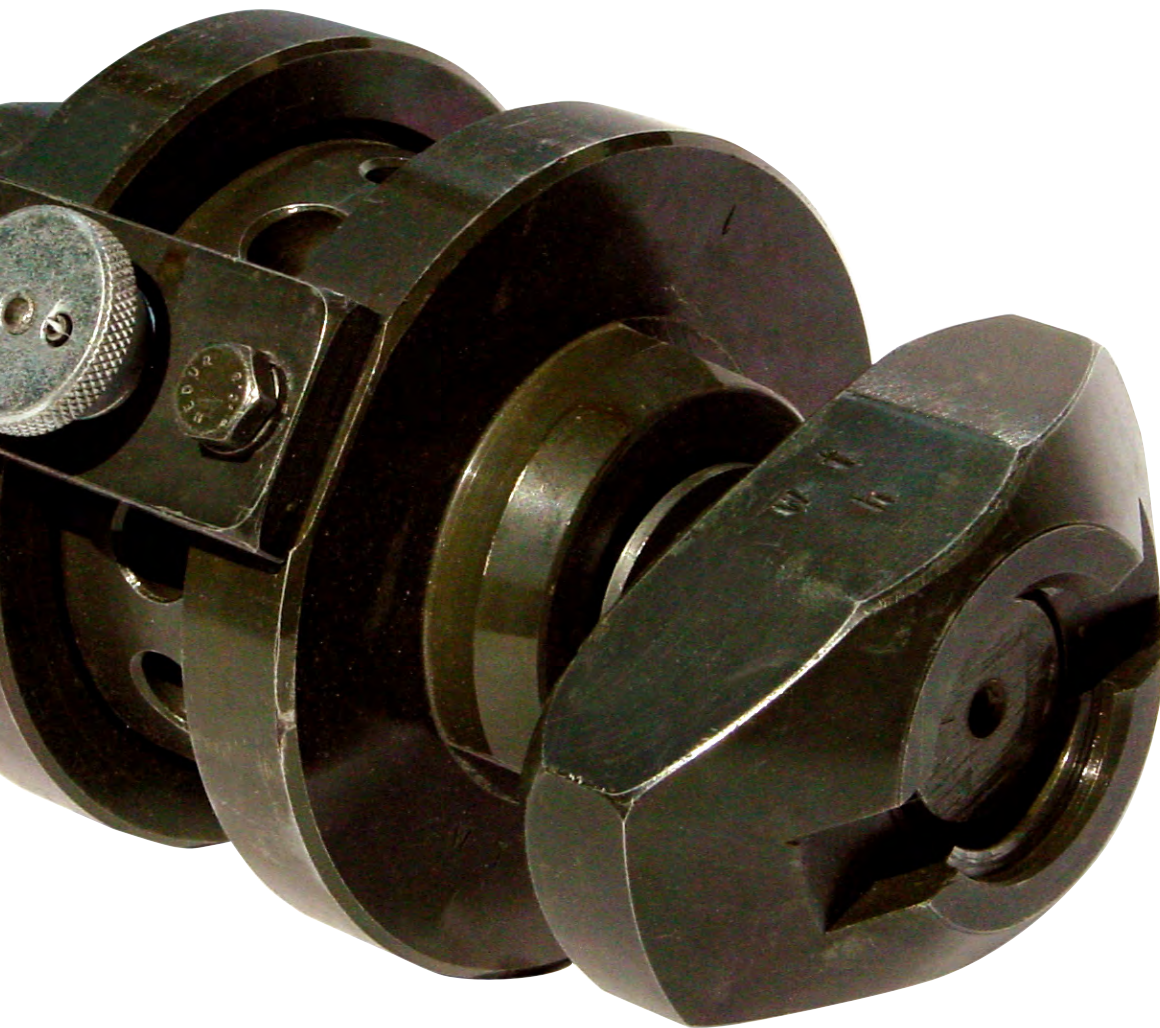


Notes

Innovations in
cargo securing



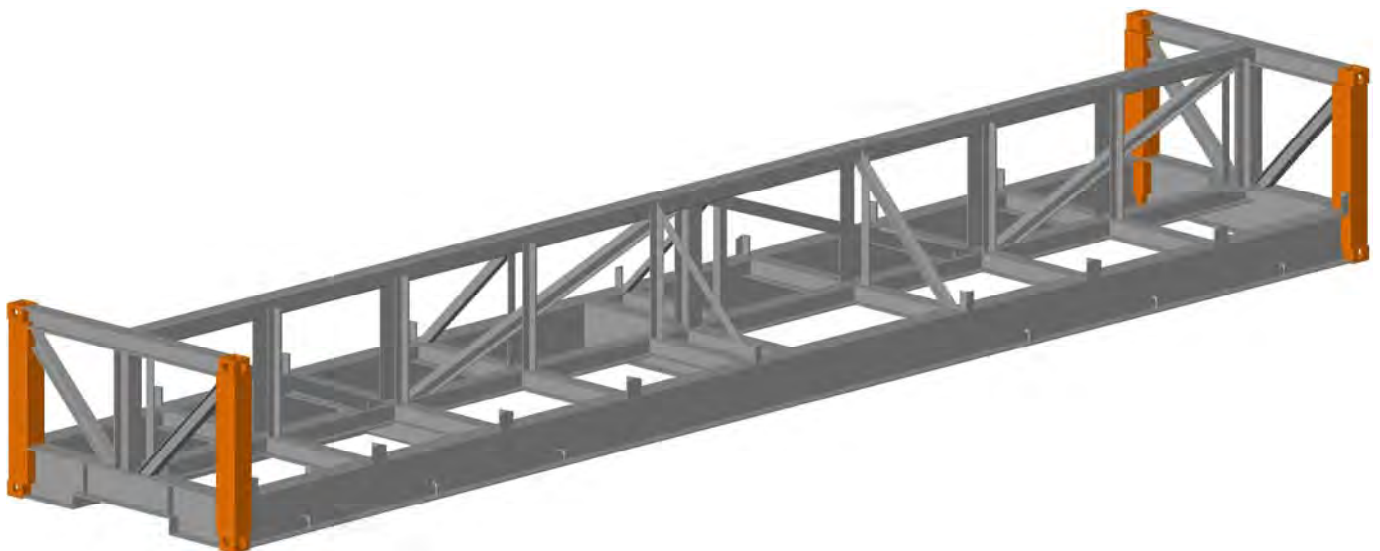
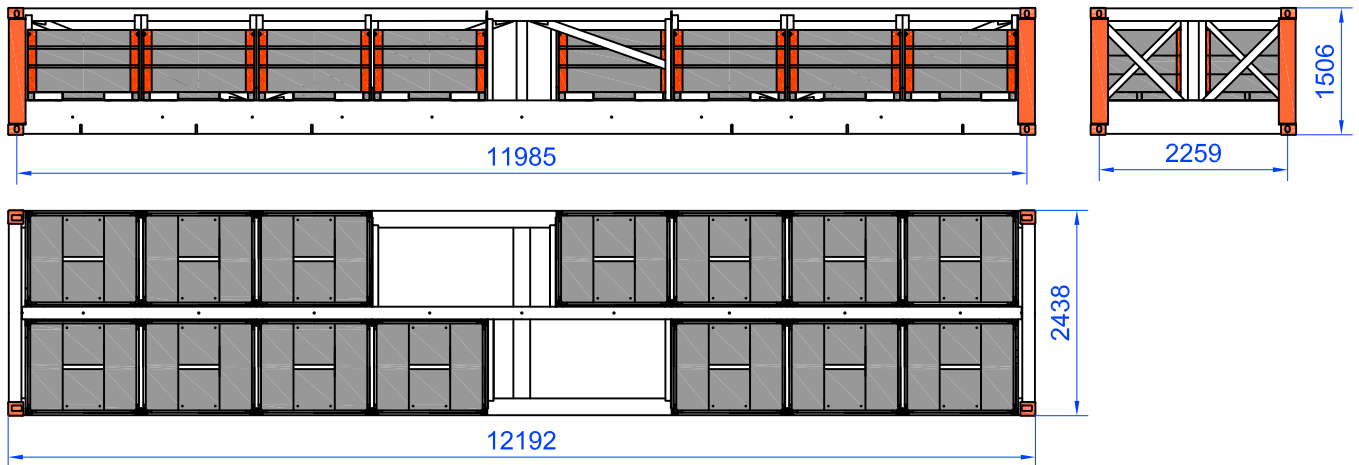
Special Equipment



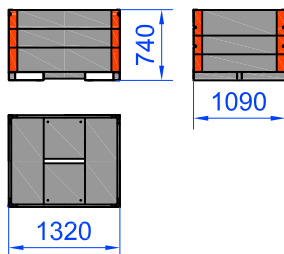
Flat Rack
Operation Rod
Working Platform
Container Quick Tie
Other

40' Flat Rack

FL-4 (14SB)



