



ROYCECROSSGROUP



ROYCE CROSS GROUP

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA			
Y3-132S2-2 FRAME	IEC TYPE	7.5 kW	2907 r/min
2 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	12.7 AMPS	IP55 IP	
	S1 DUTY	F INS.CLASS	CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	2.27213
NO LOAD CURRENT	AMP	3.21
NO LOAD INPUT	W	264.4
CORE LOSS(Pfe)	W	69.2
WINDAGE FRICTION LOSS(Pfw)	W	173.6
STATOR WINDING LOSS(Pcu1)	W	367.7
ROTOR WINDING LOSS(Pcu2)	W	217.5
STRAY LOAD LOSS(Ps)	W	45.8
FULL LOAD CURRENT	AMP	12.72
LOCKED ROTOR CURRENT	AMP	96.40
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	7.59
FULL LOAD TORQUE	N.m	24.55
LOCKED ROTOR TORQUE	N.m	59.21
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	2.40
PULL OUT TORQUE	N.m	73.31
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	2.97
INPUT @ FULL LOAD	kW	8.37
EFFICIENCY @ FULL LOAD	%	89.57
POWER FACTOR @ FULL LOAD		0.92
FULL LOAD SLIP	%	2.741
FULL LOAD SPEED	r/min	2917.8
STATOR WINDING TEMPERATURE RISE	K	70
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	41.5
AMBIENT TEMPERATURE OF TESTING	Deg. C	17.1
NOISE	dB(A)	78
VIBRATION	mm/s	0.5

The data above is calculated as per IEC 34-2, all data at nominal Volts.

ROYCE CROSS GROUP Y3-132S2-2 7.5 kW 415 VOLTS 50 Hz	SERIAL NO.	0	
	DATE	0/01/1900	REV
	DRAWN		DOCUMENT NO.
	APPRVD		
	CHECKED		
		0	

TEMPERATURE IN TERMINAL BOX BY PT100	Deg. C	49.6
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Type	Y3-132S2-2		Poles	2		Power	7.5 kW	
Voltage	415	V	Current	12.7	A	Frequency	50 Hz	
Speed	2907	r/min	Duty	S1		Connection	△	
Ins. class	F		Weight	0 kg			IP55	

NO LOAD TEST

VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	
477.0	1	50	4.683	4.718	4.708	1	-815.3	1145.6	1	70.2
450.1	1	50	3.874	3.902	3.901	1	-614.4	909.1	1	70.0
414.8	1	50	3.202	3.210	3.200	1	-446.8	711.0	1	69.8
369.8	1	50	2.646	2.654	2.635	1	-302.6	545.0	1	69.7
309.4	1	50	2.150	2.150	2.133	1	-171.3	393.4	1	69.5
255.5	1	50	1.783	1.776	1.753	1	-83.1	290.4	1	69.3
206.9	1	50	1.484	1.492	1.464	1	-22.5	215.6	1	69.1
196.4	1	50	1.441	1.442	1.418	1	-10.9	201.8	1	68.9
173.9	1	50	1.335	1.352	1.321	1	11.5	176.8	1	68.7
137.1	1	50	1.258	1.266	1.244	1	42.7	140.5	1	68.5

Initial Resistance immediately before no-load test: 0 Ω ambient temperature: 0.0 °C

Final Resistance immediately later no-load test: 0 Ω ambient temperature: 0.0 °C

ROYCE CROSS GROUP	Manufacturing Date	Serial No
	0.00	0
	Test Date	Report Number
	0/01/1900	0

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Type	Y3-132S2-2	Poles	2	Power	7.5	kW
Voltage	415 V	Current	12.7 A	Frequency	50.0	Hz
Speed	2907 r/min	Duty	S1	Connection		
Ins. class	F	Weight	0 kg		IP55	

LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqure (kg. m)
413.3	1.0	4.799	4.835	4.752	20.0	-131.5	1913.5	20	5.99
368.1	1.0	4.134	4.170	4.089	20.0	-97.5	1469.8	20	4.59
320.3	1.0	3.483	3.515	3.441	20.0	-85.3	1074.4	20	3.32
273.7	1.0	2.865	2.900	2.826	20.0	-70.0	753.2	20	2.28
216.3	1.0	2.141	2.174	2.110	20.0	-51.4	440.4	20	1.30
175.3	1.0	1.656	1.681	1.628	20.0	-37.6	272.7	20	0.80
138.8	1.0	2.510	2.550	2.475	10.0	-52.1	323.9	10	0.49

