## Seasafe Transport A/S



PRODUCT CATALOGUE 2005

## Introduction

## Q. Introducing Seasafe Transport AS

With more than 30 years of experience, Seasafe has proven its position as a leading consultant for the design of cargo stowage and securing systems, and as a total supplier of high quality cargo securing equipment.

As a total supplier, it has always been Seasafe policy not only to sell lashing equipment, but to solve lashing problems and to design lashing systems in close cooperation with our customers. It is mandatory for Seasafe to ensure that we understand what our customer wants, and that we are certain to have presented the best possible alternatives and solutions for the particular project, prior to accepting an order from our customer.

Seasafe is here to meet your specific needs; including type of cargo and trade, ship caracteristics, and so on. Our employees design and deliver lashing systems for all types of cargo carrying vessels, and the presented solutions result from close consultation and cooperation with naval architects, shipowners and yards, as well as terminal management, classification societies and other experts on cargo stowage and securing.

As consultants, we are continuously developing and improving excisting designs and solutions, and strive to be in the forefront in the development of new lashing methods and principles. With the increasing demand for better efficiency, the requirement for solutions which could revolutionize the way cargoes are stowed and secured is becoming ever more apparent. It is Seasafe's ambition to be a part of this development both as an independent company and in cooperation with partners looking at transport and logistics as a whole.

Seasafe is working directly with our own production staff and with partenrs and manufacturers to ensure that a high level of quality is maintained throughout the organisation, from sales and customer service to design, production and equipment delivery.

The reason for Seasafe's growth and success lies in the company's aspiration to know its customers and partners, and to be a part of their teams. Our customers have throughout the years learnt to appreciate Seasafe's willingness and success in developing effective and safe lashings which meet their special needs. We invite you to take advantage of the Seasafe policy of cooperation, so that we together can design the best and safest lashing system possible, and provide quality components for that system.

Please feel free to contact us for further information. We are eagerly awaiting your business.

Oslo, Norway

June 2005

## Specifications

## Design specifications:

Products offered by Seasafe are designed and manufactured in accordance with recommendations, regulations and requirements from major classification societies and maritime organisations including:

- American Bureau of Shipping
- Bureau Veritas
- Det Norske Veritas
- Germanischer Lloyd
- Lloyd's Register of Shipping
the International Maritime Organisation
- OSHA

The products shown it this catalogue represent only a selection of what Seasafe has to offer. Other system designs and products are available upon request. Taylor made solutions may be presented based on customer requirements and specficiations.

All products are supplied with workshop test certificates indicating equipment strength and allowable work loads. Material certificates may be presented upon request. Equipment may also be supplied with classification society certification upon customer request.

Design and dimensions shown in this catalogue are intended for guidance only, and should not be used for other purposes without confirmation in writing from Seasafe Transport AS. These are not binding and subject to change without further notice.

Specified equipment strengths are design loads based on the designs presented. These may be higher than load limites shown in classification society approval documents or certificates related to specific projects.

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## Flush ISO foundations

A1.1
Single


A1.2
Double transversal


A1.4
Quadruple


| Type | Gap <br> mm | $\mathrm{C} / \mathrm{C}$ <br> mm | $\mathrm{MBL}(\mathrm{kN})$ <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A 1.1 | --- | --- | 500 | 8,5 | $\varnothing 205 \times 90$ |
| A 1.2 | 25 | 203 | 500 | 19,0 | $408 \times 205 \times 90$ |
|  | 80 | 258 | 500 | 21,5 | $463 \times 205 \times 90$ |
| A 1.3 | 76 | 279 | 500 | 22,5 | $484 \times 205 \times 90$ |
| A 1.4 | $25 / 76$ | $203 / 279$ | 500 | 61,0 | $484 \times 408 \times 90$ |
|  | $80 / 76$ | $258 / 279$ | 500 | 67,0 | $484 \times 463 \times 90$ |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Flush ISO / el.foot foundations

A 2.1
Single


A 2.3


A 2.2 Double transversal


## A 2.4

Quadruple


| Type | Gap <br> mm | C/C <br> mm | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A 2.1 | --- | --- | 400 | 11,5 | $\varnothing 225 \times 75$ |
| A 2.2 | 80 | 258 | 400 | 27 | $483 \times 225 \times 75$ |
| A 2.3 | 76 | 279 | 400 | 28 | $504 \times 225 \times 75$ |
| A 2.4 | $80 / 76$ | $258 / 279$ | 400 | 62,0 | $504 \times 483 \times 75$ |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Raised ISO sliding foundations

Enlarged
ISO hole


Internal dovetail sliding.


$$
\begin{array}{ll}
\hline \text { General specifications: } \\
\text { Material: } & \text { Shipbuilding steel. } \\
\text { Finnish: } & \text { Black or primer. } \\
\text { Certificate: } & \begin{array}{l}
\text { Workshop certificate, class certificate } \\
\text { upon request. }
\end{array} \\
\text { Remark: } & \begin{array}{l}
\text { Design, dimensions, material } \\
\text { and finish upon request. }
\end{array} \\
\hline
\end{array}
$$

