

# GKN POWDER METALLURGY E-MOTOR TECHNOLOGY

# TFM 2AAA

## OVERVIEW

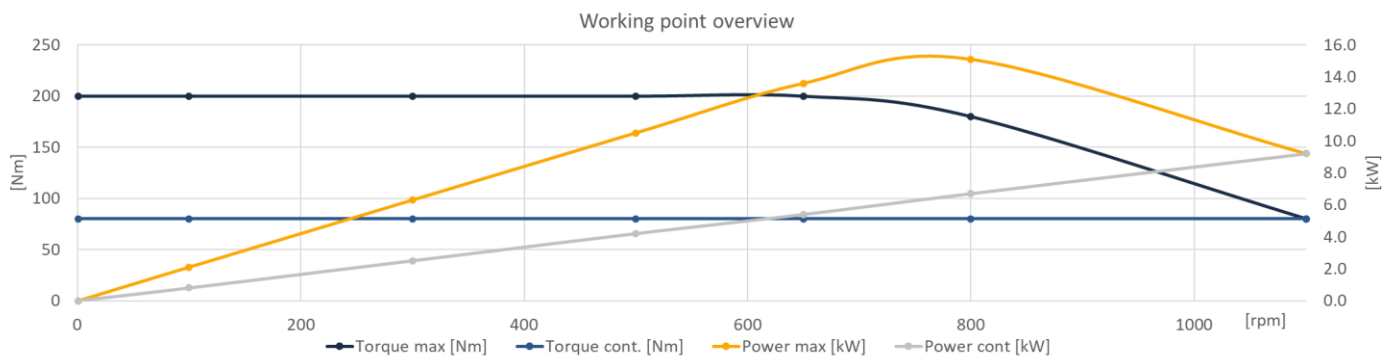
Dimensional specs for the motor					
	Value [nominal]	min. Value	max. Value	Dimension	Comments
outer Ø	290	280		mm	final dimensions contingent on customization
innerØ	24	0	80	mm	final dimensions contingent on customization
length	100			mm	final dimensions contingent on customization
total weight		17	19	kg	

Technical specs					
	Value [nominal]	min. Value	max. Value	Dimension	Comments
Voltage level	48	42	58	V	customization of voltage level (e.g. 400V)
Phase Current	200		600	Arms	customization of phase currents possible
Supply Power	9		16	kW	
Ambient temperature	20	-20	60	°C	full performance up to 40°C ambient temperature
Motor Temperature			120	°C	120°C motor internal; accessible surfaces max. 80°C
Protection Class	IPx5	IPx5	IPx6		customization possible
# Phases	3				
Coil type	Copper				
Magnet class	NdFeB				
Inverter integrated	No				no integrated inverter
Cooling potential	Aircooled				

Max. Motor working points						
Speed [rpm] *	Torque [Nm] **	Power [kW] **	time to operate [s]	Motor Efficiency [%]	Torque density [Nm/l]	Power density [kw/l]
1	200	0.0	15	not measurable	30.5	0.00
100	200	2.1	15	74%	30.5	0.30
300	200	6.3	15	83%	30.5	1.00
500	200	10.5	15	85%	30.5	1.60
650	200	13.6	15	88%	30.5	2.10
800	180	15.1	20	88%	27.4	2.30
1100	80	9.2	cont.	91%	12.2	1.40

Continuous Motor working points						
Speed [rpm]	Torque [Nm]	Power [kW]	time to operate [s]	Motor Efficiency [%]	Torque density [Nm/l]	Power density [kw/l]
1	80	0.00	cont.	not measurable	12.2	0.00
100	80	0.80	cont.	80%	12.2	0.10
300	80	2.50	cont.	91%	12.2	0.40
500	80	4.20	cont.	91%	12.2	0.60
650	80	5.40	cont.	91%	12.2	0.80
800	80	6.70	cont.	92%	12.2	1.00
1100	80	9.20	cont.	91%	12.2	1.40

\* customization of speeds (e.g. up to 2000rpm) possible;  
**\*\* motor specific performance @ 20°C & 48V; a derating may be necessary depending on power supply & electronics and thermal limitations**



**Powerful. Efficient. Compact. Sustainable.**

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