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Type	Y3-132S2-2		Poles	2		Power	7.5	kW
Voltage	415	V	Current	12.7	A	Frequency	50	Hz
Speed	2907	r/min	Duty	S1		Connection		
Ins. class	F		Weight	0	kg	IP55		

TEMPERATURE RISE TEST

TIME (h:min)	V	I1	I2	I3	mul.	W1	W2	mul.	T1 °C	T2 °C	T3 °C	T4 °C	T5 °C	T6 °C	T7 °C	T8 °C	T9 °C	T10 °C	T11 °C	T12 °C	T13 °C	
10:00	415.6	2.547	2.547	2.532	5	651.0	1070.6	5	39.9	—	79.8	80.2	—	—	—	—	—	—	—	—	—	15.6
10:30	415.4	2.577	2.577	2.560	5	657.2	1082.0	5	40.3	—	80.9	81.3	—	—	—	—	—	—	—	—	—	16.3
11:00	415.5	2.560	2.562	2.543	5	653.0	1075.6	5	41.2	—	81.3	81.7	—	—	—	—	—	—	—	—	—	16.9
11:30	415.4	2.545	2.547	2.530	5	650.0	1070.0	5	41.6	—	81.7	82.1	—	—	—	—	—	—	—	—	—	17.1
12:00	415.6	2.535	2.537	2.520	5	647.0	1066.4	5	41.5	—	81.4	81.9	—	—	—	—	—	—	—	—	—	17.4
最后三点平均值	12.711		A		8603.333		W		41.5	—	81.5	81.9	—	—	—	—	—	—	—	—	—	17.1

T1 T2: DE BEARING TEMPERATURE
T3~T10: DE WINDING TEMPERATURE

T11: CORE TEMPERATRE
T13: AMBIENT TEMPERATURE

T12: FRAME TEMPERATRE

WINDING RESISTANCE (HOT) AT END OF TEMPERATURE RISE TEST

TIME (S)	53	84	123	163	204	274	364
RESISTANCE	1.4737	1.4707	1.4682	1.4657	1.4637	1.4617	1.4597

WINDING RESISTANCE (COLD)

△	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	1.149	1.149	1.146	1.14800	1.14600	15.1 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
	0	0	0	0.000	0	0 °C

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Type	Y3-132S2-2	Poles	2	output Power	7.5	kW		
Voltage	415	V	Current	12.7	A	Frequency	50.0	Hz
Speed	2907	r/min	Duty	S1	Connection			
Ins. class		F	Weight	0	kg	IP55		

LOAD TEST

V	HZ	A1 (unit)	A2 (unit)	A3 (unit)	mul.	W1 (unit)	W2 (unit)	mul.	r/min
414.9	50.00	3.695	3.699	3.680	5	930.4	1513.6	5	2876.9
415.1	50.01	3.282	3.286	3.269	5	831.0	1345.8	5	2892.8
415.1	50.01	2.610	2.612	2.606	5	648.4	1071.3	5	2917.9
415.1	50.01	1.982	1.984	1.979	5	471.5	817.6	5	2940.6
415.2	50.01	3.547	3.554	3.572	2	726.0	1469.1	2	2961.2
415.1	50.01	3.026	3.033	3.055	2	544.9	1249.1	2	2969.0
415.1	50.01	2.331	2.329	2.364	2	287.0	935.7	2	2980.1

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
150	11250	12999.0	19.658	878.0	4.505	543.0	85.2	86.55	0.920
125	9375	10616.6	16.022	583.3	3.582	357.0	58.6	88.30	0.922
100	7500	8373.7	12.721	367.7	2.741	217.5	45.8	89.57	0.916
75	5625	6221.7	9.605	209.6	1.970	117.1	27.2	90.41	0.901
50	3750	4162.1	6.820	105.7	1.269	50.6	13.1	90.10	0.849
25	1875	2175.7	4.354	43.1	0.610	12.6	2.3	86.18	0.695

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	Test Date 0/01/1900	Report Number 0