SB-3 Stowage Bin



Type	Tare Weight	Max. Permissible Payload	Max. Operating Gross Mass
FL-4(14SB) without 14 Bins	4.270 kg		33.000 kg
FL-4(14SB) incl. 14 Bins	6.118 kg	26.882 kg	
SB-3	132 kg	1.900 kg	2.032 kg

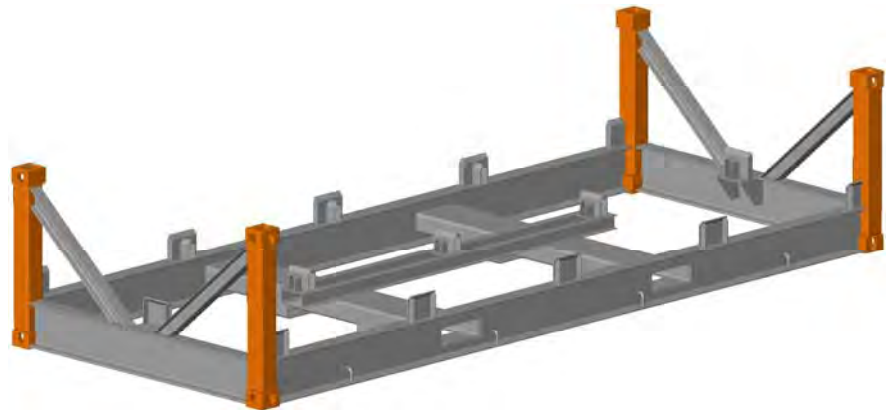
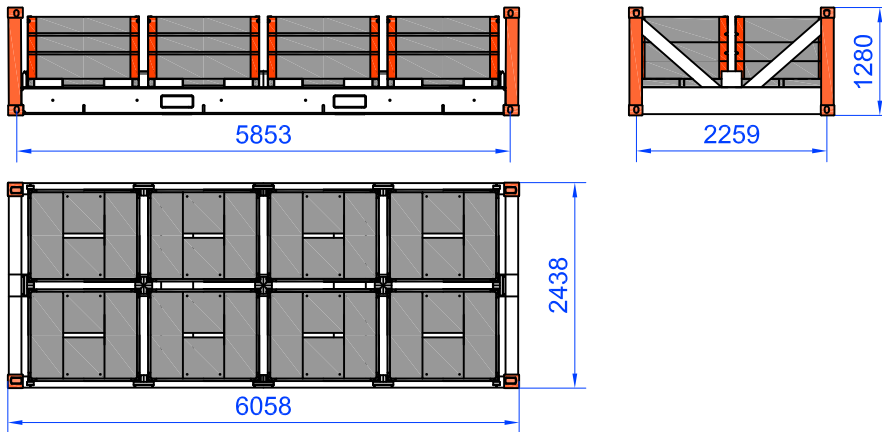
Material: Steel, comparable S355J2G3
Finish : Flat Racks : Painted
 Stowage Bin: Hot Dip Galvanized

Tare Weight : Table
Payload : Table
Gross Mass : Table

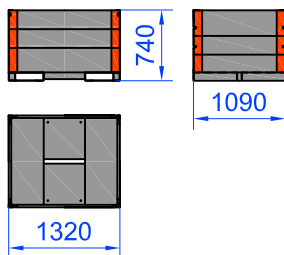


20' Flat Rack

FL-2B



SB-3 Stowage Bin



Type	Tare Weight	Max. Permissible Payload	Max. Operating Gross Mass
FL-2B without 8 Bins	1.530 kg		18.000 kg
FL-2B incl. 8 Bins	2.586 kg	15.414 kg	
SB-3	132 kg	1.900 kg	2.032 kg

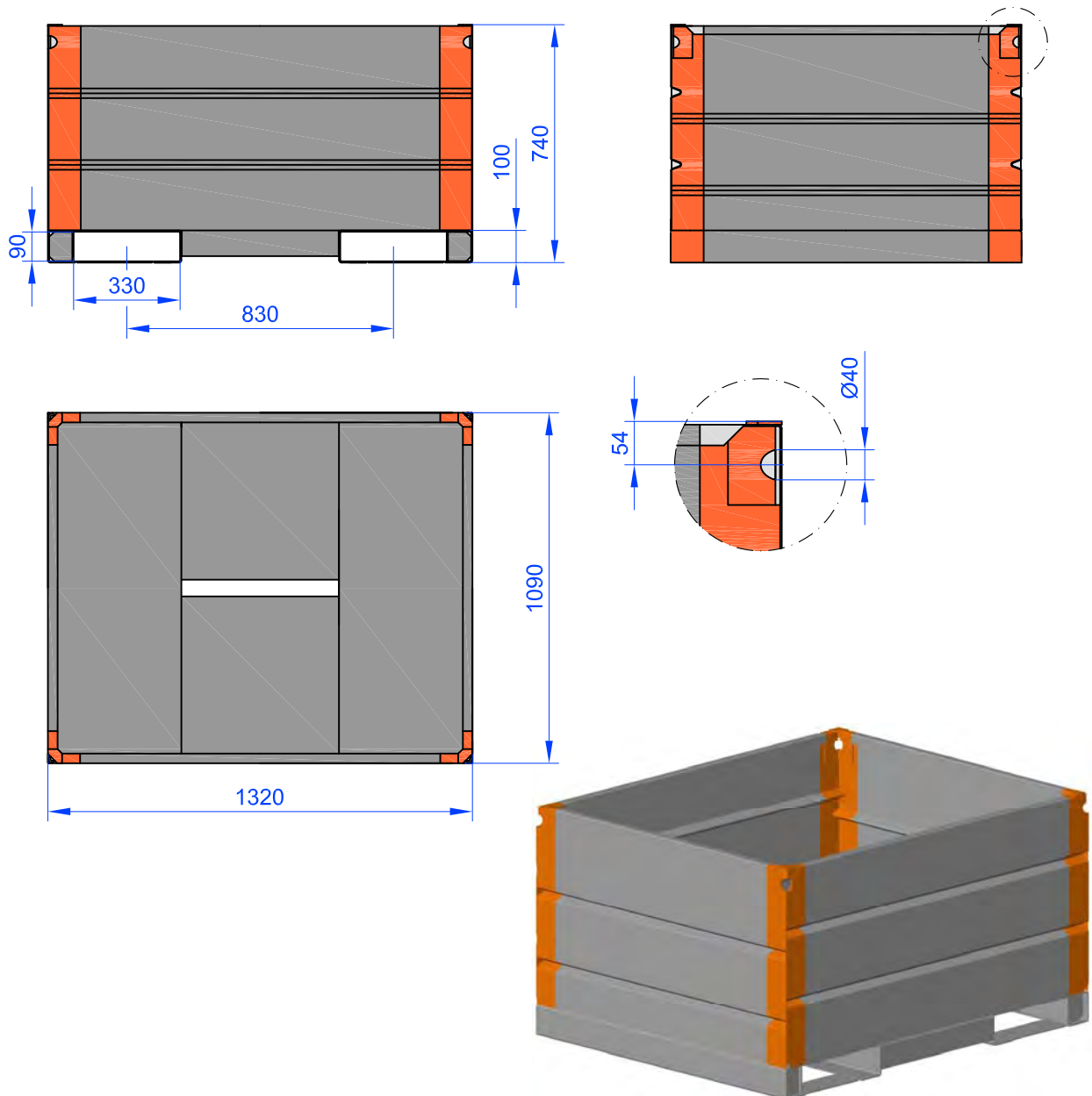
Material: Steel, comparable S355J2G3
Finish : Flat Racks : Painted
 Stowage Bin: Hot Dip Galvanized

