

# DATA SHEET

# CRP

## PROPULSORS



### Better performance by sharing the load between two contra-rotating propellers

Steerprop contra-rotating propeller (CRP) technology allows vessels to operate in demanding conditions when high fuel efficiency is a critical factor – or if both high performance and smaller propellers are needed, such as in shallow rivers or when moving through ice. A double gear contact divides the propulsion load between the two propellers, and the opposite rotation direction recovers energy.

The propellers may be smaller for ice-class or reinforcement without compromising efficiency, or they can be larger and slow-turning to ensure outstanding efficiency. They can also be anything in between, allowing a tailored solution for a wide range of applications. Today's customized CRP propulsor is ideal for vessels requiring maneuverability and fuel-efficient operations, such as ferries, offshore vessels and merchant vessels. Steerprop propulsors always come standard with Steerprop Care condition monitoring.

Features	Main benefits
Two sets of propellers, shafts and gears	<ul style="list-style-type: none"> <li>Unsurpassed total efficiency</li> <li>Lightly loaded propellers</li> <li>Good cavitation performance</li> <li>Fuel consumption 5–10% lower than pod or pulling units</li> <li>Low underwater noise</li> </ul>
Robust mechanical construction	<ul style="list-style-type: none"> <li>Highest possible reliability</li> <li>No electrical motor underwater</li> <li>Long lifetime roller bearings</li> <li>All auxiliaries are built as modular units and tested during FAT</li> </ul>
Well-planned serviceability and easy installation	<ul style="list-style-type: none"> <li>Optimized modular structure and electrical motor inside hull for easy serviceability</li> <li>Long time between overhauls; planned docking interval of 5 years for replacement of seals and anodes</li> <li>Condition monitoring system enables trend follow-up for preventive maintenance</li> <li>Lubrication and seal systems built on the propulsor reduce external piping and large air coolers</li> </ul>

# CRP SERIES

		SP 10 CRP	SP 14 CRP	SP 20 CRP	SP 25 CRP	SP 35 CRP	SP 45 CRP
Maximum power [kW]*		900	1250	1600	2000	2800	3500
Input speed [rpm]		1000–2000	750–2000	750–1800	750–1800	750–1200	750–1200
Prime mover	Z-DRIVE	Diesel or electric		Electric			
	LM	Electric, integrated					
Steering type	Z-DRIVE	Hydraulic or electric		Electric			
	LM	Electric					
Maximum ice class* (FSICR)		None	1B	1C	1C	1A	1A
Dry weight [t]	Z-DRIVE	8	13	17	24	38	50
	LM	10	17	18	28	43	58
Oil volume [l]	Z-DRIVE	820	1360	1730	2650	4550	4900
	LM	770	1300	1630	2550	4400	4550
Cooling water demand 38 °C [l/min]	Z-DRIVE	100	165	180	200	250	350
	LM**	120	150	210	235	280	350
Installation options		Bolted, bottom-well cover or welded					

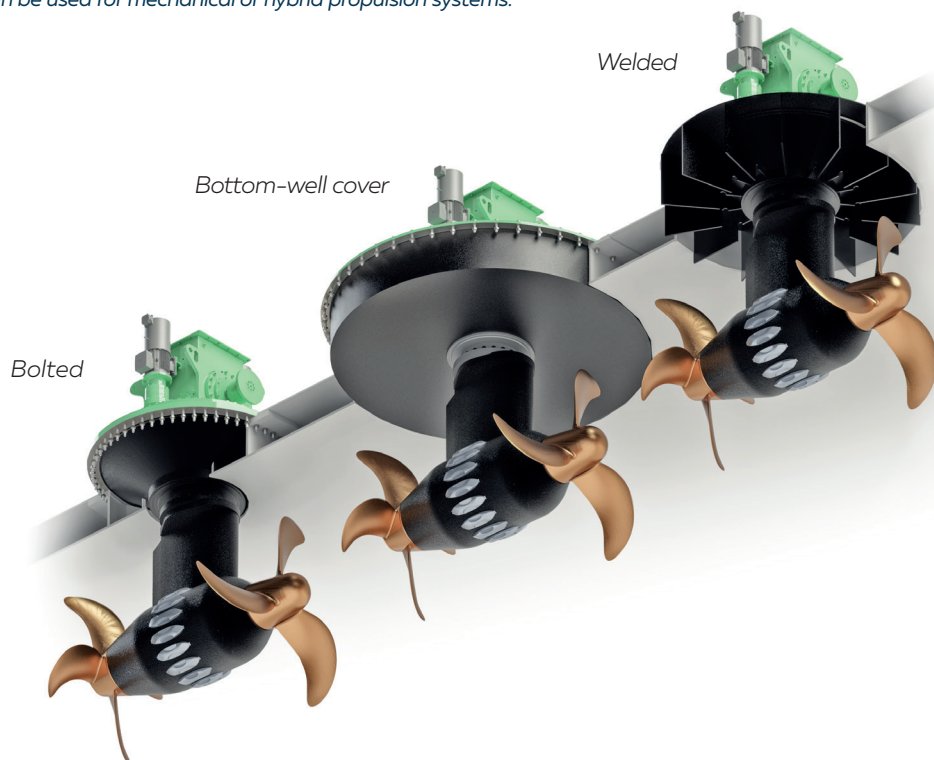
\* Ice-class power impact is checked case by case

We reserve the right to modify the information above at any time without notice.

