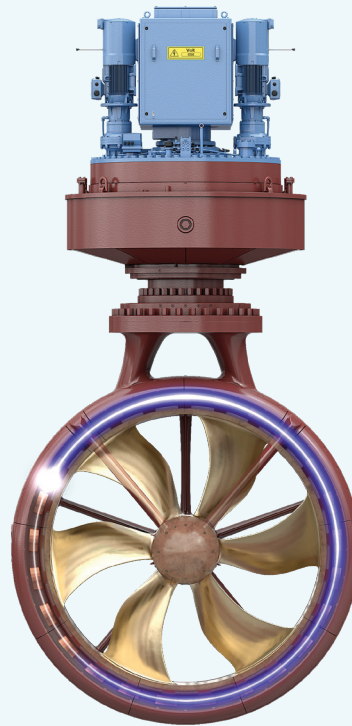


# RIM DRIVE AZIMUTH THRUSTER (RD-AZ)



KONGSBERG



## KONGSBERG AZIMUTH THRUSTERS

### Rim Drive Azimuth Thruster (RD-AZ)

The Rim Drive Azimuth Thruster (RD-AZ) is building on the design developed and verified on the permanent magnet tunnel thrusters with regard to thruster design and motor integration. The RD-AZ meets operational requirements with focus on performance and reliability. It is built around permanent magnet motor technology and a propeller running on roller bearings, supported by a central shaft. The central shaft is supported by stays. These stays and the central bearing housing recover some of the swirl energy created by the propeller, providing additional thrust. The RD-AZ thruster contains fewer rotating parts compared to conventional azimuthing thrusters, and thus has fewer components subject to wear and tear.

The Rim Drive Azimuth Thruster is an environmentally friendly thruster from KONGSBERG. The highly efficient PM motor, with no requirement for an internal cooling system and no lubrication pumps results in a highly energy efficient thruster. The thruster is approved for EAL (Environmentally Approved Lubricant) and the lubrication oil volume in the thruster is reduced by more than 60-70% compared to conventional azimuth thrusters. The RD-AZ meets the strictest requirements for performance, noise and vibration, and will be an excellent choice for operations where low noise and high performance is required. Fast response times to full power give improved manoeuvrability and operability and anti-roll function capability.

The RD-AZ has been engineered with reliability and through life costs as the focus. Permanent Magnet (PM) motor technology increases efficiency and makes the installation more compact. Only the variable frequency drive unit is housed in the thruster room, freeing up space on board.

#### PRODUCT BENEFITS

- High fuel efficiency
- Fast response time (efficient roll-damping)
- Low level vibrations and airborne and hydroacoustic noise (URN)
- Few moving parts
- Provides excellent vessel manoeuvrability
- Strong operational support
- Reduced life cycle cost
- Long service intervals



Rim Drive Azimuth Thruster, front left

## Features

- Compact outboard unit
- Small inboard footprint
- Hydrodynamic and electric efficiency
- High torque motor
- Thruster unit cooled by surrounding seawater, no additional cooling required
- Robust design with few moving parts
- Robust centre shaft carries all propeller loads
- Simplified system design with limited auxiliary equipment
- Low maintenance requirements
- Easy installation
- Prepared for easy connection to Equipment Health Management (EHM) system



Rim Drive Azimuth Thruster, front

## The RD-AZ consists of

### Underwater unit

- Permanent Magnet motor fitted in the nozzle
- Monobloc fixed pitch propeller
- Hydrodynamic struts

### Inboard unit

- Steering machine
- Slip ring unit
- Lubrication system



Rim Drive Azimuth Thruster, aft side

## TECHNICAL DATA

	<b>RD-AZ 1900</b>	<b>RD-AZ 2600</b>
Power (kW)	500 - 1100	1100 - 2600
Thrust (kN)	190kN at 0knot	440kN at 0knot
RPM	252	200
Propeller diameter (mm)	1900	2600
Propeller type	Monobloc/FP	Monobloc/FP
Propeller type	CW/CCW	CW/CCW
Propeller type	AFE or 12-pulse drive	AFE or 12-pulse drive

*Approximate values, provided for information only. Actual thrust may vary for given applications. De-rating may be required on 12-pulse drive installations.*

**All data is subject to change without prior notice.**

