

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15833991

Frame : 80  
Insulation class : F  
Duty cycle : S1  
Ambient temperature : -20°C to +40°C  
Altitude : 1000 m.a.s.l.  
Protection degree : IP55  
Design : N

Cooling method : IC411 - TEFC  
Mounting : B3T  
Rotation<sup>1</sup> : Both (CW and CCW)  
Starting method : Direct On Line  
Approx. weight<sup>3</sup> : 15.0 kg  
Moment of inertia (J) : 0.0027 kgm<sup>2</sup>

Output [kW]	0.55	0.55	0.55	0.55
Poles	4	4	4	4
Frequency [Hz]	50	50	50	60
Rated voltage [V]	220/380	230/400	240/415	460
Rated current [A]	2.16/1.25	2.14/1.23	2.13/1.23	1.09
L. R. Amperes [A]	13.6/7.88	14.1/8.12	14.7/8.49	8.28
LRC [A]	6.3	6.6	6.9	7.6
No load current [A]	1.19/0.690	1.34/0.770	1.45/0.840	0.710
Rated speed [RPM]	1420	1430	1435	1740
Slip [%]	5.33	4.67	4.33	3.33
Rated torque [kgfm]	0.377	0.375	0.373	0.308
Locked rotor torque [%]	250	280	310	350
Breakdown torque [%]	250	280	310	350
Service factor	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	41s (cold) 23s (hot)	39s (cold) 22s (hot)	36s (cold) 20s (hot)	37s (cold) 21s (hot)
Noise level <sup>2</sup>	44.0 dB(A)	44.0 dB(A)	44.0 dB(A)	48.0 dB(A)
Efficiency (%)	25%			
	50%	78.0	77.0	77.0
	75%	79.1	79.0	80.0
	100%	80.8	80.8	81.5
Power Factor	25%			
	50%	0.64	0.61	0.58
	75%	0.76	0.73	0.70
	100%	0.83	0.80	0.78

Losses at normative operating points (speed;torque), in percentage of rated output power

Losses (%)	P1 (0,9;1,0)	23.7	23.7	23.7	22.6
	P2 (0,5;1,0)	21.9	21.9	21.9	20.9
	P3 (0,25;1,0)	20.3	20.3	20.3	19.4
	P4 (0,9;0,5)	12.1	12.1	12.1	11.6
	P5 (0,5;0,5)	8.7	8.7	8.7	8.3
	P6 (0,5;0,25)	6.2	6.2	6.2	5.9
	P7 (0,25;0,25)	4.4	4.4	4.4	4.2

Bearing type : Drive end 6204 ZZ Non drive end 6203 ZZ  
Sealing : V'Ring V'Ring  
Lubrication interval : - -  
Lubricant amount : - -  
Lubricant type : Mobil Polyrex EM

Foundation loads  
Max. traction : 26 kgf  
Max. compression : 41 kgf

This revision replaces and cancel the previous one, which must be eliminated.

- (1) Looking the motor from the shaft end.
- (2) Measured at 1m and with tolerance of +3dB(A).
- (3) Approximate weight subject to changes after manufacturing process.
- (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.

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Customer : \_\_\_\_\_

Notes

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## Three Phase Induction Motor - Squirrel Cage



Customer :

Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermistor - 2 wires	1 x Phase	155 °C

Space heater information

Voltage: 110 - 127 V

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# TORQUE AND CURRENT VS SPEED CURVE

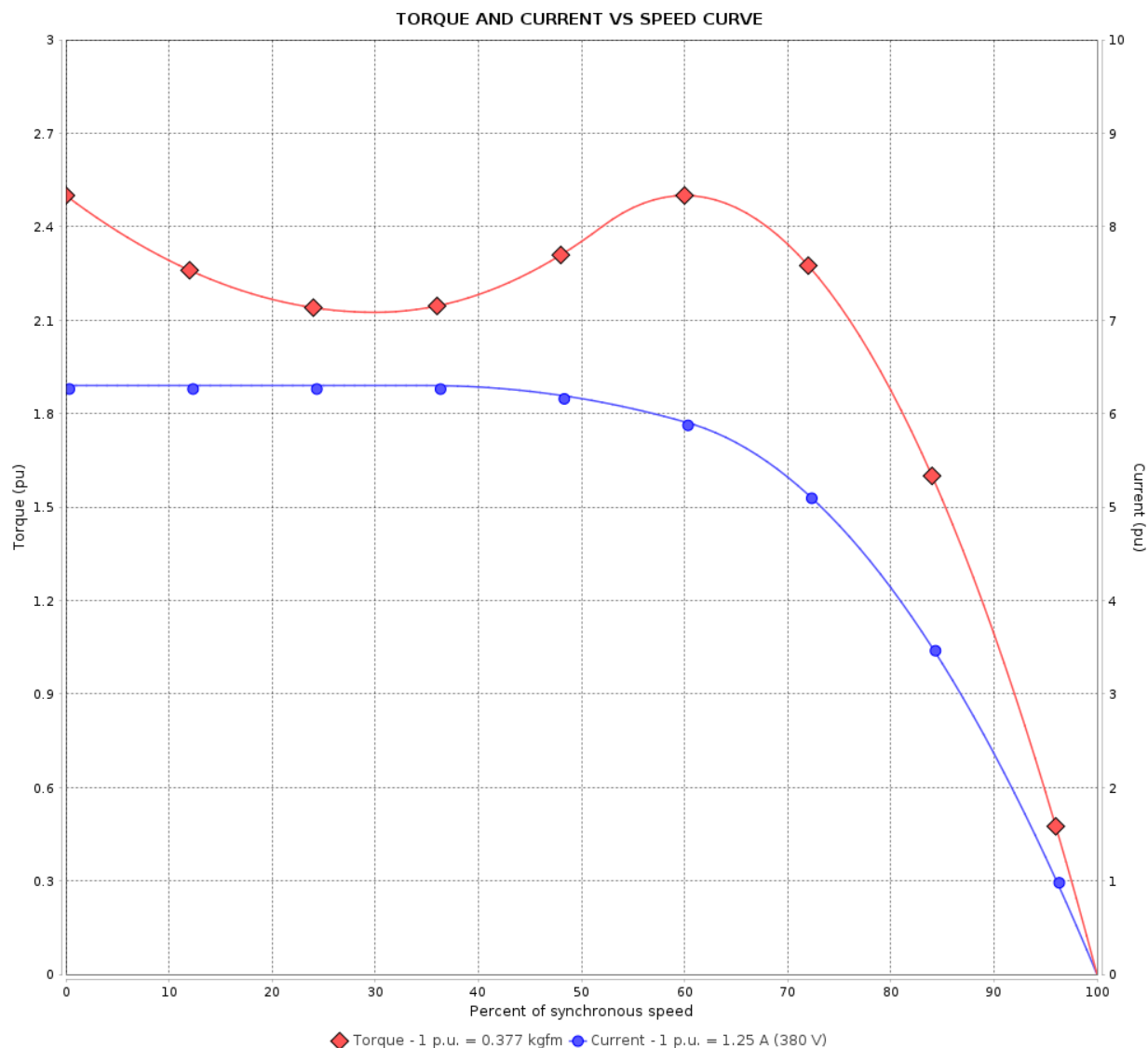
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15833991



