

# ROYCE CROSS GROUP

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA			
Y3-132S1-2 FRAME	IEC TYPE	5.5 kW	2910 r/min
2 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	9.7 AMPS	IP55 IP	
	S1 DUTY	F INS.CLASS	CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	3.17029
NO LOAD CURRENT	AMP	3.30
NO LOAD INPUT	W	229.6
CORE LOSS(Pfe)	W	79.4
WINDAGE FRICTION LOSS(Pfw)	W	119.1
STATOR WINDING LOSS(Pcu1)	W	295.0
ROTOR WINDING LOSS(Pcu2)	W	142.5
STRAY LOAD LOSS(Ps)	W	34.9
FULL LOAD CURRENT	AMP	9.82
LOCKED ROTOR CURRENT	AMP	74.18
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	7.65
FULL LOAD TORQUE	N.m	17.95
LOCKED ROTOR TORQUE	N.m	40.20
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	2.23
PULL OUT TORQUE	N.m	56.31
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	3.12
INPUT @ FULL LOAD	kW	6.18
EFFICIENCY @ FULL LOAD	%	89.13
POWER FACTOR @ FULL LOAD		0.87
FULL LOAD SLIP	%	2.456
FULL LOAD SPEED	r/min	2926.3
STATOR WINDING TEMPERATURE RISE	K	58
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	41.5
AMBIENT TEMPERATURE OF TESTING	Deg. C	17.0
NOISE	dB(A)	75
VIBRATION	mm/s	0.5

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

	<b>ROYCE CROSS GROUP</b>	SERIAL NO.		
	Y3-132S1-2	DATE		REV
	5.5 kW	DRAWN		DOCUMENT NO.
	415 VOLTS 50 Hz	APPRVD		
		CHECKED		

# ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

## ROYCE CROSS GROUP

Type	Y3-132S1-2	Poles	2	Power	5.5 kW
Voltage	415 V	Current	9.7 A	Frequency	50 Hz
Speed	2910 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.	
512.4	1	50	2.666	2.640	2.671	2	-491.3	669.4	2	61.7
461.0	1	50	2.011	1.993	2.009	2	-324.8	463.8	2	61.6
415.0	1	50	1.656	1.643	1.656	2	-234.7	349.5	2	61.4
362.9	1	50	1.371	1.361	1.367	2	-163.1	259.3	2	61.3
308.0	1	50	1.127	1.115	1.120	2	-101.4	190.4	2	61.1
248.6	1	50	0.890	0.877	0.882	2	-54.3	128.7	2	60.9
206.5	1	50	0.749	0.736	0.738	2	-27.0	97.2	2	60.7
154.3	1	50	0.594	0.584	0.584	2	0.0	66.3	2	60.6
122.6	1	50	0.550	0.539	0.538	2	10.7	52.9	2	60.3

<b>ROYCE CROSS GROUP</b>	Manufacturing Date	Serial No
	Test Date	Report Number

# ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

## ROYCE CROSS GROUP

Type	Y3-132S1-2	Poles	2	Power	5.5	<b>kW</b>
Voltage	415 <b>V</b>	Current	9.7 <b>A</b>	Frequency	50.0	<b>Hz</b>
Speed	2910 <b>r/min</b>	Duty	S1	Connection		
Ins. class	F	Weight	0 <b>kg</b>		IP55	

### LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqu N. m
416.2	1.0	3.747	3.723	3.697	20.0	-82.0	1527.5	20	40.44
360.6	1.0	3.119	3.089	3.069	20.0	-61.0	1098.0	20	29.25
308.5	1.0	2.573	2.545	2.533	20.0	-53.3	767.2	20	21.08
256.0	1.0	2.047	2.018	2.001	20.0	-46.0	501.1	20	12.91
201.3	1.0	1.524	1.503	1.485	20.0	-35.0	289.5	20	7.31
163.5	1.0	1.186	1.173	1.157	20.0	-25.2	181.3	20	4.30
137.9	1.0	1.956	1.927	1.919	10.0	-37.8	249.4	10	3.01
109.2	1.0	1.516	1.500	1.491	10.0	-24.5	152.7	10	2.15

