



Windg. calc. card.:		motor No. <u>1509401001</u>	
type: <u>DM1-100LY4</u>	Output: <u>4</u> kW	Duty type: <u>S1</u>	
Voltage: <u>400</u> V	conn. <u>Y</u>	frequency: <u>50</u> Hz	cosφ <u>0,85</u> IM <u>B3</u>
current: <u>8,38</u> A	speed: <u>1400</u> rpm	eff. <u>81,0</u> %	M of I <u>kgm²</u>
remarks: <u>PTC150⁰C inside the motors</u>			

Statorwinding resistance measurement (cold) :

Connection: <u>Y</u>	$R_{u1-v1} :$ <u>2,87</u> Ω	
Winding temp: <u>8,0</u> °C	$R_{v1-w1} :$ <u>2,89</u> Ω	$R_{av} =$ <u>2,89</u> Ω ;
room temp: <u>8,0</u> °C	$R_{w1-u1} :$ <u>2,90</u> Ω	

No-load test

$R_{begin} =$ 2,93 Ω
 $R_{end} =$ 2,92 Ω

				Losses		
U_0	I_0	P_0	$\cos\phi_0$	V_{cu1}	V_{fe}	V_w
V	A	W		W	W	W
473	7,1	883	0,152	221	636	26
438	5,1	464	0,120	114	324	26
400	3,8	287	0,109	63	198	26
358	3,0	206	0,111	39	141	26
310	2,3	154	0,125	23	105	26
253	1,8	100	0,127	14	60	26
179	1,2	52	0,140	6	20	26
127	0,9	44	0,222	4	14	26

sound pressure level in dB(A) (at 1m) : 51,8
 sound power level in dB(A) : 59,8
 vibration level (mm/s) : x = 1,0 y = 0,8 z = 1,0