## Raised ISO foundations

A 4.1
Single



A 4.3
Double longitudinal


| Type | Gap <br> mm | C/C <br> mm | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A 4.1 | --- | --- | 500 | 7 | $160 \times 160 \times 110$ |
| A 4.2 | 25 | 203 | 500 | 16,5 |  |
| 80 | 258 | 500 | $363 \times 160 \times 110$ <br> $418 \times 160 \times 110$ <br> A 4.3$\quad 76$ | 279 | 500 |
|  |  |  |  | 19 | $439 \times 160 \times 110$ |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Dovetail foundations

## A 5

## A5.1(A5.4)

Single


A5.2(A5.5)
Double transversal


A5.3(A5.6)
Double longitudinal


| Type | Gap <br> mm | $\mathrm{C} / \mathrm{C}$ <br> mm | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A 5.1 | --- | --- | 400 | 3,5 | $220 \times 160 \times 30$ |
| A 5.2 | 25 | 203 | 400 | 7 | $423 \times 160 \times 30$ |
|  | 80 | 258 | 400 | 7,5 | $478 \times 160 \times 30$ |
| A 5.3 | 76 | 279 | 400 | 7,5 | $416 \times 220 \times 30$ |
|  |  |  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Container foundations

## A 6-A 7

## A 6 Breech base deckfitting



A 7 Bottom stacking cone for locking pin


| Type | Gap <br> mm | C/C <br> mm | $\mathrm{MBL}(\mathrm{kN})$ <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A 6 | --- | --- | 420 | 8,5 | $\varnothing 205 \times 90$ |
| A 7 | --- | --- | --- | 19,0 | $408 \times 205 \times 90$ |

Detail drawings available upon request.

| General specifications: |  |
| :--- | :--- |
| Material: | Cast / forged steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Raised ISO reefer foundations

A 8.1
Single


## A 8.3

Double longitudinal


## A 8.4



| Type | $\begin{aligned} & \text { Gap } \\ & \mathrm{mm} \end{aligned}$ | $\begin{aligned} & \mathrm{C} / \mathrm{C} \\ & \mathrm{~mm} \end{aligned}$ | MBL (kN) tension | $\begin{gathered} \mathrm{H} / \mathrm{h} \\ (\mathrm{~mm}) \end{gathered}$ | Dimensions mm |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A 8.1 | --- | --- | 500 | On request | 180x180 |
| A 8.2 | 25 | 203 | 500 | On request | 383x180 |
|  | 80 | 258 | 500 | On request | $438 \times 180$ |
| A 8.3 | 76 | 279 | 500 | On request | 459x180 |
| A 8.4 | 25/76 | 203/279 | 500 | On request | 383x459 |
|  | 80/76 | 258/279 | 500 | On request | $438 \times 459$ |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Flush keyhole foundations

A 9.1
Single


A 9.2
Double


[^0]| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Flush lashing points

A 10.1
D-ring single


## A 11.1

Flush
pin
single


## A 11.2

Flush pin
double


A 10.2
D-ring double


## A 11.3

Flush pin triple


A 11.4
Flush pin double


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / chain steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Non flush lashing point

A 12.1
D-ring single


A 12.2 D-ring double


A 13.2
D-ring double

## A 13.1

D-ring single


D-ring with protection ring


| Type | MBL (kN) <br> tension | Type | MBL (kN) <br> tension |
| :---: | :---: | :---: | :---: |
| A 12.1 | $60-600$ | A 13.1 | $60-600$ |
| A 12.2 | $60-600$ | A 13.2 | $60-600$ |

A 12 design is based on a perfect D-shape ring, whilst the A 13 design is more triangular.

Detail drawings available upon request.

| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel, forged/chain steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Lifting ISO foundations

A 14.1
Raised ISO lifting foundation


A 14.2 Flush ISO lifting foundation


## A 14.3

Raised ISO
lifting foundation with crawfoot


## Lifting ISO foundations

Lifting ISO foundations are supplied in accordance with customer specific requirements.

Although a general standard is available, the project specific details are significantly affecting the general design to such an extent that it is not appropriate to include further details in this catalogue.

Detail drawings available upon request.

| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Fixed lashing plates

A 15.1
Single


A 15.2
Double


A 15.3
Triple


## A 15.4

Quadruple


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ |
| :---: | :---: | :---: |
| A 15.1 | 500 | 2 |
| A 15.2 | 500 | 4 |
| A 15.3 | 500 | 6,3 |
| A 15.4 | 500 | 8,6 |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / forged steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Elephant foot foundations

## A 16

Flush


## A 18

Convex


A 17
Cloverleaf


## A 19

Half convex


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| A 16 | $240 / 320$ | $7,5 / 8,5$ | $\varnothing 225 \times 56 / 60$ |
| A 17 | 240 | 8 | --- |
| A 18 | $240 / 320$ | $3,5 / 4,2$ | $\varnothing 250 \times 56 / 60$ |
| A 19 | $240 / 320$ | $2,5 / 3$ | $250 \times 160 \times 56 / 60$ |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel. |
| Finnish: | Black or primer. |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Fixed car lashing points

