

**江苏融港装备有限公司**

**JIANGSU RONGGANG EQUIPMENT CO.,LTD**

专业船舶护舷制造商

Professional Marine Fender Manufacturer



# Catalogue

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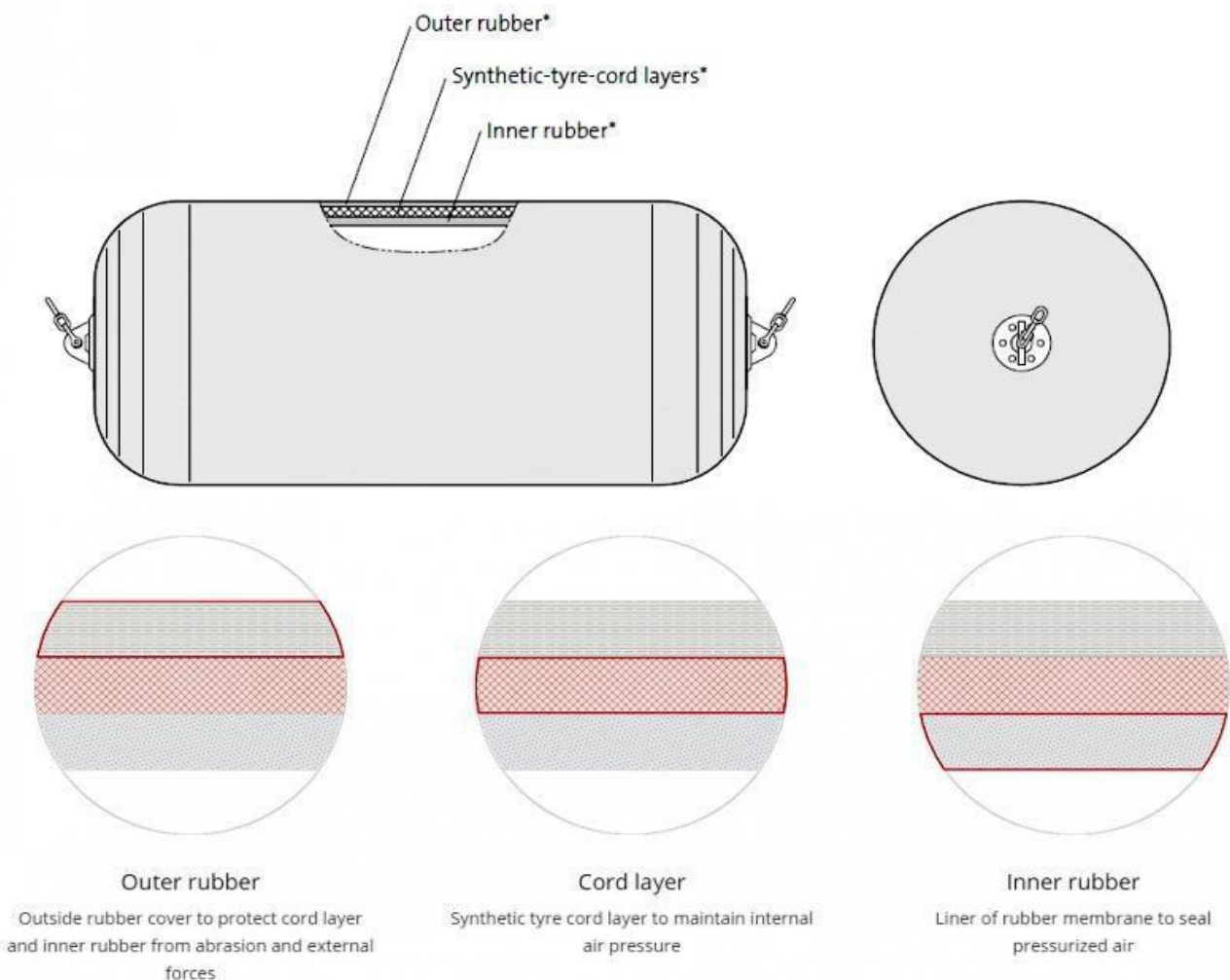
## 1. Company Profile

