mecc alte

MARINE

POWER FROM WITHIN

MARINE ALTERNATORS

BUILT FOR LIFE AT SEA

The world's largest independent producer of alternators 1 – 5,000kVA

CONTENTS

OUR UNIQUE COMPANY

TOTALLY FOCUSED. TOTALLY INDEPENDANT.

Ever since we were established in 1947, we've been totally focused on finding the best solution for your needs. Today, with factories or distribution centres in every continent, we provide alternators, controllers, battery chargers and governors that are built around your challenges. All based on our experience as the world's largest independent producer of alternators. Our independence is very important to us... and to our customers because we never compete with any of them in the end market (we don't sell complete generator sets). We believe that we're a totally unique company because of the special combination of qualities that set us apart from our competitors.

Wherever you are, you can count on us to offer the highest levels of global support and put you at the forefront of every single decision we make. All of which spurs us on to deliver continuous development, product innovation and constantly evolving product ranges.

TOTALLY COMMITTED TO GLOBAL PRODUCTION

We manufacture the world's widest range of low voltage alternators 1 – 5,000kVA via our 'made for manufacturing' product design in Italy, the UK, China and India. Our network of factories is supported by wholly-owned subsidiaries across the globe who specialise locally in the sales, distribution and aftersales for all Mecc Alte products. This global support ensures that you get the help you need... wherever you are.

TOTALLY COMMITTED TO QUALITY

We've reached the highest possible quality standards in every area of design, production and sales. At Mecc Alte, our constant pursuit of quality begins well before the actual production process with careful checks on semi-processed parts and sample testing of electrical components. We have a complete range of products and our production process is totally integrated. This ensures that every production phase, from the design and selection of materials right through to manufacture and aftersales assistance, complies with the strictest international and organisational standards.

OUR UNIQUE PEOPLE

Throughout the world, each person we employ is totally committed to the global support that we offer you... and to ensuring that every solution we produce meets the world-class standards that Mecc Alte is renowned for.

MARINE ALTERNATORS

EVERYTHING YOU NEED, WHEREVER YOU NEED IT

Whatever you want, you can have it with Mecc Alte. As a world leading alternator manufacturer we offer a diverse range of marine alternators from small water-cooled specialised products through to a fully advanced marine product; supplied into both essential and non-essential duties, from the very small to the very large vessels.

There is a wide range of requirements in marine applications. It is important to have a standard product that suits the vast majority of these – either by standard features or simple additions. The 12 wire reconnectable, multi-purpose winding accommodates a wide range of voltage and Hz requirements.

Outside of this there are many dedicated windings if required – such as 690V 50/60Hz for windfarm support vessels.

The IACS IP23 mandatory requirement is a standard feature. Enhancements can be supplied extending ingress protection in IP43 to IP45 levels. It is recognised that certain installations require higher levels of protection due to engine room fire protection systems. Derates will apply.

While the standard build fulfills the mandatory requirements of most installations – including 300% SCC for up to 10 seconds, there are build options available if required to satisfy a given specification.

	Temperature Rise			
	Ambient Temperature	Class H	Class F	Class B
RINA	40°C	125°C	105°C	80°C
	45°C	120°C	100°C	75°C
Lloyd's Register	40°C	115°C	100°C	75°C
	45°C	110°C	95°C	70°C
Der Norske Veritas	40°C	125°C	105°C	80°C
	45°C	120°C	100°C	75°C
Bureau Veritas	40°C	125°C	105°C	80°C
	45°C	120°C	100°C	75°C
American Bureau of Shipping	40°C	125°C	105°C	80°C
	45°C	120°C	100°C	75°C
	50°C	115°C	95°C	70°C
Korean Register	40°C	125°C	100°C	80°C
	45°C	120°C	95°C	75°C
	50°C	115°C	90°C	70°C

MARINE SURVEY SOCIETY OPERATIONAL CLASSIFICATIONS

BUILT TO HANDLE ANY SITUATION

PROVEN CAPABILITY

Mecc Alte alternators are fitted with innovative features, as standard, to ensure high levels of performance and reliability. All standard products are extremely versatile and can be adapted to suit even the most demanding applications. This product is supported by an experienced, professional team who are able to ensure exceptional support globally - both pre and post order. In addition, unique special and customised machines are available to suit specific applications, such as stainless steel framed, low magnetism machines for naval minesweeper vessels or vertical-mounted shaft drive machines.

