



Windg. calc. card.:	motor No. <u>8</u>			
type: <u>DM1-160M8</u>	Output: <u>4</u> kW	Duty type: <u>S1</u>		
Voltage: <u>400</u> V	conn. <u>Δ</u>	frequency: <u>50</u> Hz	cosφ <u>0,73</u>	IM <u>B3</u>
current: <u>9,8</u> A	speed: <u>720</u> rpm	eff. <u>81,0</u> %	M of I	<u>0,0649</u> kgm ²
remarks: <u>PTC150°C inside the motors</u>				

Statorwinding resistance measurement (cold) :

Connection: <u>Δ</u>	R_{u1-v1} : <u>2,787</u> Ω	
Winding temp: <u>21,0</u> °C	R_{v1-w1} : <u>2,791</u> Ω	R_{av} = <u>2,785</u> Ω ;
room temp: <u>21,0</u> °C	R_{w1-u1} : <u>2,776</u> Ω	

No-load test

R_{begin} = 2,758 Ω
 R_{end} = 2,738 Ω

				Losses		
U_0	I_0	P_0	$\cos\phi_0$	V_{cu1}	V_{fe}	V_w
V	A	W		W	W	W
473	9,1	761	0,102	340	404	17
438	7,1	514	0,095	207	290	17
400	5,7	351	0,089	133	201	17
358	4,6	248	0,087	87	144	17
310	3,8	181	0,089	59	105	17
253	3,0	127	0,097	37	73	17
179	2,1	68	0,104	18	33	17
127	1,5	46	0,139	9	20	17

sound pressure level in dB(A) (at 1m) : 58,8
 sound power level in dB(A) : 66,8
 vibration level (mm/s) : x = 1,1 y = 1,2 z = 1

