



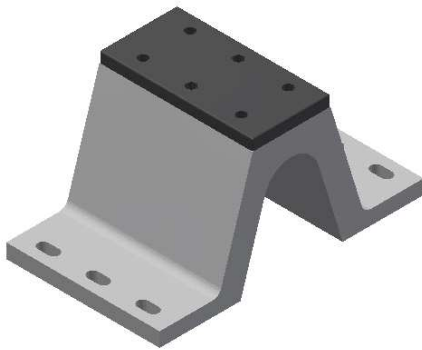
TTVA FENDER DATA SHEET

1000.0000-Td-0201hen_rev1

Rev.	Date	Description	Prepared	Checked	Approved
			by	by	by
0	06/03/2014	First Issue	BFA	DBL	GEB
1	29/04/2015	General Revision	BFA		GEB



1. TTVA FENDERS



Features

Simple one-piece design

Excellent shear performance

Low friction shield

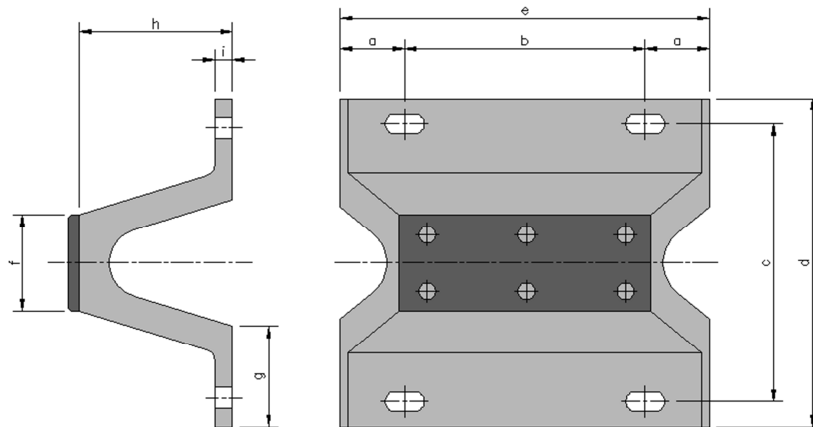
Applications

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	f	g	h	i	Weight (kg)	Nº Anchors/Metric
TTVA-150	250	500	265	320	95	110	150	20	36	4xM.22
TTVA-200	250	500	350	445	125	140	200	25	55	4xM.30
TTVA-250	250	500	400	500	160	170	250	30	80	4xM.30
TTVA-300	250	500	530	645	190	200	300	35	98	4xM.36
TTVA-400	250	500	710	840	250	225	400	40	194	4xM.36
TTVA-500	250	500	860	1000	315	250	500	40	327	4xM.42
TTVA-600	250	500	1050	1210	380	280	600	50	477	4xM.42
TTVA-800	250	500	1350	1550	500	340	800	60	789	6xM.52
TTVA-1000	250	500	1800	1600	625	370	1000	70	1140	6xM.56
TTVA-1300	250	500	2030	2250	813	651	1300	98	1523	6xM.60

All dimension in mm unless otherwise specified.

Lengths "a" and "b" may vary depending on the project.

Fender	e				
	1000	1500	2000	2500	3000
TTVA-150	☒	☒	☒	☒	☒
TTVA-200	☒	☒	☒	☒	☒
TTVA-250	☒	☒	☒	☒	☒
TTVA-300	☒	☒	☒	☒	☒
TTVA-400	☒	☒	☒	☒	☒
TTVA-500	☒	☒	☒	☒	☒
TTVA-600	☒	☒	☒	☒	☒
TTVA-800	☐	☒	☒	☒	☒
TTVA-1000	☐	☒	☒	☒	☒
TTVA-1300	☐	☒	☒	☒	☒

☒ Standard lengths

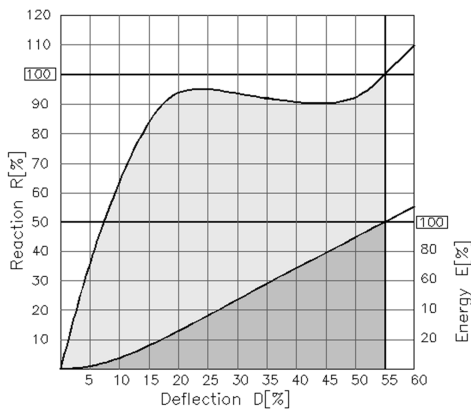
☐ Non-standard lengths

For others lengths consult with Prosertek

3. NOMINAL FENDER PERFORMANCE*

Fender		Grade		
		A	B	C
TTVA-150	R	208	182	138
	E	10	8.8	6.6
TTVA-200	R	260	228	173
	E	17.8	15.5	12
TTVA-250	R	335	294	222
	E	28	25	19
TTVA-300	R	407	357	271
	E	40	35	26
TTVA-400	R	483	486	368
	E	71	63	48
TTVA-500	R	680	597	451
	E	111	97	74
TTVA-600	R	801	704	531
	E	161	141	105
TTVA-800	R	1109	974	735
	E	283	248	187
TTVA-1000	R	1359	1192	901
	E	446	391	295
TTVA-1300	R	1736	1522	1149
	E	717	597	449

Also available other grades.



• Angle 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	0.96
5	0.95
8	0.93
10	0.91
15	0.81
20	0.60

• Velocity factor:

Fender	Impact velocity (mm/s)						
	1	50	100	150	200	250	300
TTVA-150	0.85	0.90	0.95	1	1.04	1.08	1.11
TTVA-200	0.85	0.90	0.95	1	1.04	1.08	1.11
TTVA-250	0.86	0.91	0.96	1	1.03	1.07	1.10
TTVA-300	0.87	0.92	0.96	1	1.03	1.06	1.09
TTVA-400	0.87	0.92	0.96	1	1.03	1.06	1.09
TTVA-500	0.89	0.93	0.96	1	1.03	1.05	1.08
TTVA-600	0.90	0.93	0.97	1	1.02	1.05	1.07
TTVA-800	0.91	0.94	0.98	1	1.02	1.04	1.06
TTVA-1000	0.91	0.94	0.98	1	1.02	1.04	1.06
TTVA-1300	0.92	0.95	0.99	1	1.01	1.03	1.05

Intermediate grades								
A1	A2	A3	B1	B2	B3	C1	C2	C3
11%	8%	4%	11%	8%	4%	13%	10%	7%

Intermediate deflections												
D (%)	5	10	15	20	25	30	35	40	45	50	55	60
R (%)	35	64	84	94	95	94	92	91	90	92	100	110
E (%)	2	8	16	26	36	47	58	69	79	89	100	110

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

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

4. 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.

