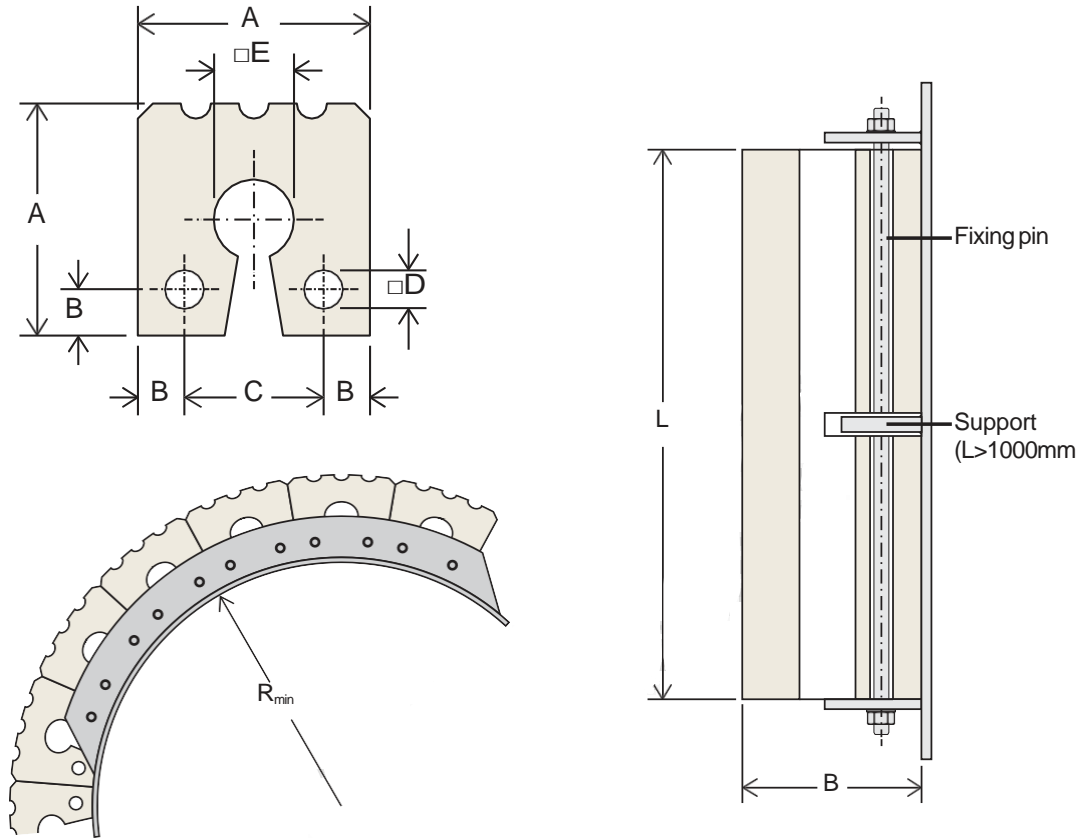


Bencros BTK Block Fenders, traditionally called keyhole fenders, are moulded rubber units mostly used on the bows and sterns of tugs, providing robust, heavy-duty protection.

BTK Blocks are also popular for pontoons and RoRo ramp ends. They are mounted via steel pins inserted through the twin holes which allows for easy installation and replacement.



Type	A	B	C	ØD	E	F	ØG	LMAX	Flat Bar	R(min)	Weight
BTK-200	200	200	35	28	35	130	90	2000	100 x 15	450	33
BTK-250	250	250	50	33	50	150	100	2000	125 x 20	600	54
BTK-300	300	300	60	33	60	180	115	1750	150 x 20	800	80
BTK-350	350	350	70	33	70	210	125	2000	175 x 25	1000	114

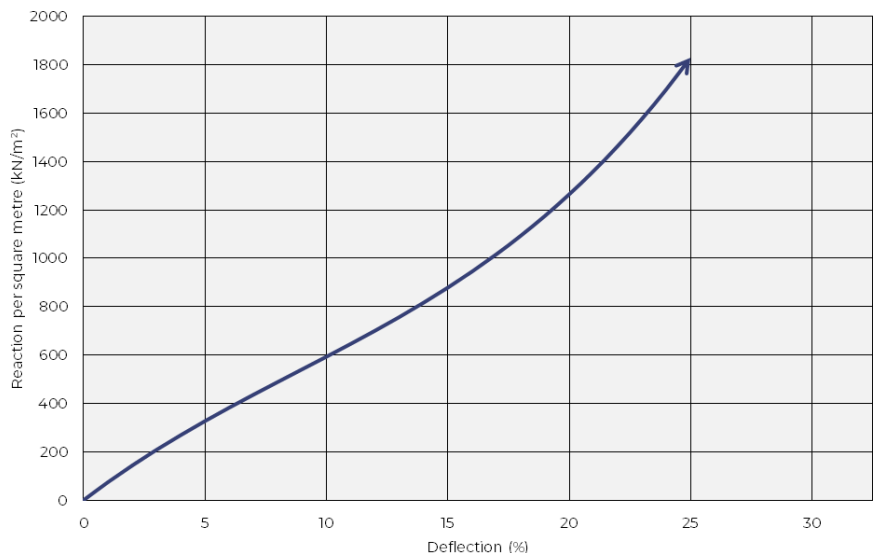
Performance tolerance is  $\pm 20\%$ .

