

2 Technical Data

Three-phase asynchronous generator MCM445L21F9Z
 Welded housing / water-cooled stator
 200/750 kW S1, 690 V D+D, 60 Hz, 1208/1809 1/min
 IM1001 (B3), IP54, 3420 kg, RAL5010

Technical description:

 Execution: EN, IEC, ELIN-generator-lists

Welded housing / water-cooled stator

Type of construction	: IM1001 (B3)
Type of protection	: IP54
Weight (kg)	: 3420
Moment of Inertia (kgm ²)	: 24
Color	: RAL5010
IEC-frame size	: 450
Location of Terminal box	: DE, left side
Line entrance	: 4x M63x1.5 (4 poles) 1x M63x1.5 (6 poles) 1x M25x1.5 (grounding) 1x M12x1.5 (supervision)
Shaft end	: 1x standard
Bearings	: DE -> ball bearing NDE -> ball bearing
Lubrication	: grease manual relubrication device
Insulation class/Temp. rise	: F/B
Ambient temperature (degr. C)	: max. 55
Water inlet temp. (degr. C)	: max. 50
Water flow (l/min)	: min. 30
Water pressure (bar)	: max. 5
Amount of water in generator (l)	: 14.8
Direction of rotation	: clockwise (facing DE)
Over speed	: 2160 1/min - > 2 min 2300 1/min - > 5 sec

Technical data (Ratings):

Output (kW) / duty type	: 200/750 / S1 / SF=1.0
Voltage (V) / connection	: 690 / D+D (+5 / -10 %)
Frequency (Hz)	: 60 (+3 % / - 5 %)
Speed (1/min)	: 1208/1809
Slip at 20° C water inlet temp. (%)	: -0.56/-0.39
Full-load current (A)	: 207/751
Full-load torque (Nm)	: 1605/4011
Efficiency (%)	: 95.4/96.8
Power factor	: 0.85/0.87
Starting current/full-load current	: 9.8/12.4
Pull-out torque/full-load torque	: to follow

Mechanical input (kW) : 210/775
 Apparent power (kVA) : 248/896
 Reactive power (kVAr) : 132/450
 No-load: Current (A) : 83/337
 Power factor : 0.04/0.035
 Reactive power (kVAr) : 99/403

Part loads:

r a t i n g s (typical values)		
Load%	cos phi	eta (%)
125%	0.86/0.89	95.2/96.9
100%	0.85/0.87	95.4/96.8
75%	0.81/0.79	95.5/97.0
50%	0.72/0.68	95.1/96.6
25%	0.47/0.43	92.2/94.4

Resistances and reactances (value of phases):

X1Sig = 0.303 / 0.103 Ohm
 X1h = 14.04 / 3.45 Ohm
 X2'Sig = 0.816 / 0.134 Ohm
 R1 ph hot = 0.0802 / 0.0076 Ohm
 R2'ph hot = 0.0357 / 0.0068 Ohm
 RFe = 470 / 124 Ohm

Short circuit	max. torque (Nm)	max. current (A)
2-pole	12420/41399	2725/13771
3-pole	8279/28537	2561/13105

Additional equipment, -execution:

- * Motor protection: 3 PT100 each winding
3 PTC-thermistors each winding
- * Residual voltage secure 100 %
- * Range of vibration intensity R
- * Condensation drain holes
- * Corrosion protection: Acc.to Elin standard "FV-56_02"

Comments:

- * Balancing of the rotor with complete key
- * 3 Terminals for generator level (6 poles) D-connection closed (on the winding overhang), possibility of connection for max. 1x 95 mm²/phase
- * 3 Terminals for generator level (4 poles) D-connection closed (in the terminal box), possibility of connection for max. 4x 185 mm²/phase

Dimension drawing -> 6181465 (reference)