THE NEW PERMANENT MAGNETIC DRIVEN AZIPULL

TYPICAL APPLICATIONS

Suitable for offshore supply and service vessels, support ships, offshore stand-by ships, coastal tankers, car and passenger ferries, cargo vessels

KONGSBERG

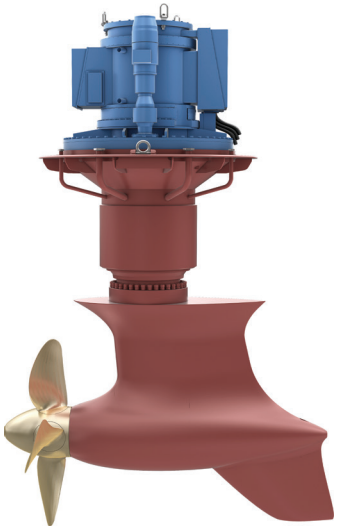
KONGSBERG MARITIME AZIMUTH THRUSTERS

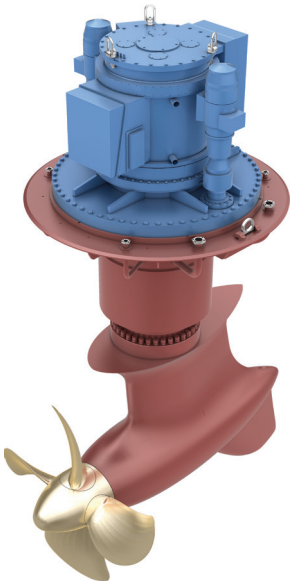
The new permanent magnetic driven Azipull (AZP PM L)

Introducing the permanent magnetic driven Azipull (AZP PM L)

Azipull thrusters with pulling propeller and streamlined underwater unit have provided efficient propulsion and manoeuvring for a variety of types of vessel since they were introduced in 2003. Over 450 units have been manufactured to date, and all have had geared drive with right angle bevel gears in both the steerable underwater part and in the fixed upper section in the thruster room. They can either have direct mechanical transmission, or be driven by a separate electric motor in a diesel electric, gas electric, hybrid or battery electric system. Examples of all these configurations are in service.

From 2017 a new Azipull PM will join the existing line-up. It will have an L-drive configuration using essentially the same underwater unit, but with a vertical shaft permanent magnet (PM) motor integrated into a new upper unit. The PM motor maintains a very high efficiency over a wide speed range.





Combined with the proven high propulsive and hydrodynamic efficiency of the Azipull this will be winning combination, especially as there is a further small gain in mechanical efficiency by eliminating the upper gearbox.

Space requirements in the thruster room are reduced because the new thruster is compact, the PM motor lying within the diameter of the mounting flange giving a small footprint and avoiding the complication of a coupling and foundations for the separate motor of a conventional Z or C drive electric configuration.

Installation procedure and time for the shipyard is significantly simplified and reduced with the introduction the new developed weld-in tube hullfitting. This is a cylindrical steel element with a conical section to the mounting flange which is easy to weld into the vessel's hull structure, especially for a thruster inclined in all directions.

Three propeller types will be offered, and the choice will depend on the particular vessel and operation. All are in use on existing Azipull models. If a fixed pitch propeller is selected for the AZP PM L unit speed is controlled by varying the frequency of the current supplied to the motor. For a CP installation both rotational speed and propeller pitch can be varied with the Kongsberg Maritime combinator control system. The fully feathering version has the same merits as the CP propeller, but the ability to align the blades with the water flow to minimise drag when the thruster is not powered is of great benefit for installations in multifunctional vessels and others such as double ended ferries where it is usually optimal to feed power only to the aft unit for the selected direction of travel, with the forward thruster inactive during transit.

First to be introduced to the market from 2017 is the AZP 120 PM L, rated at 1800-3500kW continuous. This will be followed by two smaller frame sizes, 85 and 100, and one larger, the 150, so that this azimuth thruster series will in due course span a power range from 900kW to 5000kW. They will cover the speed range up to 24 knots.

Kongsberg Maritime
P.O.Box 483, NO-3601
Kongsberg, Norway

Switchboard: +47 815 73 700
Global support 24/7: +47 33 03 24 07
E-mail sales: km.sales@km.kongsberg.com
E-mail support: km.support@kongsberg.com