



ROYCECROSSGROUP



ROYCE CROSS GROUP

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA			
Y3-355L-2 FRAME	IEC TYPE	315 kW	2983 r/min
2 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	504.0 AMPS	IP55 IP	
	S1 DUTY	F INS.CLASS	CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	0.00838
NO LOAD CURRENT	AMP	125.93
NO LOAD INPUT	W	5263.9
CORE LOSS(Pfe)	W	2472.7
WINDAGE FRICTION LOSS(Pfw)	W	2645.0
STATOR WINDING LOSS(Pcu1)	W	2054.3
ROTOR WINDING LOSS(Pcu2)	W	2363.7
STRAY LOAD LOSS(Ps)	W	1625.8
FULL LOAD CURRENT	AMP	499.12
LOCKED ROTOR CURRENT	AMP	3372.87
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	6.69
FULL LOAD TORQUE	N.m	1010.07
LOCKED ROTOR TORQUE	N.m	1968.10
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	1.95
PULL OUT TORQUE	N.m	3225.44
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	3.20
INPUT @ FULL LOAD	kW	326.09
EFFICIENCY @ FULL LOAD	%	96.60
POWER FACTOR @ FULL LOAD		0.91
FULL LOAD SLIP	%	0.735
FULL LOAD SPEED	r/min	2977.9
STATOR WINDING TEMPERATURE RISE	K	60
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	46.6
AMBIENT TEMPERATURE OF TESTING	Deg. C	7.3
NOISE	dB(A)	96
VIBRATION	mm/s	1.5

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

	ROYCE CROSS GROUP	SERIAL NO.	0		
					0

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ROYCE CROSS GROUP

Type	Y3-355L-2		Poles	2		Power	315.0 kW
Voltage	415	V	Current	504	A	Frequency	50 Hz
Speed	2983	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.	
482.3	1	50	3.165	3.193	3.164	50	-251.3	376.4	50	68.5
451.7	1	50	2.790	2.939	2.875	50	-202.8	317.3	50	68.4
415.6	1	50	2.513	2.530	2.528	50	-168.9	274.4	50	68.3
378.3	1	50	5.484	5.677	5.634	20	-303.4	543.4	20	68.1
346.9	1	50	5.141	5.034	5.013	20	-243.2	460.8	20	68.0
300.3	1	50	4.317	4.306	4.381	20	-156.5	356.2	20	67.8
247.9	1	50	3.620	3.653	3.663	20	-76.1	258.4	20	67.5
207.1	1	50	3.210	3.201	3.168	20	-33.7	202.5	20	67.4
177.8	1	50	5.881	5.887	5.735	10	-2.6	321.2	10	67.2
144.3	1	50	5.542	5.548	4.987	10	12.4	288.4	10	67.1

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

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

ROYCE CROSS GROUP

Type	Y3-355L-2	Poles	2	Power	315.0	kW
Voltage	415 V	Current	504 A	Frequency	50.0	Hz
Speed	2983 r/min	Duty	S1	Connection		
Ins. class	F	Weight	0 kg		IP55	

LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqure N.m
140.4	1.0	2.807	2.813	2.743	400.0	228.5	-62.5	400	215.13
124.2	1.0	2.471	2.483	2.415	400.0	177.5	-48.8	400	165.93
104.2	1.0	4.099	4.129	3.999	200.0	245.0	-67.5	200	115.00
83.4	1.0	3.291	3.185	3.291	200.0	157.5	-45.0	200	73.24
66.6	1.0	2.595	2.595	2.489	200.0	97.0	-29.0	200	45.77

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ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

ROYCE CROSS GROUP

Type	Y3-355L-2		Poles	2		Power	315	kW	
Voltage	415	V	Current	504	A	Frequency	50	Hz	
Speed	2983	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	415.0	2.451	2.550	2.498	200	626.4	998.1	200	29.7	—	53.8	57.4	—	—	—	—	—	—	—	—	—	7.7
11:00	415.1	2.498	2.573	2.531	200	627.1	1019.6	200	28.9	—	53.0	56.6	—	—	—	—	—	—	—	—	—	7.9
11:30	415.2	2.512	2.577	2.532	200	628.0	1021.1	200	45.8	—	69.9	73.5	—	—	—	—	—	—	—	—	—	7.7
12:00	415.0	2.510	2.545	2.551	200	629.7	1028.4	200	46.3	—	70.4	74.0	—	—	—	—	—	—	—	—	—	6.8
12:30	415.3	2.511	2.584	2.534	200	626.3	1017.9	200	46.4	—	70.5	74.1	—	—	—	—	—	—	—	—	—	7.5
13:00	415.1	2.474	2.516	2.460	200	622.5	1017.5	200	46.6	—	70.7	74.3	—	—	—	—	—	—	—	—	—	7.6
最后三点平均值	504.106		A		329491		W		46.6	—	70.5	74.1	—	—	—	—	—	—	—	—	—	7.3

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)	76	111	153	193	231	254	284	327
RESISTANCE	0.00516	0.00514	0.00512	0.00511	0.00509	0.00508	0.00507	0.00505

WINDING RESISTANCE (COLD)

△	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0.004102	0.004098	0.004103	0.00410	0.00410	7.2 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
	0	0	0	0.000	0	0 °C

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ELECTRIC MOTOR TEST REPORT – THREE PHASE INDUCTION MOTOR

Type	Y3-355L-2	Poles	2	output Power	315.0	kW		
Voltage	415	V	Current	504	A	Frequency	50.0	Hz
Speed	2983	r/min	Duty	S1	Connection			
Ins. class	F	Weight	0	kg	IP55			

LOAD TEST

V	Hz	A1 (unit)	A2 (unit)	A3 (unit)	mul.	W1 (unit)	W2 (unit)	mul.	r/min
415.1	50.00	3.986	3.998	3.894	200	1585.5	880.9	200	2963.1
414.8	50.01	3.450	3.460	3.369	200	1404.5	780.4	200	2968.9
415.0	50.01	2.559	2.567	2.530	200	1052.0	612.7	200	2979.3
415.2	50.02	1.927	1.963	1.881	200	792.4	490.1	200	2985.3
415.1	50.01	1.562	1.648	1.530	200	659.8	405.8	200	2988.1
414.9	50.02	2.297	2.292	2.183	100	939.5	539.7	100	2993.9
414.9	50.01	1.483	1.523	1.463	100	604.5	303.5	100	2997.3

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
150	472500	492899.9	791.164	5161.7	1.302	6318.6	4064.5	95.86	0.867
125	393750	408979.7	638.241	3359.1	1.021	4114.7	2683.8	96.28	0.891
100	315000	326087.8	499.118	2054.3	0.735	2363.7	1625.8	96.60	0.909
75	236250	244594.0	365.891	1104.0	0.528	1273.6	875.3	96.59	0.930
50	157500	164042.7	248.038	507.3	0.303	488.2	409.3	96.01	0.920
25	78750	84294.6	140.218	162.1	0.100	81.9	122.8	93.42	0.836

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Voltage	415 V	Current	504 A	Frequency	50.0	Hz
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Ins. class	F	Weight	0 kg			IP55

Load Curve

