

PIKASOMA
Marine Supplies



MARINE TECHNICAL SUPPLIES

AMBER
MOORING ROPES





80% of all the projects are carried out outside the Baltic Sea region

~300 employees and specialists

2100 ships served annually

7400 projects worldwide

5000 m² of warehouse and workshop facilities

PIKASOMA MARINE SUPPLIES company started its journey in the port of Klaipeda in 1997 and is a part of GARANT GROUP international holding.

For more than 25 years Marine Supplies division has been implementing complete mooring and towing solutions, delivering marine supplies and everything you need for shipping, fishing industries, offshore, newbuilding and ship repair yards.

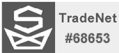
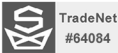
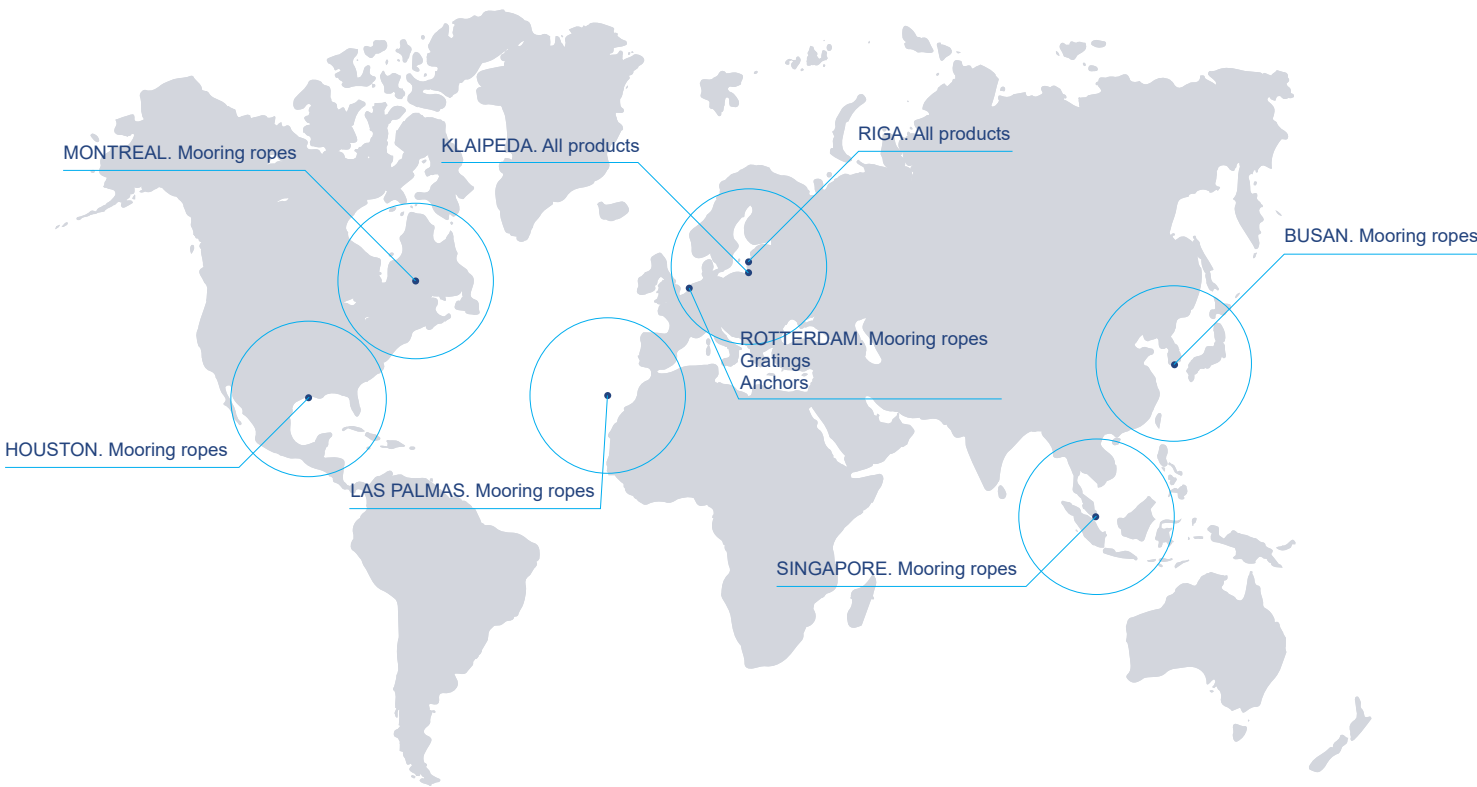
In recent years we have expanded our global warehouse network and shaped our stock to meet the specific needs of your fleet. Our expert sales managers quickly process your inquiry and support with a relevant technical advice. A team of dedicated logisticians secure a smooth delivery to the right location.

AMBER is our registered brand of high quality, reliable ship ropes. We have designed and developed AMBER ropes range to offer technologically relevant and safe solutions for your fleet.

Durable AMBER mooring ropes are easy to handle which makes maneuvering of vessels extremely accurate. The range of synthetic multipurpose ropes is available in different diameters with excellent performance indicators.



A member of



INSIDE MATTERS

We care about people at sea. That is why we launched the production of mooring ropes with Snap Back Arrestor (SBA) technology. It ensures the safety of the crew during mooring operations

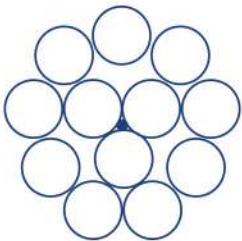
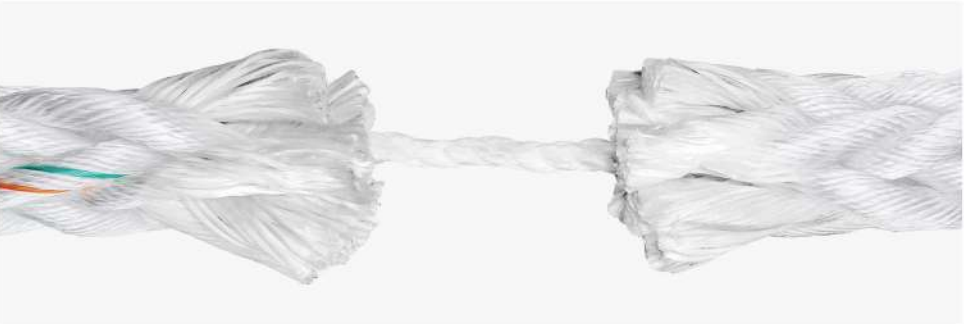
Ropes with integrated Snap Back Arrestor (SBA) technology

- ▶ Energy absorbing core within the rope reduces snap back if rope breaks
- ▶ Stronger and lighter due to polypropylene and polyester fiber yarns
- ▶ Buoyant
- ▶ UV resistant

Rope services

- ▶ Rope design development
- ▶ Rope inspection & retirement advisory
- ▶ Personalized product trainings

Mooring, towing, anchoring



Fiber
Combination of Polypropylene and Polyester Fiber yarns



Construction
12-Strand plaited regular lay with Anti-Snap Back rope in the core



Specific gravity
0.98 (floating)



Elongation
17-20%



Melting point
165°C



UV resistance
Excellent



Abrasion resistance
Excellent



Application
Mooring, towing, anchor line, shock line, slings etc.