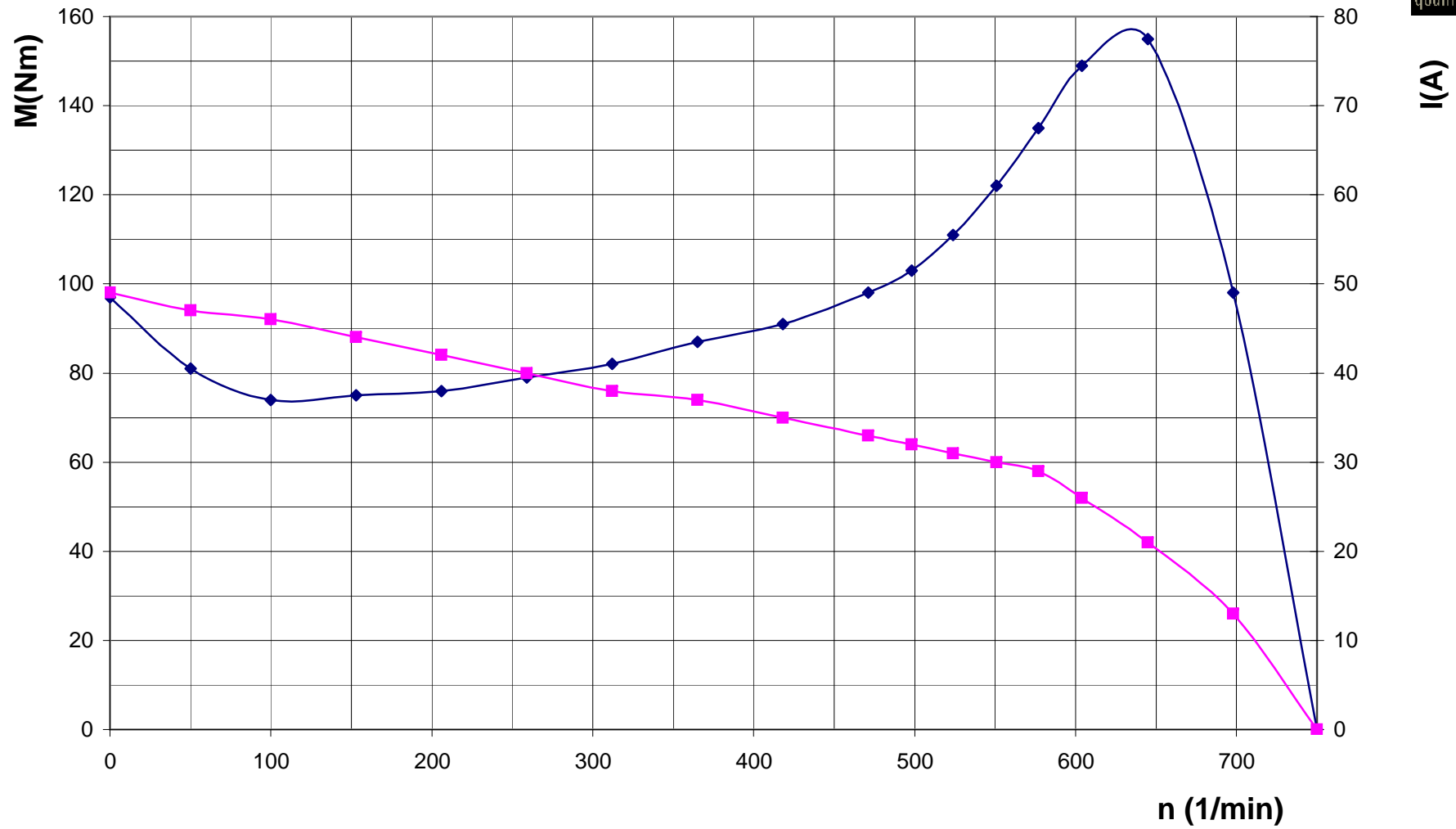
Temperature rise test

voltage : 400 V frequency: 50 Hz current 10,1 A connection : Δ

		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	8:25	18,0	2,794	18,8				18,2	
	10:05	19,0						56,0	
End	10:35	19,0	3,410	78,5	59,5	59	58,0	56,0	

* ETD = embedded temperature detector

DM1-160M8 DR.400V 50HZ 4kW



Load test

DM1-160M8

frequency : 50 Hz

connection : Δ

$t_{wdg,av} = 73,8$ °C

$R_{av} = 3,359$

P ₂ approx. %	U V	I A	P ₁ kW	cosφ	n min ⁻¹	s %	Losses						P ₂ kW
							V _{fe} W	V _{cu,1} W	V _e W	V _{cu,2} W	V _w W	V _v W	
25	400	5,8	1,40	0,348	743	0,93	201	169	8	10	17	405	0,99
50	400	6,6	2,48	0,543	736	1,87	201	219	10	38	17	486	2,00
75	400	7,7	3,62	0,679	728	2,93	201	299	14	91	17	622	3,00
100	400	9,3	4,85	0,753	718	4,27	201	436	21	179	17	853	4,00
125	400	11,3	6,21	0,794	706	5,87	201	643	30	313	17	1205	5,01
150	400	13,7	7,74	0,815	691	7,9	201	946	45	515	17	1723	6,01
100	440	9,4	4,94	0,690	725	3,33	296	445	21	139	17	919	4,02
100	420	9,3	4,89	0,723	721	3,87	243	436	21	162	17	879	4,01
100	380	9,4	4,80	0,776	713	4,93	171	445	21	205	17	860	3,94
100	360	9,8	4,78	0,782	707	5,73	147	484	23	236	17	907	3,87

Torque/speed and Current/speed test

voltage : 400 V

frequency: 50 Hz

connection : Δ

n min ⁻¹	T Nm	I A	n min ⁻¹	T Nm	I A	n min ⁻¹	T Nm	I A
750	0	0	524	111	31	259	79	40
698	98	13	498	103	32	206	76	42
645	155	21	471	98	33	153	75	44
604	149	26	418	91	35	100	74	46
577	135	29	365	87	37	50	81	47
551	122	30	312	82	38	0	97	49

Locked rotor test

wdg. temp. °C	U V	I A	P ₁ kW	cosφ	T Nm
18	400	49,2	19,16	0,562	97
32	350	41,3	13,84	0,553	70
37,1	300	33,9	9,50	0,540	48
39	250	27	6,09	0,521	31
38	200	20,6	3,53	0,495	17
35	100	9,4	0,698	0,429	2



Date: 10-2-1998

Name: HvD

Signature: 

Ω

η
%
71,08
80,44
82,84
82,43
80,62
77,73
81,42
82,05
82,09
81,01
