

2.1 Speed–torque diagrams

Table 2-8 1FT6061 non-ventilated

1FT6061					
Technical data	Code	Units	–6AH7□	–6AK7□	
Engineering data					
Rated speed	n_N	RPM	4500	6000	
Number of poles	2p		6	6	
Rated torque (100K)	M_N (100K)	Nm	2.9	2.1	
Rated current (100K)	I_N (100K)	A	3.4	3.1	
Standstill torque (60K)	M_0 (60K)	Nm	3.3	3.3	
Standstill torque (100K)	M_0 (100K)	Nm	4	4	
Standstill current (60K)	I_0 (60K)	A	3.3	4	
Standstill current (100K)	I_0 (100K)	A	4	5	
Moment of inertia (with brake)	J_{mot}	10^{-4} kgm ²	9.3	9.3	
Moment of inertia (without brake)	J_{mot}	10^{-4} kgm ²	6	6	
Optimum operating point					
Optimum speed	n_{opt}	RPM	4500	5000	
Optimum power	P_{opt}	kW	1.37	1.38	
Limiting data					
Max. perm. speed (mech.)	n_{max}	RPM	9100	9100	
Maximum torque	M_{max}	Nm	16	16	
Maximum current	I_{max}	A	21	26	
Physical constants					
Torque constant	k_T	Nm/A	0.99	0.80	
Voltage constant	k_E	V/1000 RPM	63	51	
Winding resistance at 20°C	R_{ph}	Ohm	2.1	1.42	
Rotating field inductance	L_D	mH	13.3	9	
Electrical time constant	T_{el}	ms	6.3	6.3	
Shaft torsional stiffness	c_t	Nm/rad	34000	34000	
Mechanical time constant	T_{mech}	ms	3.9	4.0	
Thermal time constant	T_{th}	min	27	27	
Weight with brake	m	kg	9.5	9.5	
Weight without brake	m	kg	8	8	



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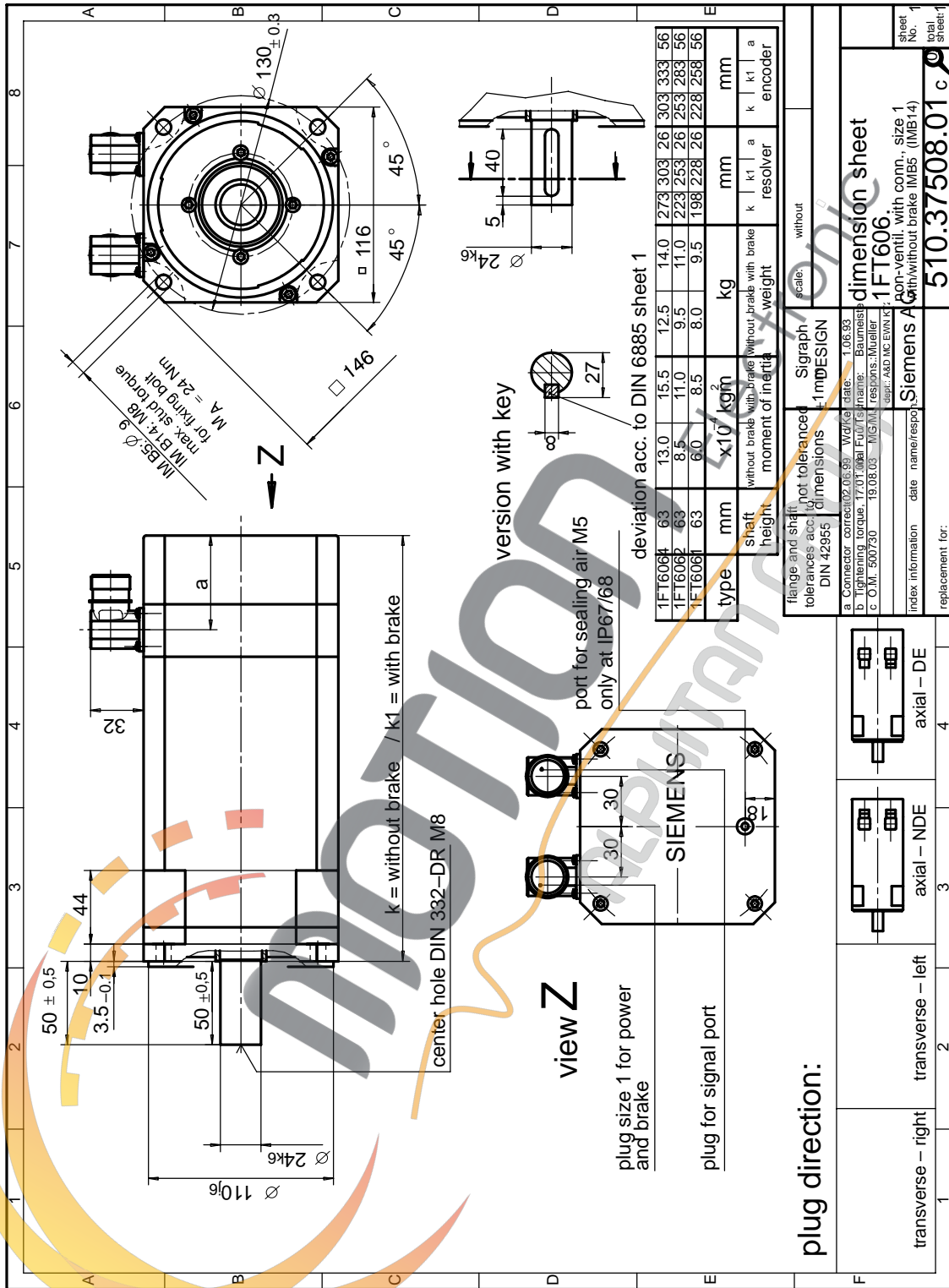


Fig. 4-4 1FT606 □ non-ventilated with connector, Size 1