Features

Integrated Snap Back Arrestor (SBA) technology. Reduces snap back if rope breaks

Ensures safe mooring activities



Material composition as AMBER MIX

Polypropylene and polyester fiber yarns give higher strength and lighter weight to the rope

| Diameter (mm) | Circ (inch) | Weight/220m (kg) | Breaking strength (t) | LDBF MEG4 (t) |
|---------------|-------------|------------------|-----------------------|---------------|
| 40 | 5 | 165 | 33.2 | 29.88 |
| 44 | 5-1/2 | 195 | 40.2 | 36.18 |
| 48 | 6 | 226 | 47.3 | 42.57 |
| 50 | 6-1/4 | 247 | 51.5 | 46.36 |
| 52 | 6-1/2 | 269 | 55.6 | 50.04 |
| 56 | 7 | 309 | 63.8 | 57.42 |
| 60 | 7-1/2 | 350 | 72.6 | 63.27 |
| 64 | 8 | 401 | 79 | 71.1 |
| 68 | 8-1/2 | 454 | 86.7 | 78.03 |
| 72 | 9 | 506 | 97 | 87.3 |
| 80 | 10 | 640 | 117.9 | 106.11 |

The product is approved by Lloyd Register. AMBER MIX S rope is produced according to ISO9554 and tested according to ISO2307 and OCIMF MEG4.



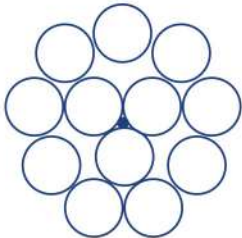
- **Fiber**
High tenacity Polypropylene with outer yarns alternating with Polyester
- **Construction**
8-strand braided rope
- **Specific gravity**
0.99 (floating)
- **Elongation**
18-20%





- **Melting point**
165°C
- **UV resistance**
Excellent
- **Abrasion resistance**
Excellent
- **Application**
Mooring, towing, anchor line, shock line, slings etc.

Features
Polypropylene and polyester fiber yarns give higher strength and lighter weight to the rope. It has a great value among the customers for its quality, durability and performance indicators

| Diameter (mm) | Circ (inch) | Weight/220m (kg) | Breaking strength (t) | LDBF MEG4 (t) |
|---------------|-------------|------------------|-----------------------|---------------|
| 40 | 5 | 165 | 33.2 | 30.0 |
| 44 | 5-1/2 | 195 | 40.2 | 36.2 |
| 48 | 6 | 226 | 47.3 | 42.6 |
| 50 | 6-1/4 | 247 | 51.5 | 46.4 |
| 52 | 6-1/2 | 269 | 55.6 | 50.0 |
| 56 | 7 | 309 | 63.8 | 57.4 |
| 60 | 7-1/2 | 350 | 72.6 | 65.3 |
| 64 | 8 | 401 | 82.5 | 74.2 |
| 66 | 8-1/16 | 427.7 | 87.8 | 79.0 |
| 68 | 8-1/2 | 454 | 93.0 | 83.7 |
| 72 | 9 | 506 | 103.9 | 93.5 |
| 80 | 10 | 640 | 127.6 | 114.8 |

All products are produced in accordance with OCIMF guidelines and IACS approved



- **Fiber**
UHMWPE, Nylon
- **Construction**
12-Strand UHMWPE rope with Anti-Snap Back rope in the core
- **Specific gravity**
0.97 (floating)
- **Elongation**
3.5%-4%

- **Melting point**
150°C
- **UV resistance**
Very good
- **Abrasion resistance**
Very good
- **Application**
Mooring, towing, anchor line, shock line, slings etc

Features
Integrated Snap Back Arrestor (SBA) technology. The SBA is an energy absorbing core within the rope
Material composition as AMBER ULTRA
Reduces snap back if rope breaks
Ensures safe mooring activities
Low water absorption. Remains light when working in wet conditions
Buoyant
UV resistant

| Diameter (mm) | Circ (inch) | Weight/220m (kg) | Breaking strength (t) | MBL (t) | LDBF (t) |
|---------------|-------------|------------------|-----------------------|---------|----------|
| 28 | 3-1/2 | 91.3 | 56.92 | 56.92 | 51.23 |
| 30 | 3-3/4 | 107.8 | 66.1 | 66.1 | 59.49 |
| 32 | 4 | 122.1 | 74.66 | 74.66 | 67.19 |
| 34 | 4-1/4 | 136.4 | 83.23 | 83.23 | 74.91 |
| 36 | 4-1/2 | 155.1 | 93.94 | 93.94 | 84.55 |
| 38 | 4-3/4 | 173.8 | 104.65 | 104.65 | 94.19 |
| 40 | 5 | 192.5 | 114.75 | 114.75 | 103.28 |
| 42 | 5-1/4 | 215.97 | 124.85 | 124.85 | 112.37 |
| 44 | 5-1/2 | 237.97 | 135.86 | 135.86 | 122.27 |

The product is approved by Lloyd Register. AMBER ULTRA S rope is produced according to ISO 9554 and tested according to ISO 2307 and OCIMF MEG4.



Fiber
UHMWPE, Urethane coated



Construction
12-strand braided rope



Specific gravity
0.99 (floating)



Elongation
4-5%



Melting point
150°C



UV resistance
Excellent



Abrasion resistance
Excellent



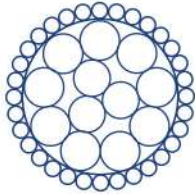
Application
Mooring, towing, anchor line, shock line, slings etc.

Features

Wire rope replacement because of its superior strength

| Diameter (mm) | Circ (inch) | Weight/220m (kg) | Breaking strength (t) | LDBF MEG4 (t) |
|---------------|-------------|------------------|-----------------------|---------------|
| 22 | 2-3/4 | 67.1 | 50 | 45 |
| 24 | 3 | 78.9 | 58 | 52.2 |
| 26 | 3-1/4 | 90.2 | 66 | 59.4 |
| 28 | 3-1/2 | 103.4 | 74 | 66.6 |
| 30 | 3-3/4 | 114.4 | 81.5 | 73.4 |
| 32 | 4 | 125.4 | 88.5 | 79.7 |
| 34 | 4-1/4 | 137.5 | 96.3 | 86.67 |
| 36 | 4-1/2 | 149.6 | 104 | 93.6 |
| 40 | 5 | 184.4 | 184.8 | 166.3 |
| 44 | 5-1/2 | 224.4 | 152 | 136.8 |
| 48 | 6 | 266.6 | 179 | 161.1 |
| 50 | 6-1/4 | 290.4 | 194 | 174.6 |
| 52 | 6-1/2 | 310.2 | 206 | 185.4 |
| 54 | 6-7/8 | 347.6 | 221 | 198.9 |
| 56 | 7 | 358.6 | 236 | 212.4 |
| 60 | 7-1/2 | 385 | 252 | 226.8 |

All products are produced in accordance with OCIMF guidelines and IACS approved



Fiber
UHMWPE+ Polyester



Construction
12-strand braided rope + outer layer cover



Specific gravity
0.99-1.11 polyester jacket
0.99 UHMWPE jacket



Elongation
4-5%



Melting point
150 °C UHMWPE jacket
250 °C polyester jacket



UV resistance
Excellent



Abrasion resistance
Excellent



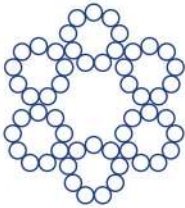
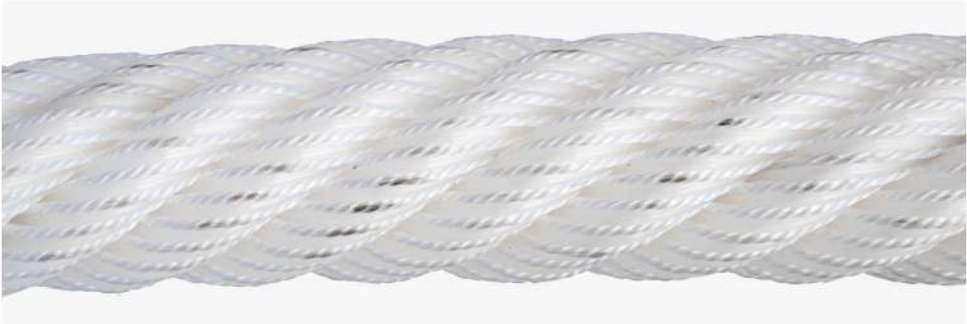
Application
Mooring, towing, anchor line, shock line, etc.