STANDARDS AND CERTIFICATION

The BV, DNV and BKI batch type and line approval highlights the company's competence in this market sector. Additional testing and certification can be provided through all major classification societies such as ABS, BV, CCS, DNV, GL, KR, LR, NK, RINA, or others where design approvals are already in place.

EXCEPTIONAL EXCITATION

The 'MAUX' (Mecc Alte Auxiliary Winding) is used throughout the range and has been a proven standard for Mecc Alte in all market sectors. MAUX is a brushless excitation system deriving power from a dedicated auxiliary winding within the main stator. This winding is protected by four layers of polyester in addition to the clear varnish and EG43 severe environment protection used in marine applications. Fitted within the main stator, it minimises overall dimensions of the alternator and ensures a compact machine.

The MAUX system ensures high levels of performance within compact dimensions and surpasses industry requirements giving >300% forced current (short circuit maintenance) for 20 seconds.

PMG excitation is an option on all frames, if needed, to satisfy more traditional specification requirements.

CONTROL SYSTEM

CONSTRUCTION

- Rigid steel frames (FeP12)
- Rotors are dynamically balanced with ½ key (ISO 8821), conforms to class G.2.5 (ISO 1940)
- Squirrel damper 'cage' windings in the rotor for parallel operation
- Digital AVRs (Automatic Voltage Regulators) are used throughout the range, ensuring ease of replacement and maximum performance

DIGITAL AVR
VOLTAGE REGULATOR

BEARINGS

- Sealed for life high quality bearings up to the EC038 frame
- Regreasable bearings for EC040 (drive end only on 2 bearing machines), EC043 and EC046

PROTECTION

Standard protection is IP23 but for marine applications we also offer additional protection. We can also offer inlet filters, IP43, IP45 and IP54 protection levels if required. On larger machines, we can offer CACA or CACW cooling by special order on request.

INGRESS PROTECTION IP23

INGRESS PROTECTION IP23+

INGRESS PROTECTION IP43

INGRESS PROTECTION IP45

INGRESS PROTECTION IP55

INSULATION AND IMPREGNATION

Insulation materials used provide a system insulated to Class H level. Superior processes are employed to add an EG43 compound after insulation over the main and exciter windings to give marine standards of protection. Mecc Alte offers a range of insulation systems from GREY to VT Total+ protection for operating in the harshest of environments.

GREY
INSULATION SYSTEM

TOTAL+
INSULATION SYSTEM

VT PLUS
INSULATION SYSTEM

TOUGH ENVIRONMENTS. NO PROBLEM.

MARINE CAPABILITIES

- MAUX CONTROL SYSTEM
- PMG POWER BOOST SYSTEM
- IP23+ INGRESS PROTECTION
- T+ TOTAL+ INSULATION SYSTEM

RELIABILITY

Fewer components throughout the range, as well as within individual machines, enhances the reliability of our products.

That's why, according to the military standard MIL-HDBK-217F, the reliability predictions are a failure rate of just 75.82 fpmh (failures per million hours) and 13,189 hours mtbf (mean time between failures). Standardised components provide a high level of interchangeability and reduces the level of spares needed to be kept on vessels.

MINIMUM MAINTENANCE

Mecc Alte marine alternators are built with low maintenance in mind. Bearings have up to 30,000 hours' life expectancy, and windings have high degrees of protection. Where maintenance is necessary, access is very simple and the commonality of parts ensures global spares availability.

COMPACT DIMENSIONS

Mecc Alte marine alternators are amongst the most compact and lightweight alternator packages available. Machines are high efficiency, demonstrating the technical processes and advanced design of Mecc Alte products.

REGULATORS

Simplicity and effectiveness are key in our 'MAUX' control system. Mecc Alte uses highly reliable DSR and DER AVRs (Digital Simplified and Digital Enhanced Regulators). This makes life simple, as either of these can work on any machine in the Mecc Alte range. They're highly effective, too, because voltage control up to +/-0.5% is available and both are available for parallel operation.

The DER regulator has more features and includes automatic 3ph sensing and soft start abilities.

These digital regulators bring additional benefits such as finer adjustments, remote monitoring, 3ph/1ph sensing and real-time data logging. Software is supplied by Mecc Alte.