Performance : 220/380 V 50 Hz 4P

Rated current : 2.16/1.25 A  
LRC : 6.3  
Rated torque : 0.377 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 250 %  
Rated speed : 1420 rpm

Moment of inertia (J) : 0.0027 kgm<sup>2</sup>  
Duty cycle : S1  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : N

Locked rotor time : 41s (cold) 23s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

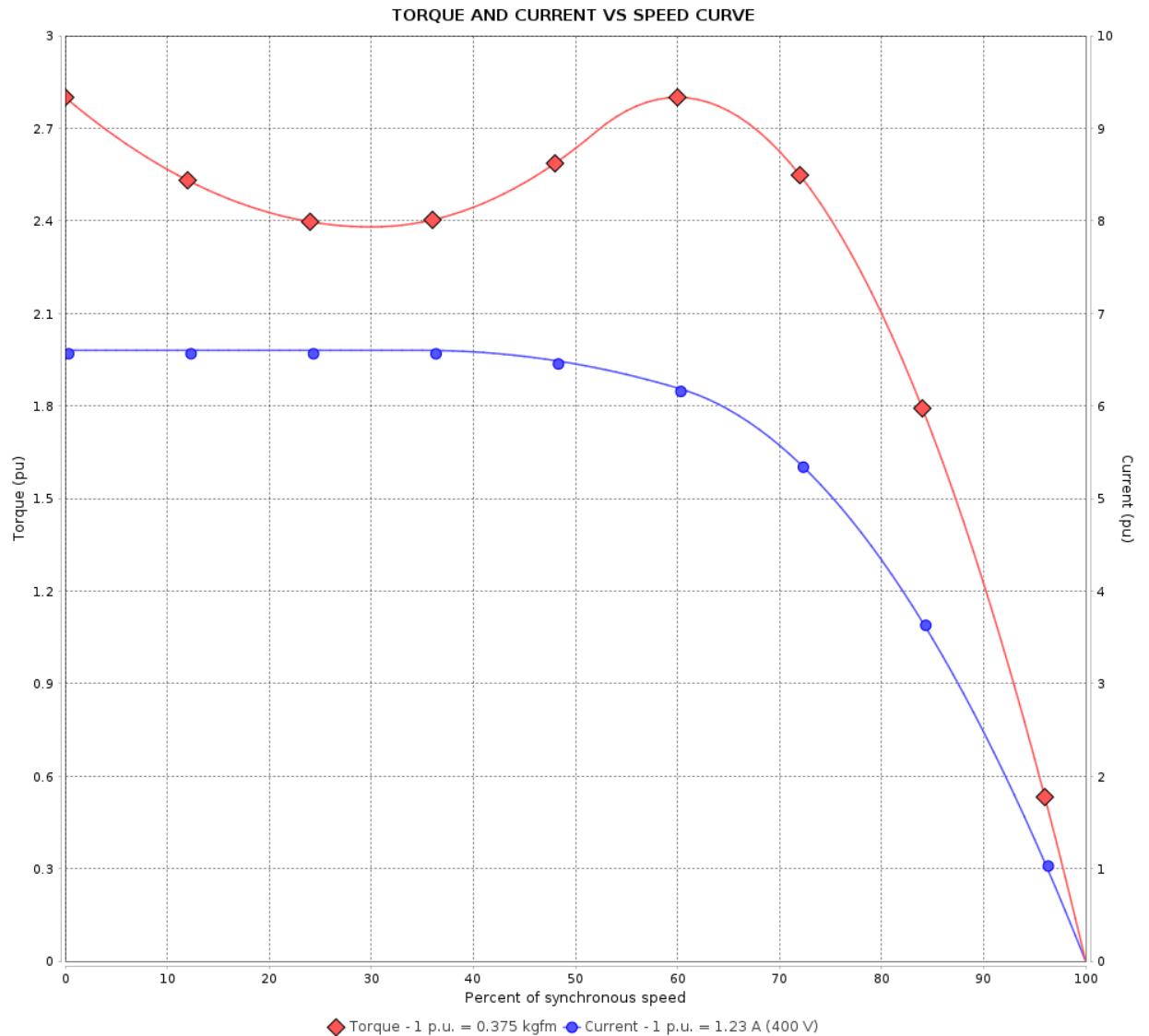
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15833991



Performance : 230/400 V 50 Hz 4P

Rated current : 2.14/1.23 A  
LRC : 6.6  
Rated torque : 0.375 kgfm  
Locked rotor torque : 280 %  
Breakdown torque : 280 %  
Rated speed : 1430 rpm

Moment of inertia (J) : 0.0027 kgm<sup>2</sup>  
Duty cycle : S1  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : N

Locked rotor time : 39s (cold) 22s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

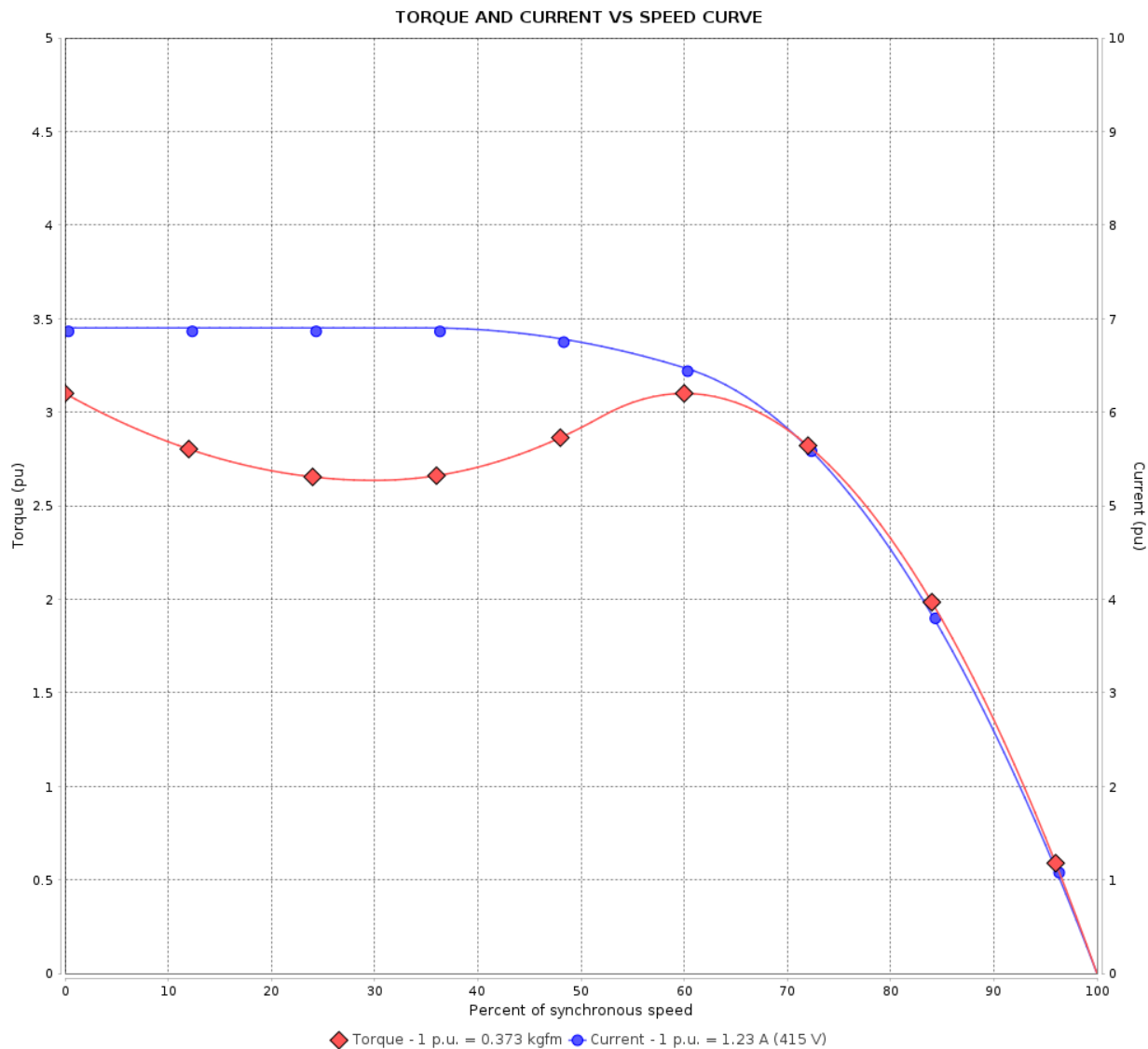
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15833991