Features

Ropes float in water which makes them significantly safer. Their low elongation combined with their low weight makes their handling easy and the maneuvering of vessels extremely accurate especially in distress & critical times. Polyester jacket will protect the UHMWPE rope core and prolong the service life of a rope

| Diameter (mm) | Circ (inch) | Weight/220m (kg) | Breaking strength (t) | LDBF MEG4 (t) |
|---------------|-------------|------------------|-----------------------|---------------|
| 22 | 2-3/4 | 68.4 | 38.6 | 34.7 |
| 24 | 3 | 81.4 | 46.0 | 41.4 |
| 26 | 3-1/4 | 95.7 | 54.0 | 48.6 |
| 28 | 3-1/2 | 112.2 | 63.1 | 56.8 |
| 30 | 3-3/4 | 128.9 | 68.7 | 61.8 |
| 32 | 4 | 143 | 74.2 | 66.8 |
| 34 | 4-1/4 | 157.8 | 83.6 | 75.2 |
| 36 | 4-1/2 | 173.8 | 93.0 | 83.7 |
| 40 | 5 | 209 | 114 | 102.6 |
| 44 | 5-1/2 | 244.2 | 135 | 121.5 |
| 48 | 6 | 301.4 | 165.2 | 148.7 |
| 50 | 6-1/4 | 327.8 | 179.3 | 161.4 |
| 52 | 6-1/2 | 354.2 | 195.2 | 175.7 |
| 54 | 6-7/8 | 378 | 212.6 | 191.3 |
| 56 | 7 | 402.6 | 230 | 207.0 |
| 60 | 7-1/2 | 451 | 263 | 236.7 |

All products are produced in accordance with OCIMF and MEG4 guidelines and IACS approved



Fiber
Nylon monofilament and high tenacity nylon multifilament



Construction
6-strand cross lay rope + core



Specific gravity
1.14



Elongation
22%



Melting point
218°C



UV resistance
Excellent



Abrasion resistance
Excellent



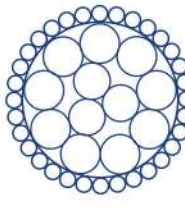
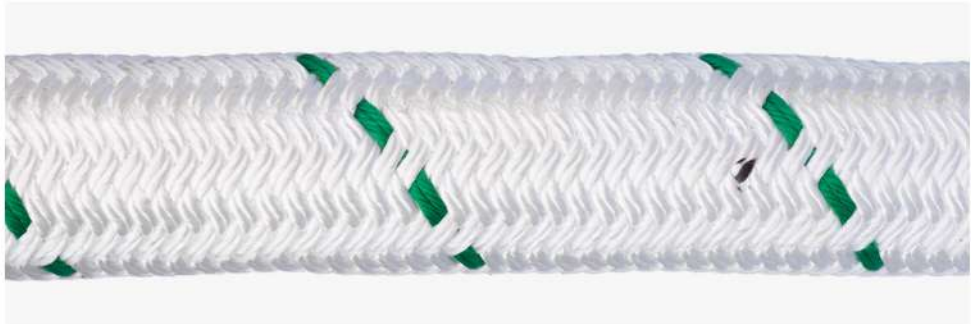
Application
Mooring, towing, winch line, anchor line and other heavy duty applications.

Features

High deformation & fatigue resistance

| Diameter (mm) | Circ (inch) | Weight/220m (kg) | Breaking strength (t) | LDBF MEG4 (t) |
|---------------|-------------|------------------|-----------------------|---------------|
| 40 | 5 | 217.8 | 31.4 | 28.3 |
| 44 | 5-1/2 | 253 | 39.9 | 35.9 |
| 48 | 6 | 301.4 | 47.5 | 42.8 |
| 52 | 6-1/2 | 354.2 | 51.3 | 46.2 |
| 56 | 7 | 411.4 | 63.7 | 57.3 |
| 60 | 7-1/2 | 470.8 | 68.4 | 61.6 |
| 64 | 8 | 536.8 | 77.9 | 70.1 |
| 68 | 8-1/2 | 607.2 | 89.3 | 80.4 |
| 72 | 9 | 679.8 | 102.6 | 92.3 |
| 80 | 10 | 838.2 | 119.7 | 107.7 |

All products are produced in accordance with OCIMF and MEG4 guidelines and IACS approved



Fiber
UV stabilized high tenacity polyolefin hybrid yarn



Construction
12-strand braided core + outer cover layer



Specific gravity
0.93 (floating)



Elongation
Approx. 15%



Melting point
165°C



UV resistance
Good



Abrasion resistance
Excellent



Application
Mooring, winch line, anchor line and other heavy duty applications.

Features


Low elongation increases safety by minimizing risks due to snapback action. Doesn't lose strength when wet.

| Diameter (mm) | Circ (inch) | Weight/220m (kg) | Breaking strength (t) | LDBF MEG4 (t) |
|---------------|-------------|------------------|-----------------------|---------------|
| 48 | 6 | 291.5 | 48 | 43 |
| 50 | 6-1/4 | 316.4 | 52 | 47 |
| 52 | 6-1/2 | 351 | 59 | 53 |
| 56 | 7 | 401.5 | 65 | 59 |
| 60 | 7-1/2 | 440 | 75 | 68 |
| 64 | 8 | 490.6 | 86 | 77 |
| 66 | 8-1/16 | 506.9 | 91 | 82 |
| 68 | 8-1/2 | 550 | 95 | 86 |
| 72 | 9 | 617.1 | 106 | 95 |
| 80 | 10 | 792 | 130 | 117 |


All products are produced in accordance with OCIMF and MEG4 guidelines and IACS approved

Mooring tails







Fiber
High tenacity Polypropylene with outer yarns alternating with Polyester




Construction
8-strand braided rope




Specific gravity
0.99 (floating)




Elongation
18-20%




Melting point
165°C



UV resistance
Excellent



Abrasion resistance
Excellent



Application
Mooring, towing, offshore.