Tare Weight : Table
Payload : Table
Gross Mass : Table



Stowage Bin

SB-3



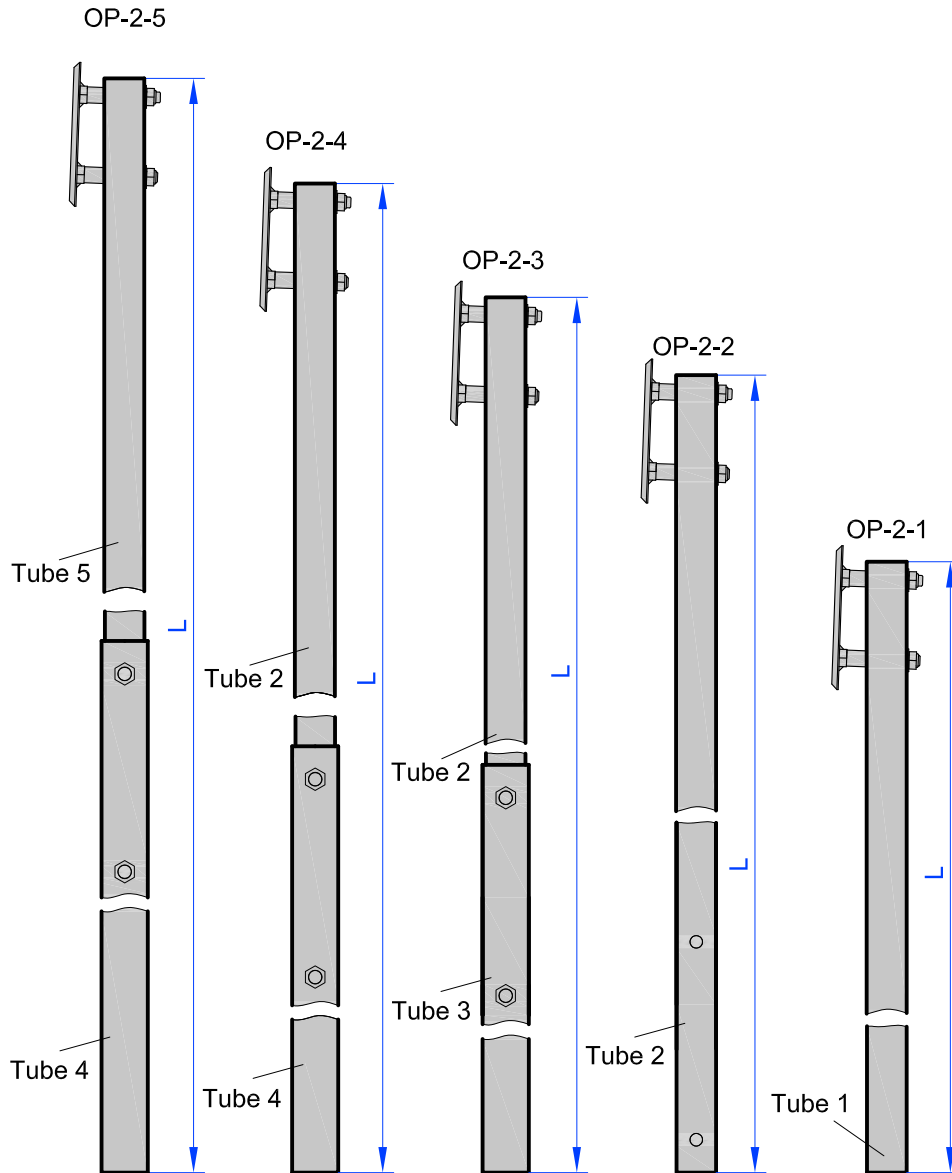
Type	Tare Weight	Max. Permissible Payload	Max. Operating Gross Mass
SB-3	132 kg	1.900 kg	2.032 kg

Material: Steel, comparable S355J2G3
Finish : Hot Dip Galvanized
Weight : Table

Operating Rod

For Twistlock T-2.2, T-2.3..

OP-2



Tube	Length
5	Ø30x6000
4	Ø35x6000
3	Ø35x3000
2	Ø30x4500
1	Ø30x1500

Type	Tube	L	Application	Weight
OP-2-5	4+5	11800	Between 5/6 Tier	7.2 kg
OP-2-4	2+4	10300	Between 4/5 Tier	6.5 kg
OP-2-3	2+3	7300	Between 3/4 Tier	4.6 kg
OP-2-2	2	4500	Between 2/3 Tier	2.3 kg
OP-2-1	1	1500	Between 1/2 Tier	0.9 kg

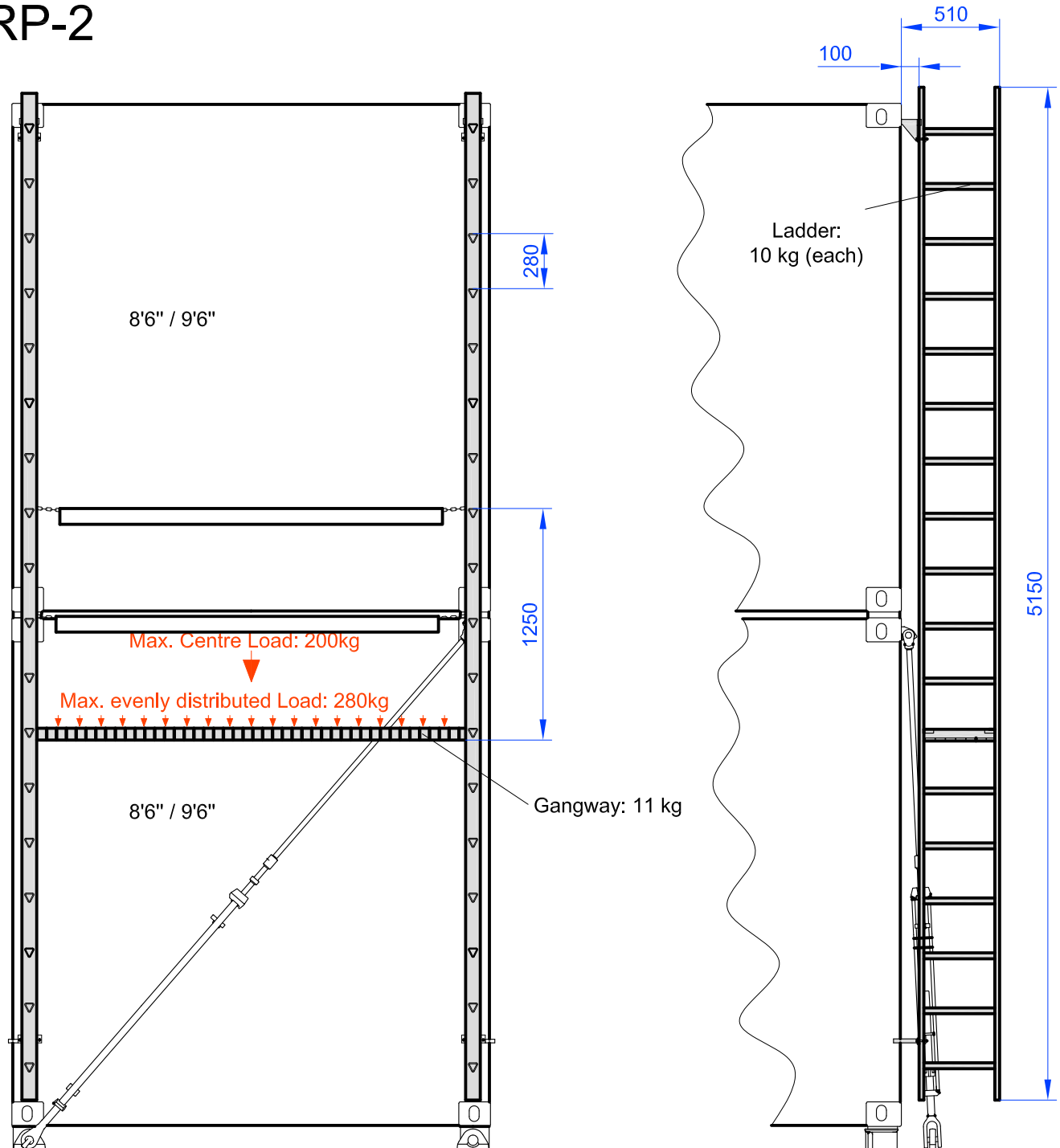
Material: Stainless Steel/ Aluminium Alloy
Finish : Without Coating
Weight : Table

