



ROYCECROSSGROUP



ROYCE CROSS GROUP

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA			
Y3-801-2 FRAME	IEC TYPE	0.75 kW	2860 r/min
2 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	1.7 AMPS	IP55 IP	
	S1 DUTY	F INS.CLASS	Y CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	9.681
NO LOAD CURRENT	AMP	0.826
NO LOAD INPUT	W	90.62
CORE LOSS(Pfe)	W	24.58
WINDAGE FRICTION LOSS(Pfw)	W	49.52
STATOR WINDING LOSS(Pcu1)	W	79.81
ROTOR WINDING LOSS(Pcu2)	W	37.25
STRAY LOAD LOSS(Ps)	W	4.59
FULL LOAD CURRENT	AMP	1.70
LOCKED ROTOR CURRENT	AMP	11.52
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	6.90
FULL LOAD TORQUE	N.m	2.50
LOCKED ROTOR TORQUE	N.m	6.78
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	2.71
PULL OUT TORQUE	N.m	7.76
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	3.10
INPUT @ FULL LOAD	kW	0.947
EFFICIENCY @ FULL LOAD	%	79.22
POWER FACTOR @ FULL LOAD		0.79
FULL LOAD SLIP	%	4.422
FULL LOAD SPEED	r/min	2867.3
STATOR WINDING TEMPERATURE RISE	K	55
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	36.7
AMBIENT TEMPERATURE OF TESTING	Deg. C	0.4
NOISE	dB(A)	59
VIBRATION	mm/s	1.4

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

	ROYCE CROSS GROUP	SERIAL NO.			

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Type	Y3-801-2		Poles	2		Power	0.8 kW
Voltage	415 V		Current	1.67 A		Frequency	50 Hz
Speed	2860 r/min		Duty	S1		Connection	Y
Ins. class	F		Weight	13 kg			IP55

NO LOAD TEST

VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	
493.4	1	50	1.390	1.400	1.385	1	-212.1	377.6	1	40.2
454.5	1	50	1.073	1.078	1.067	1	-150.4	268.0	1	40.0
415.4	1	50	0.830	0.832	0.823	1	-101.6	192.4	1	39.8
368.6	1	50	0.638	0.638	0.633	1	-60.7	136.3	1	39.7
320.1	1	50	0.514	0.510	0.510	1	-32.8	100.2	1	39.4
263.6	1	50	0.413	0.408	0.409	1	-9.8	72.7	1	39.2
207.3	1	50	0.345	0.339	0.340	1	6.2	53.3	1	38.5
189.8	1	50	0.328	0.323	0.323	1	9.3	47.9	1	37.8
162.7	1	50	0.320	0.316	0.314	1	14.5	41.9	1	37.3

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Manufacturing Date

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0/01/1900

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Type	Y3-801-2	Poles	2	Power	0.8	kW
Voltage	380 V	Current	1.8 A	Frequency	50.0	Hz
Speed	2840 r/min	Duty	S1	Connection	Y	
Ins. class	F	Weight	13 kg		IP55	

LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqure (kg. m)
414.8	1.0	2.249	2.264	2.391	5.0	290.1	837.6	5	0.69
372.4	1.0	1.925	1.949	2.059	5.0	223.2	645.8	5	0.52
329.4	1.0	1.638	1.666	1.764	5.0	162.5	485.9	5	0.37
271.6	1.0	3.219	3.305	3.501	2.0	235.5	785.5	2	0.24
220.2	1.0	2.467	2.555	2.706	2.0	129.4	485.0	2	0.14
165.1	1.0	1.729	1.805	1.907	2.0	55.4	251.3	2	0.07
109.3	1.0	1.078	1.124	1.180	2.0	18.2	101.7	2	0.03

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Type	Y3-801-2		Poles	2		Power	0.75	kW	
Voltage	415	V	Current	1.67	A	Frequency	50	Hz	
Speed	2860	r/min	Duty	S1		Connection	Y		
Ins. class	F		Weight	13	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
9:30	415.4	1.683	1.687	1.682	1	354.9	716.4	1	36.2	—	52.7	55.3	—	—	—	—	—	—	30.5	—	0.6
10:00	415.4	1.699	1.703	1.697	1	359.6	722.6	1	36.5	—	52.9	55.7	—	—	—	—	—	—	30.7	—	0.4
10:30	415.5	1.672	1.677	1.673	1	351.4	712.1	1	36.6	—	52.4	55.0	—	—	—	—	—	—	30.8	—	0.4
11:00	415.7	1.677	1.682	1.677	1	352.4	714.2	1	36.5	—	51.6	54.2	—	—	—	—	—	—	30.5	—	0.7
11:30	415.7	1.673	1.677	1.673	1	351.2	712.0	1	36.6	—	51.6	54.3	—	—	—	—	—	—	30.6	—	0.4
12:00	415.8	1.664	1.669	1.664	1	348.2	708.3	1	36.7	—	51.6	54.3	—	—	—	—	—	—	30.7	—	0.1
最后三点平均值	1.673		A		1062.1		W		36.7	—	51.6	54.3	—	—	—	—	—	—	30.7	—	0.4

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	73	88	106	129	156	186	208		
RESISTANCE	8.490	8.420	8.380	8.340	8.290	8.240	8.195	8.165		

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.
	6.903	6.902	6.903	6.903	6.902	0.3 °C

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Voltage	415	V	Current	1.67	A	Frequency	50.0	Hz
Speed	2860	r/min	Duty	S1	Connection	Y		
Ins. class	F	Weight	13	kg	IP55			

LOAD TEST

V	HZ	A1 (unit)	A2 (unit)	A3 (unit)	mul.	W1 (unit)	W2 (unit)	mul.	r/min
415.0	50.02	2.730	2.732	2.731	1	592.2	1060.4	1	2735.8
415.1	50.02	2.266	2.271	2.264	1	475.1	882.9	1	2800.2
415.1	50.02	1.873	1.877	1.870	1	366.2	730.3	1	2853.0
415.3	50.02	1.702	1.707	1.701	1	315.6	664.6	1	2876.2
415.0	50.03	1.337	1.340	1.334	1	190.1	521.6	1	2930.2
415.2	50.02	1.174	1.177	1.172	1	133.4	446.5	1	2948.6
415.2	50.01	0.972	0.972	0.975	1	57.1	315.9	1	2969.1

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
150	1125	1508.3	2.504	182.1	8.739	113.7	10.5	74.59	0.838
125	938	1210.2	2.044	121.4	6.396	68.1	7.0	77.47	0.824
100	750	946.7	1.658	79.8	4.422	37.2	4.6	79.22	0.794
75	563	707.6	1.332	51.5	2.645	16.7	3.0	79.49	0.739
50	375	493.4	1.090	34.5	1.636	7.1	2.0	76.01	0.630
25	188	286.2	0.888	22.9	0.847	2.0	1.3	65.51	0.448

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