

Article No. supplements and special versions

Options

Explosion-proof motors

Selection and ordering data

Special versions	Additional identification code -Z with order code and plain text if required																	
		Air-cooled, enclosed version								Water-cooled version								
		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger				
		1MM1				1MQ1				1MH1				1MN1				
1M.1...-.....-Z		Frame size																
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455	
Motor protection – winding monitoring																		
6 PTC thermistors for alarm and tripping, without lightning arresters ⁶⁾	A12		✓	✓			✓	✓			✓	✓			✓	✓		
2 temperature sensors KTY 84-130	A25		□	□			□	□			□	□			□	□		
6 temperature sensors KTY 84-130	A27		✓	✓			✓	✓			✓	✓			✓	✓		
6 Pt100 resistance thermometers ⁶⁾	A61		✓	✓			✓	✓			✓	✓			✓	✓		
6 Pt100 resistance thermometers, 3-wire circuit from auxiliary terminal box (option M50 or M88) ⁶⁾	A64		✓	✓			✓	✓			✓	✓			✓	✓		
Motor protection – bearing monitoring																		
2 Pt100 screw-in resistance thermometers in basic circuit for rolling-contact bearings	A72		✓	✓			✓	✓			✓	✓			✓	✓		
2 Pt100 screw-in resistance thermometers in basic circuit for rolling-contact bearings, 3-wire circuit from auxiliary terminal box	A78		✓	✓			✓	✓			✓	✓			✓	✓		
2 Pt100 double screw-in resistance thermometers in 3-wire circuit for rolling-contact bearings	A80		✓	✓			✓	✓			✓	✓			✓	✓		
Motor protection – other monitoring functions																		
Leakage water detection	H08		–	–			–	–			–	–			✓	✓		
Motor connection – connection box																		
Subsequently rotatable main connection box ⁹⁾	J12		✓	✓			✓	✓			✓	✓			✓	✓		
Larger connection box 1XB1 631 ^{1) 9) 31)}	L00		–	–			–	–			✓	✓			–	–		
Undrilled entry plate	L01		✓	✓			✓	✓			✓	✓			✓	✓		
Larger connection box 1XB1 621 ^{1) 9)}	M58		–	–			–	–			✓	✓			–	–		
PE connection without cable lug	Q00		✓	✓			✓	✓			✓	✓			✓	✓		
Motor connection – connection box – cable entry																		
Cable entry from right-hand ⁹⁾	L51		□	□			□	□			□	□			□	□		
Cable entry from left-hand ⁹⁾	L52		○	○			○	○			○	○			○	○		
Cable entry from DE ⁹⁾	L61		○	○			○	○			○	○			○	○		
Cable entry from NDE ⁹⁾	L62		○	○			○	○			○	○			○	○		
Cable entry from the bottom ⁹⁾	L63		○	○			○	○			○	○			○	○		
Cable entry from the top ⁹⁾	N83		○	○			○	○			○	○			○	○		