Features

Mooring tails provide elasticity and shock/energy absorption within the mooring arrangement and prevent damages to primary mooring line. Used especially in combination with steel or UHMWPE ropes.

| Diameter (mm) | Lenght (m) | Wt/tail (kg) | Breaking strength (t) | LDBF MEG4 (t) |
|---------------|------------|--------------|-----------------------|---------------|
| 60 | 11 | 37 | 73.5 | 66.15 |
| 64 | 11 | 42 | 84.1 | 75.69 |
| 68 | 11 | 48 | 93.7 | 84.33 |
| 72 | 11 | 54 | 103.8 | 93.42 |
| 76 | 11 | 60 | 115 | 103.5 |
| 80 | 11 | 65 | 127.7 | 114.93 |
| 88 | 11 | 95 | 158 | 142.2 |

Protection sleeves



Features

- ▶ Improves rope lifespan
- ▶ Easily installed using extra durable velcro lining
- ▶ Lightweight, with a smooth surface
- ▶ Excellent UV and heat resistance
- ▶ Customized sizes
- ▶ Suitable for all fiber ropes

| Rope size (mm) | Width (mm) | Length (mm) |
|----------------|------------|-------------|
| 20-40 | 250 | 3000 |
| 44-64 | 350 | 3000 |
| 68-96 | 500 | 3000 |

Mooring links



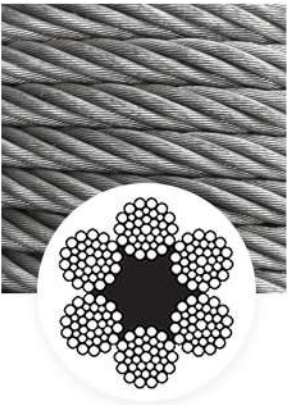
Features

- ▶ Connection between wire rope and fiber tail
- ▶ Galvanized steel
- ▶ Compact design

| Link 90 T Tail 56-68 mm | Link 120 T Tail 72-80 mm |
|---|--|
| Breaking load: 90 T Proof load: 45 Tonnes Weight: 11,2 kg | Breaking load: 120 T Proof load: 60 Tonnes Weight: 16,9 kg |
| Link 180 T Tail 88-112 mm | Link 300 T Tail 88-112 mm |
| Breaking load: 90 T Proof load: 45 Tonnes Weight: 11,2 kg | Breaking load: 120 T Proof load: 60 Tonnes Weight: 16,9 kg |

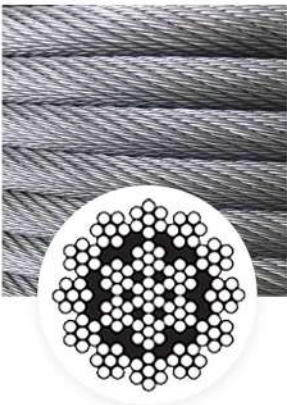
General purpose
wire rope
6×36 WS+FC

Application: multipurpose



Non-rotating
wire rope
19x7 WSC

Application: multipurpose,
safety launching appliances



General purpose
wire rope 6×19
WS+IWRC

Application: general purpose,
fishing, slings, winch and hoist
ropes, construction

General purpose
wire rope
6×36 WS+IWRC

Application: multipurpose



Non-rotating
wire rope
35x7 WSC

Application: multipurpose,
safety launching appliances



Poweract 4
4x36

Application: high lifting
tower cranes



Compacted non-
rotating wire rope
35x7 WSC

Application: multipurpose



SES Swaged
4x39

Application: cranes, cargo
lifting, hoisting



General purpose
wire rope
6×19 WS+FC

Application: general purpose,
fishing, slings, winch and hoist
ropes, construction



Galvanized steel
wire rope 3×31
WS

Application: trawl warp.
Bottom trawling: upper/lower
bridles, sweepline, headline



All products are IACS approved

Fitting eyes using our 600 t press



Tensile test using our own test bed



All products are IACS approved

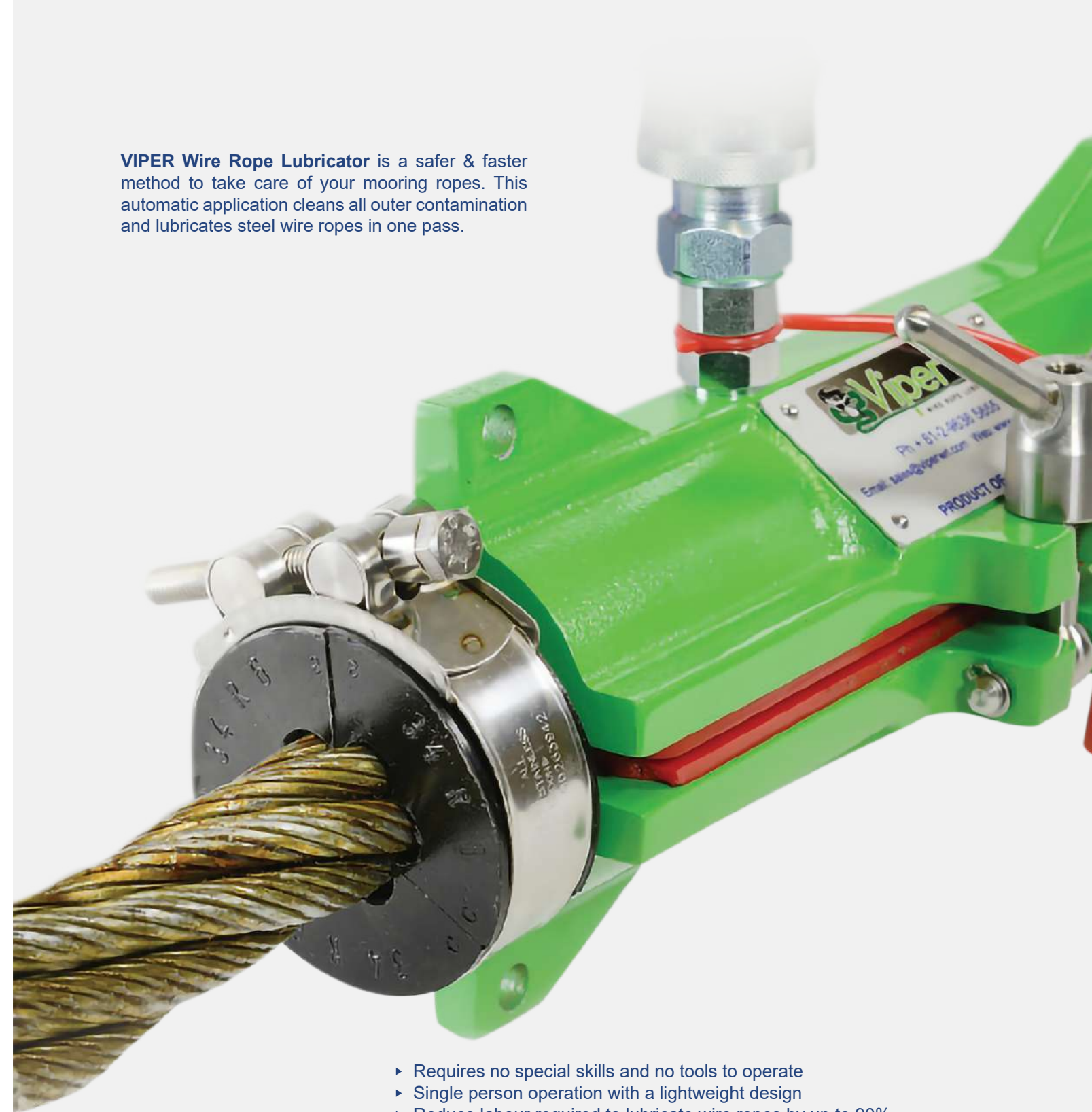


- ▶ Hoisting
- ▶ Luffing
- ▶ Lifting
- ▶ DNV certification upon request

Thimbles DIN & JIS standards



VIPER Wire Rope Lubricator is a safer & faster method to take care of your mooring ropes. This automatic application cleans all outer contamination and lubricates steel wire ropes in one pass.



