



Tug Boat Fenders.

Characteristics

- ▶ High abrasion resistance
- ▶ Non-marking navy grey colour optional
- ▶ Light weight
- ▶ Ideal for tight corners

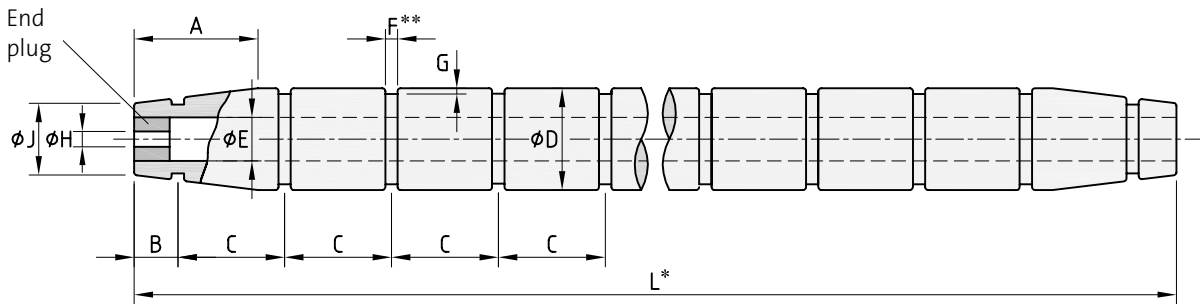
Applications

- ▶ Tug Boats
- ▶ Icebreakers
- ▶ Work & supply boats
- ▶ Other applications & structures like bridge and pile protection

BOW & STERN FENDERS.

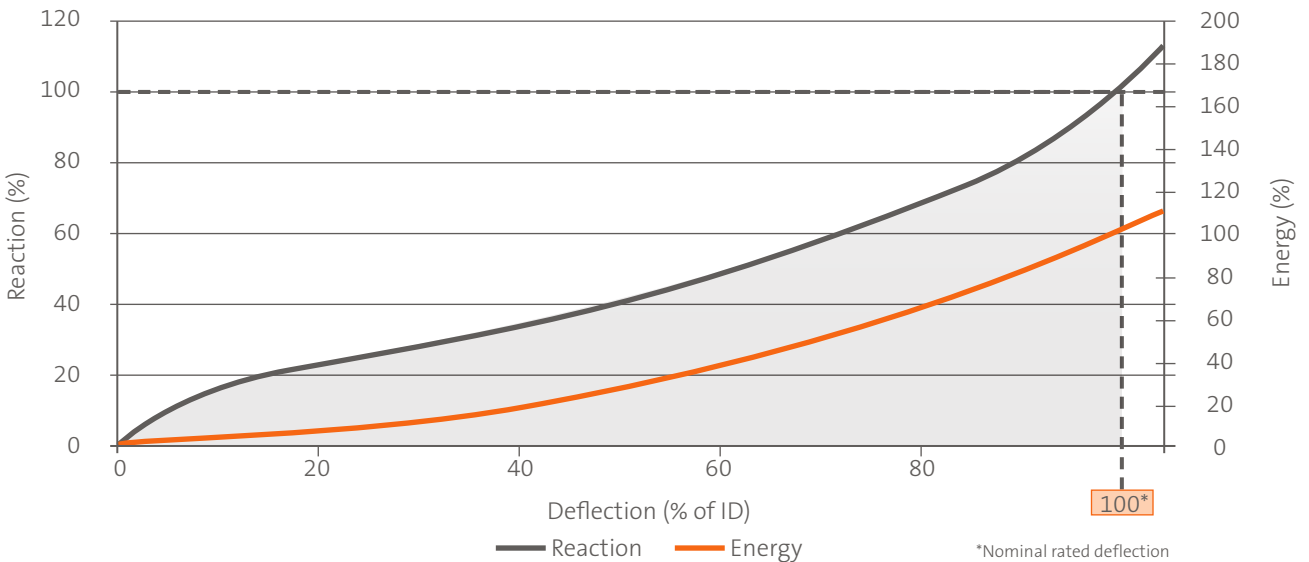
CYLINDRICAL TUG BOAT FENDER DIMENSIONS

ϕD [mm]	ϕJ [mm]	ϕE [mm]	ϕH [mm]	A [mm]	B [mm]	C [mm]
200	150	100	75	500	150	530
250	190	125	75	500	200	570
300	225	150	75	700	225	600
350	260	175	100	800	250	630
400	300	200	100	800	300	670
500	375	250	100	900	300	730
600	450	300	125	900	350	800
700	525	350	125	1,000	350	860
800	600	400	125	1,000	350	930
900	675	450	150	1,100	350	1,000
1,000	750	500	150	1,200	350	1,060