QUALITY ASSURANCE

Products are built in accordance with ISO 9001, accredited by RINA; batch and line production and product approvals are also provided by Det Norske Veritas, Bureau Veritas and BKI; approvals are also provided by the Canadian Standards Authority (CSA) and the Underwriters Laboratory (UL).

Designs are executed according to the most common specifications such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA-C22.2 No.14-95 – No.100-95.

ACCESSORIES / OPTIONS

A large number of accessories are available on request, including:

- Anti-condensation heaters
- Temperature detectors (thermistors or PT100) for windings and bearings
- Higher degrees of mechanical protection with optional inlet filters, IP43, IP45 or IP55 (CACW/CACA by special order)
- Parallel operation CTs
- Gland plates (specific to each contract)
- Wide option of Advanced Winding Protection systems

400V 3 PHASE 50 Hz

kVA @ Temperature Rise / Ambient °C / 0.8 PF													
Ambient Temperature	40°C			45°C						50°C			
Ambient Temperature Rise	125°C	105°C	80°C	120°C	110°C	100°C	95°C	75°C	70°C	115°C	95°C	90°C	70°C
Society	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	LR	RINA DNV BV ABS KR CRS	LR	RINA DNV BV ABS KR CRS	LR	ABS KR	ABS	KR	ABS KR
Model													
ECP3 1S 4C	**6.5**	6	5.2	6.2	5.9	5.8	5.5	5	4.7	6	5.6	5.3	4.8
ECP3 2S 4C	**8**	7.5	6.4	7.7	7.3	7.2	6.8	6.1	5.8	7.4	7	6.5	6
ECP3 1L 4C	**11**	10	8.8	10.6	10	9.6	9.4	8.4	8	10.2	9.3	8.9	8.2
ECP3 2L 4C	**13.5**	12.5	10.8	13	12.3	12	11.5	10.4	9.9	12.6	11.6	10.9	10
ECP3 3L 4C	**15**	14	12	14.4	13.7	13.4	12.8	11.5	11	14	13	12.2	11.2
ECP28 1VS 4C	**7.5**	6.7	6	7.2	6.9	6.4	6.4	5.8	5.5	7	6.2	5.8	5.6
ECP28 2VS 4C	**10**	9.1	8	9.6	9.1	8.7	8.5	7.7	7.4	9.3	8.5	8.1	7.4
ECP28 1S 4C	**12.5**	11.6	10	12	11.4	11.1	10.6	9.6	9.2	11.6	10.8	10.1	9.3
ECP28 2S 4C	**15**	14.1	12	14.4	13.7	13.5	12.7	11.5	11	14	13.1	12.2	11.2
ECP28 3S 4C	**17.5**	16.5	14	16.8	16	15.8	14.9	13.4	12.8	16.3	15.3	14.2	13
ECP28 M 4C	**20**	18.5	16	19.2	18.2	17.8	17	15.4	14.6	18.6	17.2	16.2	14.9
ECP28 L 4C	**25**	23	20	24	22.8	22.1	21.3	19.2	18.3	23.3	21.4	20.3	18.6
ECP28 VL 4C	**30**	26	24	28.8	27.3	25	25.5	23	21.9	27.9	24.2	24.3	22.3
ECP32 1S 4C	**37.5**	35	30	36	34.3	33.6	32.1	28.8	27.9	34.9	32.6	30	27.9
ECP32 2S 4C	**45**	41	36	43.2	41	39.4	38.1	34.6	32.8	41.9	38.1	36.5	33.5
ECP32 1M 4C	**50**	48	40	48	46	46.1	43	38.4	37	46.5	44.6	41	37.2
ECP32 2M 4C	**62.5**	59.5	50	60	57.5	57.1	53.6	48	45.6	58.1	55.3	50.6	46.5
ECP32 1L 4C	**75**	67	60	72	69	64.3	64	57.6	55	69.8	62.3	61	55.8
ECP32 2L 4C	**82.5**	73.2	66	79.2	76.3	70.3	70.1	63.4	60.8	76.7	68.1	67	61.4
ECP34 1S 4C	**87.5**	79	70	84	79.3	75.8	74.1	67.2	63.8	81.4	73.5	71	65.1
ECP34 2S 4C	**100**	90	80	96	91.4	86.4	84.8	76.8	73.3	93	83.7	81	74.4
ECP34 1M 4C	**125**	112	100	120	114	108	106	96	91	116	104	101	93
ECP34 2M 4C	**135**	121	108	130	123	116	115	104	99	126	113	109	100
ECP34 1L 4C	**150**	136	120	144	137	131	128	115	110	140	126	122	112
ECP34 2L 4C	**165**	149	132	158	150	143	141	127	121	153	139	133	123

