



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E71M4C	Voltage	230/400V		
Serial Number	6042	Current	1.4 / 0.8 A	Duty Type	S1
Power	0.25kW	RPM	1410	Insulation Class	F
Power	1/3HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11256	Rev :	0
	DATE:	: 28.01.2011		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0.19	8	3.5	5.0	0.2	4.8	33.022
120	14400	0.20	10	4.0	5.5	0.7	4.8	33.022
160	25600	0.23	12	5.2	6.4	1.6	4.8	33.022
200	40000	0.26	15	6.7	8.1	3.3	4.8	33.022
240	57600	0.30	18	8.9	9.0	4.2	4.8	33.022
305	93025	0.37	25	13.4	11.9	7.1	4.8	33.022
370	136900	0.42	32	17.5	14.9	10.1	4.8	33.022
400	160000	0.50	41	24.4	16.8	12.0	4.8	33.022
435	189225	0.55	49	29.8	18.8	14.0	4.8	33.022
500	250000	0.66	66	43.1	22.4	17.6	4.8	33.022

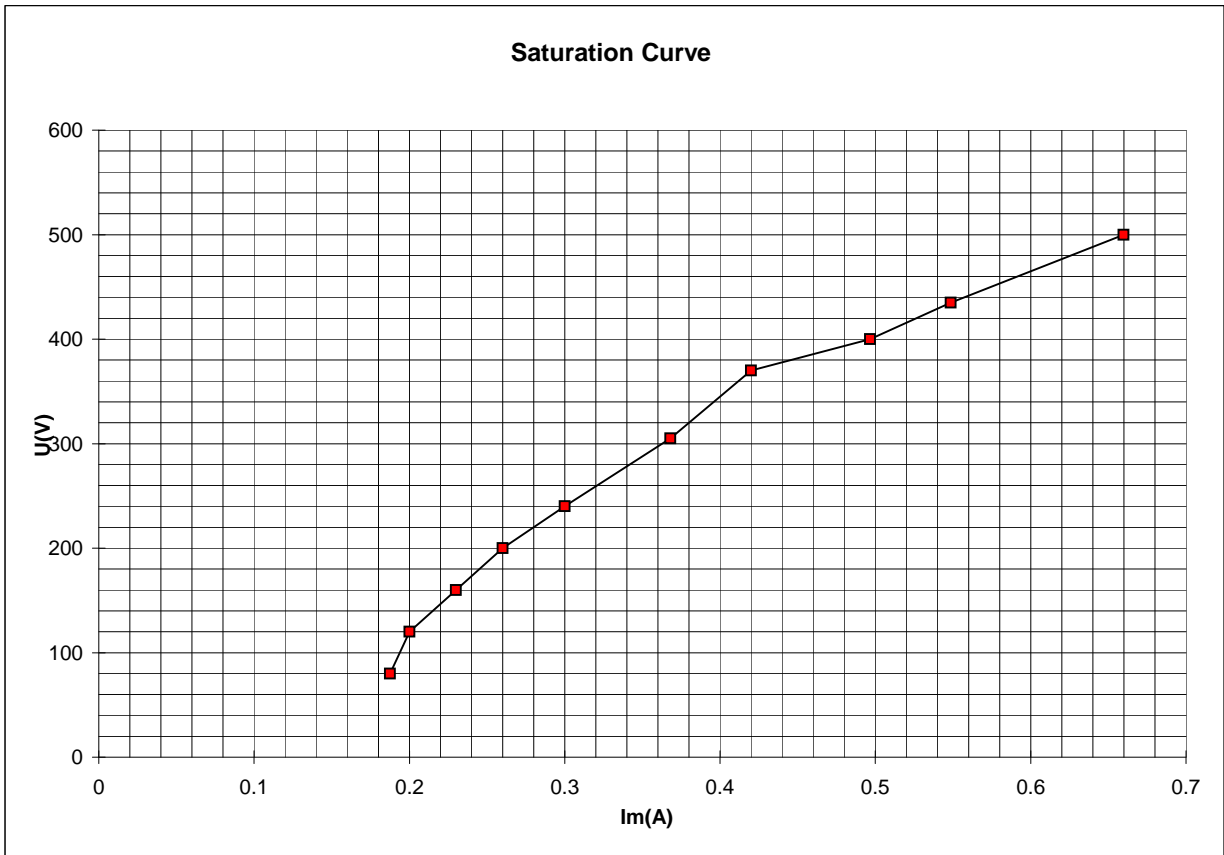
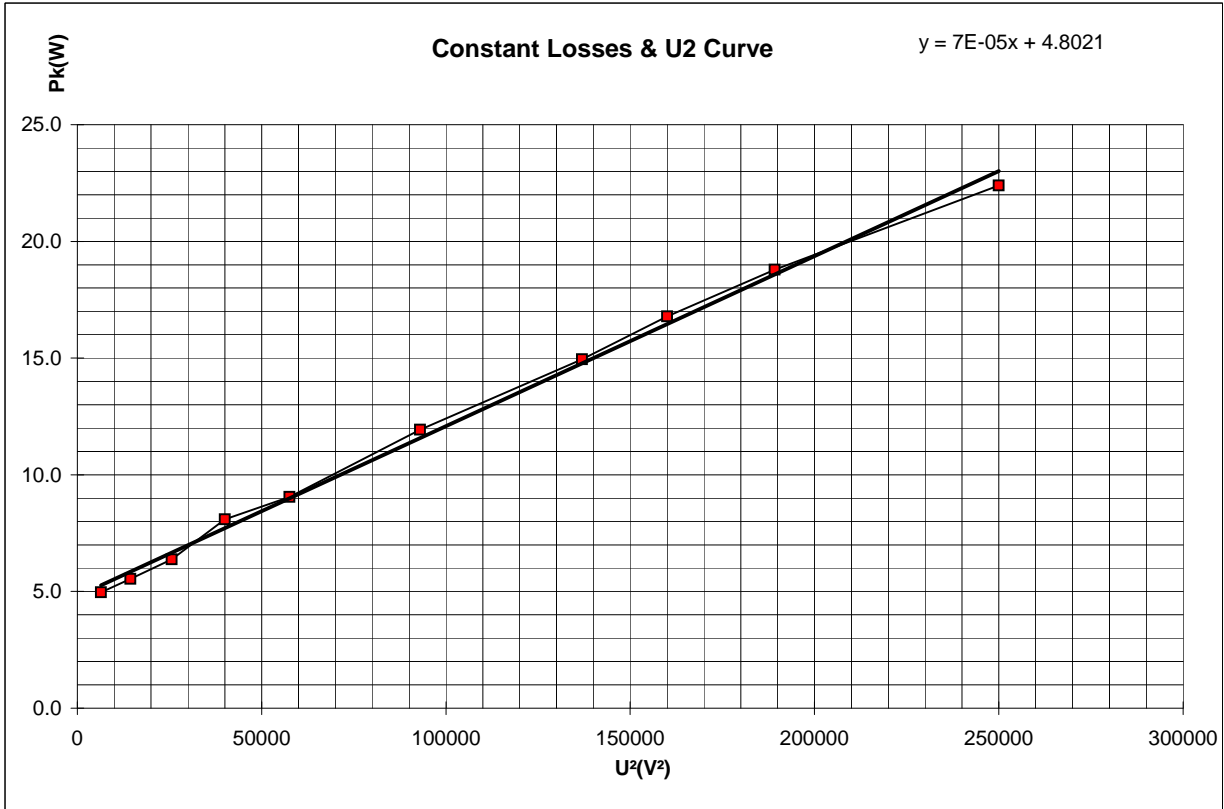
PERFORMANCE

Δt = 40 K

Voltage	U(V)	401	401	401	400	401	401
Phase current	Im(A)	0.54	0.61	0.70	0.81	0.91	1.06
Input Power	Pin(W)	178	256	341	432	519	629
Resistance	R()	33.022	33.022	33.022	33.022	33.022	33.022
Copper Losses	Pcu(W)	28.9	37.1	49.1	64.5	82.5	111.9
Iron Losses	Pfe(W)	12.0	12.0	12.0	12.0	12.0	12.0
	Pcu+Pstv(W)	41	49	61	76	94	124
	Pin-Pcu-Pstv(W)	137	207	280	356	424	505
slip	s(%)	2.35	3.48	4.87	6.00	7.59	9.32
Rotor Losses	Pr(W)	3.2	7.2	13.7	21.3	32.2	47.1
Friction Losses	Pstv(W)	4.8	4.8	4.8	4.8	4.8	4.8
Stray load losses	PLL(W)	0.6	2.5	5.6	10.0	15.6	22.4
	Pr+Pstv+PLL (W)	9	14	24	36	53	74
Output Power	Pout (W)	128	192	256	320	372	431
Apparent Power	S(VA)	375	425	489	559	634	738
Power Factor	COSphi	0.475	0.602	0.698	0.773	0.819	0.852
Efficiency	Eta(%)	72.2	75.2	75.1	74.0	71.7	68.5
Torque	M(Nm)	0.4	0.9	1.3	1.7	2.1	2.6
Speed	n(U/min)	1465	1448	1427	1410	1386	1360
	Pmech(W)	66	130	192	254	312	367

PREPARED BY : H.GEDIK

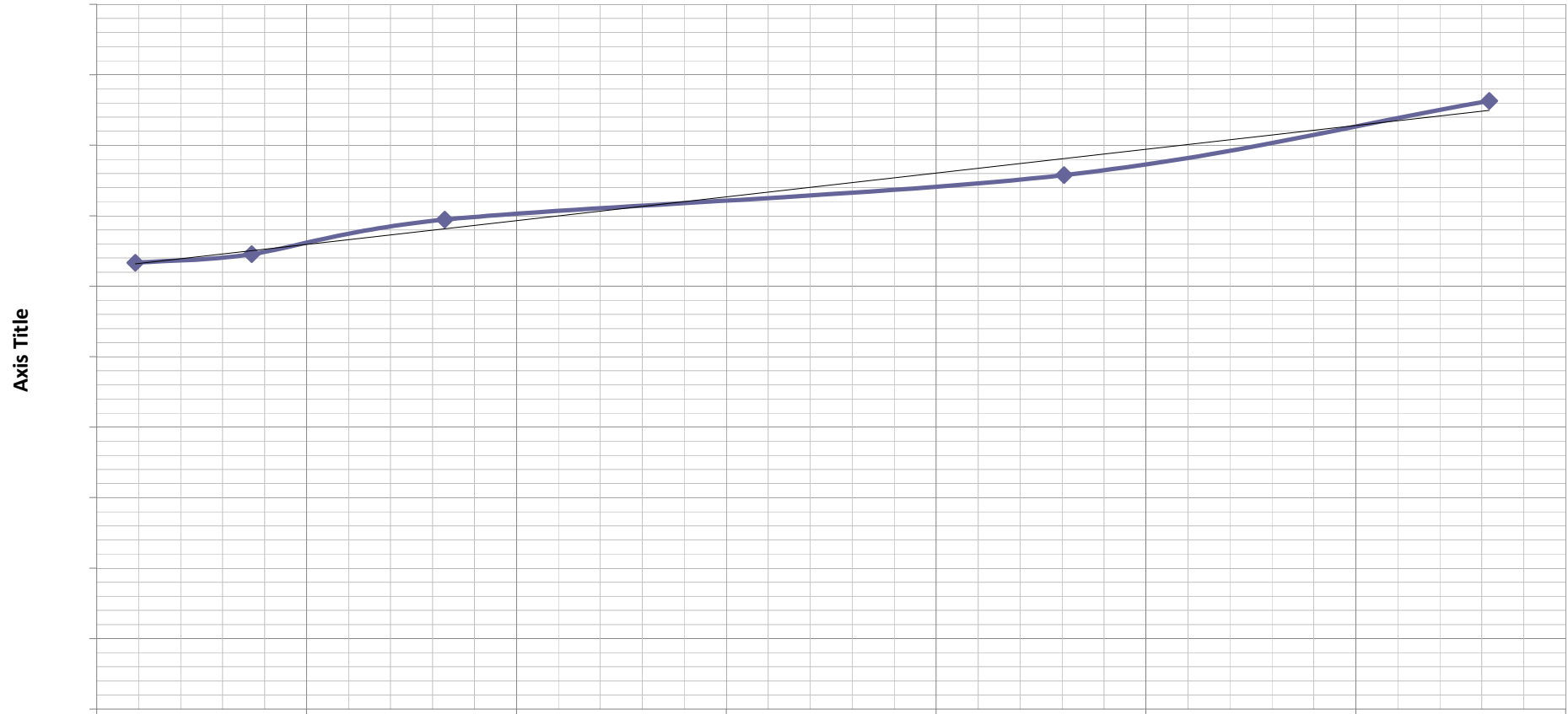
CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 3.3773x + 62.532$$

$$R^2 = 0.9738$$



Axis Title

◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E71M2C	Voltage	230/400V		
Serial Number		Current	1.47/0.85	Duty Type	S1
Power	0.37kW	RPM	2850	Insulation Class	F
Power	1/2HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11279	Rev :	0
	DATE:	: 28.01.2011		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0.12	11	0.5	10.6	2.5	8.1	11.153
120	14400	0.13	14	0.6	13.7	5.5	8.1	11.153
160	25600	0.16	17	0.9	16.5	8.3	8.1	11.153
200	40000	0.21	21	1.5	19.1	10.9	8.1	11.153
240	57600	0.25	26	2.1	24.0	15.8	8.1	11.153
305	93025	0.33	37	3.7	33.5	25.3	8.1	11.153
370	136900	0.43	51	6.2	45.2	37.0	8.1	11.153
400	160000	0.49	62	8.0	54.5	46.3	8.1	11.153
435	189225	0.59	74	11.8	62.5	54.4	8.1	11.153

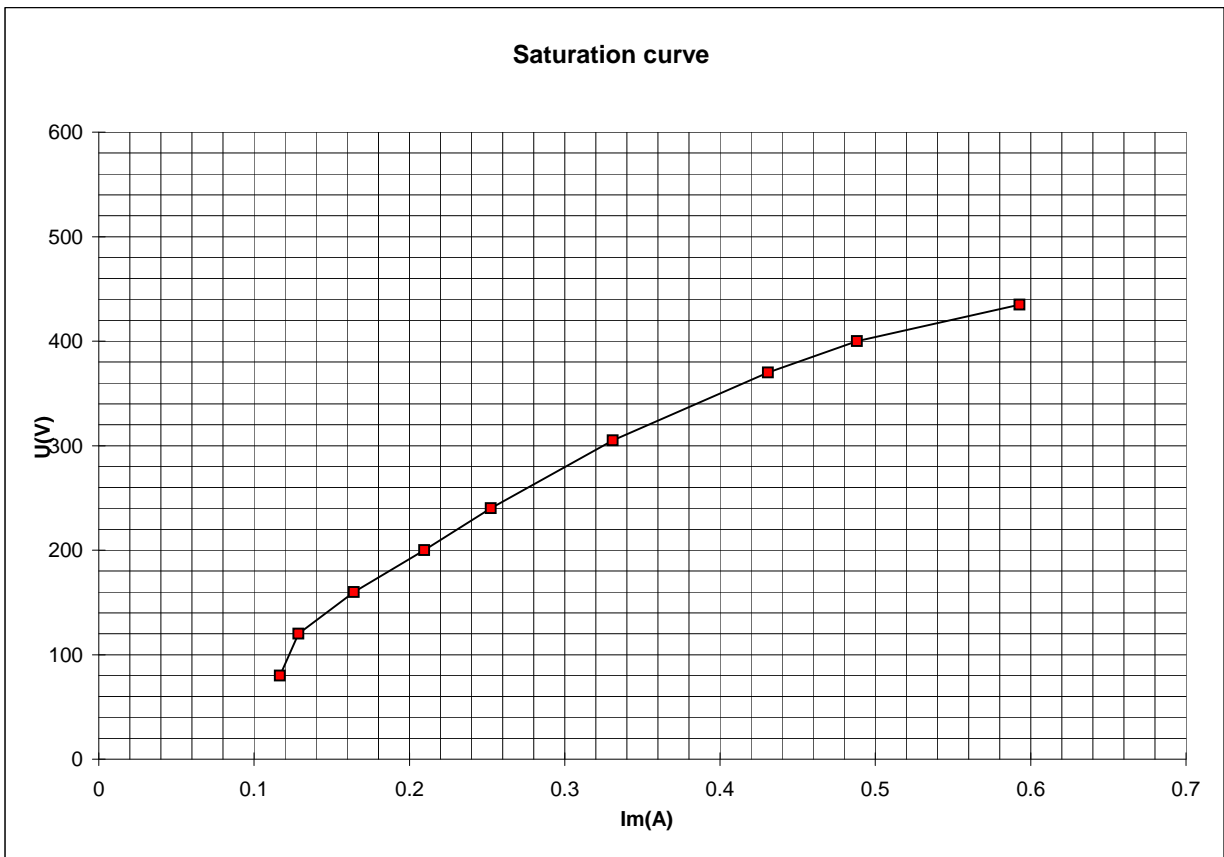
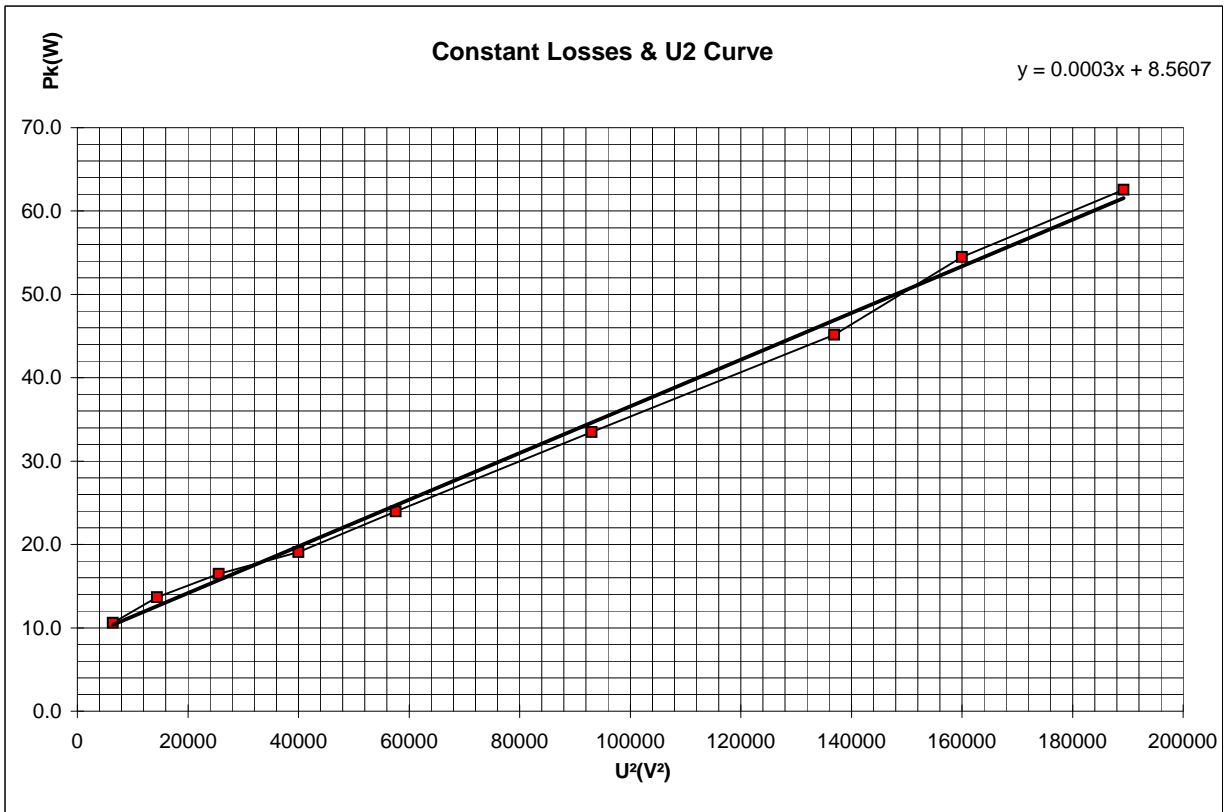
PERFORMANCE

$\Delta t = 49 K$

Voltage	U(V)	400	400	400	400	400	400
Phase current	Im(A)	0.51	0.61	0.71	0.85	0.99	1.16
Input Power	Pin(W)	159	257	369	480	589	717
Resistance	R()	11.153	11.153	11.153	11.153	11.153	11.153
Copper Losses	Pcu(W)	8.8	12.3	16.8	24.3	32.9	44.9
Iron Losses	Pfe(W)	46.3	46.3	46.3	46.3	46.3	46.3
	Pcu+Pstv(W)	55	59	63	71	79	91
	Pin-Pcu-Pstv(W)	104	198	306	409	510	626
slip	s(%)	1.71	3.01	3.77	4.77	5.86	7.16
Rotor Losses	Pr(W)	1.8	6.0	11.5	19.5	29.9	44.8
Friction Losses	Pstv(W)	8.1	8.1	8.1	8.1	8.1	8.1
Stray load losses	PLL(W)	1.0	4.1	9.1	16.2	25.4	36.5
	Pr+Pstv+PLL (W)	11	18	29	44	63	89
Output Power	Pout (W)	93	180	277	365	446	536
Apparent Power	S(VA)	355	420	491	590	687	803
Power Factor	COSphi	0.448	0.611	0.752	0.813	0.857	0.893
Efficiency	Eta(%)	58.5	70.1	75.1	76.1	75.8	74.8
Torque	M(Nm)	0.3	0.6	0.9	1.2	1.5	1.8
Speed	n(U/min)	2949	2910	2887	2857	2824	2785
	Pmech(W)	95	187	279	368	455	538

PREPARED BY : H.GEDIK

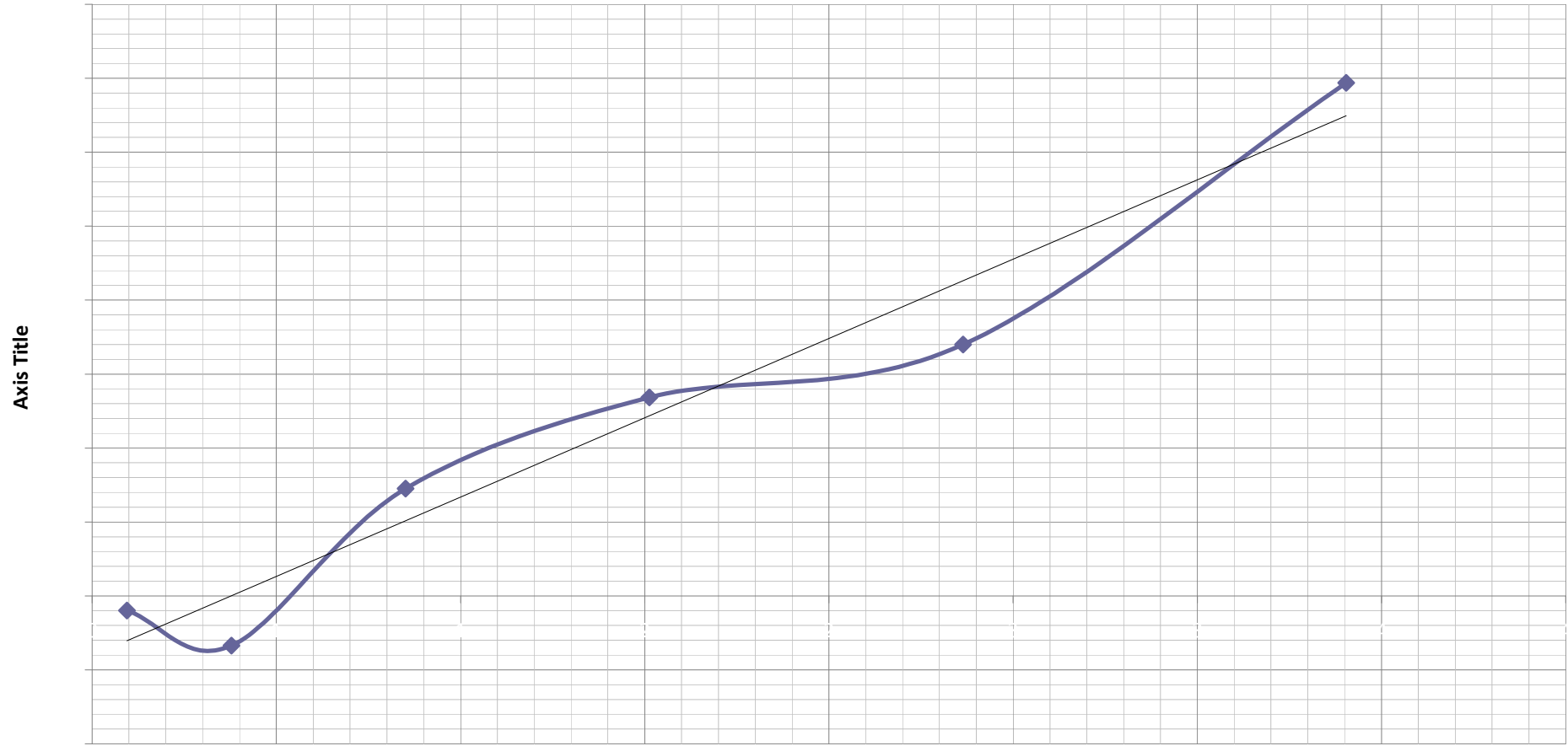
CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 10.729x - 4.0489$$

$$R^2 = 0.953$$



Axis Title

◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E71M4D	Voltage	230/400V		
Serial Number	6042	Current	1.9 / 1.1 A	Duty Type	S1
Power	0.37kW	RPM	1425	Insulation Class	F
Power	1/2HP	Frequency	50Hz	IC	41

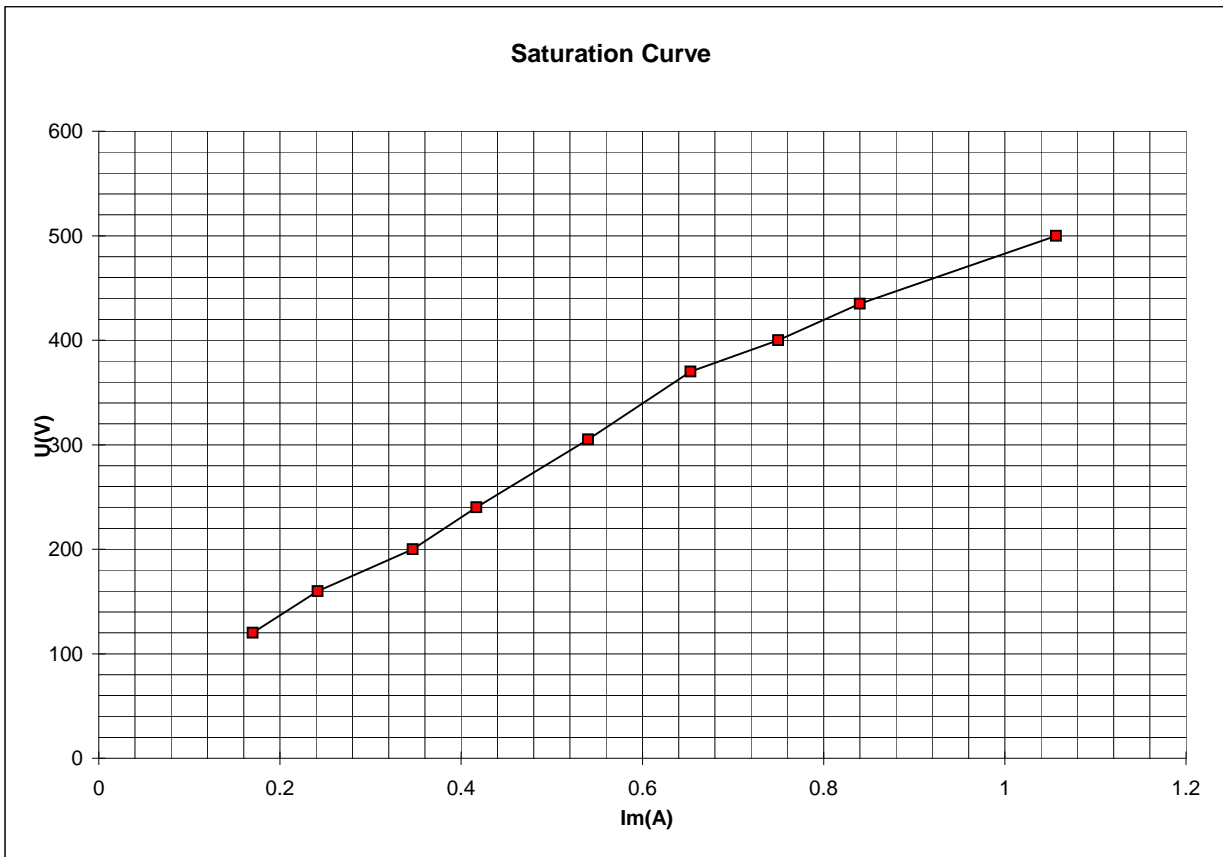
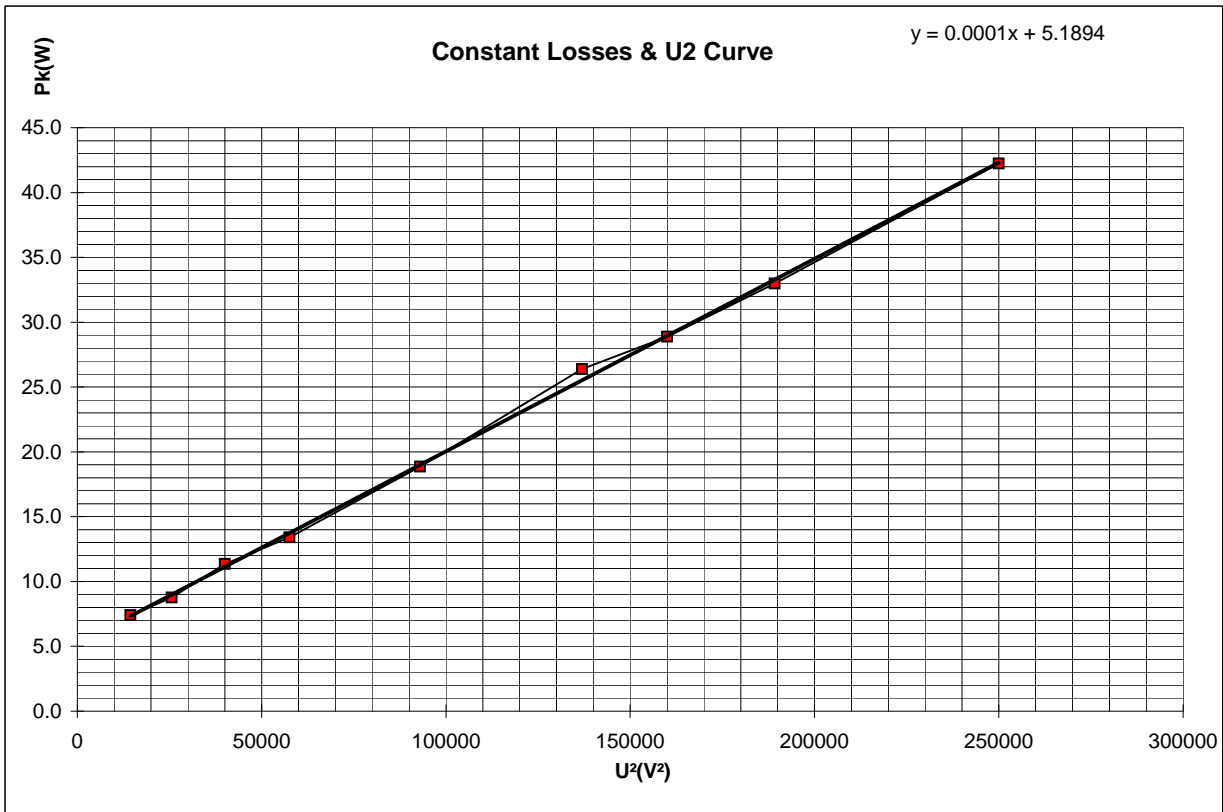
NOLOAD TEST	TEST NUM:	: 11255	Rev :	0
	DATE:	: 28.01.2011		

	U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
	120	14400	0.17	9	1.6	7.4	2.2	5.2	18.438
	160	25600	0.24	12	3.2	8.8	3.6	5.2	18.438
	200	40000	0.35	18	6.6	11.4	6.2	5.2	18.438
	240	57600	0.42	23	9.6	13.4	8.2	5.2	18.438
	305	93025	0.54	35	16.1	18.9	13.7	5.2	18.438
	370	136900	0.65	50	23.6	26.4	21.2	5.2	18.438
	400	160000	0.75	60	31.1	28.9	23.7	5.2	18.438
	435	189225	0.84	72	39.0	33.0	27.8	5.2	18.438
	500	250000	1.06	104	61.8	42.2	37.1	5.2	18.438

PERFORMANCE Δt = 33 K

Voltage	U(V)		400	400	399	400	401	400
Phase current	Im(A)		0.76	0.82	0.93	1.05	1.22	1.40
Input Power	Pin(W)		179	287	406	522	648	791
Resistance	R()		18.438	18.438	18.438	18.438	18.438	18.438
Copper Losses	Pcu(W)		32.3	37.6	48.1	61.4	82.4	108.6
Iron Losses	Pfe(W)		23.7	23.7	23.7	23.7	23.7	23.7
	Pcu+Pstv(W)		56	61	72	85	106	132
	Pin-Pcu-Pstv(W)		123	225	334	437	542	658
slip	s(%)		1.33	2.40	3.47	4.73	6.20	8.07
Rotor Losses	Pr(W)		1.6	5.4	11.6	20.7	33.6	53.1
Friction Losses	Pstv(W)		5.2	5.2	5.2	5.2	5.2	5.2
Stray load losses	PLL(W)		0.8	3.4	7.6	13.4	21.0	30.2
	Pr+Pstv+PLL (W)		8	14	24	39	60	89
Output Power	Pout (W)		116	211	310	398	482	570
Apparent Power	S(VA)		530	571	645	730	848	971
Power Factor	COSphi		0.339	0.502	0.629	0.715	0.765	0.814
Efficiency	Eta(%)		64.5	73.7	76.3	76.2	74.4	72.1
Torque	M(Nm)		0.6	1.3	1.9	2.5	3.2	3.8
Speed	n(U/min)		1480	1464	1448	1429	1407	1379
	Pmech(W)		99	195	289	380	468	551

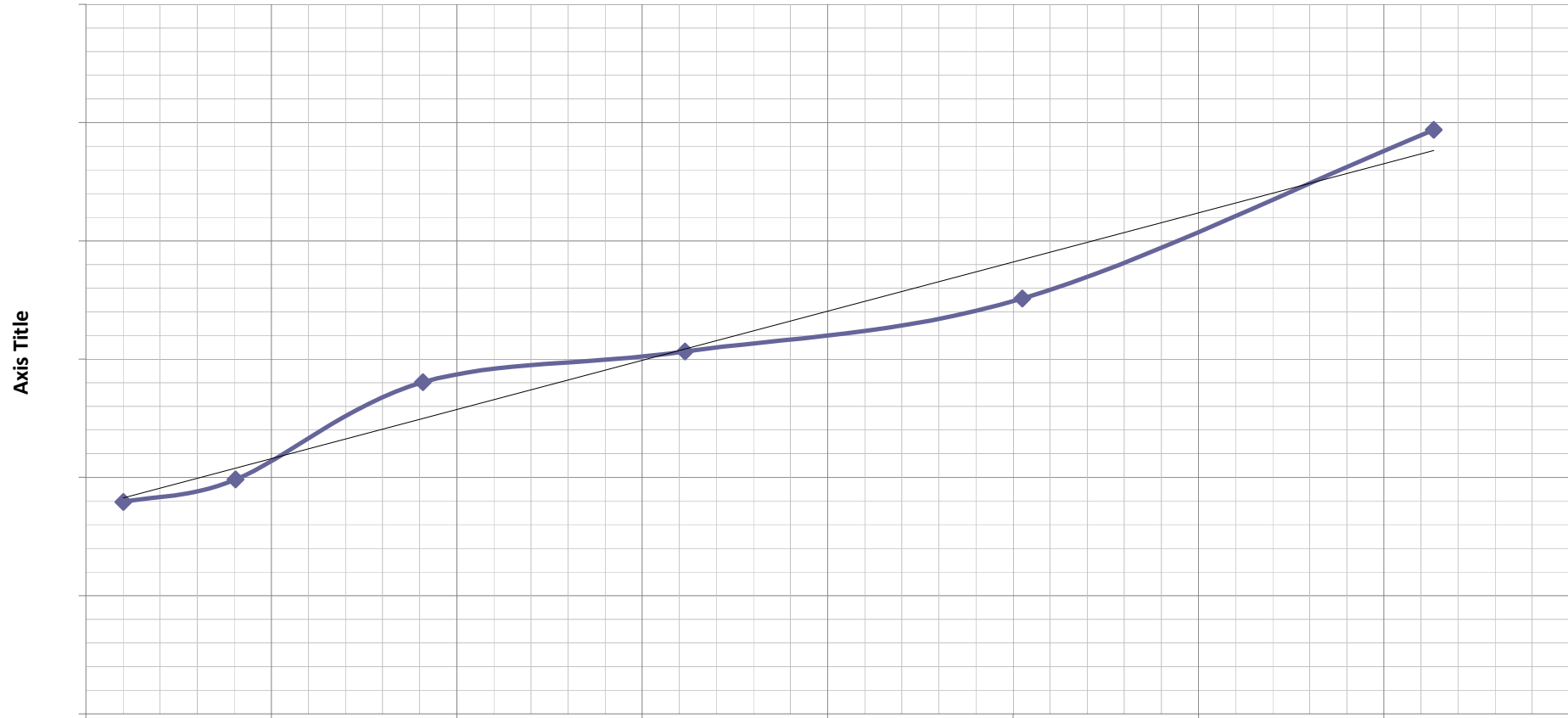
PREPARED BY : H.GEDIK CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 2.0793x + 17.415$$

$$R^2 = 0.9628$$



Axis Title

—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E71M2D	Voltage	230/400V		
Serial Number	6078	Current	2.1 / 1.2 A	Duty Type	S1
Power	0.55kW	RPM	1410	Insulation Class	F
Power	3/4HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11256	Rev :	0
	DATE:	: 28.01.2011		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0.16	14	0.6	13.4	2.4	10.9	7.921
120	14400	0.18	18	0.8	17.2	6.3	10.9	7.921
160	25600	0.23	22	1.3	20.7	9.8	10.9	7.921
200	40000	0.29	26	2.0	24.0	13.0	10.9	7.921
240	57600	0.35	33	3.0	30.0	19.1	10.9	7.921
305	93025	0.46	47	5.1	41.9	31.0	10.9	7.921
370	136900	0.60	65	8.6	56.4	45.4	10.9	7.921
400	160000	0.68	79	11.1	67.9	57.0	10.9	7.921
435	189225	0.83	94	16.4	77.6	66.7	10.9	7.921

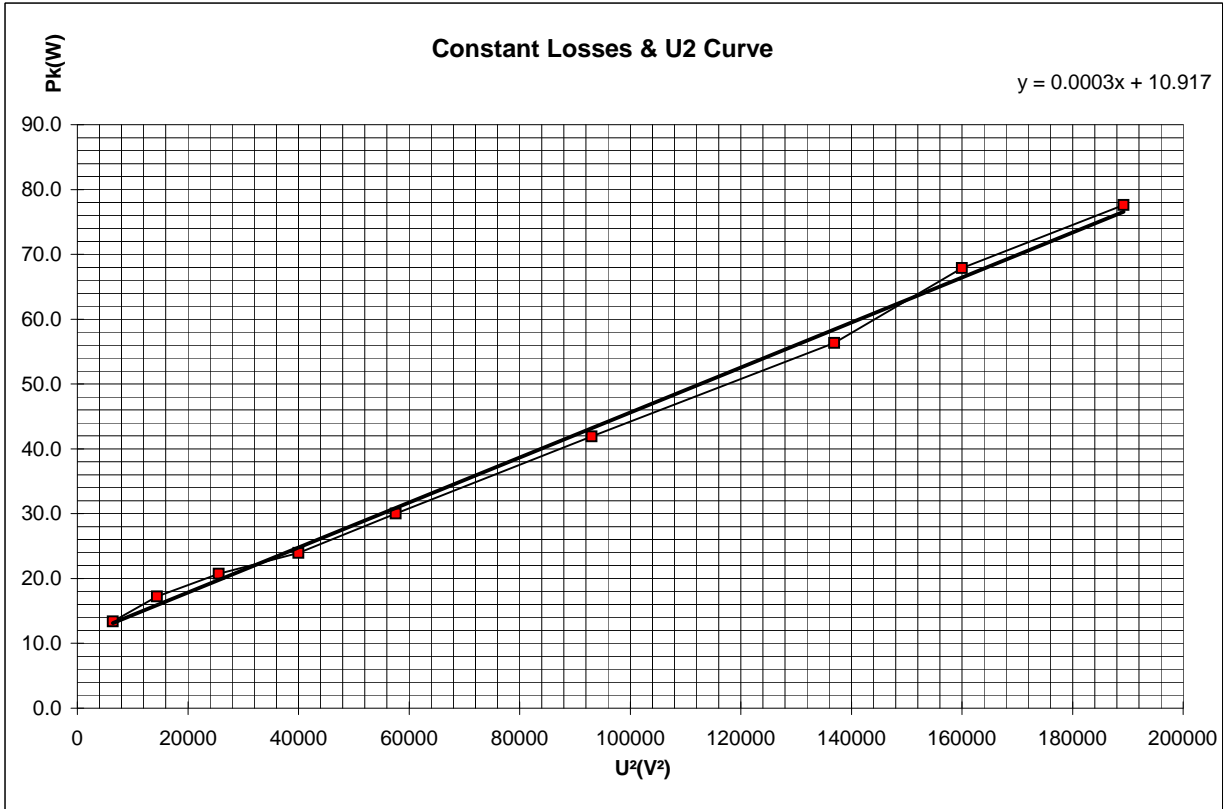
PERFORMANCE

Δt = 27 K

Voltage	U(V)	400	400	400	400	400	400
Phase current	Im(A)	0.74	0.88	1.02	1.21	1.43	1.67
Input Power	Pin(W)	218	371	533	693	871	1069
Resistance	R()	7.921	7.921	7.921	7.921	7.921	7.921
Copper Losses	Pcu(W)	13.0	18.3	24.9	35.0	48.8	66.5
Iron Losses	Pfe(W)	57.0	57.0	57.0	57.0	57.0	57.0
	Pcu+Pstv(W)	70	75	82	92	106	124
	Pin-Pcu-Pstv(W)	148	296	451	601	765	945
slip	s(%)	1.27	2.57	3.33	4.33	5.43	6.73
Rotor Losses	Pr(W)	1.9	7.6	15.0	26.0	41.6	63.7
Friction Losses	Pstv(W)	10.9	10.9	10.9	10.9	10.9	10.9
Stray load losses	PLL(W)	1.8	7.3	16.3	29.0	45.4	65.3
	Pr+Pstv+PLL (W)	15	26	42	66	98	140
Output Power	Pout (W)	133	270	409	535	667	806
Apparent Power	S(VA)	513	607	709	841	993	1159
Power Factor	COSphi	0.425	0.611	0.752	0.824	0.877	0.922
Efficiency	Eta(%)	61.2	72.8	76.7	77.2	76.6	75.4
Torque	M(Nm)	0.5	0.9	1.4	1.9	2.3	2.8
Speed	n(U/min)	2962	2923	2900	2870	2837	2798
	Pmech(W)	144	283	422	556	687	813

PREPARED BY : H.GEDIK

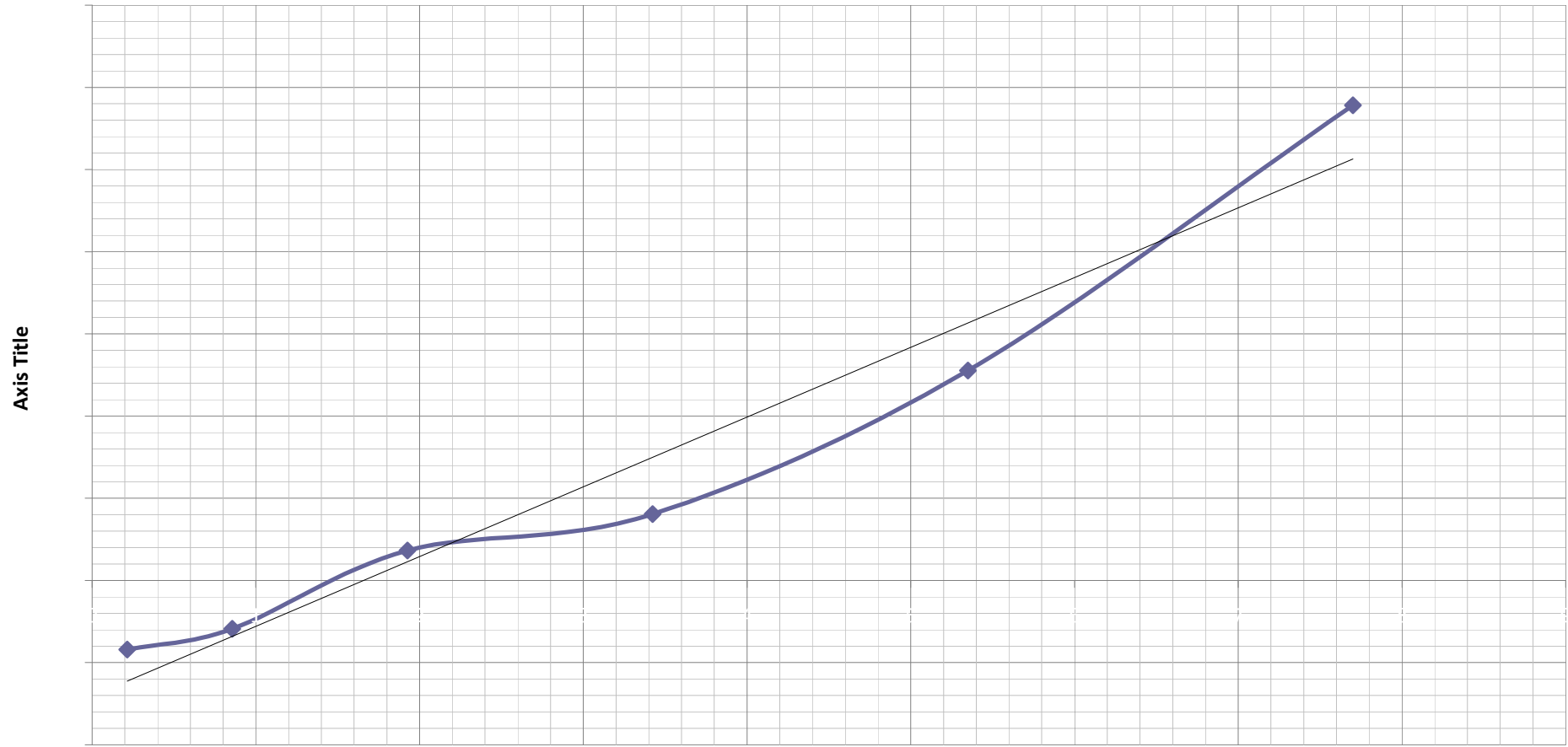
CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 8.486x - 14.078$$

$$R^2 = 0.9542$$



Axis Title

—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E80M4C	Voltage	230/400V		
Serial Number	6156	Current	2.4 / 1.4 A	Duty Type	S1
Power	0.55kW	RPM	1425	Insulation Class	F
Power	3/4HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11271	Rev :	0
	DATE:	: 28.01.2011		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0.23	11	1.9	9.1	2.8	6.3	11.853
120	14400	0.30	14	3.3	10.7	4.5	6.3	11.853
160	25600	0.38	18	5.2	12.8	6.5	6.3	11.853
200	40000	0.45	24	7.3	16.7	10.4	6.3	11.853
240	57600	0.58	35	12.1	22.9	16.6	6.3	11.853
305	93025	0.74	51	19.5	31.5	25.3	6.3	11.853
370	136900	0.81	59	23.5	35.5	29.2	6.3	11.853
400	160000	0.91	70	29.4	40.6	34.3	6.3	11.853
435	189225	1.13	96	45.4	50.6	44.3	6.3	11.853

