ELECTRO ADDA®

IL MOTORE CHE FA LA DIFFERENZA

Water Jacket Cooled Motors

WATER JACKET THREE PHASE ASYNCHRONOUS MOTORS
W series
Frame Sizes 280 to 560

DESIGNED AND MANUFACTURED IN ITALY

REV 01 06/24

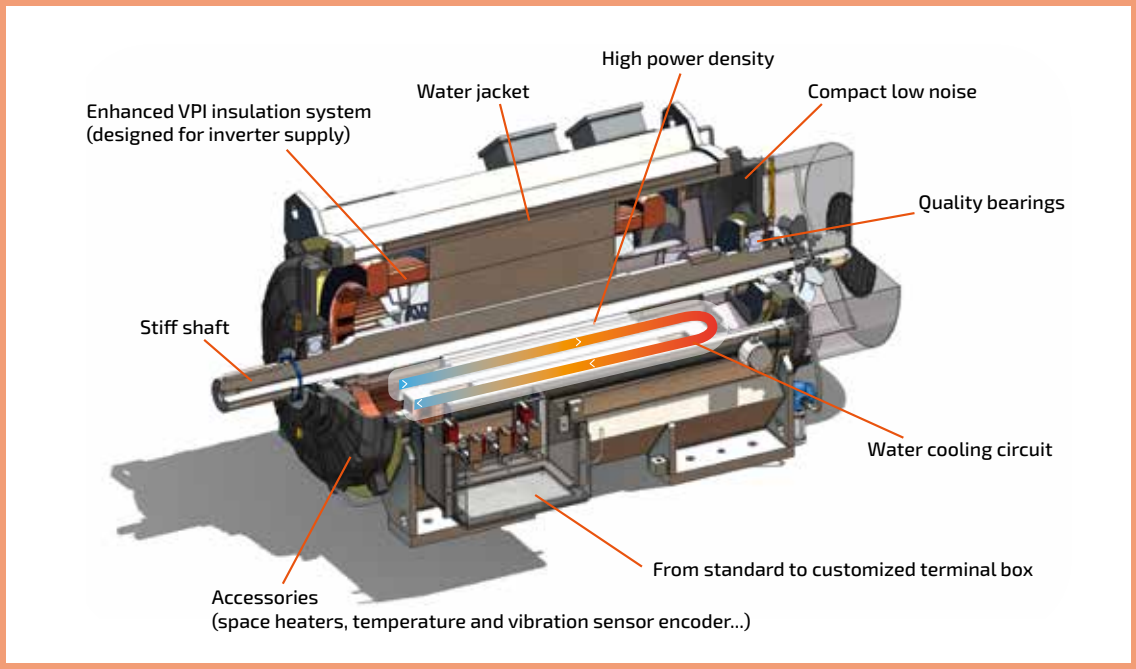
DESIGNED FOR HEAVY-DUTY APPLICATIONS

The W-series asynchronous three-phase motors are specifically designed for heavy-duty operations, reducing installation space requirements.

OPERATING PRINCIPLES AND ADVANTAGES

This design incorporates an integral water jacket within the motor housing, which functions as a heat exchanger. This system circulates **industrial water** (neutral pH, chloride content <120 mg/l, free of solid particles), provided by the user, to effectively dissipate heat losses. This compact configuration optimises space usage compared to conventional TEWAC (Totally Enclosed Water-to-Air Cooled) motors with separate heat exchangers. Additional benefits of this type of water jacket include reduced noise and vibration levels. Suitable for both variable-speed drives (constant or quadratic torque) and direct network supply.

Electro Adda's research and development team are continually improving performance and expanding the range of this motor type.



COMPACT • ROBUST • CUSTOMISABLE • QUIET

APPLICATIONS

DEFENCE

GENERAL INDUSTRIAL

REDUCED OPERATING AND MAINTENANCE COSTS

BENEFITS

Water jacket-cooled machines offer high power density and compact dimensions compared to conventional solutions. Their construction allows for reduced vibrations and noise, minimal heat dissipation into the environment, reduced installation space, enhanced reliability, and lower maintenance costs.

OPTIONS

Electro Adda is customer-focused and capable of creating tailored solutions with customised designs and optional features, including:

- Temperature sensors for stator windings and bearings
- Water circulation sensors
- Water leakage sensors
- Anti-condensation heaters
- Class H insulation
- Insulated bearings and rotor grounding brush
- Cable glands
- Vibration sensors
- Coating cycles from C3 to C5 per ISO 12944
- Special or double shaft ends
- Encoders
- Brakes
- Witnessed testing

MARINE OPTIONS

Compliance with designated classification registers:

- Bearings and mechanical design suitable for static and dynamic inclinations (rolling and pitching)
- Marine-grade coating cycle

INSULATION SYSTEM

The W-series is typically inverter-fed; the insulation system is designed to ensure operational reliability. Motors designed for 690 V are built with reinforced insulation (HPI system).

MECHANICAL DESIGN

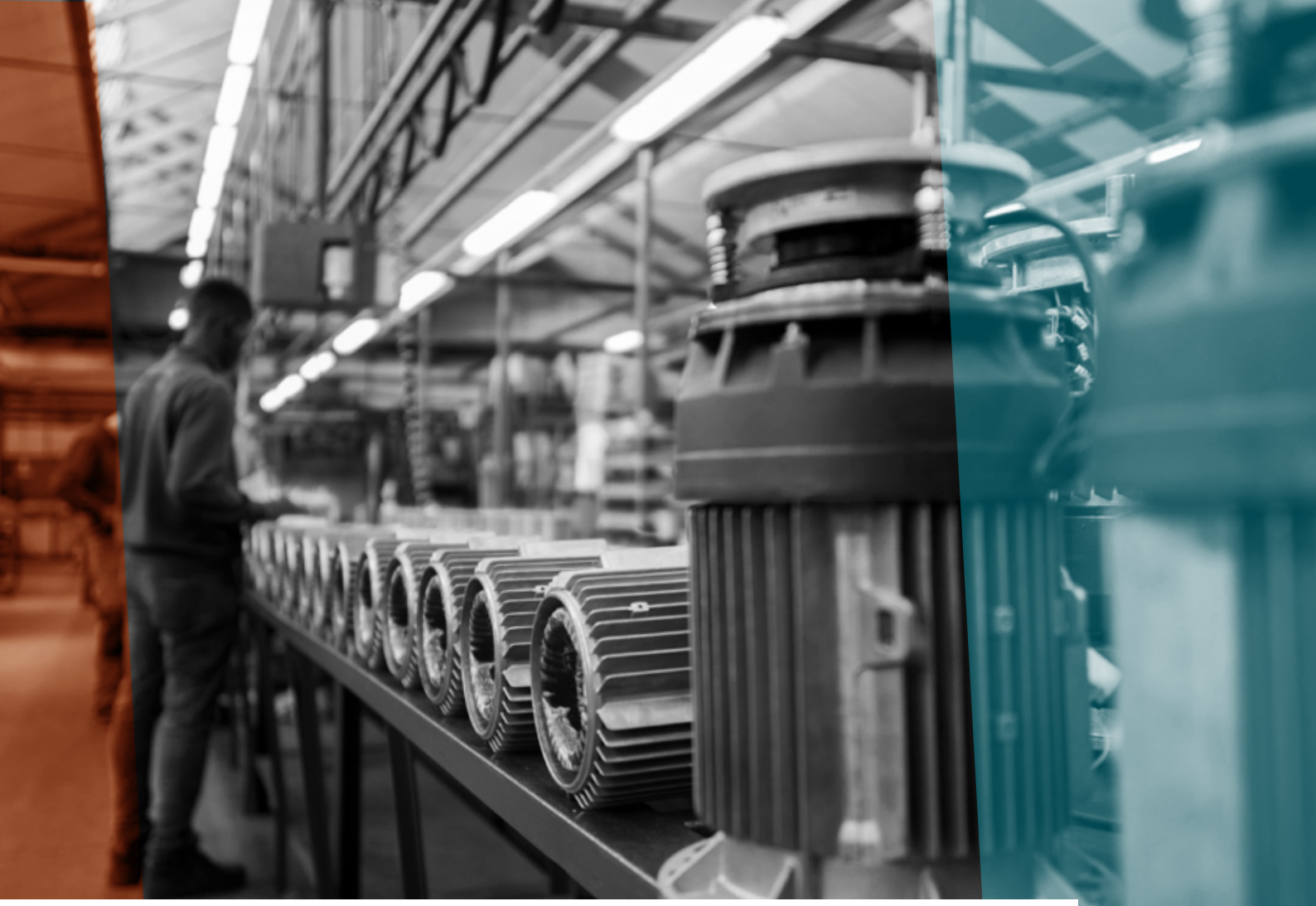
The W-series is engineered with wide safety margins to meet the demands of heavy-duty services. The housing is manufactured using certified welded steel, and each cooling circuit undergoes individual testing. The shaft is constructed from high-quality steel, with all main mechanical processing performed in-house by Electro Adda. Compliance (shape and dimensions) is verified using suitable instruments to ensure adherence to design specifications.

LOW NOISE AND VIBRATION
Water jacket motors ensure quiet operation and reduced vibrations during use.

BEARINGS

W-series solutions are manufactured with bearings sourced from qualified suppliers, selections are based on service type, temperature (low or high), and mounting position (horizontal, vertical, inclined, marine). Upon request, the machine can also be equipped with temperature and vibration sensors to monitor operation. Special or different configurations are available on request. Insulated bearings are used for variable-speed solutions.

COMPACT DESIGN
The heat exchanger is integrated within the motor housing making our design particularly suitable where installation space is limited.



EFFICIENCY IN OPERATION

POWER RATINGS FOR MEDIUM-TO-LARGE WATER JACKET MOTORS

FRAME SIZES 280÷560

Typical Power Ratings (kW) - Referenced @ 690 V 60 Hz - Continuous Duty S1(*)
Maximum Water Inlet Temperature: 32°C
Voltage Range: 220 to 690 V - 50, 60 Hz and Inverter Supply.

MEDIUM-TO-LARGE WATER JACKET MOTORS

FRAME SIZES		
280	4p	132
	6p	90
315	4p	300
	6p	240
355	4p	500
	6p	400
400	4p	700
	6p	550
450	4p	1100
	6p	900
500	4p	1500
	6p	1200
560	4p	2000
	6p	1500

Other polarities available
(*)Power ratings may increase for different duty cycles such as S2, S9, etc.

RELIABILITY

Electro Adda's after-sales service, coordinated from our headquarters in Beverate di Brivio (LC), Italy, provide outstanding **support** and **assistance** to clients and **end-users globally**.

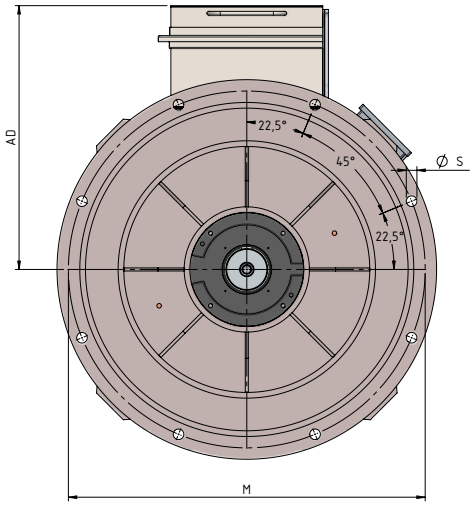
CUSTOMER FOCUS

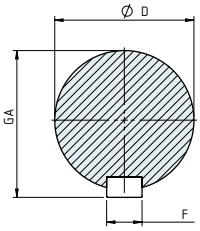
CUSTOM DESIGN AND SOLUTIONS ON REQUEST

DIMENSIONAL DRAWINGS 280÷560

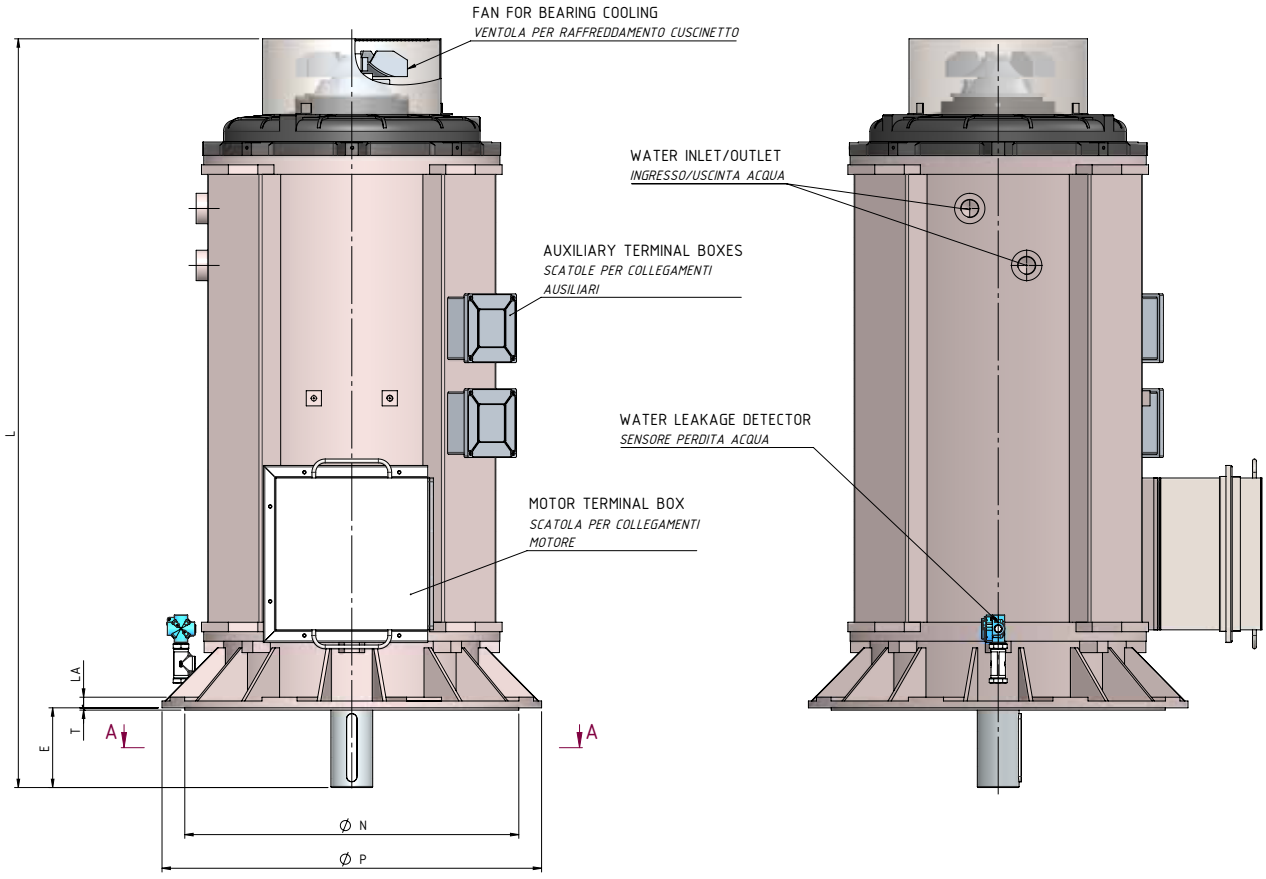
Medium-to-Large Water Jacket Motors (4-6-8 poles)

Vertical Mounting





SECTION A-A
SEZIONE A-A

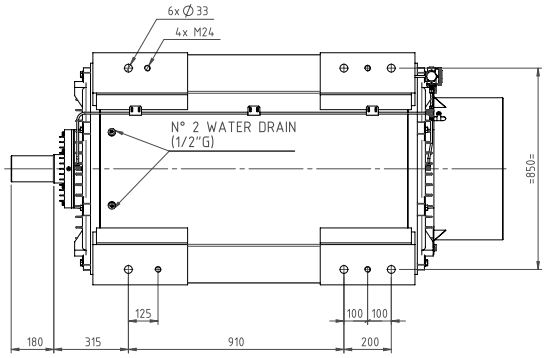


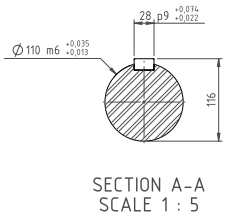
TIPO	AD	L	LA	M	N	P	S	T	D	E	F	GA	DB
FW280 SMT	400	1050	20	Ø500	Ø450 h6	Ø550	N°8 x Ø18	5	Ø75m6	140	20	79	M20x2,5
FW315 ML	490	1410	25	Ø600	Ø550 h6	Ø660	N°8 x Ø22	6	Ø80m6	170	22	85	M20x2,5
FW355 L	655	1660	25	Ø740	Ø680 h6	Ø800	N°8 x Ø22	6	Ø100m6	210	28	106	M24x2,5
FW400 L	700 (930 LARGE T.B.)	1980	28	Ø940	Ø880 h6	Ø1000	N°8 x Ø28	6	Ø110m6	210	28	116	M24x2,5
FW450 Lx	1050	2150	30	Ø940	Ø880 h6	Ø1000	N°8 x Ø28	6	Ø110m6	210	28	116	M24x2,5
FW500 Lx	1100	2600	30	Ø1080	Ø1000 h6	Ø1150	N°8 x Ø30	6	Ø130m6	250	32	137	M24x2,5

DIMENSIONAL DRAWINGS 280÷560

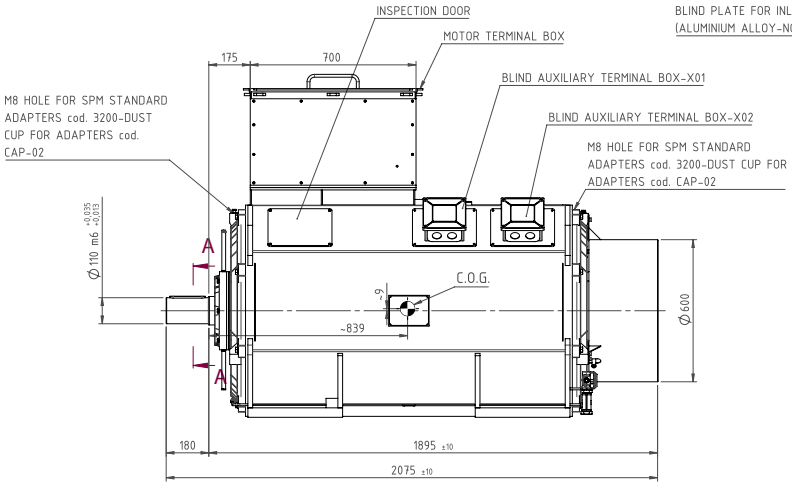
Medium-to-Large Water Jacket Motors (4-6-8 poles)

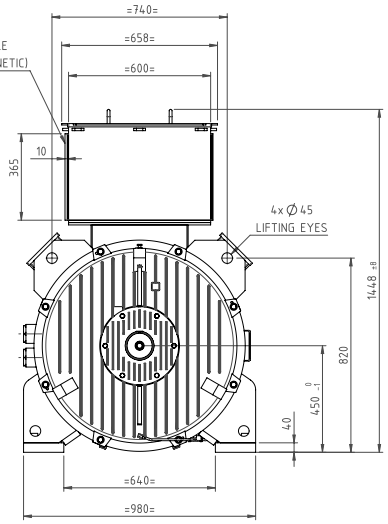
Vertical Mounting

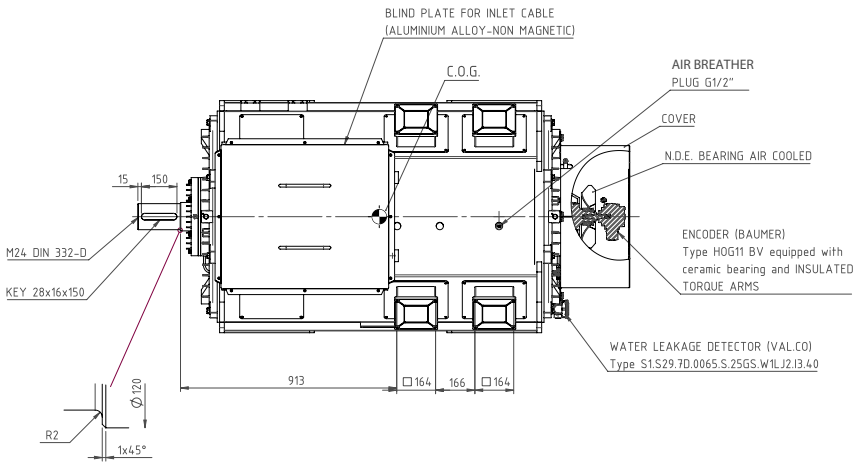


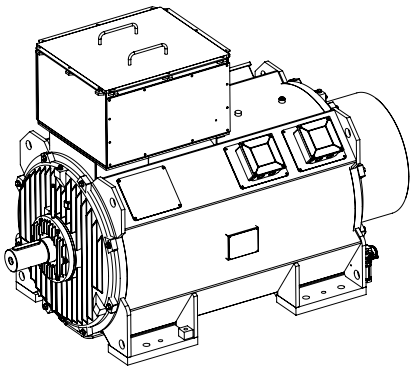


SECTION A-A
SCALE 1 : 5









TIPO	A	AA	AB	B	C	H	HA	AD	K	L	D	E	F	GA	DB
FW280 ST	457	120	535	368	190	280	25	400	24	1050	Ø75m6	140	20	79	M20x2,5
FW280 MT	457	120	535	419	190	280	25	400	24	1050	Ø75m6	140	20	79	M20x2,5
FW315 M	508	120	620	457	216	315	26	490	27	1410	Ø80m6	170	22	85	M20x2,5
FW315 L	508	120	620	508	216	315	26	490	27	1410	Ø80m6	170	22	85	M20x2,5
FW355 L	610	120	730	630	254	355	30	655	27	1660	Ø100m6	210	28	106	M24x2,5
FW400 L	686	150	810	710	280	400	35	700 (930 LARGE T.B.)	33	1980	Ø110m6	210	28	116	M24x2,5
FW450 Lx	750	150	950	800	315	450	35	1050	33	2150	Ø110m6	210	28	116	M24x2,5
FW500 Lx	850	160	950	900	335	500	40	1100	35	2600	Ø130m6	250	32	137	M24x2,5

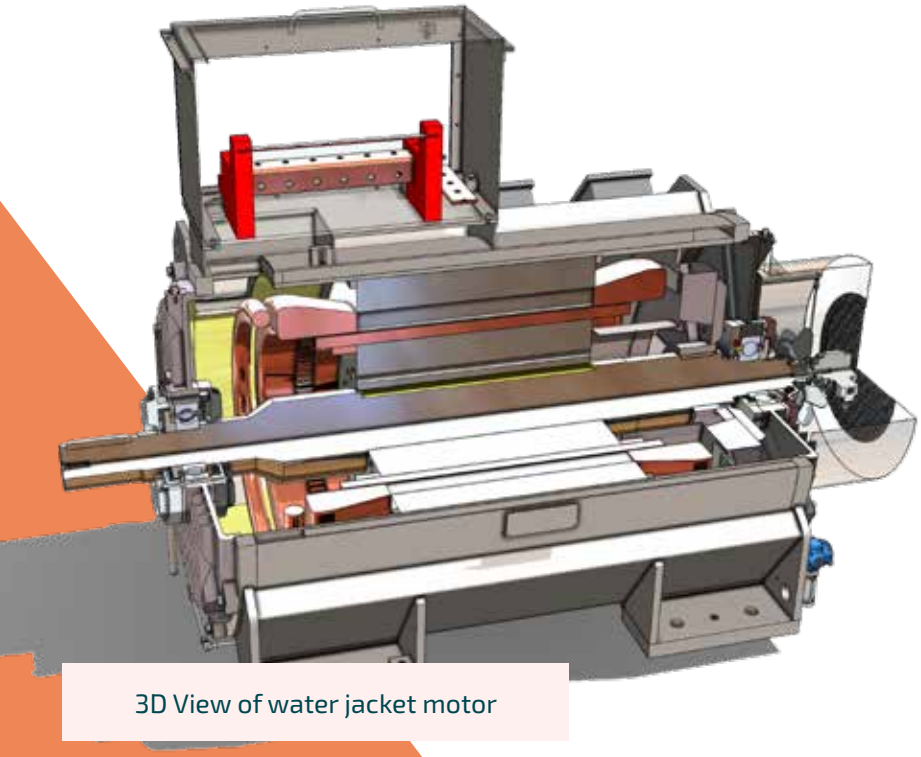
FROM INDUSTRIAL TO MARINE SERVICES

DESIGNED AND BUILT TO LAST

With over 5 million units in service worldwide, **Electro Adda** have been providing innovative and reliable solutions to the electric motor sector since 1948. Combining Italian manufacturing excellence with a global outlook, **Electro Adda** meets customer expectations with precision.

FROM 1948

100% Italian family business



3D View of water jacket motor

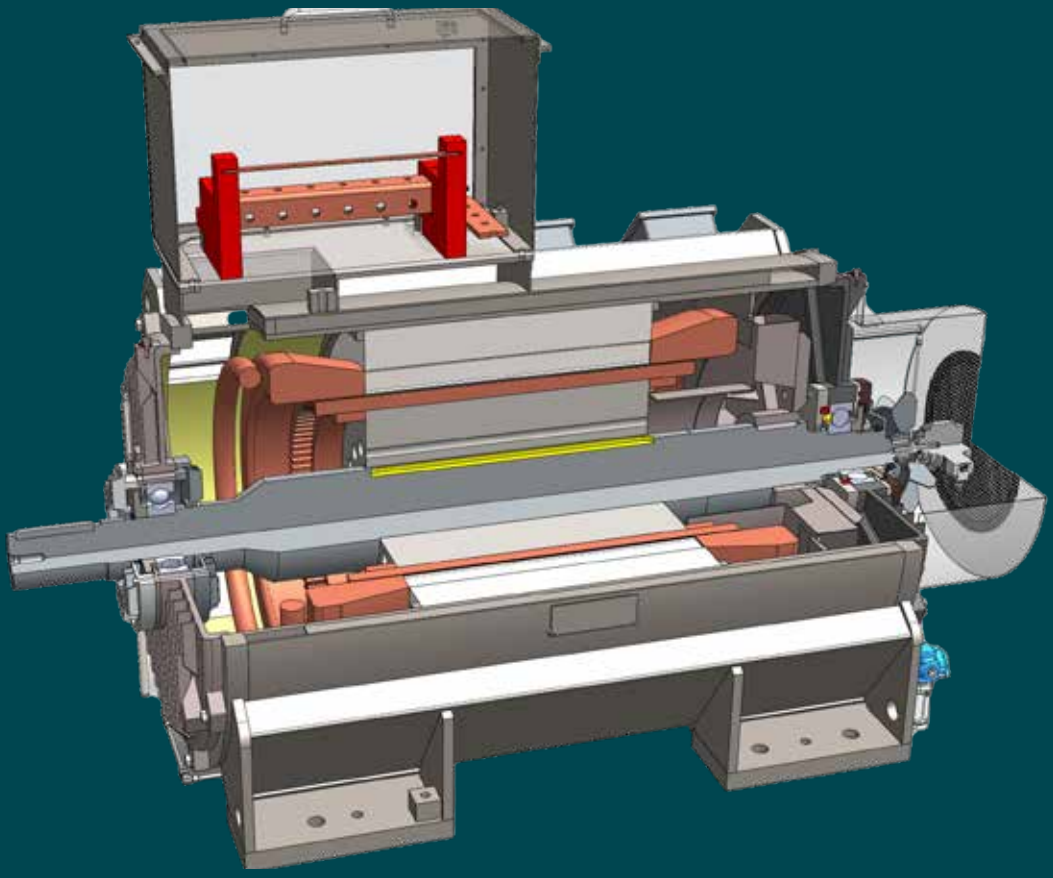
DISTINCTIVE FEATURES

- From **STANDARD** to **CUSTOMISED**
- Reliable quality bearing options
- Improved thermal performance
- High efficiency
- Robust mechanical structure
- Flexurally rigid rotor *(the best solution for variable speed)*
- Electro Adda HPI - Insulation system for inverters
- Quality (partial discharge tests on wound stators)
- 3D Design

QUALITY AND PERFORMANCE GUARANTEED

Electro Adda's comprehensive quality approach spans engineering, supply chain verification, and production controls. Performance is validated through functional testing in compliance with project data and IEC standards (or marine classification register requirements, where applicable).

DESIGNED AND MANUFACTURED IN ITALY



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