

# GKN POWDER METALLURGY E-MOTOR TECHNOLOGY

# TFM 2400

## OVERVIEW

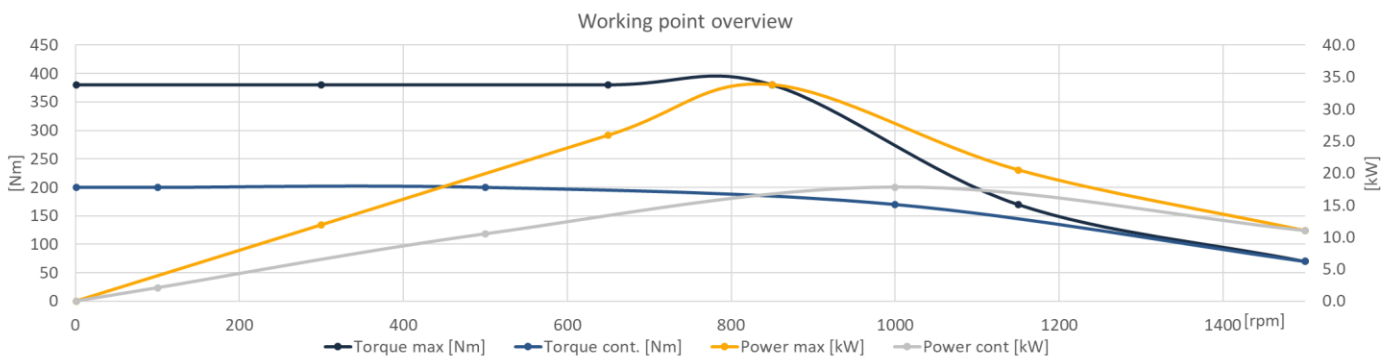
Dimensional specs for the motor					
	Value [nominal]	min. Value	max. Value	Dimension	Comments
outer Ø	280			mm	nominal outer Ø is without flanges
inner Ø	140			mm	shaft diameter
length	100			mm	nominal length including torque support, sealings, etc.
total weight	17	15	19	kq	

Technical specs					
	Value [nominal]	min. Value	max. Value	Dimension	Comments
Voltage level	96	86	120	V	customization of voltage level (e.g. 400V) possible
Current	120	400	600	Arms	customization of currents possible
Supply Power	11		30	kW	
Ambient temperature	20	-10	50	°C	
Motor Temperature			120	°C	120°C motor internal; accessible surfaces max. 80°C
Protection Class	IP66	IP65	IP66		
# Phases	3				
Coil type	Copper				
Magnet class	NdFeB				
Inverter integrated	No				no integrated inverter
Cooling potential	Aircooled	0	10	% 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	380	0.0	5	not measurable	82.3	0.00
300	380	11.9	5	80%	82.3	2.60
650	380	25.9	5	87%	82.3	5.60
850	380	33.8	5	89%	82.3	7.30
1150	170	20.5	5	90%	36.8	4.40
1500	70	11.0	5	90%	15.2	2.40
100	300	3.1	30	64%	65.0	0.70
300	300	9.4	30	83%	65.0	2.00
850	290	25.8	30	92%	62.8	5.60
1150	170	20.5	30	90%	36.8	4.40
1500	70	11.0	30	90%	15.2	2.40

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	200	0.02	cont.	not measurable	43.3	0.00
100	200	2.10	cont.	80%	43.3	0.50
500	200	10.50	cont.	91%	43.3	2.30
1000	170	17.80	cont.	93%	36.8	3.90
1500	70	11.00	cont.	90%	15.2	2.40

\* customization of speeds (e.g. up to 2000rpm) possible;  
 \*\* motor specific performance @ 20°C & 100V; a derating may be necessary depending on power supply & electronics and thermal limitations



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