

Table 3-19 1FT6086 natural cooling

1FT6086				
Technical data	Code	Units	-8AC7	
Engineering data				
Rated speed	n_N	rpm	2000	
Number of poles	2p		8	
Rated torque (100 K)	$M_{N(100\text{ K})}$	Nm	22.5	
Rated current (100K)	I_N	A	10.9	
Stall torque (60K)	$M_{0(60\text{ K})}$	Nm	22.4	
Stall torque (100K)	$M_{0(100\text{ K})}$	Nm	27	
Stall current (60K)	$I_{0(60\text{ K})}$	A	9.2	
Stall current (100K)	$I_{0(100\text{ K})}$	A	11.3	
Moment of inertia (with brake)	J_{mot}	10^{-4} kgm^2	79.6	
Moment of inertia (without brake)	J_{mot}	10^{-4} kgm^2	66.5	
Optimum operating point				
Optimum speed	n_{opt}	rpm	2000	
Optimum power	P_{opt}	kW	4.71	
Limiting data				
Max. permissible speed (mech.)	n_{max}	rpm	7900	
Maximum torque	M_{max}	Nm	90	
Maximum current	I_{max}	A	48	
Physical constants				
Torque constant				
Voltage constant	k_T	Nm/A	2.39	
Winding resistance at 20 °C	k_E	V/1000 rpm	152	
Rotating field inductance	R_{ph}	Ohm	0.65	
Electrical time constant	L_D	mH	8	
Shaft torsional stiffness	T_{el}	ms	12.3	
Mechanical time constant	c_t	Nm/rad	65000	
Thermal time constant	T_{mech}	ms	2.3	
Weight with brake	T_{th}	min	45	
Weight without brake	m	kg	29	
	m	kg	25.5	

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