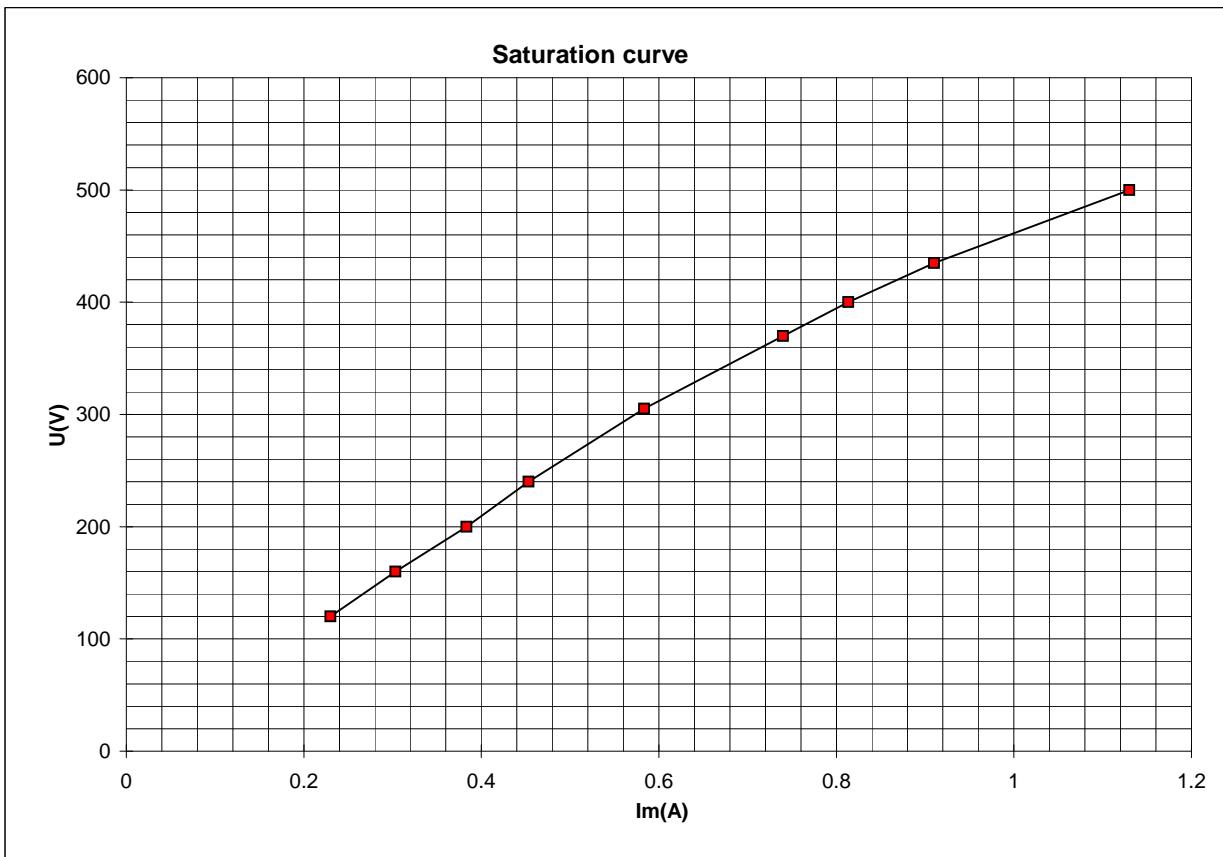
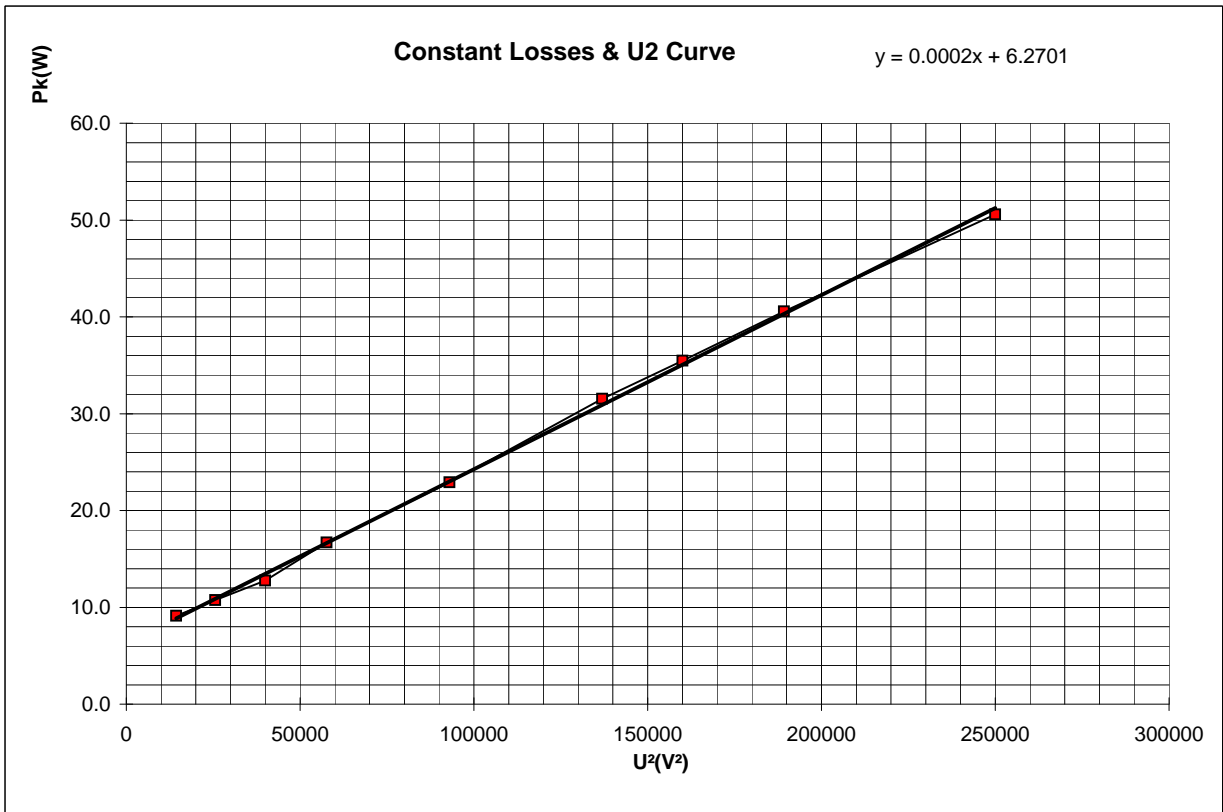
PERFORMANCE

$\Delta t = 49 K$

Voltage	U(V)	400	400	400	400	400	400
Phase current	Im(A)	0.87	1.01	1.18	1.40	1.68	1.99
Input Power	Pin(W)	235	406	574	750	947	1162
Resistance	R()	11.853	11.853	11.853	11.853	11.853	11.853
Copper Losses	Pcu(W)	27.1	36.0	49.5	70.0	100.4	140.8
Iron Losses	Pfe(W)	29.2	29.2	29.2	29.2	29.2	29.2
	Pcu+Pstv(W)	56	65	79	99	130	170
	Pin-Pcu-Pstv(W)	179	341	495	651	817	992
slip	s(%)	1.40	2.87	4.27	5.53	7.53	9.33
Rotor Losses	Pr(W)	2.5	9.8	21.1	36.0	61.6	92.6
Friction Losses	Pstv(W)	6.3	6.3	6.3	6.3	6.3	6.3
Stray load losses	PLL(W)	1.8	7.0	15.8	28.1	43.8	63.1
	Pr+Pstv+PLL (W)	11	23	43	70	112	162
Output Power	Pout (W)	168	318	452	580	706	830
Apparent Power	S(VA)	605	697	818	972	1164	1379
Power Factor	COSphi	0.388	0.582	0.702	0.771	0.814	0.843
Efficiency	Eta(%)	71.6	78.3	78.8	77.4	74.5	71.4
Torque	M(Nm)	0.9	1.9	2.8	3.8	4.7	5.6
Speed	n(U/min)	1479	1457	1436	1417	1387	1360
	Pmech(W)	145	286	423	557	681	802

PREPARED BY : H.GEDIK

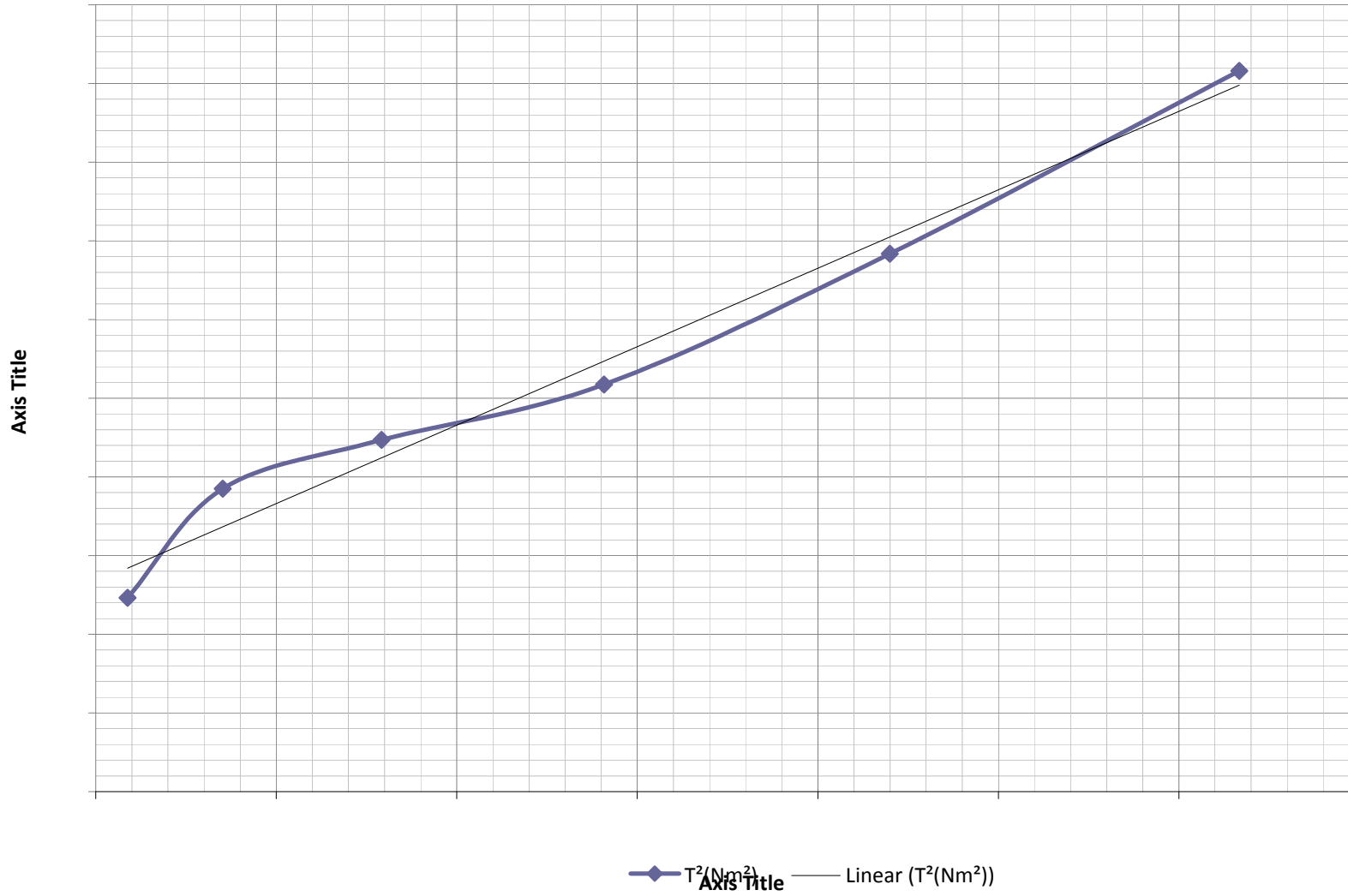
CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 1.9932x + 26.656$$

$$R^2 = 0.9789$$





3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E80M2B	Voltage	230/400V	Nominal limit for IE2	77.4%
Serial Number	5544	Current	3.0 / 1.75 A	Duty Type	S1
Power	0.75kW	RPM	2875	Insulation Class	F
Power	1HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10581	REV:	1
	DATE:	: 20.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0.06	12	0.2	11.8	0.5	11.3	7.655
120	14400	0.08	15	0.2	14.8	3.6	11.3	7.655
160	25600	0.20	23	0.9	22.1	10.8	11.3	7.655
200	40000	0.34	35	2.6	32.4	21.1	11.3	7.655
240	57600	0.48	45	5.4	39.6	28.3	11.3	7.655
305	93025	0.73	66	12.1	53.4	42.1	11.3	7.655
370	136900	0.90	89	18.7	70.3	59.0	11.3	7.655
400	160000	1.05	106	25.2	80.8	69.6	11.3	7.655
435	189225	1.13	123	29.2	93.8	82.6	11.3	7.655
500	250000	1.39	165	44.4	120.6	109.3	11.3	7.655

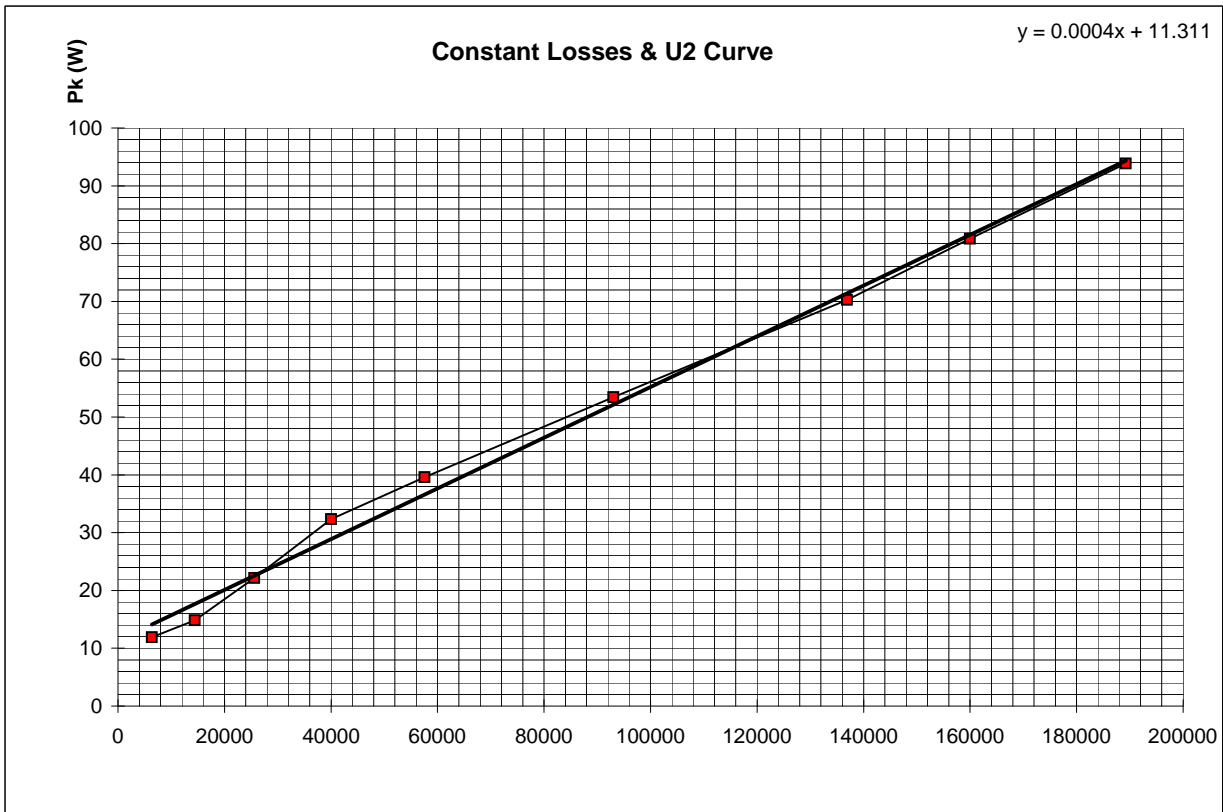
PERFORMANCE

Δt : 36 K

Voltage	U(V)	402	402	402	401	401	400
Phase current	Im(A)	1.12	1.27	1.47	1.73	2.02	2.38
Input Power	Pin(W)	318	522	742	961	1198	1455
Resistance	R()	7.655	7.655	7.655	7.655	7.655	7.655
Copper Losses	Pcu(W)	29.0	36.8	49.9	68.7	93.7	129.7
Iron Losses	Pfe(W)	69.6	69.6	69.6	69.6	69.6	69.6
	Pcu+Pstv(W)	99	106	119	138	163	199
	Pin-Pcu-Pstv(W)	219	416	623	823	1035	1256
slip	s(%)	1.00	1.73	2.67	3.83	4.60	5.13
Rotor Losses	Pr(W)	2.2	7.2	16.6	31.5	47.6	64.5
Friction Losses	Pstv(W)	11.3	11.3	11.3	11.3	11.3	11.3
Stray load losses	PLL(W)	1.3	5.1	11.5	20.3	31.7	45.8
	Pr+Pstv+PLL (W)	15	24	39	63	91	122
Output Power	Pout (W)	205	392	583	760	944	1134
Apparent Power	S(VA)	782	881	1025	1202	1402	1655
Power Factor	COSphi	0.407	0.592	0.724	0.799	0.854	0.879
Efficiency	Eta(%)	64.4	75.1	78.6	79.0	78.8	78.0
Torque	M(Nm)	0.6	1.3	1.9	2.5	3.2	3.8
Speed	n(U/min)	2970	2948	2920	2885	2862	2846
	Pmech(W)	196	392	581	764	947	1133

PREPARED BY : H.GEDIK

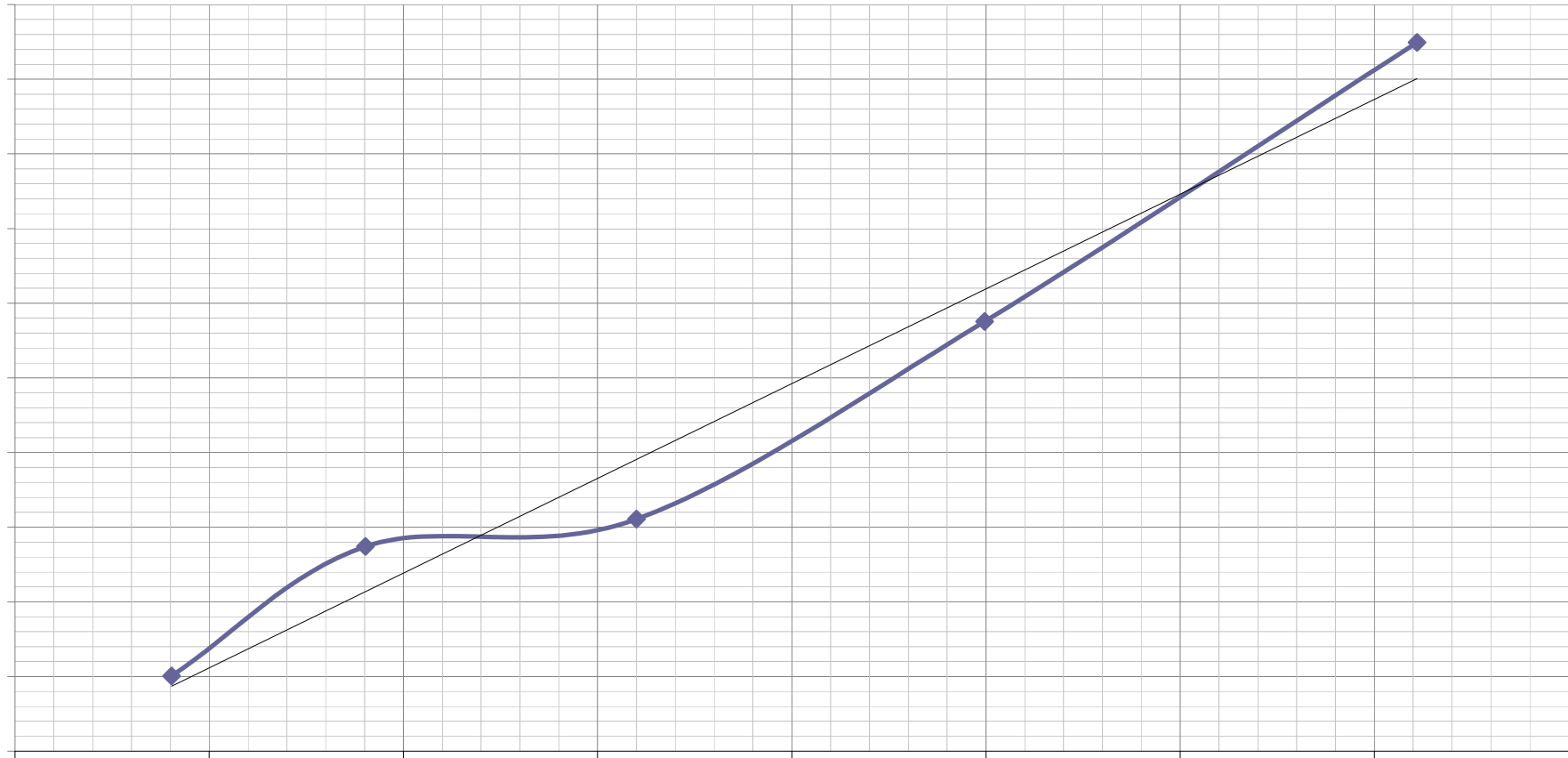
CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 3.1721x - 0.7642$$

$$R^2 = 0.9669$$



—◆— stray

— Linear (stray)



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO
IEC 60034-2-1

ELECTRIC
MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E80M4D	Voltage	230/400V	Nominal limit for IE2	79.6%
Serial Number	4009 DI	Current	3.3 / 1.9 A	Duty Type	S1
Power	0.75kW	RPM	1430	Insulation Class	F
Power	1HP	Frequency	50Hz	IC	41

NOLOAD TEST

TEST NUM: : 10581
DATE: : 14.12.2010

REV: 1

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,10	10	0,2	9,8	0,3	9,4	8,135
120	14400	0,17	12	0,7	11,3	1,8	9,4	8,135
160	25600	0,33	19	2,7	16,3	6,9	9,4	8,135
200	40000	0,46	28	5,2	22,8	13,4	9,4	8,135
240	57600	0,64	33	10,1	22,9	13,5	9,4	8,135
305	93025	0,87	56	18,5	37,5	28,1	9,4	8,135
370	136900	1,14	75	31,9	43,1	33,6	9,4	8,135
400	160000	1,26	93	39,0	54,0	44,6	9,4	8,135
435	189225	1,38	103	46,7	56,3	46,8	9,4	8,135
500	250000	1,65	132	66,4	65,6	56,1	9,4	8,135

PERFORMANCE

Δt : 42 K

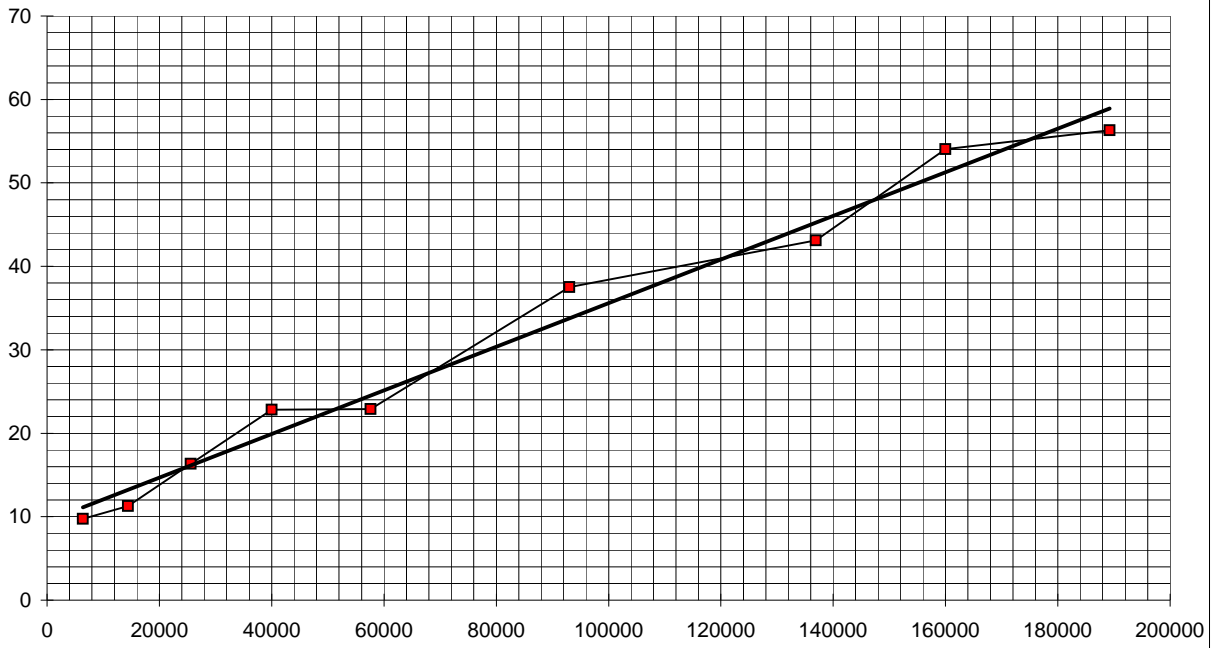
Voltage	U(V)	399	399	399	400	399	400
Phase current	Im(A)	1,30	1,43	1,62	1,86	2,15	2,45
Input Power	Pin(W)	276	489	699	925	1145	1395
Resistance	R()	8,135	8,135	8,135	8,135	8,135	8,135
Copper Losses	Pcu(W)	41,0	50,1	64,0	84,7	112,5	146,5
Iron Losses	Pfe(W)	44,6	44,6	44,6	44,6	44,6	44,6
	Pcu+Pstv(W)	86	95	109	129	157	191
	Pin-Pcu-Pstv(W)	190	394	590	796	988	1204
slip	s(%)	1,00	2,13	3,00	4,13	5,33	6,13
Rotor Losses	Pr(W)	1,9	8,4	17,7	32,9	52,7	73,8
Friction Losses	Pstv(W)	9,4	9,4	9,4	9,4	9,4	9,4
Stray load losses	PLL(W)	0,9	3,5	7,9	14,0	21,9	31,5
	Pr+Pstv+PLL (W)	12	21	35	56	84	115
Output Power	Pout (W)	178	373	555	739	904	1089
Apparent Power	S(VA)	896	991	1120	1291	1484	1655
Power Factor	COSphi	0,308	0,494	0,624	0,717	0,772	0,843
Efficiency	Eta(%)	64,5	76,3	79,4	79,9	78,9	78,1
Torque	M(Nm)	1,3	2,5	3,7	5,0	6,2	7,5
Speed	n(U/min)	1485	1468	1455	1438	1420	1408
	Pmech(W)	194	384	570	751	928	1104

PREPARED BY : H.GEDİK

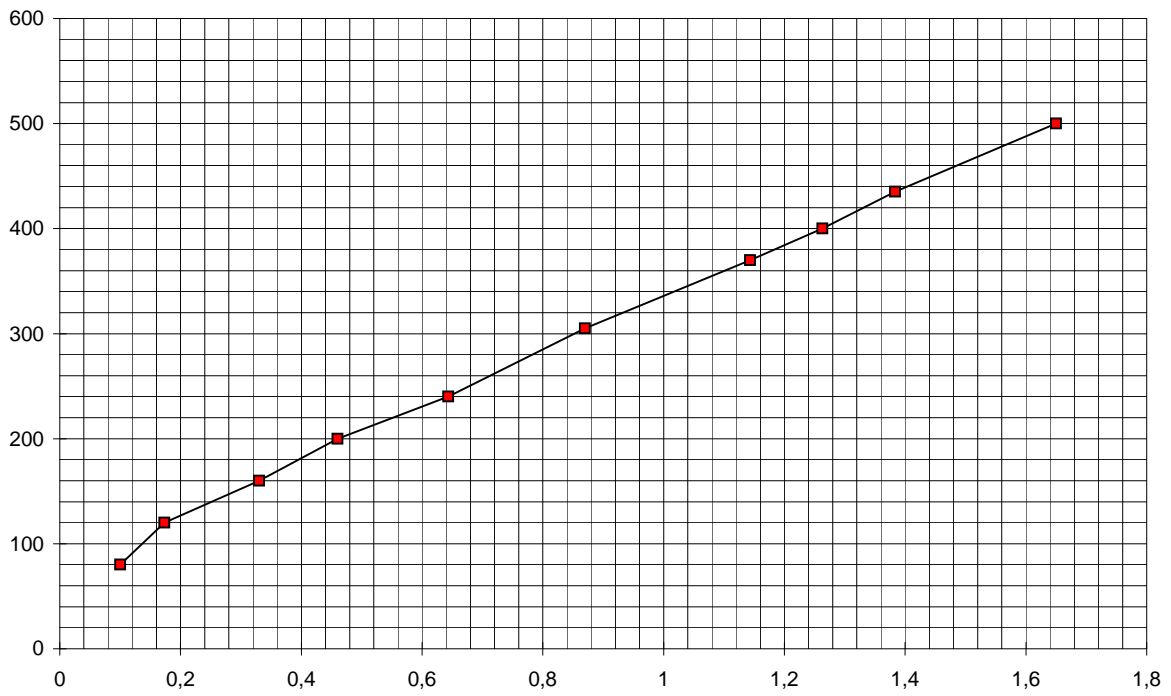
CONTROL : C.ERTÜRK

Constant Losses & U2 Curve

$$y = 0,0003x + 9,4491$$

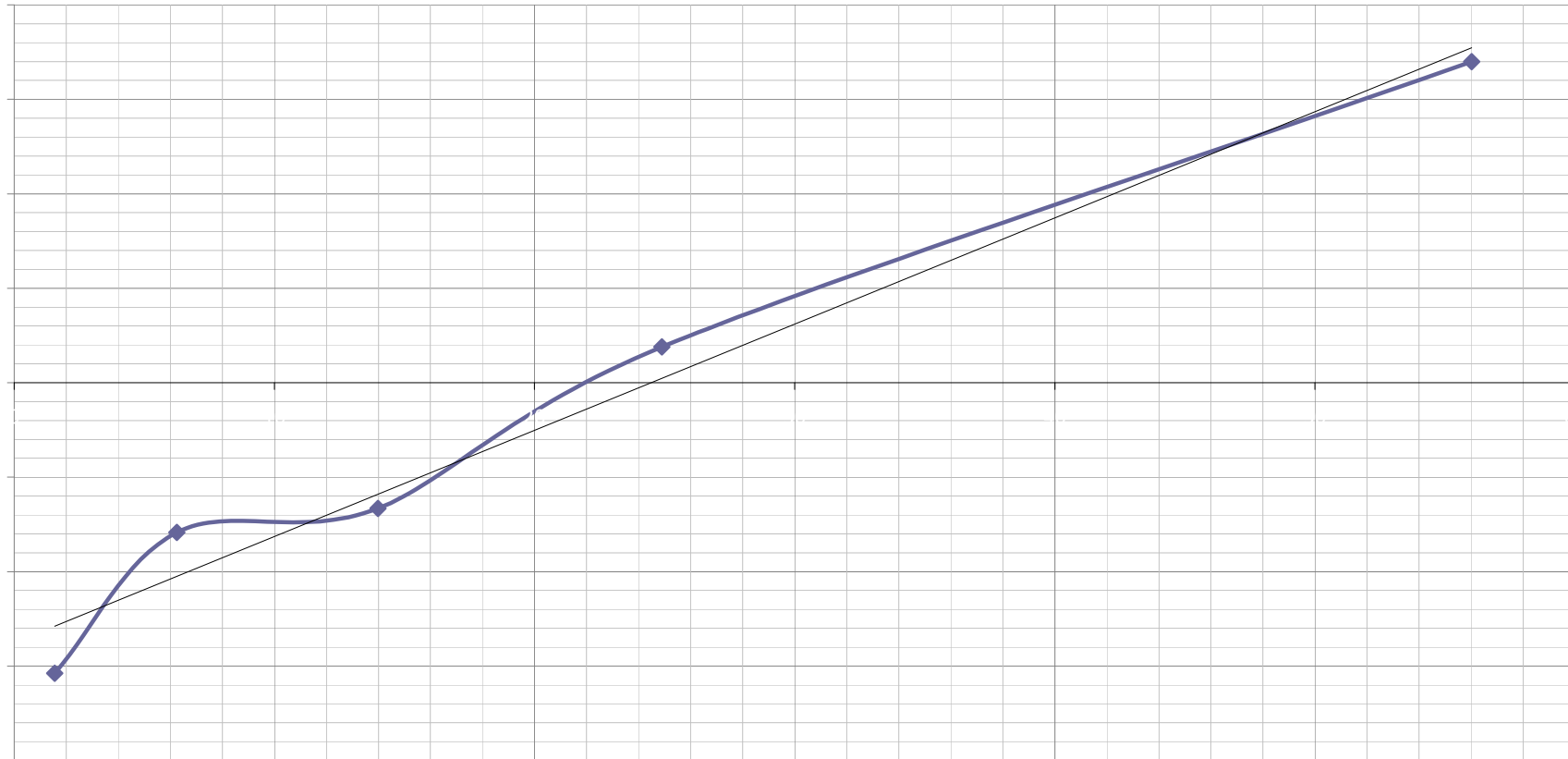


Saturation Curve



Stray load losses curve

$$y = 0,5621x - 13,761$$
$$R^2 = 0,9746$$



◆ stray — Linear (stray)



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO
IEC 60034-2-1

ELECTRIC
MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E80M2D	Voltage	230/400V	Nominal limit for IE2	79.6%
Serial Number	1629 FI	Current	4.2 / 2.4 A	Duty Type	S1
Power	1.1kW	RPM	2885	Insulation Class	F
Power	1.5HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10610	REV	: 1
	DATE:	: 12.14.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,25	19	1,3	17,7	4,7	13,0	7,010
120	14400	0,33	22	2,3	19,7	6,7	13,0	7,010
160	25600	0,43	28	3,8	24,2	11,2	13,0	7,010
200	40000	0,54	37	6,2	30,8	17,8	13,0	7,010
240	57600	0,66	44	9,3	34,7	21,8	13,0	7,010
305	93025	0,85	65	15,2	49,8	36,9	13,0	7,010
370	136900	1,12	98	26,4	71,6	58,7	13,0	7,010
400	160000	1,30	121	35,4	85,6	72,7	13,0	7,010
435	189225	1,55	144	50,7	93,3	80,3	13,0	7,010
500	250000	2,60	278	142,2	135,8	122,9	13,0	7,010

PERFORMANCE

Δt : 48 K

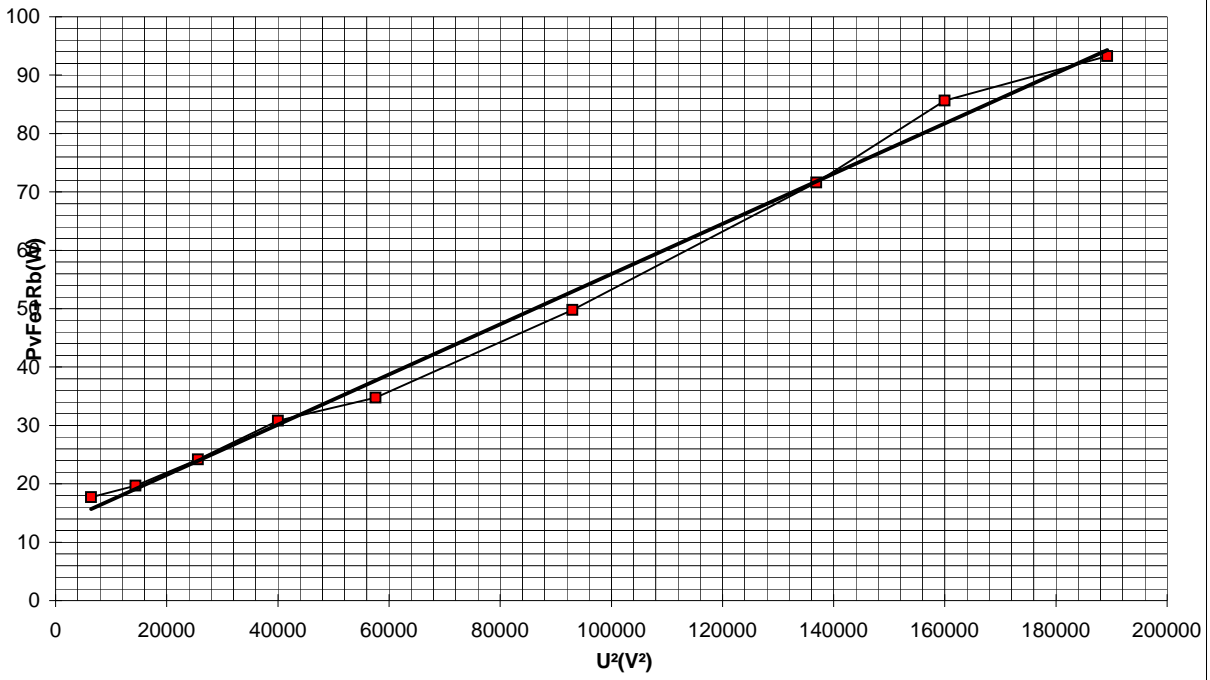
Voltage	U(V)	400	400	400	400	400	400
Phase current	Im(A)	1,41	1,59	1,90	2,30	2,76	3,20
Input Power	Pin(W)	389	689	1000	1338	1692	2045
Resistance	R()	7,010	7,010	7,010	7,010	7,010	7,010
Copper Losses	Pcu(W)	41,6	53,4	75,9	111,6	159,8	215,8
Iron Losses	Pfe(W)	72,7	72,7	72,7	72,7	72,7	72,7
	Pcu+Pstv(W)	114	126	149	184	232	288
	Pin-Pcu-Pstv(W)	275	563	851	1154	1460	1757
slip	s(%)	0,90	1,67	2,70	3,97	4,97	6,27
Rotor Losses	Pr(W)	2,5	9,4	23,0	45,8	72,5	110,1
Friction Losses	Pstv(W)	13,0	13,0	13,0	13,0	13,0	13,0
Stray load losses	PLL(W)	1,5	6,0	13,4	23,8	37,2	53,5
	Pr+Pstv+PLL (W)	17	28	49	83	123	176
Output Power	Pout (W)	258	535	802	1071	1337	1580
Apparent Power	S(VA)	975	1104	1316	1596	1910	2219
Power Factor	COSphi	0,399	0,624	0,760	0,838	0,886	0,921
Efficiency	Eta(%)	66,3	77,6	80,2	80,1	79,0	77,3
Torque	M(Nm)	0,9	1,8	2,7	3,7	4,6	5,5
Speed	n(U/min)	2973	2950	2919	2881	2851	2812
	Pmech(W)	284	564	837	1101	1362	1611

PREPARED BY : H.GEDIK

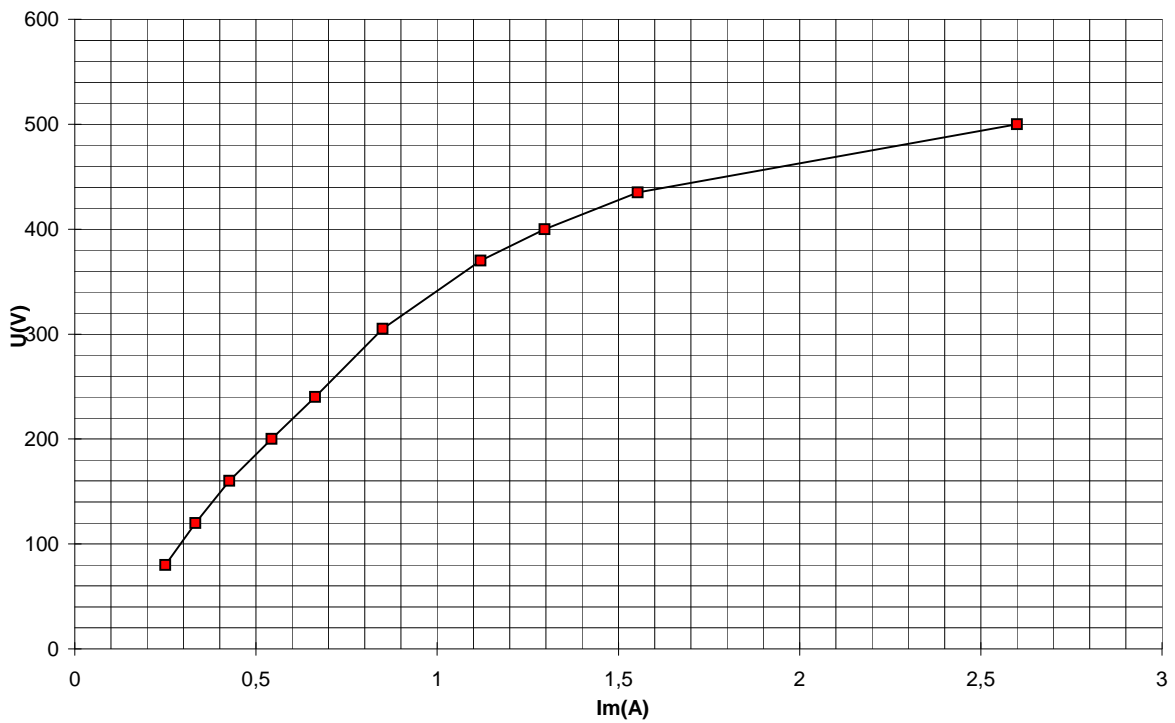
CONTROL : C.ERTÜRK

Constant Losses & U2 Curve

$y = 0,0004x + 12,953$

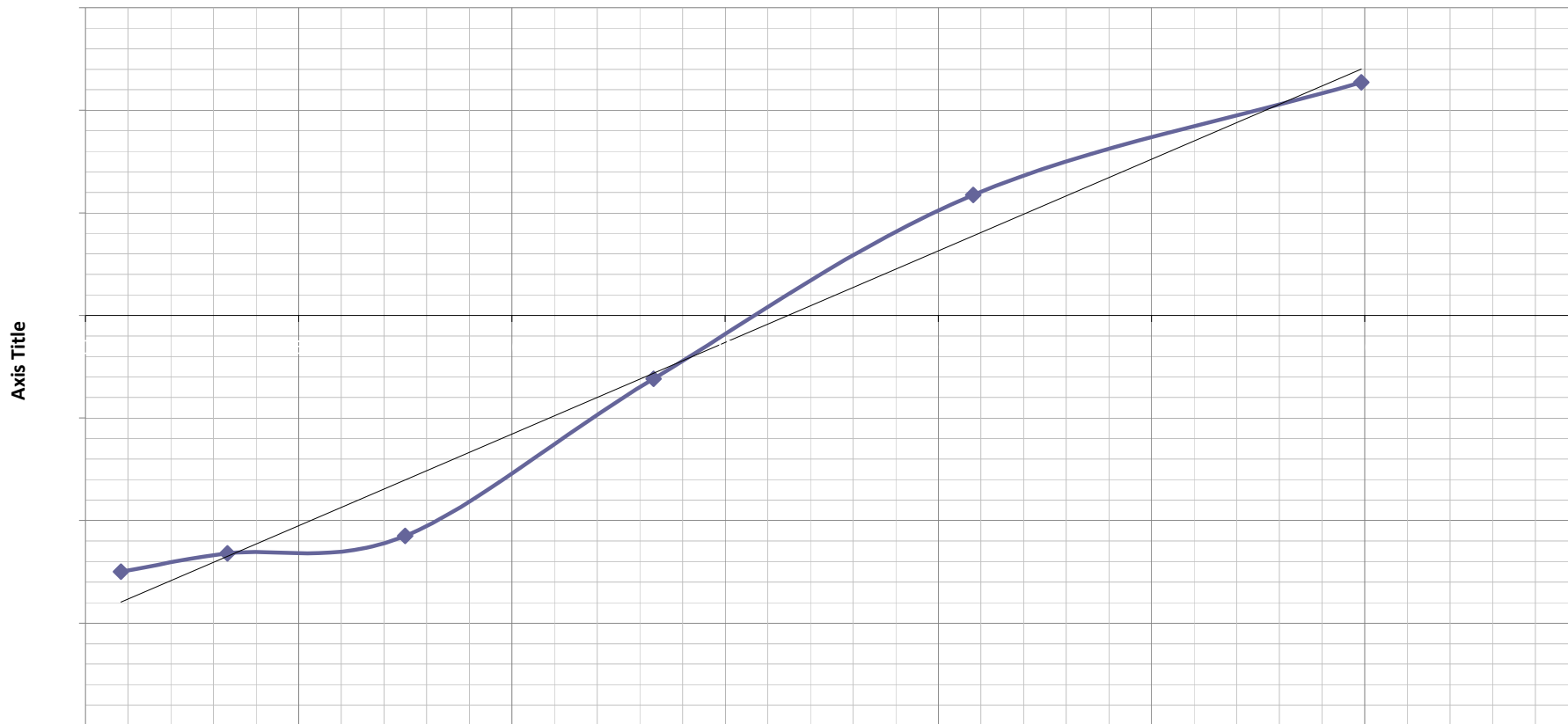


Saturation Curve



Stray load losses curve

$$y = 1,7867x - 29,443$$
$$R^2 = 0,9722$$



Axis Title

Axis Title

◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E90L4C	Voltage	230/400V	Nominal limit for IE2	81.4%
Serial Number	6125	Current	4.2 / 2.4 A	Duty Type	S1
Power	1.1kW	RPM	1430	Insulation Class	F
Power	1.5HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11239	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,25	14	1,4	12,6	2,5	10,1	7,512
120	14400	0,36	18	2,9	15,1	5,0	10,1	7,512
160	25600	0,48	23	5,1	17,8	7,7	10,1	7,512
200	40000	0,59	32	7,8	24,2	14,1	10,1	7,512
240	57600	0,71	40	11,4	28,6	18,6	10,1	7,512
305	93025	0,94	61	19,8	41,2	31,2	10,1	7,512
370	136900	1,19	86	32,1	53,9	43,9	10,1	7,512
400	160000	1,36	103	41,5	61,5	51,5	10,1	7,512
435	189225	1,55	125	54,4	71,0	60,9	10,1	7,512
500	250000	2,23	206	112,1	93,9	83,8	10,1	7,512

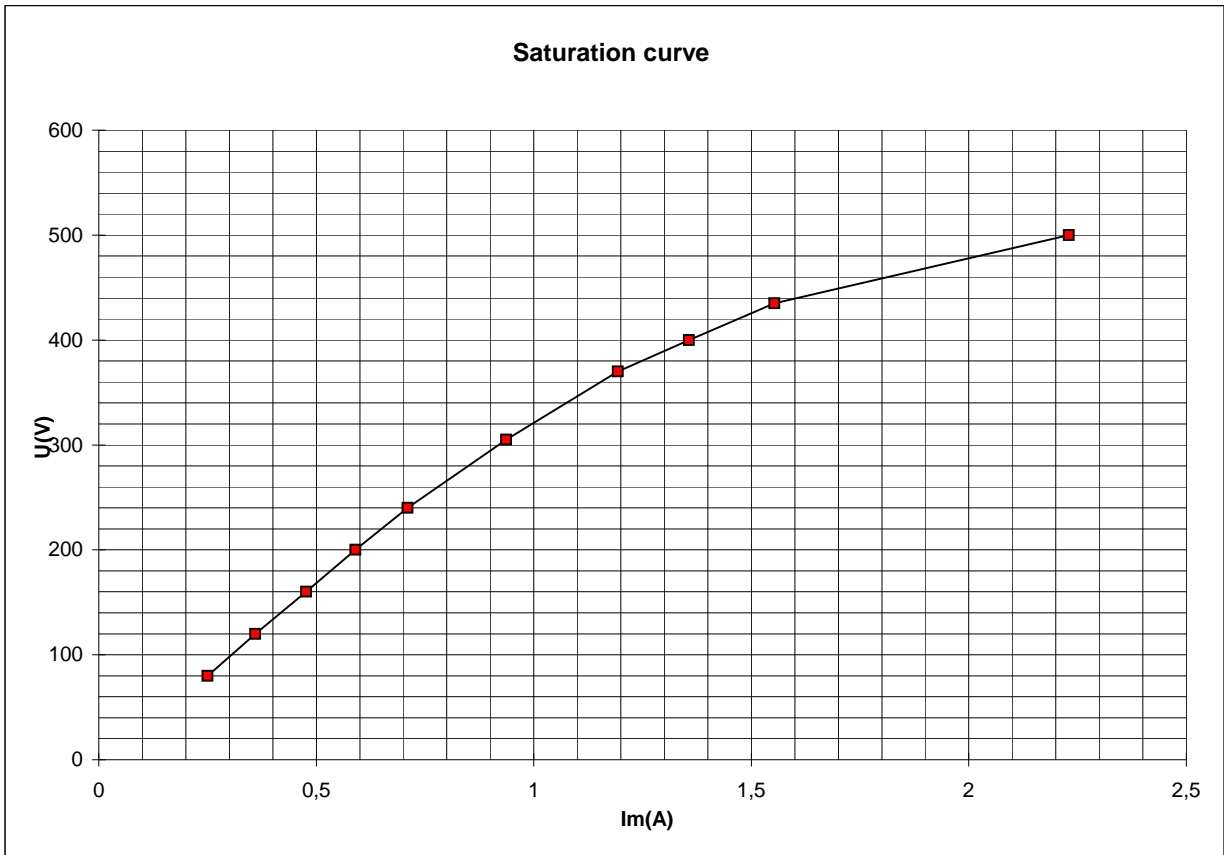
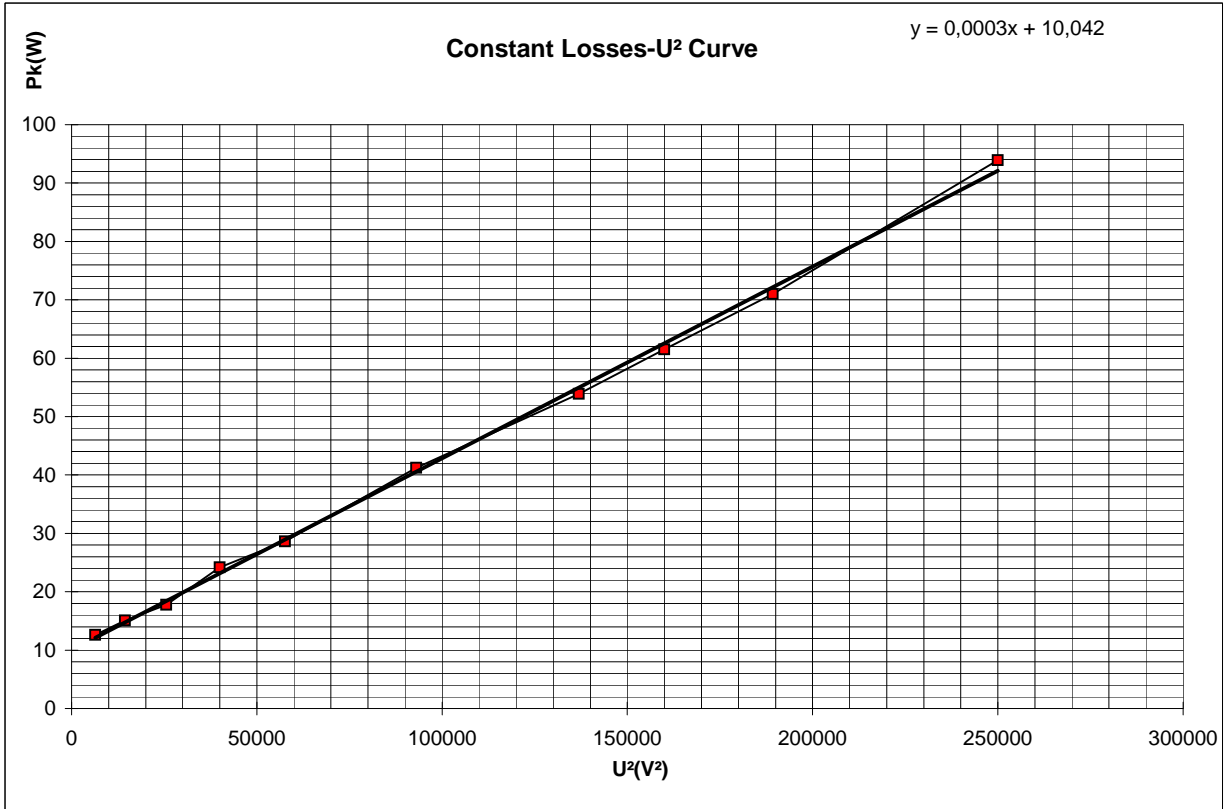
PERFORMANCE