Performance : 240/415 V 50 Hz 4P

Rated current : 2.13/1.23 A  
LRC : 6.9  
Rated torque : 0.373 kgfm  
Locked rotor torque : 310 %  
Breakdown torque : 310 %  
Rated speed : 1435 rpm

Moment of inertia (J) : 0.0027 kgm<sup>2</sup>  
Duty cycle : S1  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : N

Locked rotor time : 36s (cold) 20s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

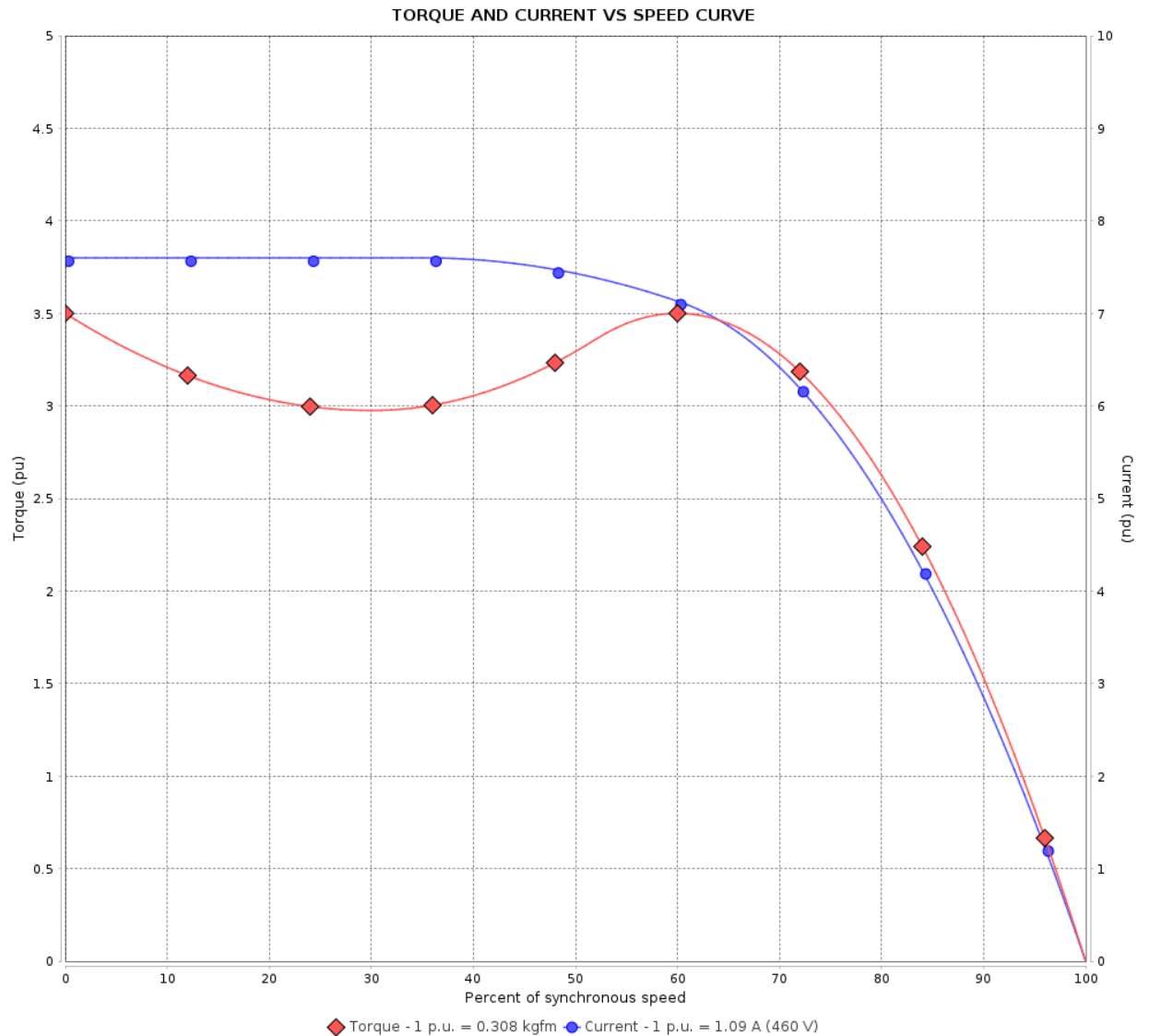
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15833991



Performance : 460 V 60 Hz 4P

Rated current	: 1.09 A	Moment of inertia (J)	: 0.0027 kgm <sup>2</sup>
LRC	: 7.6	Duty cycle	: S1
Rated torque	: 0.308 kgfm	Insulation class	: F
Locked rotor torque	: 350 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 1740 rpm	Design	: N

Locked rotor time : 37s (cold) 21s (hot)