* 2 – 13 meters in one section or plug joint for longer lengths (longer single lengths available upon request)
 ** dimensions of fixing recess (F & G) vary depending on size and type of fixing accessories (chain / nylon strap)
 *** end plug factory fitted or supplied separately for site installation

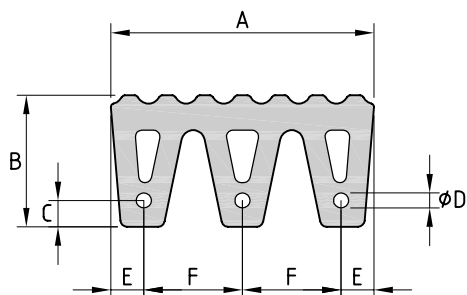
GENERIC PERFORMANCE CURVE CYLINDRICAL TUG BOAT FENDERS



M FENDER DIMENSIONS AND FIXING

Fender Type	A [mm]	B [mm]	C [mm]	Ø D [mm]	E [mm]	F [mm]	L _{MAX} [mm]	Weight [kg/m]	Ø Pin [mm]	Flat bar [mm]	R _{min} [mm]
M 40	400	200	40	23	50	150	2,000	56	20	100 x 15	450
M 50	500	250	50	27	60	190	2,000	89	24	125 x 20	550
M 60	600	300	60	33	70	230	2,000	132	30	150 x 20	650
M 80	800	400	80	44	95	305	2,000	233	36	180 x 25	850

M FENDER DRAWING



Available with profiled or smooth surface

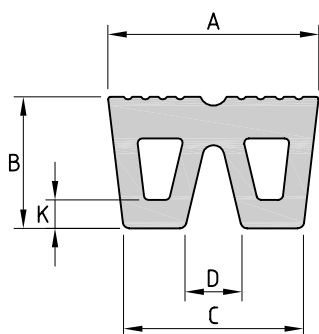


Tug Boat Terminal | Hamburg | Germany

W FENDER DIMENSIONS AND FIXING

Fender Type	A [mm]	B [mm]	K [mm]	C [mm]	D [mm]	L _{MAX} [mm]	Weight [kg/m]	Ø Pin [mm]	Flat bar [mm]	R _{min} [mm]
W 32	320	200	50	280	100	2,000	51	25	100 x 20	600
W 40	400	250	55	350	110	2,000	81	30	120 x 20	800
W 48	480	300	65	426	135	2,000	120	40	140 x 20	900
W 50-35	500	350	60	413	250	2,000	135	40	150 x 20	1,000
W 50-45	500	450	75	420	90	2,000	180	40	150 x 20	1,000

