

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                            |                                                                           |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------|
| Customer :                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                            |                                                                           |          |
| Product line : IE2 Three-Phase                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 | Product code : 11688820                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                            |                                                                           |          |
| Frame : L112M<br>Output : 5.5 kW (7.5 HP)<br>Poles : 4<br>Frequency : 50 Hz<br>Rated voltage : 400/690 V<br>Rated current : 11.6/6.72 A<br>L. R. Amperes : 82.4/47.7 A<br>LRC : 7.1<br>No load current : 7.75/4.49 A<br>Rated speed : 1440 rpm<br>Slip : 4.00 %<br>Rated torque : 3.72 kgfm<br>Locked rotor torque : 270 %<br>Breakdown torque : 300 %<br>Insulation class : F<br>Service factor : 1.00<br>Moment of inertia (J) : 0.0208 kgm <sup>2</sup><br>Design : N |                 | Locked rotor time : 19s (cold) 11s (hot)<br>Temperature rise : 80 K<br>Duty cycle : S1<br>Ambient temperature : -20°C to +40°C<br>Altitude : 1000 m.a.s.l.<br>Protection degree : IP55<br>Cooling method : IC411 - TEFC<br>Mounting : B5T<br>Rotation <sup>1</sup> : Both (CW and CCW)<br>Noise level <sup>2</sup> : 56.0 dB(A)<br>Starting method : Direct On Line<br>Approx. weight <sup>3</sup> : 52.4 kg |                                                                                                                            |                                                                           |          |
| Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 50%             | 75%                                                                                                                                                                                                                                                                                                                                                                                                          | 100%                                                                                                                       | Foundation loads<br>Max. traction : 205 kgf<br>Max. compression : 257 kgf |          |
| Efficiency (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 87.0            | 87.7                                                                                                                                                                                                                                                                                                                                                                                                         | 87.7                                                                                                                       |                                                                           |          |
| Power Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.55            | 0.68                                                                                                                                                                                                                                                                                                                                                                                                         | 0.76                                                                                                                       |                                                                           |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 | <u>Drive end</u>                                                                                                                                                                                                                                                                                                                                                                                             | <u>Non drive end</u>                                                                                                       |                                                                           |          |
| Bearing type                                                                                                                                                                                                                                                                                                                                                                                                                                                             | :               | 6207 ZZ                                                                                                                                                                                                                                                                                                                                                                                                      | 6206 ZZ                                                                                                                    |                                                                           |          |
| Sealing                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | :               | Oil Seal                                                                                                                                                                                                                                                                                                                                                                                                     | Lip Seal                                                                                                                   |                                                                           |          |
| Lubrication interval                                                                                                                                                                                                                                                                                                                                                                                                                                                     | :               | -                                                                                                                                                                                                                                                                                                                                                                                                            | -                                                                                                                          |                                                                           |          |
| Lubricant amount                                                                                                                                                                                                                                                                                                                                                                                                                                                         | :               | -                                                                                                                                                                                                                                                                                                                                                                                                            | -                                                                                                                          |                                                                           |          |
| Lubricant type                                                                                                                                                                                                                                                                                                                                                                                                                                                           | :               | Mobil Polyrex EM                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                            |                                                                           |          |
| Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                            |                                                                           |          |
| This revision replaces and cancel the previous one, which must be eliminated.<br>(1) Looking the motor from the shaft end.<br>(2) Measured at 1m and with tolerance of +3dB(A).<br>(3) Approximate weight subject to changes after manufacturing process.<br>(4) At 100% of full load.                                                                                                                                                                                   |                 |                                                                                                                                                                                                                                                                                                                                                                                                              | These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1. |                                                                           |          |
| Rev.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Changes Summary |                                                                                                                                                                                                                                                                                                                                                                                                              | Performed                                                                                                                  | Checked                                                                   | Date     |
| Performed by                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                            |                                                                           |          |
| Checked by                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                            |                                                                           |          |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 08/06/2022      |                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                            | Page<br>1 / 5                                                             | Revision |

