



**ROYCECROSSGROUP**



**ROYCE CROSS GROUP**

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

<b>NAMEPLATE DATA</b>			
Y3-200L-4 FRAME	IEC TYPE	30 kW	1472 r/min
4 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	52.3 AMPS	IP55 IP	
	S1 DUTY	F INS.CLASS	CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	0.27489
NO LOAD CURRENT	AMP	20.29
NO LOAD INPUT	W	847.0
CORE LOSS(Pfe)	W	610.1
WINDAGE FRICTION LOSS(Pfw)	W	132.2
STATOR WINDING LOSS(Pcu1)	W	746.0
ROTOR WINDING LOSS(Pcu2)	W	560.9
STRAY LOAD LOSS(Ps)	W	159.7
FULL LOAD CURRENT	AMP	52.08
LOCKED ROTOR CURRENT	AMP	338.76
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	6.48
FULL LOAD TORQUE	N.m	194.52
LOCKED ROTOR TORQUE	N.m	428.45
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	2.20
PULL OUT TORQUE	N.m	546.57
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	2.81
INPUT @ FULL LOAD	kW	32.21
EFFICIENCY @ FULL LOAD	%	93.14
POWER FACTOR @ FULL LOAD		0.86
FULL LOAD SLIP	%	1.818
FULL LOAD SPEED	r/min	1472.7
STATOR WINDING TEMPERATURE RISE	K	66
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	48.4
AMBIENT TEMPERATURE OF TESTING	Deg. C	7.9
NOISE	dB(A)	76
VIBRATION	mm/s	1.5

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

<b>ROYCE CROSS GROUP</b>  Y3-200L-4 30 kW 415 VOLTS 50 Hz	SERIAL NO.	0	
	DATE	0/01/1900	REV
	DRAWN		DOCUMENT NO.
	APPRVD		0
	CHECKED		

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

### ROYCE CROSS GROUP

Type	Y3-200L-4	<b>Poles</b>	4	<b>Power</b>	30.0 kW
Voltage	415 V	<b>Current</b>	52.3 A	<b>Frequency</b>	50 Hz
Speed	1472 r/min	<b>Duty</b>	S1	<b>Connection</b>	△
Ins. class	F	<b>Weight</b>	0 kg		IP55

### NO LOAD TEST

VOL	mul.	Hz	I01	I02	I03	mul.	W1	W2	mul.	
493.1	1	50	3.927	3.948	3.974	10	-828.0	1053.5	10	69.3
455.8	1	50	2.831	2.842	2.859	10	-560.2	695.4	10	69.5
415.3	1	50	2.030	2.033	2.038	10	-368.8	453.7	10	69.6
368.3	1	50	1.509	1.513	1.517	10	-241.5	300.9	10	69.5
306.2	1	50	2.305	2.297	2.302	5	-302.4	386.2	5	69.2
262.6	1	50	1.905	1.906	1.901	5	-211.2	278.2	5	68.9
205.9	1	50	1.456	1.444	1.453	5	-115.6	173.1	5	68.5
171.4	1	50	1.190	1.195	1.205	5	-72.9	122.3	5	68.2
146.6	1	50	2.521	2.550	2.569	2	-126.4	228.2	2	67.6
93.6	1	50	1.699	1.704	1.720	2	-30.6	114.0	2	66.8

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

# ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

## ROYCE CROSS GROUP

Type	Y3-200L-4	Poles	4	Power	30.0	<b>kW</b>
Voltage	415 <b>V</b>	Current	52.3 <b>A</b>	Frequency	50.0	<b>Hz</b>
Speed	1472 <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.	Torqure N. m
414.1	1.0	1.680	1.689	1.697	200.0	-67.8	603.1	200	426.40
372.0	1.0	2.915	2.926	2.941	100.0	-110.5	936.9	100	334.23
325.6	1.0	2.458	2.468	2.477	100.0	-86.2	689.3	100	245.78
281.7	1.0	2.054	2.062	2.068	100.0	-68.3	495.0	100	175.03
229.9	1.0	1.608	1.613	1.616	100.0	-48.9	313.1	100	108.00
147.1	1.0	1.910	1.916	1.919	50.0	-44.9	232.9	50	40.03
104.0	1.0	1.310	1.315	1.318	50.0	-22.6	111.8	50	18.62

