Table 3-16 1FT6082 natural cooling

1FT6082					
Technical data	***Code***	***Units***	***-8AH7***	***-8AK7***	
Engineering data					
Rated speed	n_N	rpm	4500	6000	
Number of poles	2p		8	8	
Rated torque (100 K)	$M_{N(100\ K)}$	Nm	8.5	5.5	
Rated current (100K)	I_N	A	11	9.1	
Stall torque (60K)	$M_{0(60\ K)}$	Nm	10.8	10.8	
Stall torque (100K)	$M_{0(100\ K)}$	Nm	13.0	13.0	
Stall current (60K)	$I_{0(60\ K)}$	A	12.0	14.0	
Stall current (100K)	$I_{0(100\ K)}$	A	14.8	17.3	
Moment of inertia (with brake)	J_{mot}	10^{-4} kgm^2	33.8	33.8	
Moment of inertia (without brake)	J_{mot}	10^{-4} kgm^2	30	30	
Optimum operating point					
Optimum speed	n_{opt}	rpm	4500	4500	
Optimum power	P_{opt}	kW	4.01	4.01	
Limiting data					
Max. permissible speed (mech.)	n_{max}	rpm	7900	7900	
Maximum torque	M_{max}	Nm	42	42	
Maximum current	I_{max}	A	60	73	
Physical constants					
Torque constant	k_T	Nm/A	0.88	0.75	
Voltage constant	k_E	V/1000 rpm	56	48	
Winding resistance at 20 °C	R_{ph}	Ohm	0.30	0.21	
Rotating field inductance	L_D	mH	2.9	1.9	
Electrical time constant	T_{el}	ms	9.7	9.0	
Shaft torsional stiffness	c_t	Nm/rad	90000	90000	
Mechanical time constant	T_{mech}	ms	3.5	3.4	
Thermal time constant	T_{th}	min	30	30	
Weight with brake	m	kg	16.5	16.5	
Weight without brake	m	kg	15	15	

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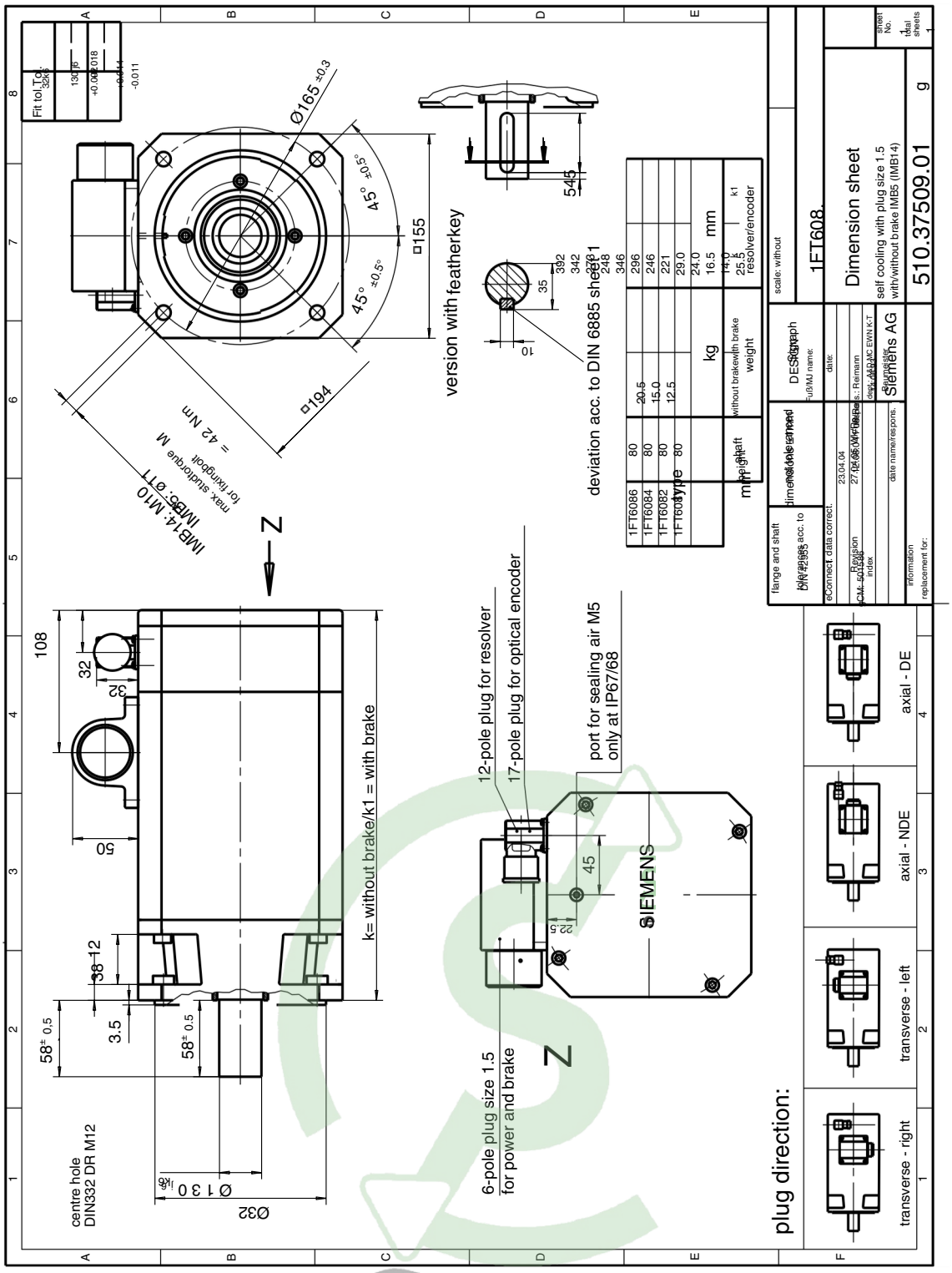

Fig. 6-5 1FT608 naturally cooled with connector, Size 1.5

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