# TORQUE AND CURRENT VS SPEED CURVE

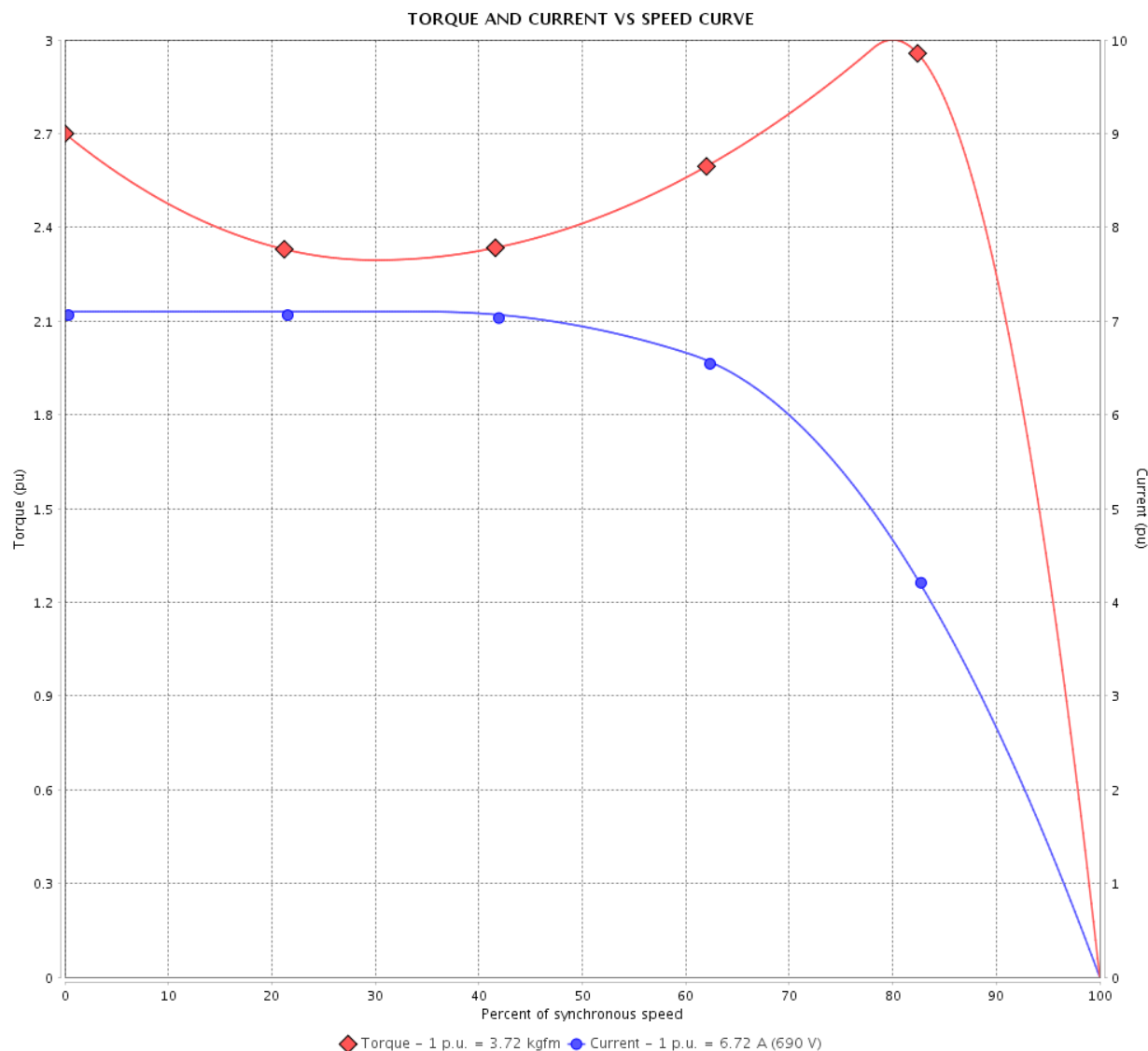
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : IE2 Three-Phase

Product code : 11688820



Performance : 400/690 V 50 Hz 4P

Rated current : 11.6/6.72 A  
 LRC : 7.1  
 Rated torque : 3.72 kgfm  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1440 rpm

Moment of inertia (J) : 0.0208 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