kVA @ Temperature Rise / Ambient °C / 0.8 PF													
Ambient Temperature	40°C			45°C						50°C			
Ambient Temperature Rise	125°C	105°C	80°C	120°C	110°C	100°C	95°C	75°C	70°C	115°C	95°C	90°C	70°C
Society	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	LR	RINA DNV BV ABS KR CRS	LR	RINA DNV BV ABS KR CRS	LR	ABS KR	ABS	KR	ABS KR
Model													
EC038 1S 4C	**180**	170	144	173	164	163	153	138	131	167	158	146	134
EC038 2S 4C	**200**	185	160	192	182	178	170	154	146	186	172	162	149
EC038 1M 4C	**225**	207	180	216	205	199	191	173	164	209	193	182	167
EC038 2M 4C	**250**	230	200	240	228	221	213	192	183	233	214	203	186
EC038 1L 4C	**300**	275	240	288	273	264	255	230	219	279	256	243	223
EC038 2L 4C	**350**	320	280	336	319	307	298	269	256	326	298	284	260
EC040 1S 4C	**400**	370	320	384	364	355	340	307	292	372	344	324	298
EC040 2S 4C	**450**	410	360	432	410	394	383	346	329	419	381	365	335
EC040 3S 4C	**500**	450	400	480	455	432	425	384	365	465	419	405	372
EC040 1L 4C	**550**	500	440	528	501	480	468	422	402	512	465	446	409
EC040 2L 4C	**625**	564	500	600	568	541	530	480	457	581	525	506	465
EC040 3L 4C	**680**	630	544	653	619	605	578	522	496	632	586	551	506
EC040 VL 4C	**750**	690	600	720	683	662	638	576	547	698	642	608	558
EC043 1S 4A	**820**	750	655	787	748	720	684	629	598	763	698	664	609
EC043 2S 4A	**930**	850	744	893	846	816	791	714	679	865	791	753	692
EC043 1M 4A	**1025**	950	820	984	933	912	870	787	748	953	884	830	763
EC043 2M 4A	**1150**	1050	920	1104	1046	1008	977	883	840	1070	977	930	856
EC043 2L 4A	**1300**	1200	1040	1248	1183	1152	1105	998	949	1209	1116	1053	967
EC043 VL 4A	**1400**	1280	1120	1344	1274	1229	1190	1075	1022	1302	1190	1134	1042
EC046 1S 4A	**1500**	1350	1200	1440	1365	1296	1275	1152	1095	1395	1256	1215	1116
EC046 1.5S 4A	**1650**	1480	1320	1584	1502	1421	1403	1267	1205	1535	1376	1337	1228
EC046 2S 4A	**1800**	1600	1440	1728	1638	1536	1530	1382	1314	1674	1488	1458	1339
EC046 1L 4A	**2100**	1900	1680	2016	1911	1824	1785	1613	1533	1953	1767	1701	1562
EC046 1.5L 4A	**2300**	2050	1840	2208	2093	1968	1955	1766	1679	2139	1907	1863	1711
EC046 2L 4A	**2500**	2250	2000	2400	2275	2160	2125	1920	1825	2325	2093	2025	1860
EC046 VL 4A	**2800**	2500	2240	2688	2548	2400	2380	2150	2044	2604	2325	2268	2083