Min. B.L. Tension : -
Min. B.L. Shear : -
Min. B.L. Compression : -



Working Platform For Reefer Container

RP-2



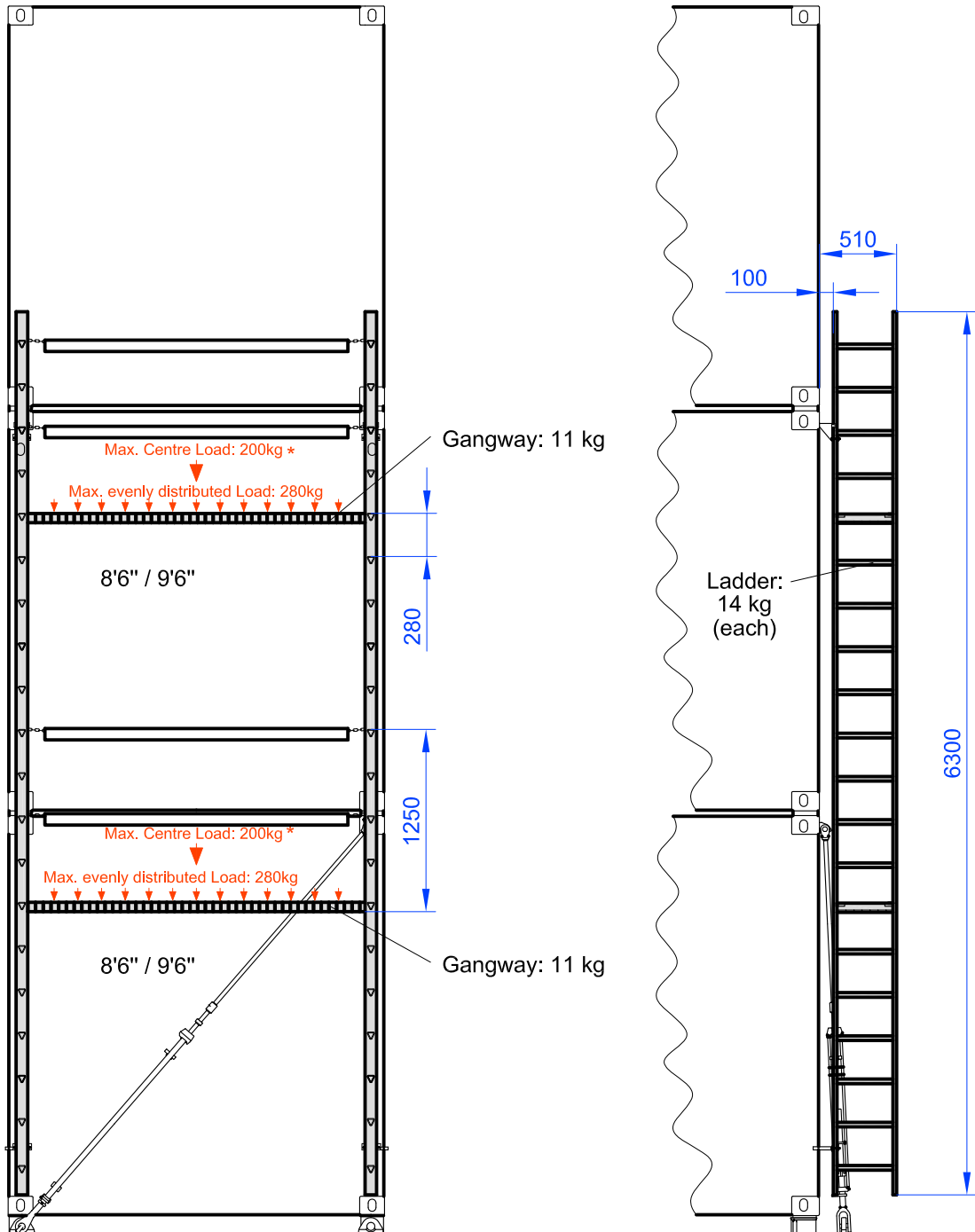
Material: Aluminium/ Steel
Finish : Aluminium Finish/ Hot Dip Galvanized
Weight : 42,0 kg

Min. B.L. Tension : -
Min. B.L. Shear : -
Min. B.L. Compression : -



Working Platform For Reefer Container

RP-3



* Only one Gangway can be used at the same time!

Material: Aluminium/ Steel
Finish : Aluminium Finish/ Hot Dip Galvanized
Weight : 64,8 kg

Min. B.L. Tension : -
Min. B.L. Shear : -
Min. B.L. Compression : -



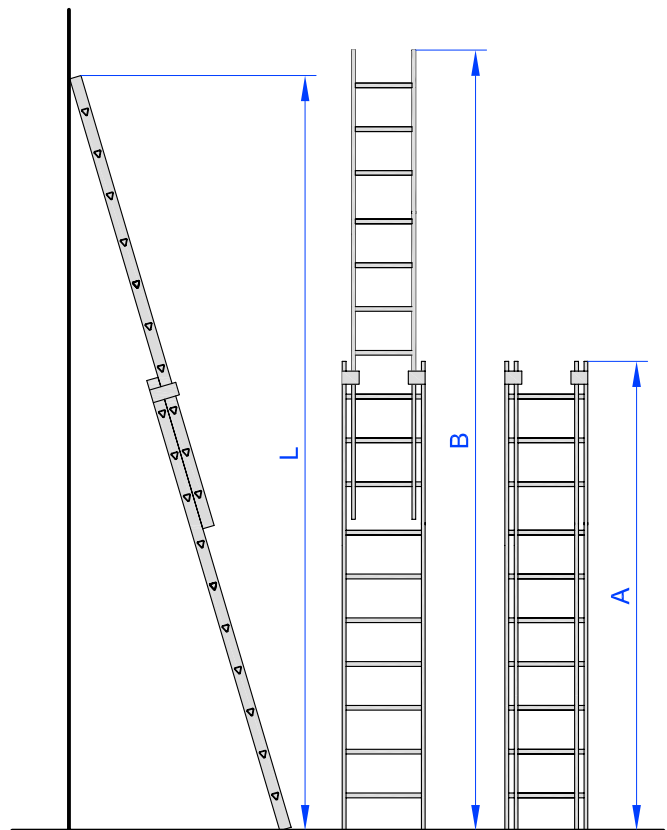
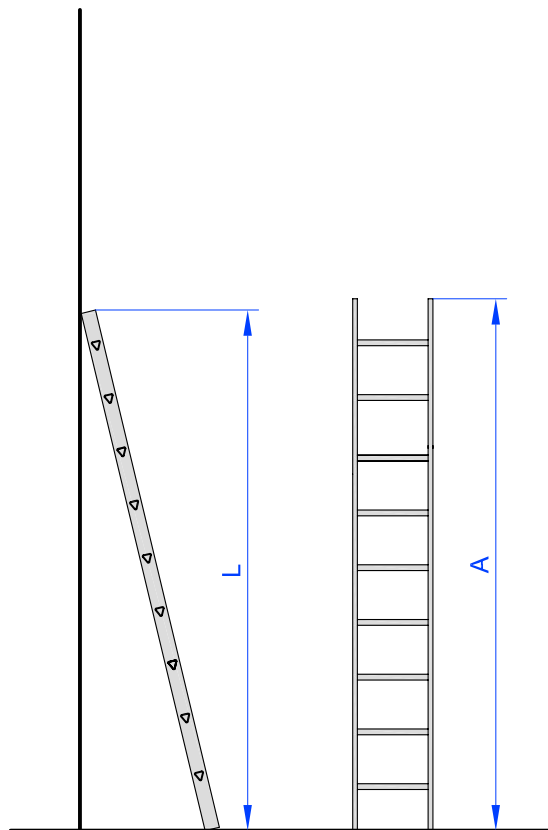
Aluminium Ladder

According to DIN EN 131

AL-40.1...

AL-40.2...

AL-40.3... Without Picture



Type	L	A	Weight
AL-40.11	2800	2950	5,3 kg
AL-40.12	3800	4050	7,4 kg
AL-40.13	4350	4600	8,7 kg
AL-40.14	4900	5200	9,5 kg

Type	L	A	B	Weight	Pieces
AL-40.25	4650	2950	4950	11,9 kg	2
AL-40.26	6200	3800	6600	15,9 kg	2

Type	L	A	B	Weight	Pieces
AL-40.35	8100	3500	8600	22,7 kg	3

Material: Aluminium
Finish : -
Weight : Table

Min. B.L. Tension : -
Min. B.L. Shear : -
Min. B.L. Compression : -



RoRo-Cargo Securing Systems

The competence in RoRo-lashing

German Lashing Robert Böck GmbH is providing all kinds of RoRo cargo securing solutions. This includes the design, production and supply of lashing fittings as well as customer specific conceptions of ship integrated steel work.

The flexible and customer orientated portfolio covers all requirements for optimized outfitting of RoRo or ConRo vessels, as the applications can be manifold, depending on type of cargo or sailing route of the vessel.

The RoRo lashing material supplied by German Lashing includes various executions of fixed fittings (e.g. lashing pot, lashing eye, ISO socket) as well as of loose fittings (e.g. web lashing, lashing chain, tensioning device).

Cargo Securing Manual:

The engineering team of German Lashing is specialized to supply approved Cargo Securing Manuals in compliance with IMO MSC Circ 745 dated 13.06.1996.

Production:

Nanjing, China is the location of German Lashing's own production plant. Ensuring and maximizing the quality of German Lashing products, an own quality management system certified according to ISO9001 has been developed and implemented. In addition, all products are tested by major international classification societies prior to dispatching to the customers. High-quality materials, advanced manufacturing and testing technologies in combination with an experienced engineering team guarantee cargo securing systems at a superior quality level.



Original is best

Container-Quick-Tie®

Standard Upper/Lower Type

The rigid and force-locking container device

This is a coupling device for a rigid and force-locking connection of two 20 ft ISO containers of identical overall height in longitudinal direction, such as to form one 40 ft container unit. The coupling device is not an integral part of the container but may be carried in a storage compartment in the bottom of the container.

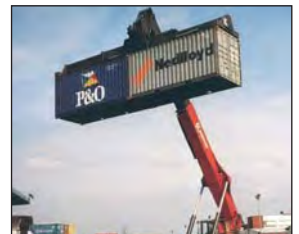
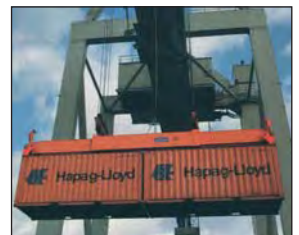
Little investment results in great benefit

For each 20 ft container, only two coupling devices are required to establish a rigid and force-locking connection. Due to the different ISO openings of the Corner Castings on the front side of each container, the couplings are classified as one upper and one lower coupling.