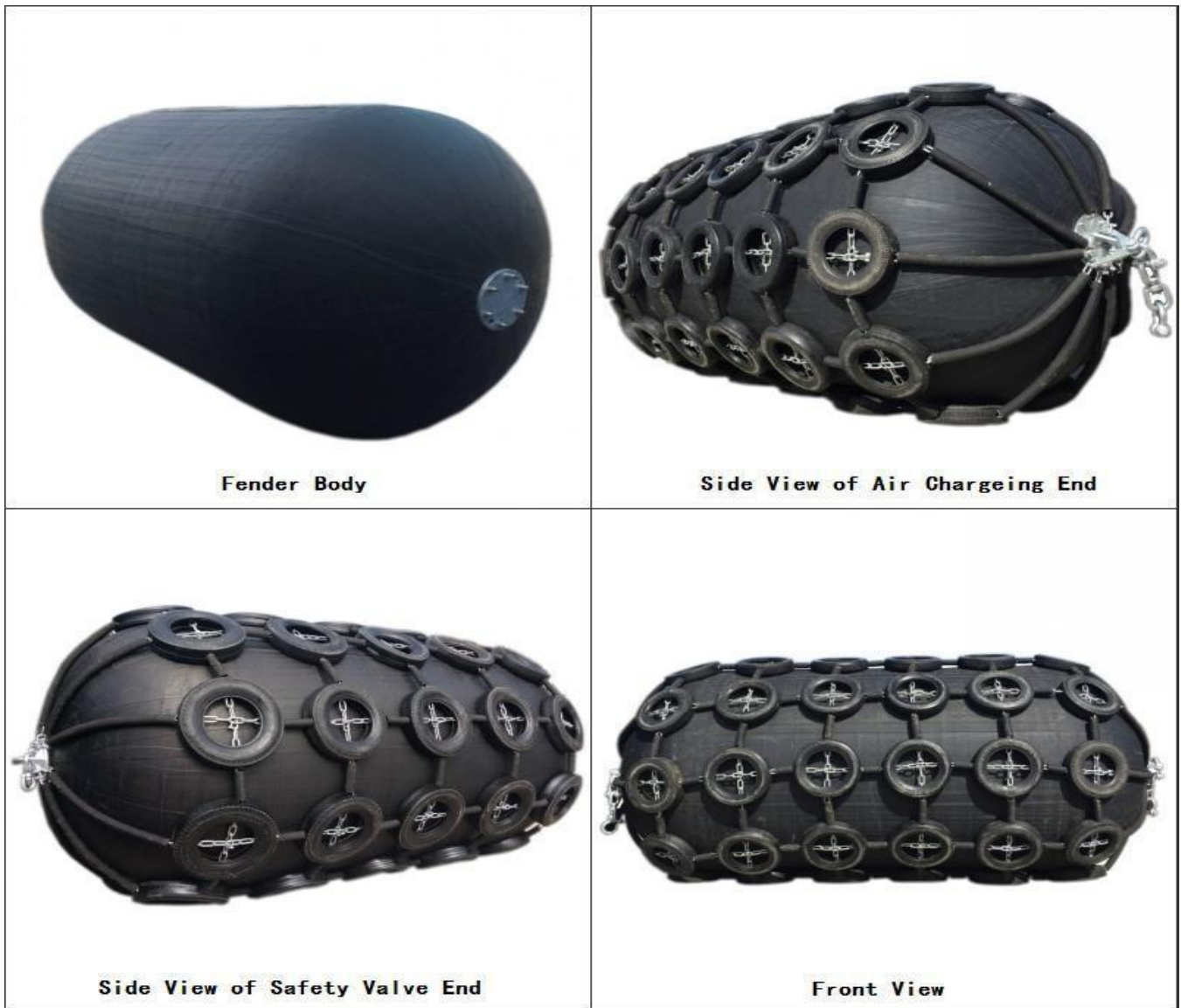
The series of Ronggang Rubber Fender products are suitable for all the advanced equipment of ports and wharfs. The rubber fender of our company has a better technical structure, excellent technical performance, wear resistance and corrosion resistance. Over the years, abundant experience has been accumulated in rubber fender formulation, steel glue combination, anti- impact plate design, anticorrosion and accessories application. It has been producing super drum type, super arch fender, cone fender, I type fender, rotating fender, port ladder fender and colored fender. It provides a standard, low reaction, high reaction and super high reaction rubber fender. These product designs and functions are completely based on consumers' demands. Product upgrading, technological innovation and after-sales service are constantly improving. The products are well received by the users.



