LV Process performance cast iron motors - Variant codes

Code	Variant	160	180	200	225	250	280	315	355	400	450
Administration											
530	2-year extension on standard warranty	R	R	R	R	R	M	M	M	P	P
531	Sea freight packing	NA	NA	NA	NA	NA	M	M	M	P	P
Balancing											
417	Vibration acc. to Grade B (IEC 60034-14).	P	P	P	P	P	P	P	P	R	R
423	Balanced without key.	P	P	P	P	P	P	P	P	P	P
424	Full key balancing.	NA	NA	NA	NA	NA	P	P	P	P	P
Bearings and Lubrication											
036	Transport lock for bearings.	M	M	M	M	M	M	M	M	P	P
037	Roller bearing at D-end.	M	M	M	M	M	M	M	M	P	P
039	Cold resistant grease.	R	R	R	R	R	M	M	M	P	P
040	Heat resistant grease.	S	S	S	S	S	M	M	M	P	P
057	2RS bearings at both ends.	M	M	M	M	M	NA	NA	NA	NA	NA
058	Angular contact bearing at D-end, shaft force away from bearing.	P	P	P	P	P	P	P	P	P	P
059	Angular contact bearing at N-end, shaft force towards bearing.	P	P	P	P	P	P	P	P	P	P
060	Angular contact bearing at D-end, shaft force towards bearing.	NA	NA	NA	NA	NA	P	P	P	P	P
061	Angular contact bearing at N-end, shaft force away from bearing.	NA	NA	NA	NA	NA	P	P	P	P	P
107	Pt100 2-wire in bearings.	P	P	P	P	P	M	M	M	P	P
130	Pt100 3-wire in bearings.	NA	NA	NA	NA	NA	M	M	M	P	P
194	2Z bearings greased for life at both ends.	M	M	M	M	M	NA	NA	NA	NA	NA
420	Bearing mounted PTC thermistors.	NA	NA	NA	NA	NA	P	P	P	P	P
433	Outlet grease collector	NA	NA	NA	NA	NA	P	P	P	P	P
796	Grease nipples JIS B 1575 PT 1/8 Type A	M	M	M	M	M	M	M	M	P	P
797	Stainless steel SPM Nipples	M	M	M	M	M	M	M	M	P	P
798	Stainless steel grease nipples	M	M	M	M	M	M	M	M	P	P
799	Grease nipples flat type DIN 3404, thread M10x1	NA	NA	NA	NA	NA	M	M	M	P	P
Brakes											
412	Built-on brake.	R	R	R	R	R	P	P	P	P	R
Branch standard designs											
142	"Manilla connection".	P	P	P	P	P	P	P	NA	NA	NA
178	Stainless steel / acid proof bolts.	M	M	M	M	M	M	M	M	P	P
204	Jacking bolts for foot mounted motors.	NA	NA	NA	NA	NA	P	P	S	S	S
209	Non-standard voltage or frequency, (special winding).	P	P	P	P	P	P	P	P	P	P
396	Motor designed for ambient temperature -20°C to -40°C, wtih space heaters (code 450/451 must be added).	R	R	R	R	R	P	P	P	P	P

Note: Variant code option list also valid for premium efficiency motors M4BP 160-355.
Certain variant codes cannot be used simultaneously.

S = Included as standard
P = New manufacturer
M = On modification of a stocked motor; or on new manufacture, the number of number per order may be limited.
R = On request
NA = Not applicable.

Code	Variant	160	180	200	225	250	280	315	355	400	450
397	Motor designed for ambient temperature -40°C to -55°C, wtih space heaters (code 450/451 must be added).	NA	NA	NA	NA	NA	P	P	P	P	P
398	Motor designed for ambient temperature -20°C to -40°C.	R	R	R	R	R	P	P	P	P	P
399	Motor designed for ambient temperature -40°C to -55°C.	NA	NA	NA	NA	NA	P	P	P	P	P
419	Textile industry design.	M	M	M	M	M	P	P	NA	NA	NA
425	Corrosion protected stator and rotor core.	P	P	P	P	P	P	P	P	P	P
Cooling system											
044	Unidirectional fan for reduced noise level. Rotation clockwise seen from D-end. Available only for 2-pole motors.	NA	NA	NA	NA	NA	P	P	P	S	S
045	Unidirectional fan for reduced noise level. Rotation counter clockwise seen from D-end. Available only for 2-pole motors.	NA	NA	NA	NA	NA	P	P	P	S	S
068	Light alloy metal fan	M	M	M	M	M	M	M	M	P	P
075	Cooling method IC418 (without fan).	M	M	M	M	M	P	P	P	P	P
183	Separate motor cooling (fan axial, N-end).	M	M	M	M	M	M	M	P	P	P
189	Separate motor cooling, IP44, 400V, 50Hz (fan axial, N-end).	M	M	M	M	M	NA	NA	NA	NA	NA
206	Steel fan	NA	NA	NA	NA	NA	P	P	P	P	NA
422	Separate motor cooling (fan top or side, N-end).	NA	NA	NA	NA	NA	P	P	P	P	P
791	Stainless steel fan cover	NA	NA	NA	NA	NA	P	P	P	P	P
Coupling											
035	Assembly of customer supplied coupling-half.	NA	NA	NA	NA	NA	P	P	P	P	P
Documentation											
141	Binding dimension drawing.	M	M	M	M	M	M	M	M	P	P
Drain holes											
065	Plugged existing drain holes.	M	M	M	M	M	M	M	M	P	P
448	Draining holes with metal plugs.	NA	NA	NA	NA	NA	P	P	P	P	P
Earthing Bolt											
067	External earthing bolt.	NA	NA	NA	NA	NA	S	S	S	S	S
Hazardous Environments											
	See catalogue "Motors for Hazardous Areas" for details.										
Heating elements											
450	Heating element, 100-120V.	M	M	M	M	M	M	M	M	P	P
451	Heating element, 200-240V.	M	M	M	M	M	M	M	M	P	P
Insulation system											
014	Winding insulation class H.	P	P	P	P	P	P	P	P	P	P
405	Special winding insulation for frequency converter supply.	P	P	P	P	P	P	P	P	P	P
406	Winding for supply >690<=1000 Volts.	NA	NA	P	P	P	P	P	P	P	P

Note: Variant code option list also valid for premium efficiency motors M4BP 160-355.
Certain variant codes cannot be used simultaneously.

S = Included as standard
P = New manufacturer
M = On modification of a stocked motor; or on new manufacture, the number of number per order may be limited.
R = On request
NA = Not applicable.

Code / Variant		160	180	200	225	250	280	315	355	400	450
Marine motors											
	See catalogue "Marine Motors" for details.										
Mounting arrangements											
009	IM 2001 foot/flange mounted, IEC flange, from IM 1001 (B35 from B3).	M	M	M	M	M	M	M	M	P	P
047	IM 3601 flange mounted, IEC flange, from IM 3001 (B14 from B5).	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
066	Modified for non-standard mounting position. Specify IM xxxx. Use for all mounting arrangements excluding IM B3 (1001) and IM B5 (3001).	M	M	M	M	M	M	M	M	P	P
304	PAD mounting according to BS4999-141.	NA	NA	NA	NA	NA	R	R	NA	NA	NA
305	Additional lifting lugs.	M	M	M	M	M	P	P	P	P	P
Noise reduction											
055	Noise reducing cover.	NA	NA	NA	NA	NA	R	R	R	R	R
Painting											
109	Paint thickness = 120 µm.	NA	NA	NA	NA	NA	M	M	M	P	P
110	Paint thickness = 160 µm.	NA	NA	NA	NA	NA	M	M	M	P	P
111	Painting system C3M acc. to ISO 12944-5:2007	NA	NA	NA	NA	NA	P	P	P	P	P
114	Special paint colour, standard grade.	M	M	M	M	M	M	M	M	P	P
115	Offshore zink primer painting.	NA	NA	NA	NA	NA	P	P	P	P	P
179	Special paint specification.	R	R	R	R	R	R	R	R	R	R
754	Painting system C5M acc. to ISO 12944-5:2007	NA	NA	NA	NA	NA	P	P	P	P	P
Protection											
005	Metal protective roof, vertical motor, shaft down.	M	M	M	M	M	M	M	M	P	P
072	Radial seal at D-end.	M	M	M	M	M	M	M	P	P	P
073	Sealed against oil at D-end.	M	M	M	M	M	P	P	P	P	P
158	Degree of protection IP65.	M	M	M	M	M	M	M	M	P	P
211	Weather protected, IP xx W	M	M	M	M	M	P	P	P	P	P
403	Degree of protection IP56.	M	M	M	M	M	M	M	M	P	P
404	Degree of protection IP56, without fan and fan cover.	P	P	P	P	P	R	R	R	NA	NA
434	Degree of protection IP56, open deck.	NA	NA	NA	NA	NA	P	P	P	P	NA
783	Labyrinth sealing at D-end.	NA	NA	NA	NA	NA	P	P	S	S	S
Rating & instruction plates											
002	Restamping voltage, frequency and output, continuous duty.	M	M	M	M	M	M	M	M	P	P
004	Additional text on std rating plate (max 12 digits on free text line).	M	M	M	M	M	M	M	M	P	P
095	Restamping output (maintained voltage, frequency), intermittent duty.	M	M	M	M	M	P	P	P	P	P
135	Mounting of additional identification plate, stainless.	M	M	M	M	M	M	M	M	P	P
139	Additional identification plate delivered loose.	M	M	M	M	M	M	M	M	P	P
160	Additional rating plate affixed.	M	M	M	M	M	M	M	M	P	P
161	Additional rating plate delivered loose.	M	M	M	M	M	M	M	M	P	P
163	Frequency converter rating plate. Rating data according to quotation.	M	M	M	M	M	M	M	M	P	P

Note: Variant code option list also valid for premium efficiency motors M4BP 160-355.
Certain variant codes cannot be used simultaneously.

S = Included as standard
P = New manufacturer
M = On modification of a stocked motor; or on new manufacture, the number of number per order may be limited.
R = On request
NA = Not applicable.

Code / Variant		160	180	200	225	250	280	315	355	400	450
Shaft & rotor											
069	Two shaft extensions as per basic catalogue.	P	P	P	P	P	P	P	P	P	P
070	One or two special shaft extensions, standard shaft material.	R	R	R	R	R	P	P	P	P	P
164	Shaft extension with closed key-way.	NA	NA	NA	NA	NA	R	R	R	R	R
165	Shaft extension with open key-way.	P	P	P	P	P	S	S	S	S	S
410	Stainless steel shaft (standard or non-standard design).	R	R	R	R	R	P	P	P	P	P
427	Shaft extension complies with Australian Standards (AS).	NA	NA	NA	NA	NA	P	P	R	R	R
Standards and Regulations											
010	Fulfilling CSA Safety Certificate.	M	M	M	M	M	M	M	P	P	P
011	Fulfilling CSA Energy Efficiency Verification (code 010 included).	R	R	R	R	R	P	P	NA	NA	NA
151	Design according to SHELL DEP 33.66.05.31-Gen. June 2007	NA	NA	NA	NA	NA	P	P	P	P	NA
408	Fulfilling EPAct certification requirements, CC031A.	NA	NA	NA	NA	NA	P	P	NA	NA	NA
411	Increased efficiency design, according to IEC 60034-2. Valid for M4BP 280-355 motors.	NA	NA	NA	NA	NA	P	P	P	NA	NA
421	VIK design (Verband der Industriellen Energie- und Kraftwirtschaft e.V.).	NA	NA	NA	NA	NA	P	P	P	P	R
500	Fulfilling Korean MEPS efficiency regulations	R	R	R	R	R	M	M	M	NA	NA
540	China energy label	R	R	R	R	R	M	M	M	NA	NA
756	EDF design (Electricité de France), non-classified zone.	NA	NA	NA	NA	NA	P	P	P	R	R
757	EDF design (Electricité de France), zone E1 K3.	NA	NA	NA	NA	NA	P	P	P	R	R
758	Saudi Aramco design.	NA	NA	NA	NA	NA	P	P	P	NA	NA
773	EEMUA No 132 1988 design	NA	NA	NA	NA	NA	R	R	R	R	R
775	Design according to SHELL DEP 33.66.05.31-Gen. January 1999 design.	NA	NA	NA	NA	NA	M	M	P	P	NA
778	GOST Export/Import Certificate (Russia).	M	M	M	M	M	M	M	M	P	P
779	SASO Export/Import Certificate (Saudi Arabia)	NA	NA	NA	NA	NA	M	M	M	P	P
Stator winding temperature sensors											
120	KTY 84-130 (1 per phase) in stator winding.	NA	NA	NA	NA	NA	P	P	P	P	P
121	Bimetal detectors, break type (NCC), (3 in series), 130°C, in stator winding.	M	M	M	M	M	M	M	M	P	P
122	Bimetal detectors, break type (NCC), (3 in series), 150°C, in stator winding.	M	M	M	M	M	M	M	M	P	P
123	Bimetal detectors, break type (NCC), (3 in series), 170°C, in stator winding.	NA	NA	NA	NA	NA	M	M	M	P	P
124	Bimetal detectors, break type (NCC), (3 in series), 140°C, in stator winding.	NA	NA	NA	NA	NA	M	M	M	P	P
125	Bimetal detectors, break type (NCC), (2x3 in series), 150°C, in stator winding.	NA	NA	NA	NA	NA	P	P	P	P	P
127	Bimetal detectors, break type (NCC), (3 in series, 130°C & 3 in series, 150°C), in stator winding.	M	M	M	M	M	P	P	P	P	P
435	PTC - thermistors (3 in series), 130°C, in stator winding.	M	M	M	M	M	M	M	M	P	P
436	PTC - thermistors (3 in series), 150°C, in stator winding.	S	S	S	S	S	S	S	S	S	S
437	PTC - thermistors (3 in series), 170°C, in stator winding.	M	M	M	M	M	M	M	M	P	P

Note: Variant code option list also valid for premium efficiency motors M4BP 160-355.
Certain variant codes cannot be used simultaneously.

S = Included as standard
P = New manufacturer
M = On modification of a stocked motor; or on new manufacture, the number of number per order may be limited.
R = On request
NA = Not applicable.

Code	/ Variant	160	180	200	225	250	280	315	355	400	450
438	PTC - thermistors (3 in series), 190°C, in stator winding.	NA	NA	NA	NA	NA	P	P	P	P	P
439	PTC - thermistors (2x3 in series), 150°C, in stator winding.	M	M	M	M	M	M	M	M	P	P
441	PTC - thermistors (3 in series, 130°C & 3 in series, 150°C), in stator winding.	M	M	M	M	M	M	M	M	P	P
442	PTC - thermistors (3 in series, 150°C & 3 in series, 170°C), in stator winding.	M	M	M	M	M	M	M	M	P	P
445	Pt-100 2-wire in stator winding, 1 per phase	M	M	M	M	M	M	M	M	P	P
446	Pt-100 2-wire in stator winding, 2 per phase	M	M	M	M	M	M	M	M	P	P
502	Pt-100 3-wire in stator winding, 1 per phase.	NA	NA	NA	NA	NA	M	M	M	P	P
503	Pt-100 3-wire in stator winding, 2 per phase.	NA	NA	NA	NA	NA	M	M	M	P	P
Terminal box											
019	Larger than standard terminal box.	NA	NA	NA	NA	NA	P	P	P	P	NA
020	Detached terminal box.	NA	NA	NA	NA	NA	R	R	R	R	R
021	Terminal box LHS (seen from D-end).	P	P	P	P	P	P	P	P	P	NA
022	Cable entry LHS (seen from D-end).	M	M	M	M	M	M	M	M	P	P
157	Terminal box degree of protection IP65.	M	M	M	M	M	S	S	S	S	NA
180	Terminal box RHS (seen from D-end).	P	P	P	P	P	P	P	P	P	NA
187	Cable glands of non-standard design.	NA	NA	NA	NA	NA	R	R	R	R	R
230	Standard metal cable glands.	M	M	M	M	M	S	S	S	S	S
231	Standard cable glands with clamping device.	NA	NA	NA	NA	NA	P	P	P	P	P
380	Separate terminal box for temperature detectors, std. material	NA	NA	NA	NA	NA	P	P	P	P	P
400	4 x 90 degr turnable terminal box.	S	S	S	S	S	S	S	S	P	NA
409	Large terminal box with two terminal blocks.	NA	NA	NA	NA	NA	P	P	NA	NA	NA
413	Extended cable connection, no terminal box.	NA	NA	NA	NA	NA	P	P	P	P	NA
418	Separate terminal box for auxiliaries, standard material.	M	M	M	M	M	P	P	P	P	P
444	Adapter and cable box for terminal box size 1200.	NA	NA	NA	NA	NA	NA	NA	NA	NA	P
447	Top mounted separate terminal box for monitoring equipment.	NA	NA	NA	NA	NA	M	M	M	NA	NA
466	Terminal box at N-end.	NA	NA	NA	NA	NA	P	P	P	P	P
467	Lower than standard terminal box and rubber extended cable. Cable length 2m.	P	P	P	P	P	NA	NA	NA	NA	NA
468	Cable entry from D-end.	NA	NA	NA	NA	NA	M	M	P	NA	NA
469	Cable entry from N-end.	M	M	M	M	M	P	P	P	P	NA
567	Separate terminal box material: Cast Iron	NA	NA	NA	NA	NA	P	P	P	P	P
568	Separate terminal box for heating elements, std. material	NA	NA	NA	NA	NA	P	P	P	P	P
569	Separate terminal box for brakes	NA	NA	NA	NA	NA	P	P	P	P	P
729	Cable flanges without holes/ Blank gland plates.	M	M	M	M	M	M	M	M	P	P
730	Prepared for NPT cable glands	NA	NA	NA	NA	NA	P	P	P	P	P
731	Two standard metal cable glands. Note: Frame sizes 355-450 with cable box.	M	M	M	M	M	S	S	S	S	S
742	Protective cover for accessory terminal block in main terminal box.	NA	NA	NA	NA	NA	M	M	M	P	P
743	Painted flange for cable glands.	M	M	M	M	M	M	M	M	P	P

Note: Variant code option list also valid for premium efficiency motors.
Certain variant codes cannot be used simultaneously.

S = Included as standard
P = New manufacturer
M = On modification of a stocked motor; or on new manufacture, the number of number per order may be limited.
R = On request
NA = Not applicable.

Code	/ Variant	160	180	200	225	250	280	315	355	400	450
744	Stainless steel flange for cable glands	M	M	M	M	M	M	M	M	P	P
745	Painted steel flange equipped with brass cable glands	NA	NA	NA	NA	NA	M	M	M	P	P
746	Stainless steel cable flange equipped with standard brass cable glands	NA	NA	NA	NA	NA	P	P	P	P	P
Testing											
140	Test confirmation.	M	M	M	M	M	NA	NA	NA	NA	NA
145	Type test report from a catalogue motor, 400V 50Hz.	M	M	M	M	M	M	M	M	P	P
146	Type test with report for motor from specific delivery batch.	M	M	M	M	M	P	P	P	P	P
148	Routine test report.	M	M	M	M	M	M	M	M	P	P
149	Test according to separate test specification.	NA	NA	NA	NA	NA	R	R	R	R	R
150	Customer witnessed testing. Specify test procedure with other codes.	NA	NA	NA	NA	NA	P	P	P	P	P
221	Type test and multi-point load test with report for motor from specific delivery batch.	M	M	M	M	M	R	R	R	R	R
222	Torque/speed curve, type test and multi-point load test with report for motor from specific delivery batch.	M	M	M	M	M	P	P	P	P	P
760	Vibration level test	M	M	M	M	M	M	M	M	P	P
761	Vibration spectrum test.	NA	NA	NA	NA	NA	P	P	P	P	P
762	Noise level test.	P	P	P	P	P	P	P	P	P	P
763	Noise spectrum test.	NA	NA	NA	NA	NA	P	P	P	P	P
764	Test with ABB frequency converter available at ABB test field. ABB standard test procedure.	NA	NA	NA	NA	NA	P	P	P	P	P
Variable speed drives											
701	Insulated bearing at N-end.	NA	NA	M	M	M	M	M	M	P	P
704	EMC cable gland.	M	M	M	M	M	M	M	M	P	P
	Separate motor cooling										
183	Separate motor cooling (fan axial, N-end).	M	M	M	M	M	M	M	P	P	P
189	Separate motor cooling, IP44, 400V, 50Hz (fan axial, N-end).	M	M	M	M	M	NA	NA	NA	NA	NA
422	Separate motor cooling (fan top or side, N-end).	NA	NA	NA	NA	NA	P	P	P	P	P
	Mounting of tacho, tacho not included										
182	Pulse sensor mounted as specified.	NA	NA	NA	NA	NA	P	P	P	P	P
470	Prepared for hollow shaft pulse tacho (L&L equivalent).	M	M	M	M	M	P	P	P	P	P
479	Mounting of other type of pulse tacho with shaft extension, tacho not included.	NA	NA	NA	NA	NA	P	P	P	P	P
570	Prepared for hollow shaft pulse tacho (L&L 503).	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Mounting of tacho, tacho included										
062	Tachogenerator.	NA	NA	NA	NA	NA	P	P	P	P	P
472	1024 pulse tacho (L&L 861).	M	M	M	M	M	P	P	P	P	P
473	2048 pulse tacho (L&L 861).	M	M	M	M	M	P	P	P	P	P
572	1024 pulse tacho (L&L 503).	M	M	M	M	M	NA	NA	NA	NA	NA
573	2048 pulse tacho (L&L 503).	M	M	M	M	M	NA	NA	NA	NA	NA

Note: Variant code option list also valid for premium efficiency motors M4BP 160-355.
Certain variant codes cannot be used simultaneously.

S = Included as standard
P = New manufacturer
M = On modification of a stocked motor; or on new manufacture, the number of number per order may be limited.
R = On request
NA = Not applicable.

Code	/ Variant	160	180	200	225	250	280	315	355	400	450
658	Special tacho mounted, price category 1: Leine&Linde 861207356-0100 Leine&Linde 861207356-0050 Leine&Linde 861007456-1024 Leine&Linde 861007456-2048	NA	NA	NA	NA	NA	P	P	P	P	P
659	Special tacho mounted, price category 2: Leine&Linde DUO 865027391-0050-1024 Leine&Linde DUO 865027391-0100-1024 Leine&Linde DUO 865127991-1024-0015 Huebner POG 10 DN 1024 I Huebner HOG 10 DN 1024 I	NA	NA	NA	NA	NA	P	P	P	P	P
660	Special tacho mounted, price category 3: Huebner POG 10 DN 1024 I + FSL Huebner POG 10 DN 1024 I + DSL.E Huebner HOG 10 DN 1024 I + FSL Huebner HOG 10 DN 1024 I + DSL.E	NA	NA	NA	NA	NA	P	P	P	P	P
	Separate motor cooling & prepared for tacho, tacho not included										
474	Separate motor cooling (fan axial, N-end) and prepared for hollow shaft tacho (L&L equivalent).	M	M	M	M	M	P	P	P	P	P
478	Separate motor cooling (fan top, N-end) and prepared for hollow shaft tacho (L&L equivalent).	NA	NA	NA	NA	NA	P	P	P	P	P
486	Separate motor cooling (fan top, N-end) and prepared for DC-tacho.	NA	NA	NA	NA	NA	P	P	P	P	P
574	Separate motor cooling (fan axial, N-end) and prepared for hollow shaft tacho (L&L 503).	M	M	M	M	M	NA	NA	NA	NA	NA
578	Separate motor cooling, IP44, 400V, 50Hz (fan axial, N-end) and prepared for hollow shaft tacho (L&L 503).	M	M	M	M	M	NA	NA	NA	NA	NA
	Separate motor cooling & prepared for tacho, tacho included										
429	Separate motor cooling (fan top, N-end) and 1024 pulse tacho (Leine & Linde 861) mounted.	NA	NA	NA	NA	NA	P	P	P	P	P
476	Separate motor cooling (fan axial, N-end) and 1024 pulse tacho (L&L 861).	M	M	M	M	M	P	P	P	P	P
477	Separate motor cooling (fan axial, N-end) and 2048 pulse tacho (L&L 861).	M	M	M	M	M	P	P	P	P	P
510	Separate motor cooling (fan top, N-end) and 2048 pulse tacho (Leine & Linde 861) mounted.	NA	NA	NA	NA	NA	P	P	P	P	P
576	Separate motor cooling (fan axial, N-end) and 1024 pulse tacho (L&L 503).	M	M	M	M	M	NA	NA	NA	NA	NA
577	Separate motor cooling (fan axial, N-end) and 2048 pulse tacho (L&L 503).	M	M	M	M	M	NA	NA	NA	NA	NA
580	Separate motor cooling, IP44, 400V, 50Hz (fan axial, N-end) and 1024 pulse tacho (L&L 503).	M	M	M	M	M	NA	NA	NA	NA	NA
581	Separate motor cooling, IP44, 400V, 50Hz (fan axial, N-end) and 2048 pulse tacho (L&L 503).	M	M	M	M	M	NA	NA	NA	NA	NA
Y/Δ starting											
117	Terminals for Y/Δ start at both speeds (two speed windings).	P	P	P	P	P	P	P	R	R	R
118	Terminals for Y/Δ start at high speed (two speed windings).	NA	NA	NA	NA	NA	P	P	R	R	R
119	Terminals for Y/Δ start at low speed (two speed windings).	NA	NA	NA	NA	NA	P	P	R	R	R

Note: Variant code option list also valid for premium efficiency motors M4BP 160-355.
Certain variant codes cannot be used simultaneously.

S = Included as standard
P = New manufacturer
M = On modification of a stocked motor; or on new manufacture, the number of number per order may be limited.
R = On request
NA = Not applicable.