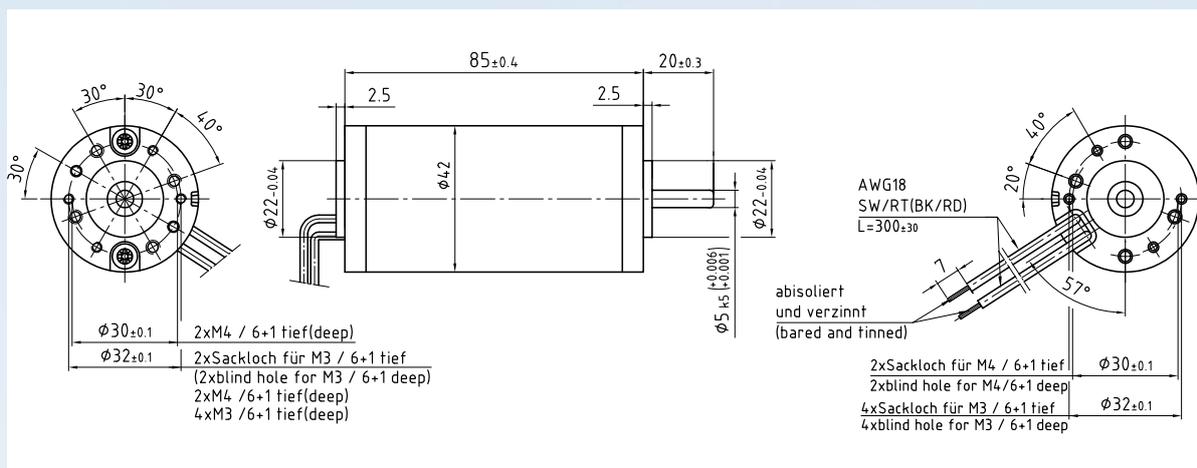


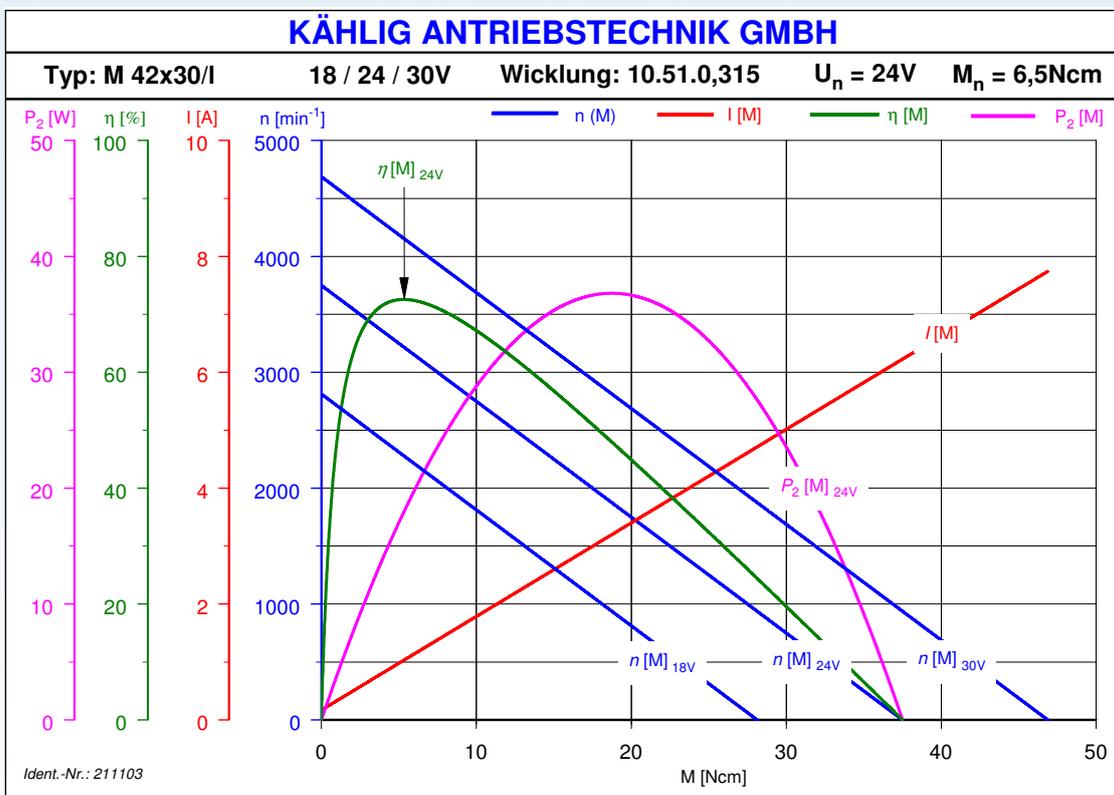
# DC-Motor M42x30/I (24V)