## 2. Pneumatic Rubber Fender

Pneumatic rubber fender is one kind of ship berthing, cushioning and protection equipment, which uses compressed air as the buffer medium to prevent collision when the ship is berthing. These pneumatic rubber fenders play a vital role in the safe operation of ship berthing and mooring, and are widely used in the fields of ship, marine facility, marine platform, port and dock, yacht and so on. The pneumatic rubber fender is more economical and durable than the ordinary rubber fender, so it is more popular and widely used.





Pneumatic Rubber Fender Structure

### 3. Yokohama Rubber Fender Advantages

#### 3-1 Safety and Reliability

RGEC Pneumatic Rubber Fenders are constructed of natural rubber, several layers of strong tire-cord, and are thus resistant to pressure and cutting. The safety factor adopted in the design of this fender is based on accepted theory and has been proven by extensive experimentation.

### 3-2 Patented Active Protecting Safety Valve Design

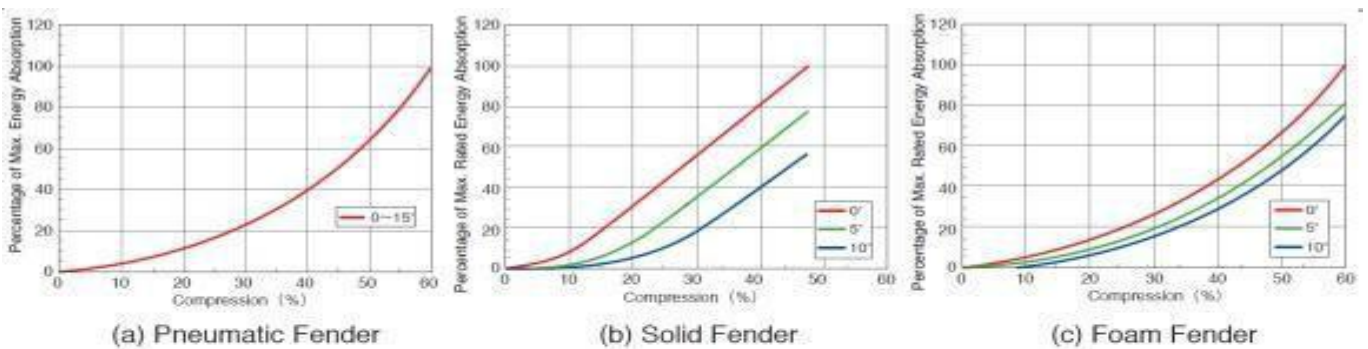
All RGEC Pneumatic Rubber Fenders are equipped with a safety valve to release the inside air in the event of accidental over-pressure.