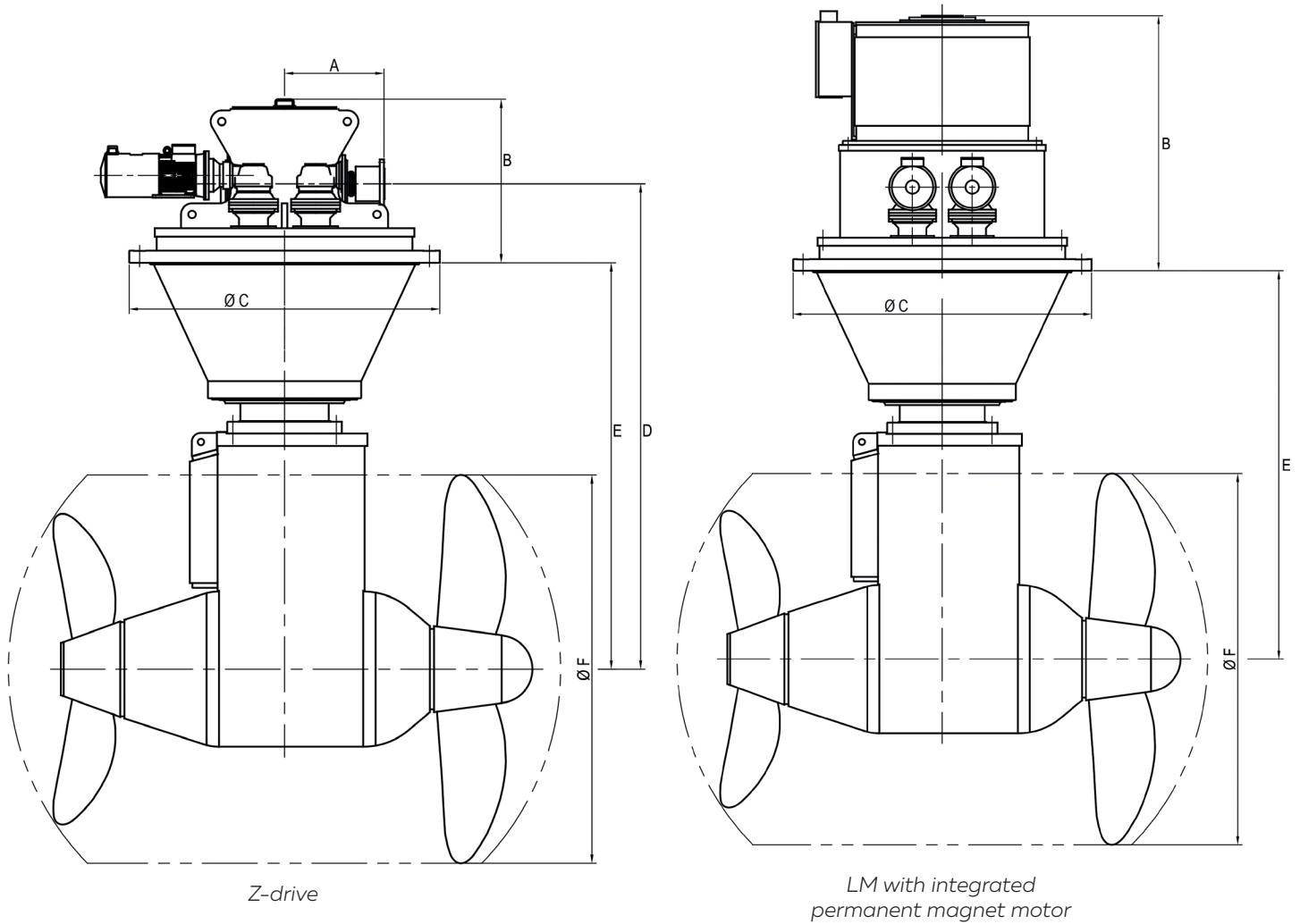
\*\* Value includes the motor

The LM model has a vertically integrated permanent magnet motor.

The Z-drive propulsor can be used for mechanical or hybrid propulsion systems.



