Type testreport three phase squirrel-cage motors DM1-132S4

Windg. calc. card.:				motor No.	1						
type:	DM1-132S4		output:	5,5	kW			Duty type:	S1		
Voltage:	400	V	conn.	Δ	frequency:	50	Hz	cosφ	0,85	IM	B3
current:	10,9	A	speed:	1453	rpm	eff.	85,7	%	M of I		kgm^2
remarks:	PTC150^{0}C inside the motors										

Statorwinding resistance measurement (cold) :

Connection:	Δ	R_{u1-v1} :	1,909	Ω		
Winding temp:	9,0	°C	R_{v1-w1} :	1,908	Ω	R_{av} = 1,908 Ω ;
room temp:	9,0	°C	R_{w1-u1} :	1,908	Ω	

No-load test

R_{begin} = 2,367 Ω

R_{end} = 2,366 Ω

				Losses		
U_0 V	I_0 A	P_0 W	cosφ$_0$	V_{cu1} W	V_{fe} W	V_w W
473	7,74	635	0,100	213	356	66
438	5,53	400	0,095	109	225	66
400	4,13	263	0,092	61	136	66
358	3,23	189	0,094	37	86	66
310	2,57	146	0,106	23	57	66
253	1,98	114	0,131	14	34	66
179	1,35	89	0,213	6	17	66
127	1,01	79	0,356	4	9	66

