

2.1 Speed–torque diagrams

Table 2-25 1FT6108 non-ventilated

1FT6108					
Technical data	Code	Units	–8AB7□	–8AC7□	
Engineering data					
Rated speed	n_N	RPM	1500	2000	
Number of poles	$2p$		8	8	
Rated torque (100K)	M_N (100K)	Nm	61	55	
Rated current (100K)	I_N (100K)	A	20.5	24.5	
Standstill torque (60K)	M_0 (60K)	Nm	58	58	
Standstill torque (100K)	M_0 (100K)	Nm	70	70	
Standstill current (60K)	I_0 (60K)	A	18.1	23.5	
Standstill current (100K)	I_0 (100K)	A	22.3	29	
Moment of inertia (with brake)	J_{mot}	10^{-4} kgm ²	291	291	
Moment of inertia (without brake)	J_{mot}	10^{-4} kgm ²	260	260	
Optimum operating point					
Optimum speed	n_{opt}	RPM	1500	2000	
Optimum power	P_{opt}	kW	9.58	11.5	
Limiting data					
Max. perm. speed (mech.)	n_{max}	RPM	5600	5600	
Maximum torque	M_{max}	Nm	220	220	
Maximum current	I_{max}	A	107	139	
Physical constants					
Torque constant	k_T	Nm/A	3.14	2.42	
Voltage constant	k_E	V/1000 RPM	200	154	
Winding resistance at 20°C	R_{ph}	Ohm	0.22	0.13	
Rotating field inductance	L_D	mH	5.2	3.1	
Electrical time constant	T_{el}	ms	24	24	
Shaft torsional stiffness	c_t	Nm/rad	92000	92000	
Mechanical time constant	T_{mech}	ms	1.7	1.7	
Thermal time constant	T_{th}	min	60	60	
Weight with brake	m	kg	60	60	
Weight without brake	m	kg	55.5	55.5	



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4.1 Non-ventilated 1FT6 motors

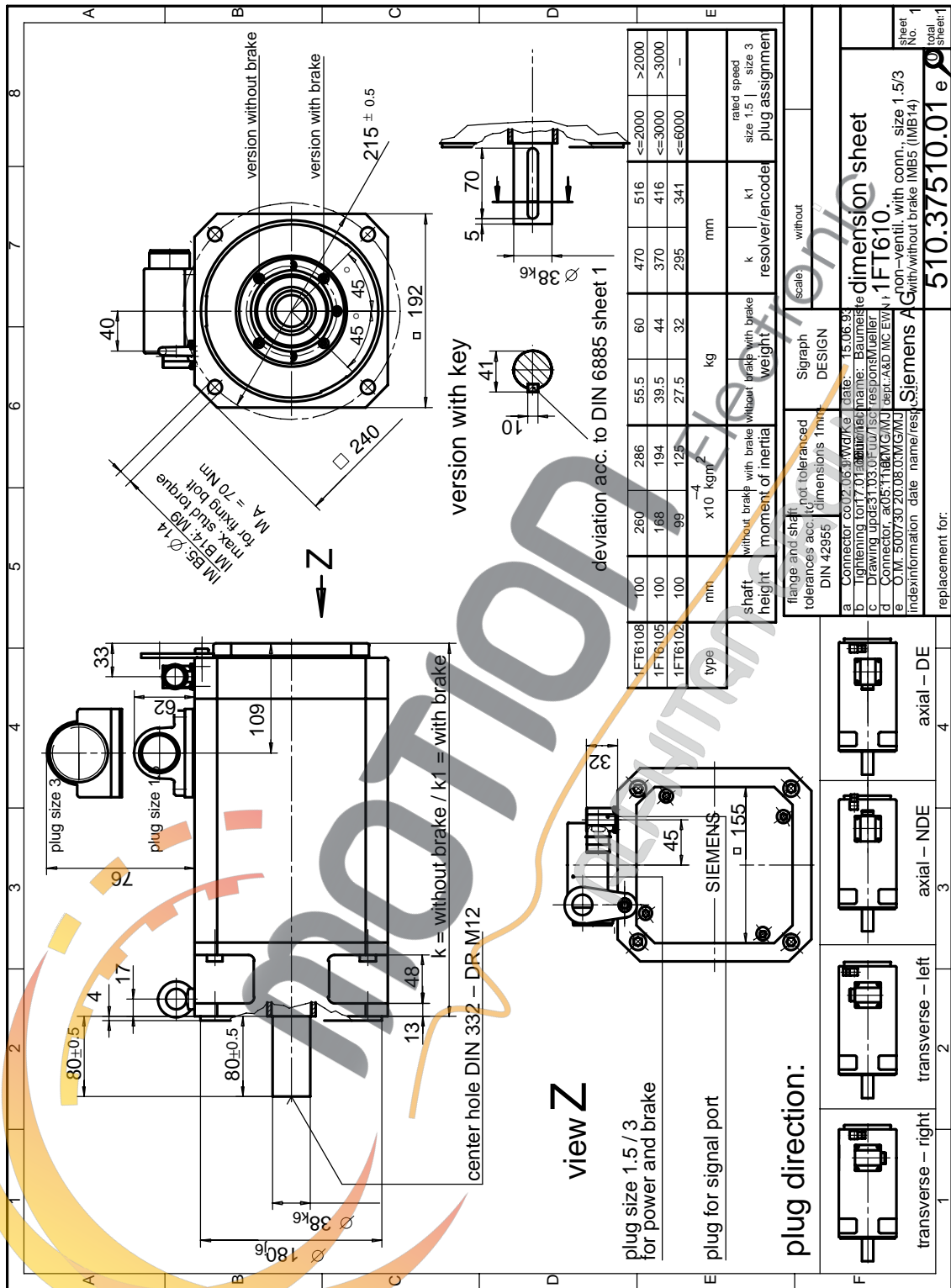


Fig. 4-6 1FT610 non-ventilated with connector, Size 1.5