A 20
Baby elephant foot


## A 21

Car lashing point


## A 22

Flush cross-pin
car lashing pot


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: |
| A 20 | 100 | 0,8 | $\varnothing 205 \times 90$ |
| A 21 | 40 | 0,2 | ---- |
| A 22 | 60 | 1,5 | --- |
| A 23 | ---- | 0,2 | ---- |
| A 24 | ---- | 0,8 | --- |
| A 25 | ---- | 1,6 | --- |
|  |  |  |  |

A 23
Car lashing pot thermoplast


A 24
Flush car lashing pot

A 25
Flush car lashing pot with top plate for reinforcement

| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / plastic |
| Finish: | Black or primer / untreated |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Welding cones / Guide fittings

## A 26

Welding cone


## A 27

Welding cone with plate


## A 28

Guidefitting for tanktop between containers

## A 29

Guidefitting for sidedecks between containers


## A 30

Guidefitting for tanktop between bulkhead / container


| Type | MBL (kN) <br> shear | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| A 26 | 500 | 1,0 | $\varnothing 100 \times 55 \times 85$ |
| A 27 | 500 | 3,0 | $180 \times 160 \times 95$ |
| A 28 | 620 | 19,0 | $400 \times 115 \times 230$ |
| A 29 | 620 | 27,0 | $400 \times 115 \times 400$ |
| A 30 | 620 | 10,0 | $400 \times 50 \times 230$ |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel |
| Finish: | Black or primer |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## ISO container corner fittings

## A31

Bottom corner fitting:


A32
Top corner fitting:


| Standard cast steel type (ISO1161): |  |  |  |
| :---: | :---: | :---: | :---: |
| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| A 31 L | ---- | 10,9 | $178 \times 162 \times 118$ |
| A 31 R | ---- | 10,9 | $178 \times 162 \times 118$ |
| A 32 L | ---- | 10,6 | $178 \times 162 \times 118$ |
| A 32 R | ---- | 10,6 | $178 \times 162 \times 118$ |


| Aluminium type (ISO R1161): |  |  |  |
| :---: | :---: | :---: | :---: |
| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| A 31 L | ---- | 4,5 | $180 \times 162 \times 121$ |
| A 31 R | ---- | 4,5 | $180 \times 162 \times 121$ |
| A 32 L | ---- | 4,5 | $180 \times 162 \times 121$ |
| A 32 R | ---- | 4,5 | $180 \times 162 \times 121$ |

## Container specifications

- Centers for container fittings:

© Container layout:



## Container specifications

Dimensions for various standard containers:

| CONTAINER | L <br> (M) | $L_{1}$ (M) | $L_{2}$ (M) | $\begin{aligned} & \text { W } \\ & \text { (M) } \end{aligned}$ | $W_{1}$ <br> (M) | $\begin{aligned} & \mathrm{H}_{2} \\ & (\mathrm{M}) \end{aligned}$ | GROSS WT. <br> (kg) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 FT ID ISO | 2,991 | 2,787 | - | 2,438 | 2,259 | 2,438 | 10,160 |
| 20 FT IC ISO | 6,058 | 5,853 | - | 2,438 | 2,259 | 2,438 | 24,000 |
| 20 FT ICC ISO | 6,058 | 5,853 | - | 2,438 | 2,259 | 2,591 | 24,000 |
| 20 FT ICCC ISO | 6,058 | 5,853 | - | 2,438 | 2,259 | 2,896 | 24,000 |
| 24 FT 2CC ISO | 7,430 | 7,225 | 5,853 | 2,595 | 2,259 | 2,591 | 30,480 |
| 24 FT 2CCC ISO | 7,430 | 7,225 | 5,853 | 2,595 | 2,259 | 2,896 | 30,480 |
| 30 FT IB ISO | 9,125 | 8,918 | - | 2,438 | 2,259 | 2,438 | 25,400 |
| 30 FT IBB ISO | 9,125 | 8,918 | - | 2,438 | 2,259 | 2,591 | 25,400 |
| 40 FT IA ISO | 12,192 | II,985 | - | 2,438 | 2,259 | 2,438 | 30,480 |
| 40 FT IAA ISO | 12,192 | 11,985 | - | 2,438 | 2,259 | 2,591 | 30,480 |
| 40FT IAAA ISO | 12,192 | II,985 | - | 2,438 | 2,259 | 2,896 | 30,480 |
| 45 FT 2 AA ISO | 13,716 | 13,509 | II,985 | 2,438 | 2,259 | 2,591 | 30,480 |
| 45 FT 2AAA ISO | 13,716 | 13,509 | 11,985 | 2,438 | 2,259 | 2,896 | 30,480 |
| 49 FT 2AA ISO | 14,953 | 14,728 | II,985 | 2,595 | 2,259 | 2,591 | 30,480 |
| 49 FT 2AAA ISO | 14,953 | 14,728 | II,985 | 2,595 | 2,259 | 2,896 | 30,480 |
| 24 FT MATSON | 7,315 | 7,108 | - | 2,438 | 2,259 | 2,896 | 24,950 |
| 35 FT SEALAND | 10,668 | 10,553 | - | 2,438 | 2,134 | 2,603 | 27,443 |
| 43 FT SPECIAL | 13,106 | 12,899 | - | 2,438 | 2,259 | 2,591 | 30,480 |
| 45 FT U.S. STANDARD | 13,716 | 13,509 | II,985 | 2,600 | 2,259 | 2,900 | 30,480 |
| 48 FT U.S. STANDARD | 14,603 | 14,423 | II,985 | 2,600 | 2,259 | 2,900 | 30,480 |
| 53 FT U.S. STANDARD | 16,154 | 16,147 | II,985 | 2,600 | 2,259 | 2,900 | 30,480 |

