

Table 3-18 1FT6084 natural cooling

1FT6084					
Technical data	Code	Units	- AH7	- AK7	
Engineering data					
Rated speed	n_N	rpm	4500	6000	
Number of poles	2p		8	8	
Rated torque (100 K)	$M_{N(100\text{ K})}$	Nm	10.5	6.5	
Rated current (100K)	I_N	A	12.5	9.2	
Stall torque (60K)	$M_{0(60\text{ K})}$	Nm	16.6	16.6	
Stall torque (100K)	$M_{0(100\text{ K})}$	Nm	20	20	
Stall current (60K)	$I_{0(60\text{ K})}$	A	16.2	19.5	
Stall current (100K)	$I_{0(100\text{ K})}$	A	19.8	24.1	
Moment of inertia (with brake)	J_{mot}	10^{-4} kgm^2	61.1	61.1	
Moment of inertia (without brake)	J_{mot}	10^{-4} kgm^2	48	48	
Optimum operating point					
Optimum speed	n_{opt}	rpm	4000	4000	
Optimum power	P_{opt}	kW	5.03	5.03	
Limiting data					
Max. permissible speed (mech.)	n_{max}	rpm	7900	7900	
Maximum torque	M_{max}	Nm	65	65	
Maximum current	I_{max}	A	86	100	
Physical constants					
Torque constant					
Voltage constant	k_T	Nm/A	1.01	0.83	
Winding resistance at 20 °C	k_E	V/1000 rpm	64	53	
Rotating field inductance	R_{ph}	Ohm	0.18	0.12	
Electrical time constant	L_D	mH	2	1.5	
Shaft torsional stiffness	T_{el}	ms	11.1	12.5	
Mechanical time constant	c_t	Nm/rad	76000	76000	
Thermal time constant	T_{mech}	ms	2.5	2.5	
Weight with brake	T_{th}	min	35	35	
Weight without brake	m	kg	24	24	
	m	kg	20.5	20.5	

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