Δt : 38 K

Voltage	U(V)	400	400	400	400	401	402
Phase current	Im(A)	1,41	1,64	1,96	2,37	2,85	3,39
Input Power	Pin(W)	398	709	1022	1363	1718	2091
Resistance	R()	7,512	7,512	7,512	7,512	7,512	7,512
Copper Losses	Pcu(W)	45	60	87	126	183	258
Iron Losses	Pfe(W)	51	51	51	51	51	51
	Pcu+Pstv(W)	96	112	138	178	235	310
	Pin-Pcu-Pstv(W)	302	597	884	1185	1483	1781
slip	s(%)	1,21	2,27	3,14	4,20	5,66	6,92
Rotor Losses	Pr(W)	4	14	28	50	84	123
Friction Losses	Pstv(W)	10	10	10	10	10	10
Stray load losses	PLL(W)	0,9	3,7	8,4	15,0	23,4	33,7
	Pr+Pstv+PLL (W)	15	27	46	75	117	167
Output Power	Pout (W)	288	570	838	1110	1366	1614
Apparent Power	S(VA)	975	1134	1358	1640	1979	2358
Power Factor	COSphi	0,409	0,625	0,753	0,831	0,868	0,887
Efficiency	Eta(%)	72,2	80,4	82,0	81,5	79,5	77,2
Torque	M(Nm)	1,8	3,7	5,5	7,4	9,2	11,0
Speed	n(U/min)	1482	1466	1453	1437	1415	1396
	Pmech(W)	285	564	839	1106	1362	1612

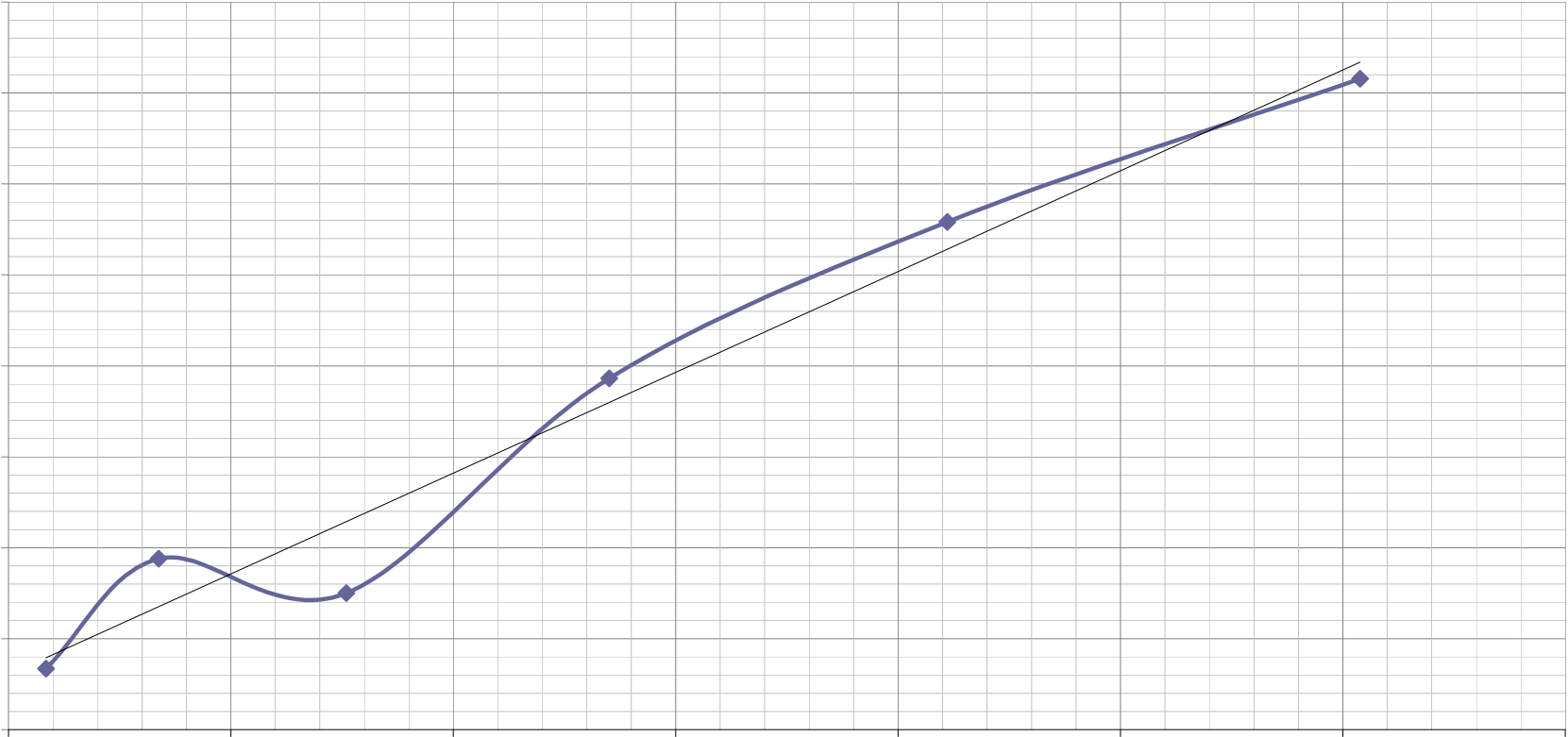
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,2771x + 3,0174$
 $R^2 = 0,9661$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E90L2C	Voltage	230/400V	Nominal limit for IE2	81.3%
Serial Number	6121	Current	5.63 / 3.25 A	Duty Type	S1
Power	1,5kW	RPM	2890	Insulation Class	F
Power	2HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11232	REV: 1
	DATE:	: 14.12.2010	

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,33	32	1,2	30,8	5,2	25,6	3,713
120	14400	0,43	36	2,0	34,1	8,5	25,6	3,713
160	25600	0,56	41	3,5	37,2	11,6	25,6	3,713
200	40000	0,72	51	5,8	45,0	19,4	25,6	3,713
240	57600	0,88	64	8,7	55,7	30,1	25,6	3,713
305	93025	1,17	87	15,3	71,7	46,1	25,6	3,713
370	136900	1,56	123	27,0	96,0	70,4	25,6	3,713
400	160000	1,80	146	36,0	109,8	84,2	25,6	3,713
435	189225	2,09	172	48,7	123,3	97,7	25,6	3,713
500	250000	3,51	310	136,9	172,8	147,2	25,6	3,713

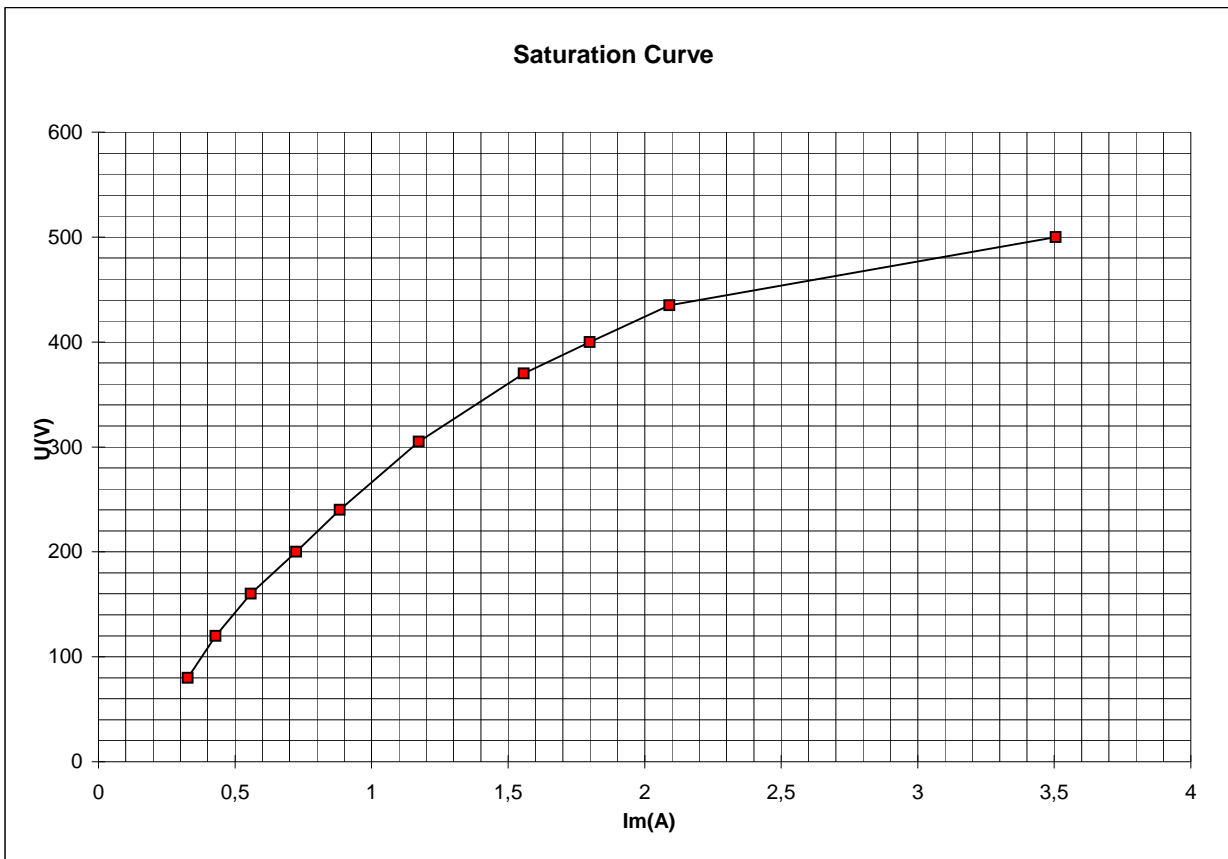
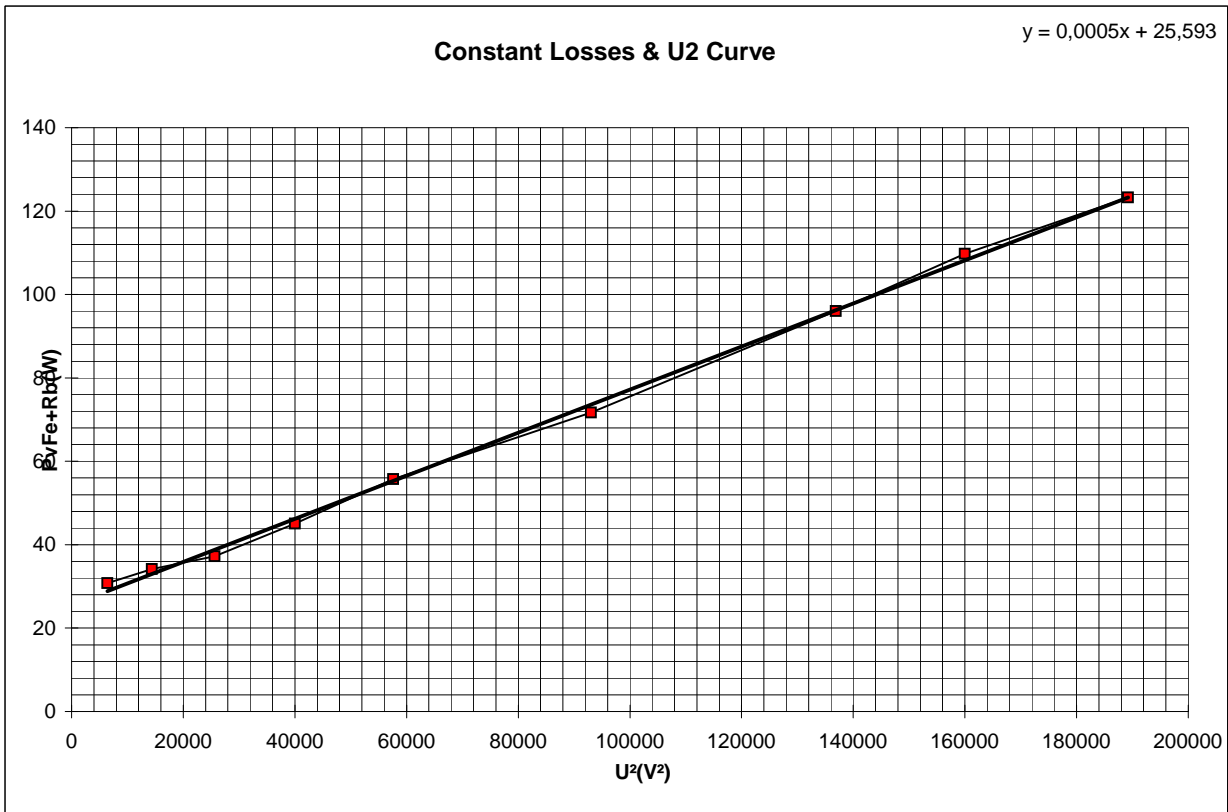
PERFORMANCE

Δt : 67 K

Voltage	U(V)	401	400	400	402	401	400
Phase current	Im(A)	1,91	2,22	2,65	3,18	3,80	4,50
Input Power	Pin(W)	481	883	1303	1732	2199	2671
Resistance	R()	3,713	3,713	3,713	3,713	3,713	3,713
Copper Losses	Pcu(W)	40,8	54,8	77,9	112,4	160,5	225,1
Iron Losses	Pfe(W)	84,2	84,2	84,2	84,2	84,2	84,2
	Pcu+Pstv(W)	125	139	162	197	245	309
	Pin-Pcu-Pstv(W)	356	744	1141	1535	1954	2362
slip	s(%)	1,96	2,45	3,08	3,77	4,49	5,28
Rotor Losses	Pr(W)	7,0	18,2	35,1	57,8	87,8	124,8
Friction Losses	Pstv(W)	25,6	25,6	25,6	25,6	25,6	25,6
Stray load losses	PLL(W)	1,9	7,7	17,4	30,9	48,2	69,4
	Pr+Pstv+PLL (W)	34	52	78	114	162	220
Output Power	Pout (W)	322	693	1063	1421	1793	2142
Apparent Power	S(VA)	1330	1537	1833	2211	2637	3114
Power Factor	COSphi	0,362	0,575	0,711	0,783	0,834	0,858
Efficiency	Eta(%)	66,8	78,4	81,6	82,1	81,5	80,2
Torque	M(Nm)	1,2	2,5	3,7	4,9	6,2	7,4
Speed	n(U/min)	2941	2926	2908	2887	2865	2842
	Pmech(W)	380	757	1128	1493	1853	2205

PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 1,2648x - 63,924$
 $R^2 = 0,9665$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E90L4D	Voltage	230/400V	Nominal limit for IE2	82.8%
Serial Number	16189ZH	Current	5.9 / 3.4 A	Duty Type	S1
Power	1.5kW	RPM	1440	Insulation Class	F
Power	2HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10912	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,43	25	1,9	22,6	0,7	21,8	3,442
120	14400	0,64	29	4,3	24,7	2,9	21,8	3,442
160	25600	0,84	39	7,3	31,7	9,9	21,8	3,442
200	40000	1,01	51	10,5	40,5	18,6	21,8	3,442
240	57600	1,25	64	16,3	47,8	26,0	21,8	3,442
305	93025	1,70	92	30,0	62,3	40,4	21,8	3,442
370	136900	2,18	128	49,2	79,0	57,1	21,8	3,442
400	160000	2,77	165	79,0	86,0	64,1	21,8	3,442
435	189225	3,65	235	137,6	97,4	75,6	21,8	3,442
500	250000	5,92	485	361,5	123,5	101,7	21,8	3,442

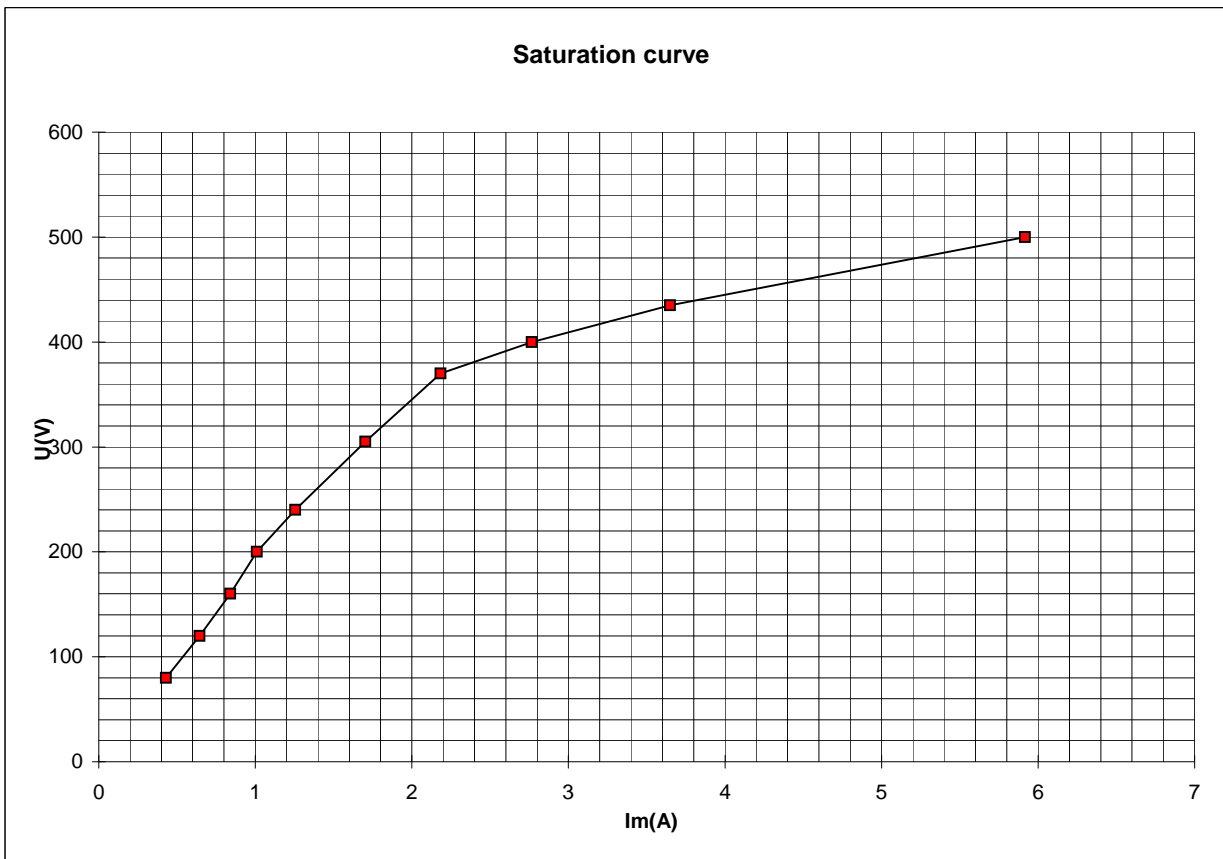
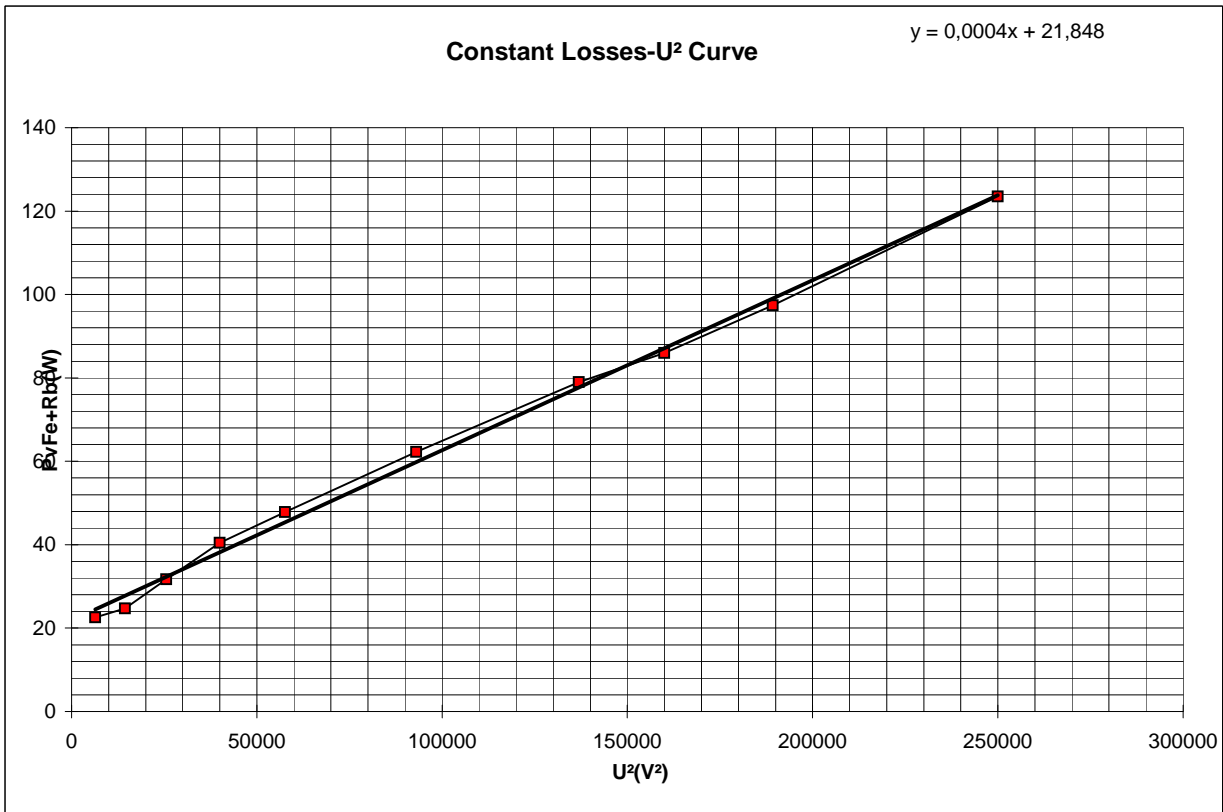
PERFORMANCE

Δt : 40 K

Voltage	U(V)	400	400	400	401	400	401
Phase current	Im(A)	2,50	2,78	3,11	3,44	4,15	4,79
Input Power	Pin(W)	531	928	1359	1795	2259	2735
Resistance	R()	3,442	3,442	3,442	3,442	3,442	3,442
Copper Losses	Pcu(W)	64	80	100	122	178	237
Iron Losses	Pfe(W)	64	64	64	64	64	64
	Pcu+Pstv(W)	128	144	164	186	242	301
	Pin-Pcu-Pstv(W)	403	784	1195	1609	2017	2434
slip	s(%)	1,54	2,27	3,27	4,13	5,40	6,39
Rotor Losses	Pr(W)	6	18	39	66	109	156
Friction Losses	Pstv(W)	22	22	22	22	22	22
Stray load losses	PLL(W)	1,9	7,8	17,5	31,1	48,6	69,9
	Pr+Pstv+PLL (W)	30	47	78	119	179	247
Output Power	Pout (W)	373	736	1117	1489	1838	2187
Apparent Power	S(VA)	1730	1929	2155	2391	2877	3325
Power Factor	COSphi	0,307	0,481	0,631	0,751	0,785	0,823
Efficiency	Eta(%)	70,2	79,4	82,2	83,0	81,3	80,0
Torque	M(Nm)	2,5	5,0	7,5	10,0	12,5	15,0
Speed	n(U/min)	1477	1466	1451	1438	1419	1404
	Pmech(W)	387	769	1142	1509	1861	2210

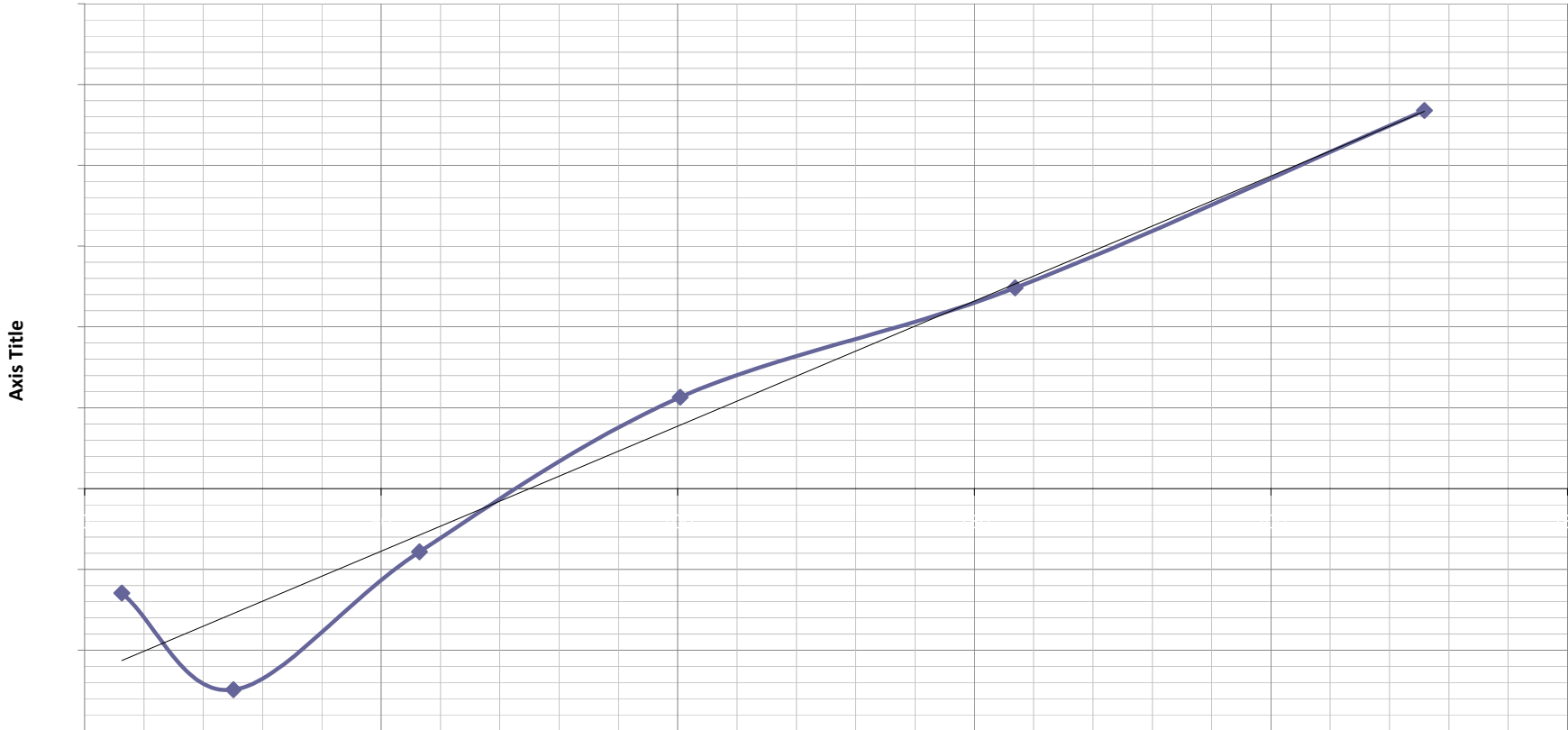
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 0,3096x - 23,245$$
$$R^2 = 0,9507$$



Axis Title

—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E90L2D	Voltage	230/400V	Nominal limit for IE2	83.2%
Serial Number	26388TH	Current	7.62 / 4.4 A	Duty Type	S1
Power	2.2kW	RPM	2880	Insulation Class	F
Power	3.0HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10932	REV: 1
	DATE:	: 14.12.2010	

	U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
	80	6400	0,48	50	2,4	47,6	1,5	46,1	3,425
	120	14400	0,51	55	2,7	52,0	5,9	46,1	3,425
	160	25600	0,62	62	4,0	58,2	12,1	46,1	3,425
	200	40000	0,76	75	5,9	69,4	23,3	46,1	3,425
	240	57600	0,94	87	9,2	77,5	31,4	46,1	3,425
	305	93025	1,26	111	16,4	94,8	48,7	46,1	3,425
	370	136900	1,71	145	30,0	115,1	69,0	46,1	3,425
	400	160000	2,01	167	41,4	125,4	79,3	46,1	3,425
	435	189225	2,57	211	67,6	143,4	97,3	46,1	3,425
	500	250000	4,84	438	241,1	197,0	150,9	46,1	3,425

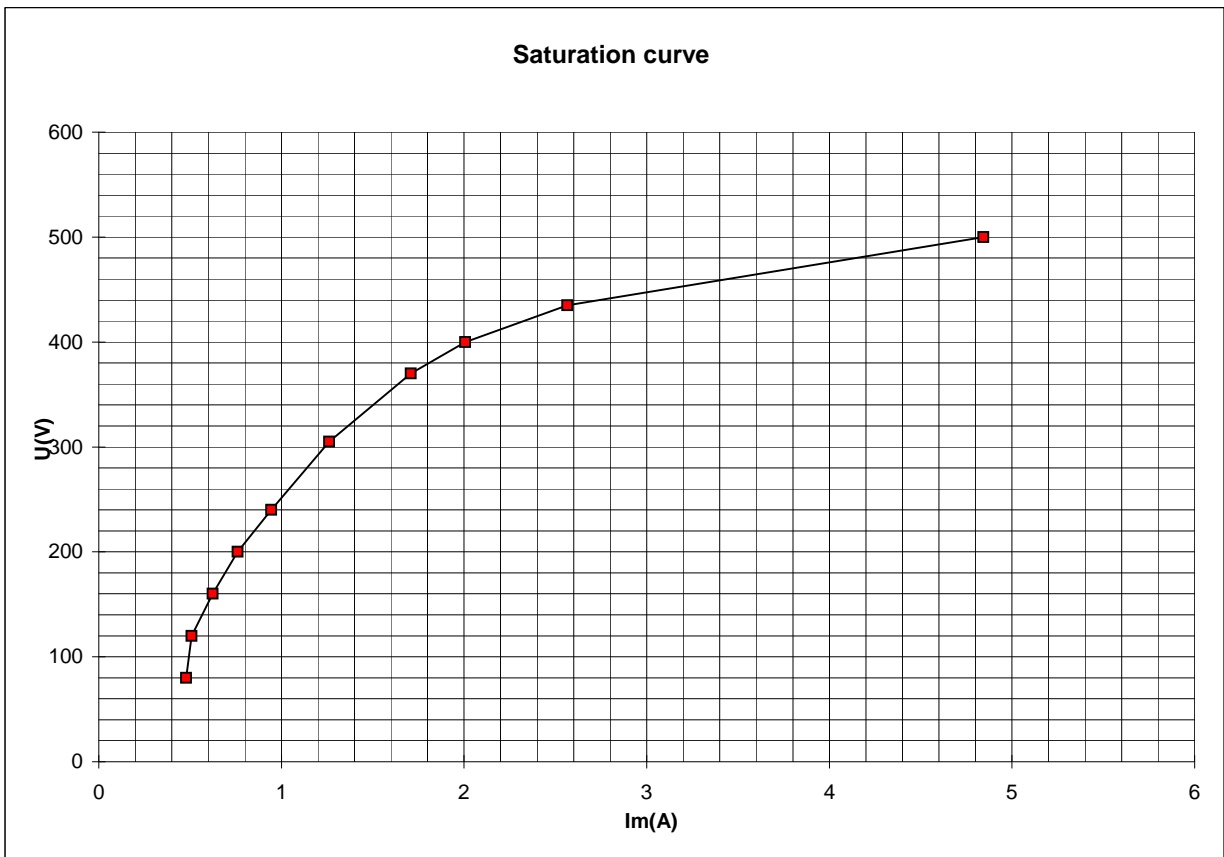
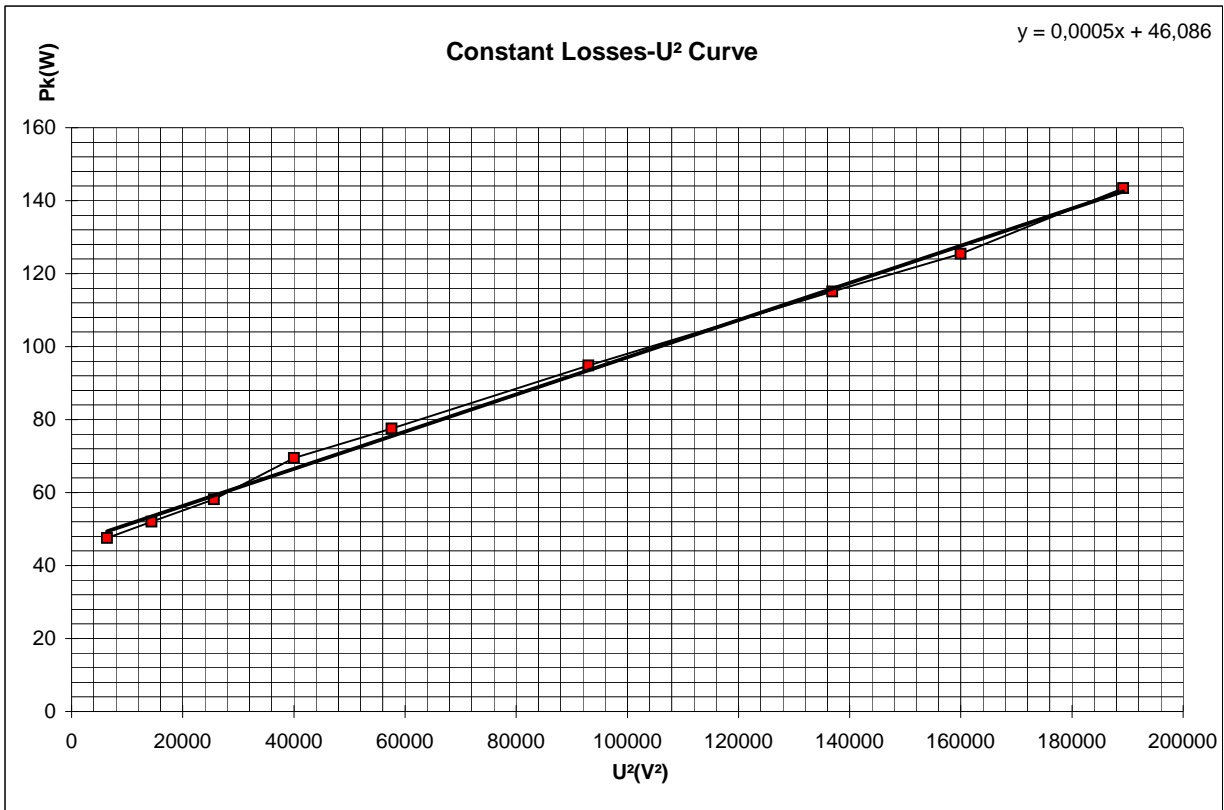
PERFORMANCE

Δt : 67 K

Voltage	U(V)	400	400	400	400	400	400
Phase current	Im(A)	2,25	2,74	3,46	4,31	5,28	6,31
Input Power	Pin(W)	762	1367	1990	2647	3350	4043
Resistance	R()	3,425	3,425	3,425	3,425	3,425	3,425
Copper Losses	Pcu(W)	52	77	123	191	286	410
Iron Losses	Pfe(W)	79	79	79	79	79	79
	Pcu+Pstv(W)	131	157	203	270	365	489
	Pin-Pcu-Pstv(W)	631	1210	1787	2377	2985	3554
slip	s(%)	1,03	1,90	2,87	3,90	5,37	6,90
Rotor Losses	Pr(W)	7	23	51	93	160	245
Friction Losses	Pstv(W)	46	46	46	46	46	46
Stray load losses	PLL(W)	2,0	8,0	18,0	32,0	49,9	71,9
	Pr+Pstv+PLL (W)	55	77	115	171	256	363
Output Power	Pout (W)	576	1133	1672	2206	2728	3191
Apparent Power	S(VA)	1558	1899	2400	2984	3656	4374
Power Factor	COSphi	0,489	0,720	0,829	0,887	0,916	0,924
Efficiency	Eta(%)	75,6	82,9	84,0	83,4	81,4	78,9
Torque	M(Nm)	1,8	3,6	5,4	7,2	9,1	10,9
Speed	n(U/min)	2969	2943	2914	2883	2839	2793
	Pmech(W)	563	1116	1657	2186	2691	3176

PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 0,6096x + 16,275$$
$$R^2 = 0,9896$$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E100L4C	Voltage	230/400V	Nominal limit for IE2	84,30%
Serial Number	10568AI	Current	8.7 / 5.0 A	Duty Type	S1
Power	2.2kW	RPM	1440	Insulation Class	F
Power	3HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10665	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,59	30	2,3	27,7	2,2	25,6	2,196
120	14400	0,86	43	4,9	38,1	12,5	25,6	2,196
160	25600	1,13	55	8,5	46,5	21,0	25,6	2,196
200	40000	1,43	70	13,5	56,5	31,0	25,6	2,196
240	57600	1,73	88	19,6	68,4	42,8	25,6	2,196
305	93025	2,28	124	34,1	89,9	64,3	25,6	2,196
370	136900	3,02	178	60,2	117,8	92,2	25,6	2,196
400	160000	3,49	210	80,1	129,9	104,3	25,6	2,196
435	189225	4,22	271	117,5	153,5	127,9	25,6	2,196
500	250000	6,95	530	318,2	211,8	186,2	25,6	2,196

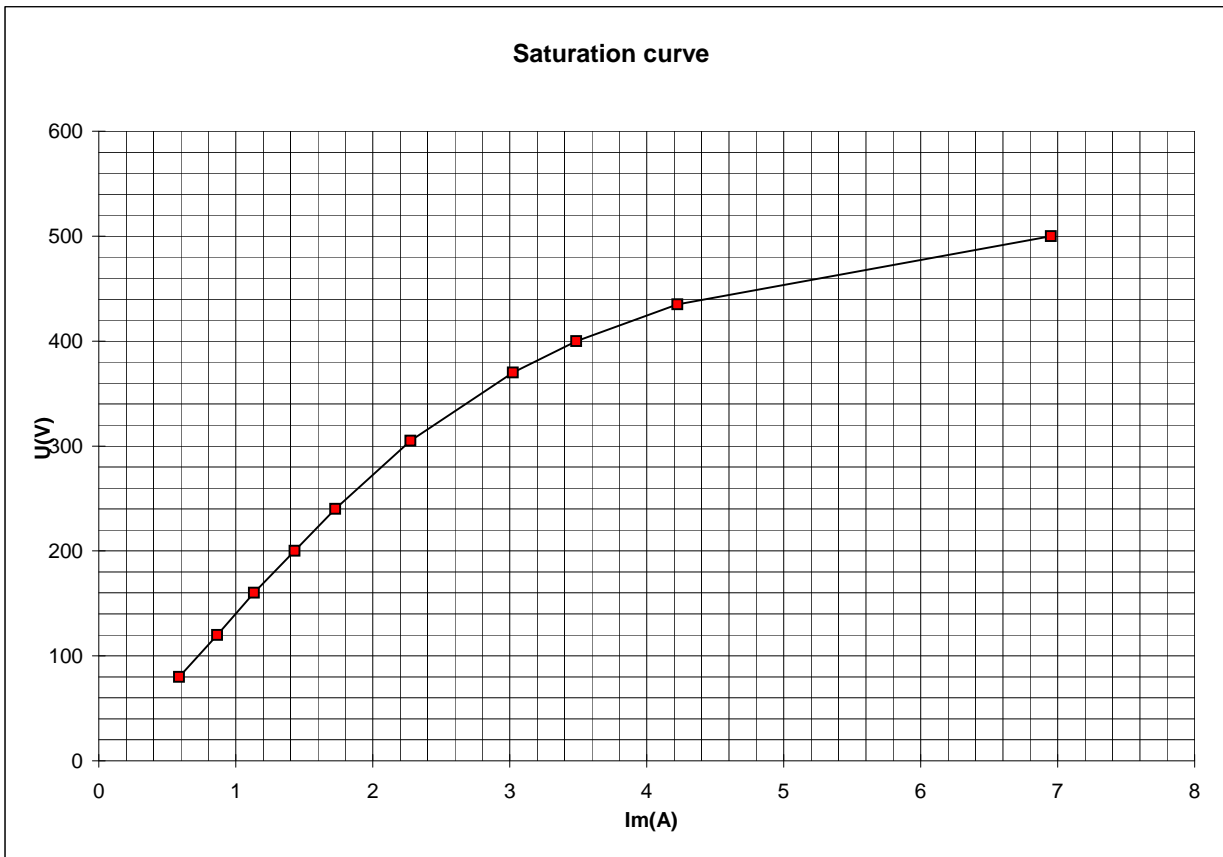
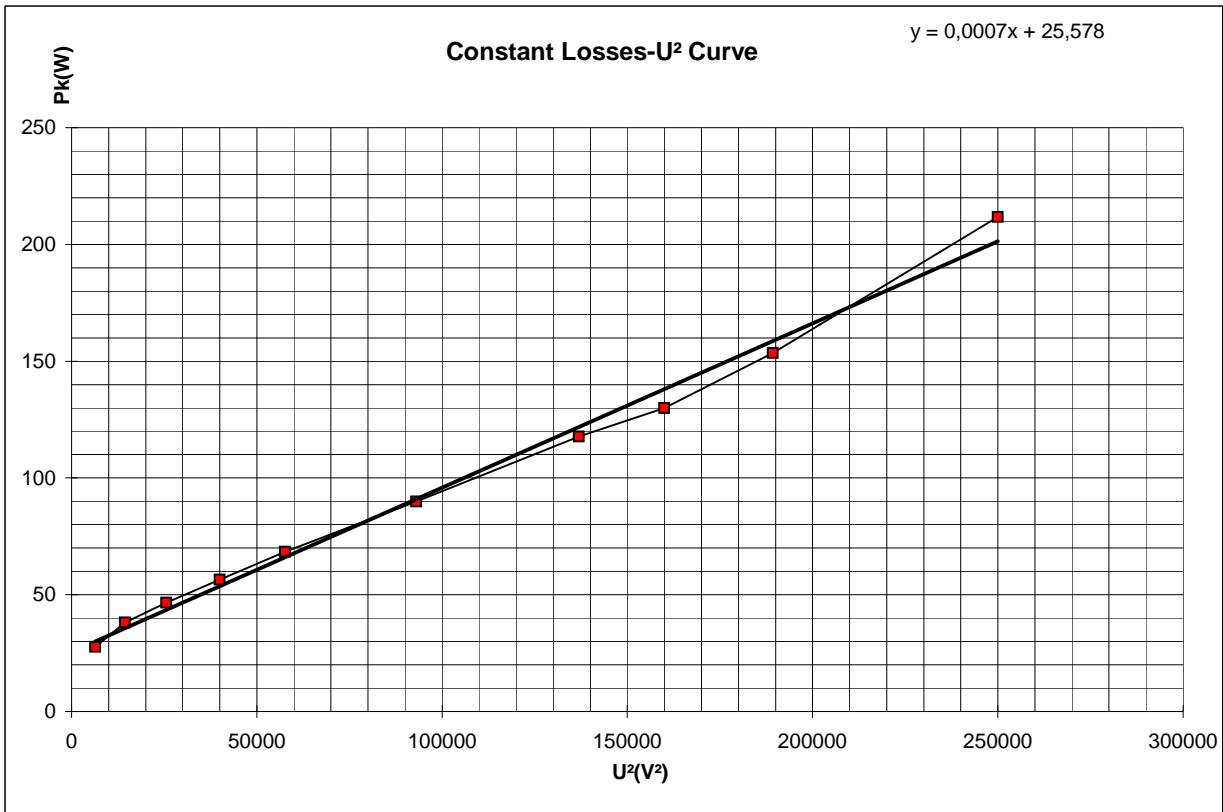
PERFORMANCE

Δt : 49 K

Voltage	U(V)	402	401	401	401	400	400
Phase current	Im(A)	3,60	3,93	4,46	5,14	5,94	6,82
Input Power	Pin(W)	791	1376	1987	2609	3252	3905
Resistance	R()	2,196	2,196	2,196	2,196	2,196	2,196
Copper Losses	Pcu(W)	85	102	131	174	233	307
Iron Losses	Pfe(W)	104	104	104	104	104	104
	Pcu+Pstv(W)	190	206	236	278	337	411
	Pin-Pcu-Pstv(W)	601	1170	1751	2331	2915	3494
slip	s(%)	0,87	1,80	2,80	3,67	4,87	6,00
Rotor Losses	Pr(W)	5	21	49	85	142	210
Friction Losses	Pstv(W)	26	26	26	26	26	26
Stray load losses	PLL(W)	0,9	3,7	8,2	14,6	22,9	33,0
	Pr+Pstv+PLL (W)	32	50	83	126	190	268
Output Power	Pout (W)	570	1119	1669	2205	2725	3226
Apparent Power	S(VA)	2507	2732	3100	3571	4118	4727
Power Factor	COSphi	0,316	0,504	0,641	0,731	0,790	0,826
Efficiency	Eta(%)	72,0	81,4	84,0	84,5	83,8	82,6
Torque	M(Nm)	3,6	7,3	10,9	14,6	18,2	21,9
Speed	n(U/min)	1487	1473	1458	1445	1427	1410
	Pmech(W)	568	1125	1671	2208	2725	3231

PREPARED BY : H.GEDIK

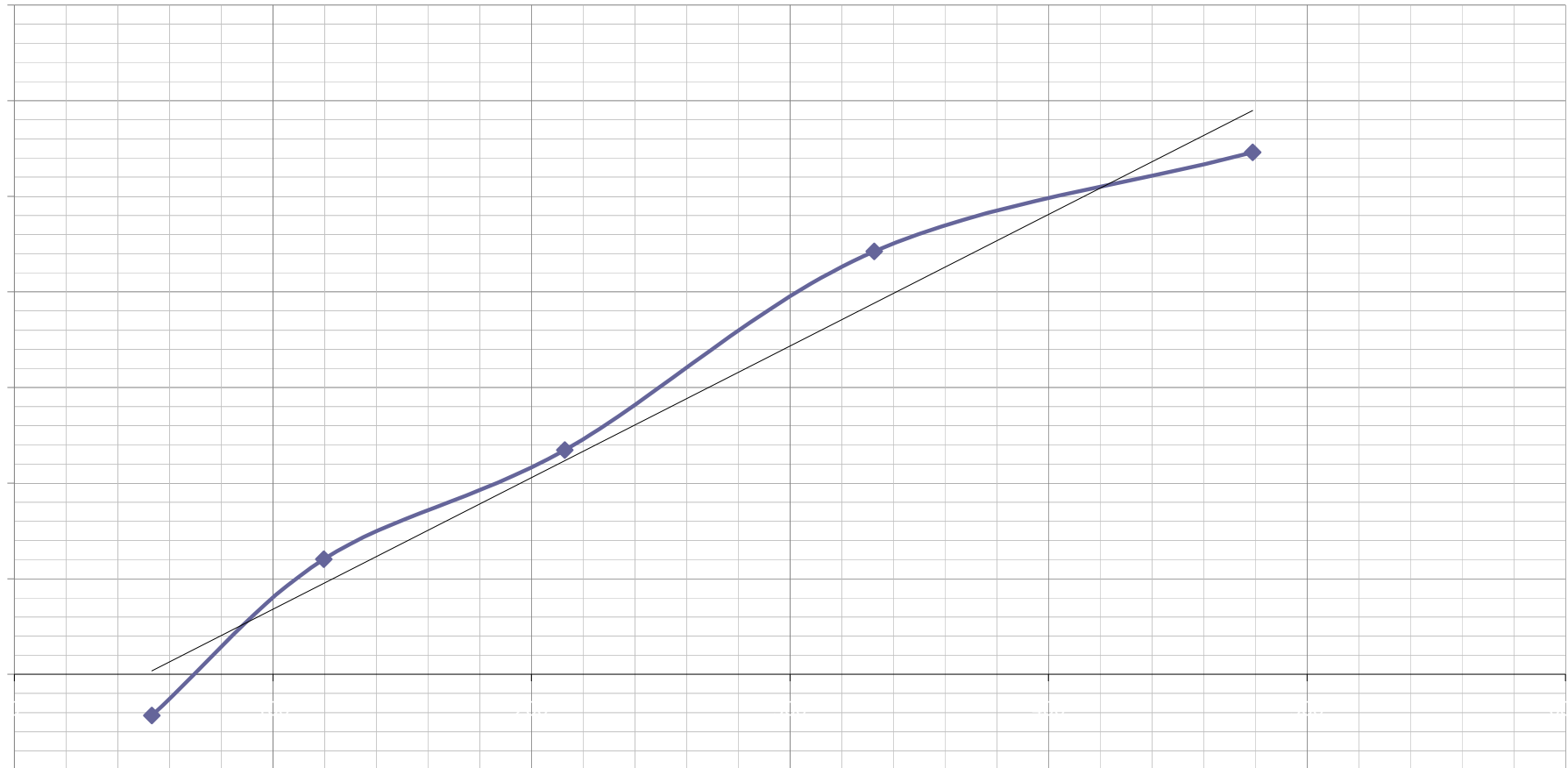
CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 0,0688x - 3,482$$

$$R^2 = 0,9657$$



—◆— $T^2(Nm^2)$ — Linear ($T^2(Nm^2)$)



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E100L2C	Voltage	230/400V	Nominal limit for IE2	84.6%
Serial Number	10807ZH	Current	10.1 / 5,8 A	Duty Type	S1
Power	3kW	RPM	2885	Insulation Class	F
Power	4HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10869	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,47	50	1,3	48,7	5,9	42,8	1,991
120	14400	0,52	56	1,6	54,3	11,4	42,8	1,991
160	25600	0,64	65	2,5	62,2	19,4	42,8	1,991
200	40000	0,82	78	4,0	74,4	31,6	42,8	1,991
240	57600	1,00	95	6,0	89,1	46,2	42,8	1,991
305	93025	1,37	124	11,3	113,2	70,4	42,8	1,991
370	136900	2,04	168	24,8	142,8	100,0	42,8	1,991
400	160000	2,64	201	41,5	159,4	116,6	42,8	1,991
435	189225	3,94	290	92,9	197,3	154,4	42,8	1,991
500	250000	8,81	790	463,1	327,0	284,2	42,8	1,991

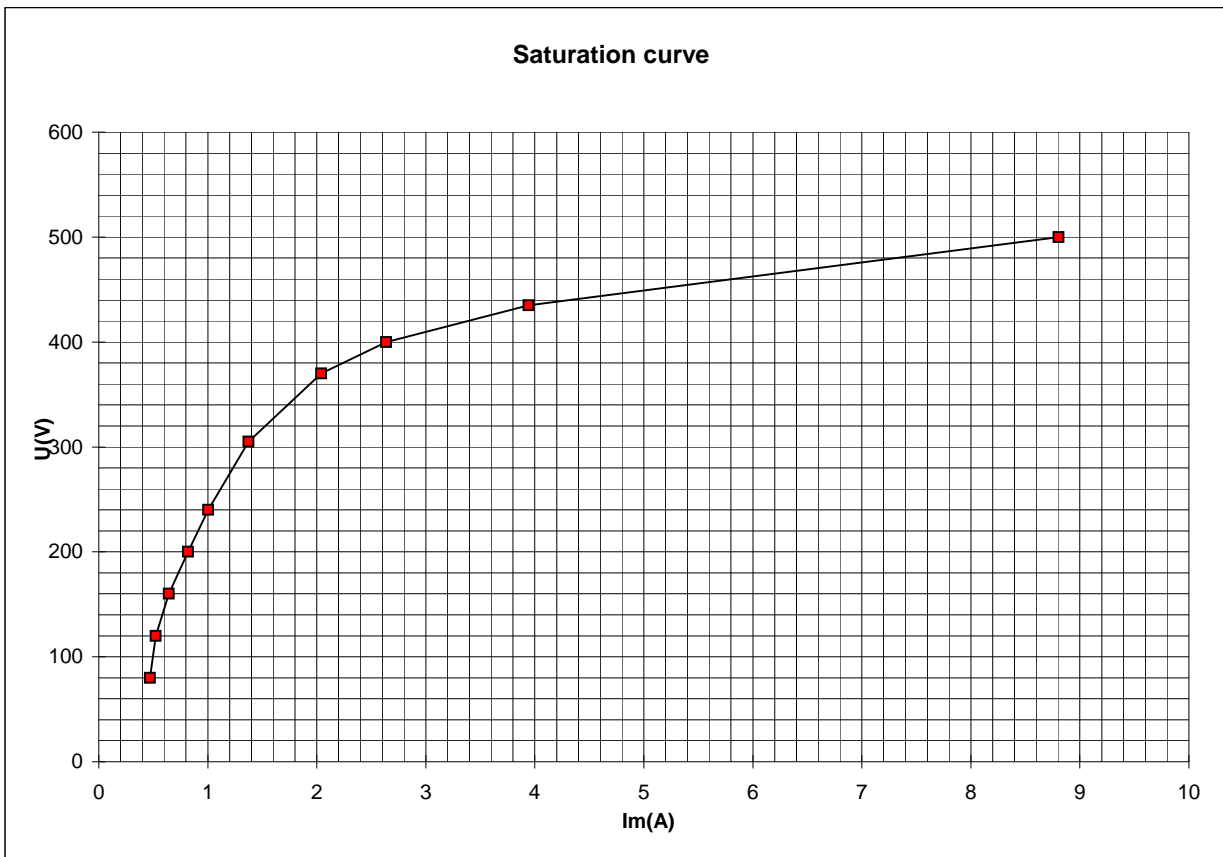
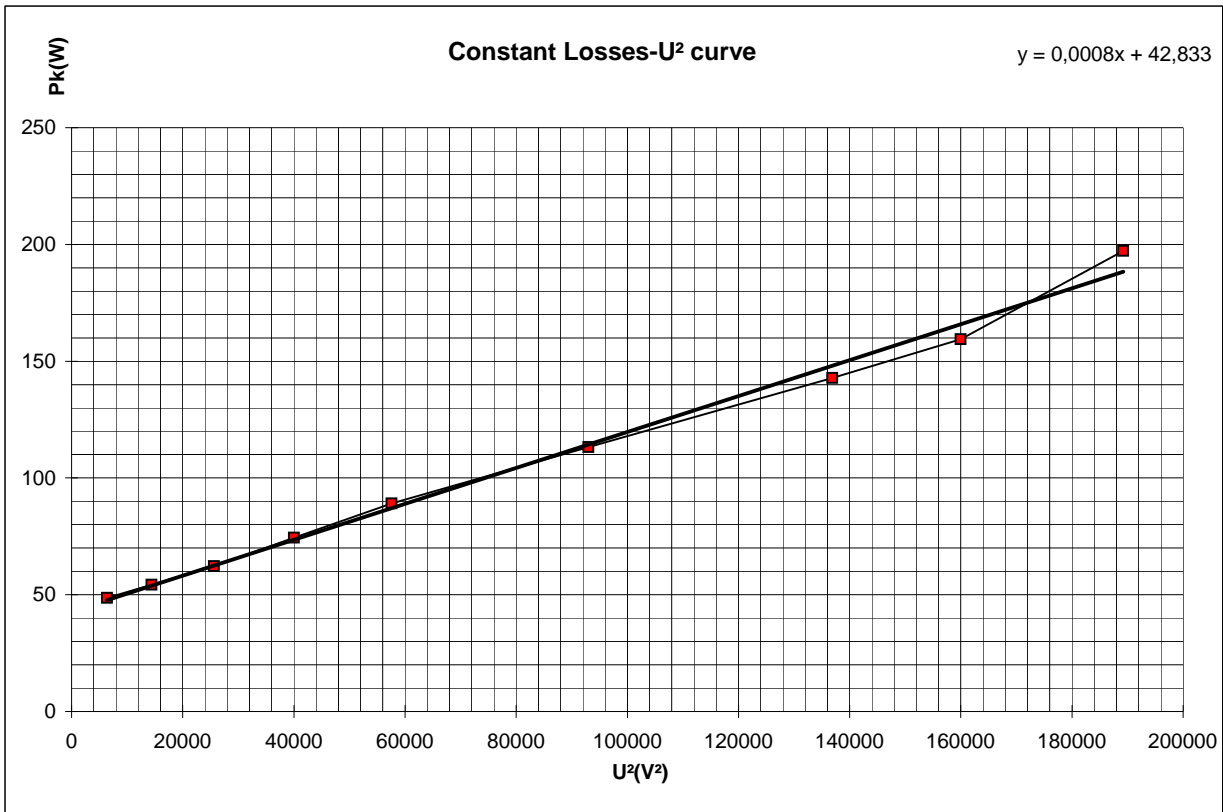
PERFORMANCE

Δt : 53 K

Voltage	U(V)	400	400	400	400	400	400
Phase current	Im(A)	2,90	3,62	4,54	5,66	6,78	8,14
Input Power	Pin(W)	951	1751	2595	3461	4342	5242
Resistance	R()	1,991	1,991	1,991	1,991	1,991	1,991
Copper Losses	Pcu(W)	50	78	123	191	275	396
Iron Losses	Pfe(W)	117	117	117	117	117	117
	Pcu+Pstv(W)	167	195	240	308	391	513
	Pin-Pcu-Pstv(W)	784	1556	2355	3153	3951	4729
slip	s(%)	0,87	1,60	2,83	3,80	5,03	5,93
Rotor Losses	Pr(W)	7	25	67	120	199	281
Friction Losses	Pstv(W)	43	43	43	43	43	43
Stray load losses	PLL(W)	3,5	14,2	31,9	56,7	88,6	127,6
	Pr+Pstv+PLL (W)	53	82	141	219	330	451
Output Power	Pout (W)	731	1474	2214	2934	3620	4278
Apparent Power	S(VA)	2012	2508	3144	3918	4699	5641
Power Factor	COSphi	0,473	0,698	0,825	0,883	0,924	0,929
Efficiency	Eta(%)	76,9	84,2	85,3	84,8	83,4	81,6
Torque	M(Nm)	2,5	4,9	7,4	9,8	12,3	14,7
Speed	n(U/min)	2974	2952	2915	2886	2849	2822
	Pmech(W)	764	1516	2246	2965	3659	4349

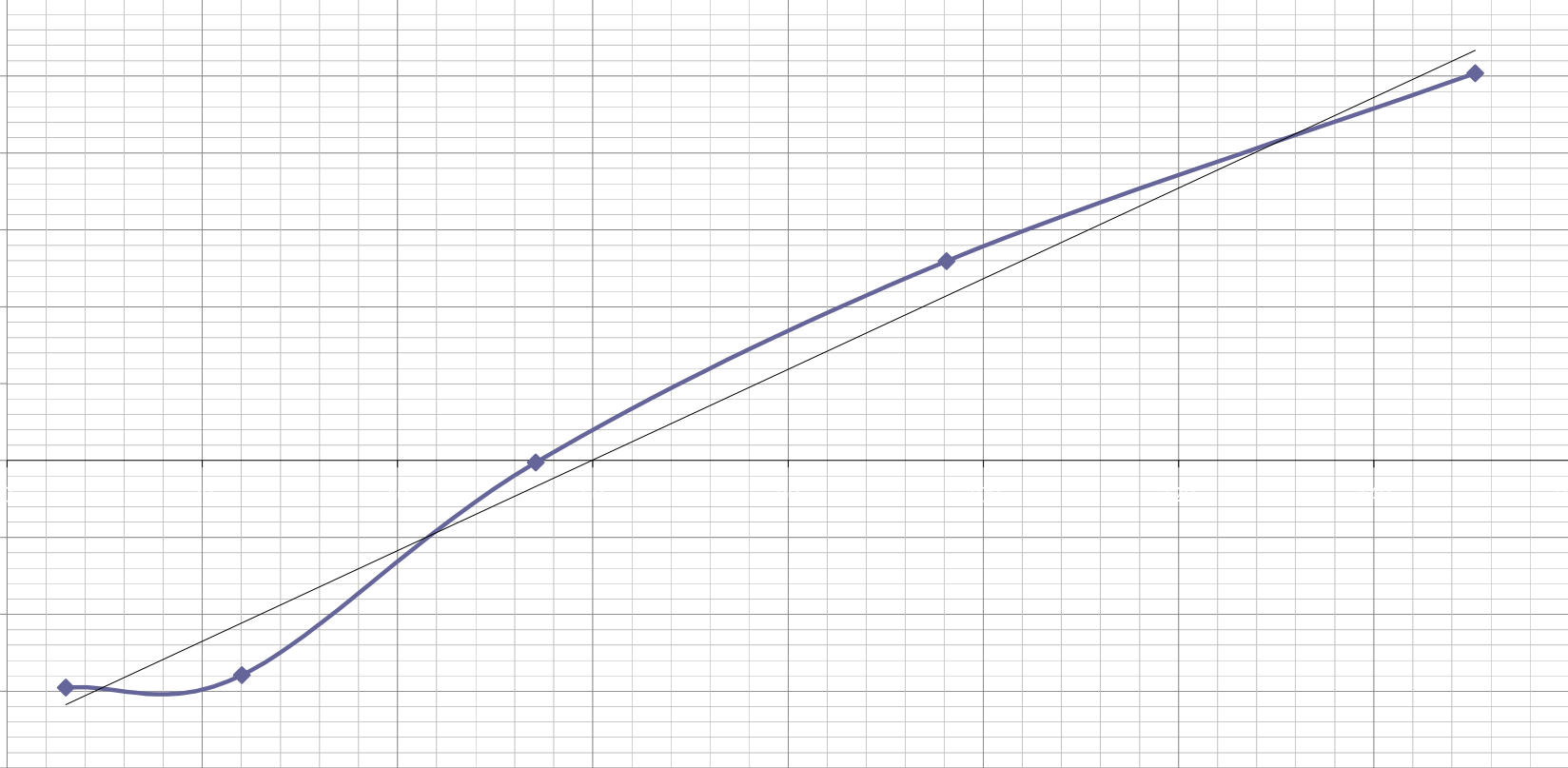
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,5894x - 35,292$
 $R^2 = 0,9812$



—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E100L4D	Voltage	230/400V	Nominal limit for IE2	85,50%
Serial Number	6109	Current	11.4 / 6.6 A	Duty Type	S1
Power	3kW	RPM	1435	Insulation Class	F
Power	4HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11215	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,66	31	2,2	28,7	6,1	22,6	1,695
120	14400	0,95	38	4,6	33,3	10,7	22,6	1,695
160	25600	1,30	48	8,6	39,3	16,7	22,6	1,695
200	40000	1,62	63	13,4	49,5	26,9	22,6	1,695
240	57600	2,00	83	20,4	62,4	39,8	22,6	1,695
305	93025	2,72	125	37,6	87,1	64,5	22,6	1,695
370	136900	3,67	185	68,4	116,2	93,6	22,6	1,695
400	160000	4,40	235	98,2	136,3	113,7	22,6	1,695
435	189225	5,50	309	153,7	155,7	133,1	22,6	1,695
500	250000	9,81	686	489,6	196,1	173,4	22,6	1,695

PERFORMANCE

Δt : 51 K

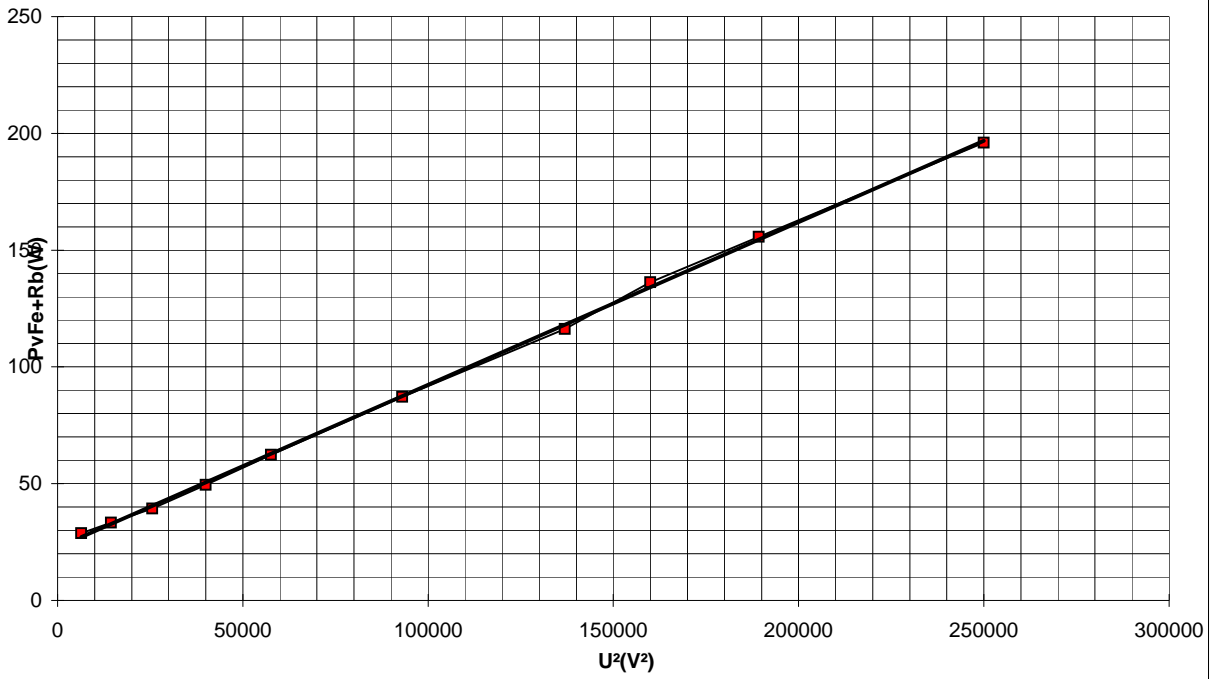
Voltage	U(V)	400	403	400	401	400	400
Phase current	Im(A)	4,38	4,91	5,63	6,59	7,66	8,88
Input Power	Pin(W)	981	1786	2616	3466	4341	5232
Resistance	R()	1,695	1,695	1,695	1,695	1,695	1,695
Copper Losses	Pcu(W)	97	122	161	221	298	401
Iron Losses	Pfe(W)	114	114	114	114	114	114
	Pcu+Pstv(W)	211	236	275	335	412	514
	Pin-Pcu-Pstv(W)	770	1550	2341	3132	3929	4718
slip	s(%)	0,66	1,66	2,86	4,20	5,47	0,13
Rotor Losses	Pr(W)	5	26	67	132	215	6
Friction Losses	Pstv(W)	23	23	23	23	23	23
Stray load losses	PLL(W)	1,3	5,1	11,4	20,3	31,7	45,6
	Pr+Pstv+PLL (W)	29	53	101	174	269	74
Output Power	Pout (W)	741	1496	2240	2957	3660	4643
Apparent Power	S(VA)	3032	3425	3901	4579	5305	6150
Power Factor	COSphi	0,324	0,521	0,671	0,757	0,818	0,851
Efficiency	Eta(%)	75,5	83,8	85,6	85,3	84,3	88,7
Torque	M(Nm)	5,0	10,0	14,9	19,9	24,9	29,9
Speed	n(U/min)	1490	1475	1457	1437	1418	1498
	Pmech(W)	776	1537	2277	2995	3694	4683

PREPARED BY : H.GEDIK

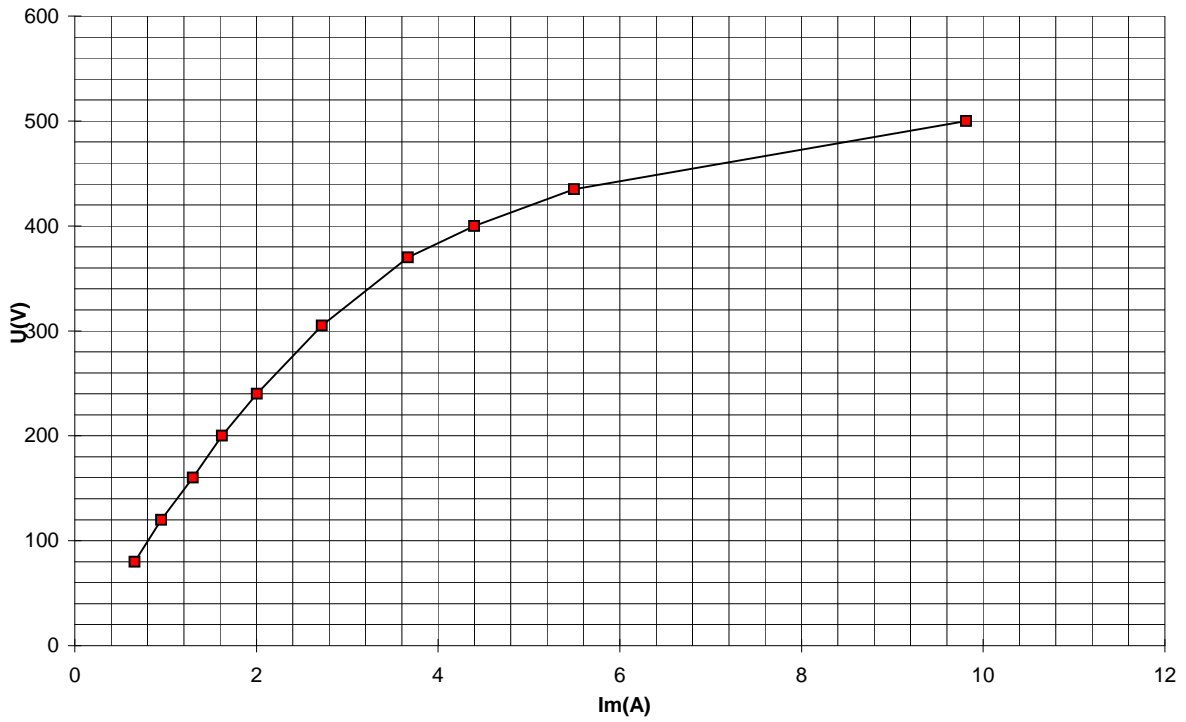
CONTROL : C.ERTÜRK

Constant Losses-U² curve

$$y = 0,0007x + 22,643$$

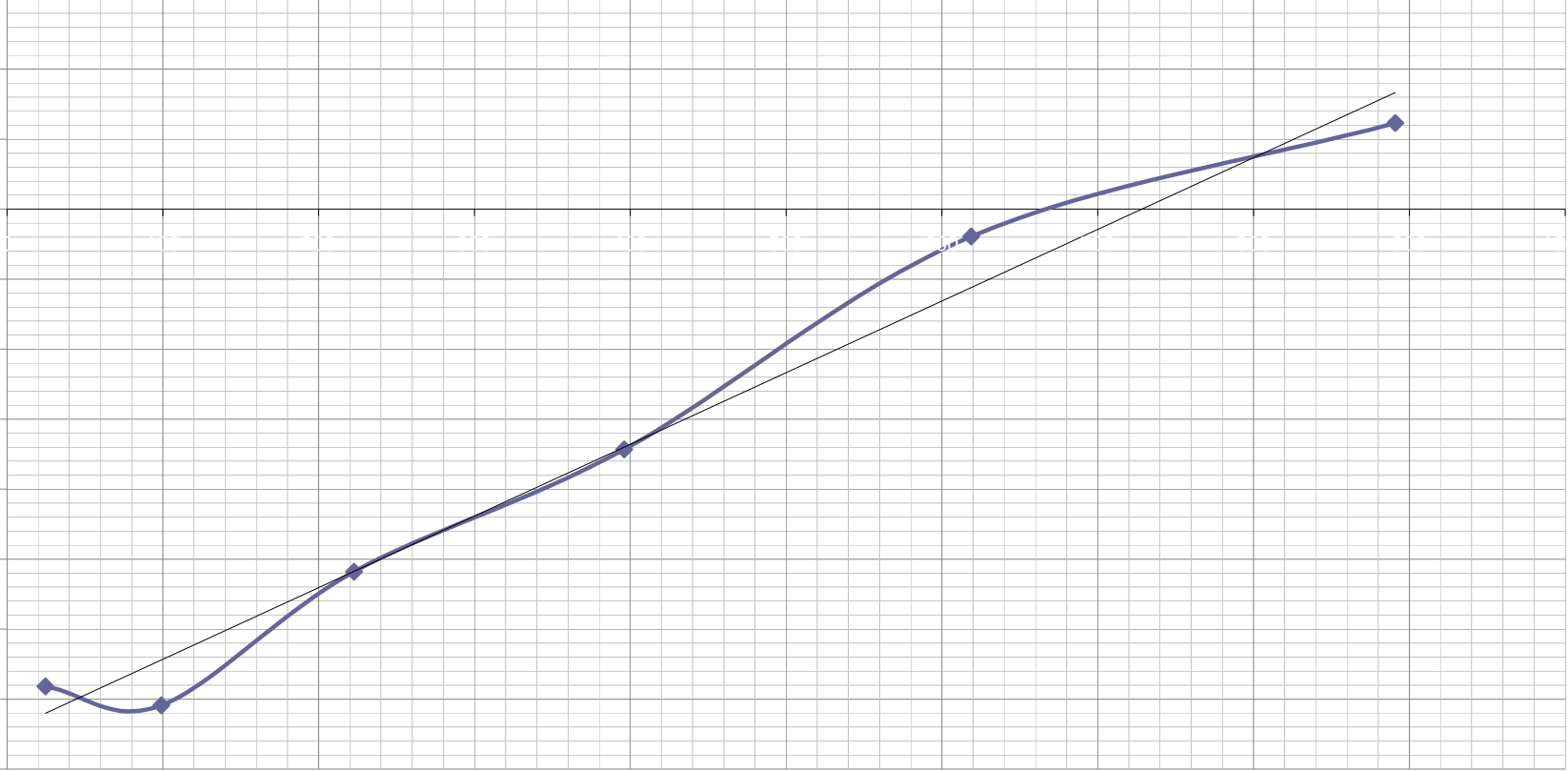


Saturation curve



Stray load losses curve

$y = 0,0512x - 37,277$
 $R^2 = 0,9781$



—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E112M2C	Voltage	400/690V	Nominal limit for IE2	85.8%
Serial Number	6123	Current	7.7 / 4.5 A	Duty Type	S1
Power	4kW	RPM	2895	Insulation Class	F
Power	5.5HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11234	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,78	72	2,4	69,1	3,1	66,0	3,949
120	14400	0,95	86	3,6	82,4	16,4	66,0	3,949
160	25600	1,21	98	5,8	92,2	26,2	66,0	3,949
200	40000	1,53	117	9,2	107,8	41,7	66,0	3,949
240	57600	1,83	138	13,2	124,8	58,8	66,0	3,949
305	93025	2,44	178	23,5	154,5	88,5	66,0	3,949
370	136900	3,27	240	42,3	197,9	131,9	66,0	3,949
400	160000	3,82	274	57,6	216,3	150,3	66,0	3,949
435	189225	5,01	359	99,1	259,9	193,9	66,0	3,949
500	250000	10,11	735	404,0	330,9	264,9	66,0	3,949

PERFORMANCE

Δt : 40 K

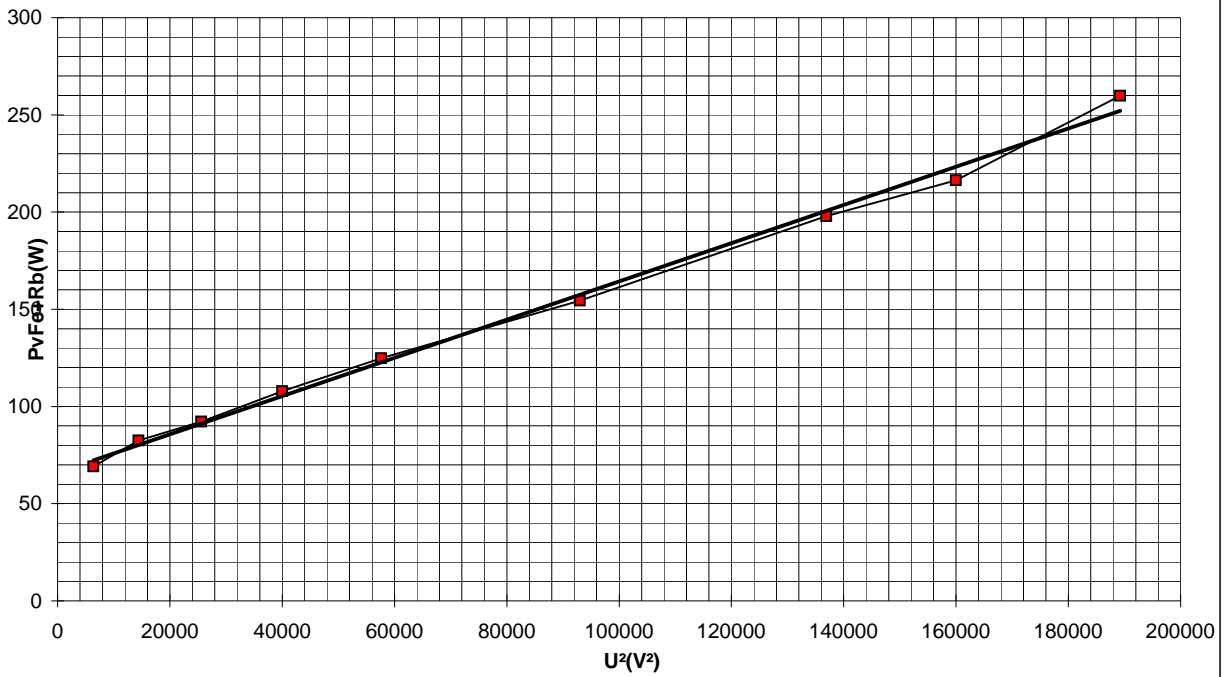
Voltage	U(V)	400	400	400	400	400	400
Phase current	Im(A)	4,04	4,90	6,16	7,61	9,23	10,80
Input Power	Pin(W)	1261	2347	3455	4574	5804	6985
Resistance	R()	3,949	3,949	3,949	3,949	3,949	3,949
Copper Losses	Pcu(W)	64	95	150	229	336	461
Iron Losses	Pfe(W)	150	150	150	150	150	150
	Pcu+Pstv(W)	215	245	300	379	487	611
	Pin-Pcu-Pstv(W)	1047	2102	3155	4194	5317	6374
slip	s(%)	0,81	1,54	2,24	3,07	3,80	4,76
Rotor Losses	Pr(W)	8	32	71	129	202	304
Friction Losses	Pstv(W)	66	66	66	66	66	66
Stray load losses	PLL(W)	3,9	15,5	34,9	62,0	96,9	139,6
	Pr+Pstv+PLL (W)	78	114	171	257	365	509
Output Power	Pout (W)	968	1988	2984	3938	4952	5865
Apparent Power	S(VA)	2798	3395	4269	5274	6393	7482
Power Factor	COSphi	0,451	0,691	0,809	0,867	0,908	0,934
Efficiency	Eta(%)	76,8	84,7	86,3	86,1	85,3	84,0
Torque	M(Nm)	3,3	6,6	9,9	13,2	16,5	19,8
Speed	n(U/min)	2976	2954	2933	2908	2886	2857
	Pmech(W)	1030	2045	3045	4026	4994	5933

PREPARED BY : H.GEDIK

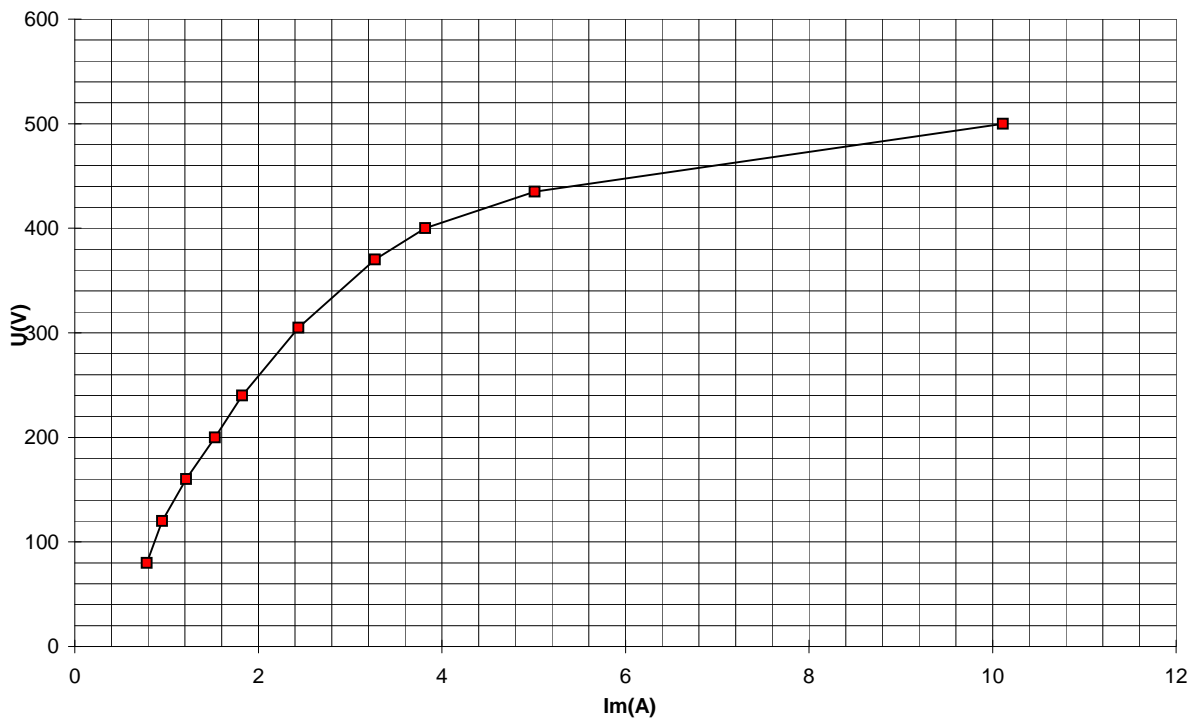
CONTROL : C.ERTÜRK

Constant Losses & U2 Curve

$$y = 0,001x + 66,02$$

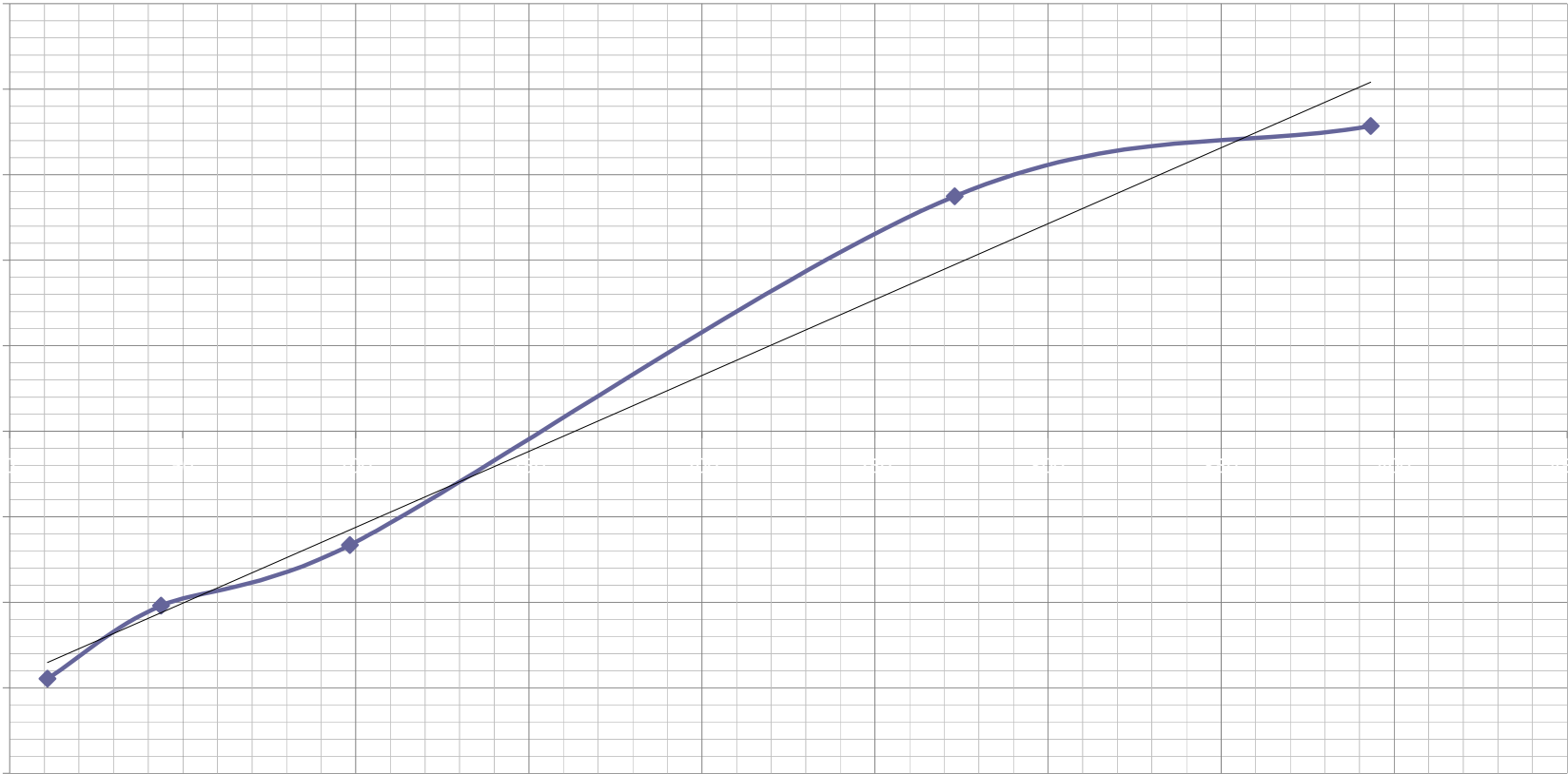


Saturation Curve



Stray load losses curve

$y = 0,355x - 57,959$
 $R^2 = 0,9718$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E112M4C	Voltage	400/690V	Nominal limit for IE2	86,60%
Serial Number	9010 SJ	Current	8.4 / 4.9 A	Duty Type	S1
Power	4kW	RPM	1450	Insulation Class	F
Power	5.5HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11170	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	0,65	33	1,8	31,6	4,0	27,5	4,201
120	14400	0,95	43	3,8	39,2	11,7	27,5	4,201
160	25600	1,85	59	14,4	44,6	17,1	27,5	4,201
200	40000	2,26	78	21,4	56,7	29,1	27,5	4,201
240	57600	2,79	105	32,6	72,2	44,6	27,5	4,201
305	93025	3,75	158	59,1	99,0	71,4	27,5	4,201
370	136900	5,12	238	110,3	127,8	100,2	27,5	4,201
400	160000	6,08	293	155,3	137,7	110,2	27,5	4,201
435	189225	8,09	436	274,9	161,1	133,5	27,5	4,201
500	250000	15,70	1242	1035,8	206,1	178,6	27,5	4,201

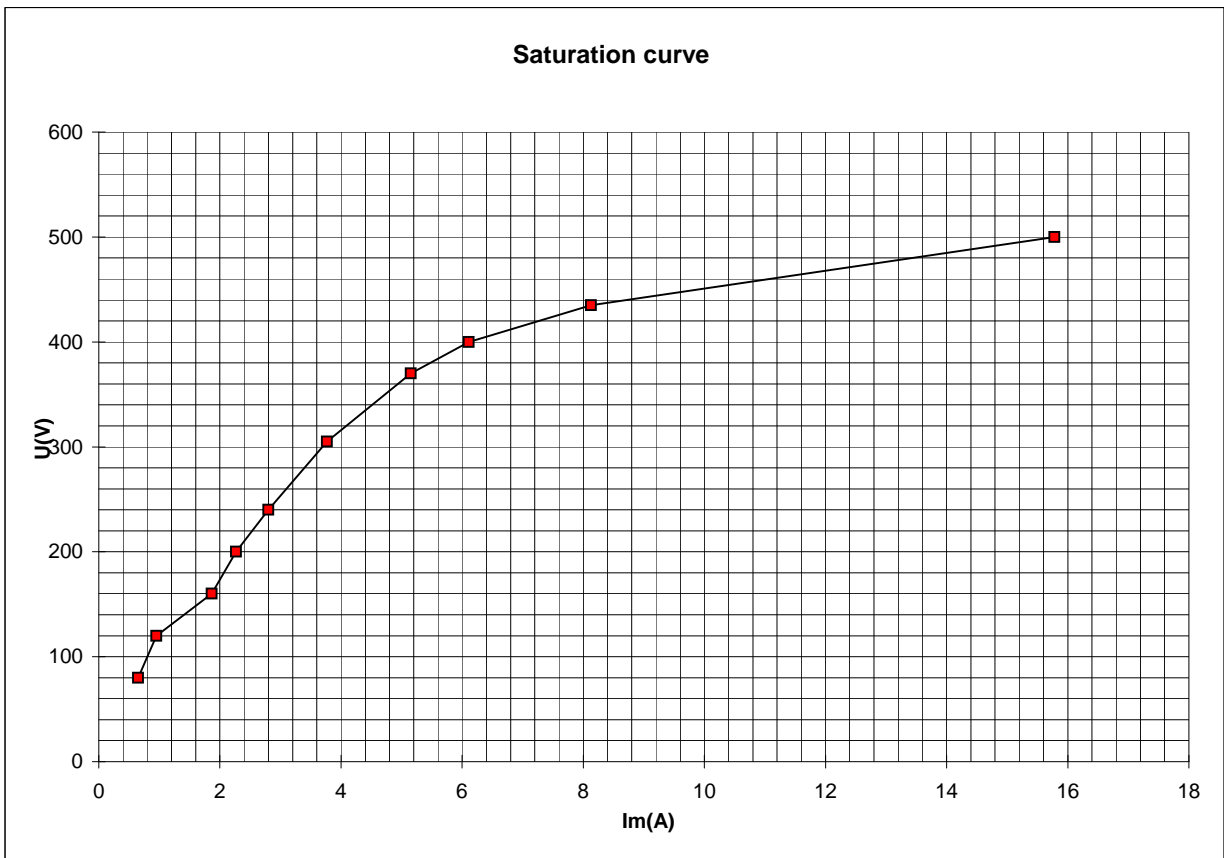
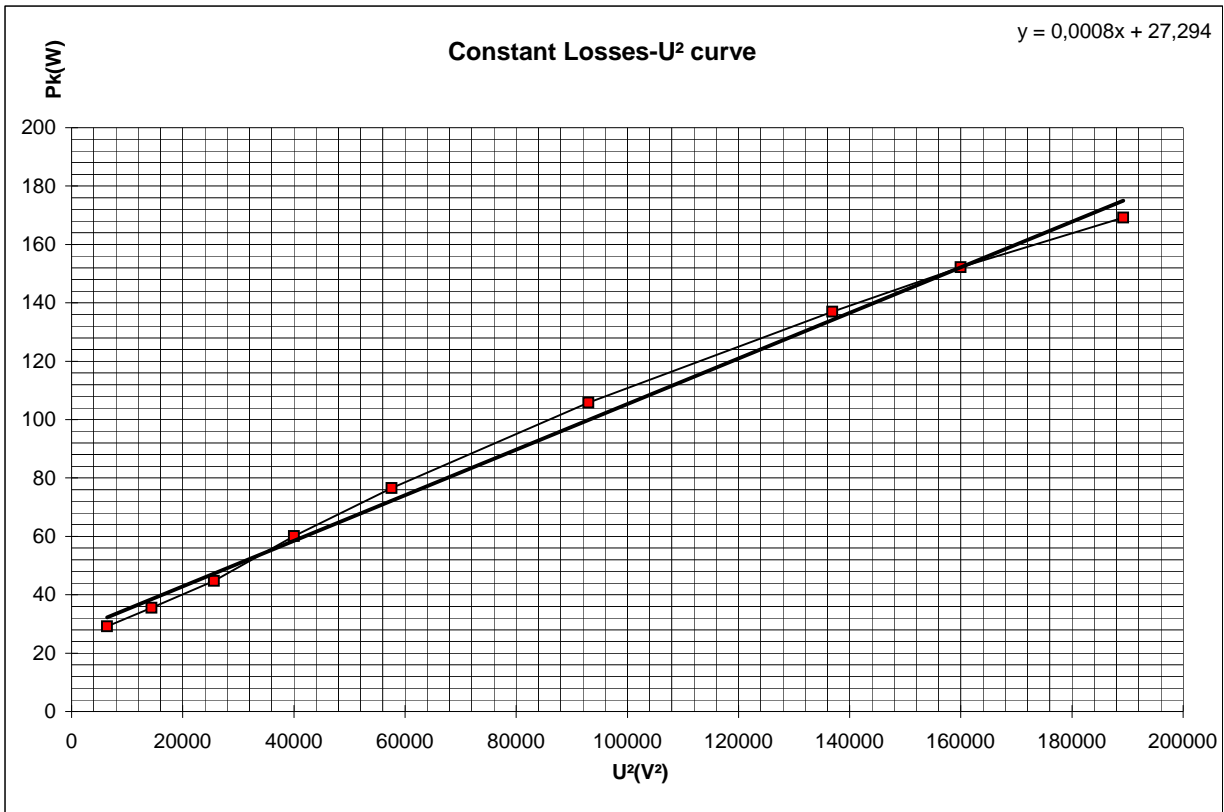
PERFORMANCE

Δt : 60 K

Voltage	U(V)	403	403	401	401	404	403
Phase current	Im(A)	5,25	5,99	7,04	8,36	9,83	11,50
Input Power	Pin(W)	1259	2329	3439	4575	5732	6942
Resistance	R()	4,201	4,201	4,201	4,201	4,201	4,201
Copper Losses	Pcu(W)	116	151	208	293	406	556
Iron Losses	Pfe(W)	110	110	110	110	110	110
	Pcu+Pstv(W)	226	261	319	404	516	666
	Pin-Pcu-Pstv(W)	1033	2068	3121	4171	5216	6276
slip	s(%)	1,15	2,01	2,94	3,47	4,72	5,72
Rotor Losses	Pr(W)	12	42	92	145	246	359
Friction Losses	Pstv(W)	28	28	28	28	28	28
Stray load losses	PLL(W)	2,2	8,7	19,5	34,4	53,9	77,7
	Pr+Pstv+PLL (W)	42	78	139	207	328	464
Output Power	Pout (W)	991	1990	2982	3965	4888	5812
Apparent Power	S(VA)	3667	4179	4892	5804	6880	8030
Power Factor	COSphi	0,343	0,557	0,703	0,788	0,833	0,864
Efficiency	Eta(%)	78,7	85,5	86,7	86,7	85,3	83,7
Torque	M(Nm)	6,6	13,2	19,8	26,3	32,9	39,5
Speed	n(U/min)	1483	1470	1456	1448	1429	1414
	Pmech(W)	1025	2032	3019	3988	4924	5850

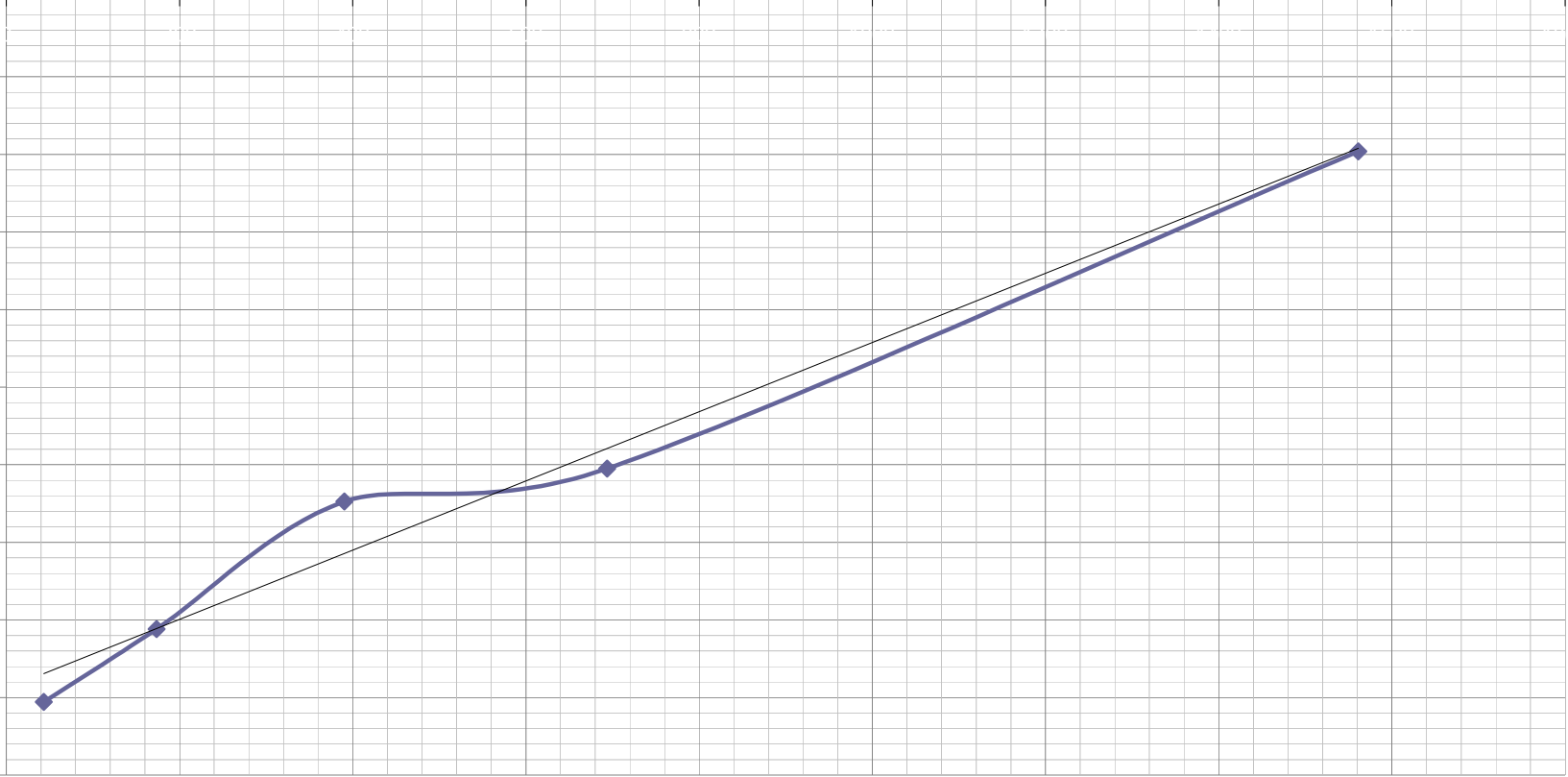
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,0446x - 88,873$
 $R^2 = 0,9781$



—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO
IEC 60034-2-1

ELECTRIC
MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E132S2C	Voltage	400/690V	Nominal limit for IE2	87.2%
Serial Number	7420FI	Current	10.2 / 5.9 A	Duty Type	S1
Power	5,5kW	RPM	2935	Insulation Class	F
Power	7,5HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10861	REV:	1
	DATE:	: 16.04.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	1,02	95	2,7	92,0	14,7	77,3	2,577
120	14400	1,15	105	3,4	101,7	24,4	77,3	2,577
160	25600	1,38	118	4,9	112,6	35,3	77,3	2,577
200	40000	1,72	131	7,7	123,4	46,1	77,3	2,577
240	57600	2,04	172	10,7	161,0	83,6	77,3	2,577
305	93025	2,67	229	18,4	210,5	133,2	77,3	2,577
370	136900	3,42	294	30,2	264,3	186,9	77,3	2,577
400	160000	3,92	333	39,5	293,4	216,1	77,3	2,577
435	189225	4,52	387	52,8	334,3	257,0	77,3	2,577
500	250000	7,55	584	146,9	436,8	359,4	77,3	2,577

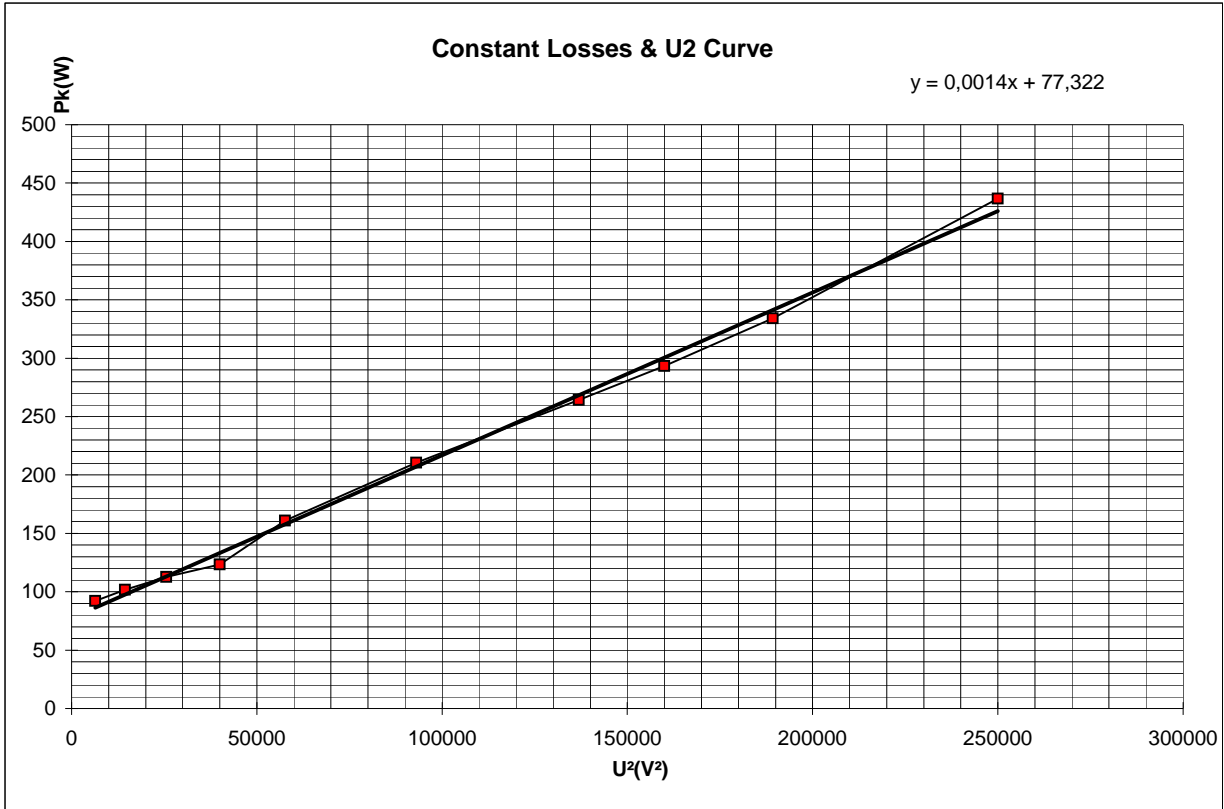
PERFORMANCE

Δt : 56 K

Voltage	U(V)	400	402	401	400	400	401
Phase current	Im(A)	4,53	6,11	8,03	10,19	12,43	14,73
Input Power	Pin(W)	1745	3150	4633	6164	7728	9328
Resistance	R()	2,577	2,577	2,577	2,577	2,577	2,577
Copper Losses	Pcu(W)	53	96	166	268	398	559
Iron Losses	Pfe(W)	216	216	216	216	216	216
	Pcu+Pstv(W)	269	312	382	484	614	775
	Pin-Pcu-Pstv(W)	1476	2838	4251	5680	7114	8553
slip	s(%)	0,40	0,77	1,27	1,93	2,43	3,07
Rotor Losses	Pr(W)	6	22	54	110	173	262
Friction Losses	Pstv(W)	77	77	77	77	77	77
Stray load losses	PLL(W)	2,0	8,1	18,1	32,2	50,4	72,5
	Pr+Pstv+PLL (W)	85	107	149	219	301	412
Output Power	Pout (W)	1391	2730	4101	5461	6813	8140
Apparent Power	S(VA)	3141	4256	5579	7062	8613	10233
Power Factor	COSphi	0,556	0,740	0,830	0,873	0,897	0,912
Efficiency	Eta(%)	79,7	86,7	88,5	88,6	88,2	87,3
Torque	M(Nm)	4,5	9,0	13,5	18,0	22,5	27,0
Speed	n(U/min)	2988	2977	2962	2942	2927	2908
	Pmech(W)	1407	2804	4185	5542	6893	8218

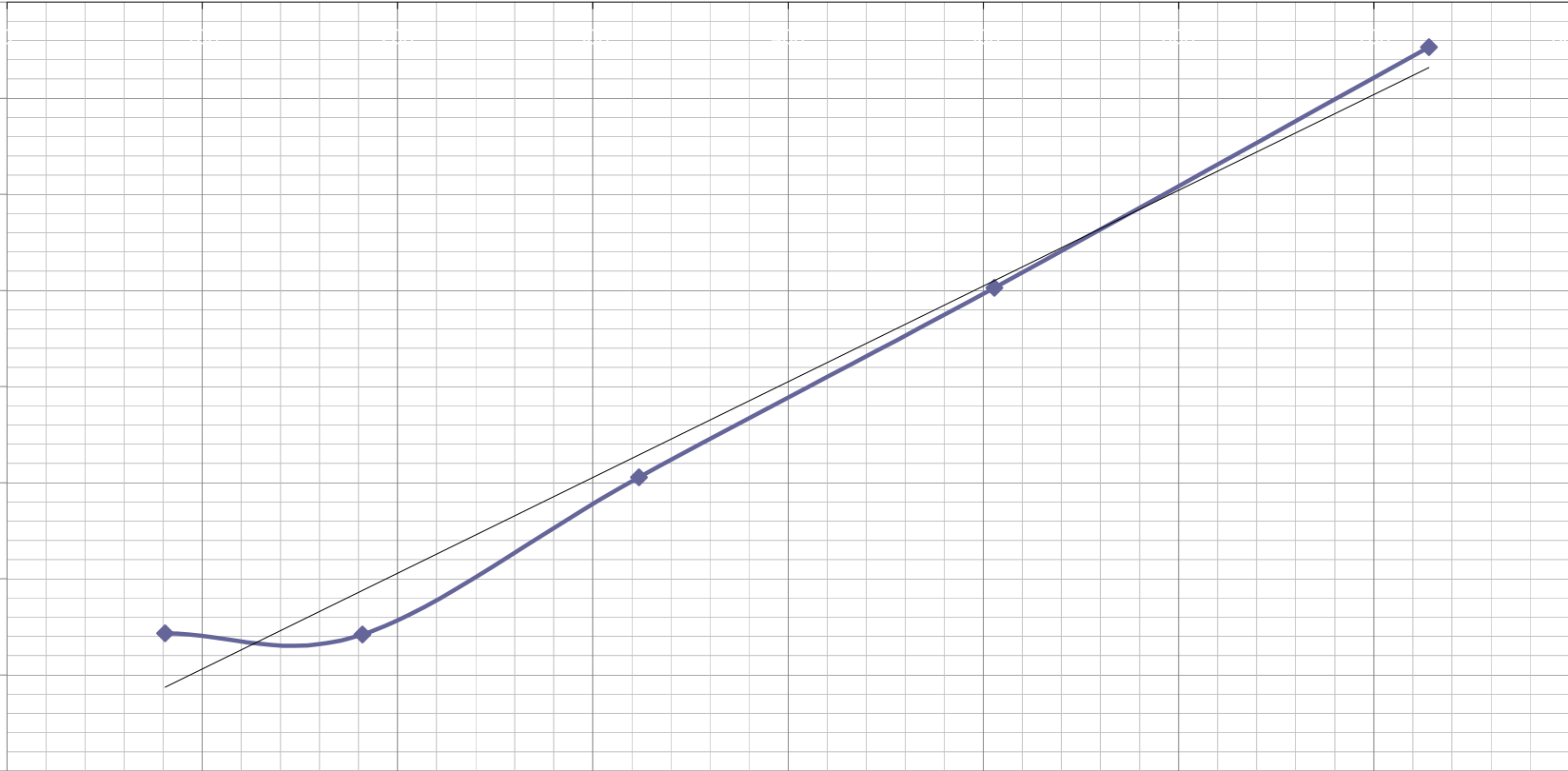
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,0996x - 79,35$
 $R^2 = 0,9768$



◆ $T^2(Nm^2)$ — Linear ($T^2(Nm^2)$)

**3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1****ELECTRIC MOTOR PLANT**

NAMEPLATE VALUES

Motor Type	Q2E132M4B	Voltage	400/690V	Nominal limit for IE2	87.70%
Serial Number	8019ZH	Current	11.3 / 6.5 A	Duty Type	S1
Power	5.5kW	RPM	1460	Insulation Class	F
Power	7.5HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10855	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	1.03	31	2.3	28.6	6.4	22.1	2.198
120	14400	1.59	39	5.5	33.6	11.5	22.1	2.198
160	25600	1.96	70	8.4	61.6	39.5	22.1	2.198
200	40000	2.52	101	14.0	87.0	64.8	22.1	2.198
240	57600	3.05	132	20.5	111.4	89.2	22.1	2.198
305	93025	4.11	198	37.1	160.7	138.6	22.1	2.198
370	136900	5.31	279	61.9	217.3	195.2	22.1	2.198
400	160000	6.11	335	82.0	252.8	230.7	22.1	2.198
435	189225	7.33	415	118.0	297.2	275.1	22.1	2.198
500	250000	11.92	740	312.2	427.5	405.3	22.1	2.198

PERFORMANCE**Δt : 57 K**

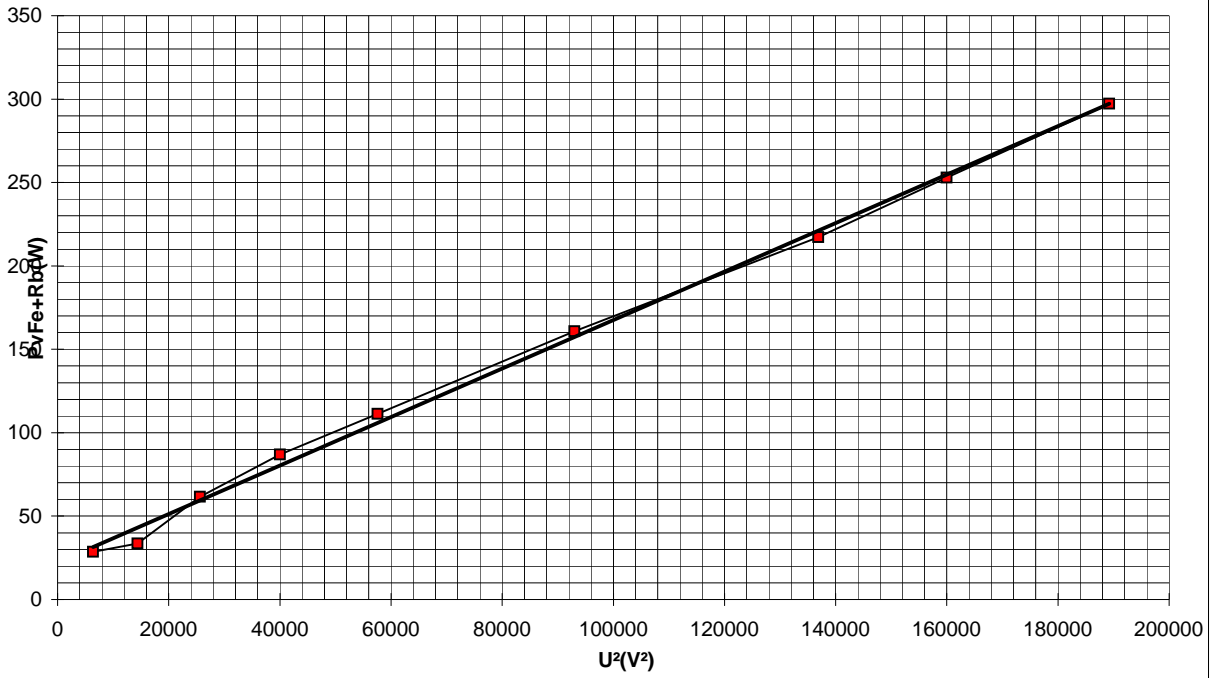
Voltage	U(V)	400	400	400	401	401	400
Phase current	Im(A)	7.13	8.26	9.45	11.32	13.66	16.04
Input Power	Pin(W)	1729	3152	4620	6152	7728	9329
Resistance	R()	2.198	2.198	2.198	2.198	2.198	2.198
Copper Losses	Pcu(W)	112	150	196	282	410	565
Iron Losses	Pfe(W)	231	231	231	231	231	231
	Pcu+Pstv(W)	343	381	427	512	641	796
	Pin-Pcu-Pstv(W)	1386	2771	4193	5640	7087	8533
slip	s(%)	0.60	1.27	1.67	2.53	3.20	3.93
Rotor Losses	Pr(W)	8	35	70	143	227	336
Friction Losses	Pstv(W)	22	22	22	22	22	22
Stray load losses	PLL(W)	2.4	9.7	21.8	38.7	60.5	87.1
	Pr+Pstv+PLL (W)	33	67	114	204	309	445
Output Power	Pout (W)	1354	2704	4079	5436	6778	8088
Apparent Power	S(VA)	4941	5724	6545	7862	9488	11111
Power Factor	COSphi	0.350	0.551	0.706	0.783	0.815	0.840
Efficiency	Eta(%)	78.3	85.8	88.3	88.4	87.7	86.7
Torque	M(Nm)	9.1	18.1	27.2	36.2	45.3	54.3
Speed	n(U/min)	1491	1481	1475	1462	1452	1441
	Pmech(W)	1414	2809	4196	5545	6884	8198

PREPARED BY : H.GEDIK

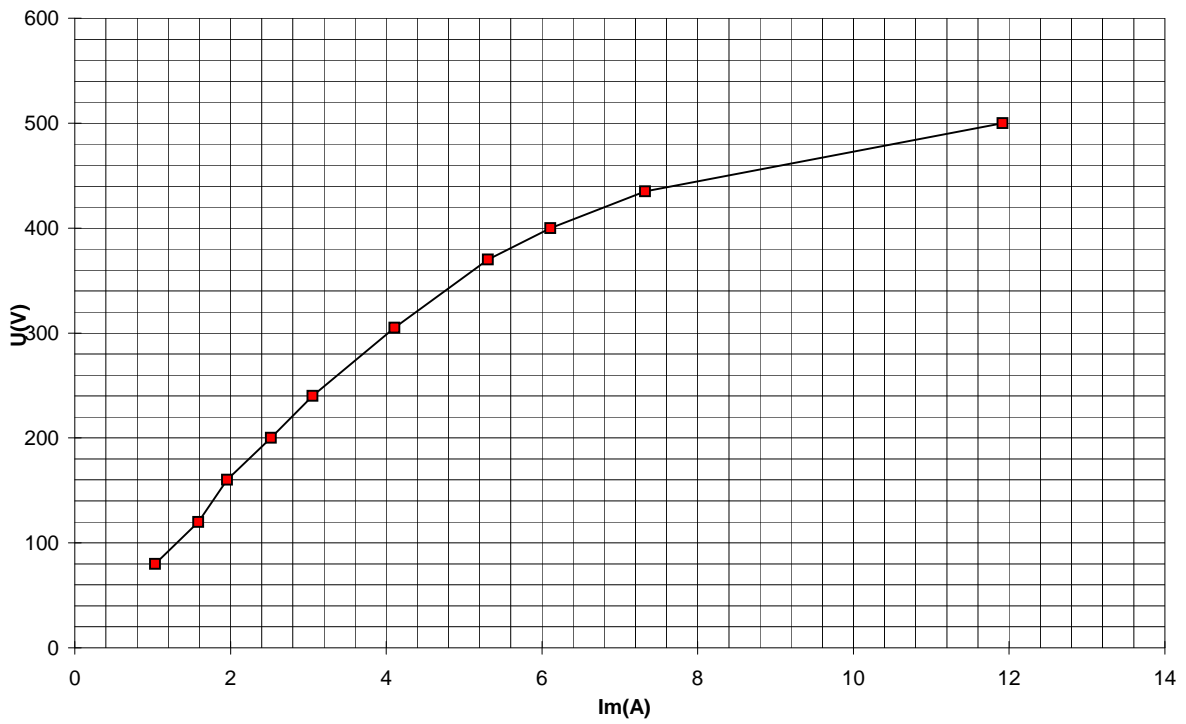
CONTROL : C.ERTÜRK

Constant Losses-U² curve

$y = 0,0015x + 22,135$

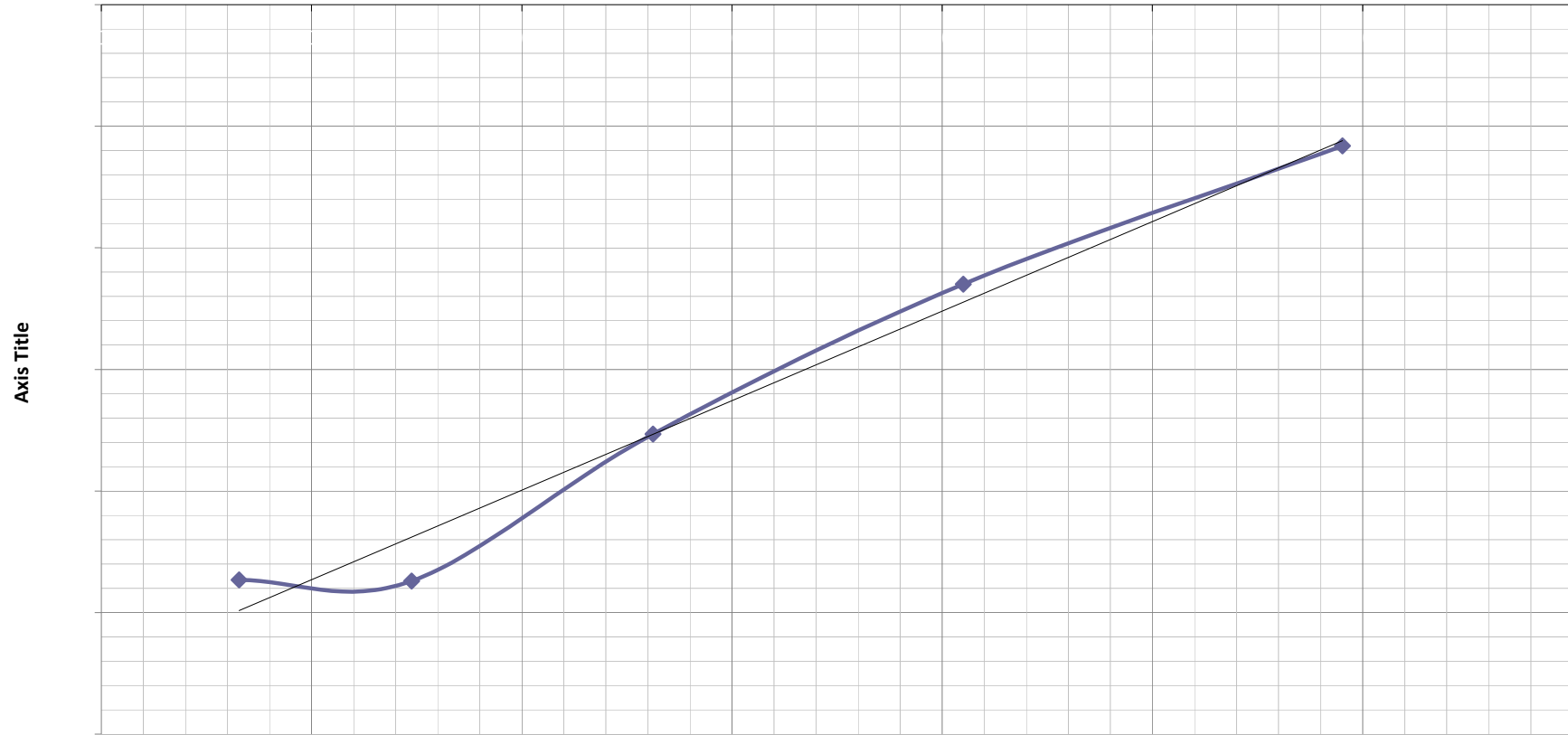


Saturation curve



Stray load losses curve

$$y = 0,0295x - 109,35$$
$$R^2 = 0,9777$$



Axis Title

Axis Title

◆ T²(Nm²) — Linear (T²(Nm²))

**3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1****ELECTRIC MOTOR PLANT**

NAMEPLATE VALUES

Motor Type	Q2E132M2A	Voltage	400/690V	Nominal limit for IE2	88.1%
Serial Number	6125	Current	13.6 / 7.9 A	Duty Type	S1
Power	7.5kW	RPM	2925	Insulation Class	F
Power	10HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11236	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	1,44	109	3,4	105,6	1,7	104,0	1,642
120	14400	1,51	133	3,8	129,3	25,3	104,0	1,642
160	25600	1,59	164	4,1	159,8	55,9	104,0	1,642
200	40000	1,86	196	5,7	190,3	86,3	104,0	1,642
240	57600	2,19	226	7,9	218,0	114,0	104,0	1,642
305	93025	2,85	285	13,3	271,3	167,4	104,0	1,642
370	136900	3,64	397	21,8	375,3	271,3	104,0	1,642
400	160000	4,19	462	28,8	433,2	329,2	104,0	1,642
435	189225	4,98	526	40,7	485,2	381,3	104,0	1,642
500	250000	8,78	729	126,5	602,6	498,6	104,0	1,642

PERFORMANCE**Δt : 56 K**

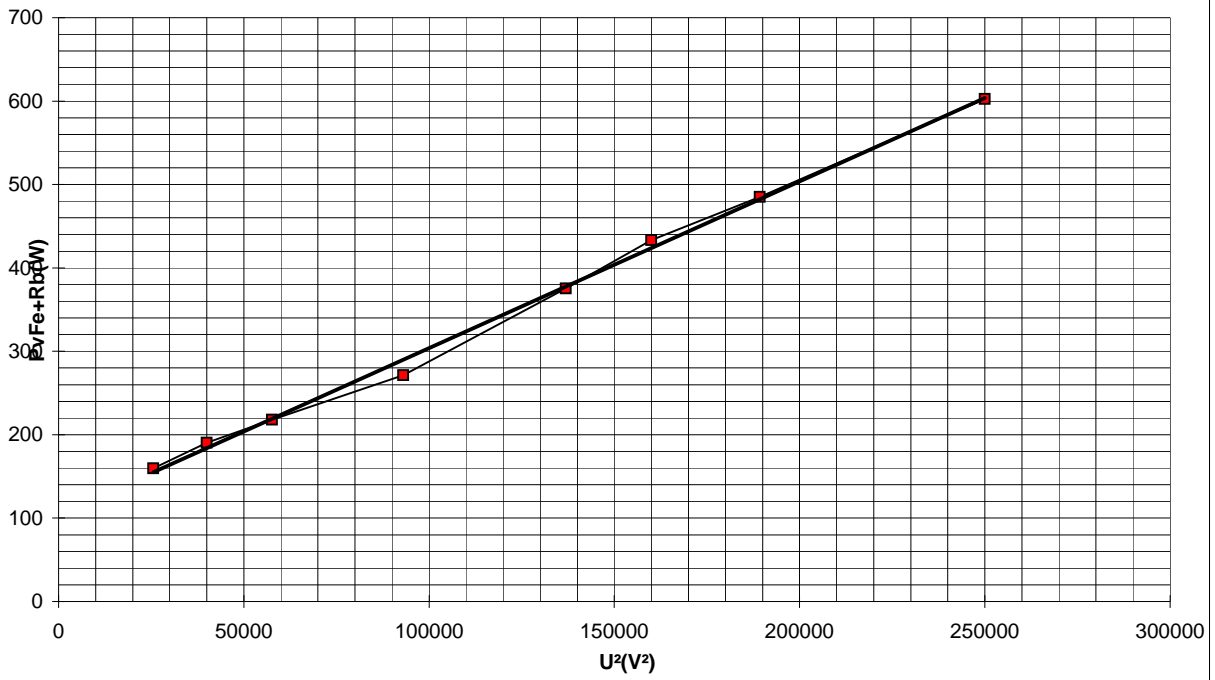
Voltage	U(V)	403	400	400	402	400	399
Phase current	Im(A)	5,53	7,80	10,58	13,49	16,60	19,77
Input Power	Pin(W)	2342	4320	6372	8419	10528	12671
Resistance	R()	1,642	1,642	1,642	1,642	1,642	1,642
Copper Losses	Pcu(W)	50	100	184	299	453	642
Iron Losses	Pfe(W)	329	329	329	329	329	329
	Pcu+Pstv(W)	379	429	513	628	782	971
	Pin-Pcu-Pstv(W)	1963	3891	5859	7791	9747	11700
slip	s(%)	0,73	1,23	1,96	2,43	3,19	3,93
Rotor Losses	Pr(W)	14	48	115	189	311	459
Friction Losses	Pstv(W)	104	104	104	104	104	104
Stray load losses	PLL(W)	2,9	11,5	25,9	46,0	71,8	103,4
	Pr+Pstv+PLL (W)	121	163	245	339	487	667
Output Power	Pout (W)	1841	3727	5614	7452	9259	11033
Apparent Power	S(VA)	3858	5407	7327	9392	11504	13660
Power Factor	COSphi	0,607	0,799	0,870	0,896	0,915	0,928
Efficiency	Eta(%)	78,6	86,3	88,1	88,5	87,9	87,1
Torque	M(Nm)	6,1	12,3	18,4	24,5	30,7	36,8
Speed	n(U/min)	2978	2963	2941	2927	2904	2882
	Pmech(W)	1913	3806	5667	7519	9325	11106

PREPARED BY : H.GEDIK

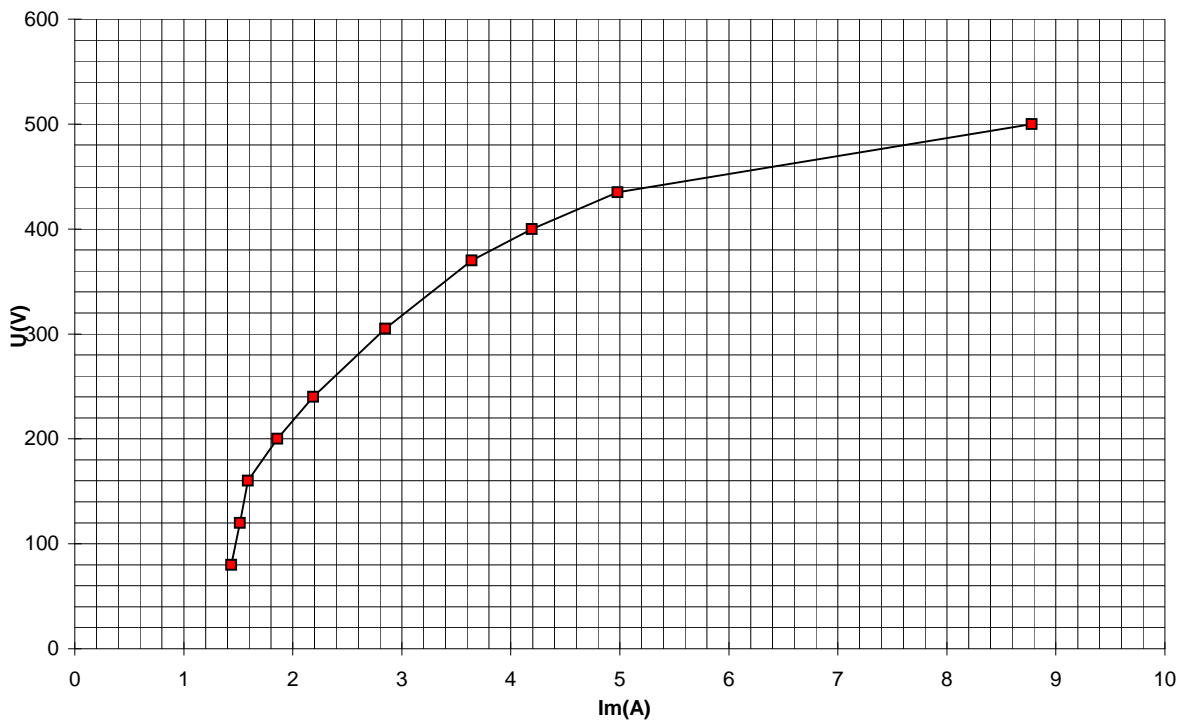
CONTROL : C.ERTÜRK

Constant Losses-U² Curve

$y = 0,002x + 103,95$



Saturation curve



Stray load losses curve

$y = 0,0764x - 67,906$
 $R^2 = 0,9512$



Axis Title

◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E132M4C	Voltage	400/690V	Nominal limit for IE2	88,70%
Serial Number	5837	Current	15.0 / 8.7 A	Duty Type	S1
Power	7.5kW	RPM	1460	Insulation Class	F
Power	10HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10928	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	1,36	49	2,4	46,6	6,0	40,6	1,296
120	14400	2,07	72	5,6	66,4	25,8	40,6	1,296
160	25600	2,72	120	9,6	110,4	69,8	40,6	1,296
200	40000	3,40	135	15,0	120,0	79,4	40,6	1,296
240	57600	4,13	172	22,1	149,9	109,3	40,6	1,296
305	93025	5,60	286	40,7	245,3	204,7	40,6	1,296
370	136900	8,14	421	85,9	335,1	294,5	40,6	1,296
400	160000	9,29	476	111,8	364,2	323,6	40,6	1,296
435	189225	11,69	609	177,1	431,9	391,3	40,6	1,296
500	250000	22,60	1196	662,1	533,9	493,3	40,6	1,296

PERFORMANCE

Δt : 67 K

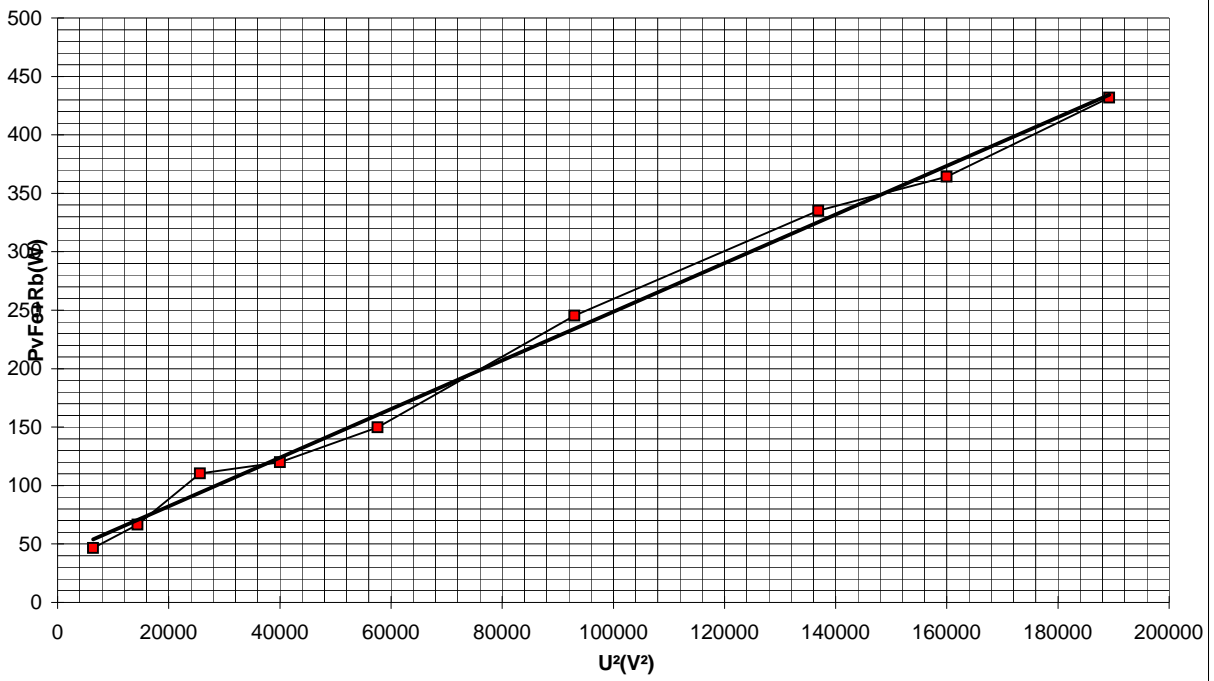
Voltage	U(V)	401	399	400	400	399	401
Phase current	Im(A)	8,54	10,19	12,36	14,98	17,94	21,45
Input Power	Pin(W)	2317	4316	6354	8372	10470	12639
Resistance	R()	1,296	1,296	1,296	1,296	1,296	1,296
Copper Losses	Pcu(W)	94	134	198	291	417	596
Iron Losses	Pfe(W)	324	324	324	324	324	324
	Pcu+Pstv(W)	418	458	522	614	741	920
	Pin-Pcu-Pstv(W)	1899	3858	5832	7758	9729	11719
slip	s(%)	0,60	1,26	2,00	2,73	3,67	4,60
Rotor Losses	Pr(W)	11	49	117	212	357	540
Friction Losses	Pstv(W)	41	41	41	41	41	41
Stray load losses	PLL(W)	3,1	12,4	27,9	49,5	77,4	111,5
	Pr+Pstv+PLL (W)	55	102	185	302	475	692
Output Power	Pout (W)	1844	3756	5647	7455	9254	11028
Apparent Power	S(VA)	5929	7039	8564	10378	12401	14895
Power Factor	COSphi	0,391	0,613	0,742	0,807	0,844	0,849
Efficiency	Eta(%)	79,6	87,0	88,9	89,1	88,4	87,3
Torque	M(Nm)	12,4	24,7	37,1	49,4	61,8	74,1
Speed	n(U/min)	1491	1481	1470	1459	1445	1431
	Pmech(W)	1928	3831	5703	7548	9344	11104

PREPARED BY : H.GEDIK

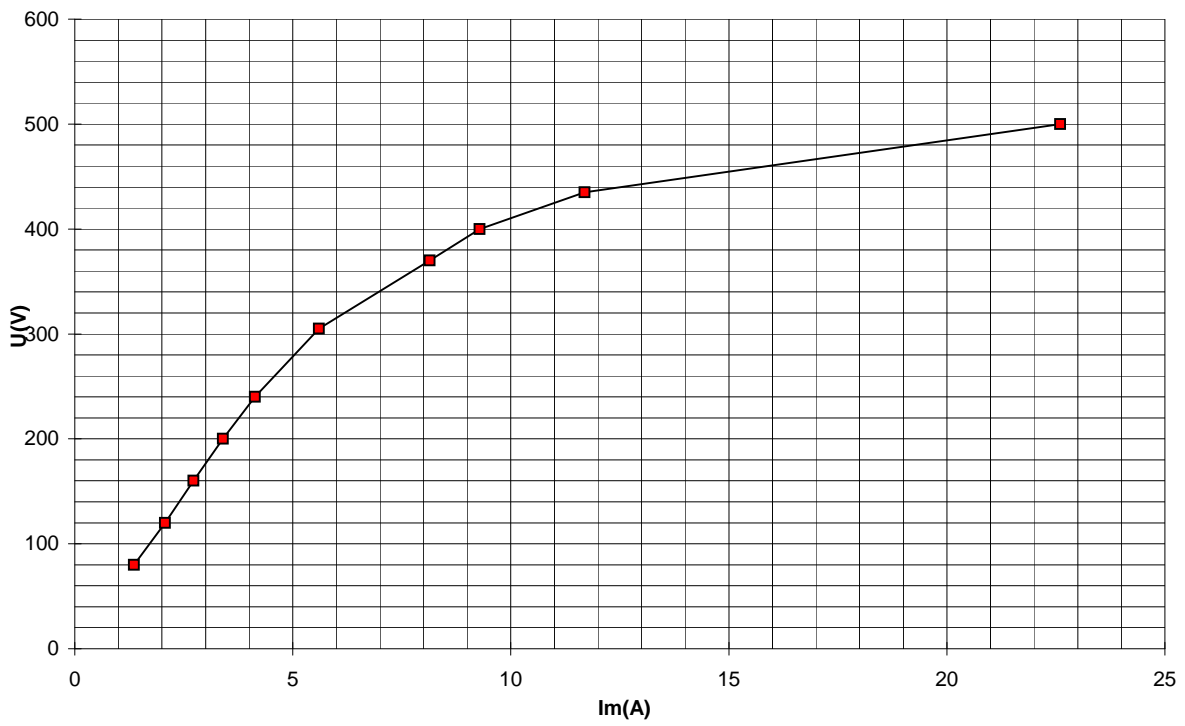
CONTROL : C.ERTÜRK

Constant Losses-U² curve

$y = 0,0021x + 40,608$

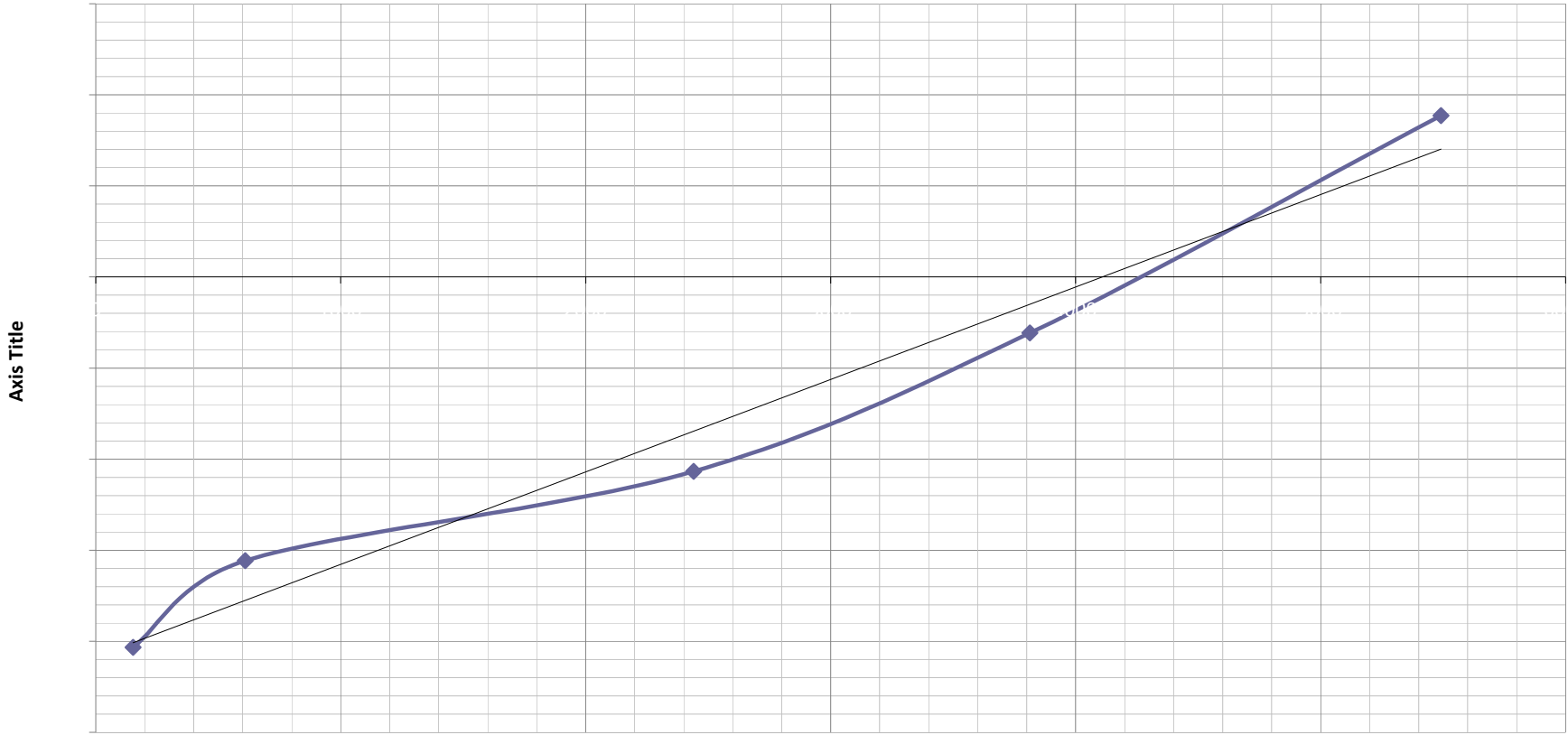


Saturation curve



Stray load losses curve

$$y = 0,0203x - 83,451$$
$$R^2 = 0,9703$$



Axis Title

—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO
IEC 60034-2-1

ELECTRIC
MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E160M2B	Voltage	400/690V	Nominal limit for IE2	89,40%
Serial Number	5876	Current	19.35 / 11.2 A	Duty Type	S1
Power	11kW	RPM	2945	Insulation Class	F
Power	15HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10862	REV:	1
	DATE:	: 15.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	1,95	222	3,5	218,5	12,3	206,1	0,936
120	14400	1,86	245	3,2	241,8	35,6	206,1	0,936
160	25600	2,13	268	4,3	263,7	57,6	206,1	0,936
200	40000	2,58	287	6,2	280,8	74,6	206,1	0,936
240	57600	3,06	324	8,8	315,2	109,1	206,1	0,936
305	93025	4,06	396	15,4	380,6	174,5	206,1	0,936
370	136900	5,33	487	26,6	460,4	254,3	206,1	0,936
400	160000	6,27	533	36,8	496,2	290,0	206,1	0,936
435	189225	8,05	626	60,7	565,3	359,2	206,1	0,936
500	250000	15,91	940	236,8	703,2	497,1	206,1	0,936

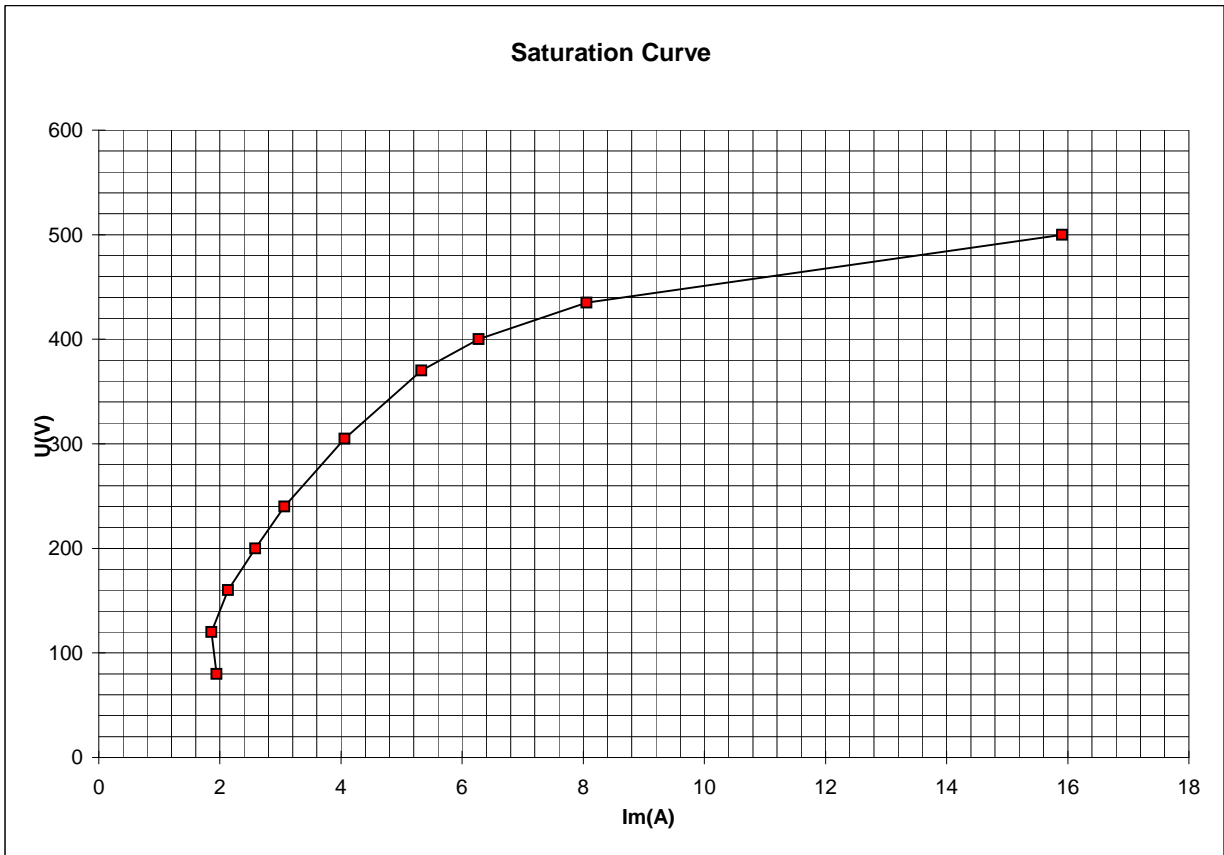
PERFORMANCE

Δt : 44 K

Voltage	U(V)	401	400	400	400	400	400
Phase current	Im(A)	7,81	11,17	14,88	19,35	24,01	28,51
Input Power	Pin(W)	3196	6129	9050	12090	15120	18310
Resistance	R()	0,936	0,936	0,936	0,936	0,936	0,936
Copper Losses	Pcu(W)	57	117	207	350	539	761
Iron Losses	Pfe(W)	290	290	290	290	290	290
	Pcu+Pstv(W)	347	407	497	640	829	1051
	Pin-Pcu-Pstv(W)	2849	5722	8553	11450	14291	17259
slip	s(%)	0,23	0,73	1,23	1,50	2,00	2,57
Rotor Losses	Pr(W)	7	42	105	172	286	443
Friction Losses	Pstv(W)	206	206	206	206	206	206
Stray load losses	PLL(W)	8,4	33,5	75,4	134,0	209,5	301,6
	Pr+Pstv+PLL (W)	221	282	387	512	701	951
Output Power	Pout (W)	2628	5441	8166	10938	13589	16309
Apparent Power	S(VA)	5424	7741	10307	13404	16632	19750
Power Factor	COSphi	0,589	0,792	0,878	0,902	0,909	0,927
Efficiency	Eta(%)	82,2	88,8	90,2	90,5	89,9	89,1
Torque	M(Nm)	9,0	17,9	26,9	35,9	44,8	53,8
Speed	n(U/min)	2993	2978	2963	2955	2940	2923
	Pmech(W)	2809	5590	8343	11094	13797	16460

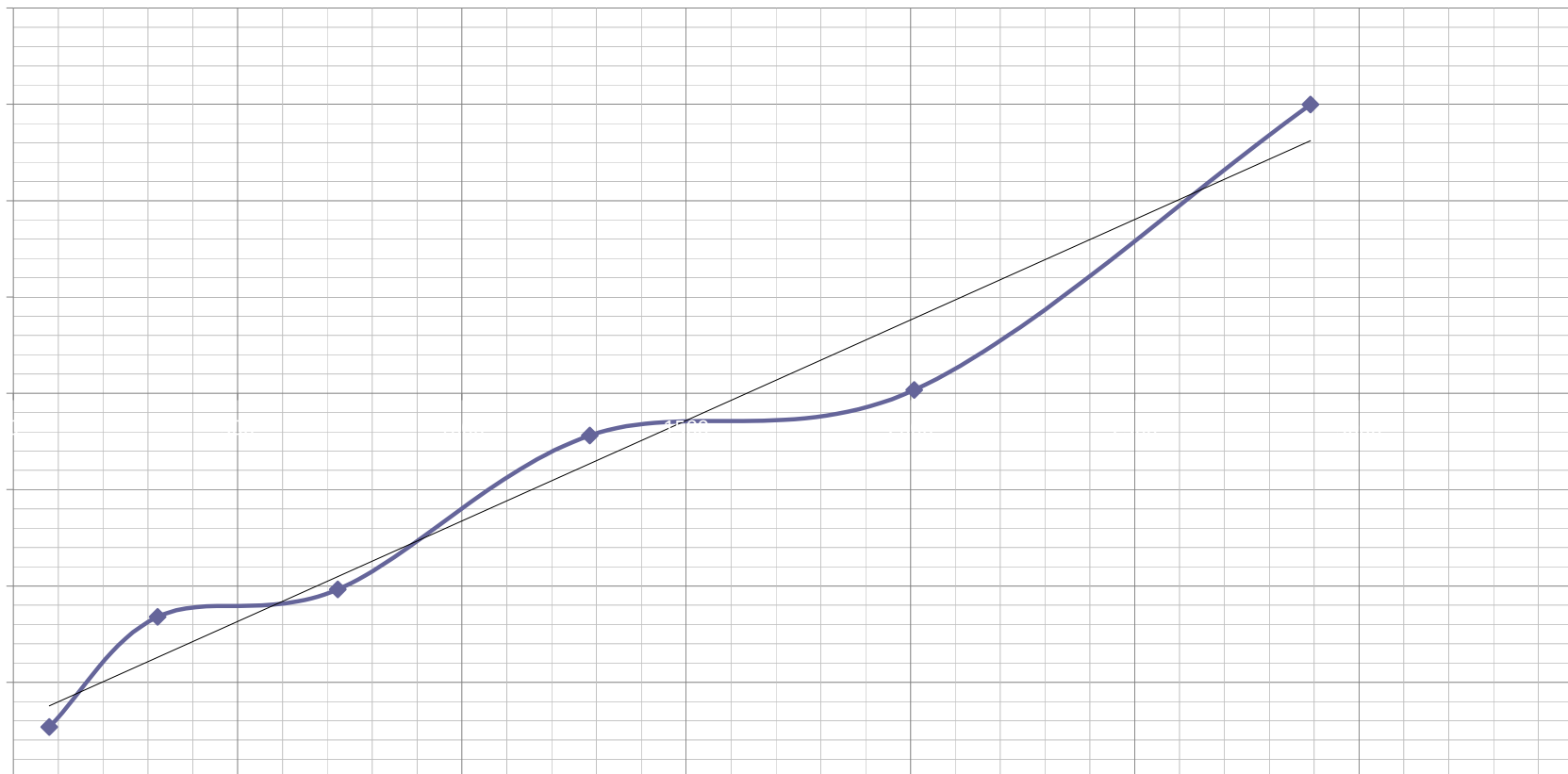
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 0,1043x - 170,6$$
$$R^2 = 0,9609$$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E160M4B	Voltage	400/690V	Nominal limit for IE2	89,80%
Serial Number	9369 FJ	Current	22.2 / 12.8 A	Duty Type	S1
Power	11kW	RPM	1460	Insulation Class	F
Power	15HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11023	REV: 1
	DATE:	: 15.12.2010	

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	1,86	70	3,7	66,0	12,5	53,5	1,071
120	14400	2,67	88	7,6	80,8	27,3	53,5	1,071
160	25600	3,53	107	13,4	93,8	40,3	53,5	1,071
200	40000	4,51	144	21,8	121,8	68,4	53,5	1,071
240	57600	5,52	178	32,6	145,3	91,9	53,5	1,071
305	93025	7,36	266	58,1	208,3	154,9	53,5	1,071
370	136900	9,67	381	100,1	280,8	227,3	53,5	1,071
400	160000	10,97	440	128,9	311,2	257,8	53,5	1,071
435	189225	13,14	562	184,7	377,2	323,7	53,5	1,071
500	250000	21,05	999	474,7	524,3	470,9	53,5	1,071

PERFORMANCE

Δt : 59 K

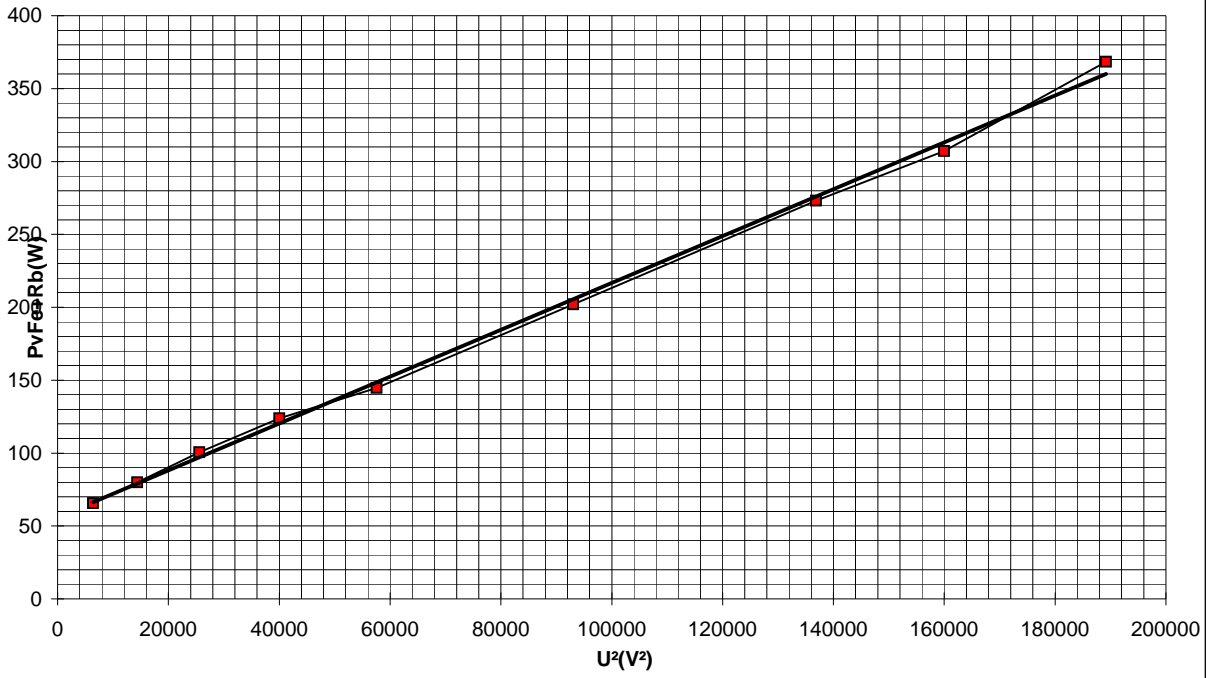
Voltage	U(V)	400	400	401	399	402	400
Phase current	Im(A)	11,54	14,22	17,91	22,29	27,10	32,12
Input Power	Pin(W)	3142	6072	9098	12129	15298	18496
Resistance	R()	1,071	1,071	1,071	1,071	1,071	1,071
Copper Losses	Pcu(W)	143	216	343	532	786	1105
Iron Losses	Pfe(W)	258	258	258	258	258	258
	Pcu+Pstv(W)	400	474	601	790	1044	1363
	Pin-Pcu-Pstv(W)	2742	5598	8497	11339	14254	17133
slip	s(%)	0,47	1,00	1,67	2,47	3,20	3,80
Rotor Losses	Pr(W)	13	56	142	280	456	651
Friction Losses	Pstv(W)	53	53	53	53	53	53
Stray load losses	PLL(W)	4,7	18,9	42,5	75,6	118,1	170,1
	Pr+Pstv+PLL (W)	71	128	238	409	628	875
Output Power	Pout (W)	2671	5469	8259	10931	13626	16259
Apparent Power	S(VA)	7995	9850	12440	15403	18867	22254
Power Factor	COSphi	0,393	0,616	0,731	0,787	0,811	0,831
Efficiency	Eta(%)	85,0	90,1	90,8	90,1	89,1	87,9
Torque	M(Nm)	18,1	36,2	54,3	72,5	90,6	108,7
Speed	n(U/min)	1493	1485	1475	1463	1452	1443
	Pmech(W)	2832	5633	8393	11100	13770	16422

PREPARED BY : H.GEDIK

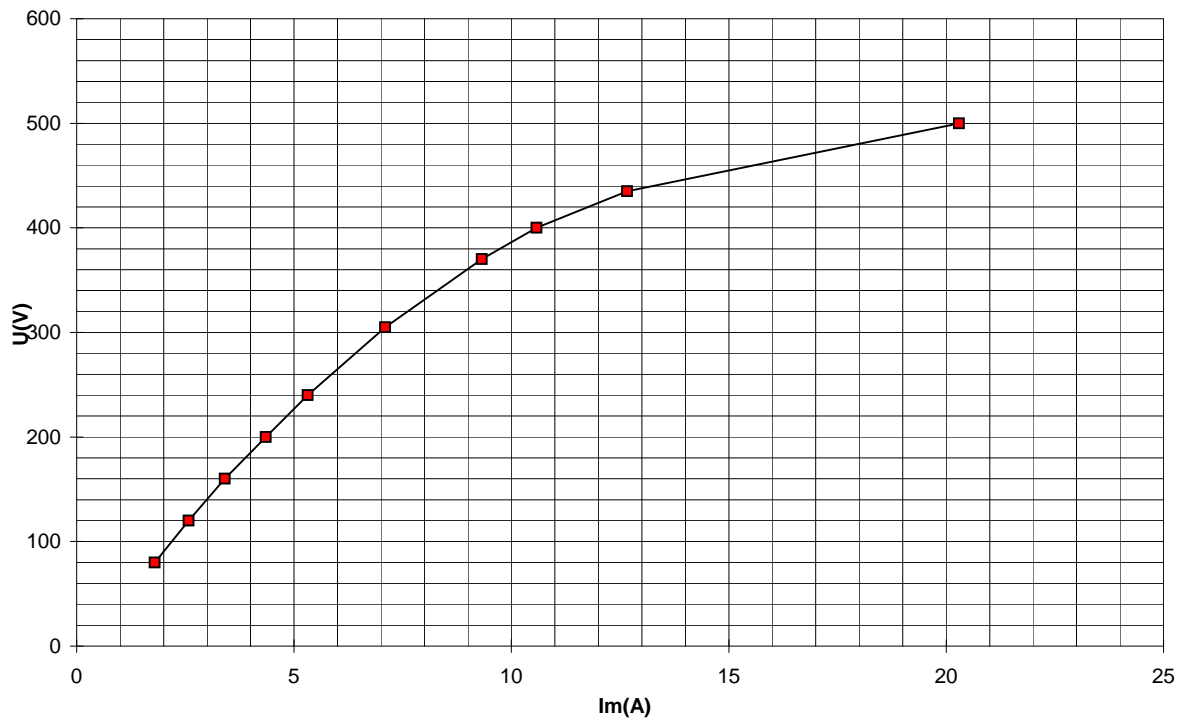
CONTROL : C.ERTÜRK

Constant Losses & U2 Curve

$y = 0,0016x + 55,932$

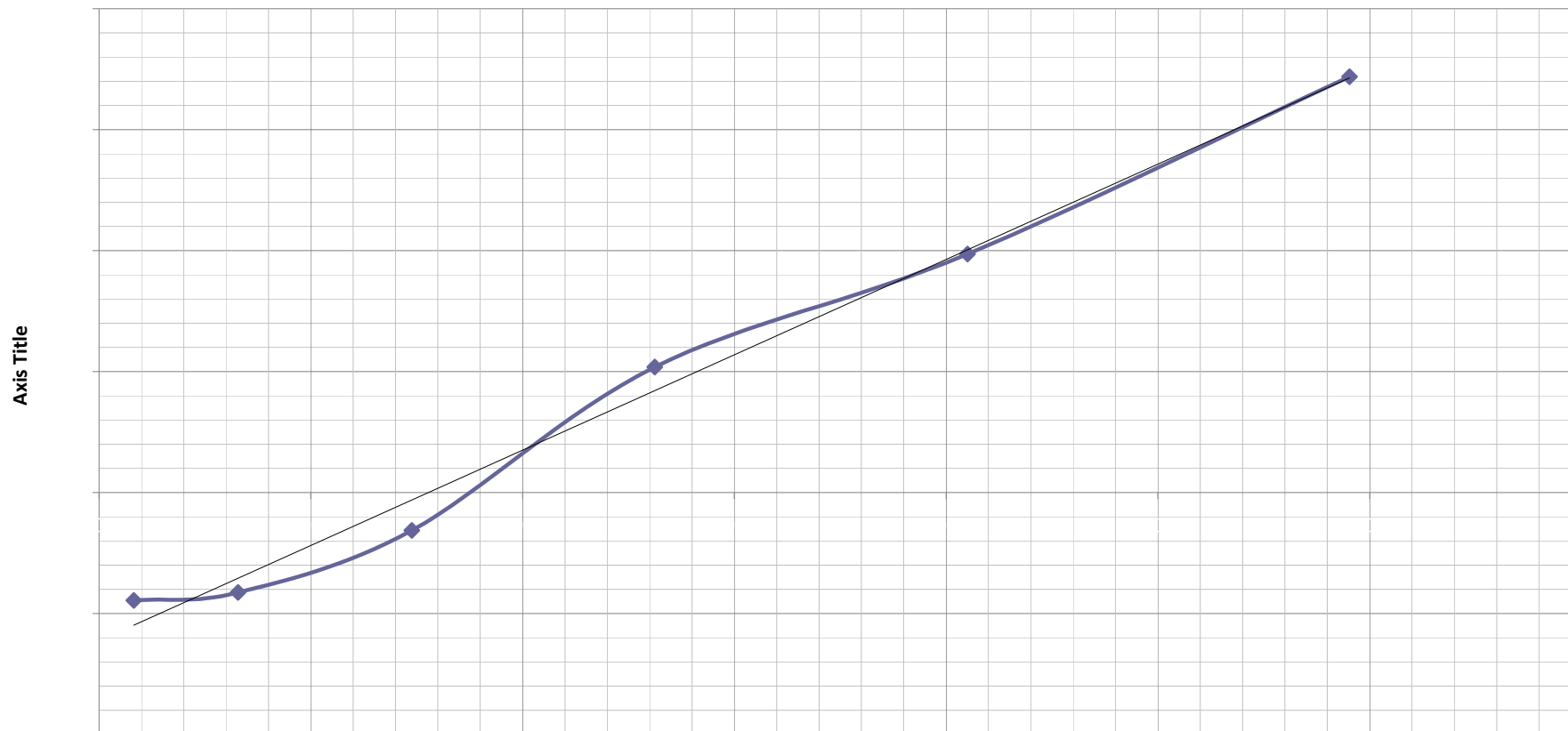


Saturation Curve



Stray load losses curve

$$y = 0,0197x - 61,237$$
$$R^2 = 0,9895$$



Axis Title

Axis Title

—◆— $T^2(Nm^2)$ — Linear ($T^2(Nm^2)$)



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E160L2A	Voltage	400/690V	Nominal limit for IE2	90,30%
Serial Number	5874	Current	25.7 / 14.8 A	Duty Type	S1
Power	15kW	RPM	2935	Insulation Class	F
Power	20HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10860	REV:	1
	DATE:	: 15.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	1,62	209	2,0	207,0	11,4	195,5	0,777
120	14400	1,84	226	2,6	223,4	27,9	195,5	0,777
160	25600	2,31	246	4,2	241,8	46,3	195,5	0,777
200	40000	2,88	279	6,5	272,5	77,0	195,5	0,777
240	57600	3,47	305	9,3	295,7	100,2	195,5	0,777
305	93025	4,52	389	15,9	373,1	177,6	195,5	0,777
370	136900	5,85	476	26,6	449,4	253,9	195,5	0,777
400	160000	6,62	529	34,1	494,9	299,4	195,5	0,777
435	189225	8,19	596	52,2	543,8	348,3	195,5	0,777
500	250000	14,32	850	159,3	690,7	495,2	195,5	0,777

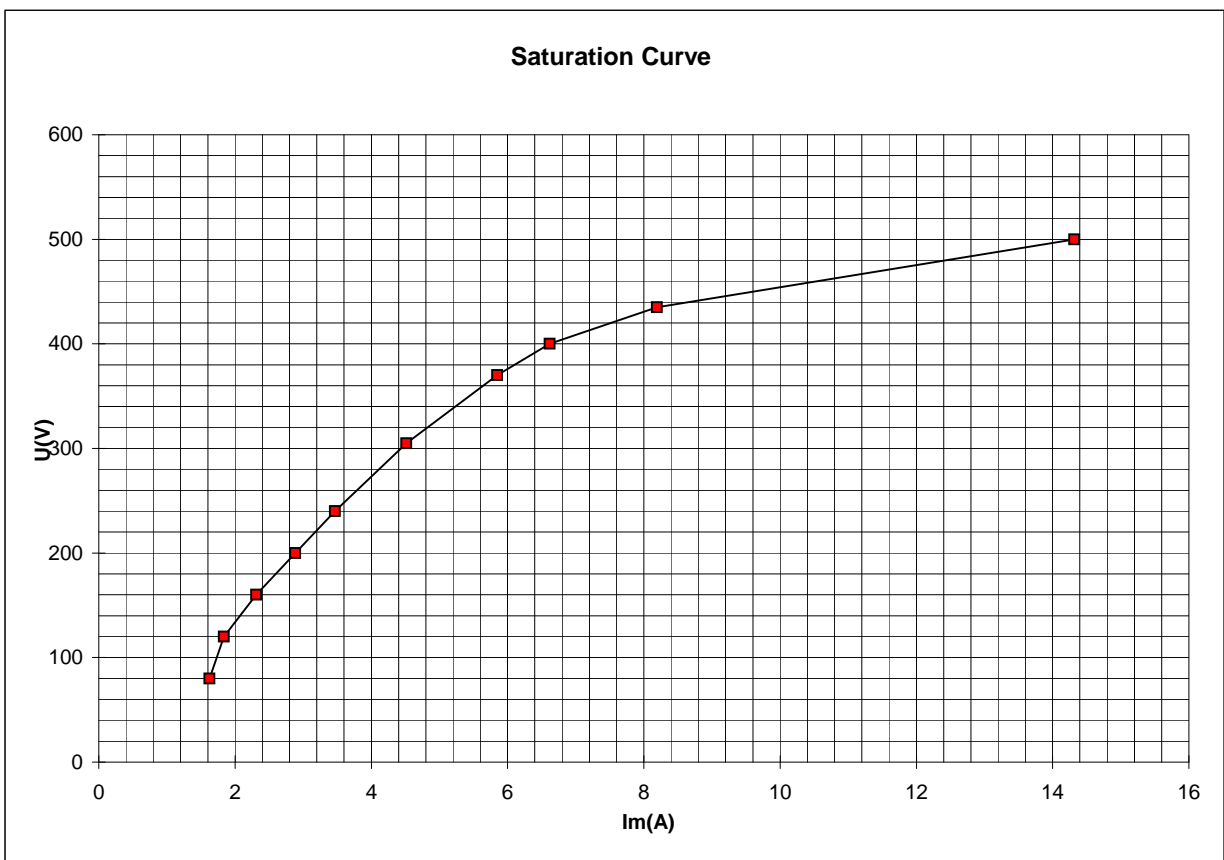
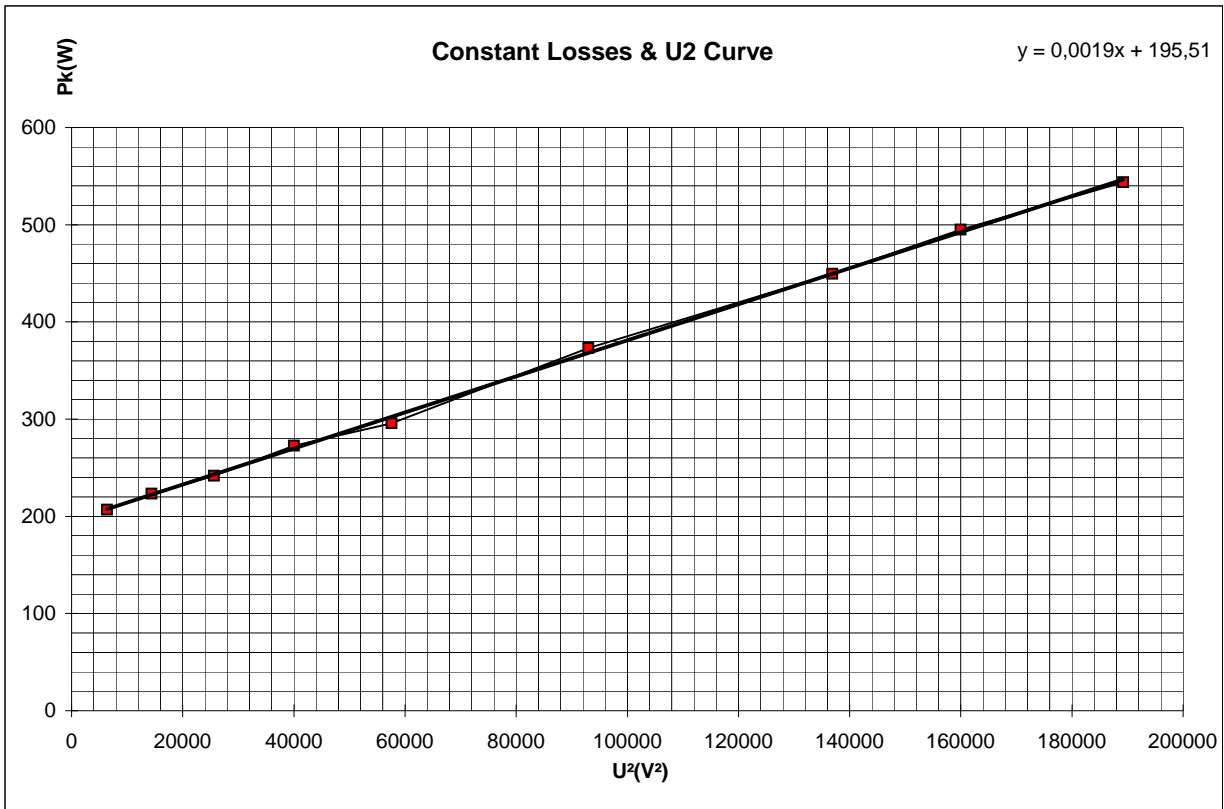
PERFORMANCE

Δt : 52 K

Voltage	U(V)	401	401	401	401	399	395
Phase current	Im(A)	9,22	14,15	19,90	25,73	32,43	39,54
Input Power	Pin(W)	4314	8261	12320	16430	20800	25020
Resistance	R()	0,777	0,777	0,777	0,777	0,777	0,777
Copper Losses	Pcu(W)	66	155	308	514	817	1215
Iron Losses	Pfe(W)	299	299	299	299	299	299
	Pcu+Pstv(W)	365	455	607	814	1116	1514
	Pin-Pcu-Pstv(W)	3949	7806	11713	15616	19684	23506
slip	s(%)	0,60	1,00	1,63	2,10	2,73	3,43
Rotor Losses	Pr(W)	24	78	191	328	538	807
Friction Losses	Pstv(W)	196	196	196	196	196	196
Stray load losses	PLL(W)	11,8	47,3	106,5	189,3	295,7	425,8
	Pr+Pstv+PLL (W)	231	321	493	713	1029	1428
Output Power	Pout (W)	3718	7485	11219	14904	18654	22077
Apparent Power	S(VA)	6401	9826	13824	17869	22410	27052
Power Factor	COSphi	0,674	0,841	0,891	0,919	0,928	0,925
Efficiency	Eta(%)	86,2	90,6	91,1	90,7	89,7	88,2
Torque	M(Nm)	12,2	24,4	36,5	48,7	60,9	73,1
Speed	n(U/min)	2982	2970	2951	2937	2918	2897
	Pmech(W)	3802	7573	11287	14978	18602	22161

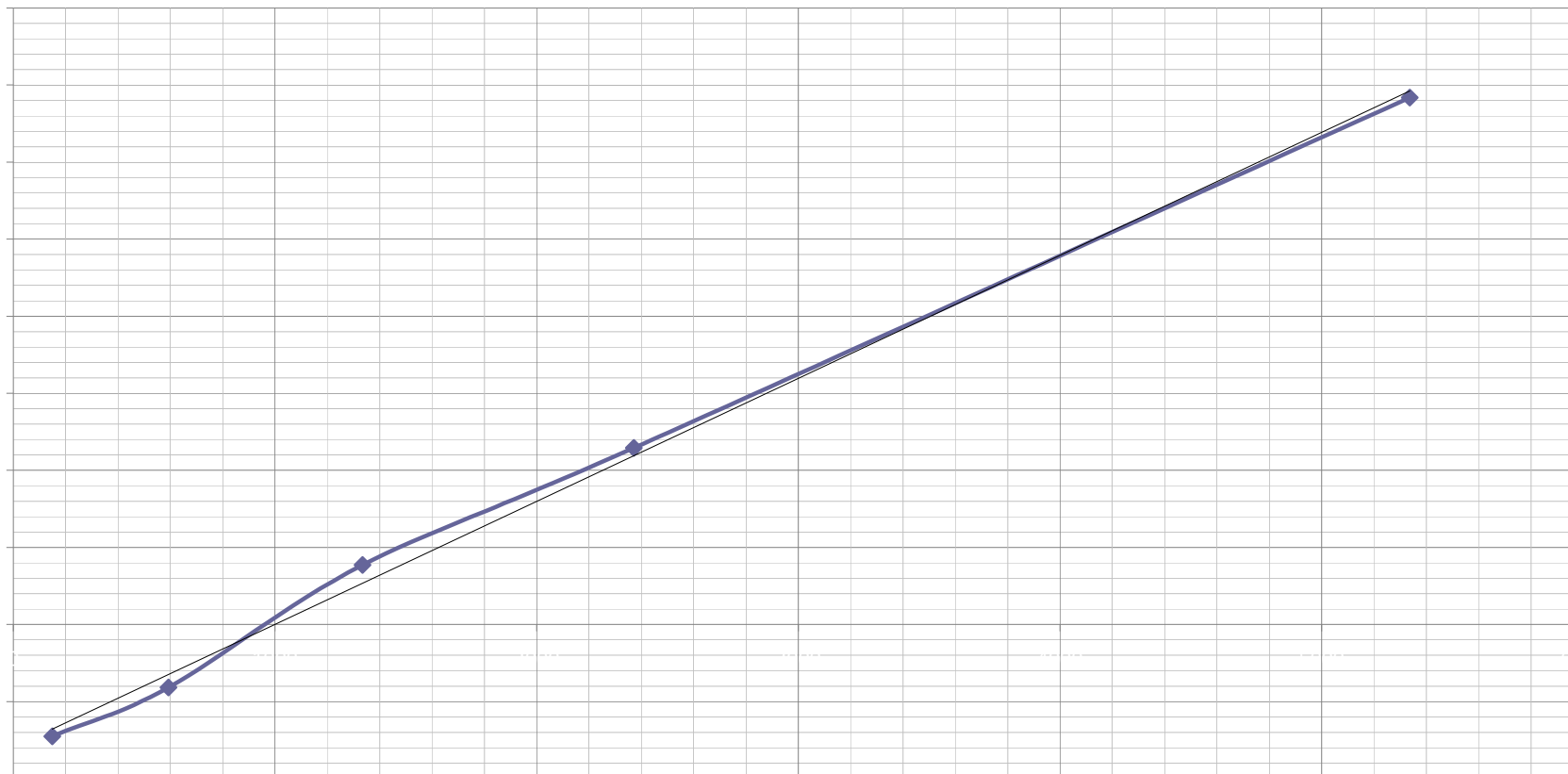
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses

$$y = 0,0798x - 79,806$$
$$R^2 = 0,9974$$



◆ T²(Nm²) — Linear (T²(Nm²))

**3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1****ELECTRIC MOTOR PLANT**

NAMEPLATE VALUES

Motor Type	Q2E160L4A	Voltage	400/690V	Nominal limit for IE2	90,60%
Serial Number	5867	Current	28.8 / 16.6 A	Duty Type	S1
Power	15kW	RPM	1460	Insulation Class	F
Power	20HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10852	REV:	1
	DATE:	: 15.12.2010		

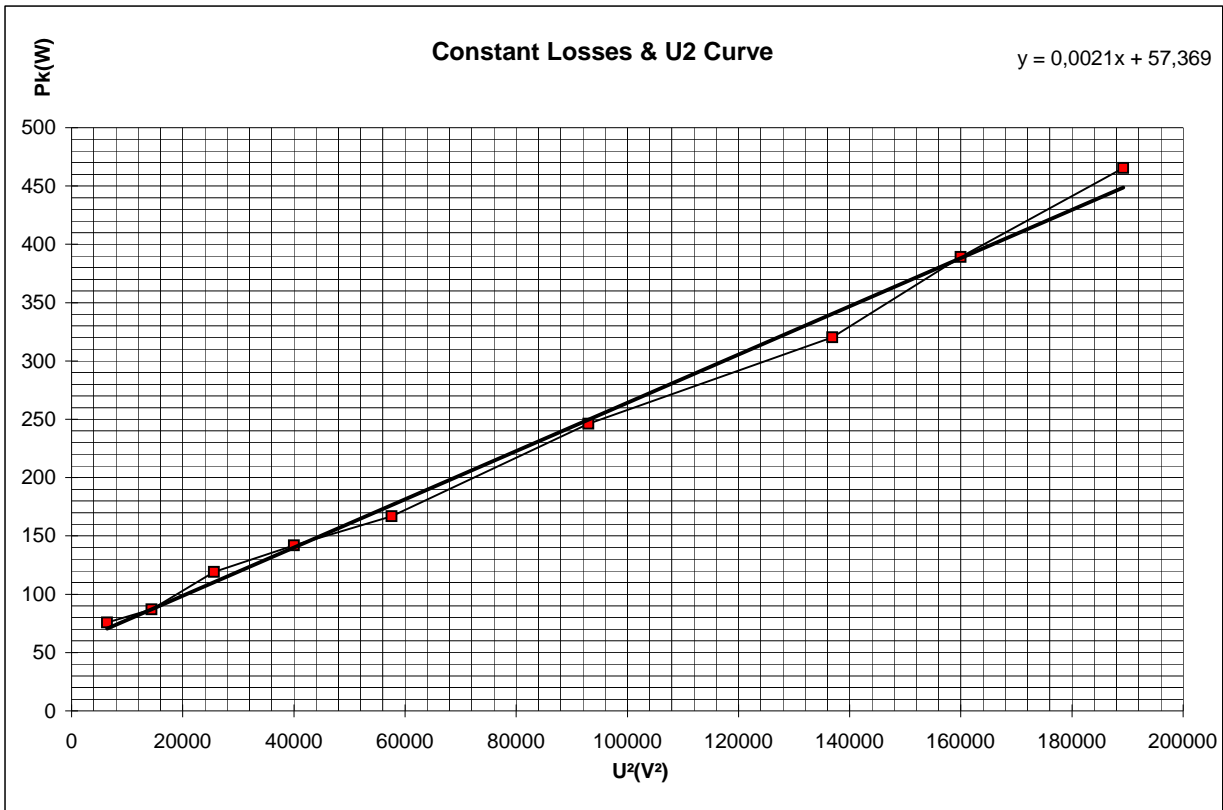
U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	2,15	80	4,2	75,8	18,4	57,4	0,919
120	14400	3,11	96	8,9	87,1	29,7	57,4	0,919
160	25600	4,15	135	15,8	119,2	61,8	57,4	0,919
200	40000	5,24	167	25,2	141,8	84,4	57,4	0,919
240	57600	6,45	205	38,2	166,8	109,4	57,4	0,919
305	93025	8,53	313	66,9	246,1	188,8	57,4	0,919
370	136900	11,27	437	116,7	320,3	262,9	57,4	0,919
400	160000	12,94	543	153,8	389,2	331,8	57,4	0,919
435	189225	15,28	680	214,7	465,3	408,0	57,4	0,919
500	250000	23,50	1150	507,4	642,6	585,3	57,4	0,919

PERFORMANCE Δt : 70 K

Voltage	U(V)	401	404	402	400	403	400
Phase current	Im(A)	14,28	18,11	23,19	28,80	35,59	42,95
Input Power	Pin(W)	4360	8310	12430	16612	20960	25380
Resistance	R()	0,919	0,919	0,919	0,919	0,919	0,919
Copper Losses	Pcu(W)	187	301	494	762	1164	1696
Iron Losses	Pfe(W)	332	332	332	332	332	332
	Pcu+Pstv(W)	519	633	826	1094	1496	2027
	Pin-Pcu-Pstv(W)	3841	7677	11604	15518	19464	23353
slip	s(%)	0,53	1,13	1,80	2,13	3,40	4,20
Rotor Losses	Pr(W)	20	87	209	331	662	981
Friction Losses	Pstv(W)	57	57	57	57	57	57
Stray load losses	PLL(W)	5,5	21,8	49,1	87,2	136,3	196,3
	Pr+Pstv+PLL (W)	83	166	315	476	855	1234
Output Power	Pout (W)	3757	7511	11289	15042	18608	22118
Apparent Power	S(VA)	9918	12672	16145	19953	24845	29759
Power Factor	COSphi	0,440	0,656	0,770	0,833	0,844	0,853
Efficiency	Eta(%)	86,2	90,4	90,8	90,6	88,8	87,1
Torque	M(Nm)	24,6	49,2	73,8	98,5	123,1	147,7
Speed	n(U/min)	1492	1483	1473	1468	1449	1437
	Pmech(W)	3846	7645	11390	15135	18673	22222

PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,009x - 89,841$
 $R^2 = 0,9583$



—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO
IEC 60034-2-1

ELECTRIC
MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E160L2C	Voltage	400/690V	Nominal limit for IE2	90,90%
Serial Number	5883	Current	31.4 / 18.1 A	Duty Type	S1
Power	18.5kW	RPM	2935	Insulation Class	F
Power	25HP	Frequency	50Hz	IC	41

NOLOAD TEST

TEST NUM: : 10875
DATE: : 15.12.2010
REV: 1

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R()
80	6400	2,10	218	2,6	215,4	9,5	205,9	0,592
120	14400	2,35	246	3,3	242,7	36,9	205,9	0,592
160	25600	2,93	278	5,1	272,9	67,1	205,9	0,592
200	40000	3,70	322	8,1	313,9	108,0	205,9	0,592
240	57600	4,44	366	11,7	354,3	148,5	205,9	0,592
305	93025	5,77	438	19,7	418,3	212,4	205,9	0,592
370	136900	7,55	588	33,7	554,3	348,4	205,9	0,592
400	160000	8,60	614	43,8	570,2	364,3	205,9	0,592
435	189225	10,98	766	71,3	694,7	488,8	205,9	0,592
500	250000	21,32	1200	269,0	931,0	725,1	205,9	0,592

PERFORMANCE

Δt : 62 K

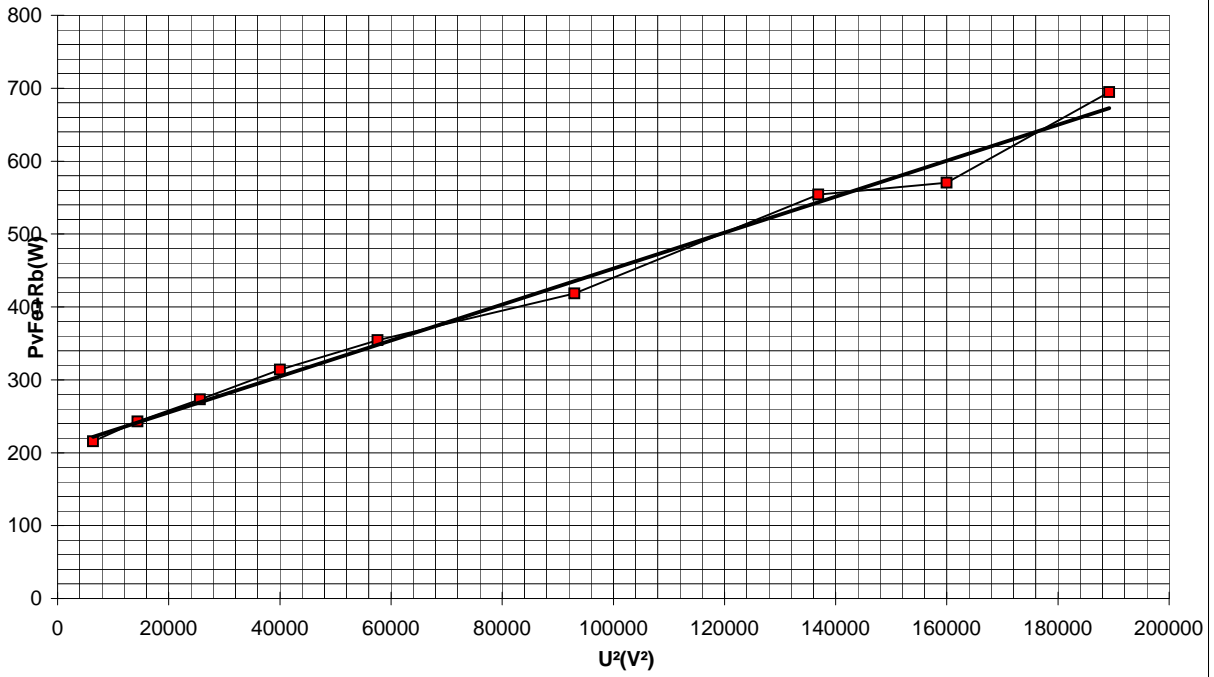
Voltage	U(V)	400	401	400	402	401	400
Phase current	Im(A)	11,64	17,53	24,32	31,40	39,23	47,33
Input Power	Pin(W)	5281	10170	15020	20030	25200	30530
Resistance	R()	0,592	0,592	0,592	0,592	0,592	0,592
Copper Losses	Pcu(W)	80	182	350	584	911	1326
Iron Losses	Pfe(W)	364	364	364	364	364	364
	Pcu+Pstv(W)	445	546	715	948	1276	1691
	Pin-Pcu-Pstv(W)	4836	9624	14305	19082	23924	28839
slip	s(%)	0,43	0,83	1,33	1,90	2,33	2,90
Rotor Losses	Pr(W)	21	80	191	363	558	836
Friction Losses	Pstv(W)	206	206	206	206	206	206
Stray load losses	PLL(W)	12,3	49,1	110,6	196,6	307,1	442,3
	Pr+Pstv+PLL (W)	239	335	507	765	1071	1484
Output Power	Pout (W)	4597	9289	13798	18317	22853	27355
Apparent Power	S(VA)	8067	12173	16852	21866	27250	32793
Power Factor	COSphi	0,655	0,835	0,891	0,916	0,925	0,931
Efficiency	Eta(%)	87,1	91,3	91,9	91,4	90,7	89,6
Torque	M(Nm)	15,0	30,0	45,0	60,0	75,0	90,0
Speed	n(U/min)	2987	2975	2960	2943	2930	2913
	Pmech(W)	4692	9346	13949	18491	23012	27454

PREPARED BY : H.GEDİK

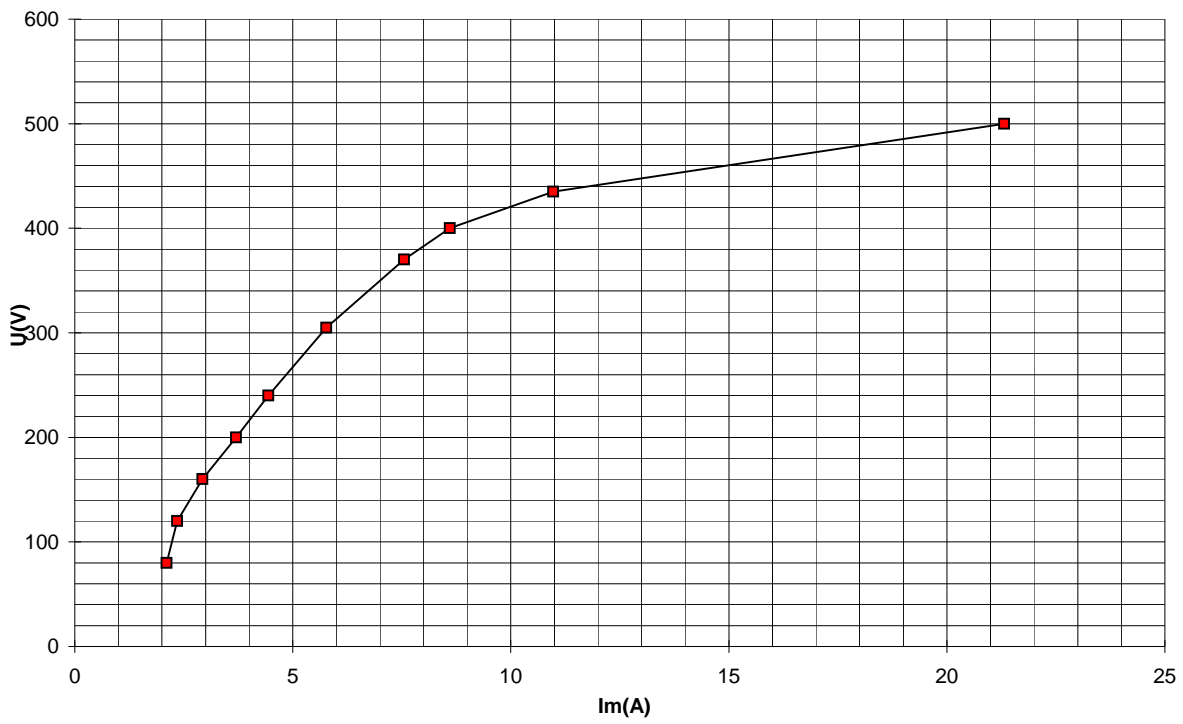
CONTROL : C.ERTÜRK

Constant Losses & U2 Curve

$$y = 0,0025x + 205,85$$

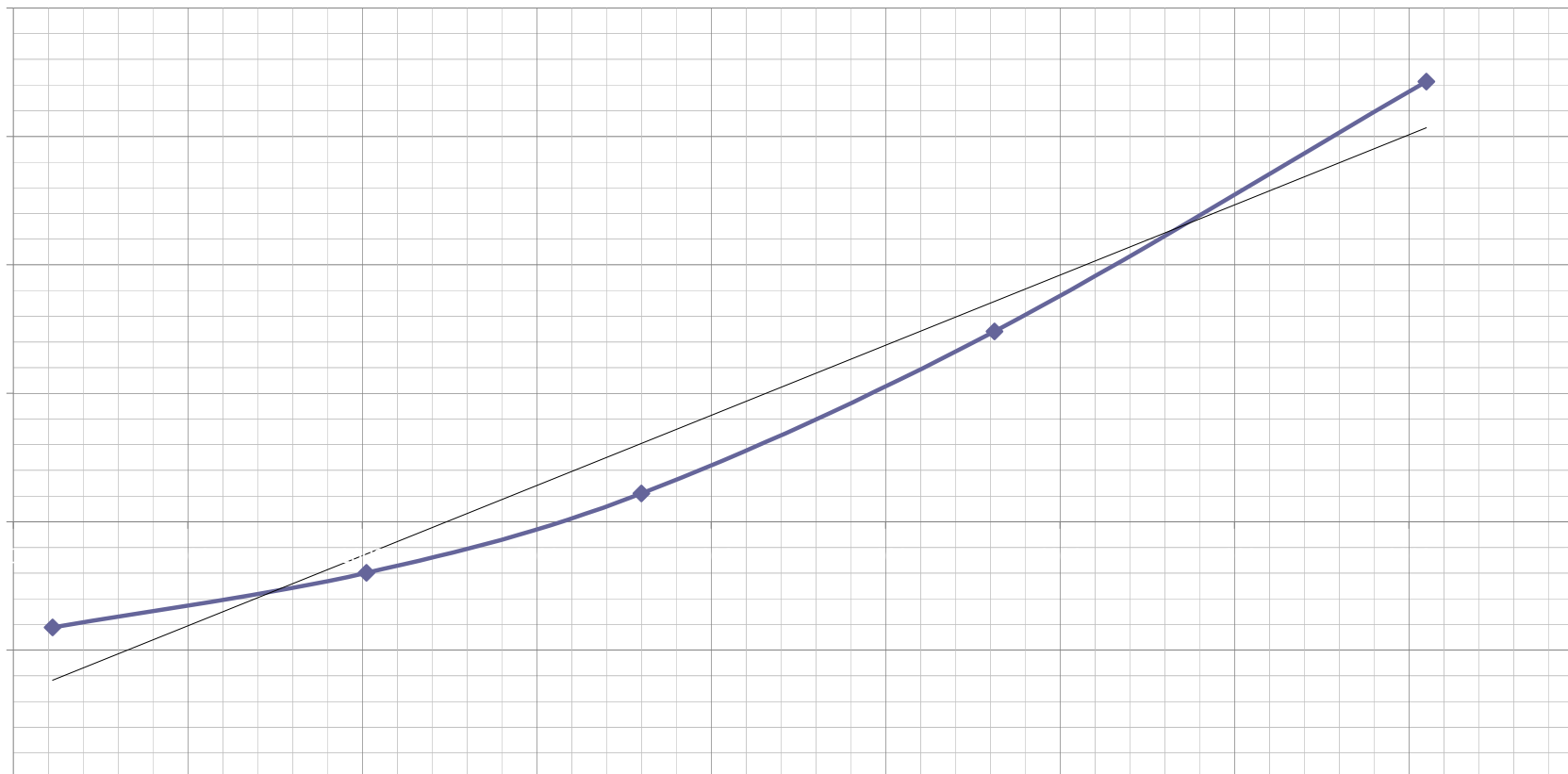


Saturation Curve



Stray load losses curve

$$y = 0,0546x - 135,63$$
$$R^2 = 0,9553$$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E180M4B	Voltage	400/690V	Nominal limit for IE2	91.2%
Serial Number	6160 SJ	Current	35.1/ 20.3 A	Duty Type	S1
Power	18.5kW	RPM	1455	Insulation Class	F
Power	25HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11168	REV:	1
	DATE:	: 16.12.2010		

	U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
	80	6400	3,80	237	6,2	231,0	9,6	221,5	0,432
	120	14400	4,37	265	8,3	256,7	35,3	221,5	0,432
	160	25600	5,52	289	13,2	275,8	54,4	221,5	0,432
	200	40000	6,88	335	20,5	314,5	93,1	221,5	0,432
	240	57600	8,60	389	31,9	357,1	135,6	221,5	0,432
	305	93025	11,76	502	59,7	442,3	220,8	221,5	0,432
	370	136900	16,16	645	112,9	532,1	310,6	221,5	0,432
	400	160000	18,96	736	155,4	580,3	358,8	221,5	0,432
	435	189225	23,47	895	238,0	657,0	435,5	221,5	0,432
	500	250000	41,02	1383	727,0	656,4	434,9	221,5	0,432

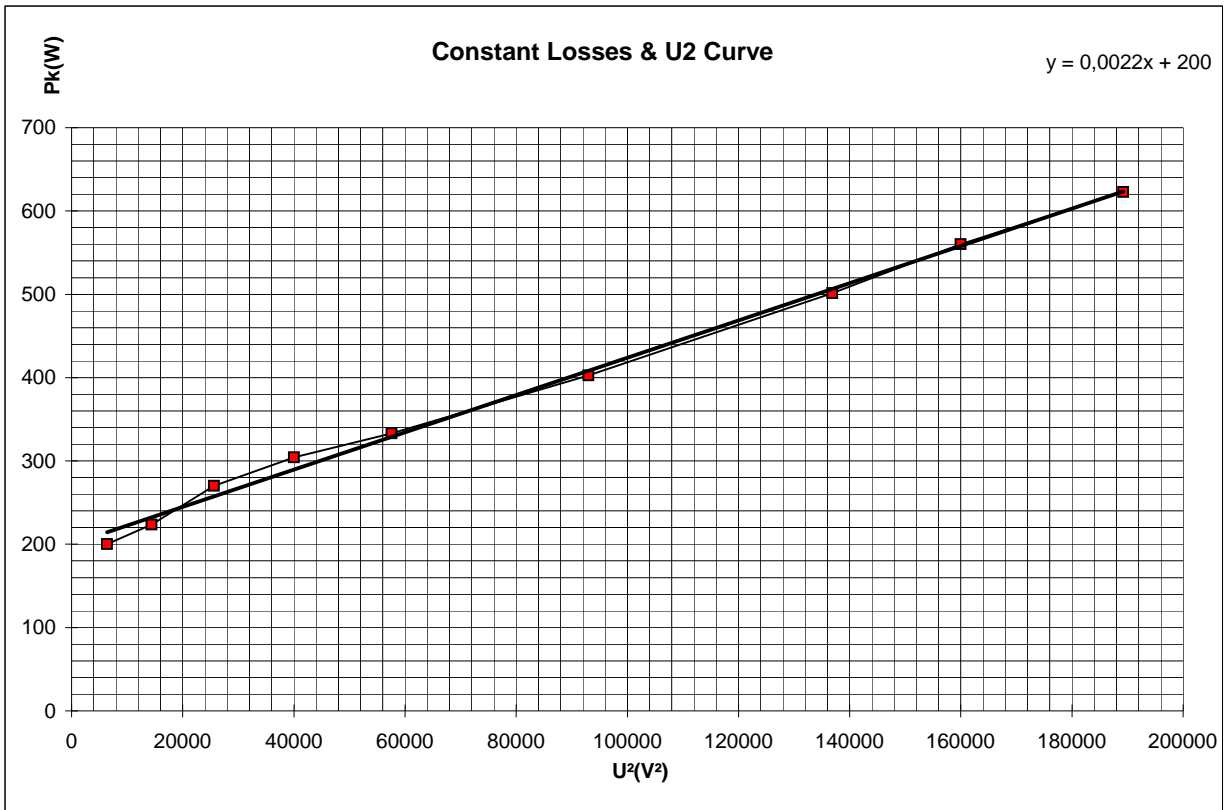
PERFORMANCE

Δt : 55 K

Voltage	U(V)	404	403	402	401	401	401
Phase current	Im(A)	15,80	21,07	27,58	35,10	42,99	51,72
Input Power	Pin(W)	5589	10489	15513	20572	25689	30919
Resistance	R()	0,432	0,432	0,432	0,432	0,432	0,432
Copper Losses	Pcu(W)	108	192	329	532	798	1155
Iron Losses	Pfe(W)	359	359	359	359	359	359
	Pcu+Pstv(W)	467	551	687	891	1157	1514
	Pin-Pcu-Pstv(W)	5122	9938	14826	19681	24532	29405
slip	s(%)	0,53	1,13	1,87	2,73	3,47	4,47
Rotor Losses	Pr(W)	27	113	277	538	850	1313
Friction Losses	Pstv(W)	221	221	221	221	221	221
Stray load losses	PLL(W)	11,6	46,4	104,5	185,7	290,2	417,8
	Pr+Pstv+PLL (W)	260	381	603	945	1362	1953
Output Power	Pout (W)	4862	9558	14223	18735	23170	27452
Apparent Power	S(VA)	11055	14709	19201	24378	29859	35920
Power Factor	COSphi	0,506	0,713	0,808	0,844	0,860	0,861
Efficiency	Eta(%)	87,0	91,1	91,7	91,1	90,2	88,8
Torque	M(Nm)	30,4	60,7	91,1	121,4	151,8	182,1
Speed	n(U/min)	1492	1483	1472	1459	1448	1433
	Pmech(W)	4742	9427	14035	18548	23010	27327

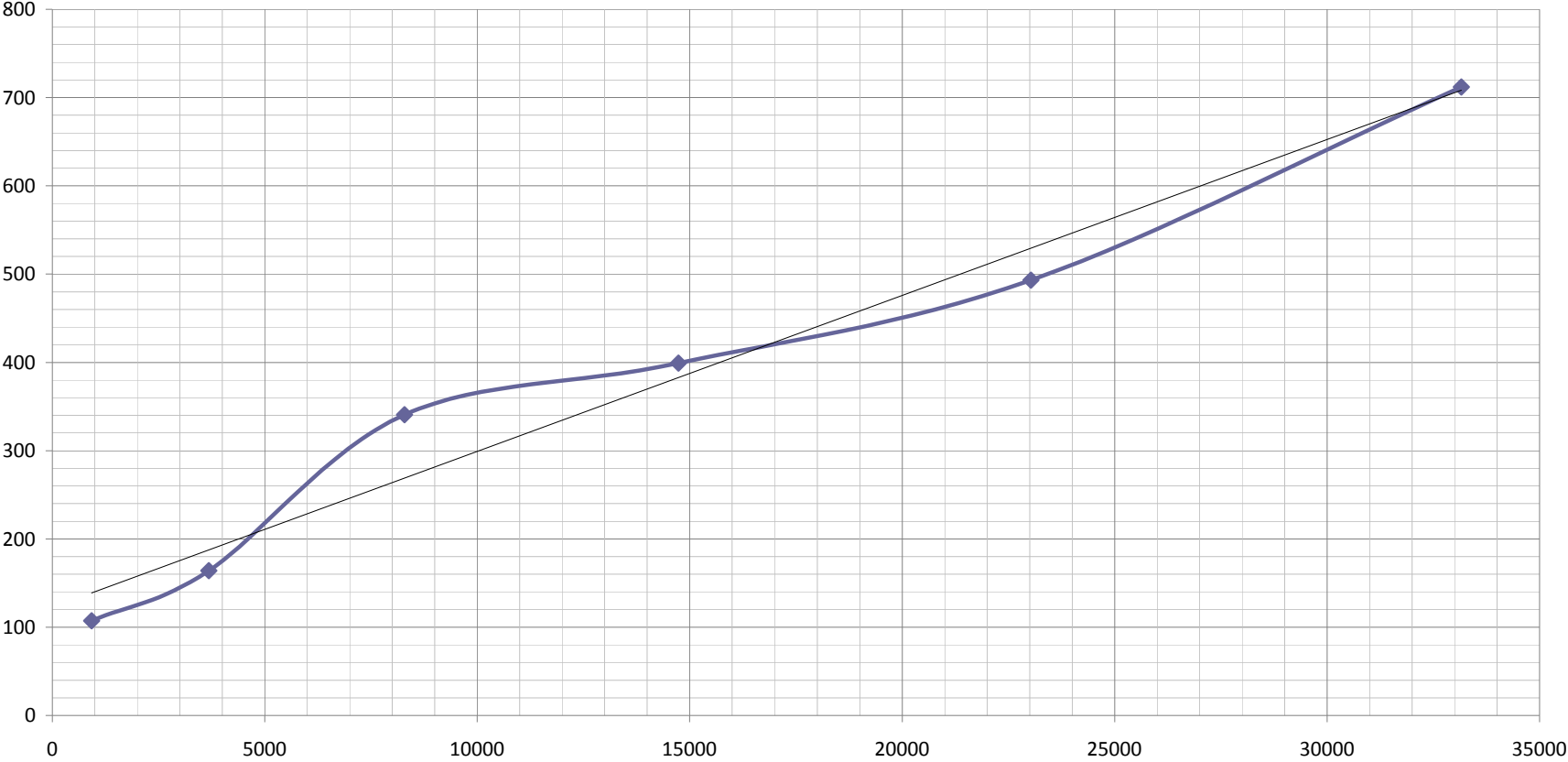
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,0177x + 122,5$
 $R^2 = 0,9661$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E180M2A	Voltage	400/690V	Nominal limit for IE2	91.3%
Serial Number	22154MI	Current	38.6/ 22.3 A	Duty Type	S1
Power	22kW	RPM	2945	Insulation Class	F
Power	30HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10776	REV:	1
	DATE:	: 20.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	3.93	432	7.2	424.8	11.0	413.8	0.466
120	14400	3.73	462	6.5	455.5	41.8	413.8	0.466
160	25600	4.25	502	8.4	493.6	79.8	413.8	0.466
200	40000	5.08	549	12.0	537.0	123.2	413.8	0.466
240	57600	6.09	596	17.3	578.7	165.0	413.8	0.466
305	93025	7.99	689	29.7	659.3	245.5	413.8	0.466
370	136900	10.43	798	50.7	747.3	333.5	413.8	0.466
400	160000	11.87	867	65.7	801.3	387.6	413.8	0.466
435	189225	14.46	980	97.4	882.6	468.8	413.8	0.466
500	250000	23.21	1380	251.0	1129.0	715.3	413.8	0.466

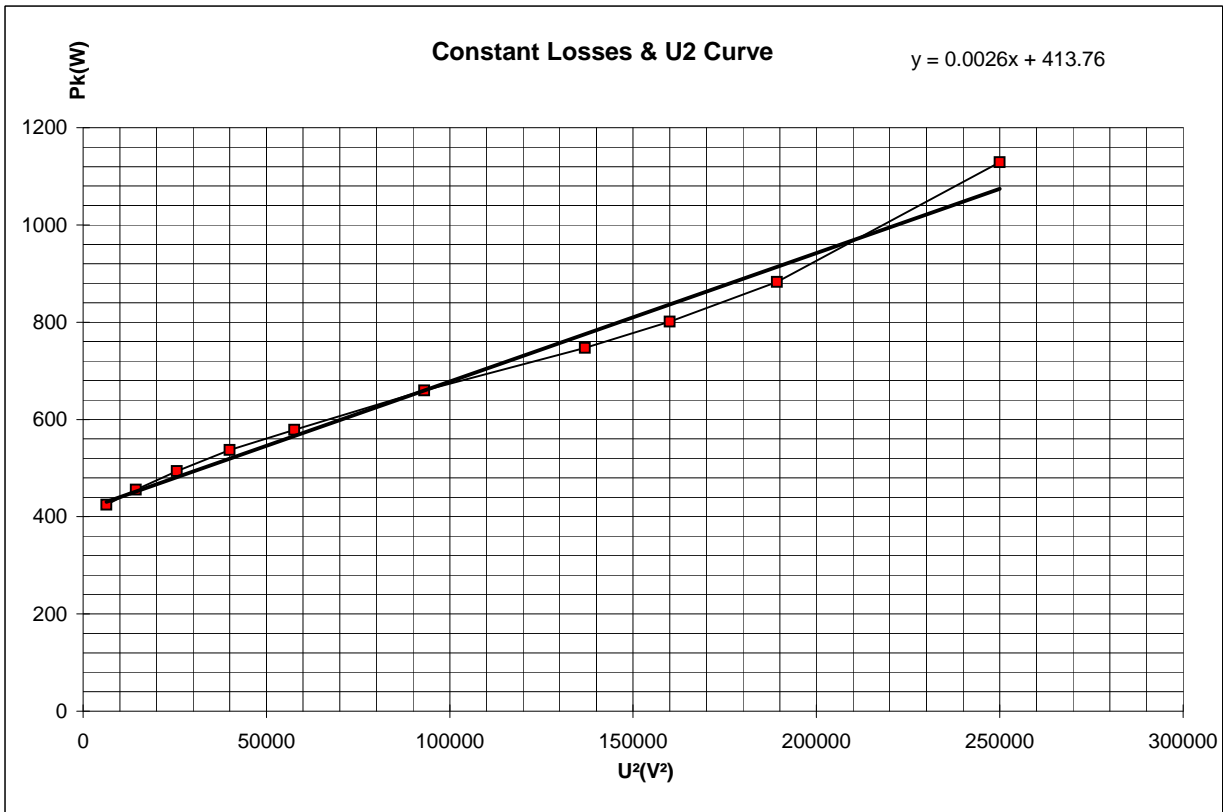
PERFORMANCE

Δt : 69 K

Voltage	U(V)	401	400	400	401	401	402
Phase current	Im(A)	15.58	22.18	30.11	38.58	47.27	56.60
Input Power	Pin(W)	6430	12230	18070	24000	29940	36180
Resistance	R()	0.466	0.466	0.466	0.466	0.466	0.466
Copper Losses	Pcu(W)	113	229	422	693	1041	1493
Iron Losses	Pfe(W)	388	388	388	388	388	388
	Pcu+Pstv(W)	501	617	810	1081	1429	1880
	Pin-Pcu-Pstv(W)	5929	11613	17260	22919	28511	34300
slip	s(%)	0.37	0.90	1.37	1.83	2.33	2.67
Rotor Losses	Pr(W)	22	105	236	420	665	915
Friction Losses	Pstv(W)	414	414	414	414	414	414
Stray load losses	PLL(W)	8.5	33.8	76.1	135.2	211.3	304.3
	Pr+Pstv+PLL (W)	444	552	726	969	1290	1633
Output Power	Pout (W)	5485	11061	16534	21950	27221	32667
Apparent Power	S(VA)	10823	15364	20861	26794	32829	39410
Power Factor	COSphi	0.594	0.796	0.866	0.896	0.912	0.918
Efficiency	Eta(%)	85.3	90.4	91.5	91.5	90.9	90.3
Torque	M(Nm)	17.8	35.7	53.5	71.3	89.1	107.0
Speed	n(U/min)	2989	2973	2959	2945	2930	2920
	Pmech(W)	5579	11099	16570	21989	27346	32703

PREPARED BY : H.GEDIK

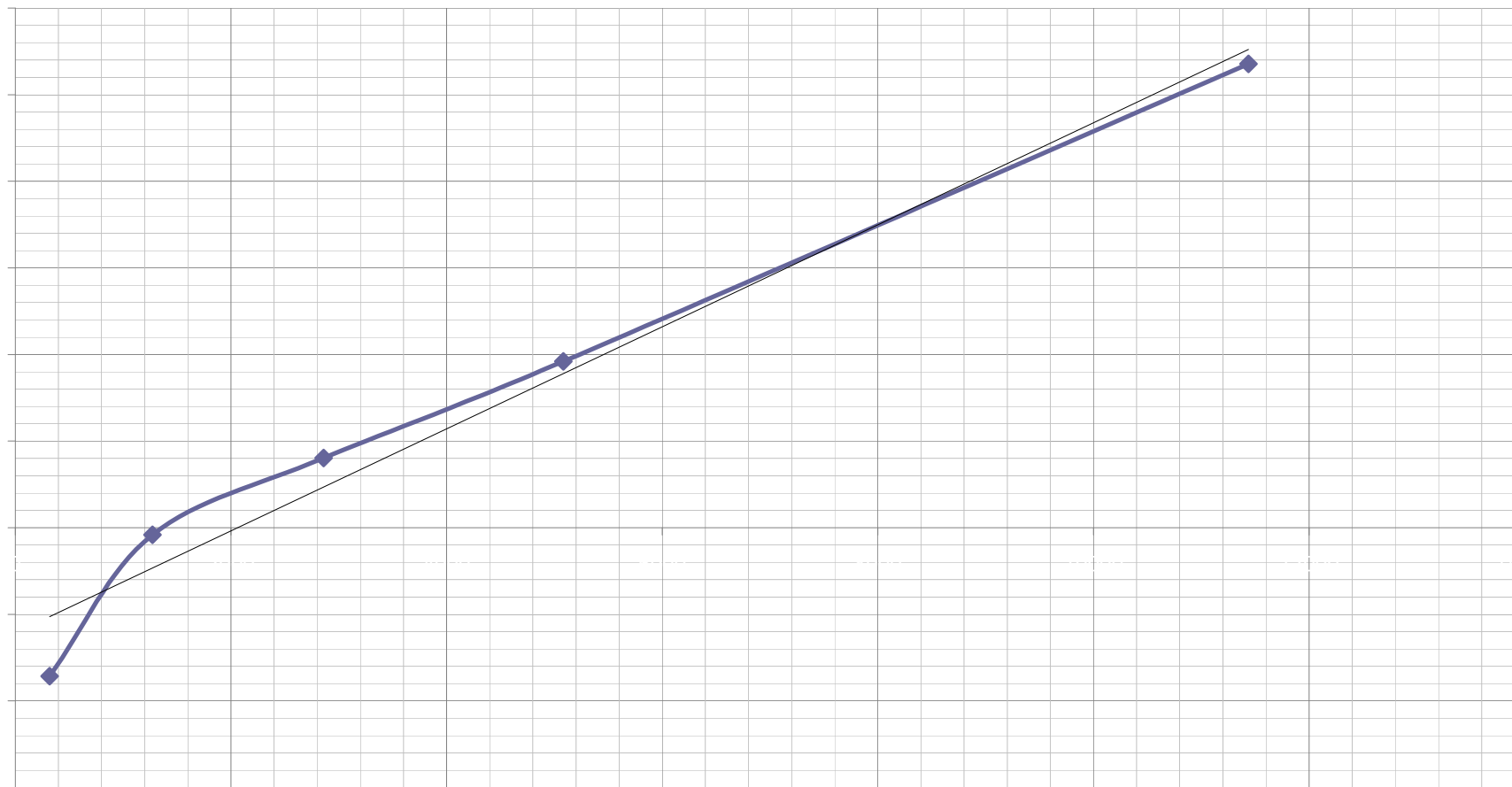
CONTROL : C.ERTÜRK



Stray load losses curve

$$y = 0.0294x - 60.654$$

$$R^2 = 0.9723$$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E180L4B	Voltage	400/690V	Nominal limit for IE2	91.6%
Serial Number	27815 RJ	Current	40.9/ 23.6 A	Duty Type	S1
Power	22kW	RPM	1460	Insulation Class	F
Power	30HP	Frequency	50Hz	IC	41

NOLOAD TEST

TEST NUM: : 11167
DATE: : 15.12.2010
REV: 1

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	3,43	242	4,1	237,9	14,8	223,1	0,352
120	14400	4,23	271	6,3	264,7	41,6	223,1	0,352
160	25600	5,49	325	10,6	314,4	91,3	223,1	0,352
200	40000	7,01	396	17,3	378,7	155,6	223,1	0,352
240	57600	8,73	467	26,8	439,7	216,6	223,1	0,352
305	93025	11,95	619	50,3	568,8	345,7	223,1	0,352
370	136900	16,43	794	95,0	698,6	475,5	223,1	0,352
400	160000	19,08	903	128,1	774,5	551,4	223,1	0,352
435	189225	24,63	1129	213,5	915,5	692,4	223,1	0,352
500	250000	45,41	1963	725,9	1237,5	1014,4	223,1	0,352

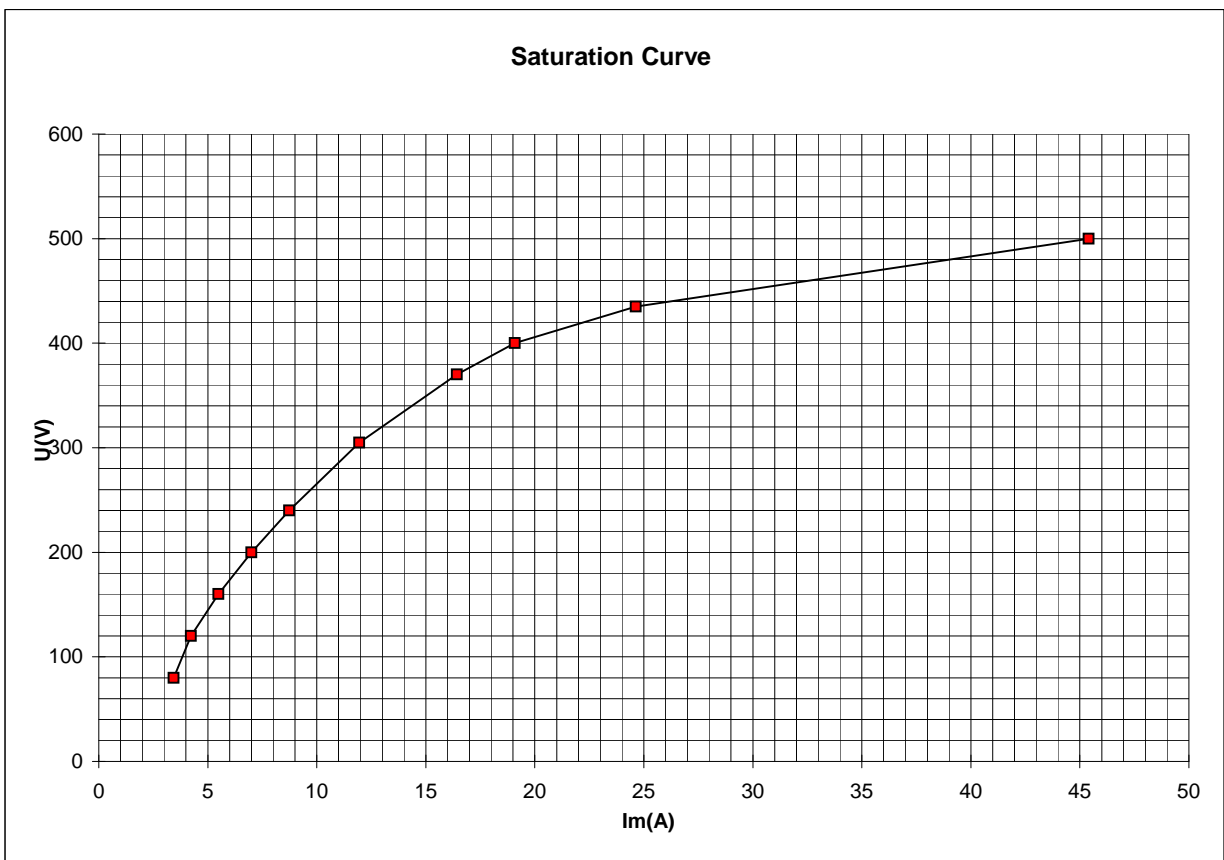
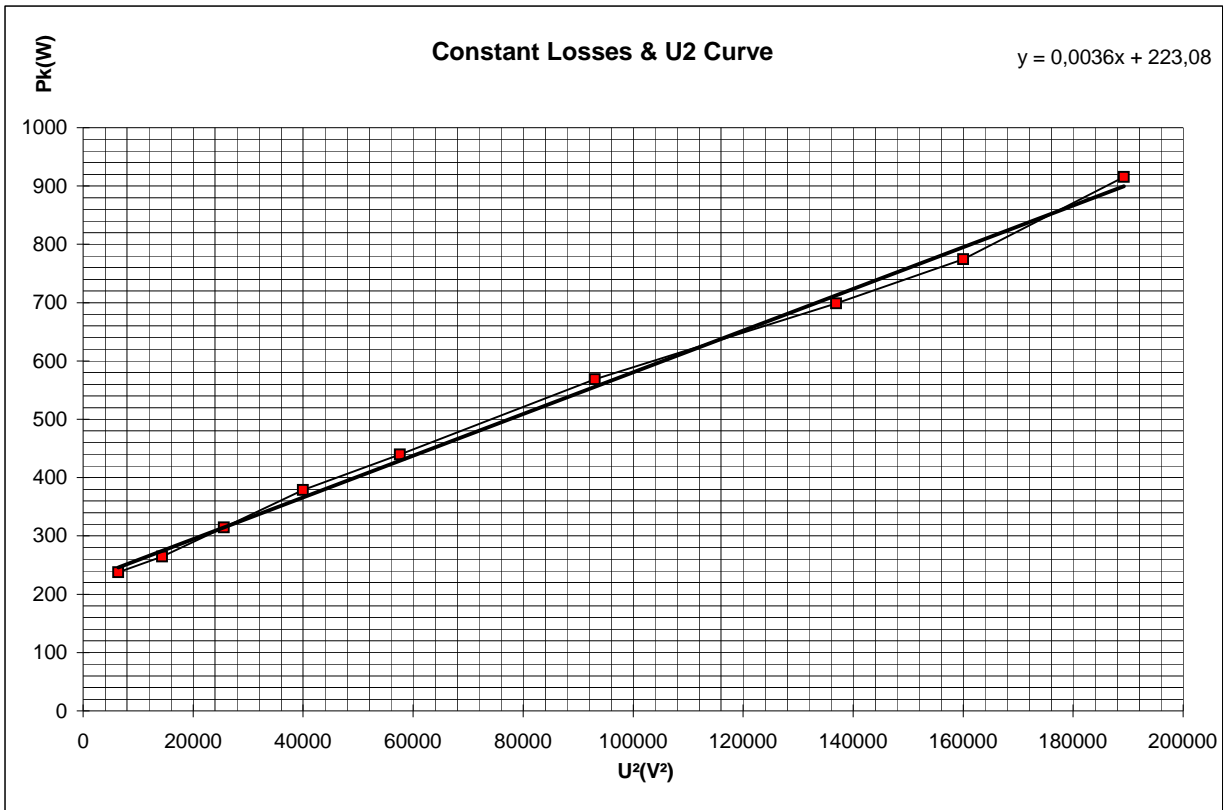
PERFORMANCE

Δt : 49 K

Voltage	U(V)	401	402	400	400	400	399
Phase current	Im(A)	19,16	25,04	32,59	40,84	50,18	60,84
Input Power	Pin(W)	6596	12395	18250	24295	30329	36572
Resistance	R()	0,352	0,352	0,352	0,352	0,352	0,352
Copper Losses	Pcu(W)	129	221	374	587	887	1303
Iron Losses	Pfe(W)	551	551	551	551	551	551
	Pcu+Pstv(W)	681	772	925	1138	1438	1854
	Pin-Pcu-Pstv(W)	5915	11623	17325	23157	28891	34718
slip	s(%)	0,33	0,93	1,60	2,13	3,13	4,00
Rotor Losses	Pr(W)	20	108	277	494	905	1389
Friction Losses	Pstv(W)	223	223	223	223	223	223
Stray load losses	PLL(W)	12,3	49,0	110,3	196,0	306,3	441,0
	Pr+Pstv+PLL (W)	255	381	611	913	1435	2053
Output Power	Pout (W)	5660	11242	16714	22244	27456	32665
Apparent Power	S(VA)	13307	17432	22579	28291	34769	42045
Power Factor	COSphi	0,496	0,711	0,808	0,859	0,872	0,870
Efficiency	Eta(%)	85,8	90,7	91,6	91,6	90,5	89,3
Torque	M(Nm)	36,1	72,2	108,3	144,4	180,5	216,6
Speed	n(U/min)	1495	1486	1476	1468	1453	1440
	Pmech(W)	5652	11235	16740	22198	27464	32663

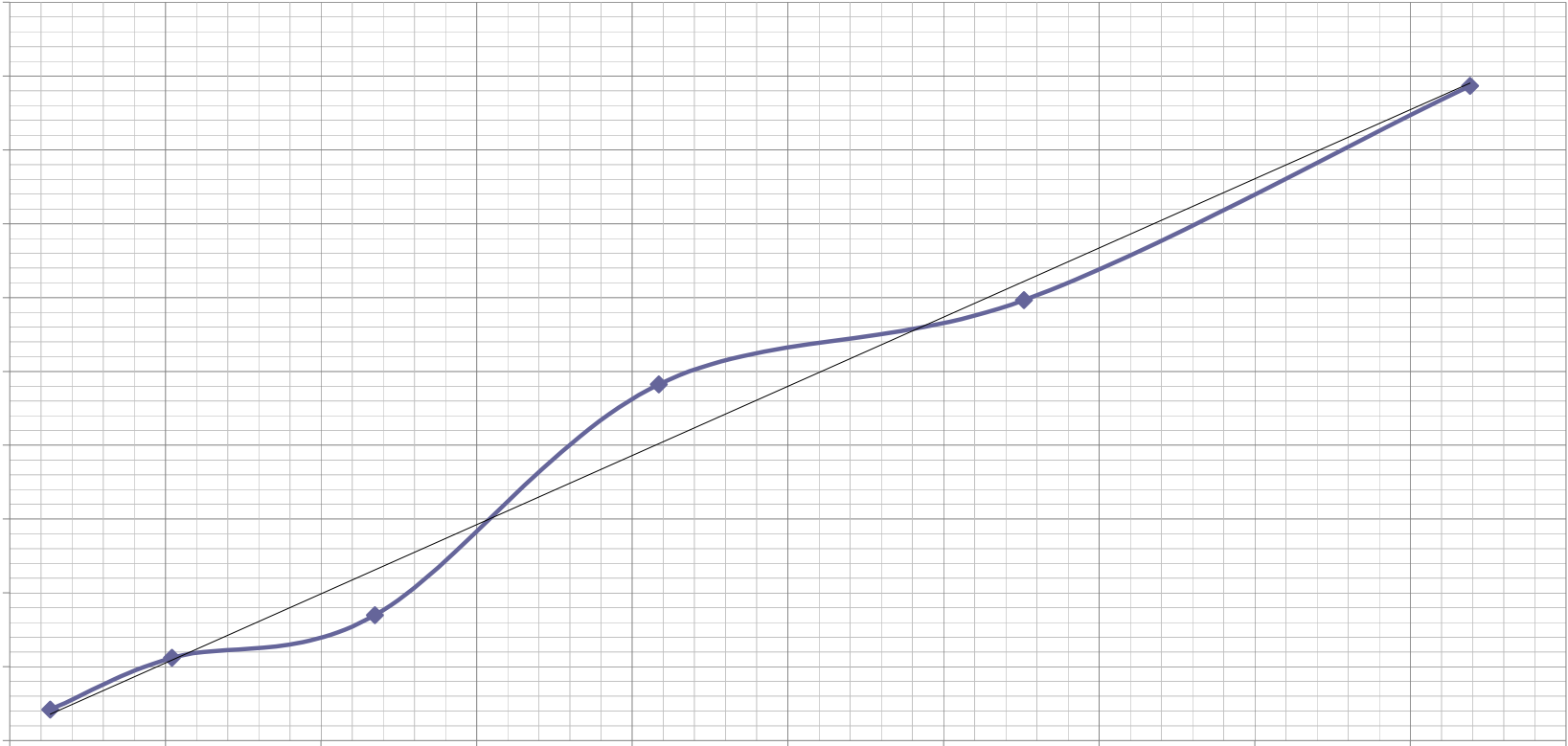
PREPARED BY : H.GEDİK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,0094x + 5,6003$
 $R^2 = 0,98$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E200L2B	Voltage	400/690V	Nominal limit for IE2	92.0%
Serial Number	15532 RI	Current	55.1 / 31.8 A	Duty Type	S1
Power	30kW	RPM	2960	Insulation Class	F
Power	40HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10778	REV:	1
	DATE:	: 14.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	7,21	807	11,9	795,1	18,9	776,2	0,228
120	14400	6,40	812	9,3	802,7	26,5	776,2	0,228
160	25600	7,31	886	12,2	873,8	97,6	776,2	0,228
200	40000	8,62	934	16,9	917,1	140,9	776,2	0,228
240	57600	10,31	1011	24,2	986,8	210,6	776,2	0,228
305	93025	14,03	1131	44,9	1086,1	309,9	776,2	0,228
370	136900	19,18	1290	83,8	1206,2	430,0	776,2	0,228
400	160000	22,63	1440	116,7	1323,3	547,1	776,2	0,228
435	189225	29,48	1610	198,1	1411,9	635,7	776,2	0,228
500	250000	53,63	2550	655,8	1894,2	1118,0	776,2	0,228

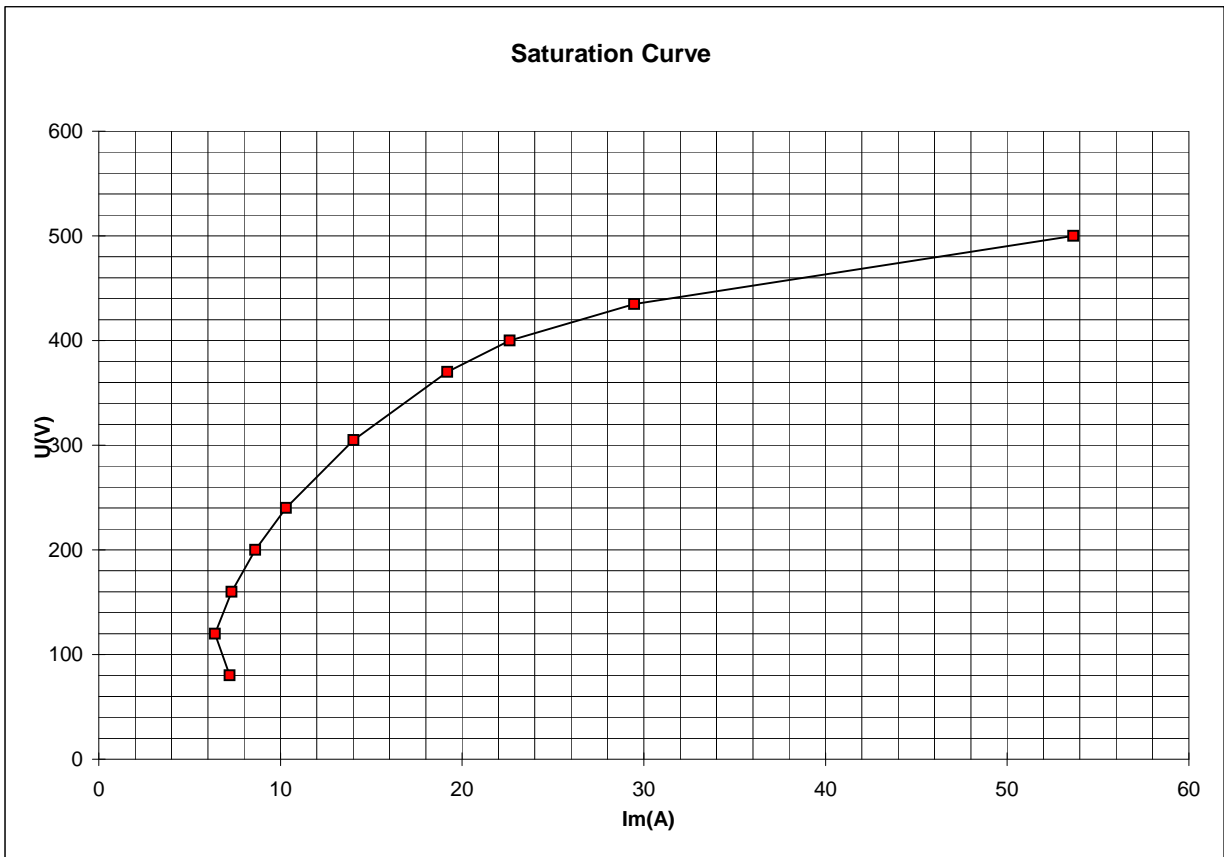
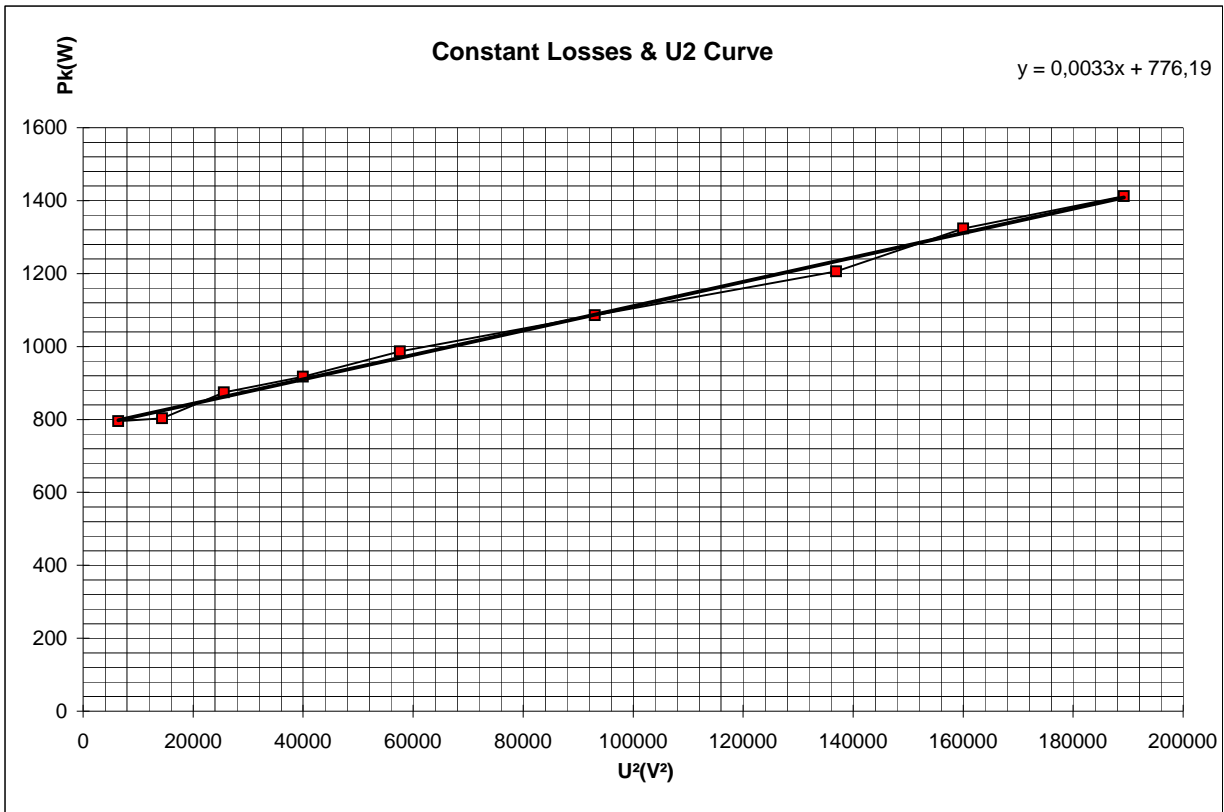
PERFORMANCE

Δt : 49 K

Voltage	U(V)	399	404	401	402	400	401
Phase current	Im(A)	26,85	31,79	44,30	55,08	66,97	78,77
Input Power	Pin(W)	8825	16502	24310	32400	40415	48581
Resistance	R()	0,228	0,228	0,228	0,228	0,228	0,228
Copper Losses	Pcu(W)	164	230	447	692	1022	1415
Iron Losses	Pfe(W)	547	547	547	547	547	547
	Pcu+Pstv(W)	711	777	995	1239	1570	1962
	Pin-Pcu-Pstv(W)	8114	15725	23315	31161	38845	46619
slip	s(%)	0,13	0,50	0,70	1,13	1,47	1,70
Rotor Losses	Pr(W)	11	79	163	353	570	793
Friction Losses	Pstv(W)	776	776	776	776	776	776
Stray load losses	PLL(W)	10,7	42,9	96,5	171,6	268,1	386,1
	Pr+Pstv+PLL (W)	798	898	1036	1301	1614	1955
Output Power	Pout (W)	7316	14827	22280	29860	37231	44665
Apparent Power	S(VA)	18553	22245	30769	38351	46396	54708
Power Factor	COSphi	0,476	0,742	0,790	0,845	0,871	0,888
Efficiency	Eta(%)	82,9	89,8	91,6	92,2	92,1	91,9
Torque	M(Nm)	24,3	48,6	72,8	97,1	121,4	145,7
Speed	n(U/min)	2996	2985	2979	2966	2956	2949
	Pmech(W)	7616	15176	22711	30159	37572	44979

PREPARED BY : H.GEDIK

CONTROL : H.AÇIKGÖZ



Stray load losses curve

$y = 0,0182x - 320,28$
 $R^2 = 0,9784$



◆ T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E200L4D	Voltage	400/690V	Nominal limit for IE2	92,30%
Serial Number	6113	Current	55.7 / 32.2 A	Duty Type	S1
Power	30kW	RPM	1470	Insulation Class	F
Power	40HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11231	REV: 1
	DATE:	: 15.12.2010	

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	3,64	183	3,5	179,0	31,6	147,4	0,267
120	14400	5,08	229	6,9	221,7	74,3	147,4	0,267
160	25600	6,68	293	11,9	281,5	134,1	147,4	0,267
200	40000	8,57	366	19,6	346,4	199,0	147,4	0,267
240	57600	10,76	459	30,9	428,3	280,9	147,4	0,267
305	93025	14,57	650	56,7	592,9	445,5	147,4	0,267
370	136900	19,57	878	102,3	775,4	628,0	147,4	0,267
400	160000	22,39	1016	133,9	881,8	734,4	147,4	0,267
435	189225	27,66	1233	204,2	1028,4	881,0	147,4	0,267
500	250000	44,73	1923	534,3	1388,7	1241,3	147,4	0,267

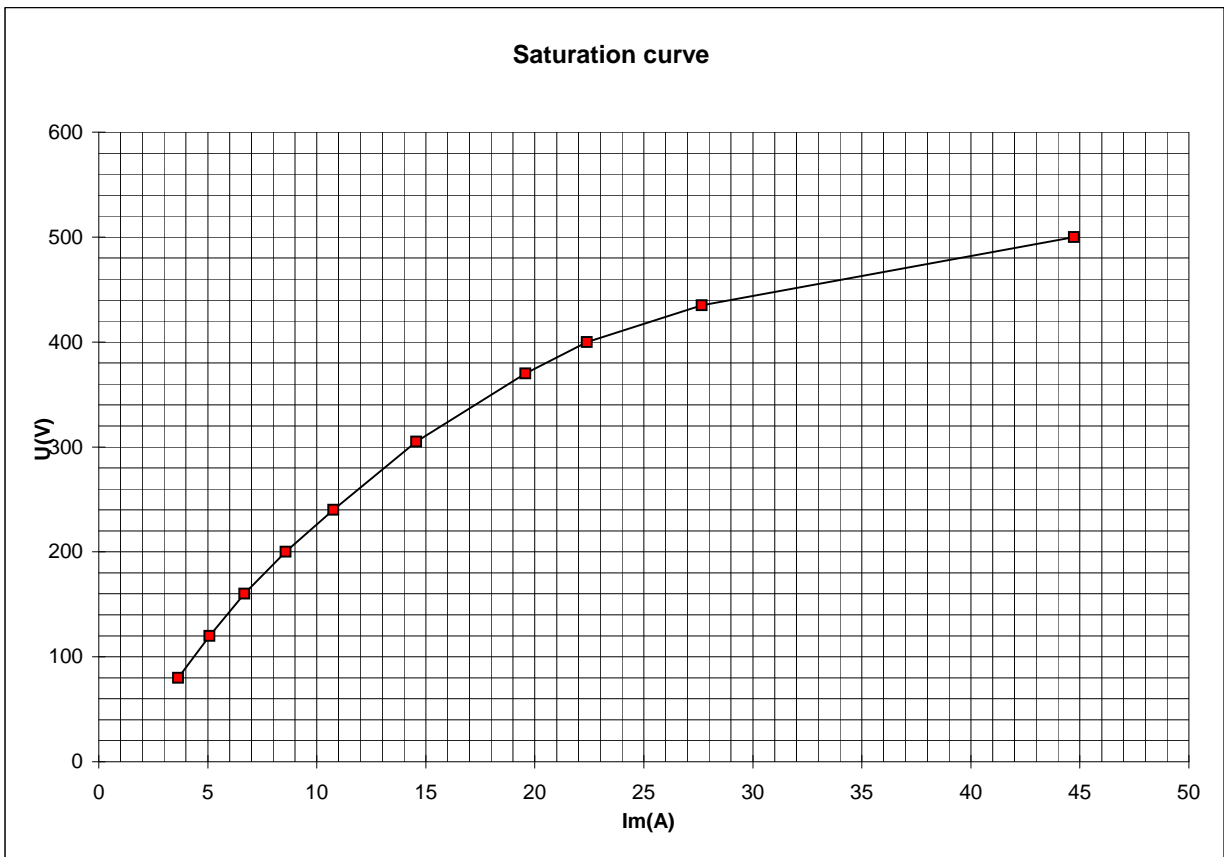
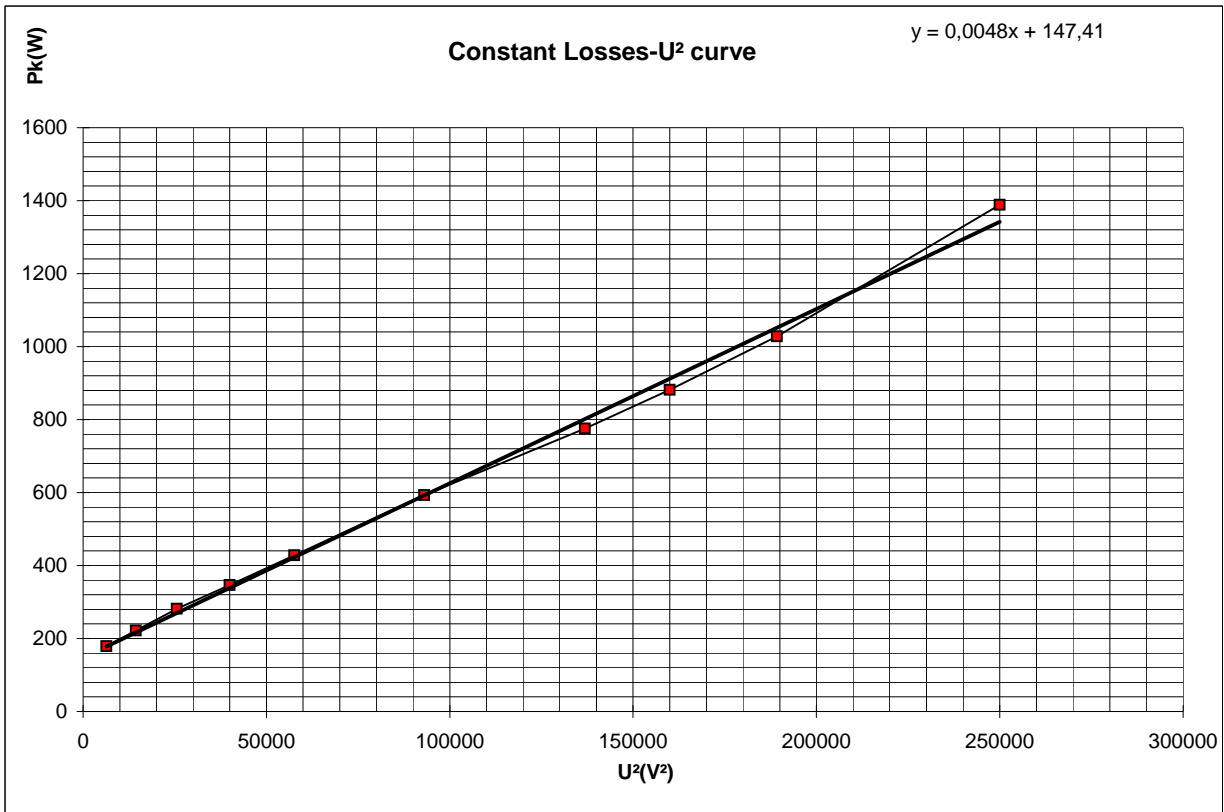
PERFORMANCE

Δt : 50 K

Voltage	U(V)	400	400	400	400	399	400
Phase current	Im(A)	25,95	33,62	43,83	55,70	68,10	80,90
Input Power	Pin(W)	8712	16586	24444	32669	40963	49289
Resistance	R()	0,267	0,267	0,267	0,267	0,267	0,267
Copper Losses	Pcu(W)	180	302	513	828	1238	1747
Iron Losses	Pfe(W)	734	734	734	734	734	734
	Pcu+Pstv(W)	914	1036	1247	1563	1973	2482
	Pin-Pcu-Pstv(W)	7798	15550	23197	31106	38990	46807
slip	s(%)	0,40	0,93	1,20	1,60	2,27	2,60
Rotor Losses	Pr(W)	31	145	278	498	883	1216
Friction Losses	Pstv(W)	147	147	147	147	147	147
Stray load losses	PLL(W)	17,7	70,8	159,3	283,1	442,4	637,0
	Pr+Pstv+PLL (W)	196	363	585	928	1473	2001
Output Power	Pout (W)	7601	15186	22612	30178	37517	44806
Apparent Power	S(VA)	17976	23293	30369	38590	47063	56049
Power Factor	COSphi	0,485	0,712	0,805	0,847	0,870	0,879
Efficiency	Eta(%)	87,3	91,6	92,5	92,4	91,6	90,9
Torque	M(Nm)	48,9	97,8	146,7	195,6	244,5	293,4
Speed	n(U/min)	1494	1486	1482	1476	1466	1461
	Pmech(W)	7650	15219	22767	30233	37536	44890

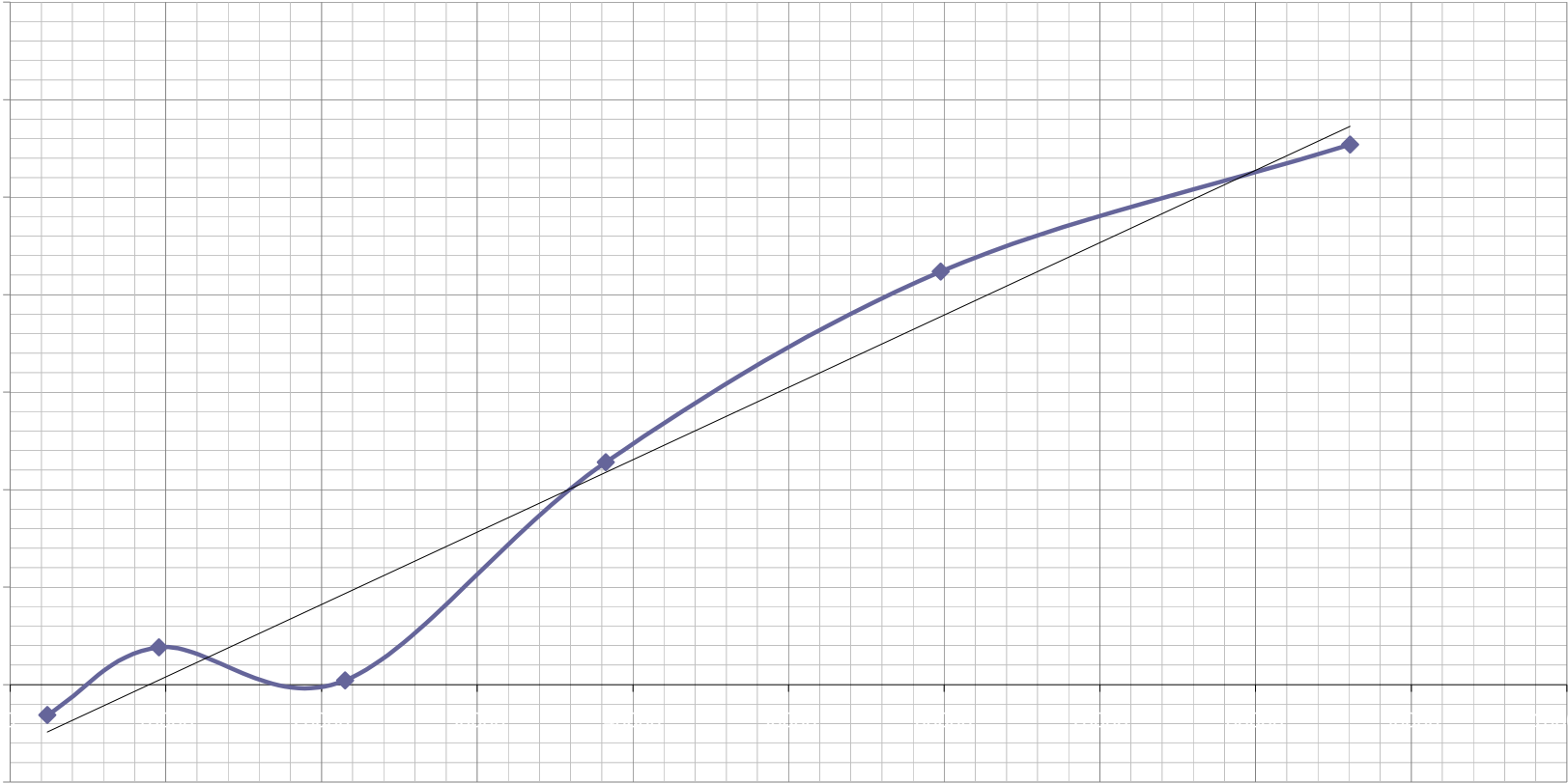
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,0074x - 66,461$
 $R^2 = 0,9592$



◆ $T^2(Nm^2)$ — Linear ($T^2(Nm^2)$)



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E200L2C	Voltage	400/690V	Nominal limit for IE2	92,70%
Serial Number		Current	65.0 / 37.5 A	Duty Type	S1
Power	37kW	RPM	2960	Insulation Class	F
Power	50HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 11199	REV:	1
	DATE:	: 15.12.2010		

	U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
	80	6400	7,45	787	13,8	773,5	16,2	757,3	0,248
	120	14400	6,66	825	11,0	814,1	56,8	757,3	0,248
	160	25600	7,24	872	13,0	858,8	101,5	757,3	0,248
	200	40000	8,48	918	17,8	900,7	143,4	757,3	0,248
	240	57600	10,01	978	24,8	953,5	196,2	757,3	0,248
	305	93025	13,17	1111	43,0	1068,3	311,0	757,3	0,248
	370	136900	18,03	1277	80,6	1196,3	439,0	757,3	0,248
	400	160000	21,31	1391	112,6	1278,7	521,5	757,3	0,248
	435	189225	27,11	1567	182,3	1385,2	627,9	757,3	0,248
	500	250000	49,56	2246	609,0	1636,5	879,3	757,3	0,248

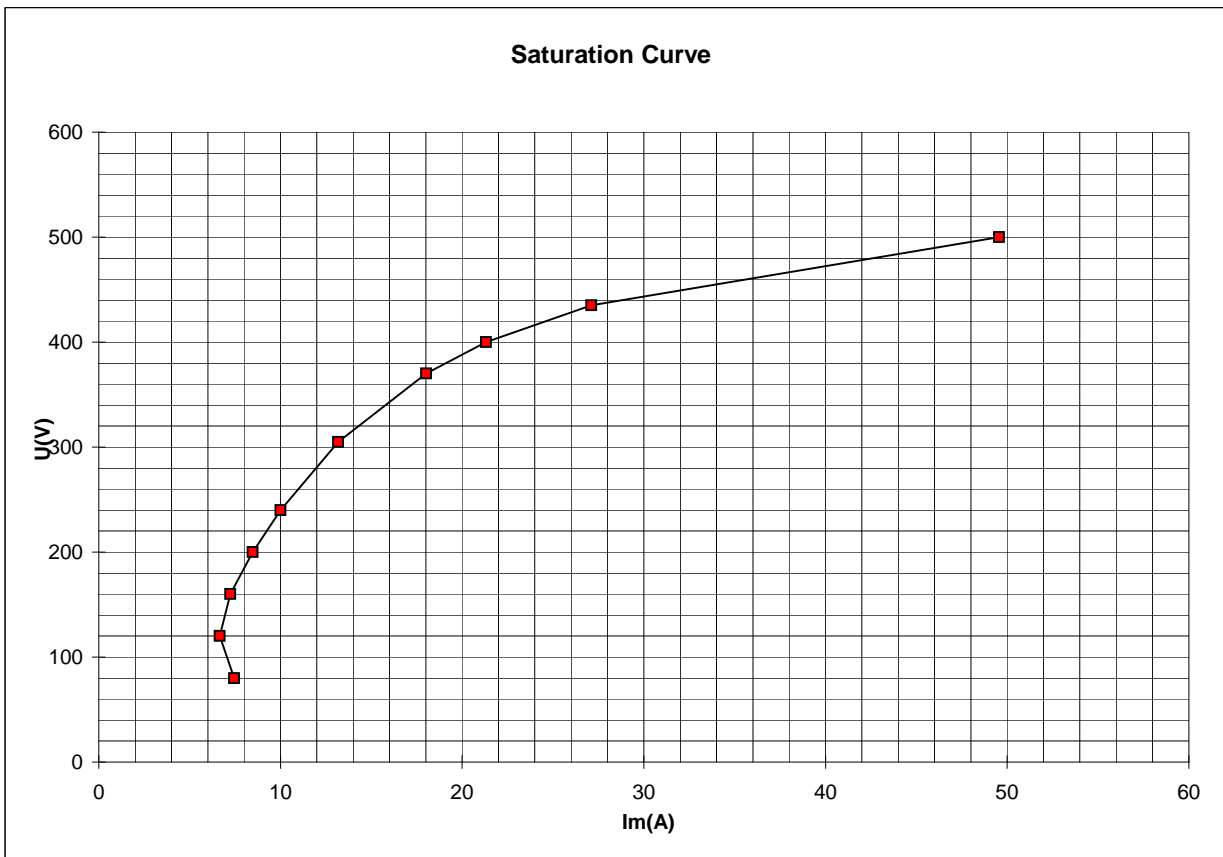
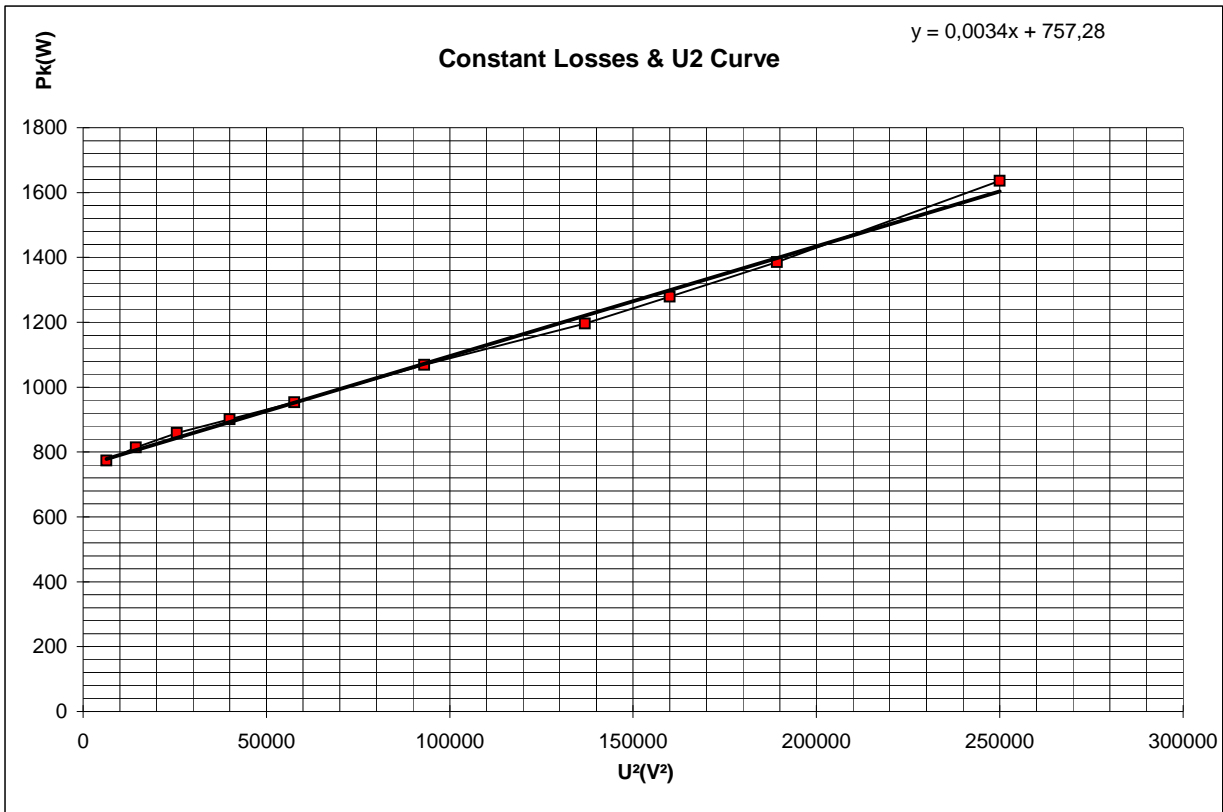
PERFORMANCE

Δt : 70 K

Voltage	U(V)	401	402	402	401	400	400
Phase current	Im(A)	26,73	40,23	49,81	63,84	77,05	92,70
Input Power	Pin(W)	11098	20495	30289	40181	50125	60452
Resistance	R()	0,248	0,248	0,248	0,248	0,248	0,248
Copper Losses	Pcu(W)	177	401	615	1011	1472	2131
Iron Losses	Pfe(W)	521	521	521	521	521	521
	Pcu+Pstv(W)	699	923	1137	1532	1994	2653
	Pin-Pcu-Pstv(W)	10399	19572	29152	38649	48131	57799
slip	s(%)	0,03	0,67	1,03	1,37	1,90	2,00
Rotor Losses	Pr(W)	3	130	301	528	914	1156
Friction Losses	Pstv(W)	757	757	757	757	757	757
Stray load losses	PLL(W)	17,9	71,5	160,9	286,1	447,0	643,7
	Pr+Pstv+PLL (W)	779	959	1219	1572	2119	2557
Output Power	Pout (W)	9621	18613	27933	37077	46013	55243
Apparent Power	S(VA)	18565	28014	34680	44338	53380	64223
Power Factor	COSphi	0,598	0,732	0,873	0,906	0,939	0,941
Efficiency	Eta(%)	86,7	90,8	92,2	92,3	91,8	91,4
Torque	M(Nm)	29,9	59,8	89,7	119,6	149,5	179,4
Speed	n(U/min)	2999	2980	2969	2959	2943	2940
	Pmech(W)	9390	18661	27889	37060	46074	55233

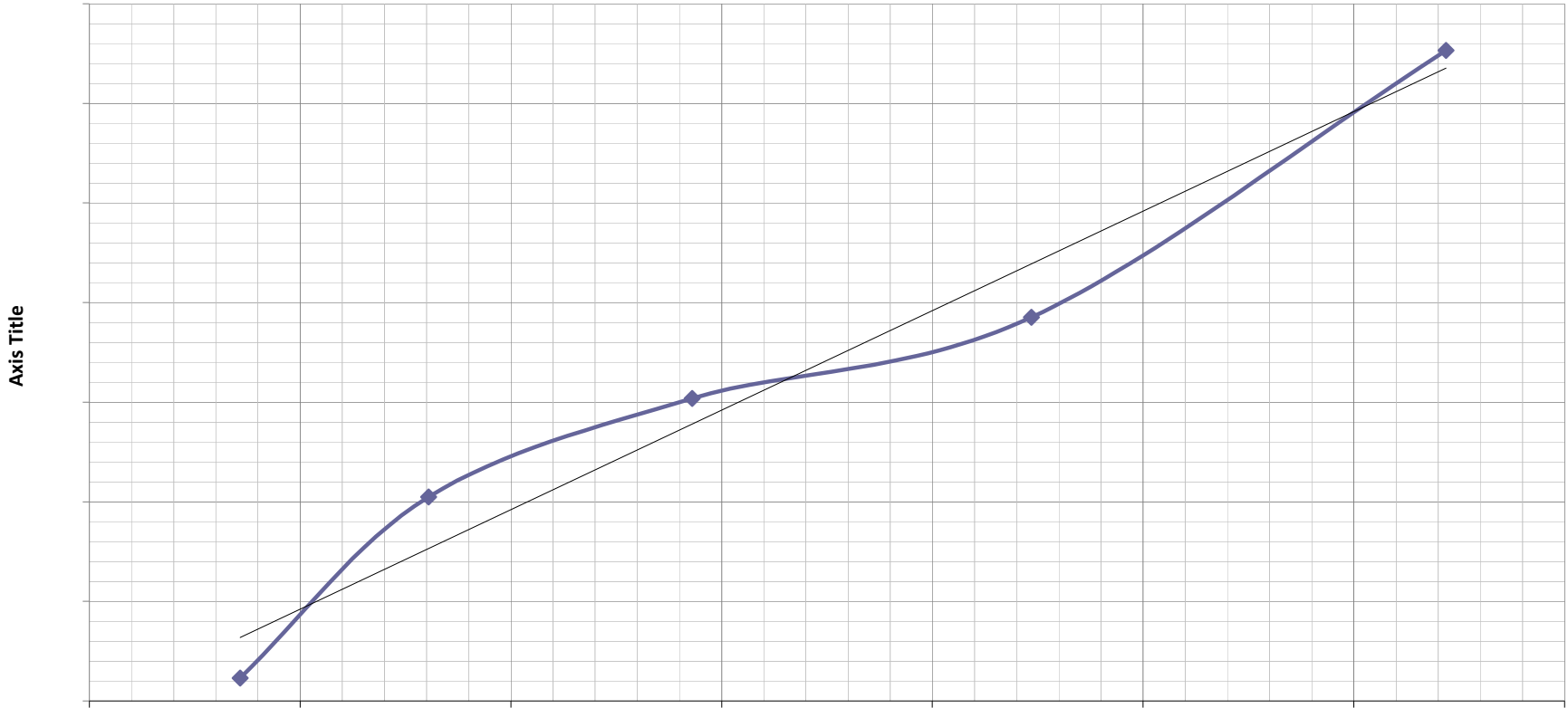
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,02x - 7,6038$
 $R^2 = 0,9621$



Axis Title

—◆— T²(Nm²) — Linear (T²(Nm²))

**3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1****ELECTRIC MOTOR PLANT**

NAMEPLATE VALUES

Motor Type	Q2E225M4C	Voltage	400/690V	Nominal limit for IE2	92.7%
Serial Number	26436 VH	Current	69.0/39.3 A	Duty Type	S1
Power	37kW	RPM	1480	Insulation Class	F
Power	50HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10867	REV:	1
	DATE:	: 14.12.2010		

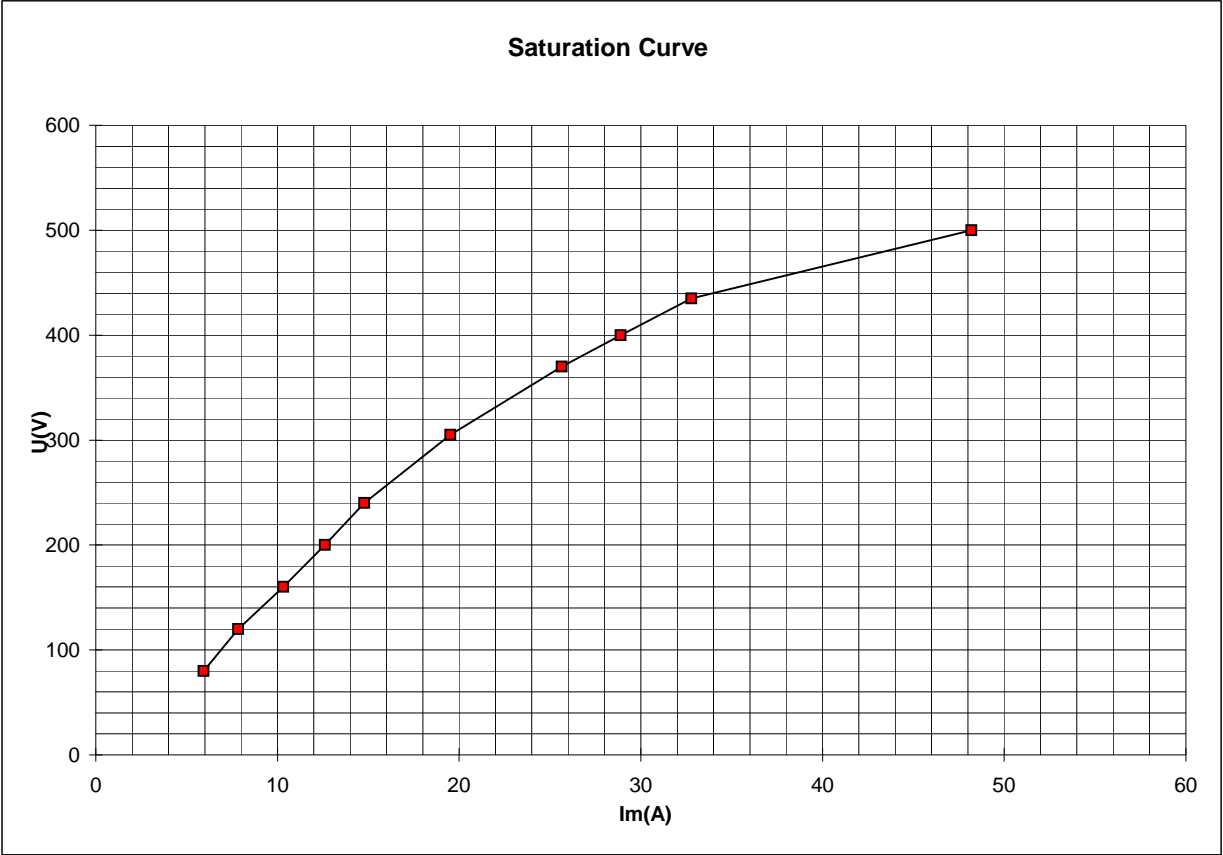
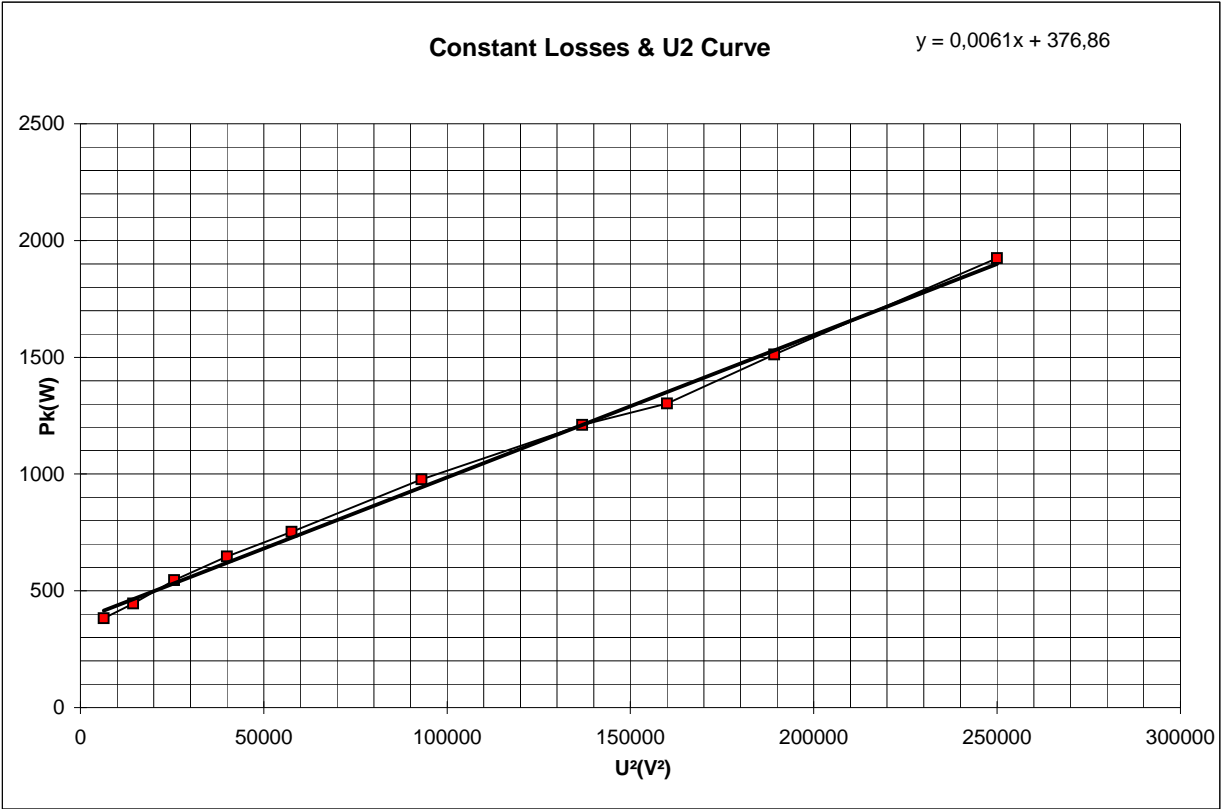
U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	5,93	388	5,8	382,2	5,3	376,9	0,166
120	14400	7,85	456	10,2	445,8	68,9	376,9	0,166
160	25600	10,33	563	17,7	545,3	168,4	376,9	0,166
200	40000	12,61	673	26,4	646,6	269,7	376,9	0,166
240	57600	14,78	789	36,3	752,7	375,9	376,9	0,166
305	93025	19,51	1040	63,2	976,8	599,9	376,9	0,166
370	136900	25,65	1320	109,2	1210,8	834,0	376,9	0,166
400	160000	28,88	1440	138,5	1301,5	924,7	376,9	0,166
435	189225	32,79	1690	178,5	1511,5	1134,7	376,9	0,166
500	250000	48,20	2310	385,7	1924,3	1547,5	376,9	0,166

PERFORMANCE**Δt : 39 K**

Voltage	U(V)	402	403	399	402	401	400
Phase current	Im(A)	33,22	42,27	54,23	67,97	84,37	98,23
Input Power	Pin(W)	10650	20210	29970	39750	49700	59840
Resistance	R()	0,166	0,166	0,166	0,166	0,166	0,166
Copper Losses	Pcu(W)	183	297	488	767	1182	1602
Iron Losses	Pfe(W)	925	925	925	925	925	925
	Pcu+Pstv(W)	1108	1221	1413	1691	2106	2527
	Pin-Pcu-Pstv(W)	9542	18989	28557	38059	47594	57313
slip	s(%)	0,40	0,67	0,87	1,13	1,53	1,67
Rotor Losses	Pr(W)	38	127	247	431	730	955
Friction Losses	Pstv(W)	377	377	377	377	377	377
Stray load losses	PLL(W)	15,2	60,7	136,5	242,7	379,3	546,1
	Pr+Pstv+PLL (W)	430	564	761	1051	1486	1878
Output Power	Pout (W)	9112	18425	27796	37008	46108	55435
Apparent Power	S(VA)	23131	29503	37480	47324	58597	68058
Power Factor	COSphi	0,460	0,685	0,800	0,840	0,848	0,879
Efficiency	Eta(%)	85,6	91,2	92,7	93,1	92,8	92,6
Torque	M(Nm)	60,1	120,2	180,3	240,4	300,5	360,6
Speed	n(U/min)	1494	1490	1487	1483	1477	1475
	Pmech(W)	9403	18755	28076	37334	46479	55699

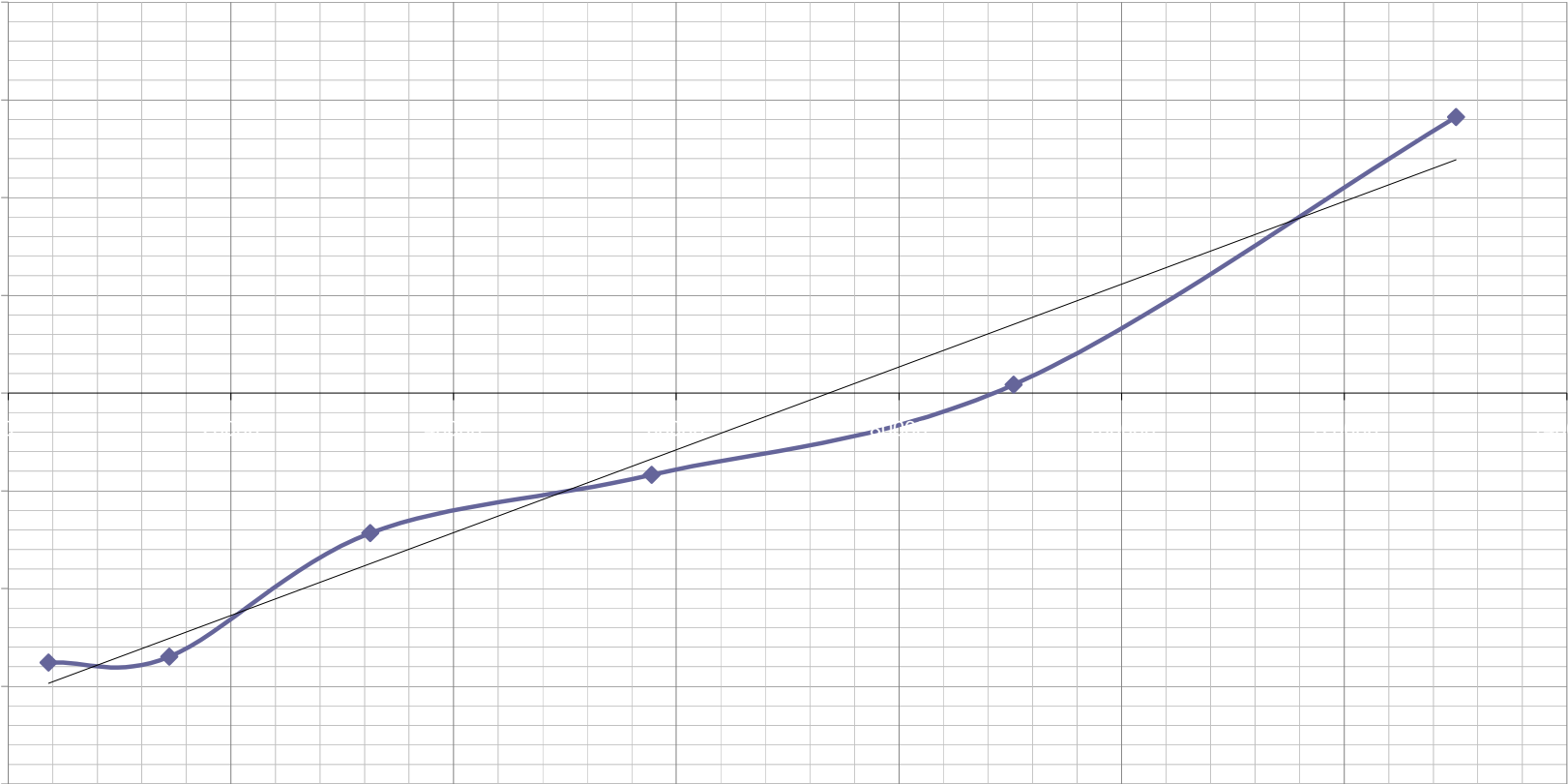
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,0042x - 312,41$
 $R^2 = 0,9642$



—◆— T²(Nm²) — Linear (T²(Nm²))



3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1

ELECTRIC MOTOR PLANT

NAMEPLATE VALUES

Motor Type	Q2E225M2B	Voltage	400/690V	Nominal limit for IE2	92.9%
Serial Number	27772 VH	Current	82.1 / 47.4 A	Duty Type	S1
Power	45kW	RPM	2960	Insulation Class	F
Power	60HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10871	REV:	1
	DATE:	: 15.12.2010		

U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	8,28	855	9,8	845,2	4,1	841,1	0,143
120	14400	8,10	910	9,4	900,6	59,5	841,1	0,143
160	25600	9,40	984	12,6	971,4	130,2	841,1	0,143
200	40000	11,25	1072	18,1	1053,9	212,8	841,1	0,143
240	57600	13,60	1161	26,4	1134,6	293,4	841,1	0,143
305	93025	17,69	1356	44,8	1311,2	470,1	841,1	0,143
370	136900	22,62	1570	73,1	1496,9	655,7	841,1	0,143
400	160000	26,48	1670	100,2	1569,8	728,6	841,1	0,143
435	189225	31,00	1930	137,5	1792,5	951,4	841,1	0,143
500	250000	53,43	2450	408,3	2041,7	1200,6	841,1	0,143

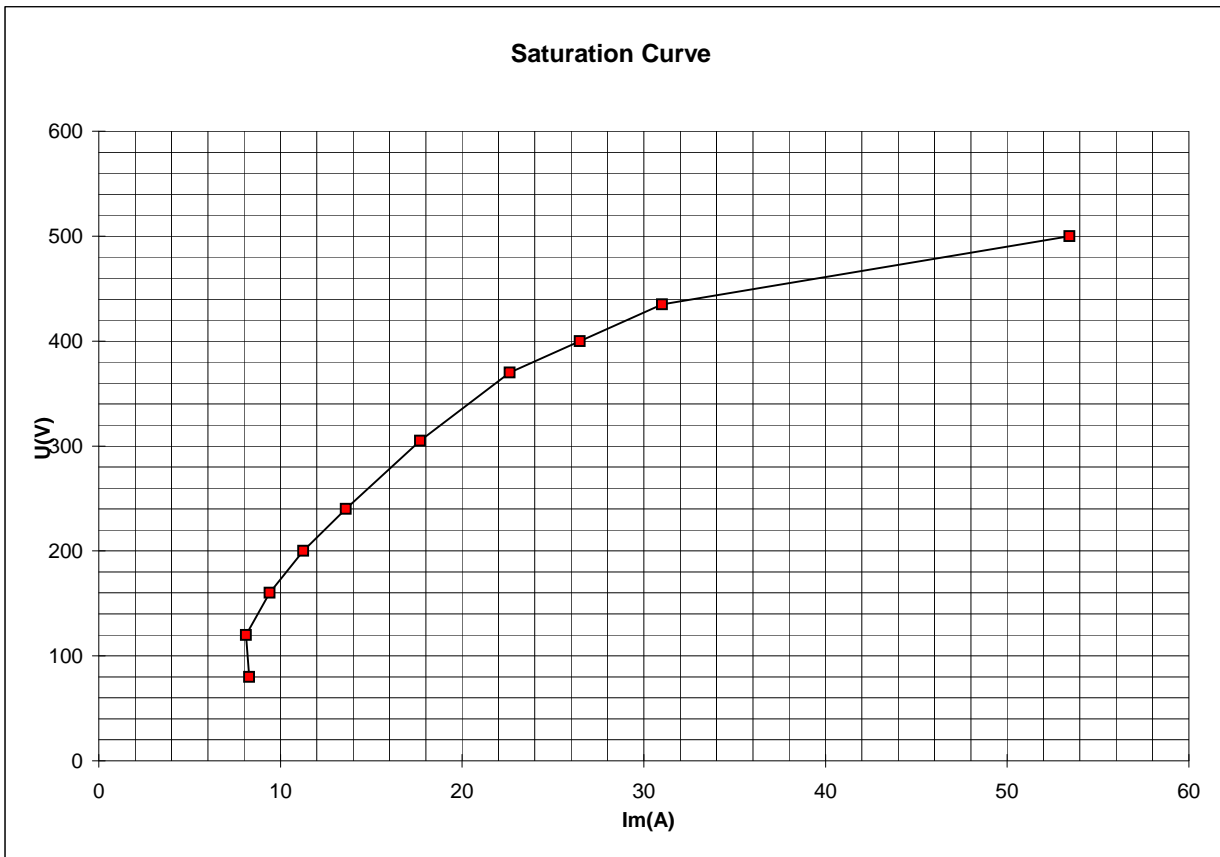
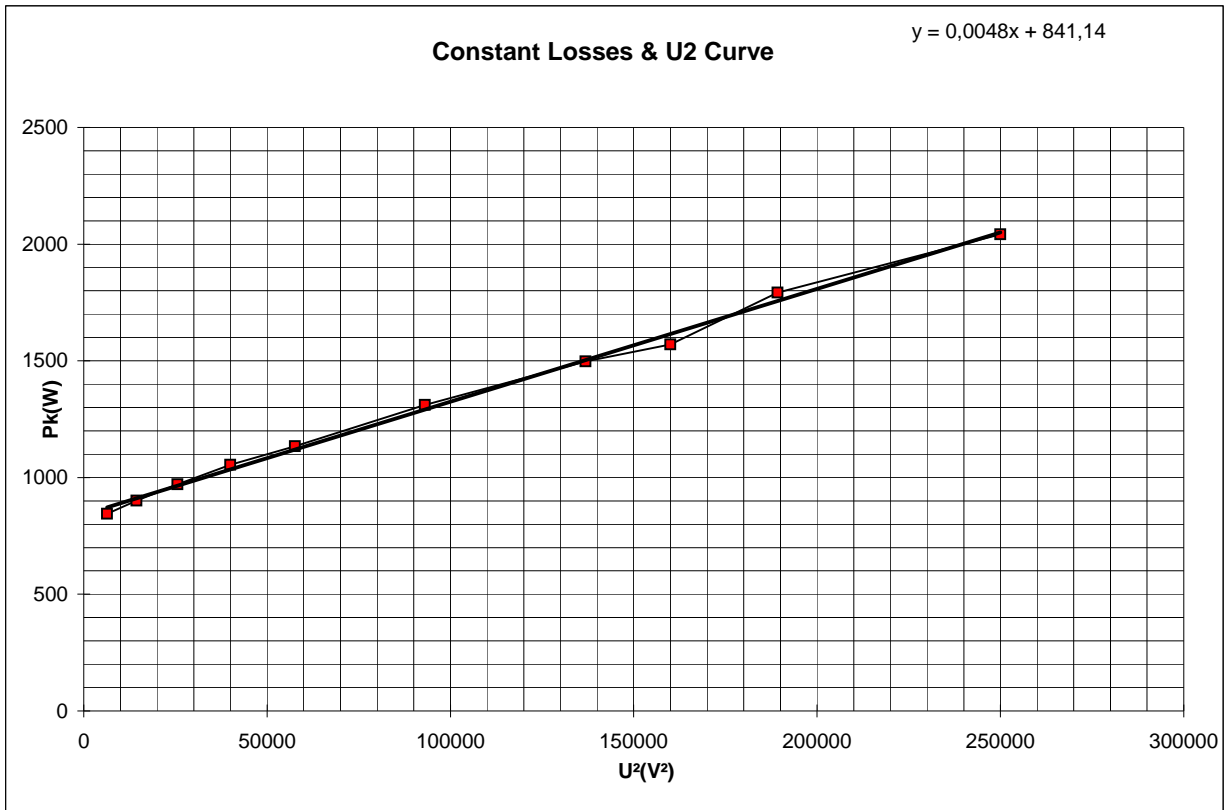
PERFORMANCE

Δt : 61 K

Voltage	U(V)	400	401	399	402	402	400
Phase current	Im(A)	33,81	46,53	62,20	82,13	96,60	115,37
Input Power	Pin(W)	13070	24600	36400	48420	60140	72540
Resistance	R()	0,143	0,143	0,143	0,143	0,143	0,143
Copper Losses	Pcu(W)	163	310	553	965	1334	1903
Iron Losses	Pfe(W)	729	729	729	729	729	729
	Pcu+Pstv(W)	892	1038	1282	1693	2063	2632
	Pin-Pcu-Pstv(W)	12178	23562	35118	46727	58077	69908
slip	s(%)	0,37	0,70	0,90	1,03	1,23	1,63
Rotor Losses	Pr(W)	45	165	316	483	716	1142
Friction Losses	Pstv(W)	841	841	841	841	841	841
Stray load losses	PLL(W)	21,0	83,8	188,6	335,2	523,8	754,2
	Pr+Pstv+PLL (W)	907	1090	1346	1659	2081	2737
Output Power	Pout (W)	11271	22472	33772	45068	55996	67171
Apparent Power	S(VA)	23424	32320	42986	57188	67261	79928
Power Factor	COSphi	0,558	0,761	0,847	0,847	0,894	0,908
Efficiency	Eta(%)	86,2	91,3	92,8	93,1	93,1	92,6
Torque	M(Nm)	36,3	72,6	108,9	145,2	181,5	217,8
Speed	n(U/min)	2989	2979	2973	2969	2963	2951
	Pmech(W)	11362	22648	33904	45145	56317	67306

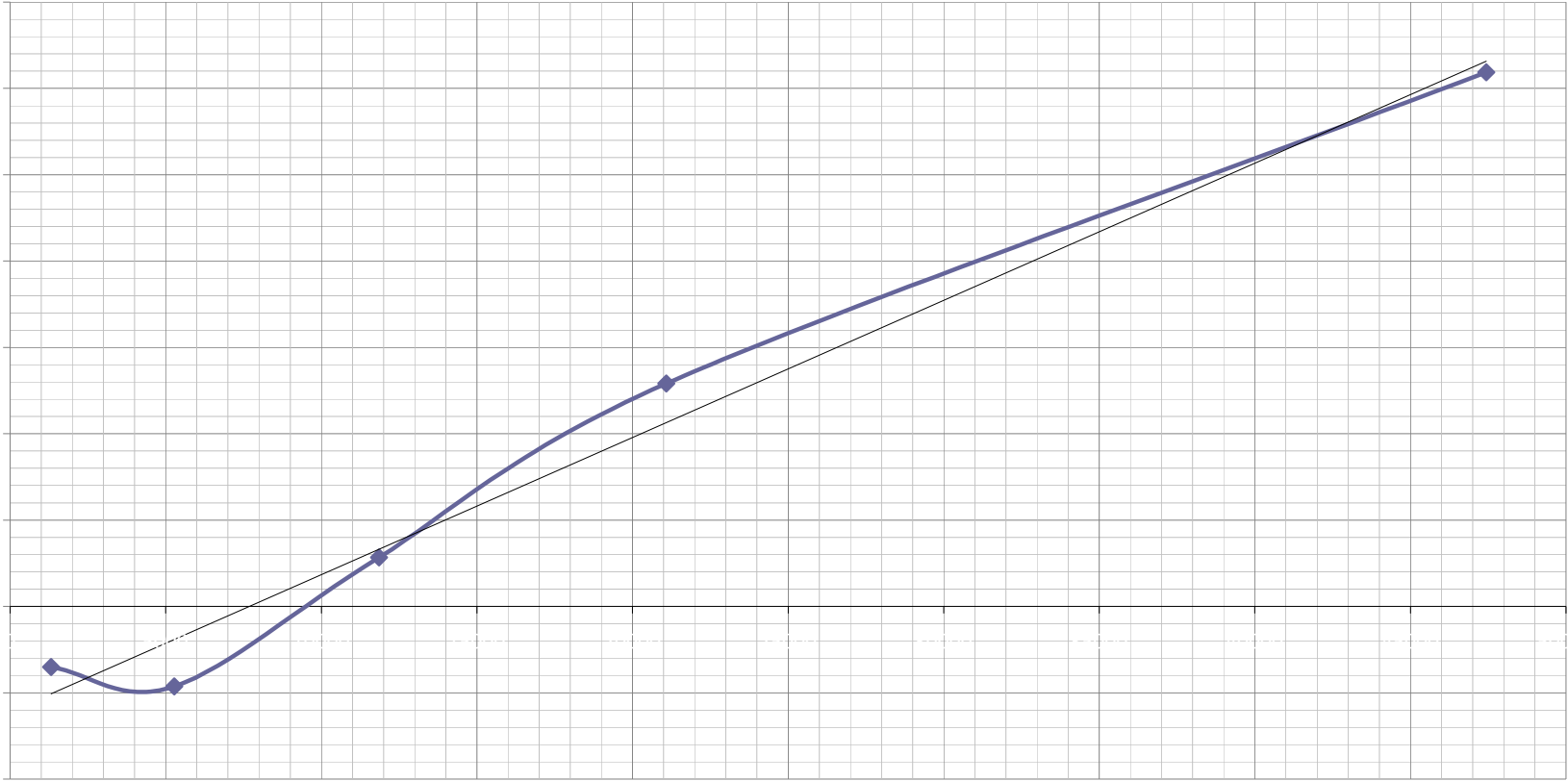
PREPARED BY : H.GEDIK

CONTROL : H.AÇIKGÖZ



Stray load losses curve

$y = 0,0159x - 122,03$
 $R^2 = 0,9821$



◆ $T^2(Nm^2)$ — Linear ($T^2(Nm^2)$)

**3 PHASE ASYNCHRON MOTOR TEST REPORT ACCORDING TO IEC 60034-2-1****ELECTRIC MOTOR PLANT**

NAMEPLATE VALUES

Motor Type	Q2E225M4D	Voltage	400/690V	Nominal limit for IE2	93.1%
Serial Number	17848 FI	Current	83.3/48.1 A	Duty Type	S1
Power	45kW	RPM	1480	Insulation Class	F
Power	60HP	Frequency	50Hz	IC	41

NOLOAD TEST	TEST NUM:	: 10868	REV: 1
	DATE:	: 14.12.2010	

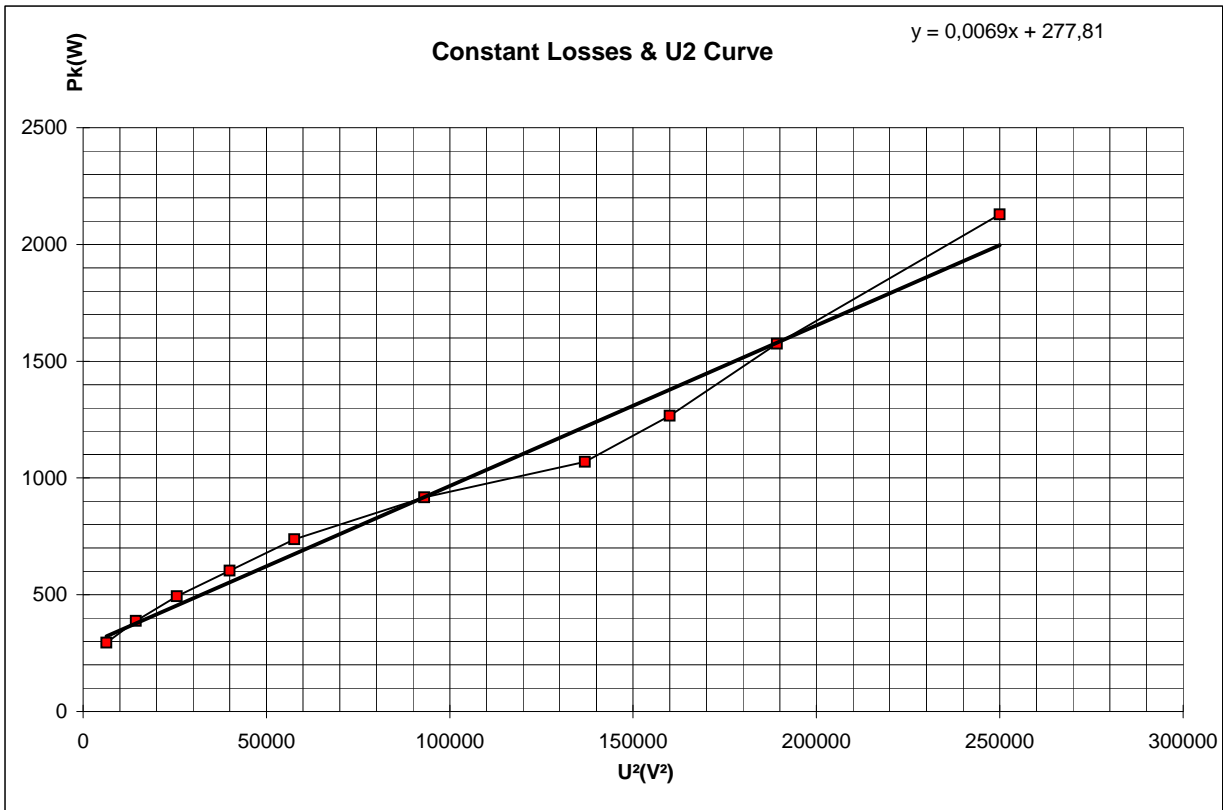
U(V)	U ²	Im(A)	Pin(W)	Pcu(W)	Pfe+Pstv	P fe(W)	P stv(W)	R(ohm)
80	6400	6,53	300	5,8	294,2	16,4	277,8	0,135
120	14400	9,19	399	11,4	387,6	109,8	277,8	0,135
160	25600	12,27	514	20,3	493,7	215,9	277,8	0,135
200	40000	15,34	635	31,8	603,2	325,4	277,8	0,135
240	57600	18,84	785	47,9	737,1	459,3	277,8	0,135
305	93025	24,73	1000	82,6	917,4	639,6	277,8	0,135
370	136900	32,30	1210	140,8	1069,2	791,4	277,8	0,135
400	160000	36,93	1450	184,1	1265,9	988,0	277,8	0,135
435	189225	43,47	1830	255,1	1574,9	1297,1	277,8	0,135
500	250000	71,57	2820	691,4	2128,6	1850,7	277,8	0,135

PERFORMANCE**Δt : 50 K**

Voltage	U(V)	402	400	401	403	400	400
Phase current	Im(A)	41,43	52,53	66,93	83,33	101,40	118,90
Input Power	Pin(W)	12880	24520	36330	48340	60420	71300
Resistance	R()	0,135	0,135	0,135	0,135	0,135	0,135
Copper Losses	Pcu(W)	232	373	605	938	1388	1909
Iron Losses	Pfe(W)	988	988	988	988	988	988
	Pcu+Pstv(W)	1220	1361	1593	1926	2376	2897
	Pin-Pcu-Pstv(W)	11660	23159	34737	46414	58044	68403
slip	s(%)	0,27	0,60	0,93	1,27	1,47	1,73
Rotor Losses	Pr(W)	31	139	324	588	851	1186
Friction Losses	Pstv(W)	278	278	278	278	278	278
Stray load losses	PLL(W)	20,3	81,2	182,6	324,7	507,3	730,5
	Pr+Pstv+PLL (W)	329	498	785	1190	1636	2194
Output Power	Pout (W)	11331	22661	33953	45224	56407	66209
Apparent Power	S(VA)	28849	36396	46489	58168	70252	82376
Power Factor	COSphi	0,446	0,674	0,781	0,831	0,860	0,866
Efficiency	Eta(%)	88,0	92,4	93,5	93,6	93,4	92,9
Torque	M(Nm)	73,1	146,2	219,2	292,3	365,4	438,5
Speed	n(U/min)	1496	1491	1486	1481	1478	1474
	Pmech(W)	11448	22819	34114	45333	56551	67678

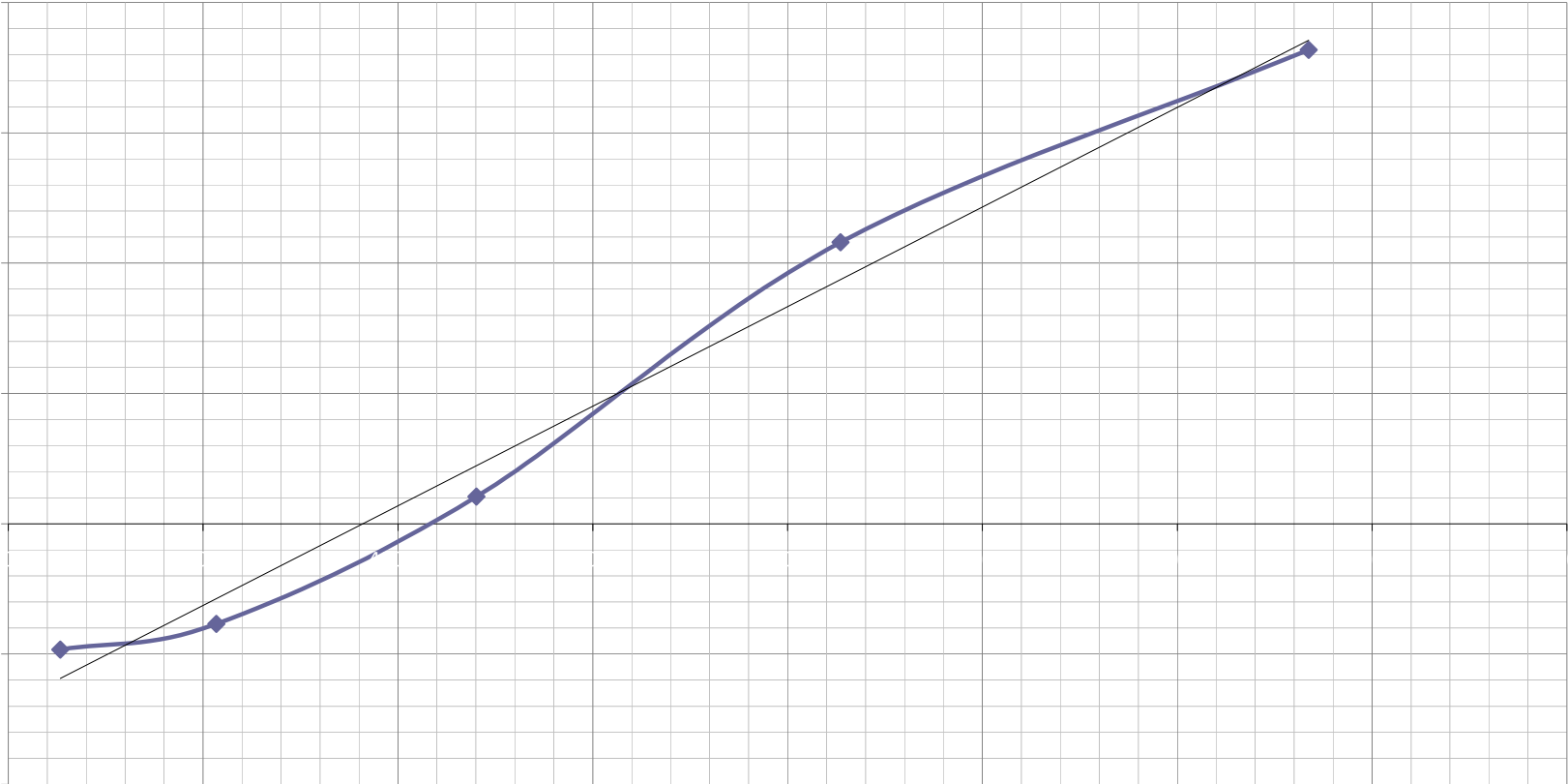
PREPARED BY : H.GEDIK

CONTROL : C.ERTÜRK



Stray load losses curve

$y = 0,0038x - 139,14$
 $R^2 = 0,9855$



—◆— T²(Nm²) — Linear (T²(Nm²))