




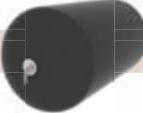
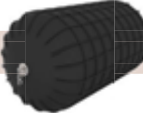
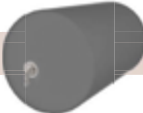

Floating fenders
for quality rubber protection

FenderTec
marine fendering



FLOATING FENDERS

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FLOATING FENDERS

FLOATING FENDERS IN GENERAL



Seaports commonly use fixed rubber fender systems or floating fenders. While most large seagoing vessels do not use fenders when mooring in the port, one possible exception is when a bunkership comes alongside the vessel or when tankers berth alongside each other at sea to take on loads. In these situations, pneumatic fenders are frequently used.

A floating pneumatic fender is like a cylindrical airbag with hemispherical heads at both ends. The body consists of several layers of vulcanized rubber filled with compressed air, which allows the fender to float on water.

Due to these special features, pneumatic fenders are commonly used by the offshore and dredging industries to protect ships, platforms and workboats, and as spacers between the ship and the quay in ports.

The performance of pneumatic rubber fenders is determined by its energy absorption and reaction force. FenderTec offers three standard type of pneumatic fenders:

- Pneumatic fender with tire net
- Pneumatic fender sling-type (without tire net)
- Pneumatic ribbed-type fender.

The standard colour for pneumatic rubber fenders is black.

In addition to the standard types, FenderTec can also provide foam-filled fenders, grey color pneumatic fenders and hydro pneumatic fenders on request.



FEATURES PNEUMATIC FENDER

The body of the pneumatic fender consists of three layers:

1 Outer rubber layer

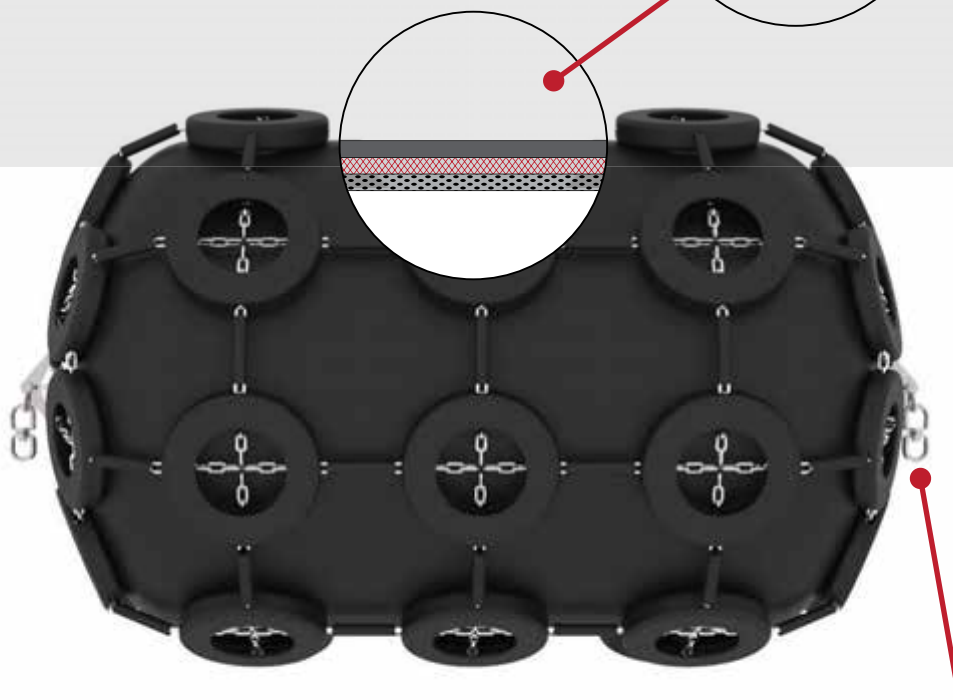
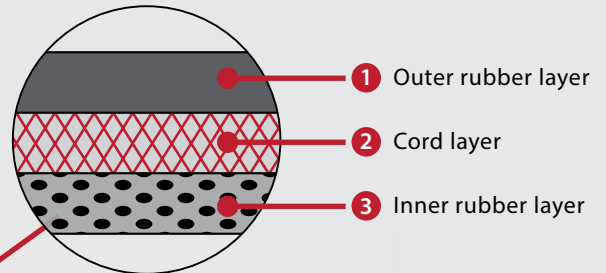
The outer rubber layer protects the cord layer and the inner rubber layer from abrasion and external forces

