

# Type Test Report

Report No.: TTR3IC13551A2SL

## Test Result Data

### Nameplate data

|             |             |                    |        |
|-------------|-------------|--------------------|--------|
| Type:       | HMC3 355L-2 | Protection Class.: | IP55   |
| Voltage:    | 400 V       | Duty:              | S1     |
| Current:    | 523.81 A    | Frequency:         | 50 Hz  |
| Output:     | 315 kW      | Efficiency.:       | 95.8 % |
| Connection: | D           | Cos $\phi$ :       | 0.91   |
| Speed:      | 2980 rpm    | Insulation Class:  | F      |

### No-Load test at rated voltage

|                          |            |                  |           |
|--------------------------|------------|------------------|-----------|
| No load loss:            | 3815.7 W   | No load current: | 107.31 A  |
| Machine loss:            | 1333.06 W  | Core loss:       | 2389.72 W |
| Sound pressure level 1m: | 96.6 dB(A) | Vibration:       | 0.8 mm/s  |

### Temperature rise test

|                              |           |                      |          |
|------------------------------|-----------|----------------------|----------|
| Voltage:                     | 400.0 V   | Current:             | 523.81 A |
| Power:                       | 315.00 kW | Temperature - rise:  | 71 K     |
| Winding hotspot temperature: | 106 °C    | Bearing temperature: | 68 °C    |
| Frequency:                   | 50 Hz     | Ambient temperature: | 35 °C    |

### Load performance test

| Load<br>%  | Un<br>V    | f<br>Hz   | P1<br>KW      | I1<br>A       | N<br>rpm    | T<br>Nm        | Cos $\phi$<br>Cos $\phi$ | Eff ( $\eta$ )<br>% |
|------------|------------|-----------|---------------|---------------|-------------|----------------|--------------------------|---------------------|
| 125        | 400        | 50        | 408.44        | 663.24        | 2974        | 1264.35        | 0.89                     | 94.98               |
| <b>100</b> | <b>400</b> | <b>50</b> | <b>329.73</b> | <b>523.81</b> | <b>2980</b> | <b>1009.51</b> | <b>0.91</b>              | <b>95.84</b>        |
| 75         | 400        | 50        | 245.37        | 394.53        | 2985        | 755.77         | 0.90                     | 96.21               |
| 50         | 400        | 50        | 162.44        | 273.88        | 2990        | 503.00         | 0.86                     | 96.05               |
| 25         | 400        | 50        | 86.97         | 160.18        | 2995        | 251.11         | 0.78                     | 95.29               |

### Locked rotor test at rated voltage

|                         |           |                        |            |
|-------------------------|-----------|------------------------|------------|
| Input power:            | 739.6 kW  | Cos $\phi$ :           | 0.31       |
| Starting current:       | 3445.75 A | Starting torque:       | 1700.02 Nm |
| Starting/Rated current: | 6.58      | Starting/Rated torque: | 1.68       |