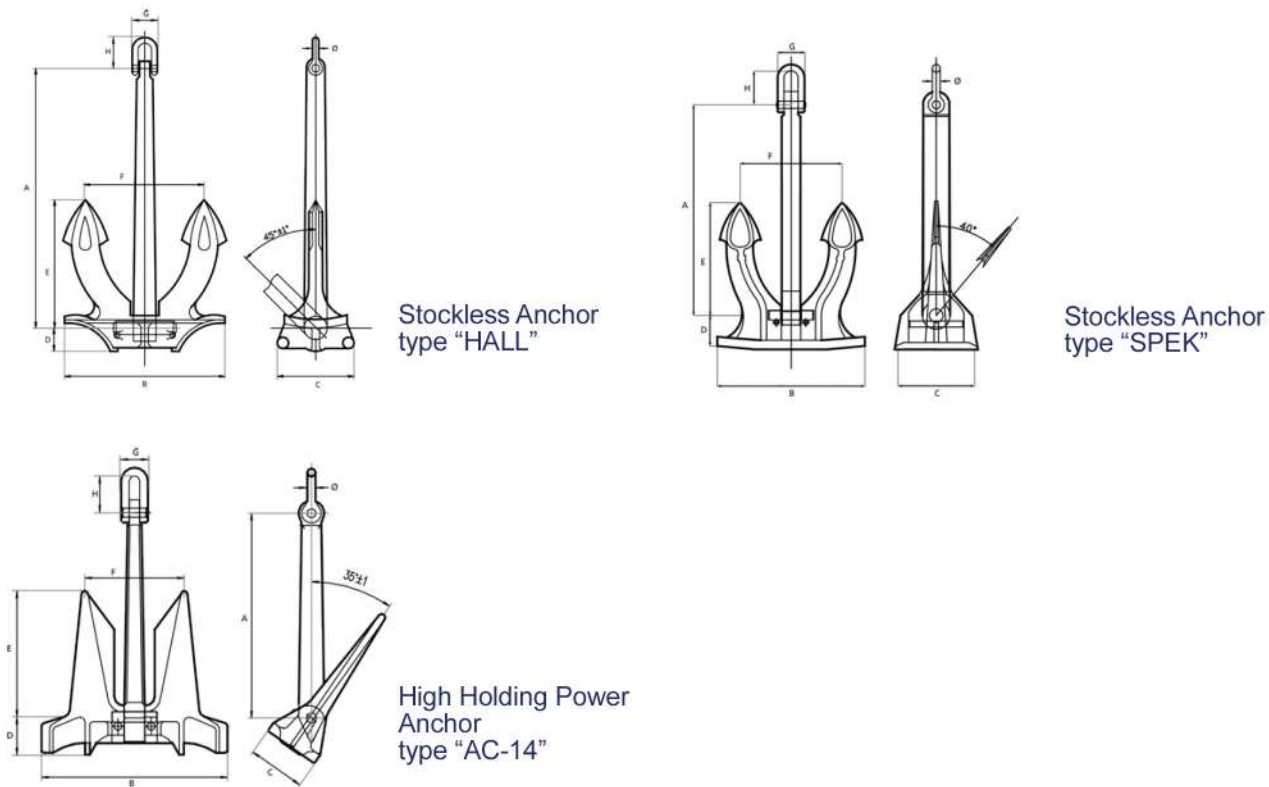
- ▶ Requires no special skills and no tools to operate
- ▶ Single person operation with a lightweight design
- ▶ Reduce labour required to lubricate wire ropes by up to 90%
- ▶ Grease up to 2000m of rope per hour
- ▶ Increase wire rope life up to 300%
- ▶ Light weight, easy to install and operate
- ▶ Unlike the manual method, operators have no direct contact with the lubricant
- ▶ All excess lubricant is captured and may be re-used, no wastage