Reaction is per square metre of flat fender area and for Bencros C1 (standard) rubber grade.

Dimensions are in millimetres.

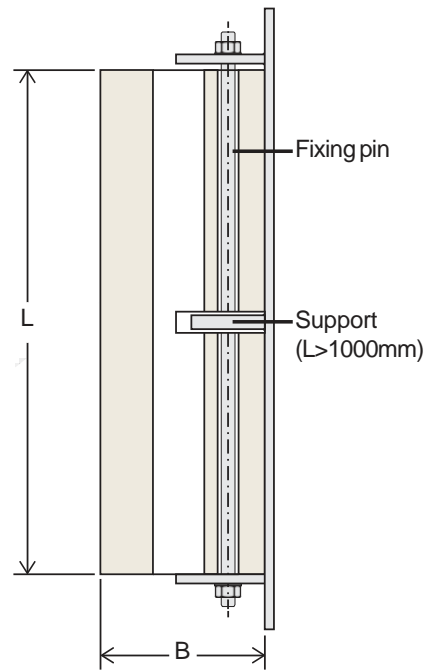
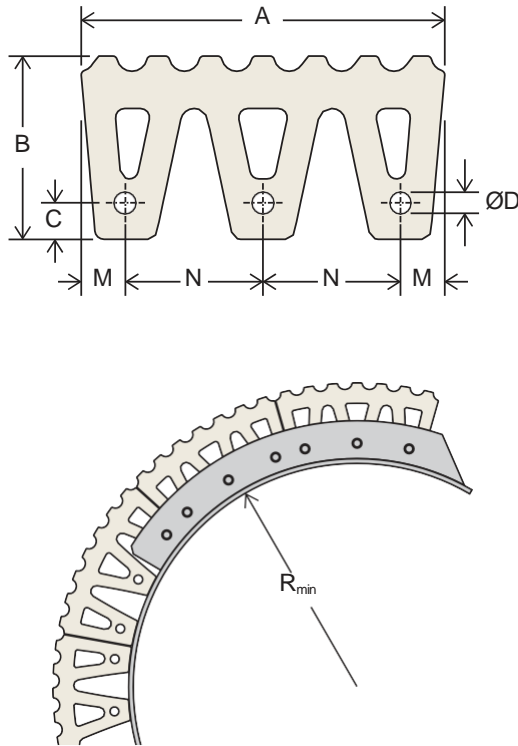
Weights are in kilogrammes per metre length.

For other sizes, fixing details and custom features, please ask Bencros.



Bencros BTM Block Fenders, traditionally called M-fenders, are moulded rubber units mostly used on the bows and sterns of tugs, providing robust, heavy-duty protection.

BTM Blocks are also popular for pontoons and RoRo ramp ends. They are mounted via steel pins inserted through the twin holes which allows for easy installation and replacement.



Type	A	B	C	ØD	E	F	ØP	LMAX	Flat Bar	R(min)	Weight
BTM-400	400	200	40	23	50	150	20	2000	100 x 15	450	56
BTM-500	500	250	50	27	60	190	24	2000	125 x 20	550	89
BTM-600	600	300	60	33	70	230	30	2000	150 x 20	650	132

