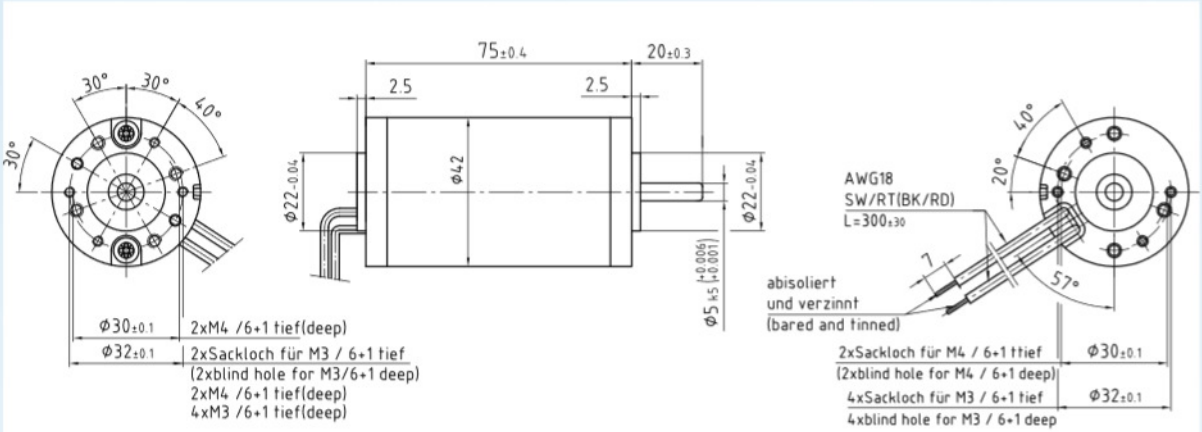
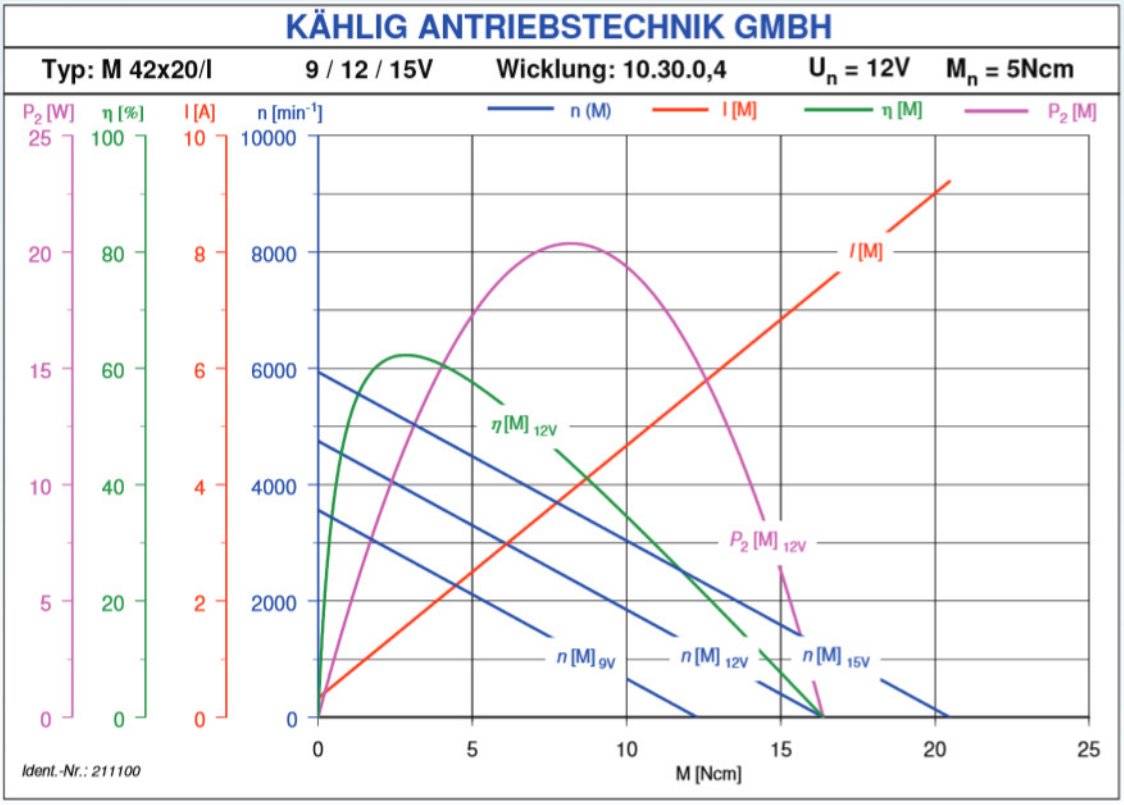
DC-Motor M42x20/I (12V)
Ident-Nr. 211100

- Brushed DC motor with permanent magnet
- Ball bearings
- Lead wires
- Closed zinc-plated housing with zinc-die-cast bearing flanges
- Direction of rotation CW / CCW
- Power output in rated operation: 17,3 Watt
- Multiple combination possibilities with gears, encoders and brakes



Application on request



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Performance

	Sign	Unit	Value	Tolerances
Rated voltage	U_N	V	12	
Rated torque [1]	M_N	Ncm	5	
Rated speed [1]	n_N	min^{-1}	3300	±10%
Rated current [1]	I_N	A	2,5	±20%
No load speed [1]	n_0	min^{-1}	4750	±15%
No load current [1]	I_0	A	0,33	±50%
Rated power output [1]	P_{2N}	W	17,3	
Rated power input [1]	P_{1N}	W	30	
Rated effciency [1]	η_N	%	57,6	
Maximum power output [2)3)]	P_{2max}	W	20,4	
Maximum Continuous torque [2)3)]	M_{max}	Ncm	5,0	
Maximum Continuous current [2)3)]	I_{max}	A	2,5	
Maximum speed [1)3)]	n_{max}	min^{-1}	10000	
Stall torque [1]	M_H	Ncm	16,4	
Stall current [1]	I_H	A	7,4	
Demagnetization current	I_E	A	20,6	
Connecting resistance [1]	R	Ω	1,61	
Armature resistance [1]	R_A	Ω	0,97	±5%
Armature inductance [1 kHz] [1]	L_A	mH	0,9	
Rise of speed-characteristic [1]	k_D	min^{-1}/Ncm	290	
Torque constant [1]	k_M	Ncm/A	2,3	
Voltage constant [1]	k_E	$V/10^3 min^{-1}$	2,5	
Friction torque [1]	M_R	Ncm	-0,8	
Mechanical time constant [1]	τ_M	ms	13,5	
Electrical time constant [1]	τ_e	ms	0,6	
Rotor inertia	J_R	gcm^2	74	
Maximum case temperature [2]	ϑ_G	°C	80	
Starting voltage [1]	U_A	V	2	
Permissible axial shaft loads [3)]	F_{axial}	N	40	
Permissible radial shaft loads [3)]	F_{radial}	N	100	
Protection class DIN VDE 0530	IP 40			
Duty cycle DIN VDE 0530	S1			
Insulation class DIN VDE 0530	E			
Lifetime at rated torque [h] [1]	3000			
Ambient temperature	-30°C to +40°C			
Bearing	2 ball bearings			
Interference suppression	optional			

1) ϑ_w Winding temperature ≈ 20°C 2) $\Delta\vartheta_w$ allowable = 100K
3) The operating at maximum levels reduces the lifespan

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