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		Air-cooled, enclosed version								Water-cooled version								
		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger				
		1MM1				1MQ1				1MH1				1MN1				
1M .1. -Z		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455	
Motor connection – auxiliary connection box																		
DIN 89280 cable gland, maximum configuration ⁸⁾	K57		✓	✓			✓	✓			✓	✓			✓	✓		
6 cables protruding, 1.5 m long ¹⁾	L48		–	–			–	–			O. R.	O. R.			–	–		
6 cables protruding, 3 m long ¹⁾	L49		–	–			–	–			O. R.	O. R.			–	–		
Auxiliary connection box 1XB3020	L97		✓	✓			✓	✓			✓	✓			✓	✓		
Auxiliary connection box 1XB9016 (cast-iron) ^{29) 30)}	M50		✓	✓			✓	✓			✓	✓			✓	✓		
Auxiliary connection box 1XB9015 (stainless steel) ^{29) 30)}	M51		✓	✓			✓	✓			✓	✓			✓	✓		
Auxiliary connection box 1XB9014 (aluminum) ^{29) 30)}	M88		✓	✓			✓	✓			✓	✓			✓	✓		
Anti-condensation heating																		
Anti-condensation heating for 230 V	K45		✓	✓			✓	✓			✓	✓			✓	✓		
Anti-condensation heating for 115 V	K46		✓	✓			✓	✓			✓	✓			✓	✓		
Anti-condensation heating for 400 V	L08		✓	✓			✓	✓			✓	✓			✓	✓		
Anti-condensation heating for 500 V ²⁾	L09		✓	✓			✓	✓			✓	✓			✓	✓		
Winding modification																		
Standard winding; non-standard voltage ³⁾	M1Y		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.		
Non-standard winding ³⁾	M2Y		–	–			–	–			–	–			–	–		
Non-standard rated speed ³²⁾	N1Y		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.		
Design with 2 galvanically separated windings for operation with converter ²⁾	C21		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.		
Ventilation																		
Metal external fan	K35		✓	✓			–	–			–	–			–	–		
Separately driven fan with non-standard voltage ^{3) 16)}	Y81		–	–			O. R.	O. R.			–	–			O. R.	O. R.		
Bearings and lubrication																		
Measuring nipple for SPM shock pulse measurement for bearing inspection ¹⁵⁾	G50		✓	✓			✓	✓			✓	✓			✓	✓		
Shock pulse measurement, fixed sensor and distributor box	H05		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.		
Shock pulse measurement, complete alarm box	H07		✓	✓			✓	✓			✓	✓			✓	✓		
Prepared for mounting of a vibration sensor SIPLUS CMS2000 VIB-SENSOR S01 ¹⁵⁾	H69		✓	✓			✓	✓			✓	✓			✓	✓		
Bearing design for increased cantilever forces ^{18) 20)}	K20		✓	✓			✓	✓			✓	✓			✓	✓		
Spent grease removal	K41		✓	✓			✓	✓			✓	✓			✓	✓		

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		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger			
		1MM1				1MQ1				1MH1				1MN1			
1M.1...-.....-Z		Frame size															
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Balance and vibration quantity																	
Vibration quantity level B ^{5) 21) 22)}	K02		✓	✓			✓	✓			✓	✓			✓	✓	
Full-key balancing	L68		✓	✓			✓	✓			✓	✓			✓	✓	
Shaft																	
Second standard shaft extension ^{14) 39) 40)}	K16		✓	✓			–	–			✓	✓			–	–	
Shaft extension with standard dimensions, without feather keyway	K42		✓	✓			✓	✓			✓	✓			✓	✓	
Non-standard cylindrical shaft extension	Y55 • and identification code		–	–			–	–			–	–			–	–	
Direction of rotation																	
Anti-clockwise direction, unidirectional fan ⁴²⁾	K98		–	✓			–	–			–	–			–	–	
Both directions of rotation ⁴²⁾	K99		–	O. R.			–	–			–	–			–	–	
Degrees of protection																	
IP65 degree of protection ²⁰⁾	K50		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
IP56 degree of protection (non-heavy-sea) ^{16) 20)}	K52		✓	✓			–	–			✓	✓			✓	✓	
Pipe connection																	
Pipe connection without socket on NDE from right-hand ²⁷⁾	K77		–	–			O. R.	O. R.			–	–			–	–	
Pipe connection without socket on NDE from left-hand ²⁷⁾	K78		–	–			O. R.	O. R.			–	–			–	–	
Pipe connection without socket on NDE from top ²⁷⁾	K79		–	–			O. R.	O. R.			–	–			–	–	
Water connection and material																	
Cooling water pipes in stainless steel instead of copper	M85		–	–			–	–			✓	✓			–	–	
Water connection from top	K61		–	–			–	–			✓	✓			–	–	
Water connection from right-hand (view from DE)	K62		–	–			–	–			✓	✓			–	–	
Water connection from left-hand (view from DE)	K63		–	–			–	–			✓	✓			–	–	
Mechanical options																	
Mounting a coupling provided ^{5) 19)}	L17		✓	✓			✓	✓			✓	✓			✓	✓	
Motor mounting material for mounting on steel foundation ²⁵⁾	L31		✓	✓			✓	✓			✓	✓			✓	✓	
Rust-resistant screws (externally) ²⁸⁾	M27		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Flange version A660 instead of standard version ²⁴⁾	M61		✓	✓			✓	✓			✓	✓			✓	✓	