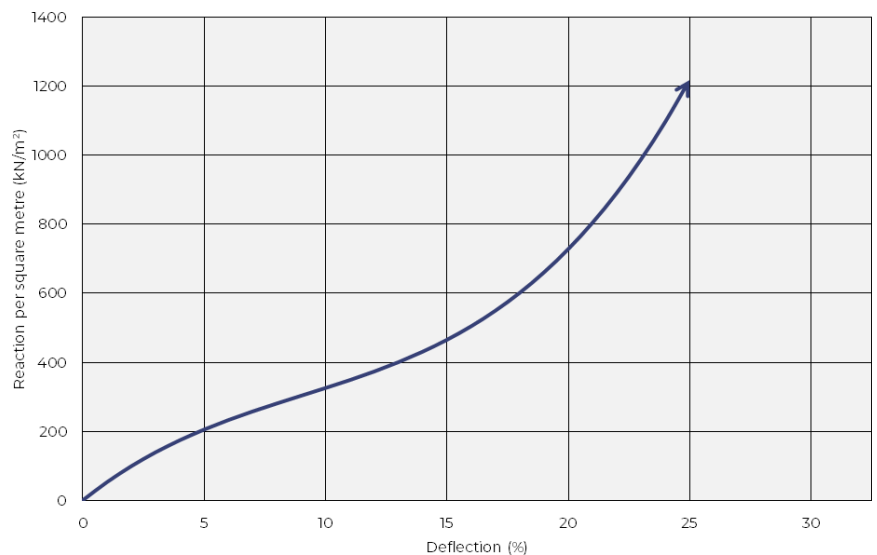
Performance tolerance is  $\pm 20\%$ .

Reaction is per square metre of flat fender area and for Bencros C1 (standard) rubber grade.

Dimensions are in millimetres.

Weights are in kilogrammes per metre length.

For other sizes, fixing details and custom features, please ask Bencros.

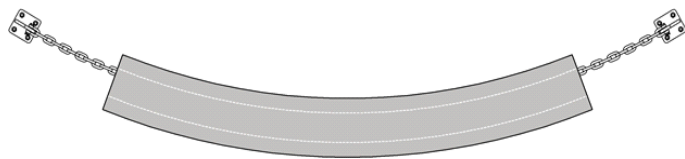
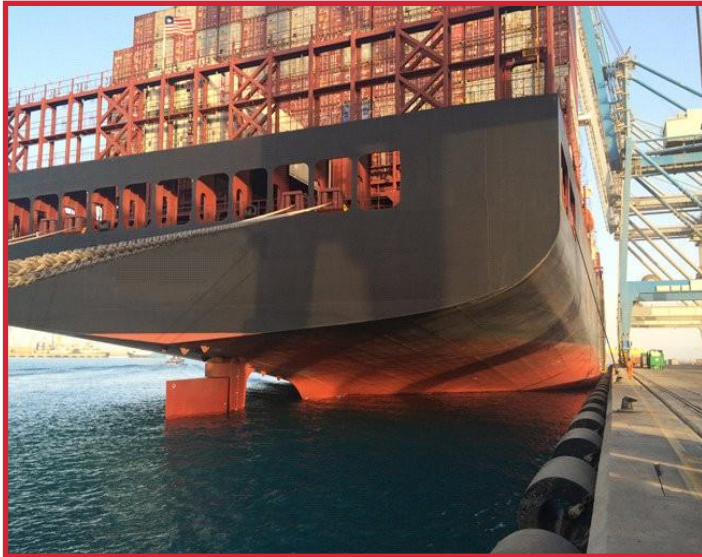


Bencros BCY cylindrical fenders are hard wearing and have protected hulls and berths for decades. They are used in all operating conditions around the world.

Our versatile processes include extrusion, wrapping and moulding. This allows Bencros to

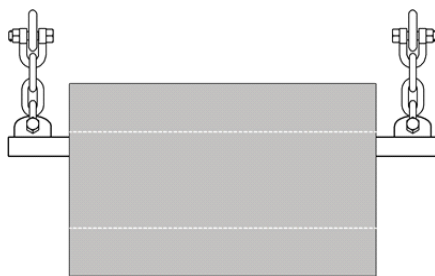
create nearly any permutation of cylindrical fender diameter and length.

Performance values are based on the standard C1 grade, but harder (high energy) and softer (low reaction) compounds are also available on request.



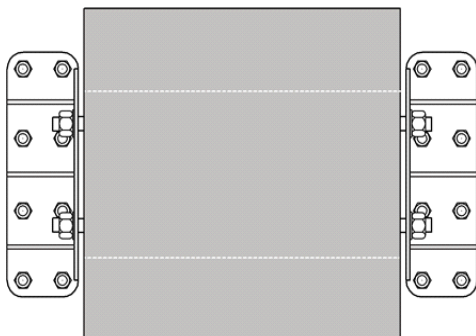
$OD \leq 600\text{mm}$

Small cylindrical fenders are commonly suspended using chains, shackles and brackets.



$600\text{mm} \leq OD \leq 1600\text{mm}$

Medium cylindrical fenders can be supported with solid round or circular hollow steel bars. Chains and shackles connect to brackets or U-anchors on the structure. End stop plates are optional.