### 3-3 No Deterioration or Variation in Performance

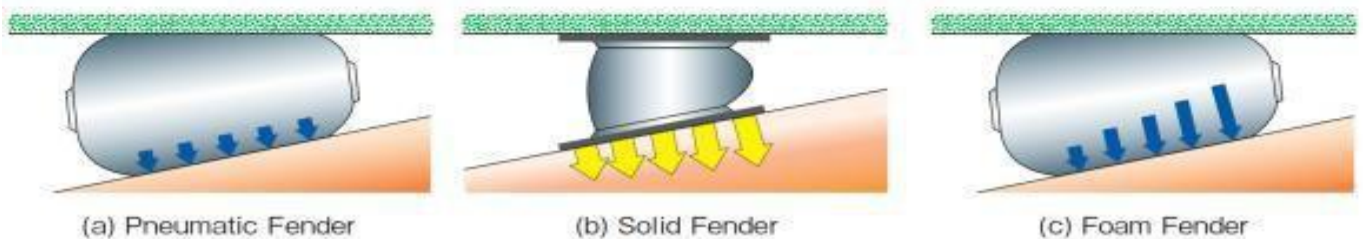
RGEC Pneumatic Rubber Fenders utilize the compressive elasticity of air, therefore performance deterioration due to fatigue is absent.

### 3-4 Advantages at Inclined Berthing

RGEC Pneumatic Rubber Fenders, energy absorption does not decrease at inclined compression up to 15 degrees.



Reduction of Energy Absorption at Inclined Berthing for Pneumatic, Solid and Foam Fender