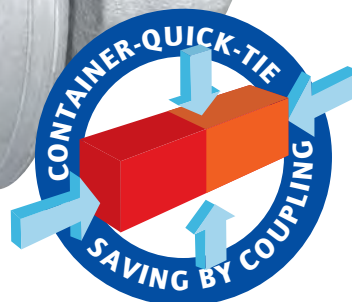
Features:

No structural modification required of any existing containers, handling systems of means of transportation.

- harmonization of the variety of container types
- optimized utilization of the 20 ft containers
- full exploitation of the invested capital
- with the aid of the coupling device, it is possible to carry two 20 ft containers as one 40 ft stowage spaces
- minimization of empty container transport



➤ **Further Types:**
Deck, Tricon and
Top Version



Tested and certified by Germanischer Lloyd

Original is best

Container-Quick-Tie® Standard Upper/Lower Type

Part List and Fitting Instructions

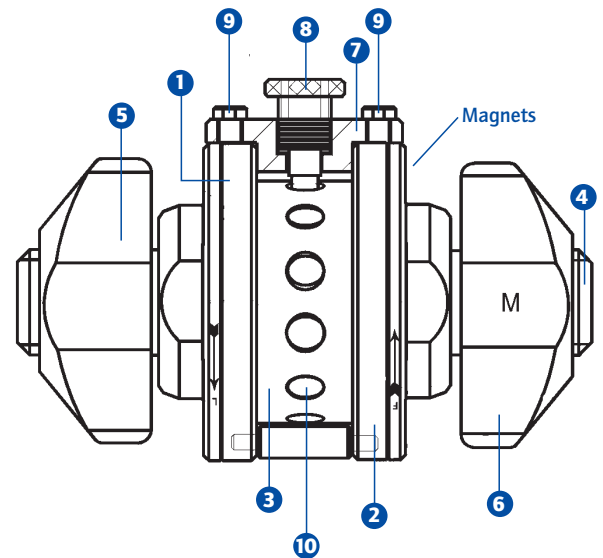
Part List

For a complete coupling 2 top and 2 bottom coupling devices are needed

(1 top and 1 bottom for each 20' Container)

Description of the device

- | | |
|-----------------------------|-----------------------------|
| ❶ Distance piece left | ❷ Distance piece right |
| ❸ Quick action piece | ❹ Threaded bar |
| ❺ Stretching hammer left | ❻ Stretching hammer right |
| ❼ Bridge | ❽ Security bolt |
| ❾ Fitting screws for bridge | ❿ Opening for Security bolt |

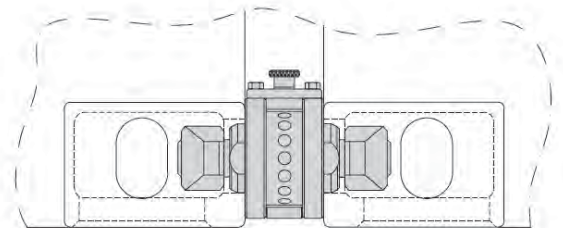


Preparation and Fitting instructions

- Containers to be coupled are to be dropped on the coupling platform or on a flat surface (front end to front end)
- Prior to fitting remove both stretching hammers (5+6) from the threaded bar (4)
- Affix Quick-Tie without stretching hammers with the magnets to the frontside of the respective corner casting.

IMPORTANT: Secure the top version by turning the stretching hammer with at least three turns to the threaded bar.

- Move containers together and insert the stretching hammers (5+6) through the side aperture of the corner castings by using the fitting tool. (prior to that remove the stretching hammer out of the top version)
- Turn the quick action piece (3) until both stretching hammers (5+6) are in a horizontal position and smooth affixed at the insides of the front corner castings.



Put in the safety bolt (8) in one of the openings (10) of the quick action piece (rigid connection)

Upon correct completion of the coupling process the safety bolt (8) of the top devices shows to the bottom - and the safety bolt of the bottom devices shows to the top.

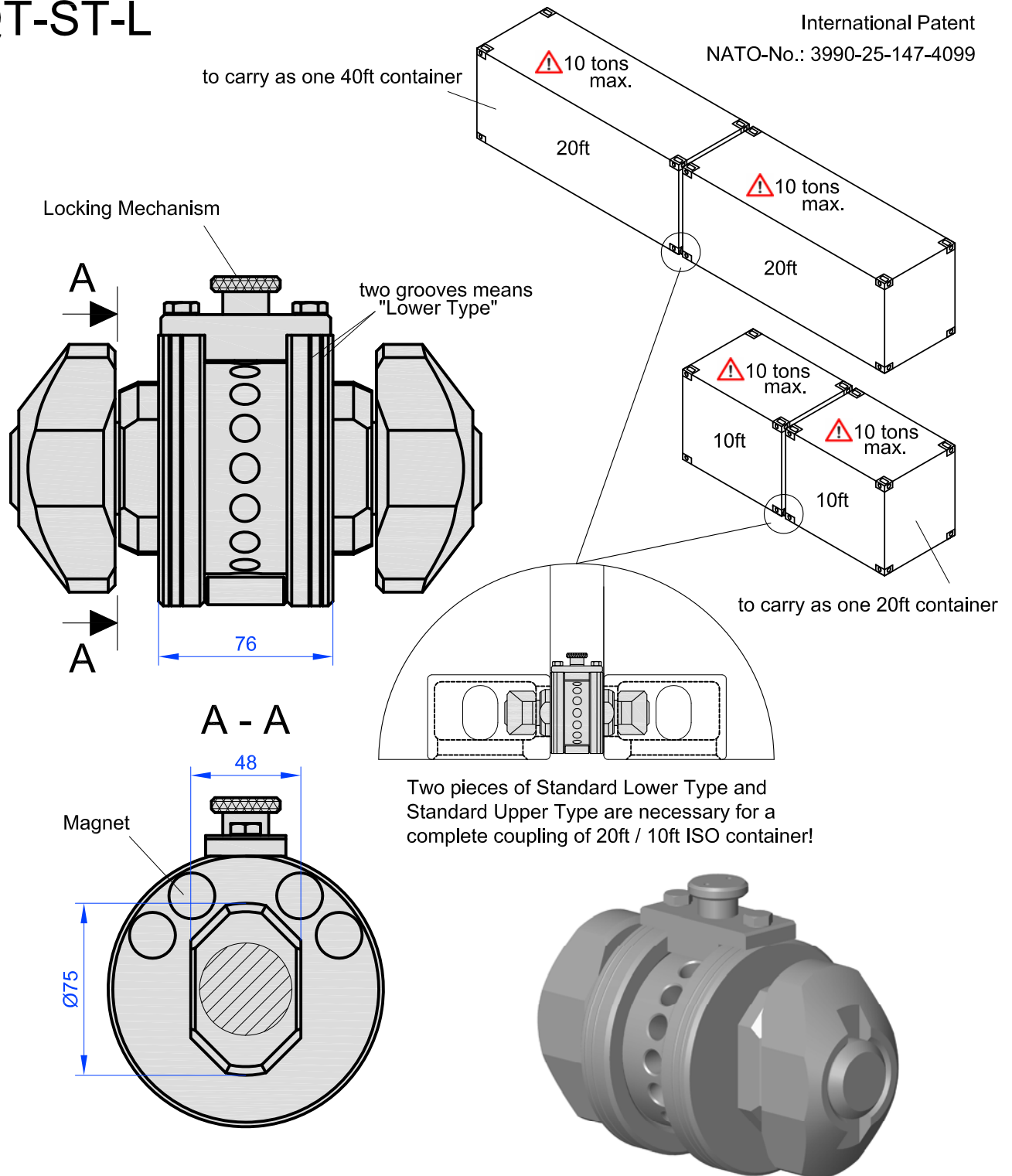
Threads and bearings have to be greased carefully!

Container-Quick-Tie®

Standard Lower Type

The Force and Rigid Coupling System

QT-ST-L



Maximum gross weight total 20 tons (10 tons per each 20ft or 10ft container)!