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# LOAD PERFORMANCE CURVE

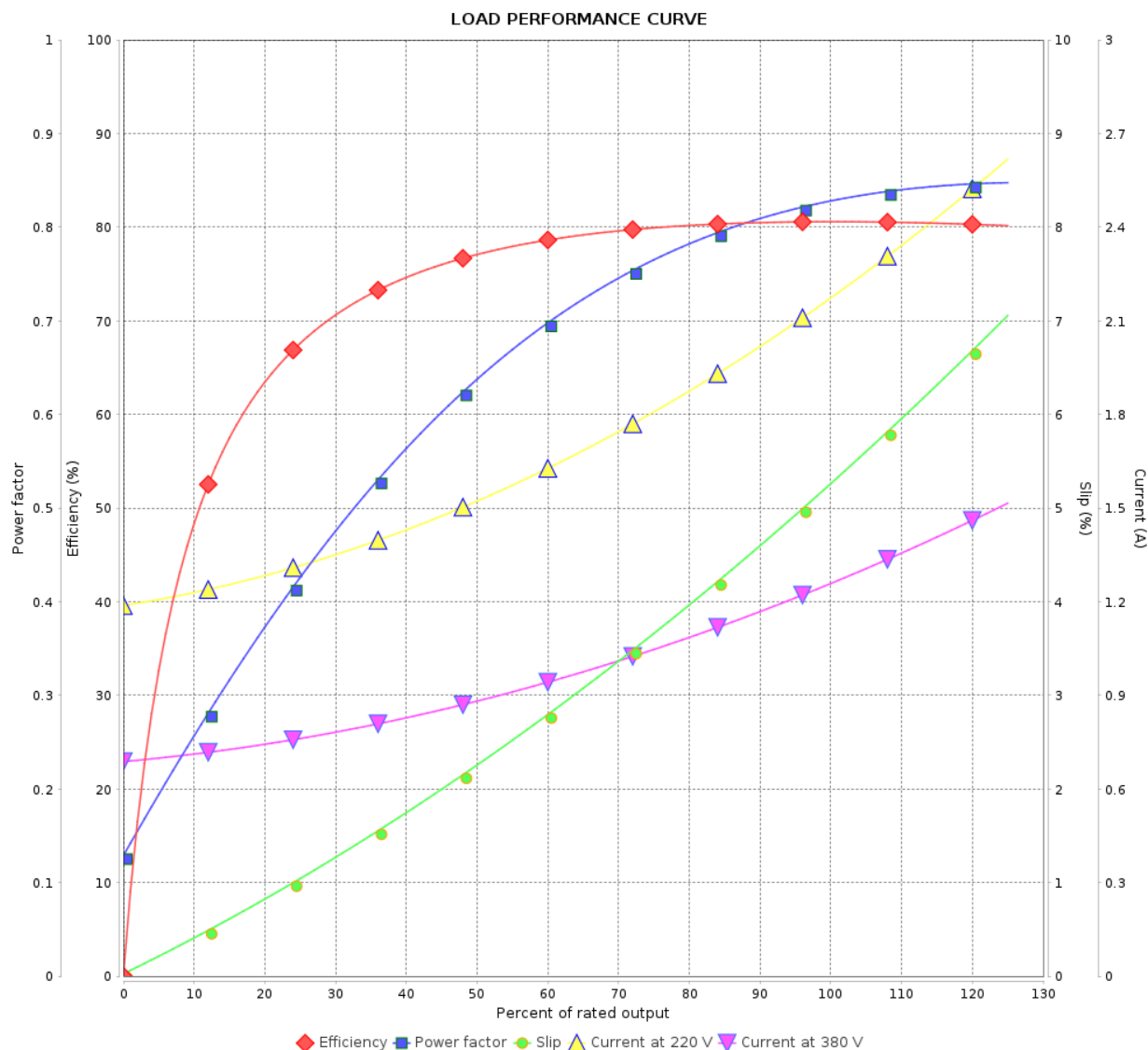
## Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 220/380 V 50 Hz 4P

Rated current : 2.16/1.25 A  
LRC : 6.3  
Rated torque : 0.377 kgfm  
Locked rotor torque : 250 %  
Breakdown torque : 250 %  
Rated speed : 1420 rpm

Moment of inertia (J) : 0.0027 kgm<sup>2</sup>  
Duty cycle : S1  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : N

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# LOAD PERFORMANCE CURVE

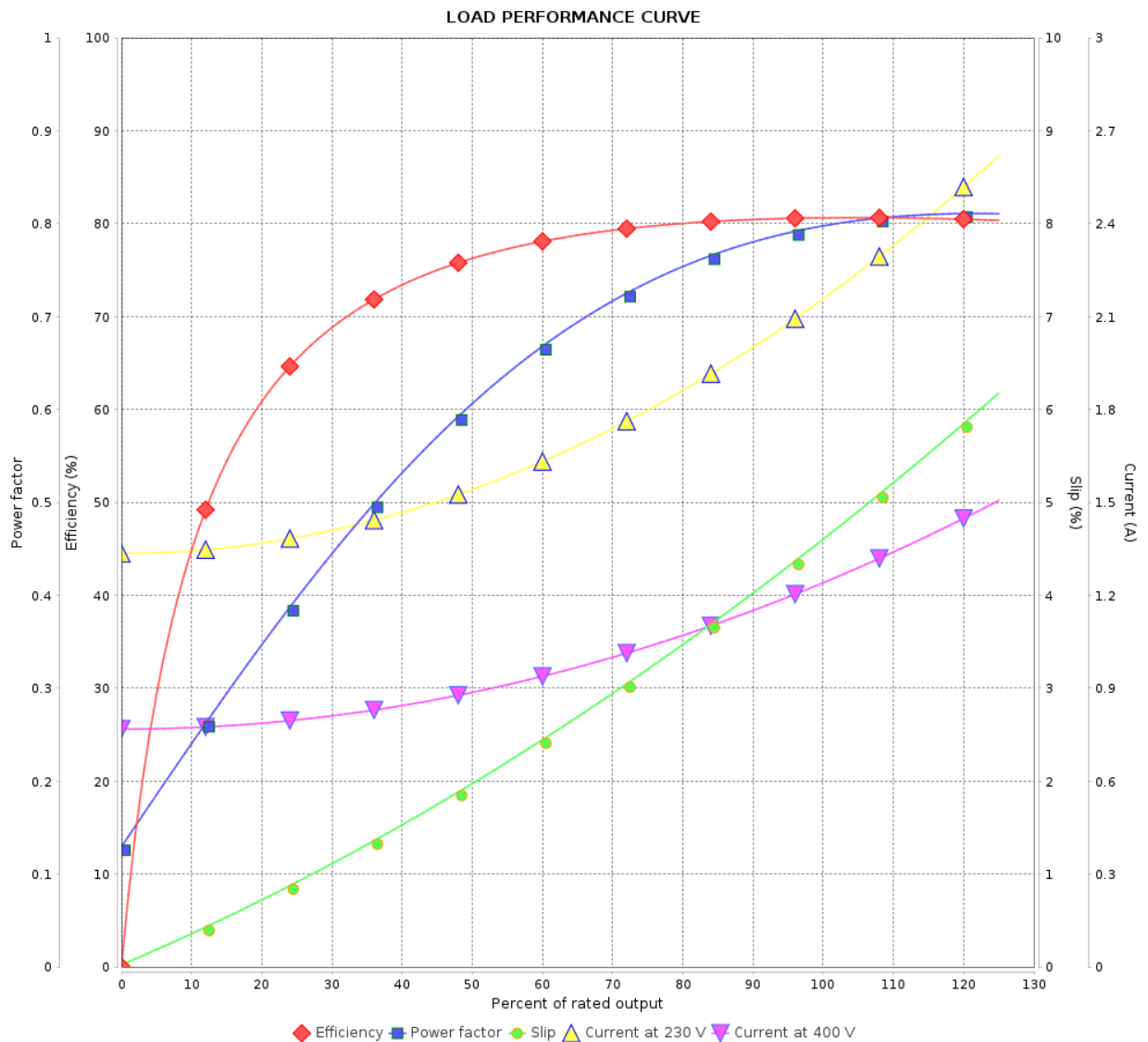
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15833991



