



Windg. calc. card.: _____	motor No. <u>08</u>			
type: <u>DM1-90L2</u>	Output: <u>2,2</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>4,6</u> A	speed: <u>2840</u> rpm	eff. <u>81,0</u> %	M of I <u>0,0014</u> kgm ²	
remarks: <u>PTC150°C inside the motors</u>				

Statorwinding resistance measurement (cold) :

Connection: <u>Y</u>	R _{u1-v1} : <u>5,33</u> Ω	
Winding temp: <u>22,0</u> °C	R _{v1-w1} : <u>5,33</u> Ω	R _{av} = <u>5,33</u> Ω ;
room temp: <u>22,0</u> °C	R _{w1-u1} : <u>5,32</u> Ω	

No-load test

R_{begin} = 5,96 Ω
 R_{end} = 5,94 Ω

				Losses		
U ₀	I ₀	P ₀	cosφ ₀	V _{cu1}	V _{fe}	V _w
V	A	W		W	W	W
473	3,5	438	0,153	109	283	49
438	2,5	304	0,160	56	189	49
400	1,9	215	0,163	32	133	49
358	1,5	158	0,170	20	89	49
310	1,2	122	0,189	13	61	49
253	0,8	95	0,271	6	39	49
179	0,5	69	0,445	2	17	49
127	0,5	62	0,564	2	10	49

sound pressure level in dB(A) (at 1m) : 63
 sound power level in dB(A) : 71
 vibration level (mm/s) : x = 0,6 y = 0,6 z = 0,4

Temperature rise test

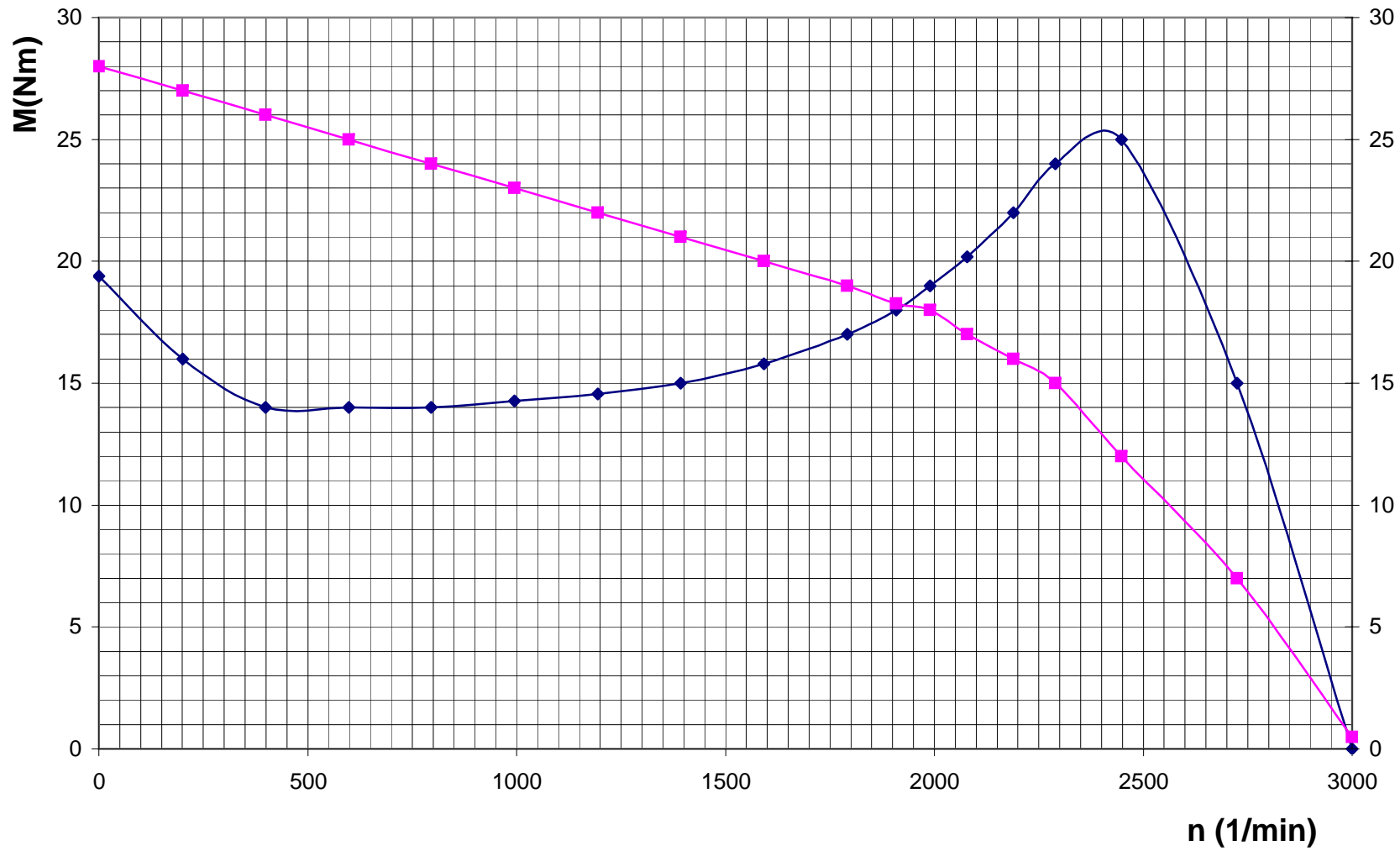
voltage : 400 V frequency: 50 Hz current 4,7 A connection : Y

