



W SERIES CATALOGUE



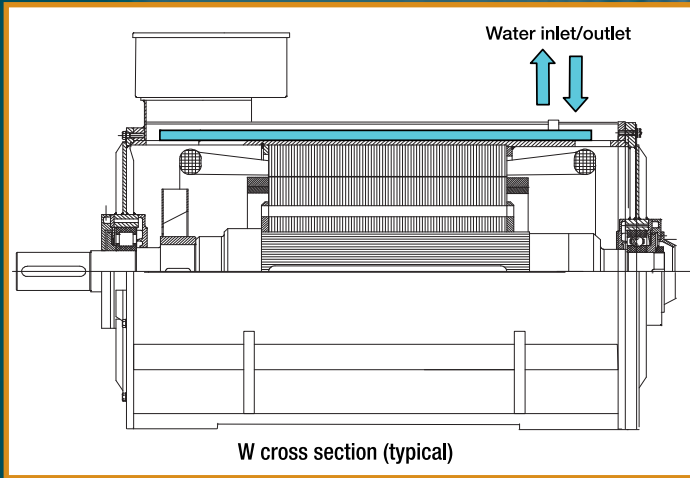
ea **ELECTRO ADDA**[®]
il motore che fa la differenza

**WATER COOLED SQUIRREL CAGE
THREE-PHASE ASYNCHRONOUS MOTORS**
W Series - Frames sizes 132÷560

DESIGNED FOR HARSH ENVIRONMENT

Three-phase asynchronous motors W series have been designed to be used in harsh environments.

CONCEPT AND ADVANTAGES

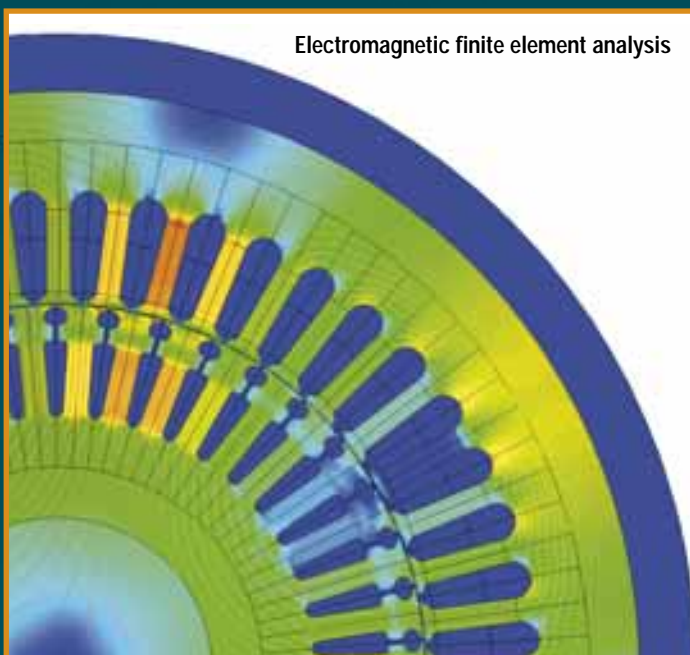


The design consists of a water jacket built around the frame acting as an heat exchanger.

Fresh water - (neutral PH, Cl<120 mg/l, no solid particle) supplied by the users through an external circuit - is circulated to effectively remove losses.

Such configuration is compact and space saving when compared with conventional configuration Totally Enclosed Water Cooled TEWAC. Incremental advantages are noise reduction as the water jacket acts as a sound damper and smooth vibration levels for enhanced performance in the field.

Suitable for grid operation and optimized for variable speed (quadratic or constant torque) - Electro Adda R&D is constantly developing and expanding product portfolio.



FIELDS OF APPLICATION

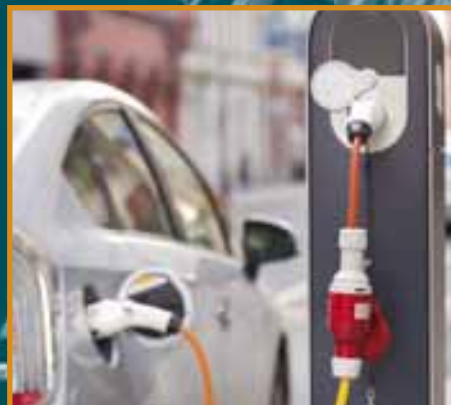
- Marine and Defense
- Industrial
- Heavy Duty & Metals



- Pulp and Paper
- Petrochemical



- Mining
- Traction & Automotive



OPTIMIZED COST

BENEFITS

Water jacket machines provide lower acoustic noise and vibrations, negligible heat dissipation to the environment, reduced space installation requirements, increased reliability and reduced maintenance costs.

MAIN OPTIONS

Electro Adda is customer oriented and capable to meet specific requirements with customized design and options:

- Winding and bearing temperature detectors
- Water leakage detector and flow switch
- Space heaters
- Class H insulation
- Insulated bearing and shaft grounding brush
- Cable glands
- Vibration sensors
- Special painting cycle per ISO 12944
- Special shaft and/or double shaft extension
- Encoder
- Brake
- Type test

MARINE OPTIONS

Compliance with appointed marine classification society



- Bearings and mechanical design suitable for static and dynamic roll and pitch conditions
- Marine painting cycle

Electro Adda global service network coordinated by the HQ in Beverate di Brivio, LC Italy is available to assist clients and end users on a worldwide scale.

STATOR WINDING INSULATION SYSTEM

W series is typically inverter driven: the stator winding insulation system is designed and built to guarantee reliable operation.

Motors designed for 690 V supply are manufactured with a reinforced insulation system (HPI system).

OF OWNERSHIP



MECHANICAL DESIGN

W motors are designed with large safety factors to meet demanding requirements of heavy duty applications.

Frame is made of high quality certified fabricated steel, water jacket individually pressure tested.

Shaft made in high quality alloy steel and all mechanical components machined in house.

Quality checks (shape and dimensions) verified with suitable tools and instrumentation to guarantee compliance with design.

LOW NOISE AND VIBRATIONS

Water jacket provides sound and vibration damping for quiet and smooth operation in the field.

BEARINGS

W motors are equipped with bearings from reputable suppliers only and selected to meet the specific application (high - low temperature) and mounting (horizontal, vertical, inclined, marine).

On request - the unit can be provided with bearing temperature and vibration sensors to monitor machine operational status.

Special or different configurations (for example sleeve bearings) can be provided on request.

Insulated bearings are used for variable speed applications.

COMPACT

Space saving is viable with water jacket motors as the heat exchanger is part of the frame.

RATINGS ULTRA COMPACT WATER JACKET

METRIC FRAME SIZE 132÷250

Typical ratings (kW) - referred @ 690 V 60 Hz - Continuous duty S1^(*)

Max fresh water inlet temperature 35°C

Voltage range: 220 to 690 V - 50, 60 Hz and inverter supply.

Ultra compact water jacket

Frame Size		
132	4p	15
	6p	9
160	4p	22
	6p	15
180	4p	36
	6p	22
200	4p	54
	6p	37
225	4p	65
	6p	45
250	4p	75
	6p	58

Other polarities available

^(*)Rating may increase for different specified duties, S2, S9, etc...

SUCCESSFUL FIELD OPERATION MATTERS



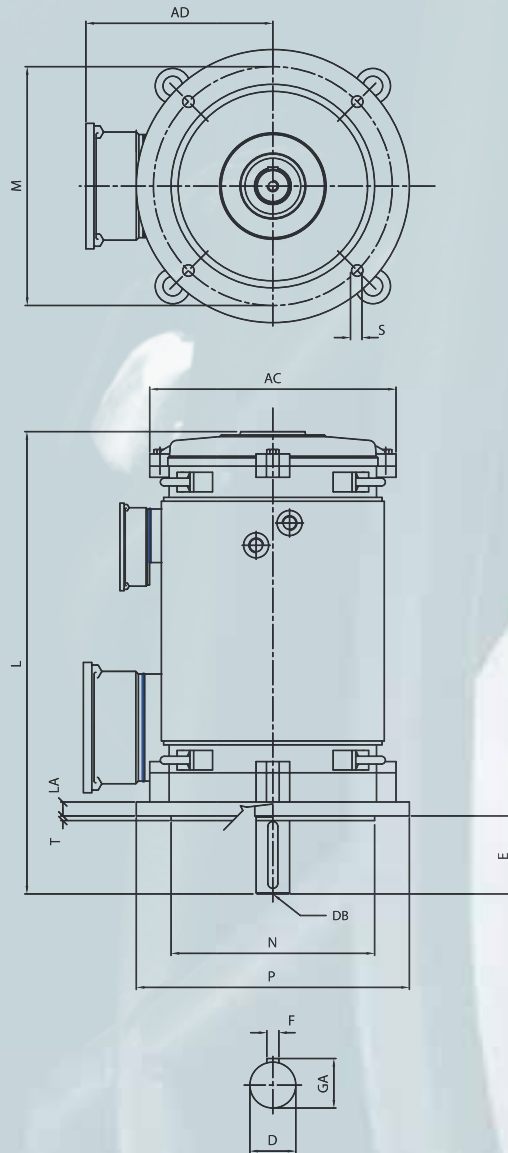
High temperature water jacket motors



High speed automatic test bench

OUTLINE DIMENSIONS 132÷250

Ultra compact water jacket (4-6-8p) - Vertical mounting

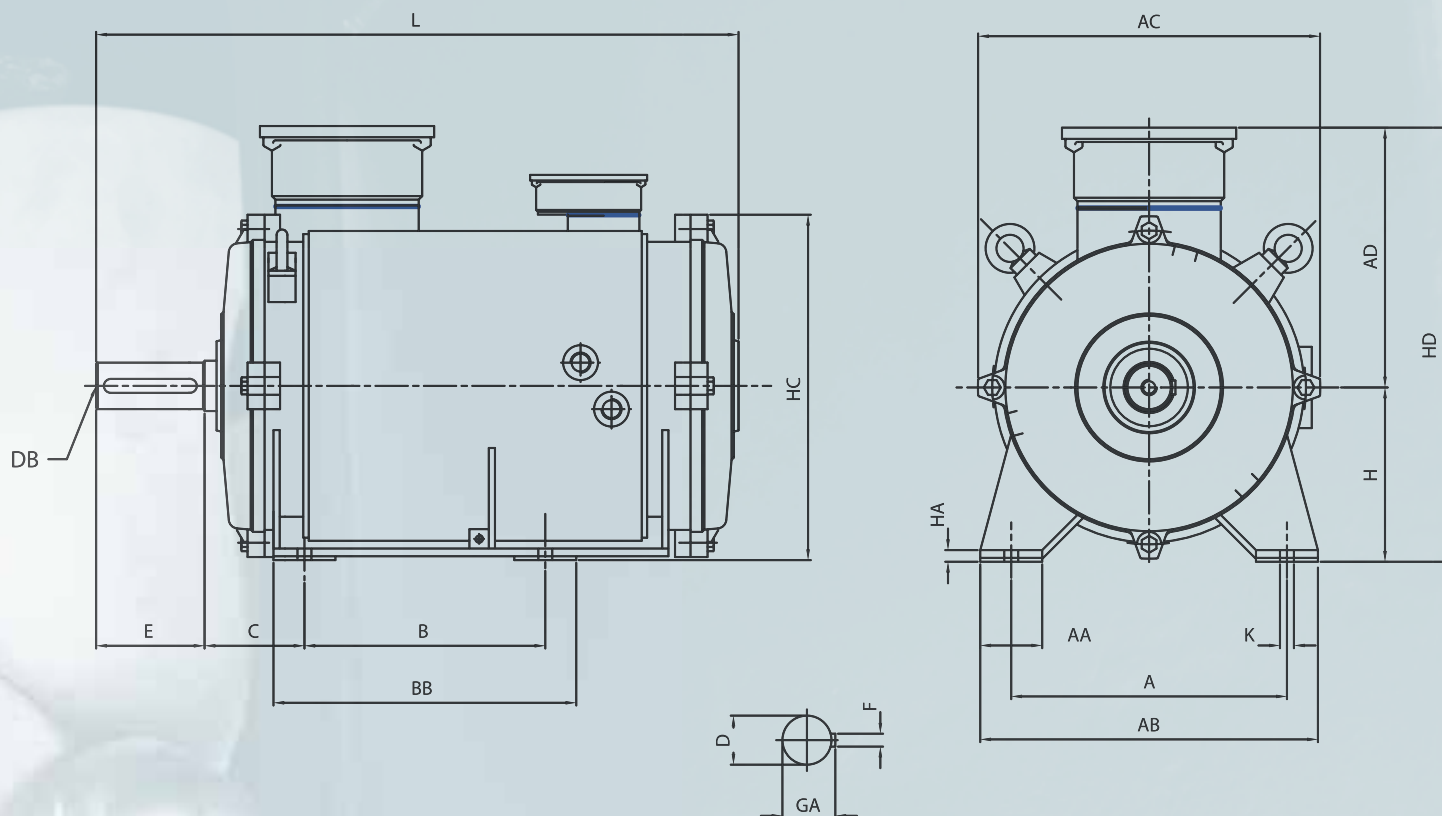


Type	AC	AD	L	LA	M	N	P	S	T	D	E	F	GA	DB
FW132S	260	203	425	15	265	230 j6	300	N.4x14	4	38 k6	80	10	41	M12x1.75
FW132M	260	203	525	15	265	230 j6	300	N.4x18	4	38 k6	80	10	41	M12x1.75
FW160M/L	314	250	645	15	300	250 h6	350	N.4x18	5	42 k6	110	12	45	M16x2
FW180L	360	270	670	15	300	250 h6	350	N.4x18	5	48 k6	110	14	51.5	M16x2
FW200L	395	305	780	15	350	300 h6	400	N.4x18	5	55 m6	110	16	59	M20x2.5
FW225M	442	340	785	16	400	350 h6	450	N.8x18	5	60 m6	140	18	64	M20x2.5
FW250M	496	380	850	18	500	450 h6	550	N.8x18	5	65 m6	140	18	69	M20x2.5

Type	DRIVE END	NON DRIVE END
FW132S/M	6208-2Z	6208-2Z
FW160M/L	6309-2Z	6309-2Z
FW180L	6311-2Z	6311-2Z
FW200L	6312-2Z	6312-2Z
FW225M	6313-2Z-C3	6313-2Z-C3
FW250M	6314-2Z-C3	6314-2Z-C3

OUTLINE DIMENSIONS 132÷250

Ultra compact water jacket (4-6-8p) - Horizontal mounting



Type	A	AA	AB	AD	AC	B	BB	C	H	HA	HC	HD	K	L	D	E	F	GA	DB
W132S	216	50	260	203	260	140	225	89	132	10	262	335	13	425	38 k6	80	10	41	M12x1.75
W132M	216	50	260	203	260	178	225	89	132	10	262	335	13	525	38 k6	80	10	41	M12x1.75
W160M	254	70	315	250	314	210	300	108	160	10	317	410	14	645	42 k6	110	12	45	M16x2
W160L	254	70	315	250	314	254	300	108	160	10	317	410	14	645	42 k6	110	12	45	M16x2
W180L	279	70	350	270	360	279	340	121	180	15	360	450	14	670	48 k6	110	14	51.5	M16x2
W200L	318	90	395	305	395	305	365	133	200	15	398	505	18	780	55 m6	110	16	59	M20x2.5
W225M	356	80	436	340	442	311	390	149	225	15	446	565	18	785	60 m6	140	18	64	M20x2.5
W250M	406	95	476	380	496	349	470	168	250	15	498	630	22	850	65 m6	140	18	69	M20x2.5

Type	DRIVE END	NON DRIVE END
W132S/M	6208-2Z	6208-2Z
W160M/L	6309-2Z	6309-2Z
W180L	6311-2Z	6311-2Z
W200L	6312-2Z	6312-2Z
W225M	6313-2Z-C3	6313-2Z-C3
W250M	6314-2Z-C3	6314-2Z-C3

RATINGS MEDIUM LARGE WATER JACKET METRIC FRAME SIZE 280÷560

Typical ratings (kW) - referred @ 690 V 60 Hz - Continuous duty S1^(*)

Max fresh water inlet temperature 35°C

Voltage range: 220 to 690 V - 50, 60 Hz and inverter supply.

Medium large power water jacket

Frame Size		
280	4p	132
	6p	90
315	4p	300
	6p	240
355	4p	720
	6p	550
400	4p	1000
	6p	800
450	4p	1400
	6p	1200
500	4p	2000
	6p	1800
560	4p	3000
	6p	2500

Other polarities available

^(*)Rating may increase for different specified duties, S2, S9, etc...

RELIABILITY AND CUSTOMER CARE



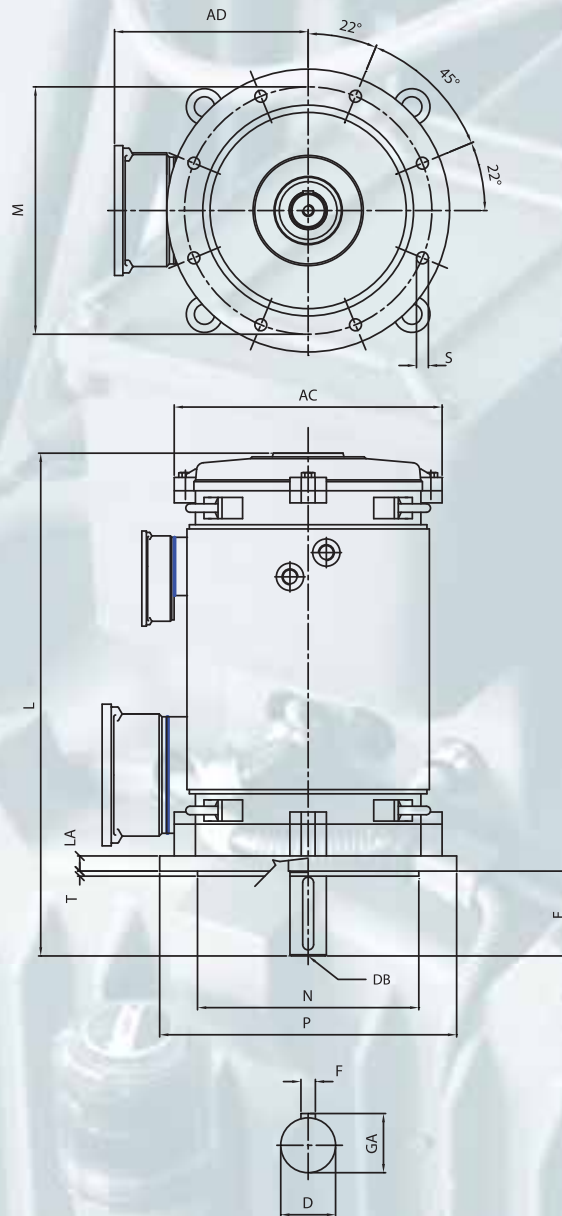
Hydropower plant with two twin parallel generators in operation



Water jacket motor during final assembly in Beverate di Brivio, LC - Italy

OUTLINE DIMENSIONS 280÷560

Medium large power water jacket (4-6-8p) - Vertical mounting



Type	AC	AD	L	LA	M	N	P	S	T	D	E	F	GA	DB
FW280S/M	540	445	1010	18	500	450 h6	550	N.8x18	5	75 m6	140	20	79	M20x2.5
FW315M/L	700	540	1470	25	600	550 h6	660	N.8x22	6	80 m6	170	22	85	M20x2.5
FW355L	785	580	1910	25	740	680 h6	800	N.8x22	6	100 m6	210	28	106	M24x2.5
FW400L	750	700	1625	28	940	880 h6	1000	N.8x28	6	110 m6	210	28	116	M24x2.5
FW450L	865	800	2230	28	940	880 h6	1000	N.8x28	6	110 m6	210	28	116	M24x2.5
FW500L	1060	900	2050	28	1080	1000 h6	1150	N.8x30	6	130 m6	250	32	137	M24x2.5

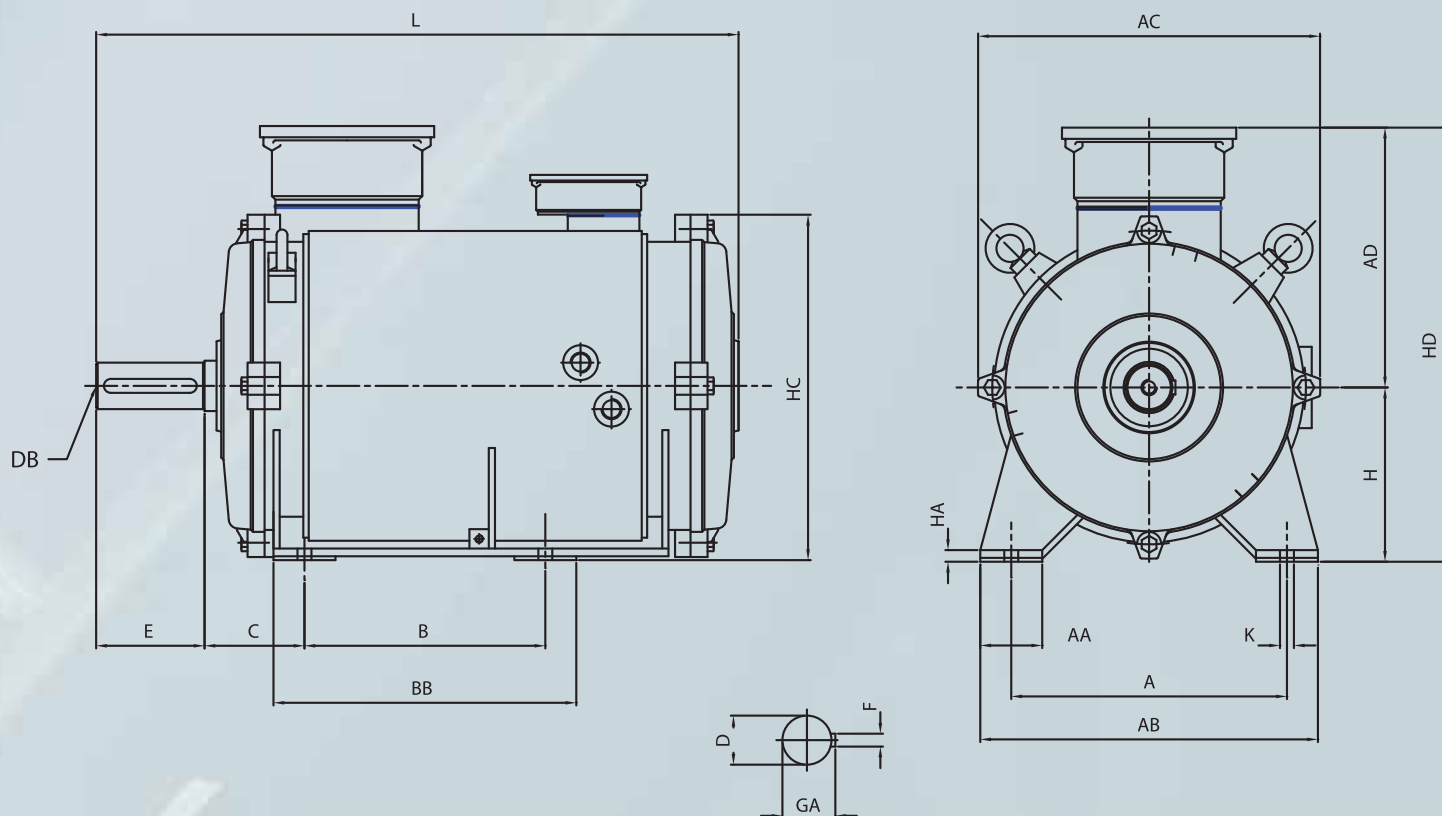
Frame 560 outline on request.

Type	DRIVE END	NON DRIVE END
FW280S-M	6317-C3	6317-C3
W315M - L	6320-C3	6317-C3
W355L	6324-C3	6322-C3
W400L	6324-C3	7322
W450L	6328-C3	7324
W500L	6328-C3	7324

Frame 560 outline on request.

OUTLINE DIMENSIONS 280÷560

Medium large power water jacket (4-6-8p) - Horizontal mounting



Type	A	AA	AB	AD	AC	B	BB	C	H	HA	HC	HD	K	L	D	E	F	GA	DB
W280S	457	120	535	445	540	368	550	190	280	20	580	725	22	1010	75 m6	140	20	79	M20x2.5
W280M	457	120	535	445	540	419	550	190	280	20	580	725	22	1010	75 m6	140	20	79	M20x2.5
W315M	508	120	620	540	700	457	730	216	315	35	660	855	27	1470	80 m6	170	22	85	M20x2.5
W315L	508	120	620	540	700	508	730	216	315	35	660	855	27	1470	80 m6	170	22	85	M20x2.5
W355L	610	120	730	580	785	630	1100	254	355	35	745	935	27	1910	100 m6	210	28	106	M24X2.5
W400L	686	150	810	700	750	710	1120	280	400	35	775	1100	27	1625	110 m6	210	28	116	M24X2.5
W450L	750	150	950	800	865	800	1050	315	450	35	900	1250	36	2230	110 m6	210	28	116	M24X2.5
W500L	850	160	950	950	1100	900	1100	335	500	45	990	1450	35	2500	130 m6	250	32	137	M24X2.5

Frame 560 outline on request.

Type	DRIVE END	NON DRIVE END
W280S/M	6317-C3	6317-C3
W315M/L	6320-C3	6317-C3
W355L	6324-C3	6322-C3
W400L	6324-C3	6322-C3
W450L	6328-C3	6324-C3
W500L	6328-C3	6328-C3

Frame 560 outline on request.

FROM AUTOMOTIVE



TO MARINE SERVICES





DESIGNED AND BUILT TO LAST

With over 5 millions motors in service worldwide, Electro Adda delivers innovative and reliable solutions since 1948.

Electro Adda, Italian production, international horizon to exceed customers' expectations.



GUARANTEED QUALITY AND PERFORMANCE

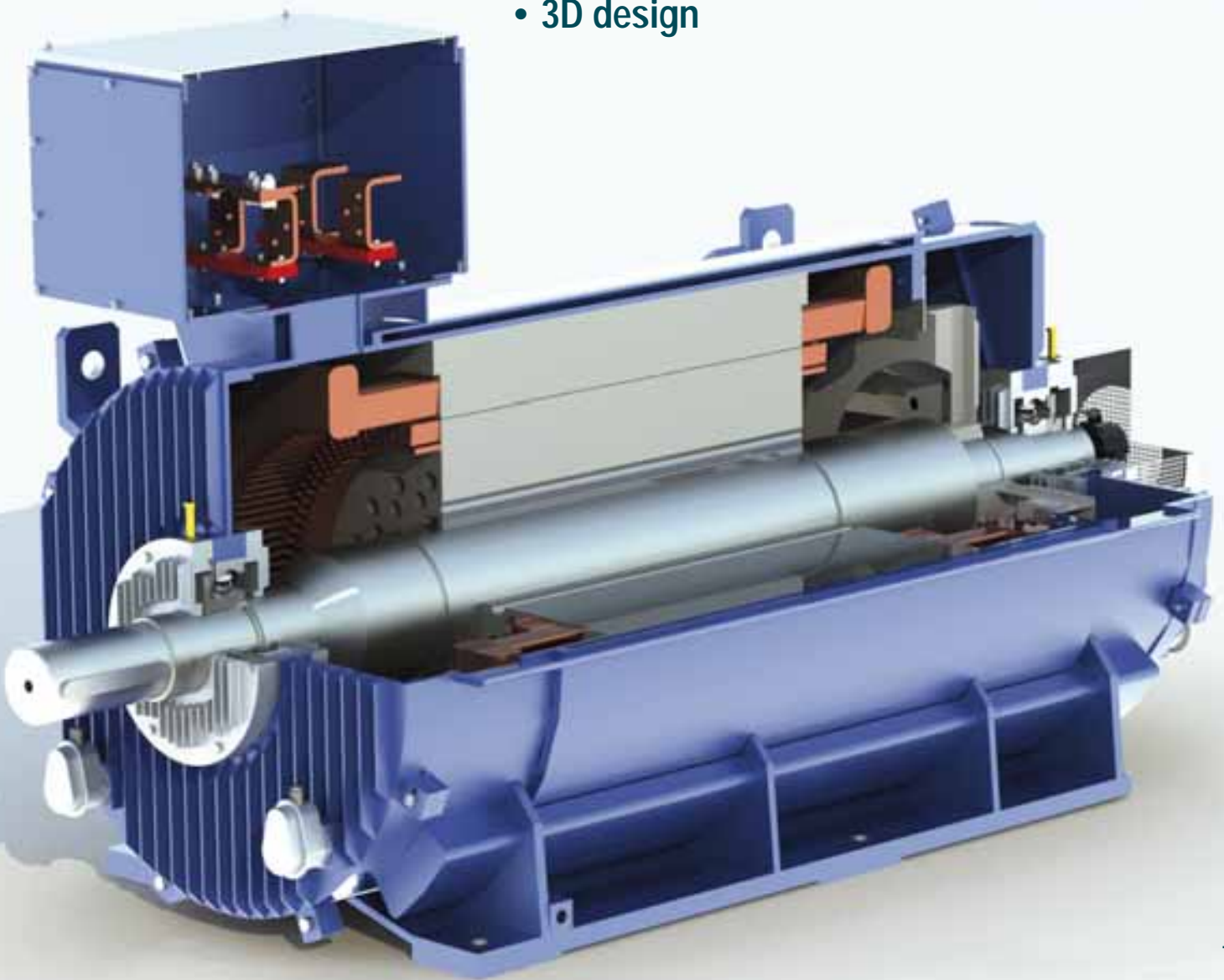
Electro Adda quality mindset starts from internal engineering department, suppliers qualification up to checks during the manufacturing process.

Final product performance can be assessed through verifications in our test room - in compliance with IEC standards, project requirements and - when applicable - marine classification society rules.

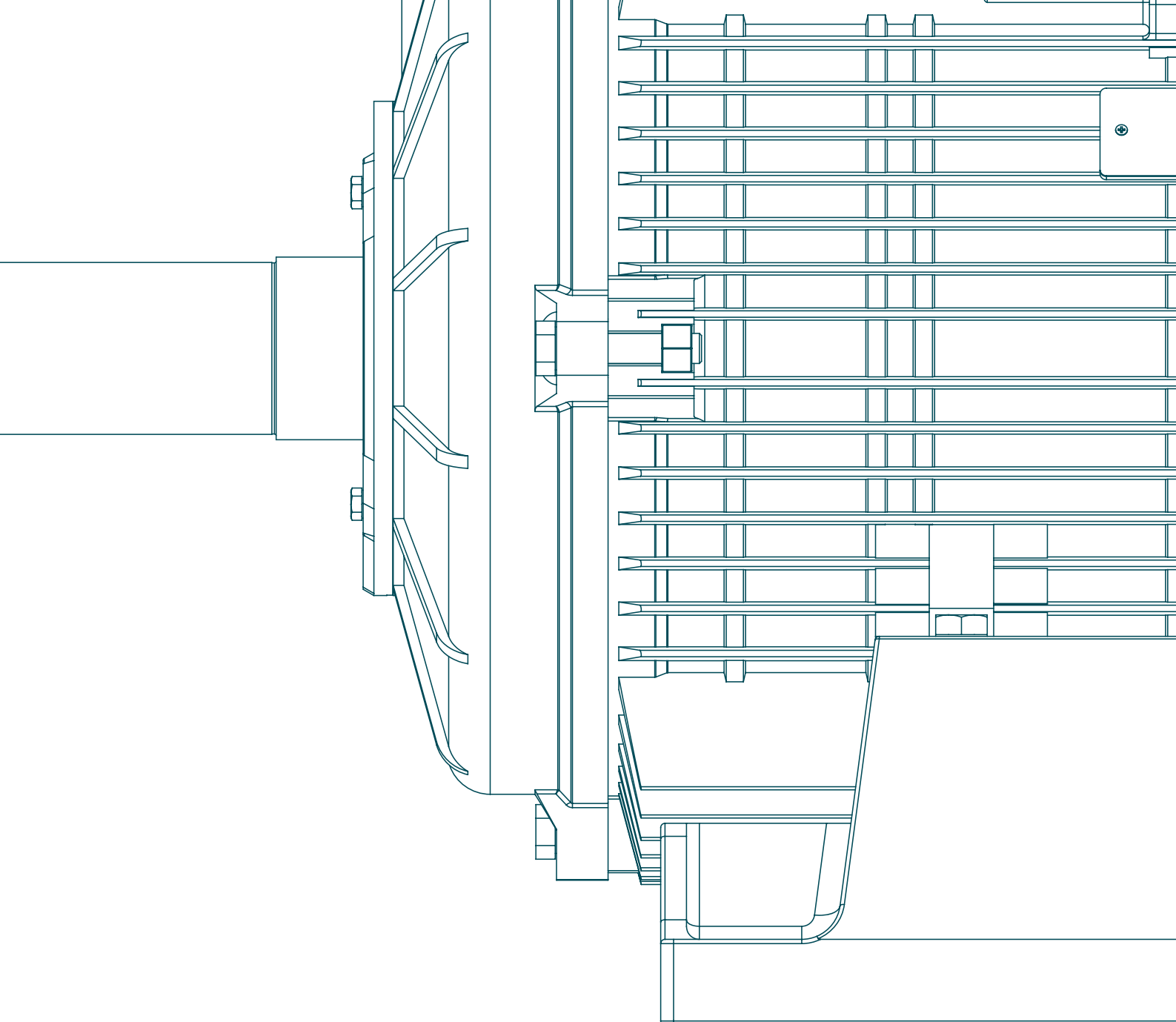


DIFFERENTIATION FACTORS

- From standard to customized configurations
 - Superior bearing arrangements
 - Enhanced thermal performance
 - High efficiency
 - Robust mechanical structure
- Stiff shaft design (best for variable speed)
- Electro Adda HPI insulation system (inverter duty)
- Quality (partial discharge check on wound stator)
 - 3D design



Water jacket motor 3D cross section



 **ELECTRO ADDA**[®]
il motore che fa la differenza

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