## Tolerances:

| $L>24 F T$ | $+0,-10 \mathrm{MM}$ |
| :--- | :--- |
| $L<=24 \mathrm{FT}$ | $+0,-6 \mathrm{MM}$ |
| $H$ | $+0,-5 \mathrm{MM}$ |
| $W$ | $+0,-5 \mathrm{MM}$ |

## Cell Guide Systems



## Seasafe delivers fixed and movable cell guide systems for decks and holds:

Due to its space-saving kind of construction, it is possible to arrange a cell guide system in a 76 mm cross section. Therewith it is possible to arrange cell guides for $2 \times 20$ feet containers in a 40 feet slot area

Lashing elemenst such as stacking cones, pressure adapters, bridge fittings and side supports need not be used anymore. This movable system is fixed with a few solid connections. Dismantling can be effected quickly in case 40 feet containers are to be carried.

## Container Support Arrangement Seasafe



TOP PLATE


## Seasafe delivers and arranges installation of container supports

Seasafe delivers container supports of various types for installation on deck or in holds, eg. for the purpose of increasing the ship's current container capacity.

Seasafe can also plan and arrange for the installation of the delivered supports, together with necessary foundations, container sockets, lashing eyes, etc.

## Turnbuckles, closed type

B 1<br>Hook - hook



B 2
Hook - jaw


## B 3 <br> Jaw - jaw



## B 4

Hook - spacer


## B 5 <br> Handwheel



| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> min-max (mm) |
| :---: | :---: | :---: | :---: |
| B 1 | $360 / 500$ | 18,0 | $950-1350$ |
| B 2 | $360 / 500$ | 18,0 | $950-1350$ |
| B 3 | $360 / 500$ | 18,0 | $950-1350$ |
| B 4 | 360 | 16,0 | $950-1350$ |
| B 5 | ---- | 1,8 | ---- |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / forged steel |
| Finish: | Galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Turnbuckles, open type

## B 6 <br> Jaw - plate



## B 6.1

Extension rod for B6


## B 7 <br> Jaw - whip plate



## B 8 <br> Jaw - skid guide



| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> min-max (mm) |
| :---: | :---: | :---: | :---: |
| B 6 | $360 / 500$ | 18,0 | $950-1350$ |
| B 6.1 | $360 / 500$ | 6,0 | ---- |
| B 7 | 500 | 23,0 | $1200-1800$ |
| B 8 | 500 | 13,0 | $1160-1515$ |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel / high tensile steel |
| Finish: | Galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

B 9<br>Eye - eye



B 10
Hook - eye


## B 11

Plughook - eye


B 12
Plughook - hook


B 13
Swivelhead - eye


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Length <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: |
| B 9 | $360 / 500$ | $2,5+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |
| B 10 | $360 / 500$ | $3,1+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |
| B 11 | $360 / 500$ | $2,6+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |
| B 12 | $360 / 500$ | $2,9+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |
| B 13 | $360 / 500$ | $2,4+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel / high tensile steel |
| Finish: | Galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Lashing rods \& wires with steps B 14-B 19

B 14
Eye - steps


## B 15

Hook - steps


## B 16 <br> Plug hook - steps



B 17
Swivel head - steps


B 18
Eye - steps


B 19
Eye - talurit


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Length <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: |
| B 14 | 500 | $2,9+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |
| B 15 | 500 | $3,4+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |
| B 16 | 500 | $3,0+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |
| B 17 | 500 | $2,9+3,6 \times \mathrm{L}_{\mathrm{m}}$ | upon request |
| B 18 | $210 / 460$ |  | upon request |
| B 19 | $210 / 460$ |  | upon request |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel / high tensile steel |
| Finish: | Galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Securing pads \& hooks

B 20.1
Penguin hook short


B 20.2
Penguin hook long


B 21.1
Hook
short tip


B 21.2
Hook
long tip


B 22
Eye hook
with locking pin


## B 23

Eye hook


B 24
Container lifting hook


B 25
Container lifting hook


General specifications:
Material: $\quad$ Forged steel
Finish: Galvanized / painted
Certificate:
Workshop certificate, class certificate upon request.

Remark:
Other design, dimensions, material and finish upon request.