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		Air-cooled, enclosed version								Water-cooled version							
		with self-ventilation 1MM1				with forced-air cooling 1MQ1				with water-jacket cooling 1MH1				with heat exchanger 1MN1			
		Frame size															
1M .1 -Z		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Colors and paint finish																	
Standard finish in RAL 7030 stone gray		□	□			□	□			□	□			□	□		
Unpainted (only cast-iron parts primed)	K23	○	○			○	○			○	○			○	○		
Special finish in RAL 7030 stone gray	K26	✓	✓			✓	✓			✓	✓			✓	✓		
Standard finish in other colors	Y53 • and standard finish in RAL	–	–			–	–			–	–			–	–		
Special finish in other colors	Y54 • and special finish in RAL	–	–			–	–			–	–			–	–		
Rating plate and extra rating plates																	
Second rating plate, loose	K31	✓	✓			✓	✓			✓	✓			✓	✓		
Extra rating plate with identification codes	Y82 • and identification code	–	–			–	–			–	–			–	–		
Utilization																	
Temperature class 180 (H), used acc. to 130 (B) ²⁾	C10	✓	✓			✓	✓			✓	✓			✓	✓		
Coolant temperature and site altitude																	
Increased air humidity/temperature with 30 to 60 g water per m³ of air	C19	–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Increased air humidity/temperature with 60 to 100 g water per m³ of air	C26	–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Coolant temperature –50 to +40 °C	D02	O. R.	O. R.			O. R.	O. R.			–	–			–	–		
Coolant temperature –40 to +40 °C	D03	O. R.	O. R.			O. R.	O. R.			–	–			–	–		
Coolant temperature –30 to +40 °C	D04	✓	✓			✓	✓			–	–			–	–		
Coolant temperature 45 °C	D11	○	○			○	○			–	–			–	–		
Coolant temperature 50 °C	D12	○	○			○	○			–	–			–	–		
Coolant temperature 55 °C	D13	○	○			○	○			–	–			–	–		
Coolant temperature 60 °C	D14	O. R.	O. R.			O. R.	O. R.			–	–			–	–		
Cooling water temperature 30 °C	D15	–	–			–	–			✓	✓			✓	✓		
Cooling water temperature 35 °C	D16	–	–			–	–			✓	✓			✓	✓		
Cooling water temperature 40 °C	D17	–	–			–	–			✓	✓			✓	✓		
Outdoor use with high salinity or areas with almost continuous condensation (corrosivity grade C5-M/ C5-I)	E81	–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Outdoor use with moderate salinity (corrosivity grade C4)	E82	–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Outdoor use with moderate salinity (corrosivity grade C3)	E83	–	–			–	–			O. R.	O. R.			O. R.	O. R.		

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		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger			
		1MM1				1MQ1				1MH1				1MN1			
1M .1 -Z		Frame size															
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Design in accordance with standards and specifications																	
Electrical according to NEMA MG1-12	D30		✓	✓			✓	✓			✓	✓			✓	✓	
Conformity statement in accordance with 94/9/EG (ATEX) of an independent body for Zone 2 motors (Ex nA) ^{16) 41)}	D36		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
IEC Ex certificate – only in combination with order codes M72 and M73 ^{16) 41)}	D37		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Design according to ATEX, IEC-Ex																	
Square load curve $M \sim n^{2.4}$ ^{16) *)}	B60		✓	✓			✓	✓			✓	✓			✓	✓	
Constant load curve $T = \text{const}$ ^{4) 16)}	B61		–	–			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Ex nA II on VIK rating plate ^{11) 26)}	C27		✓	✓			✓	✓			✓	✓			✓	✓	
VIK version ³⁷⁾	K30		✓	✓			✓	✓			✓	✓			✓	✓	
Design for Zone 22 for non-conductive dust (IP55) for mains-fed operation ¹⁾	M35		–	–			–	–			✓	✓			–	–	
Design for Zone 22 for non-conductive dust (IP55) for converter-fed operation ^{2) 13) 16)}	M39		✓	✓			✓	✓			✓	✓			✓	✓	
Design for Zone 2 for mains-fed operation Ex nA II T3 according to IEC/EN 60079-15 ⁻¹⁾	M72		–	–			–	–			✓	✓			–	–	
Design for Zone 2 for converter-fed operation Ex nA II T3 according to IEC/EN 60079-15 ^{2) 13) 16)}	M73		✓	✓			✓	✓			✓	✓			✓	✓	
Special technology – encoders																	
Mounting of HOG 10 D 1024 I ^{2) 38)}	H73		✓	✓			✓	✓			✓	✓			✓	✓	
Mounting of HOG 10 DN 2048 ^{2) 38)}	H83		✓	✓			✓	✓			✓	✓			✓	✓	
Mounting of HOG 11 DN 2048 ^{2) 38)}	H84		✓	✓			✓	✓			✓	✓			✓	✓	
Mounting of HOG 11 DN 1024 I (16 mm) with special anti-corrosion protection ^{2) 38)}	H88		✓	✓			✓	✓			✓	✓			✓	✓	
Mounting of HOG 10 D 1024 I with terminal box/protection against dust ^{2) 38)}	N05		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Mounting of HOG 10 DN 1024 I with terminal box/protection against dust (zero signal) ^{2) 38)}	N06		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Mounting of HOG 10 D 1024 I with terminal box/protection against humidity ^{2) 38)}	N07		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Mounting of HOG 10 DN 1024 I with terminal box/protection against dust (zero signal) ^{2) 38)}	N08		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Mounting of a special type of encoder	Y70 • and encoder designation		–	–			–	–			–	–			–	–	

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		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger			
		1MM1				1MQ1				1MH1				1MN1			
1M.1...-.....-Z		Frame size															
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Special technology – prepared for encoder mounting																	
Prepared for mounting of LL 861 900 220 ^{2) 38)}	H78		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Prepared for mounting of HOG 10 D 1024 I ^{2) 38)}	H80		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.			O. R.	O. R.	
Documentation																	
Printed German/English Operating Instructions enclosed	B23		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Paintwork coat thickness measurement protocol	B29		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Electrical data sheet	B31		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Order specific dimension drawing	B32		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Standard test schedule	B34		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Balancing report	B35		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Load characteristics	B37		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Recommended spare parts	B38		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Production schedule: Generated once	B43		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Production schedule: Updated every two weeks	B44		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Production schedule: Updated monthly	B45		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Order-specific test schedule	B48		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Starting curve ($T = f(n)$; $I = f(n)$) ¹⁾	B50		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Equivalent circuit diagram	B51		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Thermal torque limit curve ²⁾	B52		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Thermally admissible duty cycle ¹⁾	B53		✓	✓			✓	✓			✓	✓			✓	✓	
Document – Dynamic foundation load	B54		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation languages																	
Documentation Czech	D54		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Polish	D55		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Russian	D56		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Japanese	D57		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Danish	D62		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Rumanian	D71		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Italian	D72		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Finnish	D73		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Dutch	D74		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Turkish	D75		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation French	D77		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Spanish	D78		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Portuguese	D79		✓	✓			✓	✓			✓	✓			✓	✓	

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		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger			
		1MM1				1MQ1				1MH1				1MN1			
1M.1...-.....-Z		Frame size															
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Documentation languages (continued)																	
Documentation Bulgarian	D80		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Norwegian	D81		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Hungarian	D82		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Swedish	D83		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Chinese	D84		✓	✓			✓	✓			✓	✓			✓	✓	
Documentation Serbian	D91		✓	✓			✓	✓			✓	✓			✓	✓	
Extension of liability																	
Extension of liability for defects by 12 months up to a total of 24 months from initial shipment	Q80		✓	✓			✓	✓			✓	✓			✓	✓	
Extension of liability for defects by 18 months up to a total of 30 months from initial shipment	Q81		✓	✓			✓	✓			✓	✓			✓	✓	
Extension of liability for defects by 24 months up to a total of 36 months from initial shipment	Q82		✓	✓			✓	✓			✓	✓			✓	✓	
Extension of liability for defects by 30 months up to a total of 42 months from initial shipment	Q83		✓	✓			✓	✓			✓	✓			✓	✓	
Extension of liability for defects by 36 months up to a total of 48 months from initial shipment	Q84		✓	✓			✓	✓			✓	✓			✓	✓	
Extension of liability for defects by 48 months up to a total of 60 months from initial shipment	Q85		✓	✓			✓	✓			✓	✓			✓	✓	
Test certificates																	
Standard test (routine test), with acceptance	F01		✓	✓			✓	✓			✓	✓			✓	✓	
Visual acceptance and report handover, with acceptance	F03		✓	✓			✓	✓			✓	✓			✓	✓	
Temperature-rise test, without acceptance ³³⁾	F04		✓	✓			✓	✓			✓	✓			✓	✓	
Temperature-rise test, with acceptance ³³⁾	F05		✓	✓			✓	✓			✓	✓			✓	✓	
Recording of short-circuit characteristic and determination of short-circuit losses, without acceptance ³³⁾	F16		✓	✓			✓	✓			✓	✓			✓	✓	
Recording of short-circuit characteristic and determination of short-circuit losses, with acceptance ³³⁾	F17		✓	✓			✓	✓			✓	✓			✓	✓	
Recording of load characteristic (<i>T_n</i> characteristic), without acceptance ³³⁾	F18		✓	✓			✓	✓			✓	✓			✓	✓	
Recording of load characteristic (<i>T_n</i> characteristic), with acceptance ³³⁾	F19		✓	✓			✓	✓			✓	✓			✓	✓	
Noise measurement in no-load operation, no noise analysis, without acceptance ³³⁾	F28		✓	✓			✓	✓			✓	✓			✓	✓	
Noise measurement in no-load operation, no noise analysis, with acceptance ³³⁾	F29		✓	✓			✓	✓			✓	✓			✓	✓	
Recording of current and torque curves with torque metering shaft during starting, without acceptance ^{1) 34)}	F34		✓	✓			✓	✓			✓	✓			✓	✓	

