

GKN POWDER METALLURGY E-MOTOR TECHNOLOGY

TFM 1400

OVERVIEW

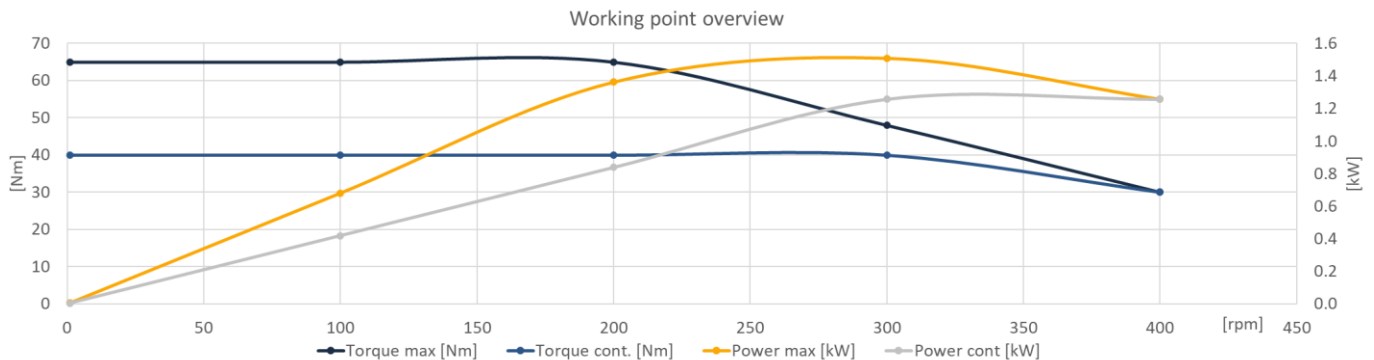
Dimensional specs for the motor					
	Value [nominal]	min. Value	max. Value	Dimension	Comments
outer Ø	162		195	mm	nominal outer Ø is without flanges; max. outer Ø including radial flanges
innerØ	12			mm	shaft diameter
length	84.5	75.5	148 shaft length	mm	min. length = motor only; nominal length including torque support, sealings, etc.
total weight	6		7	kg	

Technical specs					
	Value [nominal]	min. Value	max. Value	Dimension	Comments
Voltage level	48	36	56	V	customization of voltage level (e.g. 96V) possible
Current	60	0	120	Arms	customization of currents possible
Supply Power	1.3	0	1.6	kW	
Ambient temperature	20	-20	60	°C	
Motor Temperature	20	-20	120	°C	120°C motor internal; tangible surfaces max. 60°C
Protection Class	IPX4		IPX6		
# Phases	3				
Coil type	Copper				
Magnet class	NdFeB				
Inverter integrated	No				no integrated inverter
Cooling potential	Aircooled	0	0	% of nominal power	

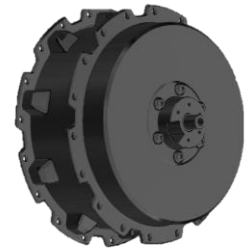
Max. Motor working points						
Speed [rpm] *	Torque [Nm]**	Power [kW]**	time to operate [s]	Motor Efficiency [%]	Torque density [Nm/l]	Power density [kw/l]
1	65	0.0	180		41.7	0.0
100	65	0.7	120	>50%	41.7	0.4
200	65	1.4	120	>60%	41.7	0.9
300	48	1.5	120	>80%	30.8	1.0
400	30	1.3	cont.	>90%	19.2	0.8

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	40	0.0	cont.		25.6	0.0
100	40	0.4	cont.	>80%	25.6	0.3
200	40	0.8	cont.	>85%	25.6	0.5
300	40	1.3	cont.	>87%	25.6	0.8
400	30	1.3	cont.	>90%	19.2	0.8

* customization of speeds (e.g. up to 1500rpm) possible;
** motor specific performance @ 20°C & 48V; a derating may be necessary depending on power supply & electronics and thermal limitations



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