



**ROYCECROSSGROUP**



**ROYCE CROSS GROUP**

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

<b>NAMEPLATE DATA</b>			
Y3-200L-6 FRAME	IEC TYPE	22 kW	985 r/min
6 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	40.7 AMPS	IP56 IP	
	S1 DUTY	F INS.CLASS	CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	0.47386
NO LOAD CURRENT	AMP	18.48
NO LOAD INPUT	W	763.1
CORE LOSS(Pfe)	W	355.9
WINDAGE FRICTION LOSS(Pfw)	W	268.3
STATOR WINDING LOSS(Pcu1)	W	753.9
ROTOR WINDING LOSS(Pcu2)	W	375.5
STRAY LOAD LOSS(Ps)	W	118.9
FULL LOAD CURRENT	AMP	40.51
LOCKED ROTOR CURRENT	AMP	249.93
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	6.14
FULL LOAD TORQUE	N.m	213.60
LOCKED ROTOR TORQUE	N.m	416.64
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	1.95
PULL OUT TORQUE	N.m	539.16
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	2.53
INPUT @ FULL LOAD	kW	23.87
EFFICIENCY @ FULL LOAD	%	92.15
POWER FACTOR @ FULL LOAD		0.82
FULL LOAD SLIP	%	1.649
FULL LOAD SPEED	r/min	983.5
STATOR WINDING TEMPERATURE RISE	K	57
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	45.9
AMBIENT TEMPERATURE OF TESTING	Deg. C	14.7
NOISE	dB(A)	75
VIBRATION	mm/s	1.1

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

	<b>ROYCE CROSS GROUP</b>	SERIAL NO.	0		
					0

# ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

## ROYCE CROSS GROUP

Type	Y3-200L-6	<b>Poles</b>	6	<b>Power</b>	22.0 kW
Voltage	415 V	<b>Current</b>	40.7 A	<b>Frequency</b>	50 Hz
Speed	985 r/min	<b>Duty</b>	S1	<b>Connection</b>	△
Ins. class	F	<b>Weight</b>	0 kg		IP56

### NO LOAD TEST

VOL	mul.	Hz	I01	I02	I03	mul.	W1	W2	mul.	Ω
451.6	1	50	2.416	2.405	2.408	10	-478.7	582.3	10	0.271
430.5	1	50	2.058	2.050	2.055	10	-387.0	473.6	10	0.271
414.8	1	50	1.846	1.843	1.846	10	-334.1	410.3	10	0.271
404.9	1	50	1.734	1.732	1.736	10	-305.4	377.2	10	0.271
330.2	1	50	2.439	2.437	2.451	5	-333.5	443.3	5	0.271
277.1	1	50	1.967	1.967	1.982	5	-216.9	306.6	5	0.271
205.6	1	50	1.423	1.422	1.435	5	-100.5	176.5	5	0.271
183.4	1	50	3.164	3.175	3.195	2	-185.3	363.2	2	0.271
160.7	1	50	2.779	2.789	2.806	2	-124.7	292.6	2	0.271
105.1	1	50	1.982	1.992	2.003	2	-14.4	163.8	2	0.271

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

# ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

## ROYCE CROSS GROUP

Type	Y3-200L-6	Poles	6	Power	22.0	<b>kW</b>
Voltage	415 <b>V</b>	Current	40.7 <b>A</b>	Frequency	50.0	<b>Hz</b>
Speed	985 <b>r/min</b>	Duty	S1	Connection		
Ins. class	F	Weight	0 <b>kg</b>		IP56	

### LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqu N. m
414.5	1.0	2.496	2.494	2.496	100.0	-105.9	838.5	100	415.52
363.7	1.0	2.094	2.091	2.094	100.0	-83.5	613.8	100	301.35
313.7	1.0	3.463	3.454	3.464	50.0	-132.5	866.8	50	209.23
263.5	1.0	2.765	2.758	2.766	50.0	-99.3	576.0	50	138.18
204.8	1.0	2.019	2.013	2.020	50.0	-63.8	321.0	50	75.95
167.4	1.0	1.582	1.577	1.582	50.0	-44.2	203.5	50	47.04
137.1	1.0	3.156	3.145	3.159	20.0	-76.3	329.3	20	30.87
100.7	1.0	2.265	2.255	2.267	20.0	-41.7	172.8	20	16.17

