

2.1 Speed–torque diagrams

Table 2-23 1FT6105 non-ventilated

1FT6105					
Technical data	Code	Units	–8AB7□	–□AC7□	
Engineering data					
Rated speed	n_N	RPM	1500	2000	
Number of poles	2p		8	8	
Rated torque (100K)	M_N (100K)	Nm	41	38	
Rated current (100K)	I_N (100K)	A	14.5	17.6	
Standstill torque (60K)	M_0 (60K)	Nm	42	42	
Standstill torque (100K)	M_0 (100K)	Nm	50	50	
Standstill current (60K)	I_0 (60K)	A	13.1	17.6	
Standstill current (100K)	I_0 (100K)	A	16	21.4	
Moment of inertia (with brake)	J_{mot}	10^{-4} kgm ²	199	199	
Moment of inertia (without brake)	J_{mot}	10^{-4} kgm ²	168	168	
Optimum operating point					
Optimum speed	n_{opt}	RPM	1500	2000	
Optimum power	P_{opt}	kW	6.44	7.96	
Limiting data					
Max. perm. speed (mech.)	n_{max}	RPM	5600	5600	
Maximum torque	M_{max}	Nm	140	140	
Maximum current	I_{max}	A	77	103	
Physical constants					
Torque constant	k_T	Nm/A	3.13	2.34	
Voltage constant	k_E	V/1000 RPM	199	149	
Winding resistance at 20°C	R_{ph}	Ohm	0.39	0.22	
Rotating field inductance	L_D	mH	8.4	4.7	
Electrical time constant	T_{el}	ms	22	21	
Shaft torsional stiffness	c_t	Nm/rad	113000	113000	
Mechanical time constant	T_{mech}	ms	2.0	2.0	
Thermal time constant	T_{th}	min	50	50	
Weight with brake	m	kg	44	44	
Weight without brake	m	kg	39.5	39.5	



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4.1 Non-ventilated 1FT6 motors

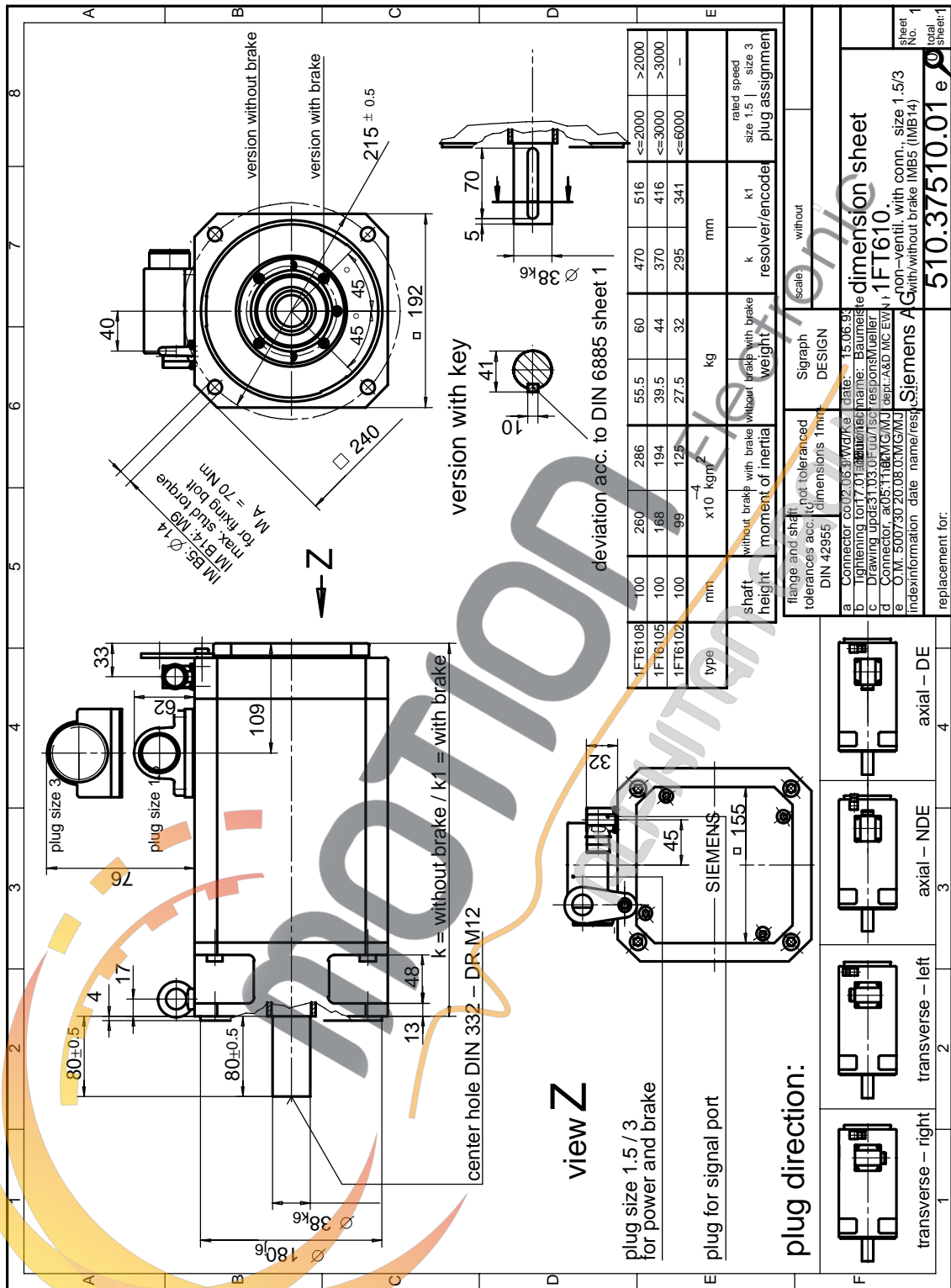


Fig. 4-6 1FT610 non-ventilated with connector, Size 1.5