Performance : 230/400 V 50 Hz 4P

Rated current : 2.14/1.23 A  
LRC : 6.6  
Rated torque : 0.375 kgfm  
Locked rotor torque : 280 %  
Breakdown torque : 280 %  
Rated speed : 1430 rpm

Moment of inertia (J) : 0.0027 kgm<sup>2</sup>  
Duty cycle : S1  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : N

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# LOAD PERFORMANCE CURVE

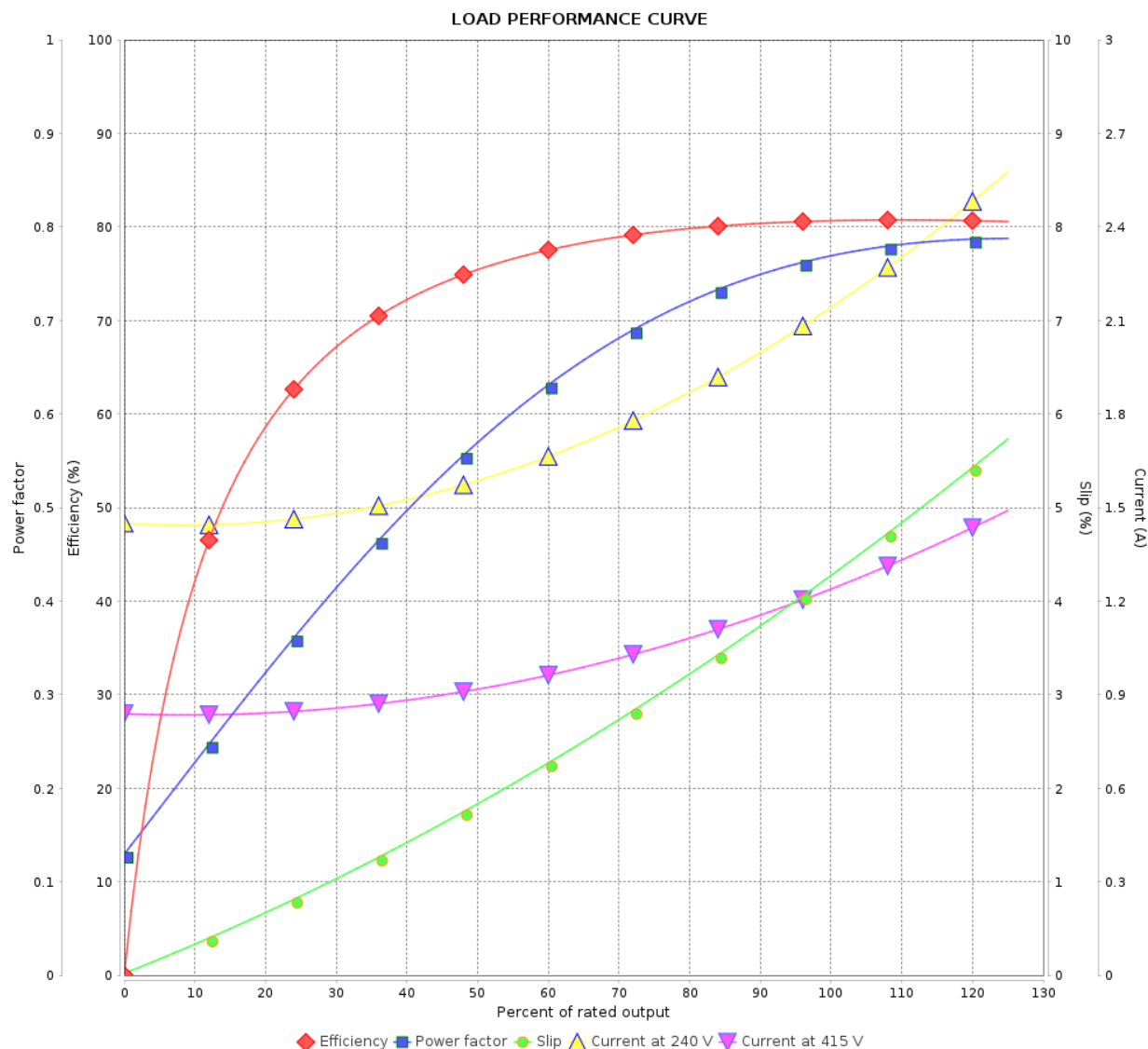
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Rated speed : 1435 rpm

Moment of inertia (J) : 0.0027 kgm<sup>2</sup>  
Duty cycle : S1  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : N

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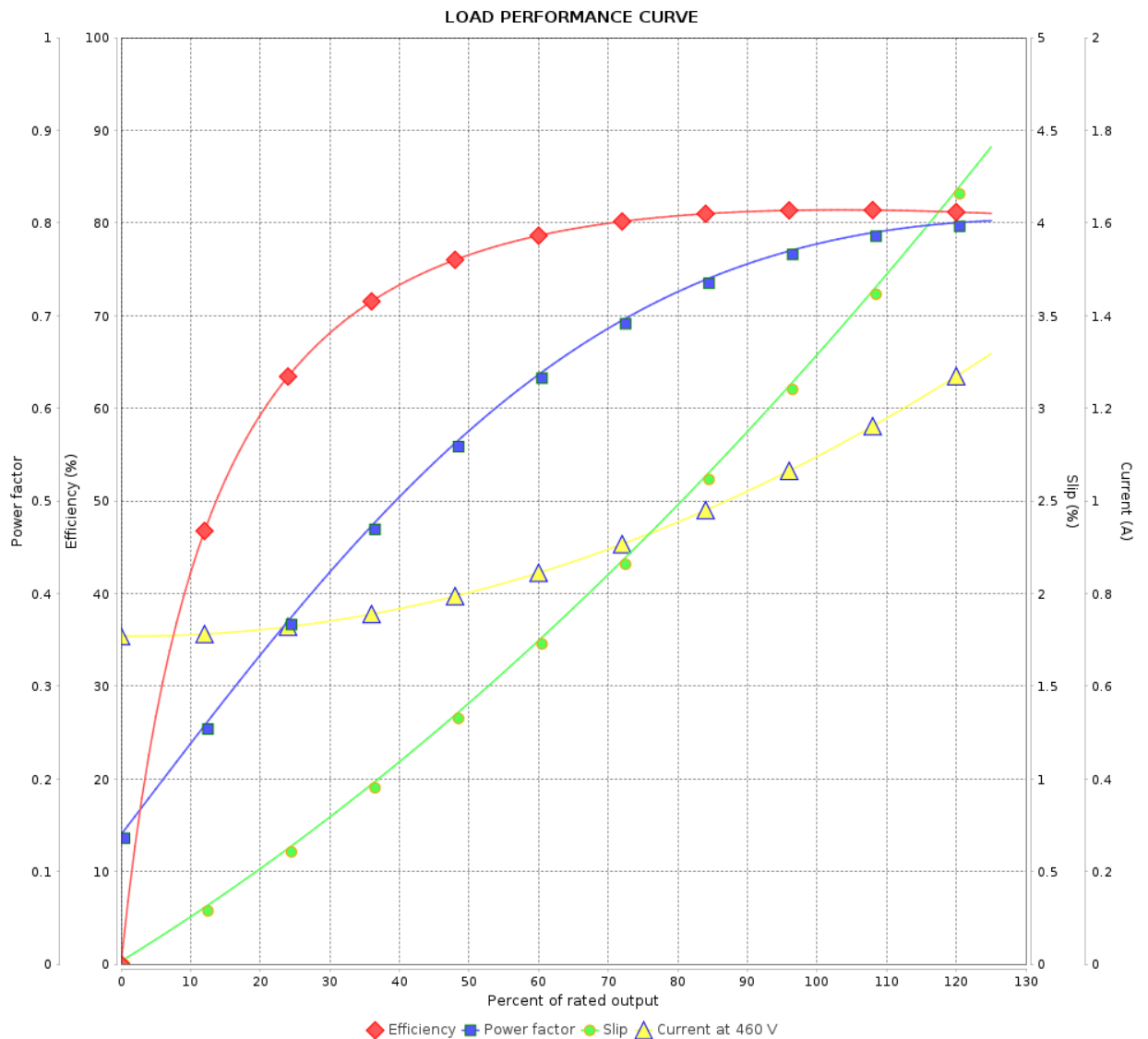
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15833991