20-06-17

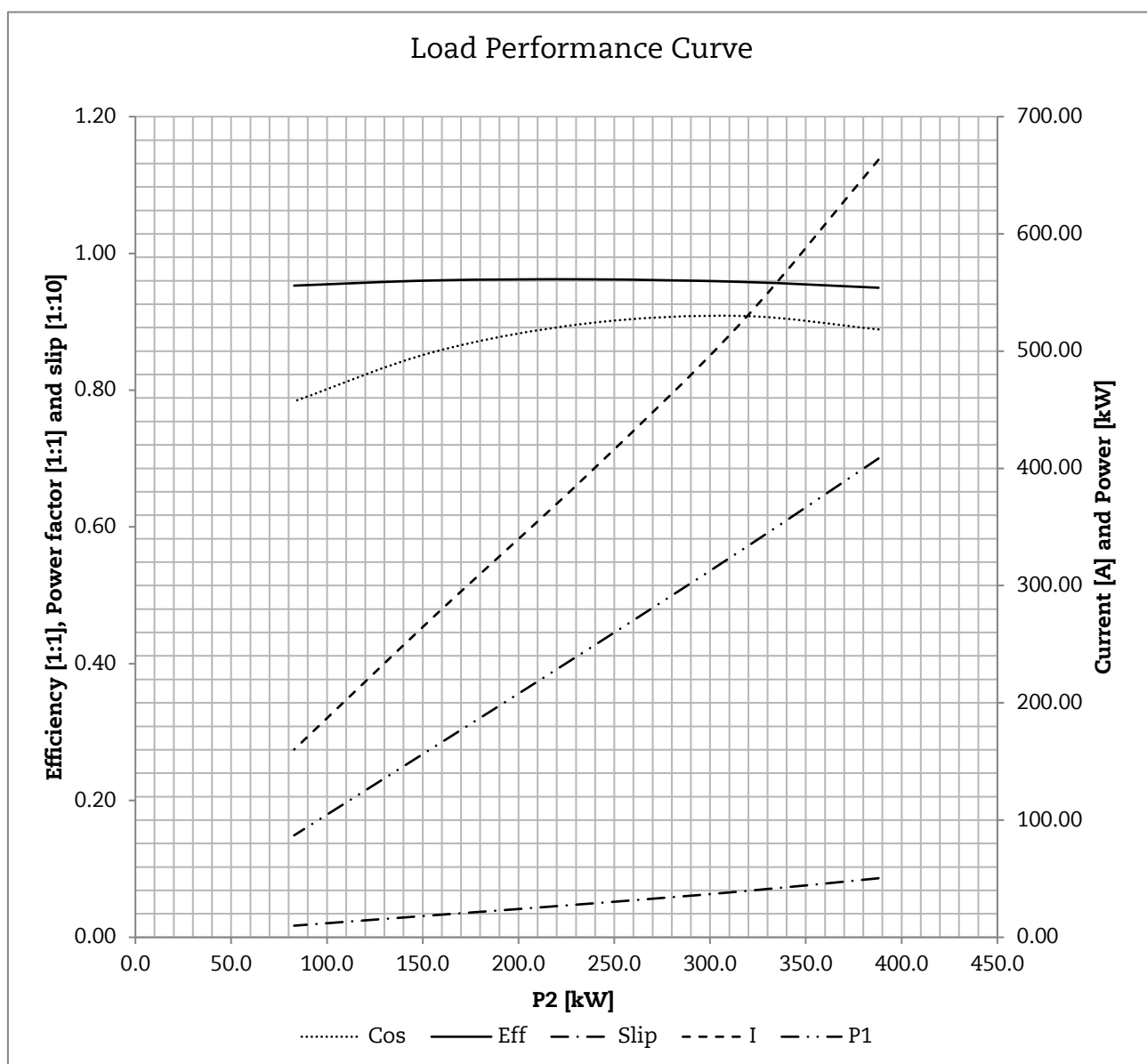
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EXCEEDING EXPECTATIONS

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Data are not binding. Hoyer reserves the right to implement changes without notice. The extent of data are not equivalent to nameplate on the motors.

## Load test data

| P2<br>kW | P1<br>kW | Eff ( $\eta$ )<br>P2/P1 | I<br>A | T<br>Nm | Cos $\phi$ |
|----------|----------|-------------------------|--------|---------|------------|
| 387.9    | 408.4    | 0.950                   | 663.24 | 1264.4  | 0.89       |
| 316.0    | 329.7    | 0.958                   | 523.81 | 1009.5  | 0.91       |
| 236.1    | 245.4    | 0.962                   | 394.53 | 755.8   | 0.90       |
| 156.0    | 162.4    | 0.961                   | 273.88 | 503.0   | 0.86       |
| 82.9     | 87.0     | 0.953                   | 160.18 | 251.1   | 0.78       |



## No-load test data at rated frequency

| U <sub>o</sub><br>V | I <sub>o</sub><br>A | P <sub>o</sub><br>W | P <sub>cul.</sub> |
|---------------------|---------------------|---------------------|-------------------|
| 400.3               | 108.10              | 3825.0              | 94.6              |
| 360.6               | 92.50               | 3484.0              | 69.3              |
| 318.5               | 79.60               | 3123.0              | 51.3              |
| 277.9               | 66.90               | 2879.0              | 36.2              |
| 241.5               | 59.30               | 2564.0              | 28.5              |
| 199.3               | 47.50               | 2148.0              | 18.3              |
| 158.9               | 38.70               | 1873.0              | 12.1              |
| 119.6               | 28.20               | 1713.0              | 6.4               |
| 80.0                | 18.10               | 1445.0              | 2.7               |
| 40.0                | 7.90                | 1024.0              | 0.2               |