$OD \geq 1600\text{mm}$

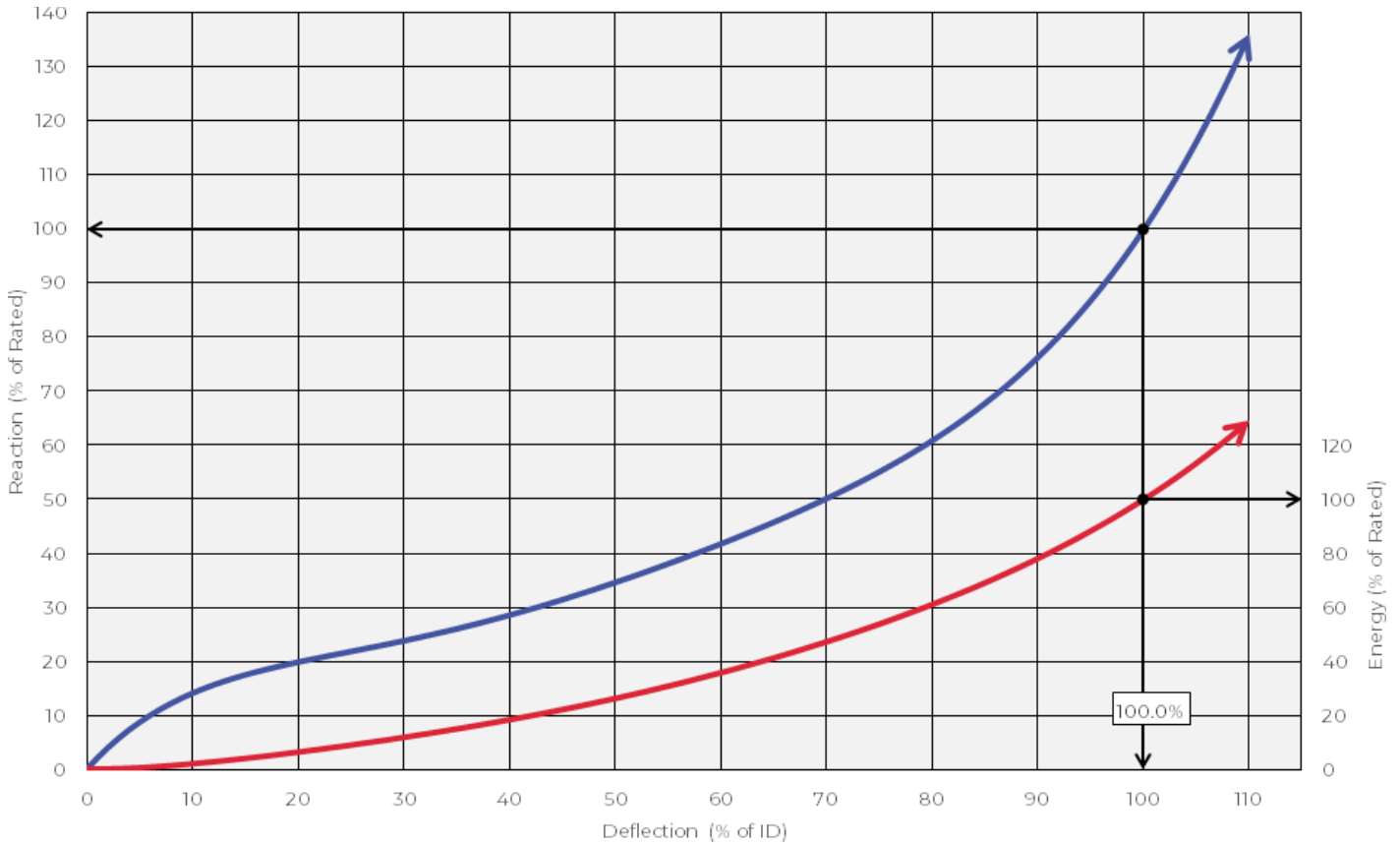
Large cylindrical fenders are mounted on robust brackets with central ladder retaining. Due to the special requirements for large cylindrical fenders, fixings are specially designed for each application. Ask Bencros for details.

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Performance values are based on the standard C1 grade, but harder (high energy) and softer (low reaction) compounds are also available on request.