## Ident-Nr. 211103

- 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: 22,1 Watt
- Multiple combination possibilities with gears, encoders and brakes



Application on request



Stand: 8. Oktober 2014 – changes reserved

## Performance

	Sign	Unit	Value	Tolerances
Rated voltage	$U_N$	V	24	
Rated torque <sup>1)</sup>	$M_N$	Ncm	6,5	
Rated speed <sup>1)</sup>	$n_N$	min <sup>-1</sup>	3100	±10%
Rated current <sup>1)</sup>	$I_N$	A	1,22	±20%
No load speed <sup>1)</sup>	$n_o$	min <sup>-1</sup>	3750	±15%
No load current <sup>1)</sup>	$I_o$	A	0,17	±50%
Rated power output <sup>1)</sup>	$P_{2N}$	W	21,1	
Rated power input <sup>1)</sup>	$P_{1N}$	W	29,3	
Rated efficiency <sup>1)</sup>	$\eta_N$	%	72,1	
Maximum power output <sup>2)3)</sup>	$P_{2max}$	W	36,8	
Maximum continuous torque <sup>2)3)</sup>	$M_{max}$	Ncm	6,5	
Maximum continuous current <sup>2)3)</sup>	$I_{max}$	A	1,22	
Maximum speed <sup>1)3)</sup>	$n_{max}$	min <sup>-1</sup>	10000	
Stall torque <sup>1)</sup>	$M_H$	Ncm	37,5	
Stall current <sup>1)</sup>	$I_H$	A	6,2	
Demagnetization current	$I_E$	A	13,7	
Connecting resistance <sup>1)</sup>	R	Ω	3,85	
Armature resistance <sup>1)</sup>	$R_A$	Ω	3,35	±5%
Armature inductance [1 kHz] <sup>1)</sup>	$L_A$	mH	3,33	
Rise of speed-characteristic <sup>1)</sup>	$k_D$	min <sup>-1</sup> /Ncm	100	
Torque constant <sup>1)</sup>	$k_M$	Ncm/A	6,2	
Voltage constant <sup>1)</sup>	$k_E$	V/10 <sup>3</sup> min <sup>-1</sup>	6,4	
Friction torque <sup>1)</sup>	$M_R$	Ncm	-1,1	
Mechanical time constant <sup>1)</sup>	$T_M$	ms	8,7	
Electrical time constant <sup>1)</sup>	$T_e$	ms	0,9	
Rotor inertia	$J_R$	gcm <sup>2</sup>	100	
Maximum case temperature <sup>2)</sup>	$\vartheta_G$	°C	80	
Starting voltage <sup>1)</sup>	$U_A$	V	2	
Permissible axial shaft loads <sup>3)</sup>	$F_{axial}$	N	40	
Permissible radial shaft loads <sup>3)</sup>	$F_{radial}$	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] <sup>1)</sup>			3000	
Ambient temperature			-30°C to +40°C	
Bearing			2 ball bearings	
Interference suppression			optional	

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

Stand: 8. Oktober 2014 – changes reserved