

Table 3-54 1FT6084, water cooled

1FT6084					
Technical data	Code	Units	-8WH7	-8WK7	
Engineering data					
Rated speed	n_N	rpm	4500	6000	
Number of poles	2p		8	8	
Rated torque (100 K)	$M_{N(100\ K)}$	Nm	35	34	
Rated current (100K)	I_N	A	39	51	
Stall torque (60K)	$M_{0(60\ K)}$	Nm	29	29	
Stall torque (100K)	$M_{0(100\ K)}$	Nm	35	35	
Stall current (60K)	$I_{0(60\ K)}$	A	30	38	
Stall current (100K)	$I_{0(100\ K)}$	A	37	47	
Moment of inertia (with brake)	J_{mot}	$10^{-4}\ kgm^2$	61.5	61.5	
Moment of inertia (without brake)	J_{mot}	$10^{-4}\ kgm^2$	48	48	
Optimum operating point					
Optimum speed	n_{opt}	rpm	4500	6000	
Optimum power	P_{opt}	kW	16.5	21.4	
Limiting data					
Max. permissible speed (mech.)	n_{max}	rpm	7900	7900	
Maximum torque	M_{max}	Nm	65	65	
Maximum current	I_{max}	A	90	112	
Physical constants					
Torque constant	k_T	Nm/A	0.96	0.74	
Voltage constant	k_E	V/1000 rpm	61	47	
Winding resistance at 20 °C	R_{ph}	Ohm	0.17	0.1	
Rotating field inductance	L_D	mH	1.9	1.2	
Electrical time constant	T_{el}	ms	11.2	12.0	
Shaft torsional stiffness	C_t	Nm/rad	76000	76000	
Mechanical time constant	T_{mech}	ms	2.7	2.6	
Thermal time constant	T_{th}	min	1.5	1.5	
Weight with brake	m	kg	24	24	
Weight without brake	m	kg	21	21	

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