## Stacking cones \& locking pins

## B 26

Locking pin


## B 27

Dovetail stacking cone


## B 28 <br> Bottom stacking cone



B 29.1
Stacking cone intermediate, single


## B 29.2

Stacking cone intermediate double transversal


| Type | Gap <br> mm | C/C <br> mm | MBL (kN) <br> shear | Weight <br> $(\mathrm{kg})$ | Dimensions <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B 26 | ---- | ---- | 0,8 | 1,8 | $\varnothing 28$ |
| B 27 | ---- | ---- | 0,2 | 3,5 | $176 \times 140 \mathrm{H} 32$ |
| B 28 | ---- | ---- | 1,5 | 3,0 | $160 \times 120 \times 10$ |
| B 29.1 | ---- | ---- | 0,2 | 3,0 | $120 \times 130 \times 10$ |
| B 29.2 | 25 | 203 | 0,8 | 8,0 | $150 \times 345 \times 10$ |
|  | 80 | 258 | 1,6 | 8,3 | $150 \times 380 \times 10$ |
|  |  |  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / forged steel |
| Finish: | Galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Compensating spacers

## B 30

ISO hole - ISO hole


B 31
ISO hole - cone


B 32
Cone - cone


B 33
Fixed base - twistlock


| Type | MBL (kN) <br> compression | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| B 30 | 450 | 7,0 | 160X150X96 |
| B 31 | 450 | 8,0 | 160X150X124 |
| B 32 | 450 | 9,0 | $160 \times 150 \times 152$ |
| B 33 | 450 | 12,0 | $160 \times 150 \times 152$ |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / forged steel |
| Finish: | Galvanized / painted |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Twistlocks

## B 34

Double cone twistlock


B 35
Dovetail twistlock


## B 36

Intermediate twistlock


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| B 34 | 500 | 6,0 | $115 \times 145 \times 28$ |
| B 35 | 360 | 5,0 | $176 \times 140 \times 32$ |
| B 36 | 500 | 6,5 | $112 \times 140 \times 26$ |
| B 37 | 360 | 6,0 | $160 \times 130 \times 29$ |
|  |  |  |  |

B 37
Breech base twistlock


[^1]
## Twistlocks

## B 38

Fixed base twistlock


B 39
Semi automatic twistlock


B 41
Self hanging (Osha) stacker


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| B 38 | 320 | 6,5 | $160 \times 130 \times 28$ |
| B 39 | 500 | 7,0 | $155 \times 125 \times 28$ |
| B 40 | 500 | 7,0 | $160 \times 160 \times 28$ |
| B 41 | 450 (shear) | 4,0 | $90 \times 125 \times 13$ |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel / cast steel |
| Finish: | Galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## D-ring foundations

## B 42

Breech base
d-ring foundation


## B 43

Fixed base
d-ring foundation


## B 44

Dovetail
d-ring foundation


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| B 42 | 360 | 4,0 | ---- |
| B 43 | 360 | 5,0 | ---- |
| B 44 | 360 | 5,0 | ---- |
|  |  |  |  |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / forged steel |
| Finish: | Painted |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Screw bridge fittings

## B 45-B48

## B 45

Single acting tension


## B 46

Double acting tension-compression


## B 47

Single acting for connecting $8^{\prime}$ and $8^{\prime} 6$ " containers


## B 48

Spanner for screw bridge fitting operation


| Type | Gap <br> mm | C/C <br> mm | MBL (kN) <br> tension | MBL (kN) <br> compr. | Weight <br> $(\mathrm{kg})$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B 45 | --- | --- | 100 | --- | 4,5 |
| B 46 | 25 | 203 | 100 | 200 | 5,0 |
|  | 80 | 258 | 100 | 200 | 5,0 |
| B 47 | --- | --- | 100 | --- | 5,0 |
| B 48 | --- | --- | --- | --- | 0,5 |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / forged steel |
| Finish: | Galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Linkage plates, plugs, etc.

## B 49

Linkage plate


## B 50

Rubber plug for iso deck fittings


## B 51

Plastic plug for elephant foot fittings


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| B 49 | 250 | $11,0 / 13,0$ | c/c $203 / 258$ |
| B 50 | 500 | 0,3 | $\varnothing 124 \times 64 \times 50$ |
| B 51 | 500 | 0,2 | $175 \times 50 \times 30$ |
| B 52 | 500 | 1,5 | length on request |
| B 53 | 500 | $1,5-10,0$ | length on request |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel / aluminium / <br> rubber / plastic |
| Finish: | Untreated |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Side supports

## B 54

Top side support tension - pressure


## B 55

Intermediate side support tension - pressure


## B 56

Removable side support
tension - pressure


B 57
Intermediate side support pressure


## Side supports:

Seasafe offers a wide range of standard side supports, with the possibility to adapt customer specific requirements.

The above shows some of the typical side supports and principles available.

Since side support design, dimensioning, functionality, etc. depend greatly upon customer requirements, details for side supports are only available upon request.