450V 3 PHASE 60 Hz

kVA @ Temperature Rise / Ambient °C / 0.8 PF													
Ambient Temperature	40°C			45°C						50°C			
Ambient Temperature Rise	125°C	105°C	80°C	120°C	110°C	100°C	95°C	75°C	70°C	115°C	95°C	90°C	70°C
Society	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	LR	RINA DNV BV ABS KR CRS	LR	RINA DNV BV ABS KR CRS	LR	ABS KR	ABS	KR	ABS KR
Model													
ECP3 1S 4C	**7.8**	7.2	6.2	7.5	7.1	6.9	6.6	6	5.7	7.3	6.7	6.3	5.8
ECP3 2S 4C	**9.6**	9	7.7	9.2	8.7	8.6	8.2	7.4	7	8.9	8.4	7.8	7.2
ECP3 1L 4C	**13.2**	12	10.6	12.7	12	11.5	11.2	10.2	9.6	12.3	11.2	10.7	9.9
ECP3 2L 4C	**16.2**	15	13	15.6	14.7	14.4	13.8	12.5	11.8	15.1	14	13.1	12.1
ECP3 3L 4C	**18**	16.5	14.4	17.3	16.4	15.8	15.3	13.8	13.1	16.7	15.3	14.6	13.4
ECP28 1VS 4C	**8.8**	7.8	7	8.4	8	7.5	7.5	6.7	6.4	8.2	7.3	7.1	6.5
ECP28 2VS 4C	**11.6**	10.5	9.3	11.1	10.5	10.1	9.9	8.9	8.5	10.8	9.8	9.4	8.6
ECP28 1S 4C	**14.4**	13.2	11.6	13.8	13	12.7	12.2	11.1	10.5	13.4	12.3	11.7	10.8
ECP28 2S 4C	**17.2**	16.1	13.8	16.5	15.6	15.5	14.7	13.2	12.6	16	15	14	12.8
ECP28 3S 4C	**20.1**	18.8	16.1	19.3	18.2	18	17.1	15.5	14.6	18.7	17.5	16.3	15
ECP28 M 4C	**23.5**	21	18.8	22.6	21.8	20.2	20	18	17.5	21.9	19.5	19.4	17.5
ECP28 L 4C	**28.8**	26.5	23	27.6	26.2	25.4	24.5	22.1	21.1	26.8	24.6	23.3	21.4
ECP28 VL 4C	**36**	32	29	34.6	32.8	30.7	30.6	27.8	26.3	33.5	29.8	29.2	27
ECP32 1S 4C	**44**	42	35.2	42.2	40	40.3	37.7	33.8	32.5	40.9	39.1	35.6	32.7
ECP32 2S 4C	**52**	50	41.6	49.9	47.9	48	44.9	39.9	37.7	48.4	46.5	42.1	38.7
ECP32 1M 4C	**60**	58	48	57.6	55	55.7	51	46.1	44	55.8	53.9	49	44.6
ECP32 2M 4C	**73.8**	70.8	59	70.8	67.7	68	63.7	56.6	53.6	68.6	65.8	59.6	54.9
ECP32 1L 4C	**86**	81.5	68.8	82.6	78.2	78.2	73.3	66	62.5	80	75.8	69.4	64
ECP32 2L 4C	**98**	90.5	78.4	94.1	89.2	86.9	83.4	75.3	71.5	91.1	84.2	79.2	72.9
ECP34 1S 4C	**105**	95	84	101	96	91	90	81	76.7	98	88	85	78
ECP34 2S 4C	**120**	109	96	115	110	105	102	92	87.6	112	101	97	89.3
ECP34 1M 4C	**145**	130	116	139	132	125	123	111	106	135	121	117	108
ECP34 2M 4C	**156**	141	125	150	142	135	132	120	114	145	131	126	116
ECP34 1L 4C	**175**	157	140	168	159	151	149	134	128	163	146	142	130
ECP34 2L 4C	**195**	172	156	187	177	165	166	150	142	181	160	158	145