		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	18:55	22,0	5,33	22,2					22,0
	20:25	22,0							48,0
End	20:55	22,0	6,56	81,7	59,7	55,0	55,0		48,0

* ETD = embedded temperature detector

EFF 2

DM1-90L2 ST.400V 50HZ 2,2kW



I(A)



Load test

DM1-90L2

frequency : 50 Hz

connection : Y

$t_{wdg,av} = 75,0$ °C

$R_{av} = 6,43$ Ω

P ₂ approx. %	U V	I A	P ₁ kW	cosφ	n min ⁻¹	s %	Losses						P ₂ kW	η %
							V _{fe} W	V _{cu,1} W	V _e W	V _{cu,2} W	V _w W	V _v W		
25	400	2,0	0,78	0,559	2979	0,70	133	39	2	4	49	227	0,55	70,7
50	400	2,7	1,38	0,736	2939	2,03	133	70	4	24	49	281	1,10	79,6
75	400	3,6	2,02	0,809	2893	3,57	133	125	8	63	49	377	1,64	81,3
100	400	4,5	2,71	0,870	2841	5,30	133	195	12	126	49	515	2,20	81,0
125	400	5,7	3,47	0,879	2783	7,23	133	313	20	217	49	733	2,74	78,9
150	400	6,8	4,10	0,870	2733	8,9	133	446	28	311	49	967	3,13	76,4
100	440	4,5	2,76	0,804	2872	4,27	201	195	12	100	49	558	2,20	79,8
100	420	4,5	2,72	0,830	2858	4,73	163	195	12	111	49	531	2,19	80,5
100	380	4,6	2,68	0,885	2820	6,00	109	204	13	141	49	516	2,16	80,7
100	360	4,8	2,67	0,892	2793	6,90	91	222	14	162	49	538	2,13	79,9

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
3000	0,0	0,5	1990	19,0	18	995	14,3	23
2724	15,0	7,0	1909	18,0	18,26	796	14,0	24
2448	25,0	12,0	1791	17,0	19	598	14,0	25
2289	24,0	15,0	1592	15,8	20	399	14,0	26
2189	22,0	16,0	1393	15,0	21	201	16,0	27
2078	20,2	17,0	1194	14,6	22	0	19,4	28

Locked rotor test

wdg. temp. °C	U V	I A	P ₁ kW	cosφ	T Nm
21,5	400	28,2	16,93	0,866	23
94,2	350	24	11,66	0,801	15
117,7	300	19,7	7,79	0,761	10
122,1	250	15,7	5,04	0,741	6
109,1	200	11,8	3,12	0,763	4
89,8	100	4,8	0,619	0,745	0



Date: 21-7-1998

Name: HvD

Signature: 