

# Motor data sheet

## M3AA 225SMA 2

Definition	Data	Unit	Remarks
Product code	3GAA221210-**K		CalcId: 3GZF021022-685
Voltage code	D		
Type/Frame	M3AA 225SMA 2		
Design	CENELEC		
Efficiency class	IE3		IEC 60034-2-1:2014
Rated output $P_N$	45	kW	
Rated voltage $U_N$	415	V	± 5 % (IEC 60034-1)
Rated frequency $f_N$	50	Hz	± 2 % (IEC 60034-1)
Rated speed $n_N$	2970	r/min	
Rated current $I_N$	78.3	A	
Starting current $I_S/I_N$	7.7		
Nominal torque $T_N$	144.69	Nm	
Locked rotor torque $T_l/T_N$	2.9		
Maximum torque $T_b/T_N$	3.29		
Efficiency - full load 100%	94.0	%	IEC 60034-2-1:2014
Efficiency - 75%	93.9	%	
Efficiency - 50%	92.8	%	
Power factor - full load 100%	0.85		
Bearing DE/NDE	6313-2Z/C3 6212-2Z/C3		
Sound pressure level $L_{pA}$ dB	75.7	dB(A)	+3dB(A)
Moment of inertia $J = \frac{1}{4} GD^2$ kgm <sup>2</sup>	0.3	kg-m <sup>2</sup>	
Weight	326	kg	
Ambient temperature	40	°C	
<b>Motor losses at VSD operating points</b>	<b>losses in efficiency %</b>	<b>losses in Watt</b>	<b>losses in relative to nom. power %</b>
VSD Speed 90% Torque 100%	93.6	2769	6.2
VSD Speed 50% Torque 100%	91.6	2063	4.6
VSD Speed 25% Torque 100%	85.9	1847	4.1
VSD Speed 90% Torque 50%	92.5	1642	3.6
VSD Speed 50% Torque 50%	92.0	978	2.2
VSD Speed 50% Torque 25%	89.0	695	1.5
VSD Speed 25% Torque 25%	86.0	458	1.0