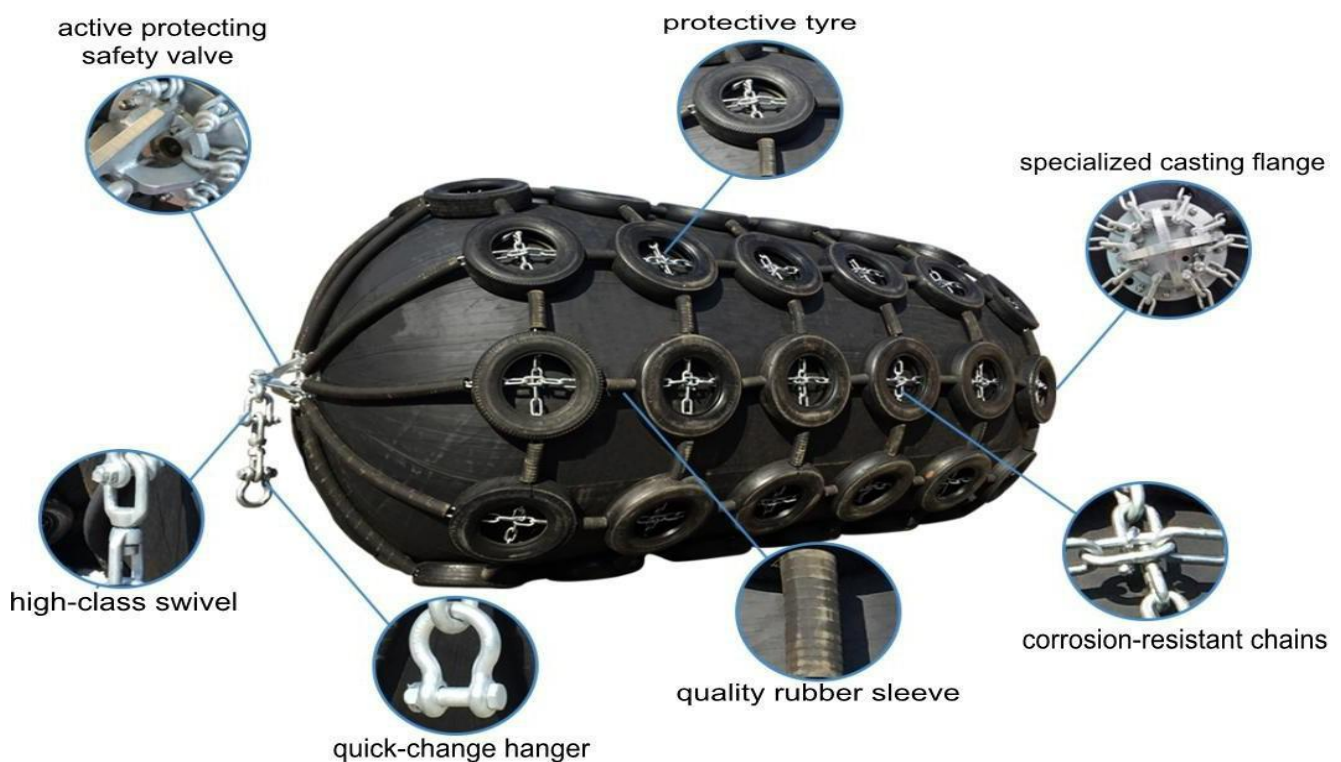
### 3-5 Most Cost Competitive System

The utilization of the compressive elasticity of air provides completely uniform surface pressure on contact, making Yokohama Pneumatic Rubber Fenders ideal. The surface pressure of the Yokohama Pneumatic Rubber Fenders is equal to the internal air pressure.

Due to low and uniform surface pressure properties, the Yokohama Pneumatic Rubber Fenders are popular at LNG-ship terminals. Soft Reaction Force for Ship and Jetty Structure the reaction force of Yokohama Pneumatic Rubber Fenders does not increase sharply, even under excess load conditions. Therefore, the Pneumatic Rubber Fenders perform well in such cases, and protect ships and mooring facilities.

### 3-6 Lower Mooring Forces under Rough Weather Conditions

The reaction force and deflection of Yokohama Pneumatic Rubber Fenders do not easily reach the maximum because the reaction force increases slowly and allowable deflection is wide. Thus, the Yokohama Pneumatic Rubber Fenders safely protect ships and mooring facilities even under rough weather.



RGEC Pneumatic Rubber Fender Design & Structure

## 4.Unique Design of RGEC Pneumatic Rubber Fender

### 4-1 Active-Protecting Safety Valve

All fenders are equipped with a safety valve to release the inside air in the event of accidental over pressure.

It is a patented design which could avoid explosion of fenders from collision and air inflation.



### 4.2 Exchangeable Air Inflation Connector

All fenders are designed with a quick-changing air inflation connector. By changing a new air inflation connector, the pneumatic rubber fender can continue to work without any problems instead of scraping in recovery processing plant.



Exchangeable Air Inflation Connector

Traditional Air Inflation Connector

### 4-3 Specially Designed and Strengthened Casting Flange

Flange is casting of corrosion-resistant iron with galvanized anti-corrosive coating, which will strongly prolong the fender quality and service life. The strength



of casting flange improves 40% higher than traditional type.



Strengthened Casting Flange

Traditional Flange

## 5.Unique Design of RGEC Pneumatic Rubber Fender

### 5.1 Pneumatic 50 Kpa fender size and performance requirements

Nominal size diameter x lengthh (mm)	Initial internal pressure kpa	Guaranteed energy absorption(GEA)	Reaction force at GEA deflection (R)	Hull presure(Internal pressure)at GEA deflection ( p )
		Minimum value at deflection 60+ 5% KJ	Tolerance +10% KN	Reference value Kpa
500*800	50Kpa	6	63	130
500*1000	50Kpa	6	64	132
600*1000	50Kpa	8	74	126
660*1100	50Kpa	9	76	128
700*1000	50Kpa	17	137	130
700*1500	50Kpa	17	137	135
800*1200	50Kpa	21	162	132
1000*1500	50Kpa	32	182	122
1000*2000	50Kpa	45	257	132
1000*3000	50Kpa	67	385	146
1150*1800	50Kpa	44	273	116
1200*2000	50Kpa	63	297	126
1350*2500	50Kpa	102	427	130
1500*2000	50Kpa	400	108	131
1500*2500	50Kpa	134	499	131