# TECHNICAL DRAWINGS AND DIMENSIONS

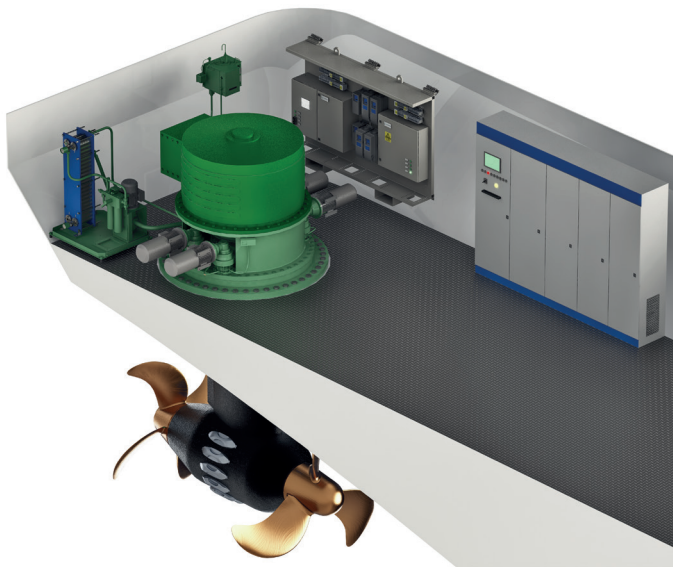


		SP 10 CRP	SP 14 CRP	SP 20 CRP	SP 25 CRP	SP 35 CRP	SP 45 CRP
<b>A</b>	Z-DRIVE*	985	1140	NA	NA	NA	NA
	Z-DRIVE**	485	620	617	720	723	900
	LM	NA					
<b>B</b>	Z-DRIVE	1350	1200	1460	1180	1650	1820
	LM	1500	1820	1920	2050	1650	1820
<b>C</b>	Z-DRIVE	1670	1950	2000	2250	2750	2950
	LM	1670	1950	2000	2250	2750	2950
<b>D</b>	Z-DRIVE	2250	2650	3000	3500	4000	4350
	LM	NA					
<b>E</b>	Z-DRIVE	1830	2075	2440	2930	3350	3580
	LM	1830	2075	2440	2930	3350	3580
<b>F</b>	FRONT PROPELLER	1800	2100	2400	2800	3200	3500
	AFT. PROPELLER	Approximately 80% of the front propeller's diameter					

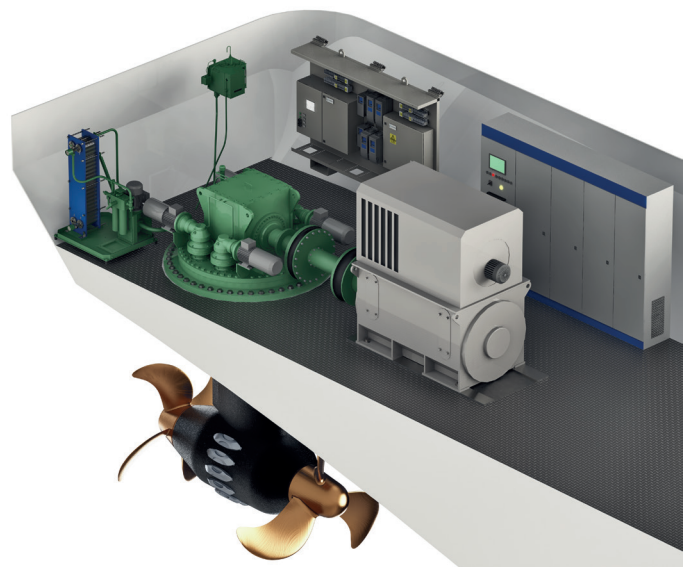
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\* Clutch  
 \*\* No clutch

## SMALL SPACE REQUIREMENT

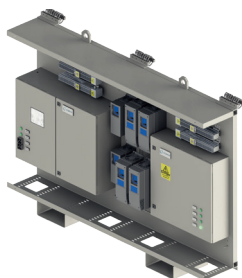


LM unit with integrated permanent magnet motor



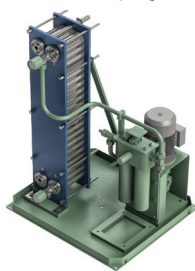
Z-drive with horizontal motor

**All auxiliary modules are preassembled and tested at our factory. Therefore, installation is quick and easy, minimizing risk and labor.**



**Steerprop assembly board (SAB):** includes control cabinets, frequency converters for steering motors, brake resistors for electric steering, frequency converters for lubrication pumps. The entire unit is installed on vibration dampeners

- Easy connection to the propulsor by means of a plug-in cable
- Easy handling at the shipyard / during transport



**Lubrication unit:** one or two pumps depending on requirements, duplex filter, oil cooler, cooling water from the vessel's system

- Electric motor-driven pressurized lubrication system
- Frequency converter-controlled pump circulates the lubrication oil through a cooling and filtering circuit



**Shaft seal system:**

- The propeller shaft has multiple radial-type lip seals with a secure blocking chamber
- The oil in the blocking chamber can be changed via the flushing line on the upper assembly
- Compatible with US EPA VG2013 upon request



**Customized scope of packages:**

Through Steerprop's Ecosystem, we can deliver a larger scope of systems with specialized partners.