



**ROYCECROSSGROUP**



# ROYCE CROSS GROUP

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA			
Y3-802-2 FRAME	IEC TYPE	1.10 kW	2869 r/min
2 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	2.1 AMPS	IP55 IP	
	S1 DUTY	F INS.CLASS	Y CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	7.88152
NO LOAD CURRENT	AMP	0.94
NO LOAD INPUT	W	86.9
CORE LOSS(Pfe)	W	51.0
WINDAGE FRICTION LOSS(Pfw)	W	15.4
STATOR WINDING LOSS(Pcu1)	W	104.4
ROTOR WINDING LOSS(Pcu2)	W	44.0
STRAY LOAD LOSS(Ps)	W	6.8
FULL LOAD CURRENT	AMP	2.12
LOCKED ROTOR CURRENT	AMP	13.06
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	6.22
FULL LOAD TORQUE	N.m	3.64
LOCKED ROTOR TORQUE	N.m	8.75
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	P 2.39
PULL OUT TORQUE	N.m	11.67
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	3.19
PULL UP TORQUE	N.m	—
INPUT @ FULL LOAD	kW	1.32
EFFICIENCY @ FULL LOAD	%	83.23
POWER FACTOR @ FULL LOAD		0.87
FULL LOAD SLIP	%	3.775
FULL LOAD SPEED	r/min	2886.8
STATOR WINDING TEMPERATURE RISE	K	61
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	57.4
AMBIENT TEMPERATURE OF TESTING	Deg. C	29.3
NOISE	dB(A)	59
VIBRATION	mm/s	0.4

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

<b>ROYCE CROSS GROUP</b>  Y3-802-2  1.1 kW  415 VOLTS 50 Hz	SERIAL NO.		
	DATE		REV
	DRAWN		DOCUMENT NO.
	APPRVD		
	CHECKED		

# ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

## ROYCE CROSS GROUP

Type	Y3-802-2	<b>Poles</b>	2	<b>Power</b>	1.10 kW
Voltage	415 V	<b>Current</b>	2.1 A	<b>Frequency</b>	50 Hz
Speed	2869 r/min	<b>Duty</b>	S1	<b>Connection</b>	Y
Ins. class	F	<b>Weight</b>	0 kg		IP55

### NO LOAD TEST

VOL	mul.	Hz	I01	I02	I03	mul.	W1	W2	mul.	
503.0	1	50	1.654	1.668	1.685	1	-374.8	602.0	1	85.1
462.1	1	50	1.262	1.271	1.287	1	-270.6	412.7	1	86.0
415.5	1	50	0.938	0.944	0.956	1	-184.5	271.8	1	85.9
376.2	1	50	0.754	0.757	0.766	1	-134.3	197.6	1	85.5
313.7	1	50	0.559	0.557	0.562	1	-80.5	124.5	1	84.9
251.2	1	50	0.414	0.410	0.413	1	-44.3	76.2	1	84.1
203.7	1	50	0.324	0.321	0.322	1	-25.4	50.6	1	83.2
165.3	1	50	0.258	0.256	0.257	1	-13.1	34.8	1	82.7
106.5	1	50	0.174	0.172	0.172	1	0.0	18.1	1	82.1

P

<b>ROYCE CROSS GROUP</b>	Manufacturing Date	Serial No
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Type	Y3-802-2	Poles	2	Power	1.10	<b>kW</b>
Voltage	415 <b>V</b>	Current	2.1 <b>A</b>	Frequency	50.0	<b>Hz</b>
Speed	2869 <b>r/min</b>	Duty	S1	Connection	Y	
Ins. class	F	Weight	0 <b>kg</b>		IP55	

### LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqu N. m
416.6	5.0	1.334	1.315	1.288	10.0	192.7	704.2	10	8.82
365.7	1.0	1.116	1.098	1.074	10.0	139.4	515.7	10	6.38
301.5	1.0	1.765	1.732	1.693	5.0	160.1	667.0	5	4.00
233.3	1.0	1.283	1.255	1.233	5.0	75.3	369.1	5	2.22
174.0	1.0	0.892	0.869	0.860	5.0	29.6	187.2	5	1.05
132.5	1.0	1.603	1.555	1.551	2.0	28.4	250.9	2	0.50
79.4	1.0	0.900	0.873	0.874	2.0	6.2	82.1	2	0.17