Explosion-proof motors

Special versions	Additional identification code -Z with order code and plain text if required																
		Air-cooled, enclosed version								Water-cooled version							
		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger			
		1MM1				1MQ1				1MH1				1MN1			
1M .1 -Z		Frame size															
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Test certificates (continued)																	
Recording of current and torque curves with torque metering shaft during starting, with acceptance ^{1) 34)}	F35		✓	✓			✓	✓			✓	✓			✓	✓	
Measurement of locked-rotor torque and current, without acceptance ^{1) 34)}	F52		✓	✓			✓	✓			✓	✓			✓	✓	
Measurement of locked-rotor torque and current, with acceptance ^{1) 34)}	F53		✓	✓			✓	✓			✓	✓			✓	✓	
Noise measurement in no-load operation, with noise analysis, without acceptance ³³⁾	F62		✓	✓			✓	✓			✓	✓			✓	✓	
Noise measurement in no-load operation, with noise analysis, with acceptance ³³⁾	F63		✓	✓			✓	✓			✓	✓			✓	✓	
Type test with heat run for horizontal motors, without acceptance ^{33) 22)}	F82		✓	✓			✓	✓			✓	✓			✓	✓	
Type test with heat run for horizontal motors, with acceptance ^{33) 22)}	F83		✓	✓			✓	✓			✓	✓			✓	✓	
Type test with heat run for vertical motors, without acceptance ^{33) 23)}	F92		✓	✓			✓	✓			✓	✓			✓	✓	
Type test with heat run for vertical motors, with acceptance ^{33) 23)}	F93		✓	✓			✓	✓			✓	✓			✓	✓	
Pump drives																	
Commissioning of the classification society by Siemens	E88		–	–			–	–			✓	✓			✓	✓	
Commissioning of the classification society by third party	E89		–	–			–	–			✓	✓			✓	✓	
Pump drive for sea water desalination plants certified according to Lloyd's Register ^{16) 36)}	E90		–	–			–	–			✓	✓			✓	✓	
Marine non-essential service – technical design																	
Design according to ABS for non-essential service ^{16) 7)}	X00		–	–			–	–			✓	✓			✓	✓	
Design according to BV for non-essential service ^{16) 7)}	X01		–	–			–	–			✓	✓			✓	✓	
Design according to CCS for non-essential service ^{16) 7)}	X02		–	–			–	–			✓	✓			✓	✓	
Design according to DNV for non-essential service ^{16) 7)}	X03		–	–			–	–			✓	✓			✓	✓	
Design according to GL for non-essential service ^{16) 7)}	X04		–	–			–	–			✓	✓			✓	✓	
Design according to KR for non-essential service ^{16) 7)}	X05		–	–			–	–			✓	✓			✓	✓	
Design according to LR for non-essential service ^{16) 7)}	X06		–	–			–	–			✓	✓			✓	✓	
Marine essential service – technical design																	
Design according to ABS for essential service ^{16) 7)}	X10		–	–			–	–			✓	✓			✓	✓	
Design according to BV for essential service ^{16) 7)}	X11		–	–			–	–			✓	✓			✓	✓	
Design according to CCS for essential service ^{16) 7)}	X12		–	–			–	–			✓	✓			✓	✓	

Article No. supplements and special versions

Options

Explosion-proof motors

Special versions	Additional identification code -Z with order code and plain text if required																
		Air-cooled, enclosed version								Water-cooled version							
		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger			
		1MM1				1MQ1				1MH1				1MN1			
1M.1...-.....-Z		Frame size															
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Marine essential service – technical design (continued)																	
Design according to DNV for essential service ^{16) 7)}	X13		–	–		–	–			✓	✓			✓	✓		
Design according to GL for essential service ^{16) 7)}	X14		–	–		–	–			✓	✓			✓	✓		
Design according to KR for essential service ^{16) 7)}	X15		–	–		–	–			✓	✓			✓	✓		
Design according to LR for essential service ^{16) 7)}	X16		–	–		–	–			✓	✓			✓	✓		
Marine essential service – certification																	
Certification for the first motor ordered according to ABS for essential service ¹⁶⁾	J70		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to ABS for essential service ¹⁶⁾	J71		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to BV for essential service ¹⁶⁾	J72		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to BV for essential service ¹⁶⁾	J73		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to CCS for essential service ¹⁶⁾	J74		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to CCS for essential service ¹⁶⁾	J75		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to DNV for essential service ¹⁶⁾	J76		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to DNV for essential service ¹⁶⁾	J77		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to GL for essential service ¹⁶⁾	J78		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to GL for essential service ¹⁶⁾	J79		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to KR for essential service ¹⁶⁾	J80		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to KR for essential service ¹⁶⁾	J81		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to LR for essential service ¹⁶⁾	J82		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to LR for essential service ¹⁶⁾	J83		–	–		–	–			O. R.	O. R.			O. R.	O. R.		

Explosion-proof motors

Special versions	Additional identification code -Z with order code and plain text if required																
		Air-cooled, enclosed version								Water-cooled version							
		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger			
		1MM1				1MQ1				1MH1				1MN1			
1M.1...-.....-Z		Frame size															
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Marine essential service – testing																	
Tests for the first motor ordered according to ABS for essential service ¹⁶⁾	X30		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to ABS for essential service ¹⁶⁾	X31		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to BV for essential service ¹⁶⁾	X32		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to BV for essential service ¹⁶⁾	X33		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to CCS for essential service ¹⁶⁾	X34		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to CCS for essential service ¹⁶⁾	X35		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to DNV for essential service ¹⁶⁾	X36		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to DNV for essential service ¹⁶⁾	X37		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to GL for essential service ¹⁶⁾	X38		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to GL for essential service ¹⁶⁾	X39		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to KR for essential service ¹⁶⁾	X40		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to KR for essential service ¹⁶⁾	X41		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to LR for essential service ¹⁶⁾	X42		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to LR for essential service ¹⁶⁾	X43		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Marine essential service for propulsion – technical design																	
Design according to ABS for essential service, propulsion ^{16) 7)}	X20		–	–		–	–			✓	✓			✓	✓		
Design according to BV for essential service, propulsion ^{16) 7)}	X21		–	–		–	–			✓	✓			✓	✓		
Design according to CCS for essential service, propulsion ^{16) 7)}	X22		–	–		–	–			✓	✓			✓	✓		
Design according to DNV for essential service, propulsion ^{16) 7)}	X23		–	–		–	–			✓	✓			✓	✓		
Design according to GL for essential service, propulsion ^{16) 7)}	X24		–	–		–	–			✓	✓			✓	✓		
Design according to KR for essential service, propulsion ^{16) 7)}	X25		–	–		–	–			✓	✓			✓	✓		
Design according to LR for essential service, propulsion ^{16) 7)}	X26		–	–		–	–			✓	✓			✓	✓		

Article No. supplements and special versions

Options

Explosion-proof motors

Special versions	Additional identification code -Z with order code and plain text if required																	
		Air-cooled, enclosed version								Water-cooled version								
		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger				
		1MM1				1MQ1				1MH1				1MN1				
1M.1...-.....-.....-Z		Frame size																
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455	
Marine essential service for propulsion – certification																		
Certification for the first motor ordered according to ABS for essential service, propulsion ¹⁶⁾	N40		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to ABS for essential service, propulsion ¹⁶⁾	N41		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to BV for essential service, propulsion ¹⁶⁾	N42		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to BV for essential service, propulsion ¹⁶⁾	N43		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to CCS for essential service, propulsion ¹⁶⁾	N44		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to CCS for essential service, propulsion ¹⁶⁾	N45		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to DNV for essential service, propulsion ¹⁶⁾	N46		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to DNV for essential service, propulsion ¹⁶⁾	N47		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to GL for essential service, propulsion ¹⁶⁾	N48		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to GL for essential service, propulsion ¹⁶⁾	N49		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to KR for essential service, propulsion ¹⁶⁾	N50		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to KR for essential service, propulsion ¹⁶⁾	N51		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the first motor ordered according to LR for essential service, propulsion ¹⁶⁾	N52		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Certification for the second and additional motors ordered according to LR for essential service, propulsion ¹⁶⁾	N53		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Marine essential service for propulsion																		
Tests for the first motor ordered according to ABS for essential service, propulsion ¹⁶⁾	X60		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to ABS for essential service, propulsion ¹⁶⁾	X61		–	–			–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to BV for essential service, propulsion ¹⁶⁾	X62		–	–			–	–			O. R.	O. R.			O. R.	O. R.		

Explosion-proof motors

Special versions	Additional identification code -Z with order code and plain text if required																
		Air-cooled, enclosed version								Water-cooled version							
		with self-ventilation				with forced-air cooling				with water-jacket cooling				with heat exchanger			
		1MM1				1MQ1				1MH1				1MN1			
1M.1...-.....-Z		Frame size															
		315	355	400	455	315	355	400	455	315	355	400	455	315	355	400	455
Marine essential service for propulsion (continued)																	
Tests for the second and additional motors ordered according to BV for essential service, propulsion ¹⁶⁾	X63		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to CCS for essential service, propulsion ¹⁶⁾	X64		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to CCS for essential service, propulsion ¹⁶⁾	X65		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to DNV for essential service, propulsion ¹⁶⁾	X66		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to DNV for essential service, propulsion ¹⁶⁾	X67		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to GL for essential service, propulsion ¹⁶⁾	X68		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to GL for essential service, propulsion ¹⁶⁾	X69		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to KR for essential service, propulsion ¹⁶⁾	X70		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to KR for essential service, propulsion ¹⁶⁾	X71		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the first motor ordered according to LR for essential service, propulsion ¹⁶⁾	X72		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests for the second and additional motors ordered according to LR for essential service, propulsion ¹⁶⁾	X73		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Special operating conditions																	
Motor for ship application, with higher ambient temperature and/or use of temperature class 180 (H) utilized according to 130 (B) ¹⁶⁾	E80		–	–		–	–			O. R.	O. R.			O. R.	O. R.		
Tests in presence of representatives of the customer (in addition to the inspector of the classification society)	X99		O. R.	O. R.		O. R.	O. R.			O. R.	O. R.			O. R.	O. R.		

Explosion-proof motors

- Standard version
- Without additional charge
- ✓ With additional charge
- This order code only determines the price of the version – additional plain text is required.
- O. R. On request
- Not possible