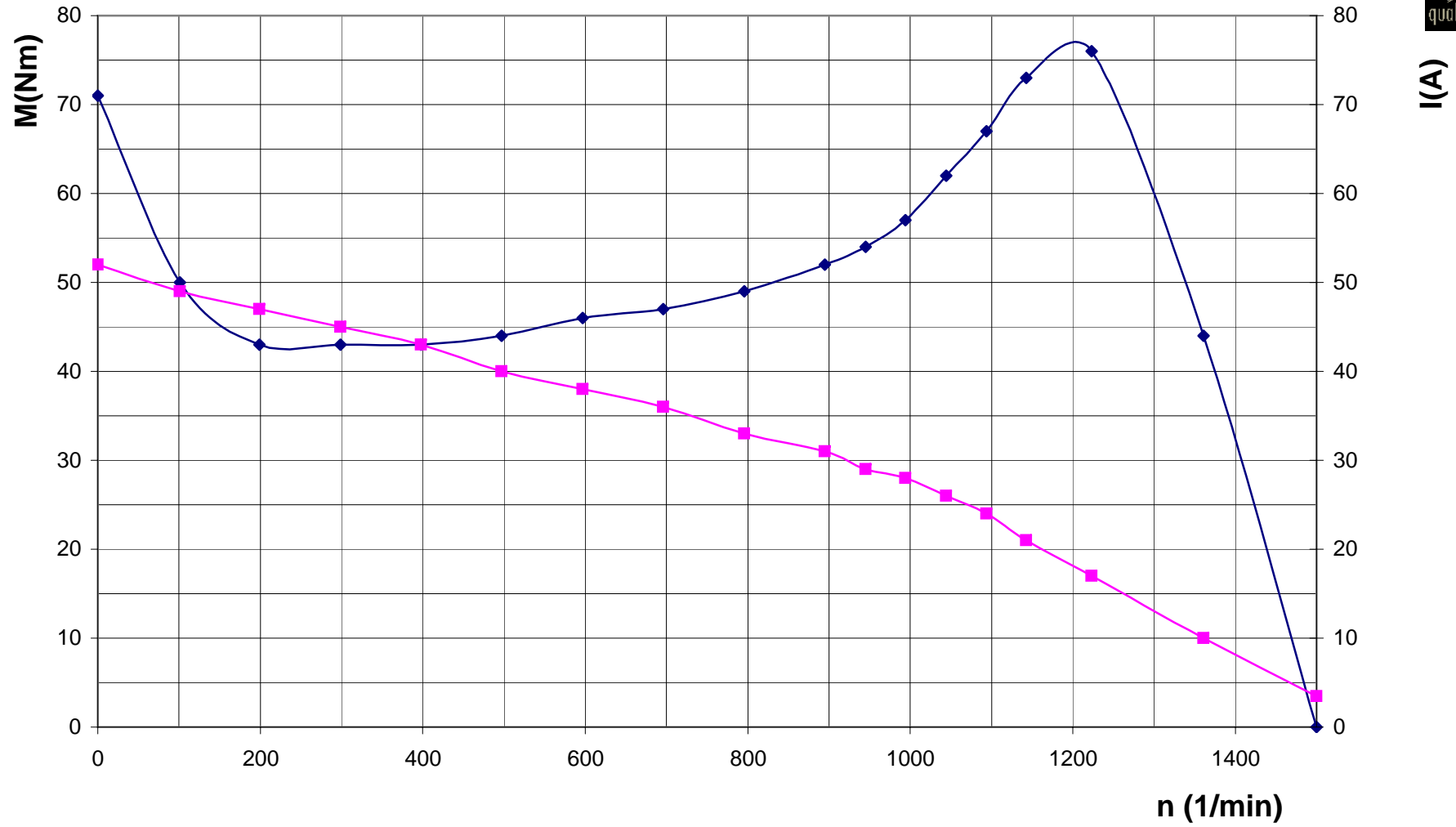
Temperature rise test

voltage : 400 V frequency: 50 Hz current 8,4 A connection : Y

		Room Temp. °C	$R_{wdg.}$ Ω	wdg. Temp. by $R_{wdg.}$	wdg. temp. rise (K)	measured Temperature (°C) with ETD*			
According to IEC 34 -1	time					wdg.	bearing DE	bearing NDE	frame
begin	12.00	8,0	2,90	8,5				8,5	
	14.40	9,0						62,0	
End	15.10	9,0	3,81	86,5	77,5	70,0	70,0	62,0	

* ETD = embedded temperature detector

DM1-100LY4 ST.400V 50HZ 4kW



Load test

DM1-100LY4

 frequency : 50 Hz

 connection : Y
 $t_{\text{wdg,av}} = 93,0$ °C

 $R_{\text{av}} = 3,90$ Ω

							Losses							
P_2 approx. %	U V	I A	P_1 kW	$\cos\phi$	n min^{-1}	s %	V_{fe} W	$V_{\text{cu,1}}$ W	V_e W	$V_{\text{cu,2}}$ W	V_w W	V_v W	P_2 kW	η %
25	400	4,0	1,330	0,480	1482	1,20	198	94	6	12	26	335	0,995	74,8
50	400	5,0	2,443	0,705	1457	2,87	198	146	9	60	26	438	2,005	82,1
75	400	6,5	3,626	0,805	1430	4,67	198	247	15	148	26	633	2,993	82,5
100	400	8,3	4,944	0,860	1397	6,87	198	403	24	297	26	947	3,997	80,8
125	400	10,5	6,458	0,888	1355	9,67	198	644	39	539	26	1446	5,012	77,6
150	400	13,1	8,232	0,907	1298	13,47	198	1003	60	939	26	2226	6,006	73,0
100	440	8,3	5,042	0,797	1416	5,60	336	403	24	240	26	1028	4,014	79,6
100	420	8,2	4,990	0,837	1406	6,27	249	393	24	271	26	963	4,027	80,7
100	380	8,5	4,892	0,874	1381	7,93	165	422	25	340	26	978	3,914	80,0
100	360	8,6	4,848	0,904	1365	9,00	143	432	26	382	26	1009	3,839	79,2

Torque/speed and Current/speed test

 voltage : 400 V

 frequency: 50 Hz

 connection : Y

n min^{-1}	T Nm	I A	n min^{-1}	T Nm	I A	n min^{-1}	T Nm	I A
1500	0	4	994	57	28	497	44	40
1361	44	10	945	54	29	398	43	43
1223	76	17	895	52	31	299	43	45
1143	73	21	796	49	33	199	43	47
1094	67	24	696	47	36	101	50	49
1044	62	26	597	46	38	0	71	52

Locked rotor test

wdg. temp. °C	U V	I A	P_1 kW	$\cos\phi$	T Nm
8,0	400	51,8	23,948	0,667	71,2
31,7	350	43,2	17,315	0,661	50,0
39,0	300	35,2	11,875	0,649	33,6
41,4	250	27,8	7,571	0,629	21,4
38,0	200	21,0	4,346	0,597	12,6
31,0	100	9,5	0,898	0,546	2,4



Date: 13-11-2000

Name: HvD

Signature: