

Grundfos MLE Motor for LCSE, LFE and VLSE Pumps

Grundfos has eliminated the complexity in matching motor, drive and control logic components by providing a simple and effective out-of-the-box solution to meet your variable speed application needs for HVAC pump and pressure boosting applications. Whether for new or existing installations, state-of-the-art MLE motors on the LCSE, LFE and VLSE pumps offer critical advantages over independently assembled motor, drive and control logic components.

Grundfos MLE motors for variable speed pump applications offers:

- Out-of-the-box preconfigured capability, programmed and ready for installation and operation
- Embedded hydraulic performance envelope for the specific pump
- Multiple control modes featuring constant curve, constant pressure and proportional pressure
- Innovative design to minimize equipment footprint and speed installation
- On-board BMS communications and smartphone control capability



TECHNICAL DATA

2 and 4 POLE PROGRAM

HP	VOLTS	NEMA FRAME	NO FEET	FEET	MOTOR (REF)	SERVICE FACTOR	FULL LOAD EFF (%)*	INS. CLASS	TEMP RISE CLASS	FULL LOAD AMPS	SERVICE FACTOR AMPS	POWER FAC-TOR	NOM/MAX SPEED (RPM)	BEARING (D-END)	BEARING (N-END)	SPL (dBA)	WT (LB)
MLE 3X208-230V, 3600RPM																	
3	208-230	182TC	98489500	98489485	98492062	1.07	85.5	F	B	8.3-7.6	8.9-8.13	0.95-0.94	3460	6306.2Z.C3	6205.2Z.C3	70	65
5	208-230	184TC	98489502	98489489	98492064	1.07	88.5	F	B	13.8-13.3	14.77-14.23	0.94-0.90	3470	6308.2Z.C3	6206.2RSL.C3.HYB	75	91
7.5	208-230	215TC	98489504	98489491	98492066	1.07	89.5	F	B	20.0-18.5	21.4-19.79	0.94-0.92	3450	6308.2Z.C3	6206.2RSL.C3.HYB	80	100
MLE 3X480V, 3600RPM																	
3	480	182TC	98489501	98489487	98492063	1.15	86.5	F	B	3.70	4.30	0.91	3460	6306.2Z.C3	6205.2Z.C3	70	65
5	480	184TC	98489503	98489490	98492065	1.15	88.5	F	B	6.10	7.00	0.92	3470	6308.2Z.C3	6206.2RSL.C3.HYB	75	100
7.5	480	215TC	98489505	98489492	98492067	1.15	89.5	F	B	8.90	10.30	0.94	3470	6308.2Z.C3	6206.2RSL.C3.HYB	80	109
10	480	215TC	98489506	98489493	98492068	1.15	90.2	F	B	11.60	13.40	0.93	3500	6308.2Z.C3	6206.2RSL.C3	69	139
15	480	254TC	98489507	98489494	98492069	1.15	91.0	F	B	18.00	20.60	0.89	3540	6309.Z.C4	6309.Z.C4	68	196
20	480	254TC	98489508	98489496	98492070	1.15	91.0	F	B	24.00	27.50	0.89	3540	6309.Z.C4	6309.Z.C4	68	196
25	480	284TSC	98489509	98489497	98492081	1.15	91.7	F	B	30.50	35.00	0.88	3540	6310.Z.C4	6310.Z.C4	70	225
30	480	286TSC	98489510	98489498	98492082	1.15	91.7	F	B	36.50	42.00	0.88	3540	6310.Z.C4	6310.Z.C4	70	251
MLE 3X480V, 1800RPM																	
3	480	182TC	98510586	98534069	98510599	1.15	86.7	F	B	4.30	4.95	0.90	1740	6306.2Z.C3	6205.2RSL.C3	52	69
5	480	184TC	98510587	98534070	98510616	1.15	87.5	F	B	6.60	7.60	0.92	1760	6308.2Z.C3	6206.2RSL.C3.HYB	63	107
7.5	480	215TC	98510588	98534081	98510618	1.15	89.6	F	B	9.00	10.35	0.94	1750	6308.2Z.C3	6206.2RSL.C3.HYB	56	115
10	480	215TC	98510589	98534082	98510620	1.15	88.7	F	B	12.00	13.80	0.94	1750	6308.2Z.C3	6206.2RSL.C3	69	159
15	480	254TC	98510590	98534084	98510634	1.15	89.8	F	B	17.80	20.50	0.90	1750	6309.Z.C4	6309.Z.C4	64	216
20	480	256TC	98510592	98534085	98510636	1.15	90.6	F	B	25.40	29.20	0.85	1750	6309.Z.C4	6309.Z.C4	66	260
25	480	284TC	98510593	98534087	98510639	1.15	91.2	F	B	30.00	34.50	0.88	1750	6310.Z.C4	6310.Z.C4	72	269