Locked rotor time : 19s (cold) 11s (hot)

| Rev.         | Changes Summary | Performed                                                                                                         | Checked | Date |
|--------------|-----------------|-------------------------------------------------------------------------------------------------------------------|---------|------|
|              |                 |                                                                                                                   |         |      |
| Performed by |                 | <div style="display: flex; justify-content: space-between;"> <div>Page<br/>2 / 5</div> <div>Revision</div> </div> |         |      |
| Checked by   |                 |                                                                                                                   |         |      |
| Date         | 08/06/2022      |                                                                                                                   |         |      |

# LOAD PERFORMANCE CURVE

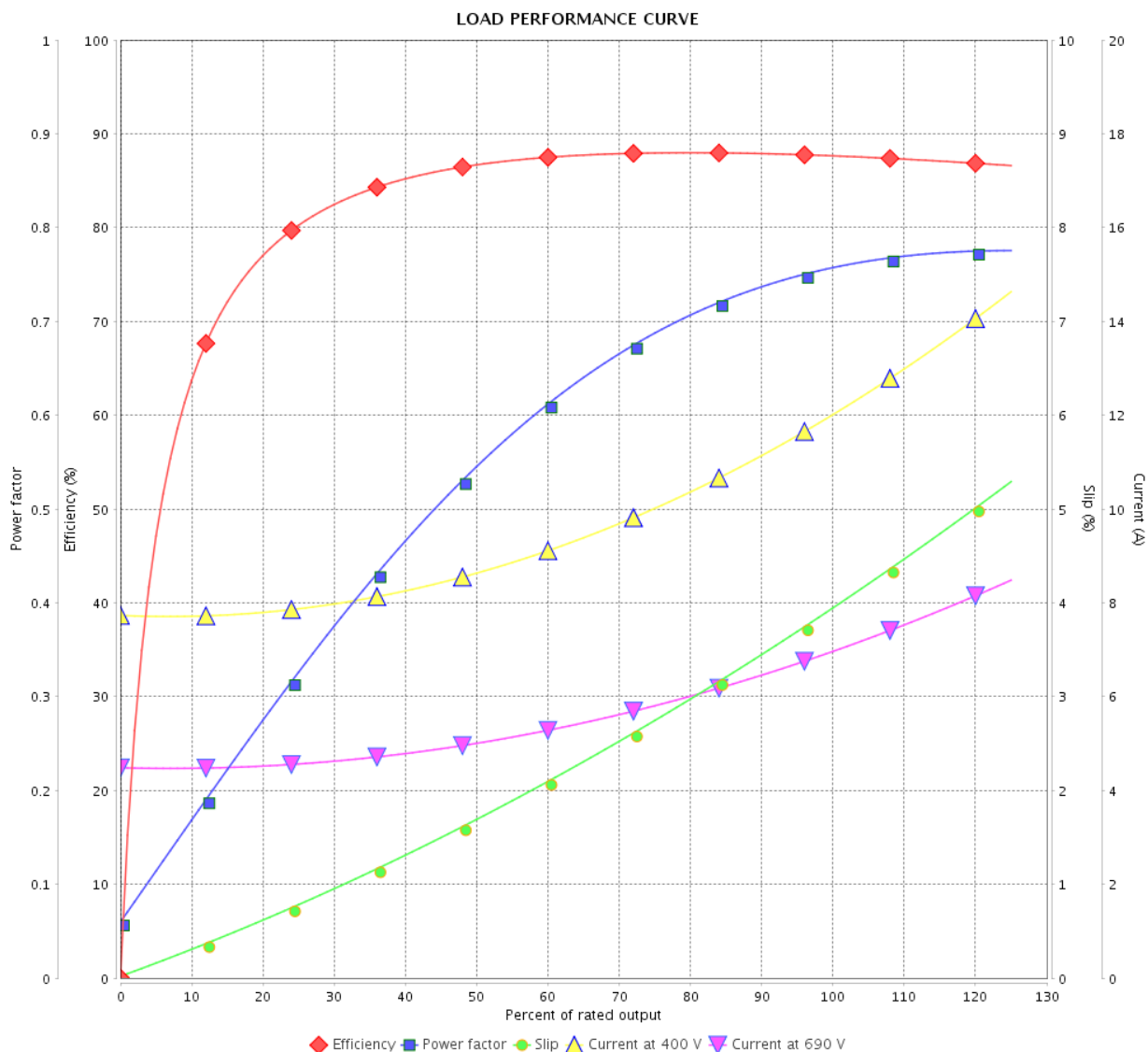
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| Checked by   |                 |  |           |               |          |
| Date         | 08/06/2022      |  |           |               |          |