kVA @ Temperature Rise / Ambient °C / 0.8 PF													
Ambient Temperature	40°C			45°C						50°C			
Ambient Temperature Rise	125°C	105°C	80°C	120°C	110°C	100°C	95°C	75°C	70°C	115°C	95°C	90°C	70°C
Society	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	RINA DNV BV ABS KR CRS	LR	RINA DNV BV ABS KR CRS	LR	RINA DNV BV ABS KR CRS	LR	ABS KR	ABS	KR	ABS KR
Model													
EC038 1S 4C	**220**	205	176	211	200	197	187	169	161	205	191	178	164
EC038 2S 4C	**240**	220	192	230	218	211	204	184	175	223	205	194	179
EC038 1M 4C	**270**	250	216	259	245	240	232	207	197	251	233	220	201
EC038 2M 4C	**300**	280	240	288	273	269	255	230	219	279	260	243	223
EC038 1L 4C	**350**	320	280	336	319	307	298	269	256	326	298	284	260
EC038 2L 4C	**420**	385	336	403	382	370	357	323	307	391	358	340	312
EC040 1S 4C	**465**	425	372	446	423	408	395	357	339	432	395	377	346
EC040 2S 4C	**525**	475	420	504	478	456	446	403	383	488	442	425	391
EC040 3S 4C	**590**	530	472	566	537	509	502	453	431	549	493	478	439
EC040 1L 4C	**645**	585	516	619	587	562	548	495	471	600	544	522	480
EC040 2L 4C	**728**	657	583	699	662	631	620	560	530	677	611	590	542
EC040 3L 4C	**798**	739	638	766	726	709	675	612	583	742	687	646	593
EC040 VL 4C	**900**	830	720	864	819	797	766	691	657	837	772	729	670
EC043 1S 4A	**985**	900	790	946	896	864	837	758	719	916	837	798	735
EC043 2S 4A	**1088**	994	870	1044	991	954	924	835	795	1012	924	882	809
EC043 1M 4A	**1145**	1048	916	1099	1043	1006	972	879	837	1065	975	928	852
EC043 2M 4A	**1368**	1270	1094	1313	1245	1219	1163	1050	1000	1272	1181	1108	1017
EC043 2L 4A	**1521**	1404	1217	1460	1384	1348	1293	1168	1110	1415	1306	1232	1132
EC043 VL 4A	**1700**	1540	1360	1632	1547	1478	1445	1306	1241	1581	1432	1377	1265
EC046 1S 4A	**1755**	1575	1404	1685	1597	1512	1492	1348	1281	1632	1465	1422	1306
EC046 1.5S 4A	**1930**	1735	1544	1853	1756	1666	1641	1482	1409	1795	1614	1564	1436
EC046 2S 4A	**2105**	1870	1684	2021	1916	1795	1789	1617	1537	1958	1739	1705	1566
EC046 1L 4A	**2455**	2215	1964	2357	2234	2126	2087	1885	1792	2283	2060	1989	1827
EC046 1.5L 4A	**2690**	2395	2152	2582	2448	2299	2287	2066	1964	2502	2227	2179	2001
EC046 2L 4A	**2920**	2625	2336	2803	2657	2520	2482	2243	2132	2716	2441	2365	2172
EC046 VL 4A	**3220**	2900	2576	3091	3019	2784	2742	2473	2423	2995	2697	2687	2396

UNBEATABLE MARINE POWER

WHEN CONDITIONS ARE HARSH, YOU NEED A RELIABLE PARTNER

HEAVY-DUTY MARINE

What makes Mecc Alte heavy-duty marine alternators so suited to the harsh environments where you operate? Quite simply, it's all about outstanding design and high quality manufacture.

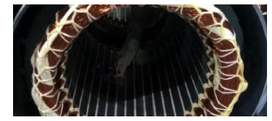
Mecc Alte uses only premium class H insulation material. Impregnation processes are achieved with the latest impregnation technologies, like Vacuum Pressure Impregnation (VPI) or with the use of dedicated roll and dip or trickle machines. The impregnation process is undertaken twice in the main stator, which assures the best quality for the final customer.

This premium impregnation quality process is perfect for the vast majority of applications, however in order to achieve the same results in insulation reliability when environmental or operating conditions are demanding, it is possible to consider one of the additional protection systems offered by Mecc Alte.

PROTECTION SYSTEMS

STANDARD
INSULATION SYSTEM

PROTECTION LEVEL: STANDARD
The Standard protection level is referred to a generator which has the sole impregnation resin applied to all the active parts and is standard on the Mecc Alte generator series.

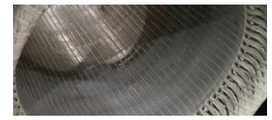


STANDARD+
INSULATION SYSTEM

PROTECTION LEVEL: STANDARD+
With the Standard + protection system in addition to the usual impregnation resin, the stator exciter is protected with a further layer of grey varnish EG43.

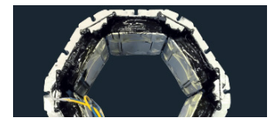
GREY
INSULATION SYSTEM

PROTECTION LEVEL: GREY
Not only the exciter stator is coated with the EG43 but also the main power stator. This protection level, which is available as an option on some families and as a standard on some others, is the standard for marine and nearly all most demanding application.



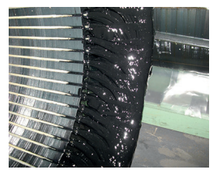
GREY+
INSULATION SYSTEM

PROTECTION LEVEL: GREY+
With this protection level, the main stator is coated with the grey EG43 varnish and the exciter stator is upgraded to have the black severe environment protection.