- 1) For DOL motors only.
- 2) For VSD motors only.
- 3) The following information is required in plain text when ordering: Rated output, voltage (for DOL motors: line voltage, for VSD motors: rated motor voltage), frequency and circuit.
- 4) The following information is required in plain text when ordering: torque and speed/frequency control range. Ordering is only possible in combination with order codes **M72**, **M73**, **M35** or **M39**.
- 5) Not available in combination with order code **K16** or **K20**.
- 6) The standard temperature sensors (KTY) are omitted. If KTY and PTC thermistors or Pt100 are required in combination, specify this in the order in plain text. A combination of order codes **A25** and **A12**; **A25** and **A61** or **A25** and **A64** is available on request at an additional charge.
- 7) Only in combination with the stainless steel auxiliary connection box (order code **M51**).
- 8) Only available for standard cable entry. Special cable entry incl. cable glands on request.
- 9) Only available for admissible mounting positions, see Page 2/12.
- 10) Order code **K06** only in combination with order codes **L00** and **M58**.
- 11) Not available in combination with order code **K30**.
- 12) Not available in combination with order code **K50**.
- 13) Order code **B60** or **B61** must be ordered additionally.
- 14) Only available for IM B3, IM V5, IM V6, IM V15 and IM V1 types of construction (14th position of Article No.: **A**, **C**, **D**, **E**, **J**). Not available in combination with encoder mounting.
- 15) Only available with 16th position of Article No.: **0**, **1**, **2** or **5** (separately driven fan/heat exchanger position).
- 16) Not available for separately driven fan unit axial on NDE side (16th position of Article No.: **1**).
- 17) Only for IM B3 and IM B35 type of construction (14th position of Article No.: **A**, **K**).
- 18) Only for IM B3 type of construction (14th position of Article No.: **A**).
- 19) Only for IM B3, IM V5 and IM V6 types of construction (14th position of Article No.: **A**, **C**, **D**).
- 20) Only for rated speeds below 3000 rpm (13th position of Article No.: **1**, **2**, **3**, **4**, **6**, **7**, **8**).
- 21) Not available for rated speed of 3600 rpm (13th position of Article No.: **5**).
- 22) Only for IM B3, IM B5 with support foot and IM B35 types of construction (14th position of Article No.: **A**, **F**, **K**).
- 23) Only available for IM V5, IM V6, IM V15 and IM V1 types of construction (14th position of Article No.: **C**, **D**, **G**, **J**).
- 24) Only available for IM V15, IM V1 and IM B35 types of construction (14th position of Article No.: **E**, **G**, **J**, **K**). Not available for rated speeds of 1800 rpm, 3000 rpm, 3600 rpm (13th position of Article No.: **1**, **5**, **6**).
- 25) Only available for IM B3 and IM B35 types of construction (14th position of Article No.: **A**, **K**).
- 26) Ex nA II marking is on a separate plate.
- 27) Specify identical mounting position of pipe connection by selecting the order code and Article No. (16th position of Article No.: **2**, **3** or **4**).
- 28) For 1.Q1-, 1.N1 and 1.LP motors, only available for the main motor. Not available for the separately driven fan motor.
- 29) For 1.M1-, 1.Q1-, 1.LL1- and 1.LP1 motors, only available with the connection box position codes (15th position of Article No.) **A** to **F** and the separately driven fan/heat exchanger position code (16th position of Article No.) **0** to **4** with the following exceptions: **A2**; **B3** and **C4**. The position of the air outlets or the separately driven fan results in constraints. For more information about possible combinations, refer to the DT Configurator selection tool at: www.siemens.com/dtconfigurator.
- 30) For 1.N1 motors, constraints exist with regard to the connection box position (15th position of the Article No.) and the separately driven fan/heat exchanger position (16th position of Article No.). For more information about possible combinations, refer to the DT Configurator selection tool at: www.siemens.com/dtconfigurator.
- 31) Only available with 15th position of Article No.: **A** to **F** (connection box position).
- 32) The rated speed must be specified in plain text in the order. If the rated motor voltage corresponds to the catalog version, the required rated output must be specified in addition. If the rated motor voltage does not correspond to the catalog version, **M1Y** or **M2Y** must be ordered in addition, and the required rated output must be specified there.
- 33) Testing is performed with sinusoidal infeed. Only available for an electrical rated frequency below 70 Hz.
- 34) Testing is performed on the supply system. Only available for an electrical rated frequency of 50 Hz.
- 35) Only available for 1LM1 motors in 4-pole version, type of construction IM B3, connection box position code (15th position of Article No.) **A**, **B**, or **C**, line voltage 400 V, 50 Hz and 460 V, 60 Hz. Only the following order codes can be ordered in combination with the preferred motors: **A12**, **A61**, **A72**, **G50**, **H70**, **H73**, **K45**, **K46**, **K57**, **L00**, **L97**, **Y53**.
- 36) Industry solution for pump drive certified according to Lloyds Register LR-T-3601 (Rev. 9 of August 2008 "Electric motors higher than 100 hp") and LR-T-3601 (Rev. 8 of August 2008 "Vertical electric motors higher than 100 hp"). Only combinations of order codes **E88** + **E90** or **E89** + **E90** can be ordered.
- 37) Version of motors for Zone 2 without Ex nA II marking. For Ex nA II marking, order code **C27** is required in addition. Ex motors for converter-fed operation are derated as compared to the non-Ex motors and temperature class 155 (F) is no longer fully utilized. For utilization according to temperature class 130 (B), in accordance with VIK recommendation, order code **C10** is additionally required.
- 38) Order code **L97** is included in the scope of supply in the case of 1.Q1, 1.LP1 and 1.N1.
- 39) Not available in combination with order code **K20**.
- 40) For motors with the 1.M1 and 1.LL1 cooling methods, the maximum torque for the second shaft extension is reduced by 50 %.
- 41) As a variation from the standard, only connection boxes 1XB1 621 and 1XB1 631 are available.
- 42) Only available for frame size 355 in combination with rated speed of 3000 rpm (13th position of Article No.: **1**).
- *) M = Torque