sound pressure level in dB(A) (at 1m) : 60,6

sound power level in dB(A) : 68,6

vibration level (mm/s) : x = 0,8 y = 1,0 z = 1,1

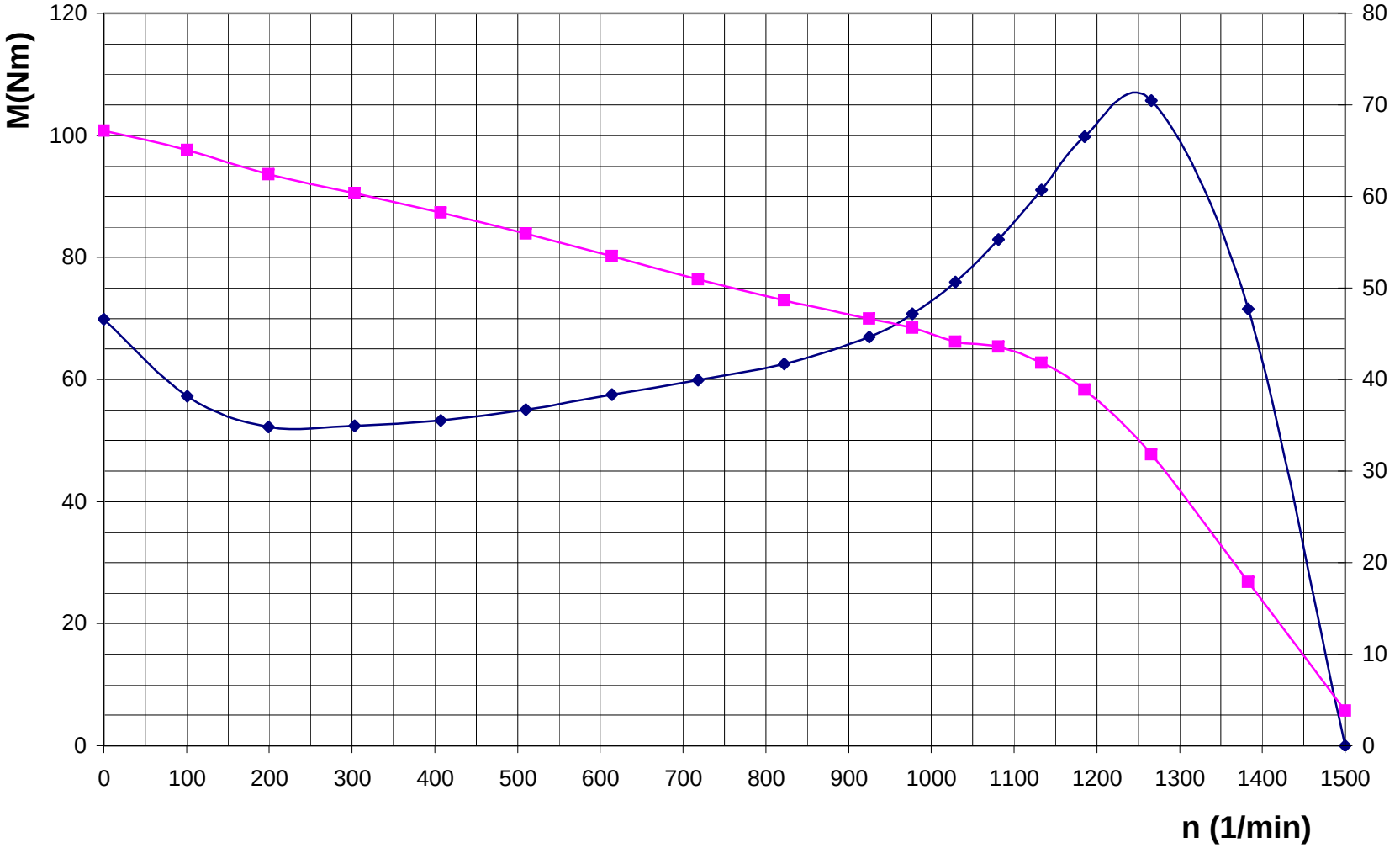
Temperature rise test

voltage : 400 V frequency: 50 Hz current 10,92 A connection : Δ

		Room	$R_{wdg.}$	wdg.	wdg.	measured Temperature (°C) with ETD*			
According to IEC 34 -1	time	Temp. °C	Ω	Temp. by $R_{wdg.}$	temp. rise (K)	wdg.	bearing DE	bearing NDE	frame
begin	15:00	9,0	1,909	9,1					9,0
	17:00	10,0							56,5
End	17:30	10,0	2,159	87,1	77,1		48,5	46,5	56,5

* ETD = embedded temperature detector

DM1-132S4 Δ400V 50Hz 5,5kW



Load test DM1-132S4

frequency : 50 Hz connection : Δ $t_{wdg,av}$ = 87,0 °C R_{av} = 2,519 Ω

							Losses							
P_2 approx.	**U**	**I**	**P_1**	**cosφ**	**n**	**s**	**V_{fe}**	**$V_{cu,1}$**	**V_e**	**$V_{cu,2}$**	**V_w**	**V_v**	**P_2**	**η**
%	V	A	kW		min^{-1}	%	W	W	W	W	W	W	kW	%
25	400	4,72	1,672	0,511	1489	0,73	136	84	6	11	66	303	1,37	81,9
50	400	6,32	3,166	0,723	1474	1,73	136	151	11	50	66	414	2,75	86,9
75	400	8,31	4,724	0,821	1458	2,80	136	261	19	121	66	603	4,12	87,2
100	400	10,78	6,408	0,858	1438	4,13	136	439	31	240	66	913	5,50	85,8
125	400	13,81	8,278	0,865	1415	5,67	136	721	51	418	66	1392	6,89	83,2
150	400	17,50	10,396	0,857	1385	7,67	136	1157	82	692	66	2133	8,26	79,5
100	440	10,35	6,378	0,809	1452	3,20	605	405	29	171	66	1275	5,10	80,0
100	420	10,47	6,373	0,837	1445	3,67	504	414	29	199	66	1213	5,16	81,0
100	380	11,16	6,388	0,870	1430	4,67	364	471	33	258	66	1192	5,20	81,3
100	360	11,76	7,063	0,963	1419	5,40	314	523	37	334	66	1274	5,79	82,0

Torque/speed and Current/speed test

voltage : 400 V frequency: 50 Hz connection : Δ

n	T	I	n	T	I	n	T	I
min^{-1}	Nm	A	min^{-1}	Nm	A	min^{-1}	Nm	A
1500	0	3,82	1029	76	44,1	510	55	56
1383	72	17,9	977	71	45,6	407	53	58
1266	106	31,8	925	67	46,6	303	52	60
1185	100	38,9	822	63	48,7	199	52	62
1133	91	41,8	718	60	51,0	101	57	65
1081	83	43,6	614	58	53,5	0	70	67

Locked rotor test

wdg. temp.	U	I	P_1	cosφ	T
°C	V	A	kW		Nm
9,0	400	67,2	26,633	0,57	69,9
16,5	350	56,0	19,294	0,57	49,8
31,1	300	45,4	13,235	0,56	34,1
40,7	250	35,5	8,409	0,55	22,1
50,7	200	26,4	4,769	0,52	13,1
46,9	100	11,0	0,860	0,45	2,1

DUTCHI MOTORS® quality of high class

Date: 6-9-2004
Name: HvD
Signature: