



ROYCECROSSGROUP



ROYCE CROSS GROUP

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA			
Y3-315L2-2 FRAME	IEC TYPE	200 kW	2982 r/min
2 POLE	3 PHASE	415 VOLTS	50 Hz
ROYCE CROSS GROUP MANUFACTURER	318.0 AMPS	IP55 IP	
	S1 DUTY	F INS.CLASS	CONNECTION

MAJOR CONTENTS	UNIT	TEST VALUE
STATOR RESISTANCE OF PHASE	OHM	0.01401
NO LOAD CURRENT	AMP	71.81
NO LOAD INPUT	W	4376.7
CORE LOSS(Pfe)	W	1582.5
WINDAGE FRICTION LOSS(Pfw)	W	2713.4
STATOR WINDING LOSS(Pcu1)	W	1372.3
ROTOR WINDING LOSS(Pcu2)	W	1329.5
STRAY LOAD LOSS(Ps)	W	1041.0
FULL LOAD CURRENT	AMP	316.48
LOCKED ROTOR CURRENT	AMP	2338.84
LOCKED ROTOR CURRENT/FULL LOAD CURRENT	P.U.	7.35
FULL LOAD TORQUE	N.m	640.75
LOCKED ROTOR TORQUE	N.m	1324.90
LOCKED ROTOR TORQUE/FULL LOAD TORQUE	P.U.	2.07
PULL OUT TORQUE	N.m	2100.12
PULL OUT TORQUE/FULL LOAD TORQUE	P.U.	3.28
INPUT @ FULL LOAD	kW	208.00
EFFICIENCY @ FULL LOAD	%	96.16
POWER FACTOR @ FULL LOAD		0.91
FULL LOAD SLIP	%	0.648
FULL LOAD SPEED	r/min	2980.5
STATOR WINDING TEMPERATURE RISE	K	59
D.E. BEARINGS TEMPERATURE BY PT100	Deg. C	50.8
AMBIENT TEMPERATURE OF TESTING	Deg. C	8.0
NOISE	dB(A)	90
VIBRATION	mm/s	0.9

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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Type	Y3-315L2-2		Poles	2		Power	200.0 kW
Voltage	415	V	Current	318	A	Frequency	50 Hz
Speed	2982	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.	Ω
499.3	1	50	2.134	2.096	2.100	50	-452.1	563.5	50	69.0 0.009
453.1	1	50	4.087	4.221	4.069	20	-802.2	1038.7	20	68.1 0.009
414.9	1	50	3.540	3.689	3.538	20	-624.4	843.2	20	66.9 0.009
373.0	1	50	3.025	3.209	3.039	20	-469.4	673.3	20	66.0 0.009
316.2	1	50	2.528	2.714	2.536	20	-316.1	503.7	20	65.1 0.008
250.0	1	50	1.944	2.114	1.955	20	-165.0	335.1	20	64.1 0.008
206.2	1	50	3.342	3.309	3.404	10	-142.5	467.3	10	63.0 0.008
164.5	1	50	2.789	2.766	2.843	10	-38.4	346.9	10	62.5 0.008
128.7	1	50	2.444	2.421	2.496	10	28.7	265.0	10	61.6 0.008
119.7	1	50	2.375	2.361	2.427	10	41.0	246.9	10	60.8 0.008

initial Resistance immediately before no-load test: 0 Ω ambient temperature: 0.0

Final Resistance immediately later no-load test: 0 Ω ambient temperature: 0.0 °C

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

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ROYCE CROSS GROUP

Type	Y3-315L2-2	Poles	2	Power	200.0	kW
Voltage	415 V	Current	318 A	Frequency	50.0	Hz
Speed	2982 r/min	Duty	S1	Connection		
Ins. class	F	Weight	0 kg		IP55	

LOCKED ROTOR TEST

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqur N. m
166.3	1.0	4.312	4.323	4.378	200.0	-96.7	427.0	200	182.28
145.9	1.0	3.759	3.764	3.811	200.0	-75.0	326.4	200	138.18
128.4	1.0	3.294	3.299	3.338	200.0	-57.7	251.2	200	106.82
111.9	1.0	2.871	2.875	2.908	200.0	-43.7	190.8	200	81.34
96.4	1.0	2.472	2.475	2.503	200.0	-32.5	141.4	200	59.78
83.3	1.0	2.132	2.136	2.159	200.0	-23.9	105.1	200	44.10

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Type	Y3-315L2-2			Poles	2		Power	200 kW	
Voltage	415 V			Current	318 A		Frequency	50 Hz	
Speed	2982 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	415.4	1.579	1.589	1.605	200	382.1	674.6	200	43.9	—	66.8	65.7	—	—	—	—	—	—	—	—	—	9.2
11:00	415.3	1.568	1.579	1.594	200	380.0	669.9	200	47.7	—	71.4	70.2	—	—	—	—	—	—	—	—	—	9.4
11:30	415.3	1.567	1.577	1.593	200	380.2	669.6	200	49.3	—	73.7	72.5	—	—	—	—	—	—	—	—	—	9.4
12:00	415.4	1.588	1.598	1.614	200	384.4	678.4	200	49.7	—	76.2	74.9	—	—	—	—	—	—	—	—	—	7.9
12:30	415.4	1.578	1.588	1.603	200	382.5	674.6	200	51.1	—	77.4	76.1	—	—	—	—	—	—	—	—	—	8.6
13:00	415.4	1.589	1.599	1.615	200	384.6	678.9	200	51.3	—	78.9	77.6	—	—	—	—	—	—	—	—	—	8.4
13:30	415.5	1.573	1.583	1.599	200	381.8	672.3	200	51.4	—	78.9	77.6	—	—	—	—	—	—	—	—	—	7.6
14:00	415.5	1.568	1.577	1.592	200	381.0	670.0	200	50.8	—	78.6	77.5	—	—	—	—	—	—	—	—	—	7.9
最后三点平均值	317.657		A		211240		W		50.8	—	78.8	77.6	—	—	—	—	—	—	—	—	—	8.0

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)	60	111	148	182	222	265	321	382
RESISTANCE	0.00858	0.00854	0.00850	0.00846	0.00842	0.00838	0.00833	0.00828

WINDING RESISTANCE (COLD)

△	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0.006898	0.006896	0.006895	0.00690	0.00690	8.6 °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	Y3-315L2-2	Poles	2	output Power	200.0	kW		
Voltage	415	V	Current	318	A	Frequency	50.0	Hz
Speed	2982	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
415.0	49.98	2.672	2.690	2.724	200	518.6	1131.5	200	2961.6
415.1	50.00	2.038	2.052	2.075	200	456.9	863.7	200	2971.9
415.0	50.00	1.593	1.603	1.620	200	381.8	672.8	200	2981.2
415.2	49.99	2.340	2.354	2.377	100	576.1	988.1	100	2988.2
415.1	50.01	1.615	1.626	1.638	100	379.1	682.4	100	2994.5
415.3	50.00	1.317	1.325	1.334	100	288.2	557.6	100	2996.5
415.1	50.00	1.869	1.879	1.886	50	312.8	784.5	50	2998.4

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P. F.
150	300000	314283.2	508.488	3542.5	1.235	3818.9	2708.2	95.46	0.860
125	250000	260660.2	405.149	2248.9	0.969	2489.5	1704.8	95.91	0.895
100	200000	207995.3	316.481	1372.3	0.648	1329.5	1041.0	96.16	0.914
75	150000	156209.9	235.384	759.1	0.394	606.5	573.9	96.02	0.923
50	100000	105133.2	161.199	356.0	0.211	217.4	269.5	95.12	0.907
25	50000	54489.2	93.421	119.6	0.056	29.4	90.2	91.76	0.811

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Voltage	415	V	Current	318	A	Frequency	50.0	Hz
Speed	2982	r/min	Duty	S1	Connection			
Ins. class	F	Weight	0	kg			IP55	

Load Curve