2 Cord layer

The synthetic tire cord layer maintains internal air pressure and distributes stress evenly

3 Inner rubber layer

The liner of the rubber membrane seals in pressurized air



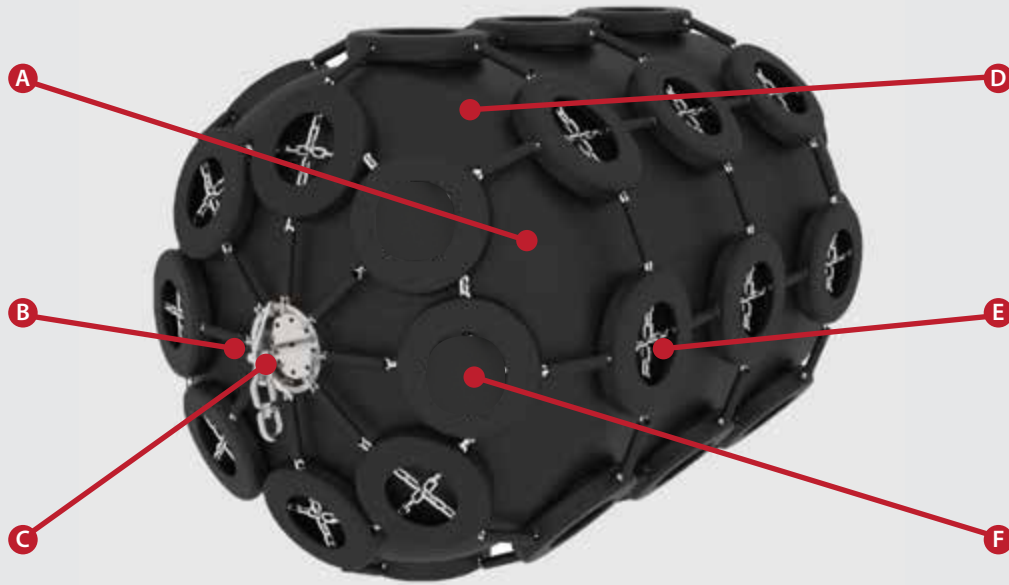
Different flange structures, depending on the size of the fender:



Features

- High energy absorption and low reaction force
- Adjustable performance depending on internal pressure
- Chains and tire net protection for heavy-duty use
- Standard galvanised chains, shackles and swivel joints
- Suitable for areas with tidal variations
- Low maintenance
- Low transportation costs
- Manufactured in accordance with ISO17357:2014

ISO 17357 APPROVED PNEUMATIC FENDER



A ISO 17357 approved

All FenderTec pneumatic fenders comply with ISO 17357 requirements, thereby ensuring high performance and high quality.

B Towing ring, flange, shackle and swivel

Fitted with a towing ring, flange, shackle and swivel in galvanised steel by default. (standard version)
Optional: towing ring, flange, shackle and swivel, also available in stainless steel.

C Air inlet and safety valve

Default air inlet according to ISO 17357 specifications. Safety valve installed by default for larger sizes or on request for smaller sizes.

D Initial internal pressure

Standard initial internal pressure of 0.5 bar (50kPa). Optional: initial internal pressure of 0.8 bar (80 kPa).

E Tire net

Tire net made of car/truck tires with horizontal and vertical chains serving as the net. Chains covered with rubber sleeves to prevent damage to the ship. Optional: high-protection net available with aircraft tires and tires covering the shoulder area.

F Pads for protection

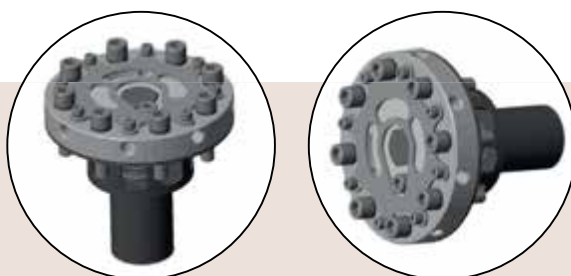
Optional: inner pads for the tires for additional protection.

Safety valve

A safety valve is included by default on pneumatic fenders with a diameter ≥ 2500 mm and length of ≥ 4000 mm.

The pressure setting on the safety valve for standard pneumatic fenders with an internal pressure of 0.5 bar (50 kPa) is 175 kPa.

For pneumatic fenders with an internal pressure of 0.8 bar (80 kPa), the safety valve pressure setting is 230 kPa.



PNEUMATIC FENDER WITH TIRE NET



Pneumatic fender with tire net

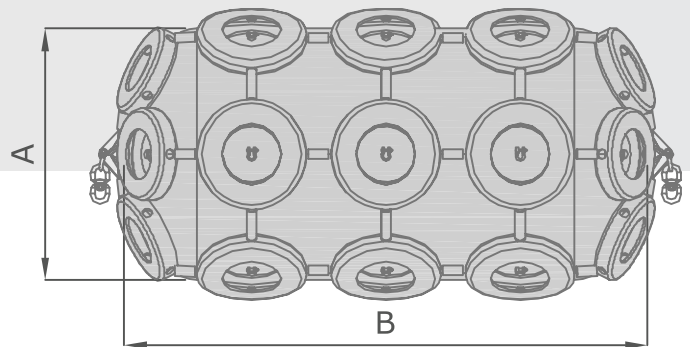
The pneumatic fender with tire net is the most commonly used pneumatic fender and is equipped with so-called 'netting'. This netting consists of car/truck tires attached with horizontal and vertical chains as a net around the fender (also available with aircraft tires). The tire net adds extra protection to the fender body.

The chains are fastened to a flange and towing ring at each end. The horizontal and vertical chains, the towing ring, the shackles and the swivel are galvanised to prevent corrosion. To prevent damage to the ship, the chains are covered with rubber sleeves. The towing ring, flange and swivel are also available in stainless steel.

The pneumatic net fenders are available from stock and come with an internal pressure of 0.5 bar. All dimensions can be produced and supplied with an internal pressure of 0.8 bar.



PNEUMATIC FENDER WITH TIRE NET



Dimensions

A Diameter excluding tire net (mm)	B Lenght excluding tire net (mm)	Initial internal pressure (kPa)	Diameter including tire net (mm)	Lenght including tire net (mm)	Weight fender body including tire net (kg)	Energy absorption at 60% deflection (kJ/m)	Reaction force at 60% deflection (kN)	Wall thickness (mm)	Safety valve pressure setting (kPa)
500	1000	50	640	1255	77	6	64	10	-
1000	1500	50	1240	1715	184	32	182	10	-
1000	2000	50	1240	2215	230	45	257	10	-
1200	2000	50	1440	2215	270	63	297	10	-
1500	3000	50	1720	3330	553	153	579	12	-
2000	3500	50	2260	3830	928	308	875	12	-
2500	4000	50	2760	4380	1385	663	1381	14	175
2500	5500	50	2760	5880	1740	943	2019	14	175
3300	6500	50	3740	6940	4057	1814	3015	20	175

Other non-standard dimensions available on request.



PNEUMATIC FENDER SLING



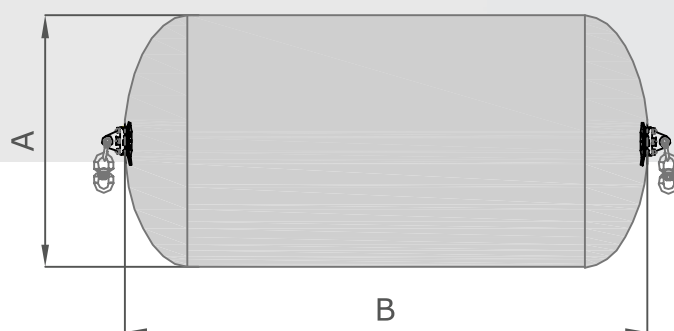
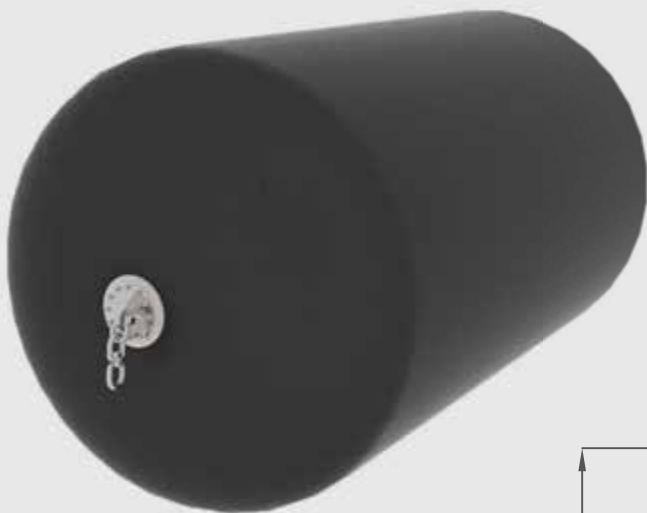
Pneumatic fender sling

The sling-type pneumatic fender is basically a pneumatic fender without the netting. These pneumatic fenders have a special double-layered outer cover made of rubber, which consists of a single cover and an extra tire cord layer to provide better protection against operational damages. A flange with a shackle and swivel is mounted to each end of the fender, to which a cable or chain can be attached.

The pneumatic sling-type fenders have an internal pressure of 0.5 bar and are available from stock. All dimensions can be produced and supplied with an internal pressure of 0.8 bar.



PNEUMATIC FENDER SLING



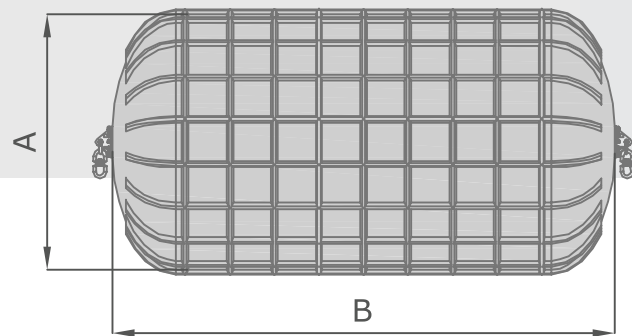
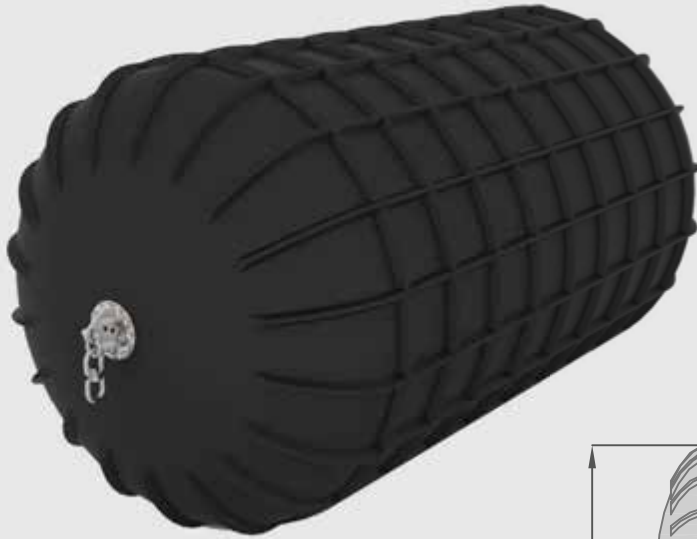
Dimensions

A Diameter (mm)	B Length (mm)	Initial internal pressure (kPa)	Weight fender body (kg)	Energy absorption at 60% deflection (kJ/m)	Reaction force at 60% deflection (kN)	Wall thickness (mm)	Safety valve pressure setting (kPa)
500	1000	50	36	6	64	12	-
1000	1500	50	79	32	182	12	-
1000	2000	50	98	45	257	12	-
1200	2000	50	134	63	297	12	-
1500	3000	50	270	153	579	14	-
2000	3500	50	425	308	875	16	-
2500	4000	50	7199	663	1381	17	175
2500	5500	50	930	943	2019	17	175
3300	6500	50	1802	1814	3015	23	175

Other non-standard dimensions available on request.



PNEUMATIC FENDER RIBBED



Pneumatic fender ribbed

The ribbed-type pneumatic fender is a lighter and less bulky rubber protector compared to the standard tire net fender. This fender comes with rib-like reinforcements. A flange with a shackle and swivel is mounted to each end of the fender, to which a cable or chain can be attached. The pneumatic ribbed-type fender is an alternative when weight and flexibility are the main objectives.

Dimensions

A Diameter excluding ribs (mm)	B Length excluding ribs (mm)	Initial internal pressure (kPa)	Diameter including ribs (mm)	Length including ribs (mm)	Weight fender body including ribs (kg)	Energy absorption at 60% deflection (kJ/m)	Reaction force at 60% deflection (kN)	Wall thickness (mm)	Safety valve pressure setting (kPa)
500	1000	50	630	1000	46	6	64	10	-
1000	1500	50	1130	1500	93	32	182	10	-
1000	2000	50	1130	2000	133	45	257	10	-
1200	2000	50	1330	2000	142	63	297	10	-
1500	3000	50	1630	3000	284	153	579	12	-
2000	3500	50	2130	3500	669	308	875	12	-

Other non-standard dimensions available on request.





Hydro pneumatic fender

Hydro-pneumatic fenders are designed to be installed vertically. These fenders are partly filled with ballast water and have an additional counterweight, which allows contact between vessels with an underwater berthing point, similar to submarines and catamarans.

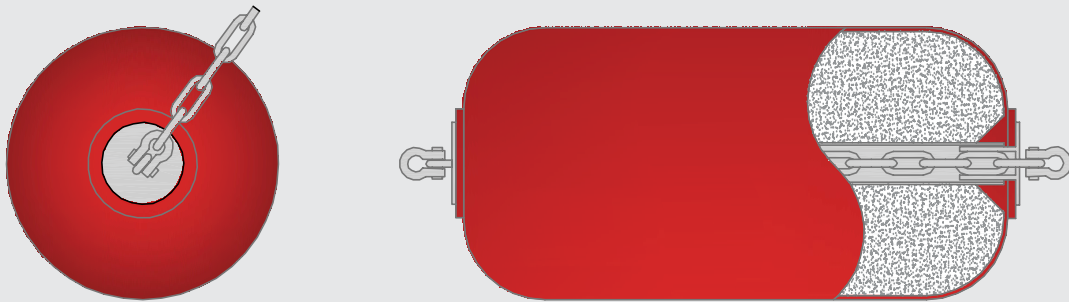
Grey color pneumatic fender

The grey color pneumatic fender is designed to prevent the fender from staining the vessel when the hull comes into contact with the pneumatic fender. The special light-grey outer rubber layer leaves virtually no marks.



Accessory kit

FenderTec offers an accessory kit for inflating and deflating the pneumatic fender (including extra valves and plugs). The kit can also include optional repair equipment.



Foam-filled polyurethane fender

Foam-filled polyurethane fenders have a skin made out of polyurethane and are filled with foam.

The polyurethane skin is wear-resistant and has low frictional resistance. The material is also non-marking and can be produced in various dimensions and striking colours.

The core of this floating fender is made out of closed-cell foam material that readily absorbs energy. This closed-cell foam material ensures the fact that water cannot penetrate the fender if the skin is damaged.



CENTRAL STOCK & WORLDWIDE SHIPPING



Central stock & worldwide shipping

FenderTec has an extensive range of rubber fenders in varying sizes and types, including pneumatic fenders, all of which commonly used sizes are available from stock for fast worldwide delivery.

With its European sales office and central warehouse located near the Port of Rotterdam in the Netherlands, and with local partners across the globe, FenderTec is known for its high-quality rubber fenders, worldwide shipping, short lead times and custom solutions.



Your local representative:



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