# THERMAL LIMIT CURVE

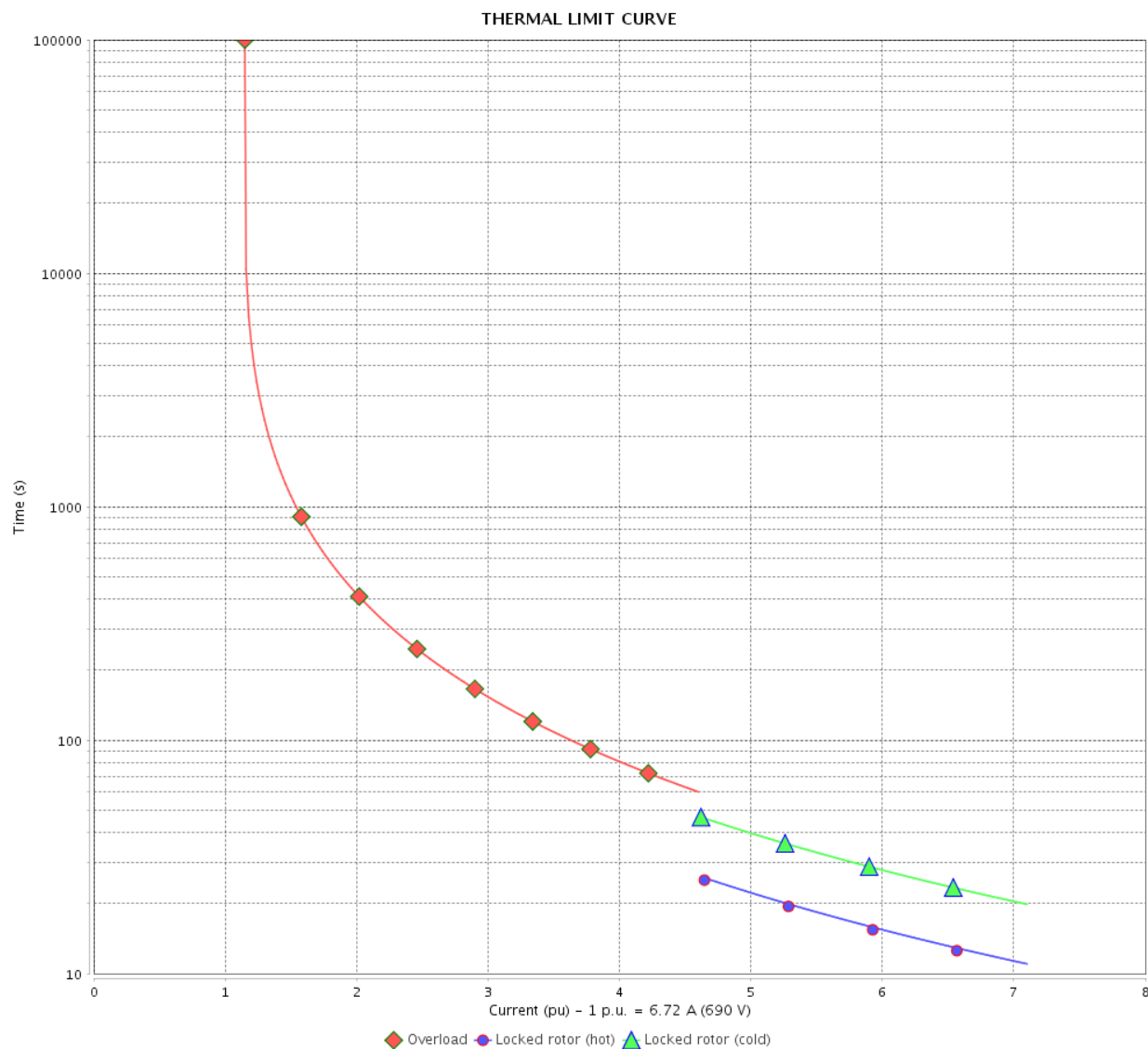
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 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

Heating constant

Cooling constant

| Rev.         | Changes Summary | Performed                           | Checked | Date |
|--------------|-----------------|-------------------------------------|---------|------|
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| Checked by   |                 |                                     |         |      |
| Date         | 08/06/2022      |                                     |         |      |

# VFD OPERATION CURVE

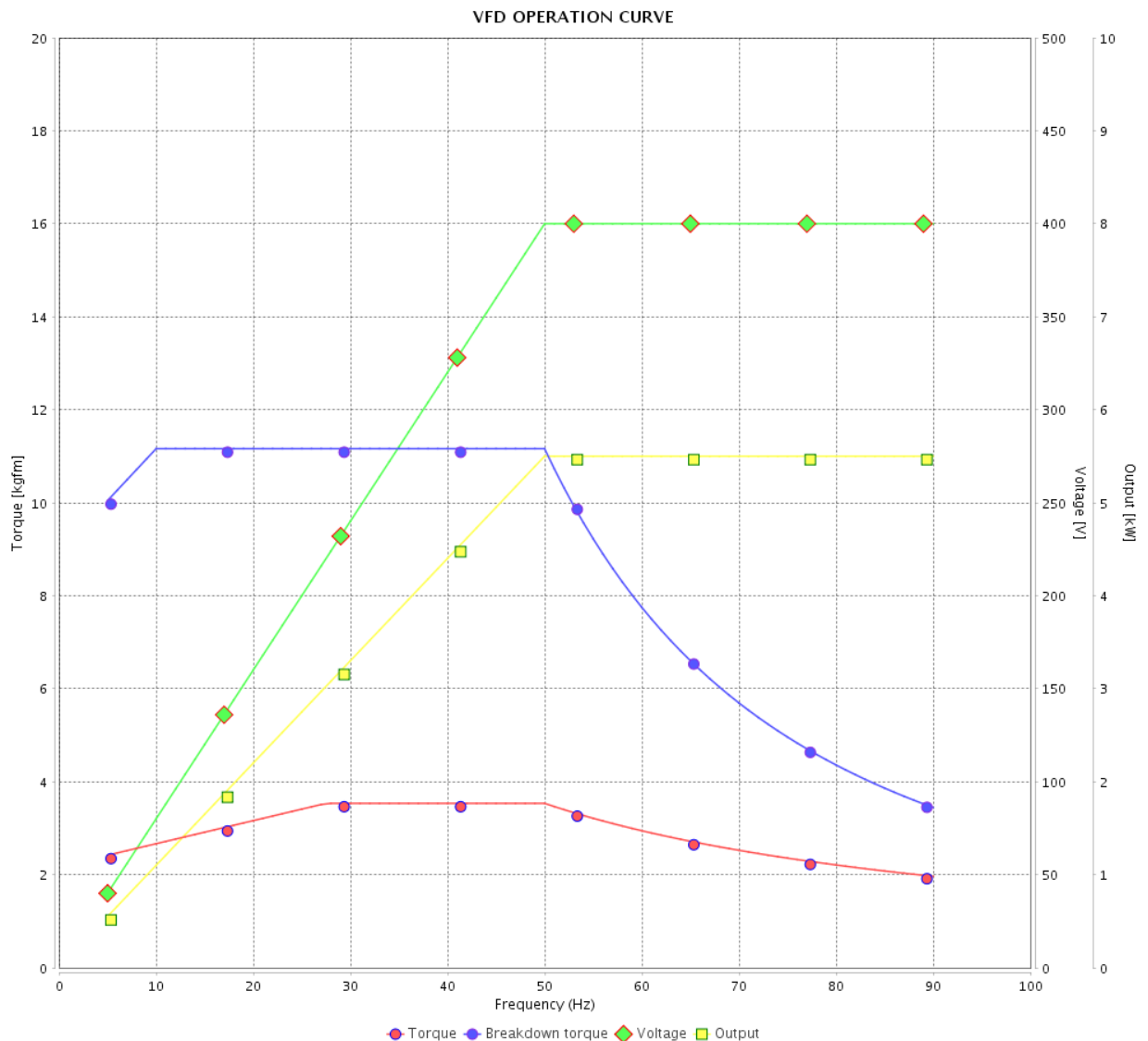
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