Performance : 460 V 60 Hz 4P

Rated current	: 1.09 A	Moment of inertia (J)	: 0.0027 kgm <sup>2</sup>
LRC	: 7.6	Duty cycle	: S1
Rated torque	: 0.308 kgfm	Insulation class	: F
Locked rotor torque	: 350 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 1740 rpm	Design	: N

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# THERMAL LIMIT CURVE

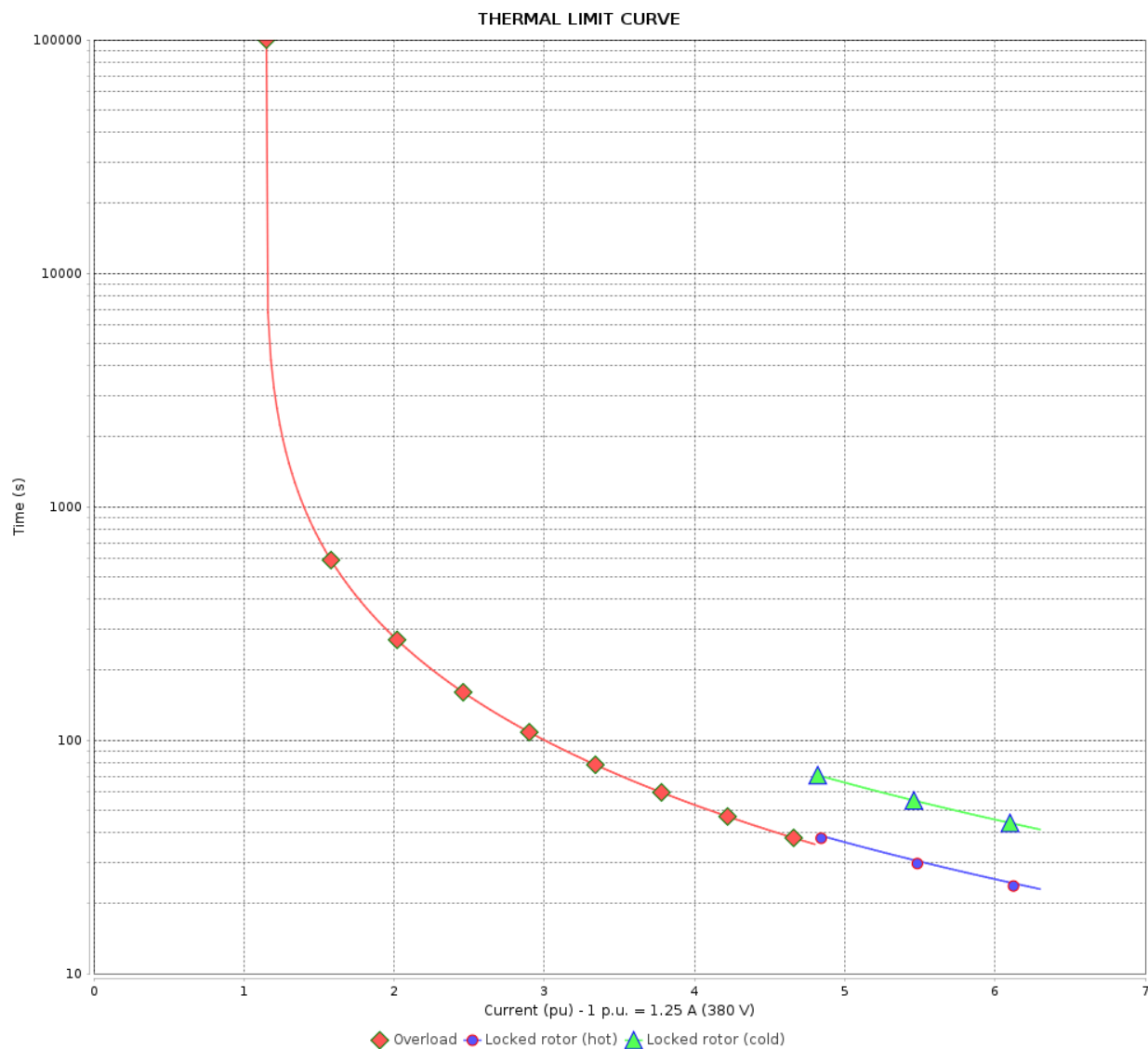
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Rated speed : 1420 rpm

Moment of inertia (J) : 0.0027 kgm<sup>2</sup>  
Duty cycle : S1  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : N