Sale & rental

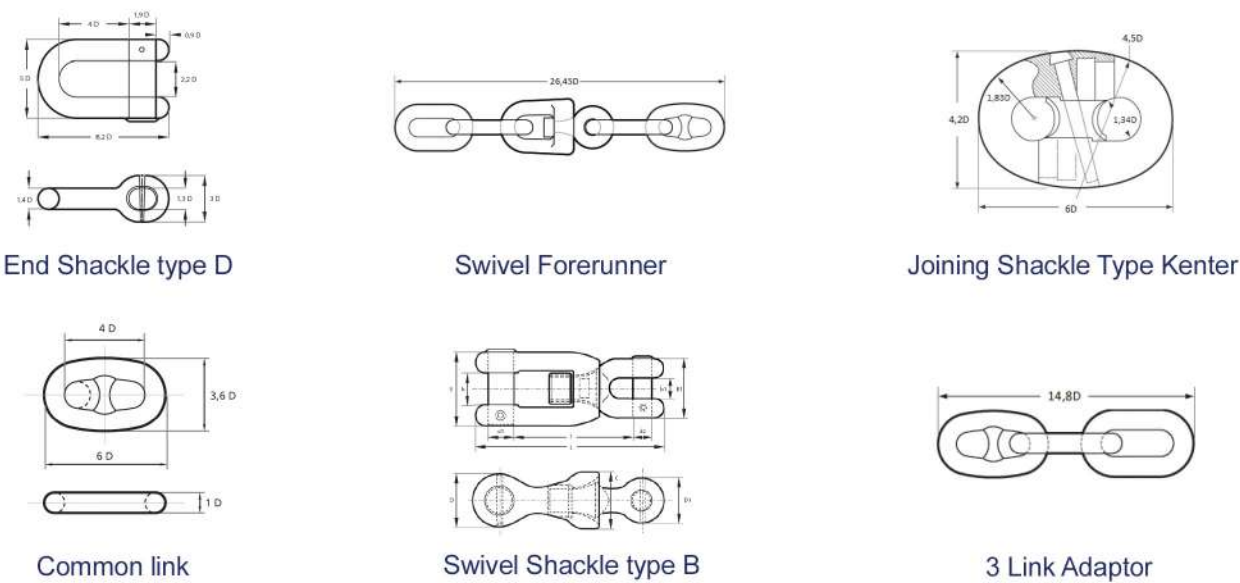
An official distributor



Anchors



Chain accessories



All products are IACS approved



| Diam (mm) | Stud link Chain (27,5mtr) weights | 3-Link Adaptor (E+EL+C) (kgs) | Joining Shackle Type Kenter (kgs) | End Shackle Type D (kgs) | Swivel-Forerunner (E+EL+SW + EL+C) (kgs) | Proof load (kN) | Breaking load (kN) |
|-----------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|--|-----------------|--------------------|
| 16 | 160 | 1.37 | 0.62 | 1.6 | 3.57 | - | - |
| 17.5 | 193 | 1.89 | 0.82 | 2.0 | 4.73 | - | - |
| 19 | 223 | 2.37 | 1.00 | 2.5 | 5.75 | - | - |
| 20.5 | 275 | 2.98 | 1.35 | 3.3 | 7.18 | 244 | 349 |
| 22 | 305 | 3.46 | 1.6 | 4.0 | 8.21 | 280 | 401 |
| 24 | 366 | 4.68 | 2.0 | 5.0 | 11.38 | 332 | 476 |
| 26 | 432 | 5.9 | 2.7 | 6.0 | 14.05 | 389 | 556 |
| 28 | 503 | 7.6 | 3.3 | 8.0 | 17.9 | 449 | 642 |
| 30 | 578 | 8.9 | 3.9 | 9.5 | 21.1 | 514 | 735 |
| 32 | 657 | 10.8 | 4.6 | 12.0 | 25.7 | 583 | 833 |
| 34 | 743 | 13.1 | 5.8 | 14.0 | 31.3 | 655 | 937 |
| 36 | 831 | 15.4 | 6.6 | 17.0 | 36.9 | 732 | 1050 |
| 38 | 927 | 17.6 | 7.8 | 20.0 | 42.7 | 812 | 1160 |
| 40 | 1020 | 20.8 | 9.1 | 23.0 | 50.7 | 896 | 1280 |
| 42 | 1114 | 24.4 | 10.5 | 26.0 | 59.8 | 981 | 1400 |
| 44 | 1218 | 28.6 | 12.2 | 29.0 | 70.6 | 1080 | 1540 |
| 46 | 1334 | 33.0 | 14.0 | 33.0 | 81.5 | 1170 | 1680 |
| 48 | 1452 | 37.9 | 16.0 | 37.0 | 95.0 | 1270 | 1810 |
| 50 | 1568 | 43 | 18 | 41 | 115 | 1370 | 1960 |
| 52 | 1705 | 50 | 20 | 45 | 124 | 1480 | 2110 |
| 54 | 1815 | 55 | 20 | 50 | 141 | 1590 | 2270 |
| 56 | 1953 | 60 | 24 | 54 | 148 | 1710 | 2430 |
| 58 | 2118 | 65 | 28 | 65 | 168 | 1810 | 2600 |
| 60 | 2283 | 71 | 28 | 70 | 191 | 1940 | 2770 |
| 62 | 2420 | 79 | 33 | 76 | 202 | 2060 | 2940 |
| 64 | 2585 | 88 | 38 | 82 | 231 | 2190 | 3130 |
| 66 | 2750 | 97 | 38 | 94 | 261 | 2310 | 3300 |
| 68 | 2943 | 106 | 44 | 101 | 273 | 2450 | 3500 |
| 70 | 3135 | 115 | 44 | 108 | 307 | 2580 | 3690 |
| 73 | 3410 | 131 | 51 | 124 | 348 | 2790 | 3990 |
| 76 | 3713 | 148 | 58 | 141 | 392 | 3010 | 4300 |
| 78 | 3905 | 160 | 65 | 150 | 409 | 3160 | 4500 |

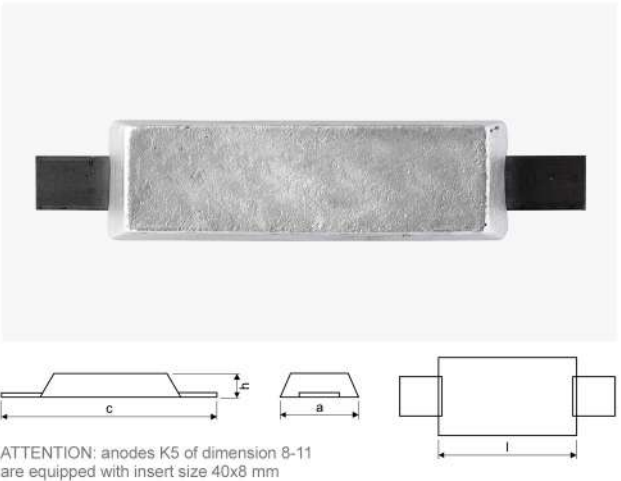
All products are IACS approved

Anode K3



| No. | Dimmension (mm) | | | | Zinc (ZnAlCd) Mass (kg) | | Aluminium (AlZnIn) Mass (kg) | |
|-----|-----------------|----|-----|-----|----------------------------|------|---------------------------------|------|
| | l | h | a | c | Gross | Nett | Gross | Nett |
| 1 | 130 | 25 | 60 | 100 | 1.08 | 1.00 | 0.52 | 0.45 |
| 2 | 150 | 30 | 80 | 220 | 2.15 | 1.90 | 0.97 | 0.75 |
| 3 | 250 | 30 | 80 | 320 | 3.40 | 3.10 | 1.57 | 1.30 |
| 4 | 250 | 40 | 100 | 320 | 5.50 | 5.10 | 2.45 | 2.05 |

Anode K5



| No. | Dimmension (mm) | | | | Zinc (ZnAlCd) Mass (kg) | | Aluminium (AlZnIn) Mass (kg) | |
|-----|-----------------|----|-----|------|----------------------------|-------|---------------------------------|-------|
| | l | h | a | c | Gross | Nett | Gross | Nett |
| 1 | 400 | 40 | 125 | 460 | 10.50 | 9.95 | 4.00 | 3.45 |
| 2 | 450 | 40 | 125 | 510 | 12.00 | 11.35 | 5.00 | 4.35 |
| 3 | 550 | 45 | 125 | 610 | 16.00 | 15.25 | 6.50 | 5.75 |
| 4 | 650 | 45 | 125 | 710 | 21.00 | 20.10 | 8.00 | 7.10 |
| 5 | 800 | 50 | 125 | 860 | 27.00 | 25.95 | 11.50 | 10.45 |
| 6 | 900 | 50 | 125 | 960 | 30.00 | 28.80 | 13.00 | 11.80 |
| 7 | 1200 | 50 | 125 | 1280 | 40.00 | 38.40 | 18.00 | 16.40 |
| 8 | 800 | 50 | 150 | 880 | - | - | 18.00 | 16.30 |
| 9 | 950 | 50 | 150 | 1030 | - | - | 21.00 | 19.20 |
| 10 | 1050 | 65 | 150 | 1130 | - | - | 30.00 | 27.60 |
| 11 | 1200 | 65 | 150 | 1280 | - | - | 34.00 | 31.60 |

Zinc anodes alloy

| Alloying elements (%) | Maximum impurities (%) | Electrochemical parameters AZn acc to DNV RP B401: TEST A | |
|--|--|---|--------------|
| Al 0.12 - 0.18 Cd 0.05 - 0.10 Zn - balance | Fe 0.005 Pb 0.005 Cu 0.002 Sn 0.002 | Closed circuit potential acc Ag/AgCl | 1030 mV |
| | | Consumption rate | 11.2 kg/A*yr |
| | | Capacity | 780 A*h/kg |

Aluminum anodes alloy

| Alloying elements (%) | Maximum impurities (%) | Electrochemical parameters acc to DNV RP B401 test B (96H) | |
|--|---|--|------------|
| Zn 3.0-3.5 In 0.016-0.040 Al Remaining | Fe 0.029-0.09 Si 0.034-0.10 Cu 0.0011-0.005 | Closed circuit potential | 1090mV |
| | | Consumption Rate | 3.5 kg/A*r |
| | | Capacity | 2650A*h/kg |