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## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

### ROYCE CROSS GROUP

Type	Y3-200L-6	Poles	6	Power	22	kW
Voltage	415 V	Current	40.7 A	Frequency	50	Hz
Speed	985 r/min	Duty	S1	Connection		
Ins. class	F	Weight	0	kg	IP56	

### 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	415.3	2.050	2.054	2.059	20	336.8	848.2	20	34.6	—	—	—	—	—	—	—	—	—	32.5	—	12.2
11:00	415.4	2.050	2.053	2.058	20	339.0	848.3	20	38.7	—	—	—	—	—	—	—	—	—	35.1	—	13.0
11:31	415.5	2.058	2.061	2.065	20	342.3	851.8	20	41.1	—	—	—	—	—	—	—	—	—	38.9	—	13.5
12:00	415.6	2.046	2.049	2.054	20	340.1	847.1	20	43.0	—	—	—	—	—	—	—	—	—	39.6	—	14.1
12:30	415.5	2.028	2.032	2.036	20	336.3	840.1	20	44.4	—	—	—	—	—	—	—	—	—	41.3	—	14.7
13:00	415.5	2.026	2.030	2.034	20	336.0	839.4	20	45.1	—	—	—	—	—	—	—	—	—	42.0	—	14.6
13:30	415.0	2.037	2.041	2.045	20	339.6	842.9	20	45.5	—	—	—	—	—	—	—	—	—	42.8	—	14.7
14:00	415.0	2.026	2.031	2.035	20	336.8	838.8	20	45.9	—	—	—	—	—	—	—	—	—	43.0	—	14.8
最后三点平均值	40.678		A		23556.67		W		45.9	—	—	—	—	—	—	—	—	—	43.0	—	14.7

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)	52	78	104	122	152	171	192	216
RESISTANCE	0.2932	0.2919	0.2906	0.2898	0.2886	0.2877	0.2870	0.2864

#### WINDING RESISTANCE (COLD)

△	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0.2346	0.2347	0.2346	0.23463	0.23460	10.1 °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	Y3-200L-6	Poles	6	output Power	22.0	<b>kW</b>		
Voltage	415	<b>V</b>	Current	40.7	<b>A</b>	Frequency	50.0	<b>Hz</b>
Speed	985	<b>r/min</b>	Duty	S1	Connection			
Ins. class		F	Weight	0	<b>kg</b>	IP56		

### LOAD TEST

V	Hz	A1 (unit)	A2 (unit)	A3 (unit)	mul.	W1 (unit)	W2 (unit )	mul.	r/min
415.3	50.01	2.524	2.527	2.531	20	459.8	1066.0	20	979.2
415.3	50.01	2.255	2.259	2.265	20	400.5	951.6	20	981.8
415.3	50.02	1.988	1.993	1.996	20	333.9	837.5	20	984.4
415.3	50.00	1.782	1.787	1.790	20	277.3	747.9	20	986.4
415.2	49.99	1.491	1.496	1.499	20	186.8	617.1	20	989.6
415.3	49.99	2.339	2.343	2.341	10	117.3	912.2	10	993.4
415.3	49.99	2.106	2.107	2.109	10	0.0	770.8	10	995.4
415.3	50.01	1.833	1.829	1.833	10	-255.8	505.9	10	998.6

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
<b>150</b>	33000	36298.5	59.468	1624.4	2.619	899.0	246.6	90.91	0.849
<b>125</b>	27500	30057.7	49.839	1141.0	2.136	610.2	179.9	91.49	0.839
<b>100</b>	22000	23874.9	40.512	753.9	1.649	375.5	118.9	92.15	0.820
<b>75</b>	16500	17894.7	32.294	479.0	1.220	208.1	76.0	92.21	0.771
<b>50</b>	11000	12066.9	25.402	296.4	0.789	90.1	47.3	91.16	0.661
<b>25</b>	5500	6371.5	20.368	190.6	0.391	22.8	30.1	86.32	0.435

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