



ROYCECROSSGROUP



ROYCE CROSS GROUP

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA			
Y3-100L2-4 FRAME	IEC TYPE	3 kW	1441 r/min
4 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	5.6 AMPS	IP55 IP	
	S1 DUTY	F INS.CLASS	Y CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	2.12575
NO LOAD CURRENT	AMP	2.21
NO LOAD INPUT	W	147.0
CORE LOSS(Pfe)	W	87.0
WINDAGE FRICTION LOSS(Pfw)	W	31.6
STATOR WINDING LOSS(Pcu1)	W	193.1
ROTOR WINDING LOSS(Pcu2)	W	107.3
STRAY LOAD LOSS(Ps)	W	16.9
FULL LOAD CURRENT	AMP	5.56
LOCKED ROTOR CURRENT	AMP	36.46
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	6.51
FULL LOAD TORQUE	N.m	19.77
LOCKED ROTOR TORQUE	N.m	43.51
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	2.19
PULL OUT TORQUE	N.m	56.53
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	2.84
INPUT @ FULL LOAD	kW	3.44
EFFICIENCY @ FULL LOAD	%	87.31
POWER FACTOR @ FULL LOAD		0.86
FULL LOAD SLIP	%	3.400
FULL LOAD SPEED	r/min	1449.0
STATOR WINDING TEMPERATURE RISE	K	63
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	47.7
AMBIENT TEMPERATURE OF TESTING	Deg. C	13.7
NOISE	dB(A)	62
VIBRATION	mm/s	0.7

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

	ROYCE CROSS GROUP	SERIAL NO.	0		
					0

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Type	Y3-100L2-4		Poles	4		Power	3.0 kW	
Voltage	415	V	Current	5.6	A	Frequency	50 Hz	
Speed	1441	r/min	Duty	S1		Connection	Y	
Ins. class	F		Weight	0 kg			IP55	

NO LOAD TEST

VOL	mul.	Hz	I01	I02	I03	mul.	W1	W2	mul.	Ω
482.1	1	50	3.619	3.486	3.416	1	-970.4	1274.7	1	65.0 1.932
448.2	1	50	2.801	2.728	2.670	1	-712.2	914.4	1	65.0 1.932
415.6	1	50	2.265	2.227	2.160	1	-540.6	688.2	1	65.0 1.932
364.0	1	50	1.711	1.701	1.659	1	-351.1	454.5	1	64.3 1.928
319.0	1	50	1.375	1.373	1.369	1	-235.6	321.4	1	64.2 1.927
270.7	1	50	1.113	1.108	1.089	1	-156.7	227.6	1	64.1 1.927
206.1	1	50	0.790	0.798	0.798	1	-74.1	129.2	1	63.9 1.925
165.9	1	50	0.627	0.629	0.613	1	-42.6	89.6	1	63.8 1.925
118.4	1	50	0.466	0.453	0.458	1	-11.7	51.0	1	63.6 1.923

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

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

ROYCE CROSS GROUP

Type	Y3-100L2-4	Poles	4	Power	3.0	kW
Voltage	415 V	Current	5.6 A	Frequency	50.0	Hz
Speed	1441 r/min	Duty	S1	Connection	Y	
Ins. class	F	Weight	0 kg		IP55	

LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqu N. m
415.2	1.0	1.821	1.819	1.832	20.0	69.4	846.0	20	43.56
371.3	1.0	1.550	1.543	1.561	20.0	54.3	639.6	20	33.26
315.9	1.0	1.241	1.227	1.248	20.0	29.7	429.9	20	22.17
263.8	1.0	1.937	1.901	1.944	10.0	22.5	548.2	10	14.26
209.5	1.0	1.416	1.377	1.415	10.0	0.0	308.6	10	7.92
156.9	1.0	1.919	1.864	1.915	5.0	-13.8	306.3	5	3.96
112.9	1.0	1.268	1.241	1.268	5.0	-11.0	144.5	5	2.38

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ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

ROYCE CROSS GROUP

Type	Y3-100L2-4		Poles	4		Power	3 kW	
Voltage	415 V		Current	5.6 A		Frequency	50 Hz	
Speed	1441 r/min		Duty	S1		Connection	Y	
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	
13:30	415.0	2.741	2.787	2.736	2	521.9	1288.8	2	44.5	—	74.1	77.9	—	—	—	—	—	—	—	—	—	13.6
14:00	415.1	2.745	2.775	2.733	2	520.8	1285.1	2	47.2	—	74.8	78.5	—	—	—	—	—	—	—	—	—	13.8
14:30	415.0	2.765	2.795	2.757	2	530.8	1292.9	2	46.2	—	75.2	78.9	—	—	—	—	—	—	—	—	—	13.6
14:58	415.7	2.753	2.781	2.749	2	522.5	1286.5	2	47.7	—	75.1	78.8	—	—	—	—	—	—	—	—	—	13.6
最后三点平均值		5.523			A	3625.733		W	47.7	—	75.0	78.7	—	—	—	—	—	—	—	—	—	13.7

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)	24	60	80	118	146	201	255	312
RESISTANCE	2.0033	1.9970	1.9920	1.9865	1.9815	1.9755	1.9720	1.9690

WINDING RESISTANCE (COLD)

△	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0	0	0	0.00000	0.00000	0 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
	1.592	1.593	1.596	1.594	1.592	12.4 °C

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ELECTRIC MOTOR TEST REPORT – THREE PHASE INDUCTION MOTOR

Type	Y3-100L2-4	Poles	4	output Power	3.0	kW		
Voltage	415	V	Current	5.6	A	Frequency	50.0	Hz
Speed	1441	r/min	Duty	S1	Connection	Y		
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
415.1	50.02	3.608	3.641	3.614	2	748.3	1565.7	2	1430.5
415.5	50.01	3.192	3.239	3.208	2	631.1	1393.2	2	1440.0
414.9	50.00	2.827	2.796	2.832	2	518.7	1232.7	2	1449.8
415.4	50.01	2.378	2.421	2.377	2	367.8	1030.4	2	1461.3
414.9	50.00	1.983	2.001	1.957	2	214.4	832.4	2	1472.2
415.4	50.01	1.684	1.702	1.641	2	65.3	675.0	2	1481.1
415.5	50.01	1.524	1.540	1.485	2	-32.4	571.8	2	1487.2

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
150	4500	5351.8	8.232	423.7	5.668	273.3	36.1	84.08	0.904
125	3750	4372.7	6.885	296.4	4.551	181.6	26.0	85.76	0.884
100	3000	3436.0	5.557	193.1	3.400	107.3	16.9	87.31	0.860
75	2250	2564.8	4.515	127.5	2.444	57.5	11.2	87.73	0.790
50	1500	1731.5	3.602	81.1	1.573	24.6	7.1	86.63	0.669
25	750	932.4	2.916	53.2	0.751	5.9	4.6	80.44	0.445

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Type	Y3-100L2-4	Poles	4	output Power	3.0	kW
Voltage	415 V	Current	5.6 A	Frequency	50.0	Hz
Speed	1441 r/min	Duty	S1	Connection	Y	
Ins. class	F	Weight	0 kg		IP55	

Load Curve