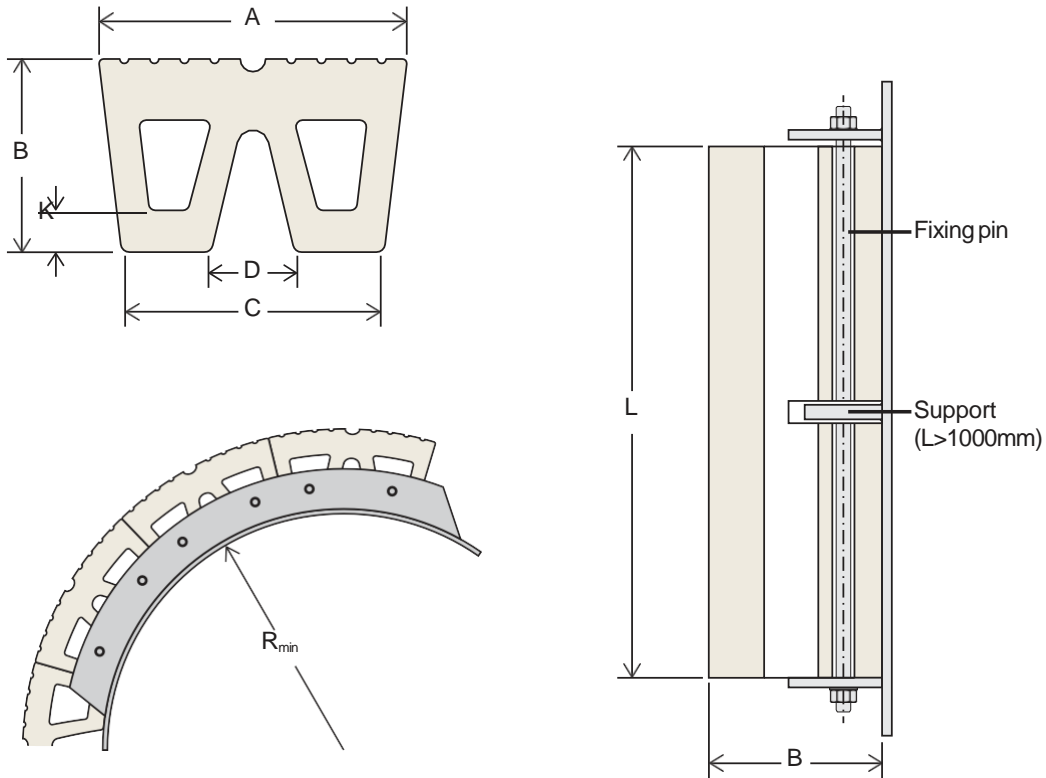
OD	ID	E (kNm)	R (kN)	P (kN/m <sup>2</sup> )
100	50	1.1	55.0	701
125	65	1.7	65.4	694
150	75	2.5	82.5	701
175	75	3.7	117	747
200	100	4.5	110	701
250	125	7.0	138	701
300	150	10.1	165	701
380	190	16.2	209	701
400	200	18.0	220	701
450	225	22.8	248	701
500	250	28.1	275	701
600	300	40.5	330	701
800	400	71.9	440	701
900	450	91.0	495	701
1000	500	112	550	701

OD	ID	E (kNm)	R (kN)	P (kN/m <sup>2</sup> )
1100	600	131	541	689
1200	600	162	660	701
1300	700	184	650	690
1400	700	220	770	701
1400	800	208	649	689
1500	750	253	825	701
1500	800	246	760	691
1600	800	288	880	701
1600	900	273	757	688
1800	900	364	990	701
2000	1000	450	1101	701
2000	1200	415	871	693
2200	1200	524	1083	689
2400	1200	647	1321	701
2700	1300	833	1559	709

Performance tolerance is ±10%. Energy and reaction are per metre length and for Bencros C1 (standard) rubber grade. For special requirements and extra large diameters, please ask Bencros.

Bencros BTW Block Fenders, traditionally called W-fenders, are moulded rubber units mostly used on the bows and sterns of tugs, providing robust, heavy-duty protection.

BTW Blocks are also popular for pontoons and RoRo ramp ends. They are mounted via steel pins inserted through the twin holes which allows for easy installation and replacement.



Type	A	B	C	D	E	F	ØP	LMAX	Flat Bar	R(min)	Weight
BTW-320	320	200	280	180	100	67	25	2000	100x20	600	51
BTW-400	400	250	350	220	110	75	30	2000	120x20	800	81
BTW-480	480	300	420	265	135	90	40	2000	140x20	900	116
BTW-500	500	450	420	250	90	100	40	2000	150x20	1000	180

Performance tolerance is  $\pm 20\%$ .  
 Reaction is per square metre of flat fender area and for Bencros C1 (standard) rubber grade.  
 Dimensions are in millimetres.  
 Weights are in kilogrammes per metre length.  
 For other sizes, fixing details and custom features, please ask Bencros.