* Combined motor and VFD efficiency

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GRUNDFOS

Data Communication	Part Number	LFE/LCSE/VLSE	
		3-10HP MLE@	15-30HP MLE
CIM 050 GENIbus*	96824631		X
CIM 100 LON	96824797		X
CIM 150 Profibus DP	96824793		X
CIM 200 Modbus RTU / COMLI	96824796		X
CIM 250 GSM / GPRS	96824795		X
CIM 270 GRM#	96898815		X
CIM 300 BACnet MS / TP	96893770		X
CIM 500 PROFINET IO / Modbus TCP	98301408		X
CIU 100 LON	96753735	X	
CIU 150 Profibus DP	96753081	X	
CIU 200 Modbus RTU / COMLI	96753082	X	
CIU 250 GSM / GPRS	96787106	X	
CIU 251 GSM / GPRS w/ IO BOARD	98424321	X	
CIU 271 GRM#	96898819	X	
CIU 300 BACnet MS / TP	96893769	X	
CIU PROFINET IO / Modbus TCP	96753894	X	

*GENIbus is included standard protocol for all MLE units.

Antenna (not included) is required with GRM.

@3-10HP MLE do not have a slot for CIM card and must use CIU for change in protocol.



STANDARD FEATURES

Set-Point Signal (1)

- 0-10 VDC (+10 VDC supply to sensor, 2.5 mA max.)
- 0/4-20 mA (+24 VDC supply to sensor, 40 mA max.)

Sensor Signal (1)

- 0-10 VDC (+10 VDC supply to sensor, 2.5 mA max.)
- 0/4-20 mA (+24 VDC supply to sensor, 40 mA max.)

Signal Output (1)

- Dry Contact (Potential free changeover)
- Maximum Contact Load: 250 VAC, 2 A
- Minimum Contact Load: 5 VDC, 10 mA
- 3-10HP (1)
- 15-30HP (2)

Digital Input (4)

- Dry Contact (Potential free)
- 5 VDC, <5 mA
- 1 Start/Stop & 3 Additional

Bus Signal

- GENIbus RS-485 (standard)
- Other bus solutions are available

CONTROL MODES

Built-in PI controller for:

- Constant Pressure Control
- Constant Level Control
- Constant Flow Control
- Constant Temperature Control
- Constant Differential Pressure Control
- Proportional Differential Pressure Control (VLSE Series Pumps)

ENCLOSURE CLASS

Motor: TEFC (IP55)

Insulation: Class F insulation with class B temperature rise

Drive: NEMA Type 3R (IP55)

ENVIRONMENT

- -4° to +104° F (-20° to +40° C)
- Relative air humidity: 95%

PROTECTION/ALARM FEATURES

- Excessive motor temperature
- Excessive drive temperature
- Undervoltage
- Overvoltage
- Too many restarts (after faults)
- Overload (motor hp exceeded, pump blocked)
- Sensor signal outside signal range
- Setpoint signal outside signal range
- External fault (via digital input)
- Communication fault (Duty/Standby)
- Motor Bearing PT100 (2) 15-30HP only

- All motors have thermal protection
- (IEC 34-11: TP211)

- EMC (electromagnetic compatibility): EN 61 800-3

Duty/Standby (15-30HP Only):

- Automatic alternation between two pumps via fieldbus connection

APPROVALS



L-MLE-TL-04 Rev. 11-14

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