Material: Heat Treatable Steel
Finish: Hot Dip Galvanized
Weight: 9.0 kg

Min. B.L. Tension: 500 kN
Min. B.L. Shear: 420 kN
Min. B.L. Compression: -

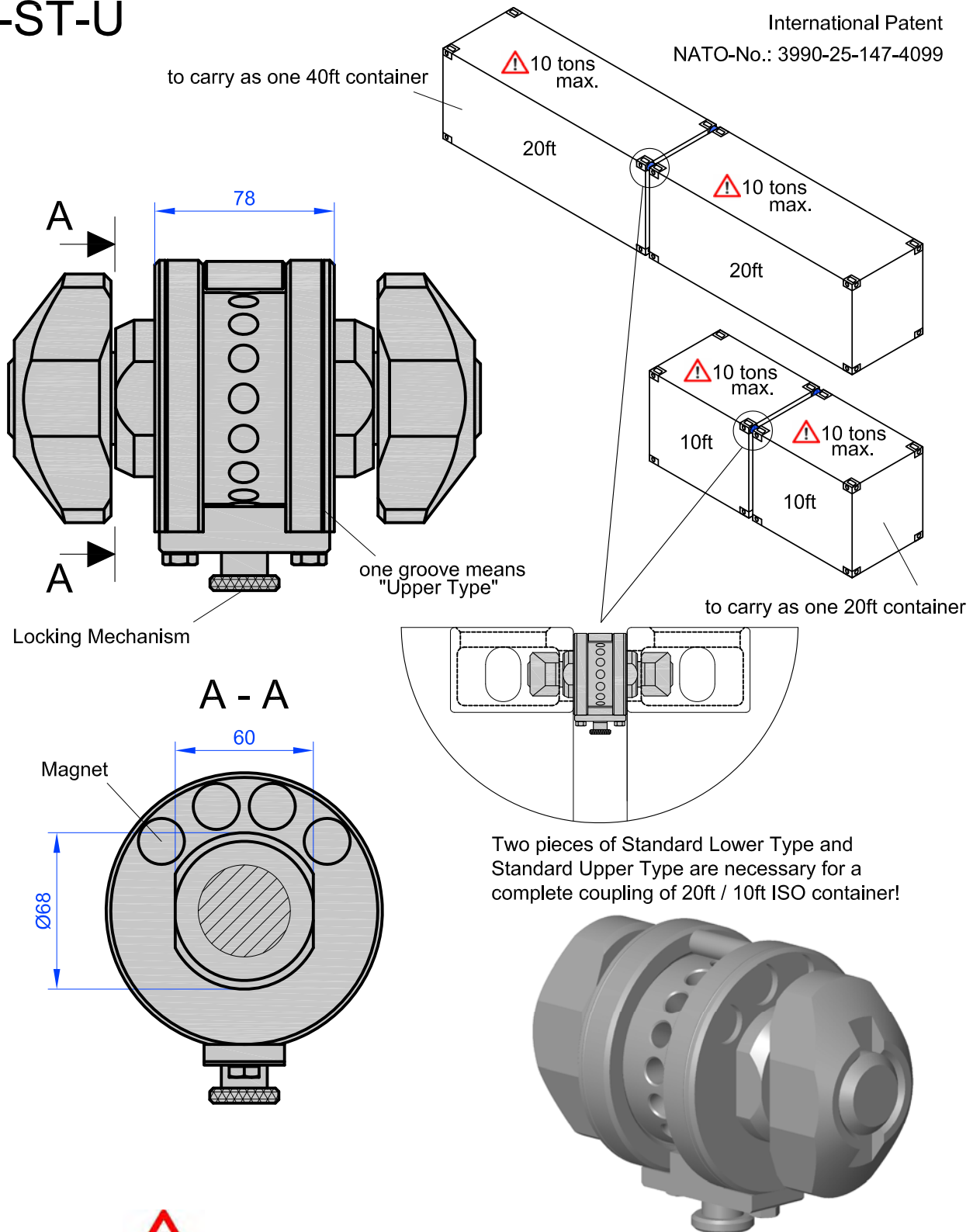


Container-Quick-Tie®

Standard Upper Type

The Force and Rigid Coupling System

QT-ST-U



Maximum gross weight total 20 tons (10 tons per each 20ft or 10ft container)!

Material : Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 9.0 kg

Min. B.L. Tension : 500 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : -



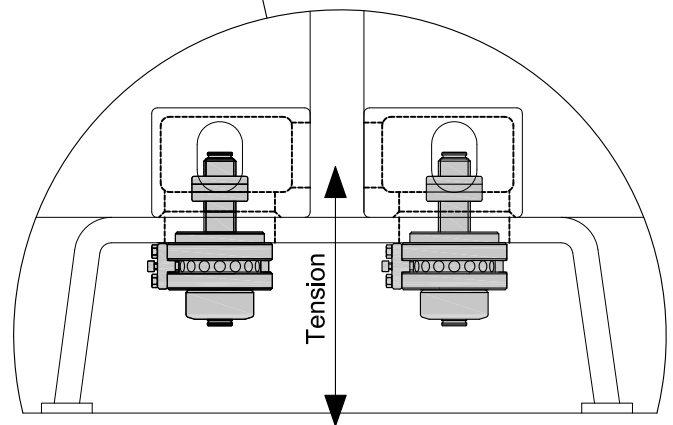
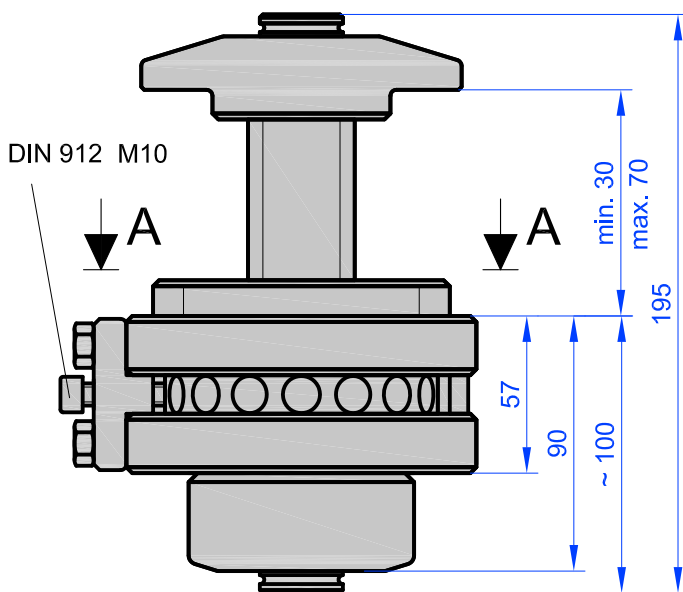
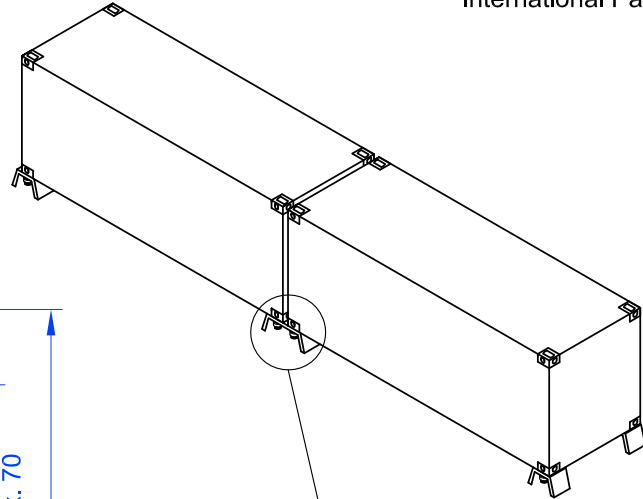
Container-Quick-Tie®

Deck Version

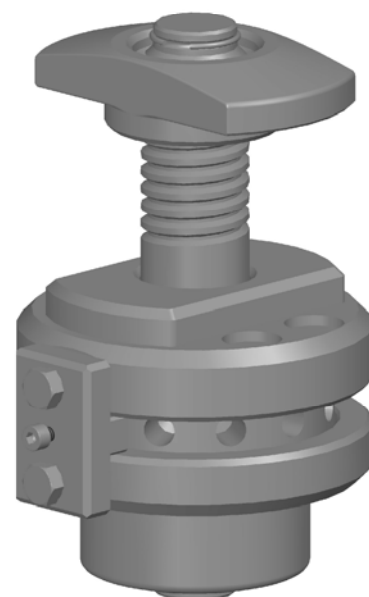
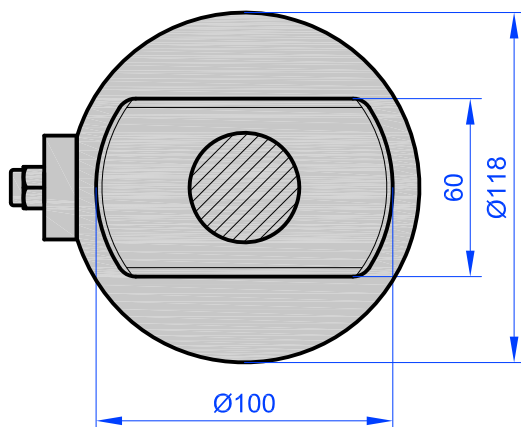
The Force and Rigid Coupling System

