



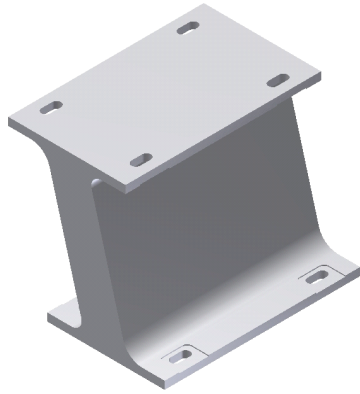
HZ FENDER DATA SHEET

1000.0000-Td-0201cen_rev2

Rev.	Date	Description	Prepared	Checked	Approved
			by	by	by
0	06/03/2014	First Issue	BFA	DBL	GEB
1	30/03/2015	General Revision	BFA	DBL	GEB
2	14/05/2015	General Revision	BFA		GEB



1. HZ FENDERS



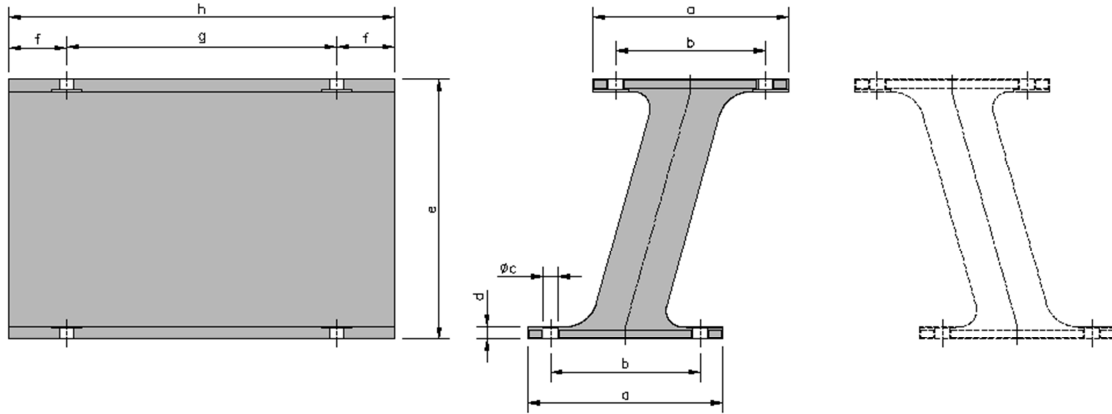
Features

- High deformation capacity
- Symmetrical or asymmetrical installation
- Versatile modular system

Applications

- All kind of berths (coastal, river, tidal and non-tidal)
- All types of jetties (open pile, dolphins, monopiles, mass structures...)
- All types of ships (general cargo, bulk carrier, oil tanker, gas carrier, passenger...)

2. DIMENSIONS



Fender	a	b	c	d	e	f	g	Weight (kg) ⁽¹⁾	NºAnchors/Metric ⁽²⁾
HZ-400	300	220	31	35	400	150	700	132	8xM.24
HZ-600	500	370	38	32	600	150	700	275	8xM.30
HZ-800	600	460	45	40	800	150	700	424	8xM.36
HZ-1000	700	550	55	46	1000	150	700	620	8xM.42
HZ-1250	800	650	55	50	1250	150	700	826	8xM.42
HZ-1400	900	730	55	65	1400	150	700	1073	8xM.48
HZ-1700	1050	860	60	60	1700	150	700	1468	8xM.48
HZ-2000	1200	1000	66	57	2000	150	700	1875	8xM.56
HZ-2500	1400	1200	66	57	2500	150	700	2360	8xM.56

All dimension in mm unless otherwise specified.

(1) Weight per leg of fender.

(2) Number of anchorages per system of fender (2 legs per system).

Fender	h			
	750	1000	1500	2000
HZ-400	☒	☒	☒	☒
HZ-600	☒	☒	☒	☒
HZ-800	☒	☒	☒	☒
HZ-1000	☒	☒	☒	☒
HZ-1250	☒	☒	☒	☒
HZ-1400	☒	☒	☒	☒
HZ-1700	☒	☒	☒	☒
HZ-2000	☒	☒	☒	☒
HZ-2500	☒	☒	☒	☒

