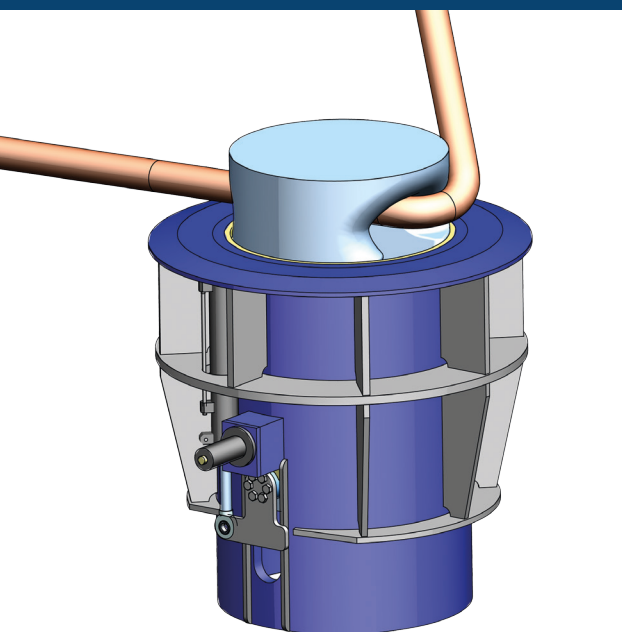


After the introduction of the revolutionary Kooiman Omega Pin, the idea was picked up by the front runners of the escort tug world. The Kooiman Marine Group was asked to design a retractable staple that could open to receive a line already connected to the escorted vessel. Positioned on the most forward possible position of the escort tug, this would make the last bit of bringing the vessel to the quay much easier and faster. When not in use, it is retracted, leaving a flush and free forward bulwark. Thus the 'Gamma Pin' evolved.

# KOOIMAN GAMMA PINS

SPECIFICATION SHEET

# GAMMA PINS SPECIFICATION SHEET



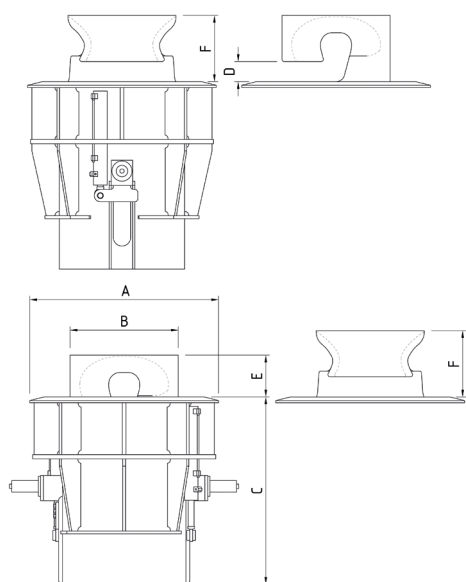
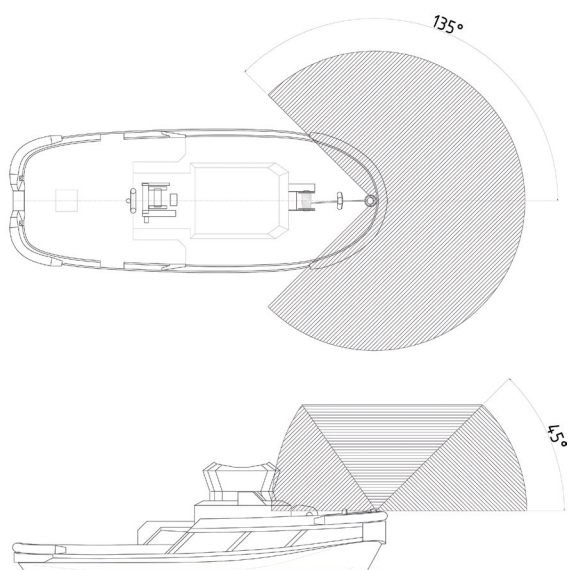
For the Gamma Pin the basic shape of the Omega Pin, with its characteristic curves and smooth finishing, was kept. These curves were carefully designed to ensure the line would always slide over smoothly curved surfaces never touching a sharp corner. A side opening was carefully designed and shaped. A third position of the pin was made to 'open' the pin. Dimensions were altered to ensure the strength of the a-symmetric design, remained within LRS specifications. A locking system for the loaded position was added. Like the Omega Pin, the Gamma Pin is meant to be used with synthetic lines, like Dyneema, only.

The shape of the Gamma 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 Gamma Pins are designed conform LRS specifications, based on the breaking strength (design load) of the rope to be used. It has LR Marine Appraisal. With a Safety Factor of 2.5 this results in a SWL of 140 tons (design load 350).

The Gamma 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.

Another simple and clean Kooiman Marine Group design, resulting in a better employability of the modern escort or harbour tug. For now, the Gamma Pin is available in one size. Different executions can be developed on client's request.



<b>GAMMA PIN</b>	<b>OP140T</b>
SWL	140 tons
DESIGN LOAD	350 tons (LRS)
WEIGHT	Ca. 4000 kg
ROPE	Max. Ø 110 mm Synthetic
BOX DIAMETER (A)	Ø 1330 mm
PIN DIAMETER (B)	Ø 750 mm
BOX HEIGHT (C)	1300 mm
OPENING HEIGHT (D)	140 mm
HEIGHT ABOVE DECK WORK (E)	290 mm
HEIGHT ABOVE DECK UP (F)	460 mm

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