QT-DV

International Patent



A-A



NATO-No.: 3990-25-147-4099

Material : Heat Treatable Steel
Finish : Galvanized
Weight : 7.4 kg

Min. B.L. Tension : 400 kN
Min. B.L. Shear : -
Min. B.L. Compression : -



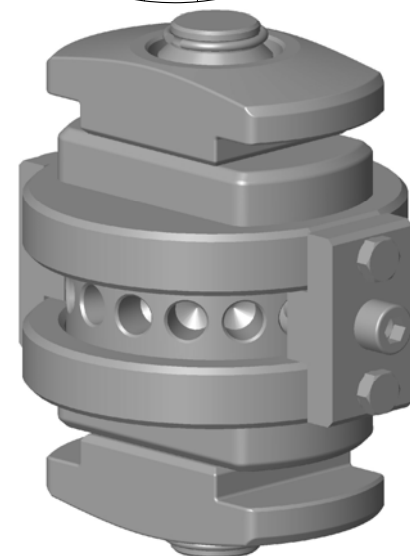
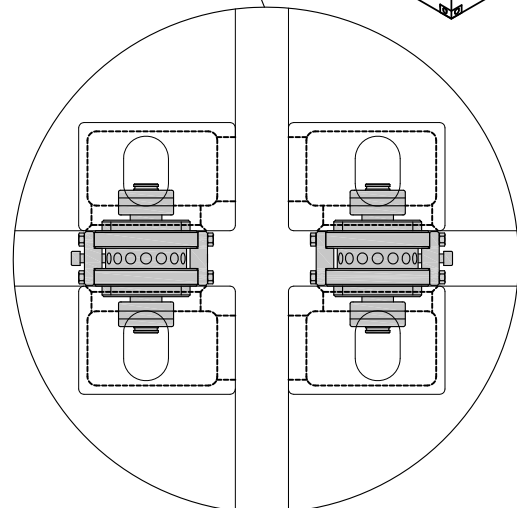
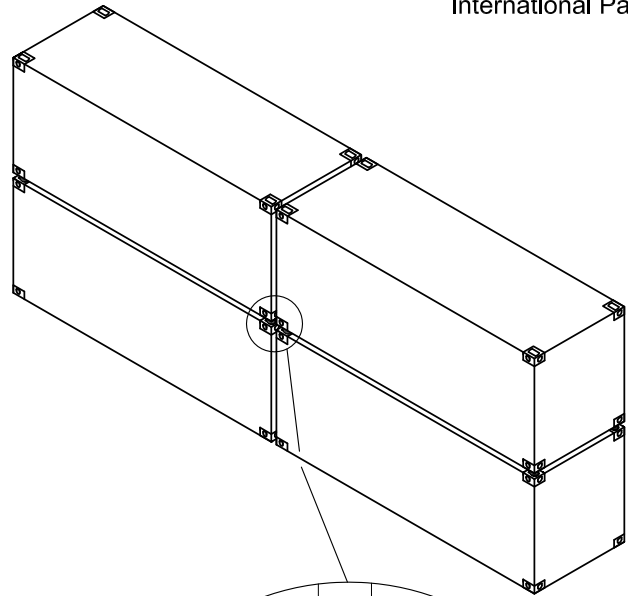
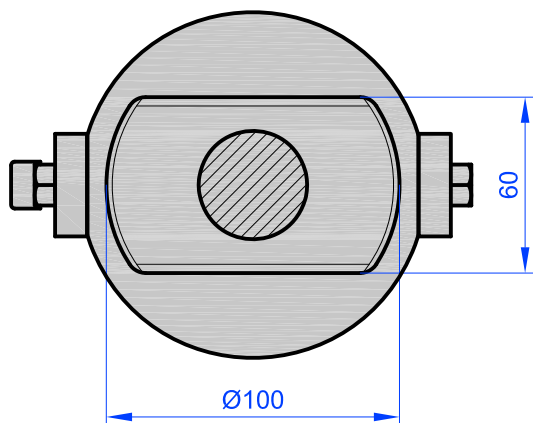
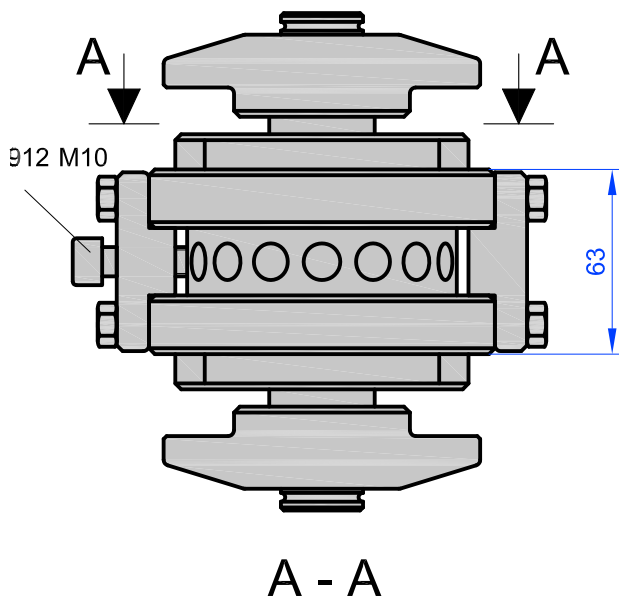
Container-Quick-Tie®

Top Version

The Force and Rigid Coupling System

QT-TV

International Patent



NATO-No.: 3990-25-147-4099

Material: Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 7,6 kg

Min. B.L. Tension : 400 kN
Min. B.L. Shear : 420 kN
Min. B.L. Compression : -



Container-Quick-Tie®

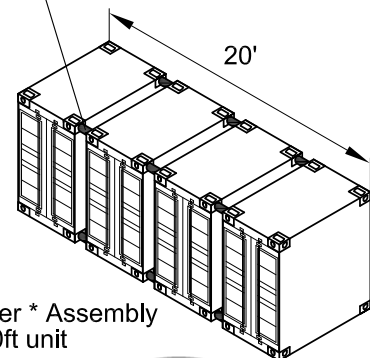
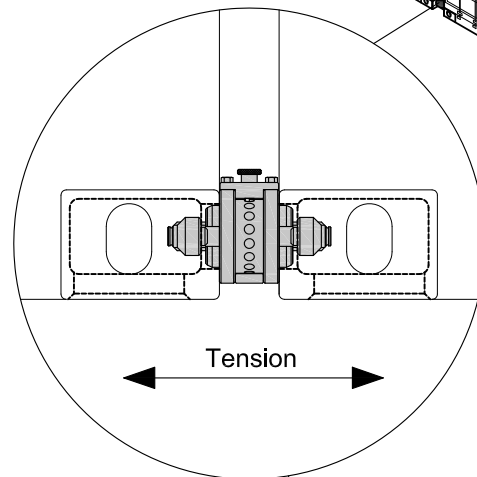
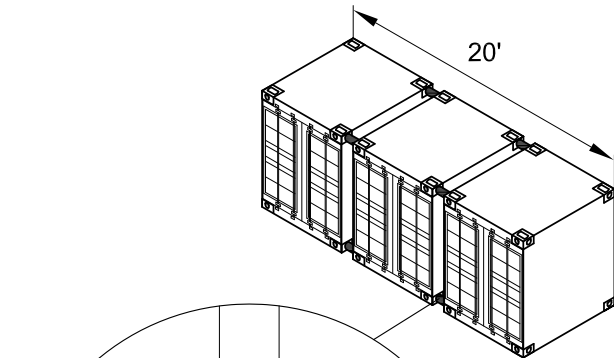
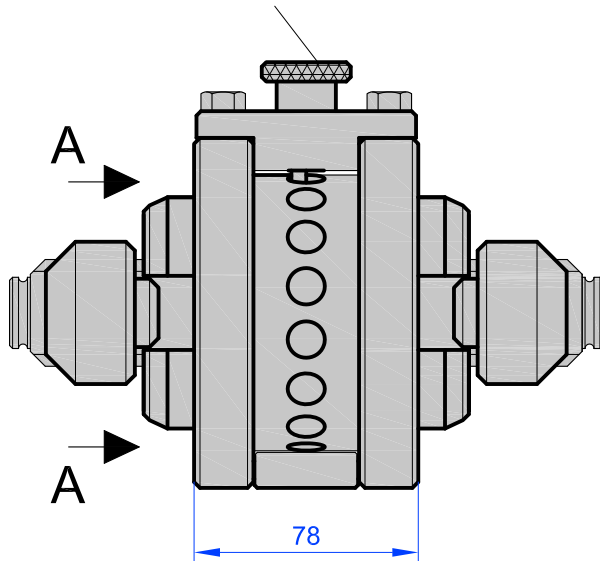
Tricon Version

The Force and Rigid Coupling System

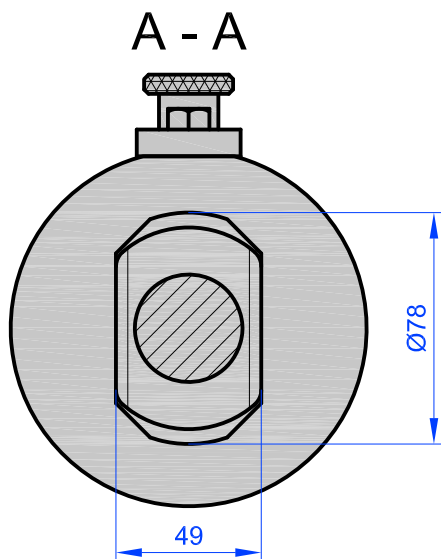
QT-Tricon

Tricon Container * Assembly
to carry as one 20ft unit

Spring Locking Mechanism



Quadcon Container * Assembly
to carry as one 20ft unit



NATO-No.: 3990-25-147-4099



Maximum gross weight total 20 tons per 20ft unit!

