

## Test Result Data

### Nameplate data

Type:	HMC3 160M-4	Protection Class.:	IP55
Voltage:	400 V	Duty:	S1
Current:	21.06 A	Frequency:	50 Hz
Output:	11 kW	Efficiency.:	91.6 %
Connection:	D	Cos $\phi$ :	0.83
Speed:	1474 rpm	Insulation Class:	F

### No-Load test at rated voltage

No load loss:	447.65 W	No load current:	9.16 A
Machine loss:	73.21 W	Core loss:	304.87 W
Sound pressure level 1m:	71 dB(A)	Vibration:	0.8 mm/s

### Temperature rise test

Voltage:	400.0 V	Current:	21.06 A
Power:	11.00 kW	Temperature - rise:	58 K
Winding hotspot temperature:	88 °C	Bearing temperature:	60 °C
Frequency:	50 Hz	Ambient temperature:	30 °C

### Load performance test

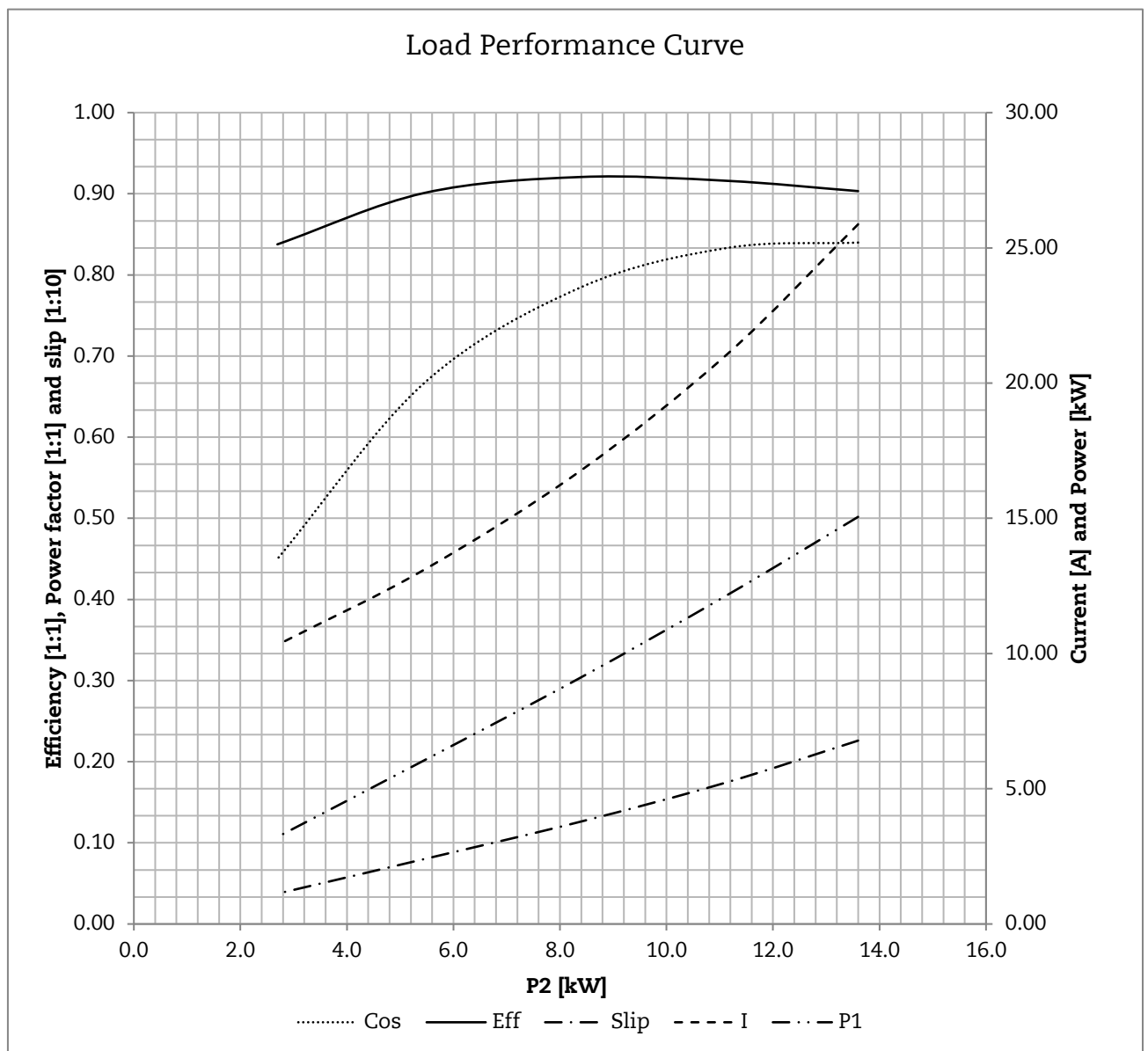
Load	Un	f	P1	I1	N	T	Cos $\phi$	Eff ( $\eta$ )
%	V	Hz	KW	A	rpm	Nm	Cos $\phi$	%
125	400	50	15.05	25.87	1466	89.57	0.84	90.33
<b>100</b>	<b>400</b>	<b>50</b>	<b>12.16</b>	<b>21.06</b>	<b>1474</b>	<b>71.28</b>	<b>0.83</b>	<b>91.60</b>
75	400	50	9.10	16.75	1481	53.20	0.78	92.07
50	400	50	6.05	13.10	1488	35.30	0.67	90.10
25	400	50	3.22	10.32	1494	17.57	0.45	83.77

### Locked rotor test at rated voltage

Input power:	60.8 kW	Cos $\phi$ :	0.51
Starting current:	172.37 A	Starting torque:	206.80 Nm
Starting/Rated current:	8.18	Starting/Rated torque:	2.90

Load test data

P2 kW	P1 kW	Eff ( $\eta$ ) P2/P1	I A	T Nm	Cos $\phi$
13.6	15.1	0.903	25.87	89.6	0.84
11.1	12.2	0.916	21.06	71.3	0.83
8.4	9.1	0.921	16.75	53.2	0.78
5.5	6.1	0.901	13.10	35.3	0.67
2.7	3.2	0.838	10.32	17.6	0.45



## No-load test data at rated frequency

Uo V	Io A	Po W	Pcul.
495.5	17.75	1230.0	267.0
454.3	12.86	730.0	140.1
413.7	9.83	500.0	81.9
372.8	8.01	380.0	54.4
333.1	6.84	320.0	39.6
292.6	5.83	260.0	28.8
252.1	4.89	220.0	20.3
221.9	4.24	190.0	15.2
191.4	3.61	160.0	11.0
161.5	3.03	140.0	7.8