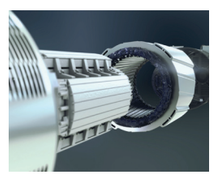
TOTAL+
INSULATION SYSTEM

PROTECTION LEVEL: TOTAL+
Available as an option on the whole industrial range. With this protection level, the grey EG43 varnish on main and exciter stator is upgraded to a black severe environment protection. In addition all the active rotating components have an overcoat of the grey varnish EG43.



VT PLUS
INSULATION SYSTEM

PROTECTION LEVEL: VT PLUS
The ultimate solution to be used when the application or the environment is abusing the insulation of the generator. The main and exciter stator is black severe environment in addition the bottom internal third of the stator also has black coating. There are additional insulation papers adding protection in critical areas such as the exciter and the main stator plus enhanced anti-rust paint treatments.



V-TYPE

OUR TOUGHEST YET

OUR ULTRA-RESILIENT V-TYPE RANGE

The V-Type has been built for endurance and reliability. Developed with harsh environments in mind, this new member of our range is our most resilient alternator yet.

The V-Type has undergone rigorous testing which has resulted in a product that is designed to enable reliable power generation when faced with forces of nature.

KEY BENEFITS INCLUDE:

- VT PLUS is an exclusive winding treatment with a specification that's designed to add an extra level of resilience on top of the VPI impregnation.
- Reinforced tape around the lower radius of the stator, providing an external covering for additional protection of the NDE winding head base
- Taped and VTP™ treated exciter stator
- 30,000 premium bearing hours for increased reliability
- Lower lamination slats reinforced with TOTAL+ insulation protection
- MAVR to protect the USP and interlink the controllers
- Premium paint with anti-rust treatment
- Extended warranty
- It all adds up to a range that's tough to beat. Whatever the location.

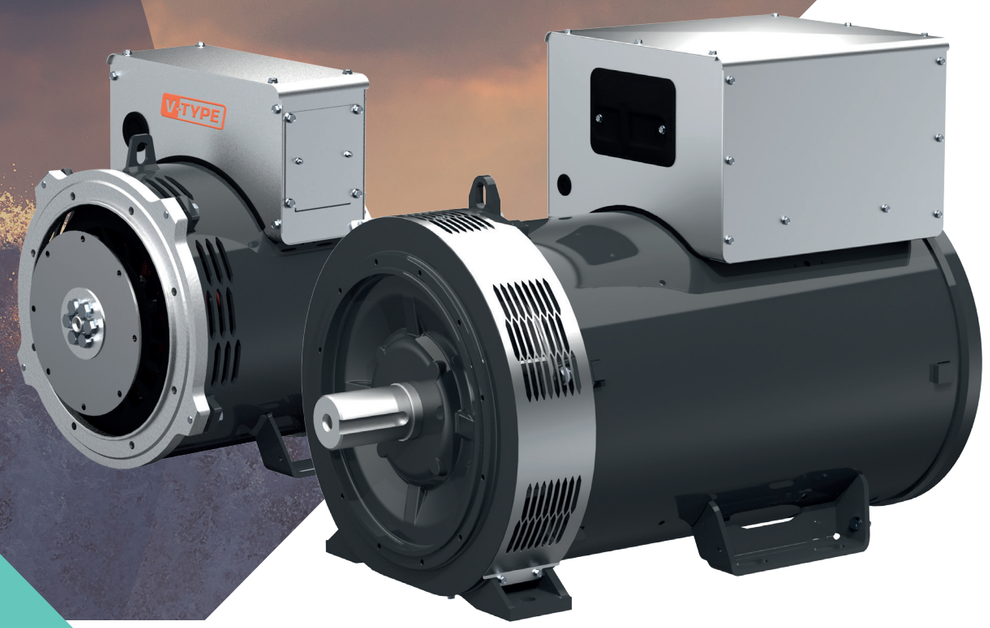
MAUX **POWER BOOST SYSTEM**

DIGITAL AVR VOLTAGE REGULATOR

DAMPER CAGE

TWELVE WIRE

VT+ **VT PLUS**



QUALITY, SERVICE AND AFTERSALES

Mecc Alte achieves the highest possible quality standards in every area of design, production and sales. The pursuit of quality begins long before actual production, with checks on semi-processed parts and sample tests on electronic components.