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## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

### ROYCE CROSS GROUP

Type	Y3-200L-4			Poles	4			Power	30 kW		
Voltage	415 V			Current	52.3 A			Frequency	50 Hz		
Speed	1472 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	415.5	2.718	2.721	2.729	20	525.6	1132.1	20	35.6	73.8	65.1	—	—	—	—	—	—	—	—	—	—	7.3
10:30	415.5	2.666	2.670	2.680	20	516.3	1110.2	20	42.2	79.6	71.0	—	—	—	—	—	—	—	—	—	—	7.6
11:00	415.6	2.657	2.664	2.672	20	516.3	1109.1	20	44.8	84.1	75.5	—	—	—	—	—	—	—	—	—	—	7.9
11:30	415.6	2.661	2.669	2.675	20	516.5	1110.4	20	46.6	86.5	77.9	—	—	—	—	—	—	—	—	—	—	7.8
12:00	415.7	2.657	2.661	2.668	20	515.7	1107.4	20	47.3	88.1	79.5	—	—	—	—	—	—	—	—	—	—	7.7
12:30	415.4	2.654	2.663	2.667	20	517.0	1107.3	20	47.9	89.1	80.5	—	—	—	—	—	—	—	—	—	—	7.7
13:00	415.4	2.653	2.658	2.663	20	517.0	1105.9	20	48.2	89.8	81.1	—	—	—	—	—	—	—	—	—	—	7.8
13:30	415.5	2.653	2.661	2.664	20	516.4	1106.8	20	48.4	89.9	81.3	—	—	—	—	—	—	—	—	—	—	8.1
最后三点平均值		53.196			A	32469.33			W	48.4	89.9	81.0	—	—	—	—	—	—	—	—	—	7.9

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)	38	60	91	118	138	175	216	248
RESISTANCE	0.1727	0.1721	0.1714	0.1707	0.1703	0.1696	0.1690	0.1685

#### WINDING RESISTANCE (COLD)

△	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0.1343	0.1344	0.1343	0.13433	0.13430	6.9 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
	0	0	0	0.000	0	0 °C

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Manu. Date

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0/01/1900

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Type	Y3-200L-4	Poles	4	output Power	30.0	<b>kW</b>		
Voltage	415	<b>V</b>	Current	52.3	<b>A</b>	Frequency	50.0	<b>Hz</b>
Speed	1472	<b>r/min</b>	Duty	S1	Connection			
Ins. class	F	Weight	0	<b>kg</b>		IP55		

### LOAD TEST

V	Hz	A1 (unit)	A2 (unit)	A3 (unit)	mul.	W1 (unit)	W2 (unit )	mul.	r/min
414.8	49.99	3.112	3.122	3.129	20	638.4	1315.9	20	1467.4
415.3	49.99	2.900	2.911	2.917	20	589.3	1229.4	20	1470.0
415.4	49.99	2.613	2.620	2.627	20	514.9	1106.9	20	1473.7
415.4	49.99	2.219	2.226	2.229	20	406.4	937.6	20	1478.5
415.5	49.99	1.944	1.951	1.954	20	320.0	817.6	20	1482.1
415.4	49.99	1.450	1.455	1.455	20	143.5	588.8	20	1488.9
415.4	49.99	1.119	1.123	1.125	20	-28.2	393.1	20	1494.7

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
<b>150</b>	45000	49120.3	77.818	1665.7	2.942	1373.6	338.5	91.61	0.878
<b>125</b>	37500	40560.7	64.707	1151.7	2.375	921.1	245.5	92.45	0.872
<b>100</b>	30000	32209.0	52.077	746.0	1.818	560.9	159.7	93.14	0.860
<b>75</b>	22500	24091.2	40.492	451.0	1.322	304.1	93.7	93.40	0.828
<b>50</b>	15000	16194.4	30.974	263.9	0.853	130.8	57.4	92.62	0.727
<b>25</b>	7500	8459.2	23.496	151.9	0.417	32.1	32.8	88.66	0.501

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