<b>ROYCE CROSS GROUP</b>	Manufacturing Date	Serial No
	Test Date	Report Number

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

### ROYCE CROSS GROUP

Type	Y3-132S1-2		Poles	2		Power	5.5	kW	
Voltage	415	V	Current	9.7	A	Frequency	50	Hz	
Speed	2910	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	
10:30	415.4	1.958	1.961	1.949	5	466.9	816.1	5	36.2	—	73.9	74.3	—	—	—	—	—	—	—	—	—	16.1
11:00	415.3	1.930	1.932	1.920	5	455.4	803.4	5	40.4	—	73.6	74.2	—	—	—	—	—	—	—	—	—	16.5
11:30	415.2	1.938	1.940	1.928	5	457.5	806.7	5	42.6	—	73.2	73.7	—	—	—	—	—	—	—	—	—	16.8
12:00	415.4	1.956	1.960	1.947	5	464.2	815.5	5	41.8	—	73.0	73.4	—	—	—	—	—	—	—	—	—	16.8
12:30	415.4	1.935	1.940	1.926	5	461.0	807.7	5	41.5	—	73.5	74.0	—	—	—	—	—	—	—	—	—	17.4
最后三点平均值	9.705		A		6354.333		W		41.5	—	73.2	73.7	—	—	—	—	—	—	—	—	—	17.0

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)	43	57	72	84	97	108	118	133
RESISTANCE	1.9731	1.9697	1.9678	1.9664	1.9646	1.9632	1.9622	1.9604

#### WINDING RESISTANCE (COLD)

△	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	1.605	1.605	1.605	1.60500	1.60500	15.6 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
						°C

## ROYCE CROSS GROUP

Manu. Date

Serial No

Test Date

Report Number

**ELECTRIC MOTOR TEST REPORT -  
THREE PHASE INDUCTION MOTOR**

**ROYCE CROSS GROUP**

Type	Y3-132S1-2	Poles	2	Power	5.5	<b>kW</b>
Voltage	415 V	Current	9.7 A	Frequency	50.0	<b>Hz</b>
Speed	2910 r/min	Duty	S1	Connection		
Ins. class	F	Weight	0 kg		IP55	

**LOAD TEST**

V	Hz	I1	I2	I3	mul.	W1	W2	mul.	r/min	Temperature °C	Torqure N.m
415.1	50.02	2.998	3.008	2.987	5	710.7	1196.7	5	2885.5	68.3	26.6
415.2	50.02	2.485	2.492	2.475	5	586.0	992.7	5	2907.5	69.2	22.1
415.2	50.02	2.034	2.040	2.026	5	463.7	814.3	5	2927.5	69.5	17.8
414.9	50.02	1.593	1.595	1.585	5	335.4	638.7	5	2946.3	69.6	13.4
414.9	50.02	2.921	2.911	2.908	2	499.9	1163.6	2	2965.2	68.9	8.8
414.79	50.02	2.512	2.505	2.500	2	346.5	989.9	2	2972.9	68.2	6.8
415.21	50.01	2.062	2.049	2.050	2	170.9	782.9	2	2981.2	67.6	4.5

Final Resistance of load: 0.00000 Ω ambient temperature 0.0 °C

LOAD %	P2 W	I A	P1 W	Pcu1s W	Ss %	Pcu2s W	Ps W	Pz W	EFF %	P.F
150.0	8250	15.1	9579.8	693.1	4.058	357.4	82.0	1331.0	86.11	0.885
125.0	6875	12.3	7830.1	464.5	3.225	235.0	55.7	953.7	87.82	0.884
100.0	5500	9.8	6177.0	295.0	2.456	142.5	34.9	671.0	89.13	0.875
75.0	4125	7.5	4600.4	173.5	1.771	77.0	19.1	468.2	89.81	0.850
50.0	2750	5.5	3085.0	93.3	1.155	33.6	8.4	333.9	89.17	0.777
25.0	1375	3.8	1625.0	43.6	0.564	8.5	2.3	252.875	84.47	0.599

<b>ROYCE CROSS GROUP</b>	Manufacturing Date	Serial No
	Test Date	Report Number