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

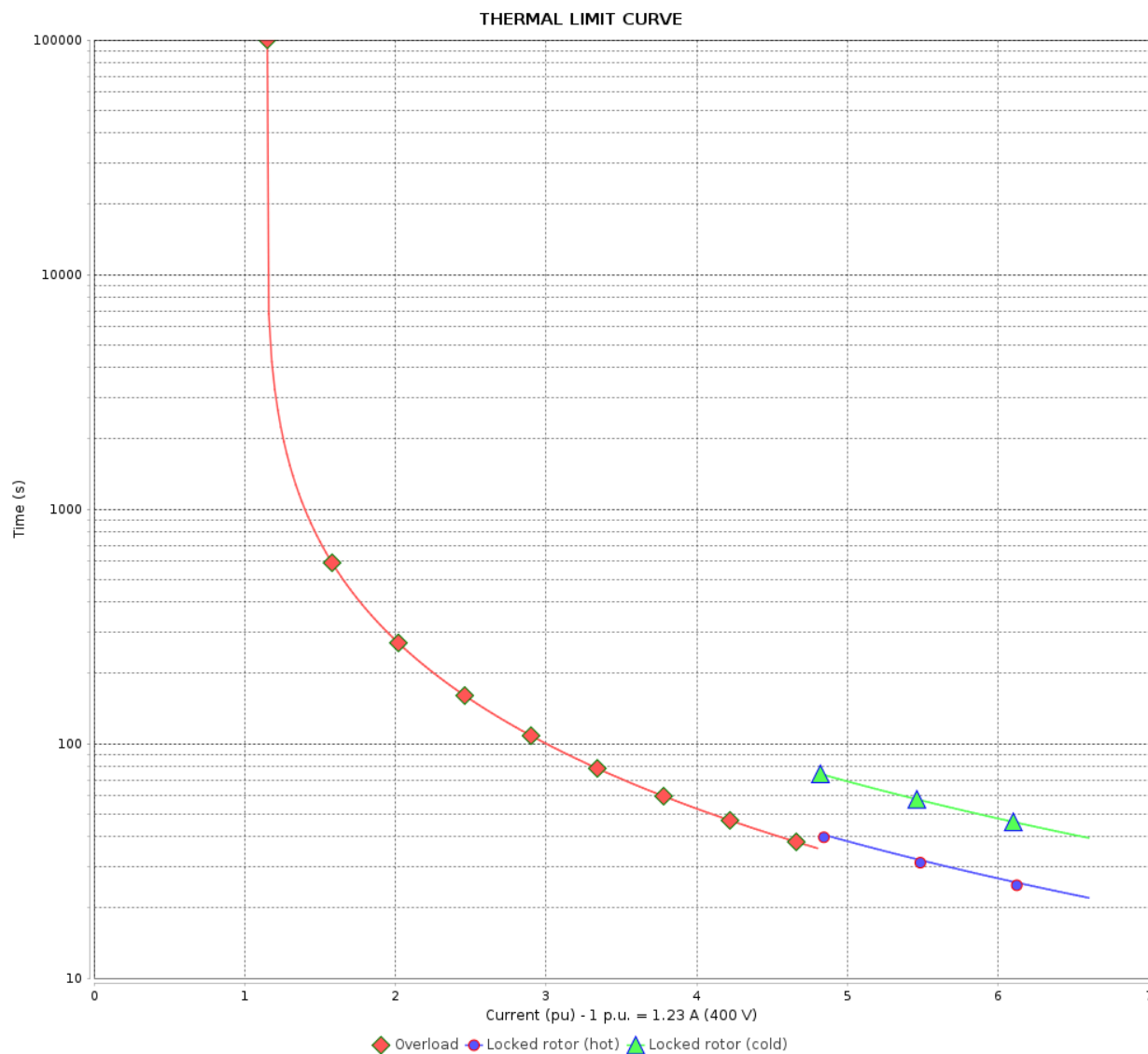
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 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
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Heating constant

Cooling constant

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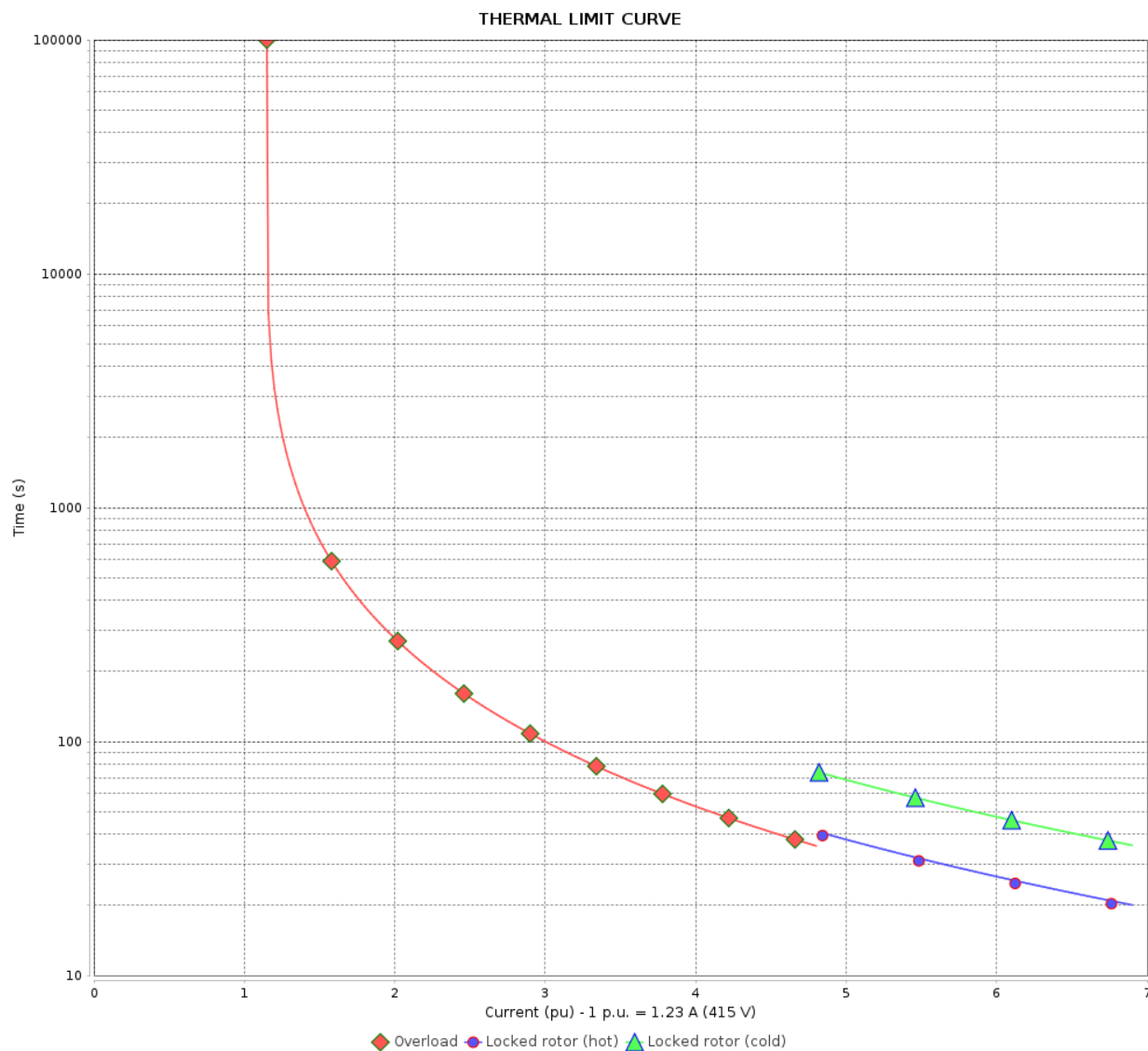
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Temperature rise : 80 K  
Design : N

