



motor type DD5-14-xxW-19000 V with controller KW40

These are calculated curves.
The actual motor performance might vary up to 5%

input:

lamination stack length	L	60	mm
connection type	D / S	D	
number of winding turns	#	43,0	
resistance of ECU (per phase)	R _{ECU}	0,000	Ohm
DC-voltage	U	600	V
thermal resistance	R _{th}	0,108	K/W

stall data

Duty Cycle = 100%

dT = 80 K

continuous stall torque	①	M ₀	13,80	Nm
continuous stall current	①	I ₀	54,00	Arms
peak stall torque		M _{max}	21,0	Nm
peak stall current		I _{max}	100,0	Arms
time for peak stall current	⑤	t _{Imax}	1,2	s

nominal values

rated torque	②	M _N	9,80	Nm
rated current	②	I _N	41,0	Arms
rated power	②	P _N	12300	W
rated speed	②	n _N	12000	rpm

other data

theoretical no load speed	③	N _{theo}	22600	rpm
torque constant		kt	0,26	Nm/Arms
EMK-constant		ke	18,80	Vrms/krpm
terminal to terminal resistance	④	R _{tt}	0,130	Ohm
terminal to terminal inductance	④	L _{tt}	0,360	mH
inductance L _d	④	L _d	0,290	mH
inductance L _q	④	L _q	0,260	mH
thermal resistance	④	R _{th}	0,135	°C / W
electr. time constant	④	T _{el}	2,700	ms
inertia w/o brake		J	2,9	kgcm ²
mass w/o brake		m	5,3	kg

- ① Motor liquid cooled with 4 l/min in closed circulation and dT = 80 K between windings and water (max. 30°C)
- ② nominal speed as customers demand
or at maximum continuous output power with at least 100% overload capability
- ③ speed, where EMF is equal to bus voltage
- ④ measured at 25°C
- ⑤ time while peak current is heating up copper mass dT = 10K

ideal torque-speed-characteristic

