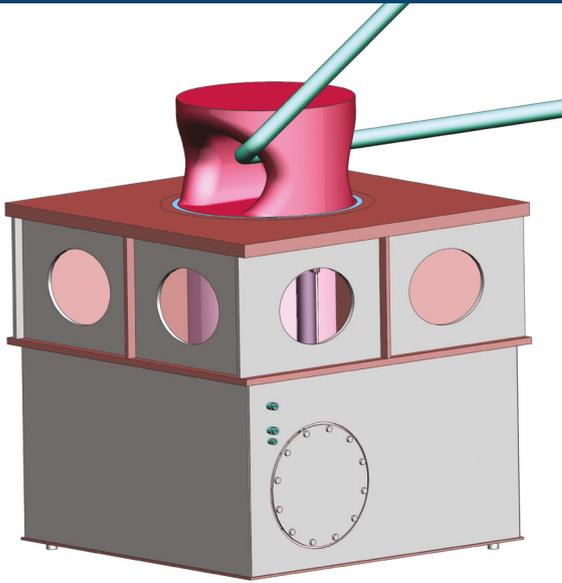


Kooiman Marine Group made a revolutionary design for a retractable deck staple, which is called the 'Omega Pin'. The Omega Pin is specifically designed for the use of synthetic lines, like Dyneema. With the Omega Pin, it is possible to have the towing point at the right spot relative to the thruster(s) to ensure optimum manoeuvrability. When not in use, it is retracted, leaving a flush and free deck space for other jobs. The Omega Pins have a LR Design Appraisal.

KOOIMAN OMEGA PINS

SPECIFICATION SHEET

OMEGA PINS SPECIFICATION SHEET

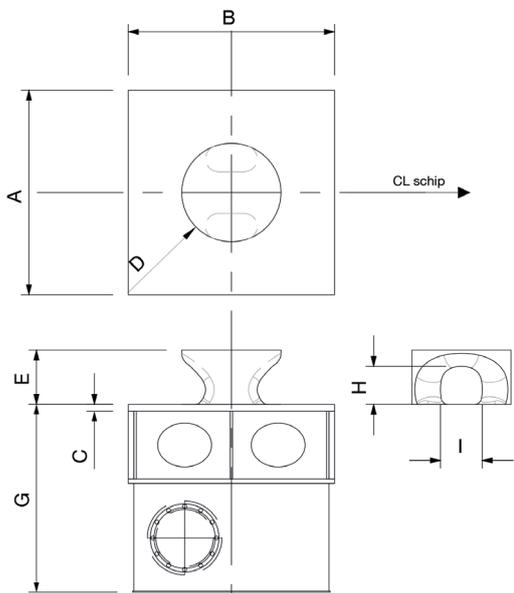
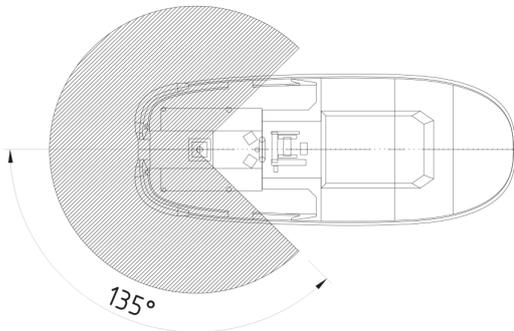
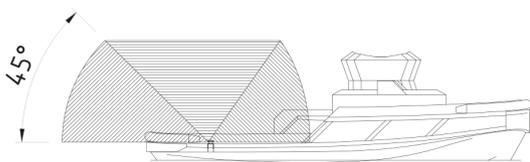


The shape of the Omega Pin makes it possible to perform close by escort operations, with the towing line at an angle which can reach up to 135 degrees from centre line and 45 degrees from horizontal.

This ideally suits the modern very manoeuvrable and powerful escort and harbour tugs.

The Omega Pins are designed conform LRS specifications, based on the breaking strength (design load) of the rope to be used. All have LR Marine Appraisal. With a Safety Factor of 2.5 this results in a SWL of 160 tons (design load 400) and 100 tons (design load 250) for the respective types. The Omega Pin design, with its characteristic curves and smooth finishing, ensures the line always to slide over smoothly curved surfaces and never touches a sharp corner.

The Omega Pins are constructed out of high-end materials. The load bearing box construction is made of high tensile steel. The Omega Pin itself is one piece of high grade stainless steel. The construction is fitted with non corroding, synthetic bearings and seals, ensuring durability and ruggedness. Delivery includes wheelhouse controls and an automatic grease pump for water-tightness and lubrication. A simple and clean design resulting in a better employability of the modern escort or harbour tug. The Omega Pin is available in two sizes. Different executions can be developed on client's request.



OMEGA PIN	OP100T	OP160T
SWL	100 tons	160 tons
DESIGN LOAD	250 tons (LR)	400 tons (LR)
WEIGHT	ca. 3750 kg	ca. 7600 kg
ROPE	Max. Ø 68 mm Synthetic	Max. Ø 80 mm Synthetic
WIDTH (A)	1330 mm	1680 mm
LENGTH (B)	1330 mm	1680 mm
THICKNESS (C)	45 mm	60 mm
DIAMETER (D)	Ø 640 mm	Ø 810 mm
HEIGHT ABOVE DECK (E)	345 mm	490 mm
DEPTH (G)	1223 mm	1550 mm
EYE HEIGHT (H)	247 mm	370 mm
EYE WIDTH (I)	270 mm	370 mm

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