W FENDER DRAWING



Available with profiled or smooth surface

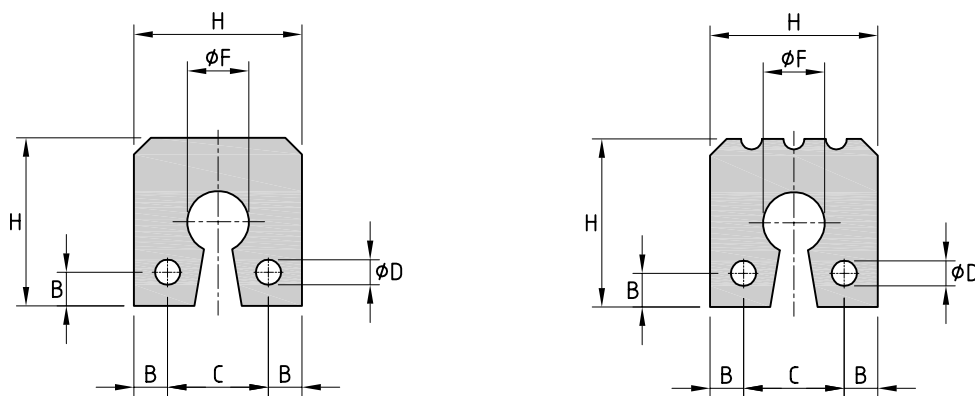


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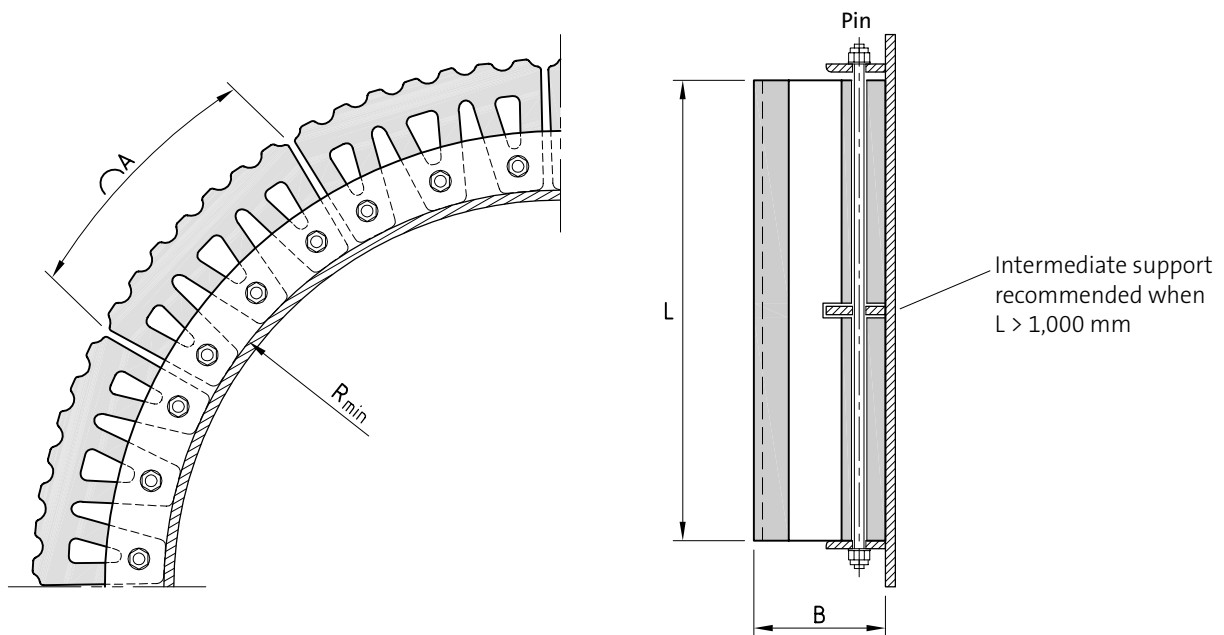
KEYHOLE FENDER DIMENSIONS AND FIXING

Fender Type	H [mm]	B [mm]	C [mm]	Ø D [mm]	Ø F [mm]	L _{MAX} [mm]	Weight [kg/m]	Ø Pin [mm]	Flat bar [mm]	R _{min} [mm]
KH 20	200	35	130	28	90	2,000	33	25	100 x 15	450
KH 25	250	50	150	33	100	2,000	54	30	120 x 20	600
KH 30	300	60	180	33	115	2,000	80	30	150 x 20	800
KH 35	350	70	210	33	125	2,000	114	30	175 x 25	1,000