All products are Mill certificated 3.1B/

Isophthalic gratings



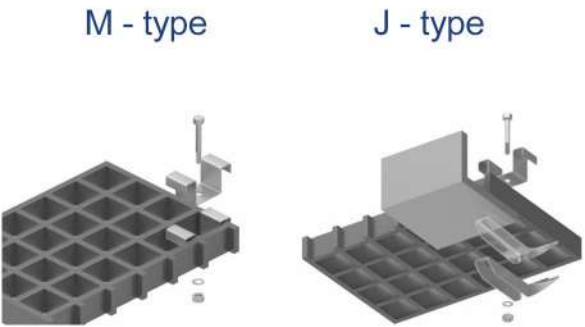
Features

- ▶ Easy to handle
- ▶ Lighter than steel
- ▶ Non-corrosive
- ▶ Do not require painting
- ▶ Superior grip
- ▶ Slip resistance

Application

- ▶ Marine
- ▶ Offshore
- ▶ Transportation
- ▶ Industrial

Connection clips



| Panel Thickness (mm) | Panel size (mm) | Mesh size (mm) |
|----------------------|---|----------------|
| 25 | Standard: 1000x2000 | 25x100 |
| 30 | Panels can be cut to any size according to requirements | 38x38 |
| 38 | | |

| Material | Operation temperature | Corrosion and chemical resistant |
|-----------------------------|-----------------------|----------------------------------|
| Isophthalic polyester resin | -50 - 90 °C | Industrial |
| Vinylester resin | -50 - 110 °C | Superior |



All products are IACS approved

Phenolic gratings



Types

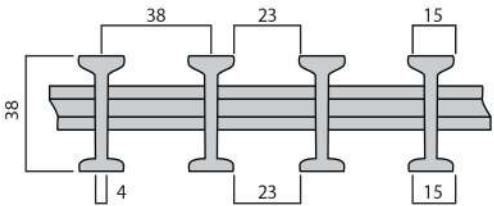
- ▶ Pultruded
- ▶ Molded
- ▶ Galvanized steel (available on special request)

Features

- ▶ Superior fire safety characteristics
- ▶ Long service life
- ▶ Low maintenance
- ▶ High strength to weight ratio
- ▶ Slip resistance
- ▶ High corrosion resistance
- ▶ Low installations cost

Application

- ▶ Marine
- ▶ Offshore
- ▶ Transportation
- ▶ Industrial

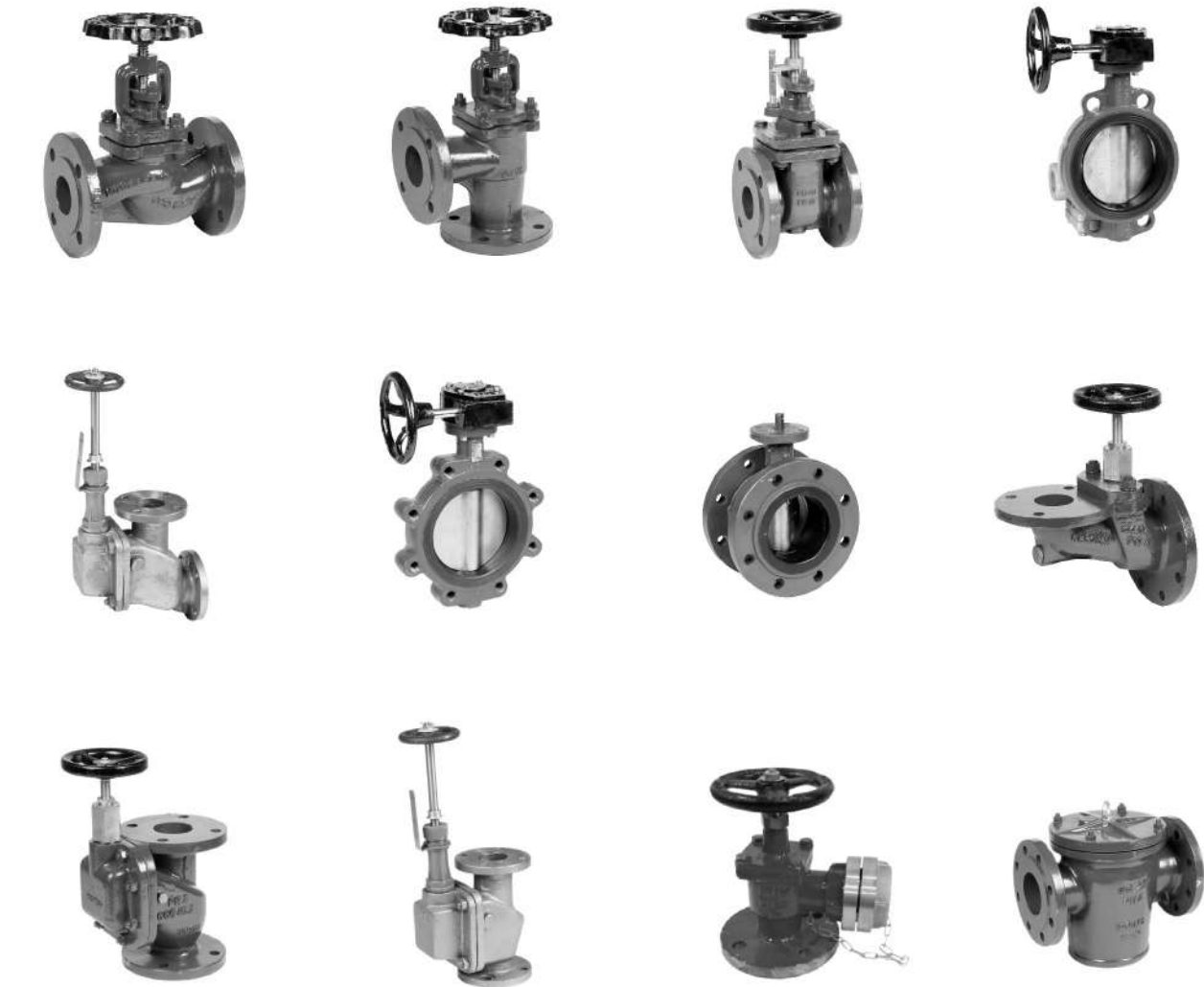


| Open area | | Load bar | Top and bandwidth | Weight (kg) |
|-----------|----|----------|-------------------|-------------|
| 1-6015 | 60 | 3B | 15/15 | 14.4 |



All products are IACS approved

DIN & JIS standards



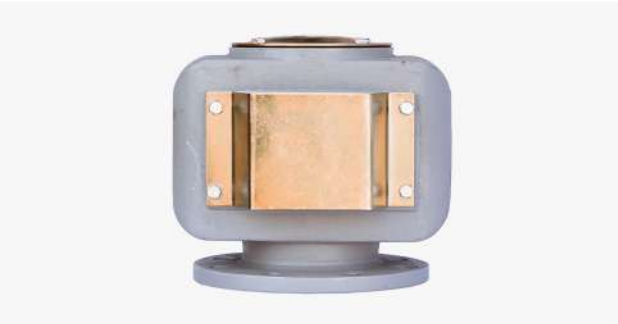
| Body | Steam/seal | Flange Dimensions | Pressure Rating | Temp.Range | Upon Request |
|---|------------------------------------|---|------------------|------------------------------|------------------|
| Cast iron, ductile iron, cast steel, marine bronze Rg5, stainless steel | Marine bronze Rg5, stainless steel | DIN flanges acc.to (DIN 5201)/JIS flanges acc.to 5K/10K/16K/20K | PN4-PN40/ 5K-40K | -10C...+300C -10C...+400C | IACS certificate |