General specifications:

| Material: | Shipbuilding steel / forged steel |
| :--- | :--- |
| Finish: | Painted / galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

Certificate:

Remark:

## Paralash system <br> 옹 Seasafe



## Paralash system

Whip turnbuckle; one or two rods in one turnbuckle

ONE ROD FOR 20 FEET STACKS

- Advantages:
- lower investment
- less lashing time, by $\sim 50 \%$
- less operating work
- less maintenance
- less lashing points on hatch covers and decks


TWO RODS FOR 40 FEET STACKS

Whip. turnbuckle specificatons:

- high adjustment range
- open type, simple maintenance
- hot dip galvanized
- rods msl/mbl: 230/460 kN
- turnbuckle msl/mbl: 340/680 kN
- weight: approx. 21 kg



## Chain lashing

## C 1

C1A
Hook - hook


## C1B

Hook - elephant foot


## C1C

Hook - shackle


## C1D

Hook one end


| Chain <br> diameter <br> $(\mathrm{mm})$ | Inside <br> length <br> $(\mathrm{mm})$ | Inside <br> width <br> $(\mathrm{mm})$ | Weight <br> $(\mathrm{kg} / \mathrm{m})$ | Proof <br> load <br> kN | Min. <br> Break Load <br> kN |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 9 | 57 | 16 | 1,4 | 60,0 | 100,0 |
| 11 | 65 | 19 | 2,1 | 90,0 | 150,0 |
| 13 | 80 | 22 | 2,6 | 120,0 | 200,0 |
| 16 | 88 | 27 | 4,6 | 160,0 | 320,0 |


| General specifications: |  |
| :--- | :--- |
| Material: | Alloy steel, grade 80 / forged end fittings |
| Finish: | Painted / galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Splint type hook as standard (not shown) <br> $10 \%$ strength reduction for galvanizing <br> End fittings may also be fitted with shackle. |

## Securing devices

C 2-C 4

## C 2.1 <br> Eye type <br> 

C 3.1
Eye type


## C 4.1

Standard


C 2.2
Clevis type


C 3.2
Clevis type


## C 4.2

Straight type


C 3.3
Splint type


C 4.3
Bow type


| Type | For chain <br> diameter $(\mathrm{mm})$ | MBL tension <br> $(\mathrm{kN})$ | Weight <br> $(\mathrm{kg})$ |
| :---: | :---: | :---: | :---: |
| C 2.1 | $9 / 11 / 13$ | 200 | 1,0 |
| C 2.2 |  |  |  |
| C 3.1 | $9 / 11 / 13$ | $100 / 150 / 200$ | $0,6 / 0,8 / 1,3$ |
| C3.2 |  |  |  |
| C3.3 |  |  |  |
| C4.1 | $9 / 11 / 13$ | $100 / 150 / 200$ | $0,4 / 0,5 / 0,7$ |
| C4.2 |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel |
| Finish: | Painted / galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Chain levers

## C 5-C 7

C 5
Chain lever without climb hook


C 6
Chain lever with climb hook


C 7
Extension handle


Instructions for use:


## $\circledast$ For further tightening:

4. Swing in hook
5. Pull back lever
6. Grab next link and pull lever down again


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel |
| Finish: | Painted / galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Turnbuckles \& load binders

## C 8

Open body turnbuckle with double chain hook


## C 9

Closed body turnbuckle hook - jaw
C 9.1 elephant foot lower end
C 9.2 hook lower end

## C 10.1

Load binder
ratchet type


## C 10.2

Load binder
walking type

## C 11

Spindle tensioner


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Take-up <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: |
| C 8 | 200 | 5,0 | 200 |
| C 9 | 200 | 6,0 | 200 |
| C 10.1 | 200 | 6,5 | 200 |
| C 10.2 | 150 | 6,0 | endless |
| C 11 | 200 | 4,0 | 200 |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel / shipbuilding steel |
| Finish: | Galvanized / untreated |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Quick lash \& Trailer winch

## C 12-C 13

## C 12

Quick lash
chain tensioner with shock absorber
C 12.1 hook - elephant foot


Ratchet tightener for quick lash

## C 13

Trailer winch
C 13.1 hook - elephant foot
C 13.2 hook - hook


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Take-up <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: |
| C 12.1 | 200 | 5,5 | 200 |
| C 12.2 |  |  |  |
| C 12.3 | --- | 1,0 | -- |
| C 13.1 | $150 / 200$ | 9,0 | unlimited |
| C 13.2 |  | 2,0 |  |
| C 13.3 | --- |  |  |

## Speedlash with chain clutch

## C 14

## C 14.1

Speedlash NL20
with elephant foot


## C 14.2

Speedlash NL20
with hook


## C 14.3

Speedlash NL20 with pelican hook


## C 14

Speedlash NL-20 combined with 13 mm chain, mbl : 20 tons


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Take-up <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: |
| C 14.1 | 200 | 6,0 | 250 |
| C 14.2 | 200 | 6,0 | 250 |
| C 14.3 | 200 | 6,0 | 250 |
|  |  |  | 250 |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel / shipbuilding steel |
| Finish: | Galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Modified designs available <br> C 14.3 may be supplied with climb hook <br> and chain. |

## Speedlash accessories

## C 15

## C 15.1

Impact tool hammer
pneumatic, $7 \mathrm{~kg} / \mathrm{cm}^{2}$


## C 15.2

Hexagon sleeve
24 mm

C 15.3
Rubber hose

## C 15.4

Quick release connection male + female


## C 15.5

Claw coupling


## C 15.6

Ratchet for Speedlash


## Trailer horses

## C 16

## C16A

Trailer horse


## C16B

Trailer horse


## C16C

Trailer horse


| Type | Length <br> $(\mathrm{mm})$ | Height <br> $(\mathrm{mm})$ | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ |
| :---: | :---: | :---: | :---: | :---: |
| C16A | 1500 | 1250 | 1000 | 140 |
| C16B | 1420 | 1250 | 1000 | 140 |
| C16C | 1500 | 1250 | 1000 | 160 |
|  |  |  |  |  |
|  |  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel |
| Finish: | Painted or galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Trailer jacks \& wheel chocks

## C17

Trailer jack with handwheel


C 18
Mafi Jack with hand wheel


## C 20

Car wheel chock rubber


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| C 17 | 500 | 35,0 | H 950-1250 |
| C 18 | 500 | 14,0 | H $370-580$ |
| C 19 | --- | 5,5 | $290 \times 150 \times 190$ |
| C 20 | --- | 2,0 | $210 \times 100 \times 120$ |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel / Shipbuilding steel / rubber |
| Finish: | Painted / untreated |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Railway jacks \& chocks

C 21
Railway jack with hand wheel


C 22
Railway jack rack \& pinion type


C 23
Railway chock single type shown double type also available


| Type | Strength <br> $(\mathrm{kN})$ | Weight <br> $(\mathrm{kg})$ | Dimensions <br> mm |
| :---: | :---: | :---: | :---: |
| C 21 | 200 | 38,0 | $\mathrm{H} 760-1300$ |
| C 22 | $70 / 100$ | 40,0 | $\mathrm{H} 90-320 / 770-1090$ |
| C 23 | --- | 8,0 | $520 \times 76 \times 125$ |
|  |  |  |  |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Forged steel / shipbuilding steel |
| Finish: | Painted |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Corner protectors

## C 24

Corner protector for chain lashings galvanized steel


## C 25

Corner protector pvc , for paper rolls


## C 26

Corner protector pvc, $190 \times 190 \mathrm{~mm}$ length: 6,0 m other upon request


| Type | MBL (kN) <br> tension | Weight <br> $(\mathrm{kg})$ | Dimensions <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: |
| C 24 | --- | 0,75 | $\varnothing 200 \times \mathrm{T} 3,0$ |
| C 25 | --- | 0,3 | $195 \times 145 \mathrm{~W} 160$ |
| C 26 | --- | $3,1 / \mathrm{m}$ | $190 \times 190$ T20 |
|  |  |  |  |
|  |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Steel / pvc plastic |
| Finish: | Galvanized / untreated |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Cargo nets \& Dunnage bags

## C 27

Walking board plywood, laminated wood $1200 \times 2440 \times 7,5 \mathrm{~mm}$


## C 28

Cargo net polypropylene


## C 29

Dunnage bags paper, pvc or rubber different sizes upon request


## C 30

Marine fenders
low weight - easy handling pvc/polyester or rubber sizes upon request


| General specifications: |  |
| :--- | :--- |
| Material: | PVC/polyester / rubber / paper / polyprop. |
| Finish: | Untreated |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |



## Car, truck \& web lashings

## C 31

Car lashing flat hooks both ends excenter handle tightener optional loop upper end


## C 32

Web lashing
thread type hooks both ends

optional elephant foot lower end
ratchet tightener with transport securing

## C 33

Web lashing
forged hooks and elephant foot
optional hook lower end

ratchet tightener with transport securing

## C 34

Web straps and slings
various dimensions and strengths
details upon request


## C 35

Round straps and slings various dimensions and strengths details upon request


| Type | MBL <br> tension | Weight <br> $(\mathrm{kg})$ | Webbing width <br> $(\mathrm{mm})$ |
| :---: | :---: | :---: | :---: |
| C 31 | $1200-2000 \mathrm{~kg}$ | 0,7 | 25 |
| C 32 | $2,5-15,0 \mathrm{t}$ | varies | $35-70$ |
| C 33 | $5,0-12,0 \mathrm{t}$ | 4,0 | 50 |
| C 34 | upon request | varies | upon request |
| C 35 | upon request | varies | upon request |


| General specifications: |  |
| :--- | :--- |
| Material: | High strength steel / polyester webbing |
| Finish: | Yellow chromated / galvanized / <br> painted / plastic coated |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Timber lashing

## C 36

Speedlash NL20 with pelican hook and climbing chain mbl: 20 tonnes


C 37
Rigging screw slip hook - pear link galvanized, mbl: 15 t


C 38
Rigging screw slip hook both ends $\mathrm{mbl}: 15 \mathrm{t}$


## Lashing bins \& racks

C 39
Lashing bin
$1300 \times 1140 \times 730 \mathrm{~mm}$


C 40
Lashing rack stackable 20 feet half height container

also available:
Storage rack for
lashing bins type C39


[^2]| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel |
| Finish: | Painted or galvanized |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Roll-Lash system (Pat. Pend)



## Seasafe's patented Roll-Lash system; designed to prevent cargo from shifting on roll trailers

The system is based on a series of spring loaded drums permanently secured to the deck head above the trailer lanes. 10 tonne capacity web lashings are pulled down with a boat hook and attached to standard Seasafe tensioners, which again are attached to lashing points on the trailer.