These tests are performed with rapid ageing methods, including alternating exposure to extreme temperatures. Our quality is enhanced during the production process with computerised equipment making checks on electronic and electrical circuits. The result is a perfect combination of high performance with maximum reliability. All certified by international bodies such as the Canadian Standards Association (CSA), the Underwriters Laboratories (UL), Det Norske Veritas (DNV) and Bureau Veritas, further supported by our ISO 9001 accreditation from Registro Italiano Navale (RINA).

Every quality mark is a guarantee of the rigorous assessment of prototypes and a commitment to continuous audits by external inspectors to monitor both product consistency and quality.

This level of quality assurance enables us to be globally accepted and recognised. Market acceptance worldwide is based on our global sales and distribution facilities, established training plans for customers, and consistently great aftersales service. We are a professional and responsible company and understand that a good reputation breeds success.

So, wherever you are, you're never very far from Mecc Alte quality.

MECC ALTE SPA (HQ)

Via Roma
20 – 36051 Creazzo
Vicenza – ITALY

T: +39 0444 396111
F: +39 0444 396166
E: info@meccalte.it
aftersales@meccalte.it

MECC ALTE PORTABLE

Via A. Volta
1 37038 Soave
Verona – ITALY

T: +39 0456 173411
F: +39 0456 101880
E: info@meccalte.it
aftersales@meccalte.it

MECC ALTE POWER PRODUCTS

Via Melaro
2 – 36075 Montecchio
Maggiore (VI) – ITALY

T: +39 0444 1831295
F: +39 0444 1831306
E: info@meccalte.it
aftersales@meccalte.it

ZANARDI ALTERNATORI

Via Dei Laghi
48/B – 36077 Altavilla
Vicenza – ITALY

T: +39 0444 370799
F: +39 0444 370330
E: info@zanardialternatori.it

UNITED KINGDOM

Mecc Alte U.K. LTD
6 Lands' End Way
Oakham
Rutland LE15 6RF

T: +44 (0) 1572 771160
F: +44 (0) 1572 771161
E: info@meccalte.co.uk
aftersales@meccalte.co.uk

SPAIN

Mecc Alte España S.A.
C/ Rio Taibilla, 2
Polig. Ind. Los Valeros
03178 Benijofar (Alicante)

T: +34 (0) 96 6702152
F: +34 (0) 96 6700103
E: info@meccalte.es
aftersales@meccalte.es

CHINA

Mecc Alte Alternator (Nantong) Ltd
755 Nanhai East Rd
Jiangsu Nantong
HEDZ 226100 PRC

T: +86 (0) 513 82325758
F: +86 (0) 513 82325768
E: info@meccalte.cn
aftersales@meccalte.cn

INDIA

Mecc Alte India Pvt Ltd
Plot NO: 1, Talegaon
Dhamdhere S.O
Taluka: Shirur,
District: Pune - 412208
Maharashtra, India

T: +91 2137 673200
F: +91 2137 673299
E: info@meccalte.in
aftersales@meccalte.in

U.S.A. AND CANADA

Mecc Alte Inc.
1229 Adams Drive
McHenry, IL, 60051

T: +1 815 344 0530
F: +1 815 344 0535
E: info@meccalte.us
aftersales@meccalte.us

GERMANY

Mecc Alte Generatoren GmbH
Ensener Weg 21
D-51149 Köln

T: +49 (0) 2203 60541-0
F: +49 (0) 2203 60541-49
E: info@meccalte.de
aftersales@meccalte.de

AUSTRALIA

Mecc Alte Alternators PTY LTD
10 Duncan Road, PO Box 1046
Dry Creek, 5094, South
Australia

T: +61 (0) 8 8349 8422
F: +61 (0) 8 8349 8455
E: info@meccalte.com.au
aftersales@meccalte.com.au

FRANCE

Mecc Alte International S.A.
Z.E. la Gagnerie
16330 St. Amant de Boixe

T: +33 (0) 545 397562
F: +33 (0) 545 398820
E: info@meccalte.fr
aftersales@meccalte.fr

FAR EAST

Mecc Alte (F.E.) PTE LTD
10V Enterprise Road, Enterprise 10
Singapore 627679

T: +65 62 657122
F: +65 62 653991
E: info@meccalte.com.sg
aftersales@meccalte.com.sg

mecc alte

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Totally independent.

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INSULATION SYSTEM

LISTED

02/2023 (V1)