Nominal size diameter x length (mm)	Initial internal pressure kpa	Guaranteed energy absorption(GEA)	Reaction force at GEA deflection (R)	Hull pressure(Internal pressure)at GEA deflection ( p )
		Minimum value at deflection 60+ 5% KJ	Tolerance +10% KN	Reference value Kpa
1500*3000	50Kpa	153	579	132
1500*3500	50Kpa	179	675	145
1700*2000	50Kpa	128	426	148
1700*3000	50Kpa	191	639	128
2000*2200	50Kpa	193	550	136
2000*2500	50Kpa	220	625	142
2000*3000	50Kpa	265	750	145
2000*3500	50Kpa	308	875	128
2000*4000	50Kpa	352	1000	148
2500*3000	50Kpa	497	1035	147
2500*4000	50Kpa	663	1381	137
2500*4500	50Kpa	771	1651	145
2500*5000	50Kpa	857	1835	152
2500*5500	50Kpa	943	2019	148
3000*4500	50Kpa	1221	2180	145
3000*5000	50Kpa	1357	2422	142
3000*6000	50Kpa	1293	2906	157
3300*4500	50Kpa	1175	1884	158
3300*6000	50Kpa	1675	2783	161
3300*6500	50Kpa	1814	3015	158
3300*10600	50Kpa	3067	5257	158
3500*4500	50Kpa	1715	2849	142
3500*5500	50Kpa	1816	3015	145
3500*6500	50Kpa	2477	4112	152
4500*9000	50Kpa	4845	5988	175
4500*12000	50Kpa	6473	7984	154

## 5.2 Pneumatic 80 Kpa fender size and performance requirements

Nominal size diameter x length (mm)	Initial internal pressure kpa	Guaranteed energy absorption(GEA)	Reaction force at GEA deflection (R)	Hull pressure(Internal pressure)at GEA deflection ( p )
		Minimum value at deflection 60+ 5% KJ	Tolerance +10% KN	Reference value Kpa
500*1000	80Kpa	8	85	174
600*1000	80Kpa	11	98	166
700*1500	80Kpa	24	180	177
1000*1500	80Kpa	45	239	160
1000*2000	80Kpa	63	338	174
1200*2000	80Kpa	88	390	166
1350*2500	80Kpa	142	561	170
1500*3000	80Kpa	214	761	174
1700*3000	80Kpa	267	840	168
2000*3500	80Kpa	430	1150	168
2500*4000	80Kpa	925	1815	180
2500*5500	80Kpa	1317	2653	195
3300*4500	80Kpa	1640	2476	171
3300*6500	80Kpa	2532	3961	191
3300*10600	80Kpa	4281	6907	208
4500*9000	80Kpa	6633	7551	192
4500*12000	80Kpa	9037	10490	202

## 6. Pneumatic rubber fender considerations

1. Always check the fender body for damage, whether the air pressure is normal, and replace the valve core every 6 months.
2. If the wire rope is tied to the fender , the wire rope should be covered with a rubber tube to avoid the wire rope stabbing the fender body .
3. The surface or object that ends at the end of the fender body must not have sharp objects protruding sharply to prevent puncturing by the fender body.
4. When performing internal pressure debugging, the nuts of the accessories and clamps must not be loose.
5. When the fender is in use, the network rope should be firm, and the wire rope

and the shackle of the hanging metal parts should not be confused.

## **7. Storage of Pneumatic Rubber Fender**

7.1 When the Pneumatic rubber fender is not used for a long time, it should be washed and dried, filled with appropriate compressed air, placed in a dry, cool, ventilated place.

7.2 The place where the fender is stored should be kept away from the heat source

7.3 Fenders shall not be in contact with acids, alkalis, greases and organic solvents

7.4 When the fenders are not in use, they must not be stacked and should not be stacked on the ball.

## **8. Packing & Delivery**

The fenders are nude packing and delivery if no special requirement .

## **9. Warranty**

Jiangsu Ronggang Equipment Co., Ltd provides following services to all customers.

1. 24 hours instant online technical consultation and support.
2. 12 months warranty period (without any artificial damage) and free repairing service within warranty period.
3. lifetime repairing service.