



ROYCECROSSGROUP



ROYCE CROSS GROUP

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA			
Y3-180L-8 FRAME	IEC TYPE 3 PHASE	11 kW	731 r/min
8 POLE	23.0 AMPS	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	S1 DUTY	F INS.CLASS	CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	1.56720
NO LOAD CURRENT	AMP	13.60
NO LOAD INPUT	W	471.2
CORE LOSS(Pfe)	W	178.7
WINDAGE FRICTION LOSS(Pfw)	W	32.7
STATOR WINDING LOSS(Pcu1)	W	807.7
ROTOR WINDING LOSS(Pcu2)	W	300.9
STRAY LOAD LOSS(Ps)	W	60.7
FULL LOAD CURRENT	AMP	22.74
LOCKED ROTOR CURRENT	AMP	138.33
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	6.01
FULL LOAD TORQUE	N.m	143.85
LOCKED ROTOR TORQUE	N.m	292.07
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	2.03
PULL OUT TORQUE	N.m	378.22
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	2.63
INPUT @ FULL LOAD	kW	12.38
EFFICIENCY @ FULL LOAD	%	88.85
POWER FACTOR @ FULL LOAD		0.76
FULL LOAD SLIP	%	2.640
FULL LOAD SPEED	r/min	730.2
STATOR WINDING TEMPERATURE RISE	K	64
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	54.8
AMBIENT TEMPERATURE OF TESTING	Deg. C	12.3
NOISE	dB(A)	73
VIBRATION	mm/s	1.9

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

	ROYCE CROSS GROUP	SERIAL NO.	0		
					0

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

ROYCE CROSS GROUP

Type	Y3-180L-8	Poles	8	Power	11.0 kW
Voltage	415 V	Current	23 A	Frequency	50 Hz
Speed	731 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.	Ω
488.7	1	50	2.300	2.309	2.314	10	-472.6	601.1	10	0.936
452.9	1	50	1.762	1.768	1.771	10	-343.6	420.2	10	0.936
416.1	1	50	1.366	1.369	1.370	10	-248.7	296.3	10	0.936
364.9	1	50	2.036	2.042	2.040	5	-329.4	386.3	5	0.936
318.5	1	50	1.652	1.656	1.652	5	-233.9	274.8	5	0.936
279.3	1	50	1.387	1.388	1.385	5	-170.9	202.9	5	0.936
206.3	1	50	2.429	2.441	2.443	2	-212.7	265.5	2	0.936
172.8	1	50	1.997	1.987	1.998	2	-142.0	184.0	2	0.936
136.1	1	50	1.537	1.533	1.548	2	-81.7	113.5	2	0.936
106.2	1	50	1.205	1.212	1.220	2	-46.5	72.0	2	0.936

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	Y3-180L-8	Poles	8	Power	11.0	kW
Voltage	415 V	Current	23 A	Frequency	50.0	Hz
Speed	731 r/min	Duty	S1	Connection		
Ins. class	F	Weight	0 kg		IP55	

LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqu N. m
416.7	1.0	1.389	1.391	1.392	100.0	1.5	443.9	100	294.91
372.5	1.0	1.198	1.200	1.200	100.0	1.3	341.8	100	223.03
325.9	1.0	2.018	2.026	2.026	50.0	0.9	503.5	50	161.73
279.5	1.0	1.667	1.672	1.674	50.0	0.0	356.2	50	110.99
227.9	1.0	1.301	1.303	1.307	50.0	0.0	225.6	50	68.71
184.5	1.0	2.525	2.535	2.539	20.0	-19.5	366.3	20	42.28
138.7	1.0	1.820	1.825	1.826	20.0	-16.6	204.4	20	22.20
103.8	1.0	1.322	1.326	1.322	20.0	-10.7	110.4	20	11.63

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	Y3-180L-8		Poles	8		Power	11 kW	
Voltage	415 V		Current	23 A		Frequency	50 Hz	
Speed	731 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
13:00	415.2	1.155	1.166	1.159	20	158.5	477.5	20	54.2	33.6	—	—	—	—	—	—	—	—	56.3	—	11.8
13:30	415.3	1.169	1.179	1.172	20	162.7	483.5	20	54.2	34.0	—	—	—	—	—	—	—	—	57.3	—	12.1
14:00	415.1	1.154	1.166	1.157	20	158.9	477.3	20	54.5	33.9	—	—	—	—	—	—	—	—	57.8	—	12.2
13:31	415.2	1.156	1.166	1.158	20	158.8	477.1	20	55.0	34.1	—	—	—	—	—	—	—	—	58.1	—	12.2
15:00	415.3	1.176	1.186	1.177	20	164.8	485.2	20	54.8	34.3	—	—	—	—	—	—	—	—	58.2	—	12.5
最后三点平均值		23.325			A	12814		W	54.8	34.3	—	—	—	—	—	—	—	—	58.2	—	12.3

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)	37	50	65	78	96	110	126	140
RESISTANCE	0.9947	0.9926	0.9905	0.9890	0.9875	0.9855	0.9838	0.9830

WINDING RESISTANCE (COLD)

△	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0.7796	0.7799	0.7799	0.77980	0.77960	11.3 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
	0	0	0	0.000	0	0 °C

ROYCE CROSS GROUP

Manu. Date

Serial No

0.00

0

Test Date

Report Number

0/01/1900

0

ELECTRIC MOTOR TEST REPORT – THREE PHASE INDUCTION MOTOR

Type	Y3-180L-8	Poles	8	output Power	11.0	kW		
Voltage	415	V	Current	23	A	Frequency	50.0	Hz
Speed	731	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
415.2	50.00	1.425	1.437	1.429	20	230.6	604.9	20	721.9
415.2	50.00	1.280	1.292	1.285	20	193.1	541.7	20	726.0
415.1	50.00	1.178	1.189	1.180	20	161.4	495.0	20	729.5
415.1	50.00	2.081	2.085	2.086	10	230.1	853.7	10	734.1
415.3	50.00	1.865	1.867	1.868	10	148.1	748.2	10	737.5
415.5	50.00	1.645	1.650	1.649	10	44.3	626.6	10	742.1
415.4	50.00	1.571	1.573	1.575	10	0.0	578.2	10	743.8
415.3	50.00	1.517	1.520	1.522	10	-31.7	539.9	10	745.0
415.3	50.00	1.403	1.406	1.409	10	-143.5	426.2	10	748.5

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
150	16500	19245.5	32.155	1615.7	4.600	799.9	118.4	85.73	0.833
125	13750	15726.4	27.199	1156.1	3.626	522.0	86.9	87.43	0.804
100	11000	12380.9	22.735	807.7	2.640	300.9	60.7	88.85	0.758
75	8250	9218.9	18.965	562.1	1.807	153.2	42.2	89.49	0.676
50	5500	6200.0	16.069	403.5	0.974	54.8	30.2	88.71	0.537
25	2750	3314.1	14.306	319.8	0.314	8.8	24.0	82.98	0.322

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

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

ROYCE CROSS GROUP

Type	Y3-180L-8	Poles	8	output Power	11.0	kW		
Voltage	415	V	Current	23	A	Frequency	50.0	Hz
Speed	731	r/min	Duty	S1	Connection			
Ins. class	F	Weight	0	kg			IP55	

Load Curve