KEYHOLE FENDER DRAWING



TYPICAL FIXING DRAWING

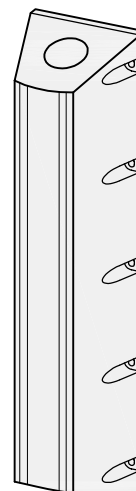


Suitable for M Fenders, W Fenders and Keyhole Fenders

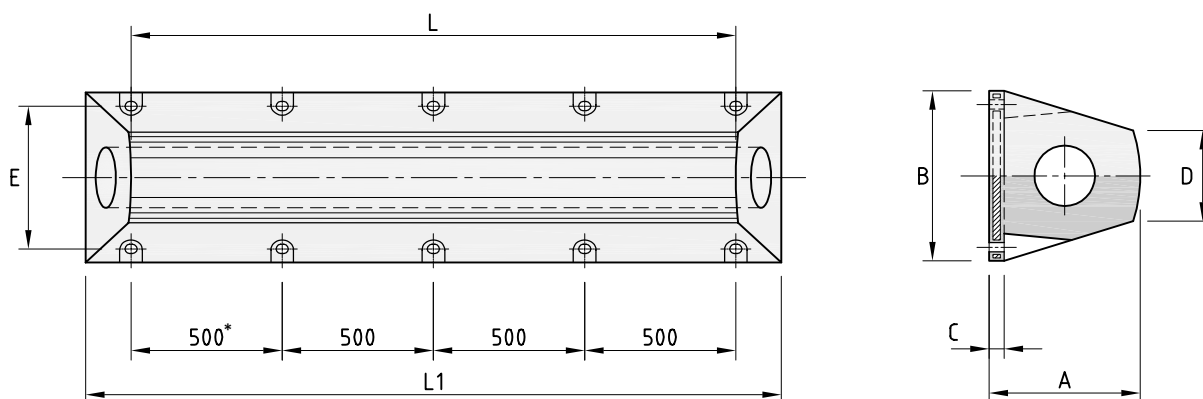
SIDE FENDERS.

MC FENDER DIMENSIONS

Fender Type	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
MC 30	300	360	40	200	280
MC 40	400	500	50	300	410
MC 50	500	562	50	300	472
MC 60	600	700	125	420	550



MC FENDER DRAWING



*Bolt spacing for MC 60 is 580 mm

AVAILABLE STANDARD LENGTHS

Fender Type	L = 1,000 mm			L = 1,500 mm			L = 2,000 mm		
	L1 [mm]	Bolts	Weight [kg]	L1 [mm]	Bolts	Weight [kg]	L1 [mm]	Bolts	Weight [kg]
MC 30	1,350	6 x M22	141	1,850	8 x M22	198	2,350	10 x M22	255
MC 40	1,300	6 x M24	256	1,800	8 x M24	362	2,300	10 x M24	469
MC 50	1,300	6 x M24	356	1,800	8 x M24	507	2,300	10 x M24	658
MC 60	1,300	4 x M48	531	1,800	6 x M48	748	2,300	8 x M48	966

Fender Type	L = 2,500 mm			L = 3,000 mm		
	L1 [mm]	Bolts	Weight [kg]	L1 [mm]	Bolts	Weight [kg]
MC 30	2,850	12 x M22	312	3,350	14 x M22	369
MC 40	2,800	12 x M24	575	3,300	14 x M24	682
MC 50	2,800	12 x M24	809	-	-	-
MC 60	2,800	10 x M48	1,183	3,300	12 x M48	1,401

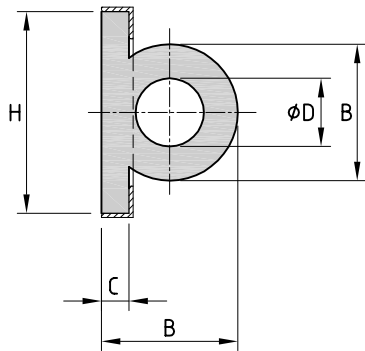
WING-TYPE FENDER DIMENSIONS

Fender Type	H [mm]	B [mm]	C [mm]	Ø D [mm]	Weight [kg/m]
WD 18	180	100	25	50	10.5
WD 21	215	150	30	75	20.3
WD 24	245	150	30	75	21.3
WD 28	280	200	40	100	35.8
WD 32	320	200	40	100	37.6
WD 37	370	250	50	125	57.0
WD 41	410	250	50	125	59.0



Wing-Type Fenders

WING-TYPE FENDER DRAWING



For other Tug Boat Side Fenders see, Extruded Fenders p. 82 and Komposite Fenders p. 86



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