☒ Standard lengths

☐ Non-standard lengths

For others lengths consult with Prosertek

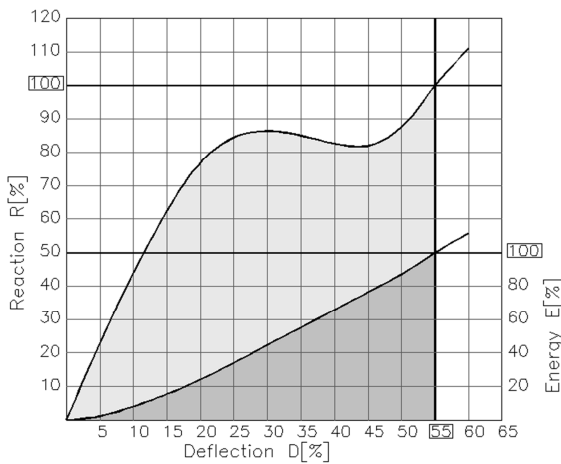
3. NOMINAL FENDER PERFORMANCE*

Fender		Grade ⁽²⁾				
		A	B	C	D	E
HZ-400	R	391	355	332	284	236
	E	59.7	54.3	50.2	43.2	36.2
HZ-600	R	591	537	500	423	358
	E	135	123	115	99	82
HZ-800	R	785	714	666	571	476
	E	243	221	206	177	147
HZ-1000	R	970	882	823	705	588
	E	399	363	339	291	242
HZ-1250	R	1215	1105	1032	885	737
	E	634	576	537	460	383
HZ-1400	R	1360	1236	1154	989	824
	E	787	715	667	572	477
HZ-1700	R	1658	1507	1406	1205	1005
	E	1174	1067	996	854	711
HZ-2000	R	1934	1758	1641	1407	1173
	E	1626	1478	1379	1182	986
HZ-2500	R	2435	2214	2066	1771	1475
	E	2545	2314	2160	1851	1542

Also available other grades.

Reaction and energy values per meter of fender.

(2) Reaction and energy per system of fender (2 legs per system).



• Temperature factor:

Temperature (°C)	TF
+50	0.90
+40	0.94
+30	0.97
+23	1
+10	1.05
0	1.09
-10	1.16
-20	1.25
-30	1.35

• Angle factor:

Angle (°)	AF
0	1
3	0.97
5	0.95
8	0.92
10	0.90
15	0.82
20	0.75

• Velocity factor:

Fender	Impact velocity (mm/s)						
	1	50	100	150	200	250	300
HZ-400	0.87	0.92	0.96	1	1.03	1.06	1.09
HZ-600	0.87	0.92	0.96	1	1.03	1.06	1.09
HZ-800	0.89	0.93	0.96	1	1.03	1.05	1.07
HZ-1000	0.89	0.93	0.96	1	1.03	1.05	1.07
HZ-1250	0.92	0.94	0.97	1	1.02	1.04	1.06
HZ-1400	0.92	0.94	0.97	1	1.02	1.04	1.06
HZ-1700	0.93	0.95	0.98	1	1.02	1.04	1.06
HZ-2000	0.94	0.96	0.98	1	1.02	1.04	1.05
HZ-2500	0.95	0.97	0.98	1	1.02	1.03	1.05

Intermediate grades														
A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	E1	E2	E3
9%	5%	2%	8%	4%	1%	5%	3%	1%	12%	7%	3%	13%	10%	6%

Intermediate deflections												
D (%)	5	10	15	20	25	30	35	40	45	50	55	60
R (%)	23	44	62	77	85	87	85	83	82	88	100	111
E (%)	3	8	15	24	34	45	55	66	76	88	100	112

All dimension in mm, kN or kNm unless otherwise specified.

* (E) Energy [kJNm] and (R) Reaction [kN] values according to PIANC 2002

4. ALLOWABLE STATIC WEIGHT

Although HZ fenders support a lot of static weight, if the frame weight exceeds the values of the following table shall be necessary to install lifting chains.

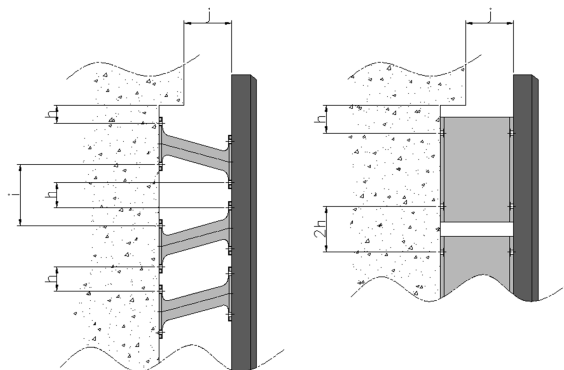
Fender		Grade	
		A	B
HZ-400	H	480	360
	V	840	640
HZ-600	H	720	540
	V	1440	960
HZ-800	H	960	720
	V	1680	1280
HZ-1000	H	1200	900
	V	2100	1600
HZ-1250	H	1500	1125
	V	2625	2000
HZ-1400	H	1680	1260
	V	2940	2240
HZ-1700	H	2040	1530
	V	3570	2720
HZ-2000	H	2400	1800
	V	4200	3200
HZ-2500	H	3000	2250
	V	5250	4000

All weight in kg unless otherwise specified.
The values of the weights are per meter of fender.
(H) Single or multiple Horizontal. (V) Multiple Vertical

5. FENDER POSITIONING

Fender	h	i	j
HZ-400	100	300	240
HZ-600	170	470	360
HZ-800	190	590	480
HZ-1000	230	730	600
HZ-1250	250	850	750
HZ-1400	300	1060	840
HZ-1700	340	1190	1020
HZ-2000	430	1430	1200
HZ-2500	500	1800	1500

Distance h and i is the minimum clearance that should be left on each side of the fender.
Distance j, is the minimum clearance that should be left between the frame and the cantilever of the jetty
All dimension in mm unless otherwise specified.



6. TOLERANCES

Dimension	Tolerances
General dimensions	±3% or 2mm*
Distances between fixing centres	±4mm (Non-cumulative)
Flange thickness	±15mm
Diameters of the fixing points	±5mm
Energy performance	±10%
Reaction performance	±10%

* Whichever is the greater dimension.