<b>ROYCE CROSS GROUP</b>	Manufacturing Date	P
	0.00	0
	Test Date	Report Number
	0/01/1900	0

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

### ROYCE CROSS GROUP

Type	Y3-802-2		Poles	2		Power	1.1 kW	
Voltage	415	V	Current	2.1	A	Frequency	50 Hz	
Speed	2869	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
STATOR RESISTANCE OF PHASE																					
10:30	415.2	2.126	2.114	2.130	1	356.1	931.9	1	53.9	—	92.1	91.5	—	—	—	—	—	—	58.8	—	28.9
11:00	415.3	2.150	2.138	2.154	1	365.5	943.2	1	56.2	—	96.0	95.3	—	—	—	—	—	—	62.0	—	29.1
11:30	415.4	2.128	2.114	2.132	1	357.6	932.4	1	57.3	—	96.7	96.1	—	—	—	—	—	—	62.8	—	29.1
12:00	415.5	2.140	2.127	2.145	1	360.2	937.4	1	57.1	—	96.9	96.3	—	—	—	—	—	—	63.4	—	29.4
12:30	415.4	2.145	2.131	2.151	1	363.0	939.9	1	57.4	—	96.9	96.3	—	—	—	—	—	—	63.2	—	29.4
最后三点平均值	2.135		A		1296.83		W		57.4	—	96.9	96.3	—	—	—	—	—	—	63.2	—	29.3

T1 T2: DE BEARING TEMPERATURE  
T3~T10: DE WINDING TEMPERATURE

T11: CORE TEMPERATRE  
T13: AMEP

T12: FRAME TEMPERATRE

#### WINDING RESISTANCE (HOT) AT END OF TEMPERATURE RISE TEST

TIME (S)	25	40	55	71	89	103	115	126
RESISTANCE (Ω)	7.7942	7.7642	7.7442	7.7242	7.7042	7.6842	7.6692	7.6542

#### 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.
	6.281	6.285	6.278	6.281	6.278	28 °C

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0/01/1900	0

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Type	Y3-802-2	Poles	2	output Power	1.10	<b>kW</b>		
Voltage	415	<b>V</b>	Current	2.1	<b>A</b>	Frequency	50.0	<b>Hz</b>
Speed	2869	<b>r/min</b>	Duty	S1	Connection	Y		
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
415.2	50.00	2.543	2.527	2.543	1	524.5	1145.1	1	2857.8
415.3	49.99	2.288	2.272	2.290	1	434.8	1027.3	1	2873.7
415.2	50.00	2.075	2.060	2.079	1	353.7	926.1	1	2888.5
415.3	RESISTANCE	1.748	1.734	1.755	1	214.3	761.3	1	2912.2
415.1	50.01	1.469	1.460	1.483	1	69.1	601.5	1	2935.6
415.1	50.01	1.279	1.279	1.299	1	-72.5	455.4	1	2955.7

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
<b>150</b>	1650	2033.0	2.970	204.8	5.596	98.8	12.9	81.16	0.952
<b>125</b>	1375	1669.3	2.537	149.5	4.675	68.7	9.8	82.37	0.915
<b>100</b>	1100	1321.7	2.121	104.4	3.775	44.0	6.8	P	0.867
<b>75</b>	825	994.1	1.766	72.4	2.935	25.6	4.7	82.99	0.783
<b>50</b>	550	683.4	1.482	51.0	2.169	12.6	3.3	80.48	0.641
<b>25</b>	275	386.9	1.288	38.5	1.485	4.4	2.5	71.08	0.418

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

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## ROYCE CROSS GROUP

Type	Y3-802-2	Poles	2	output Power	1.10	<b>kW</b>
Voltage	415 <b>V</b>	Current	2.1 <b>A</b>	Frequency	50.0	<b>Hz</b>
Speed	2869 <b>r/min</b>	Duty	S1	Connection	Y	
Ins. class	F	Weight	0 <b>kg</b>		IP55	

### Load Curve