All products are Mill certificated 3.1B/

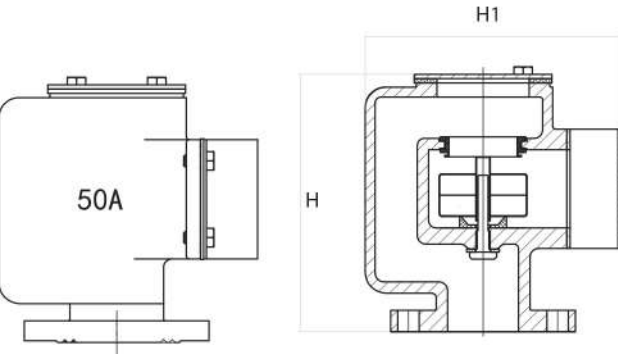
Slip-on & blind type

| DIN | | | | | | | JIS | | | |
|-----|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| DN | | PN06 | PN10 | PN16 | PN25 | PN40 | 5K | 10K | 16K | 40K |
| 15 | D | 80 | 95 | 95 | 95 | 95 | 80 | 95 | 95 | 115 |
| | PCD holes | 55 4x11 | 65 4x14 | 65 4x14 | 65 4x14 | 65 4x14 | 60 4x12 | 70 4x15 | 70 4x15 | 80 4x19 |
| 20 | D | 90 | 105 | 105 | 105 | 105 | 85 | 100 | 100 | 120 |
| | PCD holes | 65 4x11 | 75 4x14 | 75 4x14 | 75 4x14 | 75 4x14 | 65 4x12 | 75 4x15 | 75 4x15 | 85 4x19 |
| 25 | D | 100 | 115 | 115 | 115 | 115 | 95 | 125 | 125 | 130 |
| | PCD holes | 75 4x11 | 85 4x14 | 85 4x14 | 85 4x14 | 85 4x14 | 75 4x12 | 90 4x19 | 90 4x19 | 95 4x19 |
| 32 | D | 120 | 140 | 140 | 140 | 140 | 115 | 135 | 135 | 140 |
| | PCD holes | 90 4x14 | 100 4x18 | 100 4x18 | 100 4x18 | 100 4x18 | 90 4x15 | 100 4x19 | 100 4x19 | 105 4x19 |
| 40 | D | 130 | 150 | 150 | 150 | 150 | 120 | 140 | 140 | 160 |
| | PCD holes | 100 4x14 | 110 4x18 | 110 4x18 | 110 4x18 | 110 4x18 | 95 4x15 | 105 4x19 | 105 4x19 | 120 4x23 |
| 50 | D | 140 | 165 | 165 | 165 | 165 | 130 | 155 | 155 | 165 |
| | PCD holes | 110 4x14 | 125 4x18 | 125 4x18 | 125 4x18 | 125 4x18 | 105 4x15 | 120 4x19 | 120 8x19 | 130 8x19 |
| 65 | D | 160 | 185 | 185 | 185 | 185 | 155 | 175 | 175 | 200 |
| | PCD holes | 130 4x14 | 145 4x18 | 145 4x18 | 145 8x18 | 145 8x18 | 130 4x15 | 140 4x19 | 140 8x19 | 160 8x23 |
| 80 | D | 190 | 200 | 200 | 200 | 200 | 180 | 185 | 200 | 210 |
| | PCD holes | 150 4x18 | 160 8x18 | 160 8x18 | 160 8x18 | 160 8x18 | 145 4x19 | 150 8x19 | 160 8x23 | 170 8x23 |
| 100 | D | 210 | 220 | 220 | 235 | 235 | 200 | 210 | 225 | 250 |
| | PCD holes | 170 4x18 | 180 8x18 | 180 8x18 | 190 8x22 | 190 8x22 | 165 8x19 | 175 8x19 | 185 8x23 | 205 8x25 |
| 125 | D | 240 | 250 | 250 | 270 | 270 | 235 | 250 | 270 | 300 |
| | PCD holes | 200 8x18 | 210 8x18 | 210 8x18 | 220 8x26 | 220 8x26 | 200 8x19 | 210 8x23 | 225 8x25 | 250 8x27 |
| 150 | D | 265 | 285 | 285 | 300 | 300 | 265 | 280 | 305 | 355 |
| | PCD holes | 225 8x18 | 240 8x22 | 240 8x22 | 250 8x26 | 250 8x26 | 230 8x19 | 240 8x23 | 260 12x25 | 295 12x33 |
| 200 | D | 320 | 340 | 340 | 360 | 375 | 320 | 330 | 350 | 405 |
| | PCD holes | 280 8x18 | 295 8x22 | 295 12x22 | 310 12x26 | 320 12x30 | 280 8x23 | 290 12x23 | 305 12x25 | 345 12x33 |
| 250 | D | 375 | 395 | 405 | 425 | 450 | 385 | 400 | 430 | 475 |
| | PCD holes | 335 12x18 | 350 12x22 | 355 12x26 | 370 12x30 | 385 12x33 | 345 12x23 | 355 12x25 | 380 12x27 | 410 12x33 |
| 300 | D | 440 | 445 | 460 | 485 | 515 | 430 | 445 | 480 | 540 |
| | PCD holes | 395 12x22 | 400 12x22 | 410 12x26 | 430 16x30 | 450 16x33 | 390 12x23 | 400 16x25 | 430 16x27 | 470 16x39 |
| 350 | D | 490 | 505 | 520 | 555 | 580 | 480 | 490 | 540 | 585 |
| | PCD holes | 445 12x22 | 460 16x22 | 470 16x26 | 490 16x33 | 510 16x36 | 435 12x25 | 445 16x25 | 480 16x33 | 515 16x39 |


Size 50A-80A



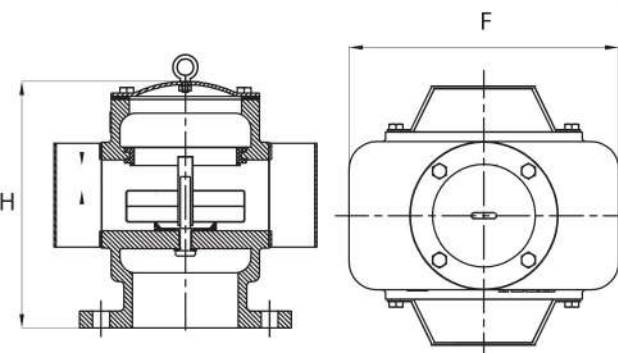
| DN | H | H1 |
|----|-----|-----|
| 50 | 175 | 174 |
| 65 | 204 | 207 |
| 80 | 244 | 240 |



Size 100A-450A



| DN | F | H |
|-----|-----|-----|
| 100 | 246 | 220 |
| 125 | 284 | 250 |
| 150 | 326 | 285 |
| 200 | 428 | 365 |
| 250 | 542 | 430 |
| 300 | 612 | 530 |



All products are Mill certificated 3.1B/

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Products & services

- ▶ Packing foil
 - ▶ Banding strap
 - ▶ Separation nets
 - ▶ Pneumatic rubber fender
 - ▶ UHMWPE rope for trawling
 - ▶ STS operation rope
 - ▶ Steel wire rope 3x13 WS
 - ▶ Steel wire rope 6x19WS+IWRC/FC
- ▶ Quarterly supply



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