* Tricon and Quadcon Mini Container are originally developed
for use by the United States Armed Forces

Material : Heat Treatable Steel
Finish : Hot Dip Galvanized
Weight : 7,6 kg

Min. B.L. Tension : 400 kN
Min. B.L. Shear : -
Min. B.L. Compression : -

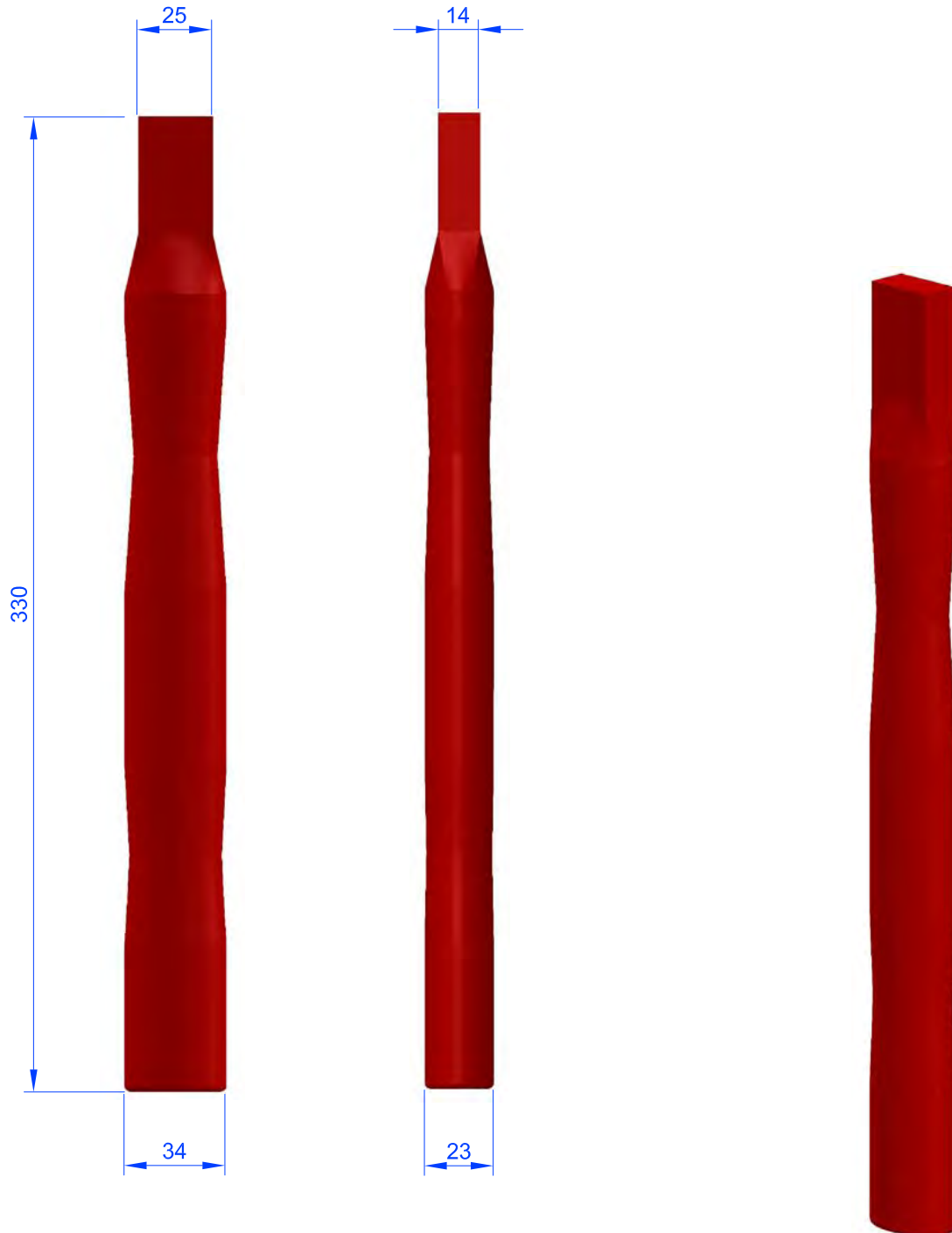


Emergency Tool

Innovations in
cargo securing



ET-2



Material: Hardwood
Finish : -
Weight : 0.2 kg

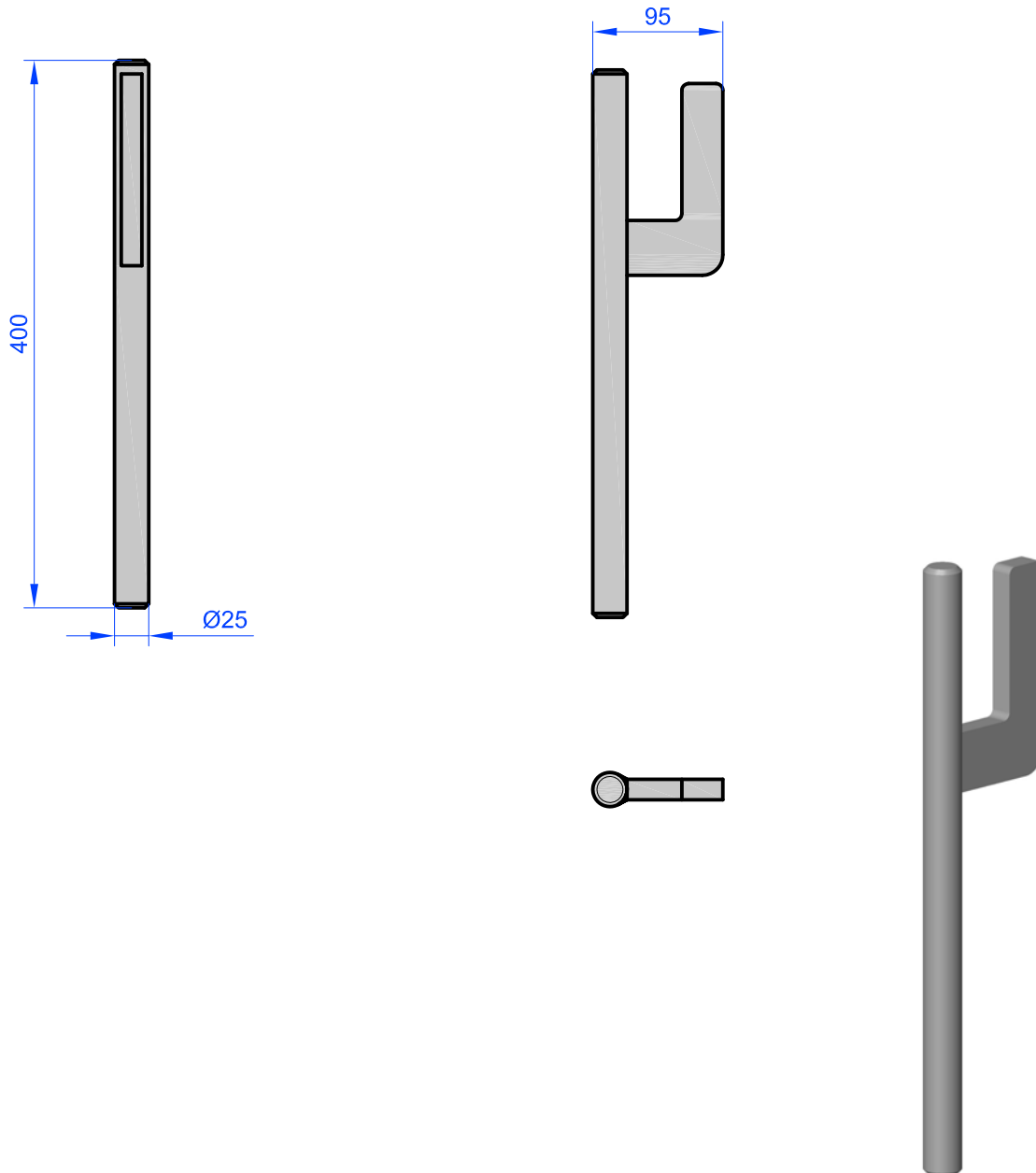
Min. B.L. Tension : -
Min. B.L. Shear : -
Min. B.L. Compression : -



Turn Handle

For Turnbuckle TB-3

V-6.41



Material: Steel, comparable S355J2G3
Finish : Hot Dip Galvanized
Weight : 2.2 kg

Min. B.L. Tension : -
Min. B.L. Shear : -
Min. B.L. Compression : -