The trailer itself is secured to the deck using 13 mm chains, again secured with Seasafe's Speedlash. AT the discharge point, the Roll-Lash webbing is released, and the belts automatically wind back into the winch housings, much like a car seat belt.

## Semi trailer lashing

## Q Seasafe



## Car lashing and Roll trailer arr. Seasafe



D 1
Chocks
for installation in bulwark


D 2
Chocks
free standing type

## D 3 <br> Bollards


© Sizes and break loads upon request

D 4
Roller fairleads


## D 5 <br> Roller chocks



## D 6

Double roller chocks


## Container spreaders

## D 7

20 feet container spreader weight: 1000 kg
lifting capacity 32 tons s.w.I.


## D 8

40 feet container spreader
weight: 1800 kg
lifting capacity 35 tons s.w.I.


| Type | Capacity <br> (tonnes) | Weight <br> $(\mathrm{kg})$ | Dimensions <br> $(\mathrm{mm})$ |  |
| :---: | :---: | :---: | :---: | :---: |
| D 7 | 32,0 <br> Semi-automatic/Automatic type |  |  |  |
| D 8 | 35,0 <br> Semi-automatic/Automatic type <br> Telescopic version 35-40 feet also available |  |  |  |
|  | (1000 |  |  |  |


| General specifications: |  |
| :--- | :--- |
| Material: | Shipbuilding steel |
| Finish: | Painted |
| Certificate: | Workshop certificate, class certificate <br> upon request. |
| Remark: | Other design, dimensions, material <br> and finish upon request. |

## Water treatment

## Helinos drinking water sterilizers

## Functions:

The germicidal effect of ultraviolet light purifies water without changing its physical or chemical composition.

The Helinos sterilizers are built upon this principle.
No chemicals to add, no allergy effects, no incorrect dosing, however still with outgoing sterilized water.

The Helinos sterilizers consist of vertically set treatment chambers with centered lamps emitting ultra violet light at the passing waterflow.

The dosage of UV is continuously monitored by an electronic unit which is preset at a certain threshold value. If the dosage by any reason should fall below this value, the water supply is automatically shut off. This safeguard makes it impossible to receive untreated water.

## Features:

The Helinos sterilizer, which in standard version guarantees sterilization of water, has:

- electronic monitoring of intensity for each lamp
- display showing total intensity as well as intensity for each lamp
- automatic shut-off when uv-dosage is too low
- cleaning brushes for each chamber
- pressure guarantee for $8,7 \mathrm{bar} / \mathrm{cm}^{3}$.


## Technical details:

- $220 \mathrm{~V}, 50 / 60 \mathrm{~Hz}, 140-220 \mathrm{~W}$
- dimensions: $447 \times 294 \times 1022 \mathrm{~mm} / 447 \times 430 \times 1022 \mathrm{~mm}$
- capacity: $3,4 \mathrm{~m}^{3} / \mathrm{h}, 4,6 \mathrm{~m}^{3} \mathrm{~h}, 6,8 \mathrm{~m}^{3} / \mathrm{h}$ or $10,8 \mathrm{~m}^{3} / \mathrm{h}$

The Helinos sterilizers are made with treatment chambers in ABS plastic, each unit pressure tested to 9,0 bar, checked and adjusted prior to delivery.

## Seasafe hydrophore units

Seasafe delivers complete hydrophore systems mounted on steel frames; including pumps, hydrophore tanks, uv-sterilizers, rehardening filters and hot water calorifiers. Capacities and dimensions according to customer requirements.


## Mooring ropes

## Timm Signal Safety mooring ropes:

Timm Signal Safety - an improved polypropylene product with a 50 percent higher breaking strength compared to traditional polypropylene quality.

Timm Signal Safety has increased resistance to abrasion.

Timm Signal Safety is UV-stabilized to protect it from decomposition due to ultra-violet rays.

Timm Signal Safety is firmly anchored in quality and safety, and gives better operational economy.

Timm Signal Safety is supplied with 6 feet mooring eyes, protected with reinforced polyester sheathing.


## Cargo Securing Systems

## 웅 Seasafe



Notes
S Seasafe

## Find Us Here



## (9) Seasafe Tramsport A/S

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Norway

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[^0]:    Flush keyhole foundatinos
    Flush keyhole foundations are supplied in accordance with customer specific requirements.

    Although a general standard is available, the project specific details are significantly affecting the general design to such an extent that it is not appropriate to include further details in this catalogue.

    Detail drawings available upon request.

[^1]:    General specifications:
    Material: $\quad$ Forged steel / cast steel
    Finish: Galvanized
    Certificate:
    Workshop certificate, class certificate upon request.

    Remark:
    Other design, dimensions, material and finish upon request.

[^2]:    Lashing bins \& racks
    Lashing bins \& racks are supplied in accordance with customer specific requirements.

    Although a general standard is available, the project specific details are significantly affecting the general design to such an extent that it is not appropriate to include further details in this catalogue.

    Detail drawings available upon request.