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

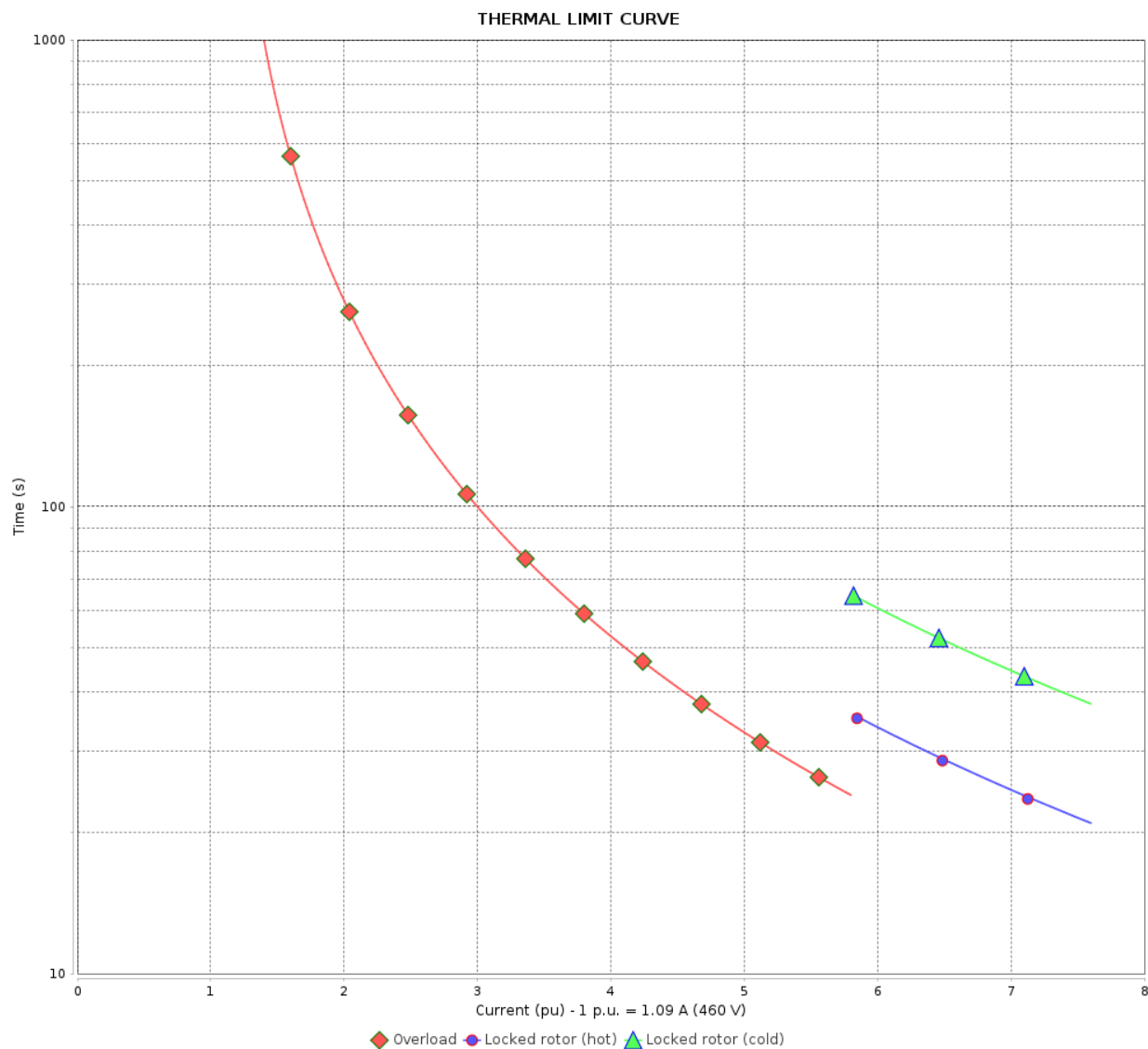
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15833991



Performance : 460 V 60 Hz 4P

Rated current : 1.09 A  
LRC : 7.6  
Rated torque : 0.308 kgfm  
Locked rotor torque : 350 %  
Breakdown torque : 350 %  
Rated speed : 1740 rpm

Moment of inertia (J) : 0.0027 kgm<sup>2</sup>  
Duty cycle : S1  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : N

Heating constant

Cooling constant

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# VFD OPERATION CURVE

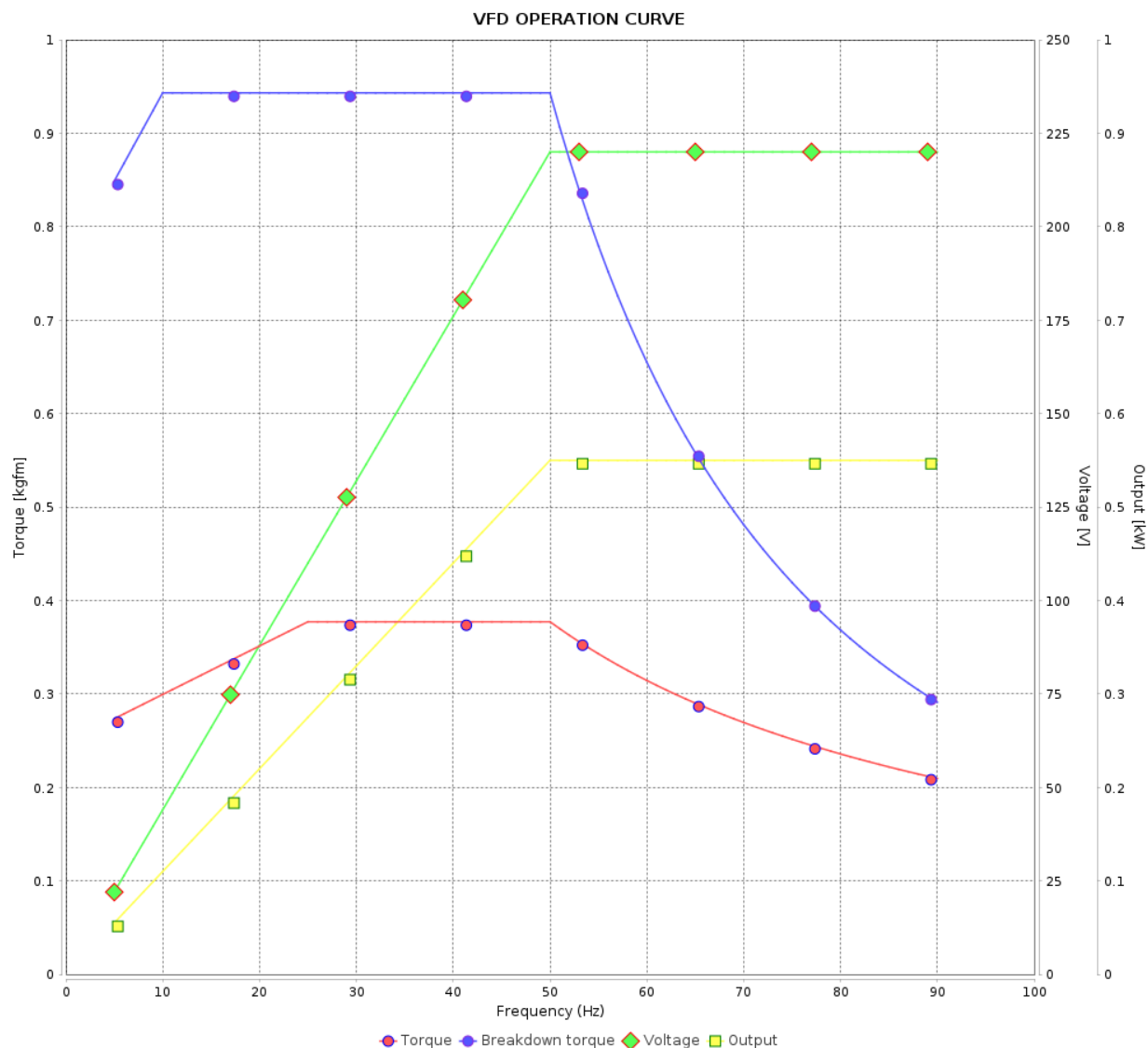
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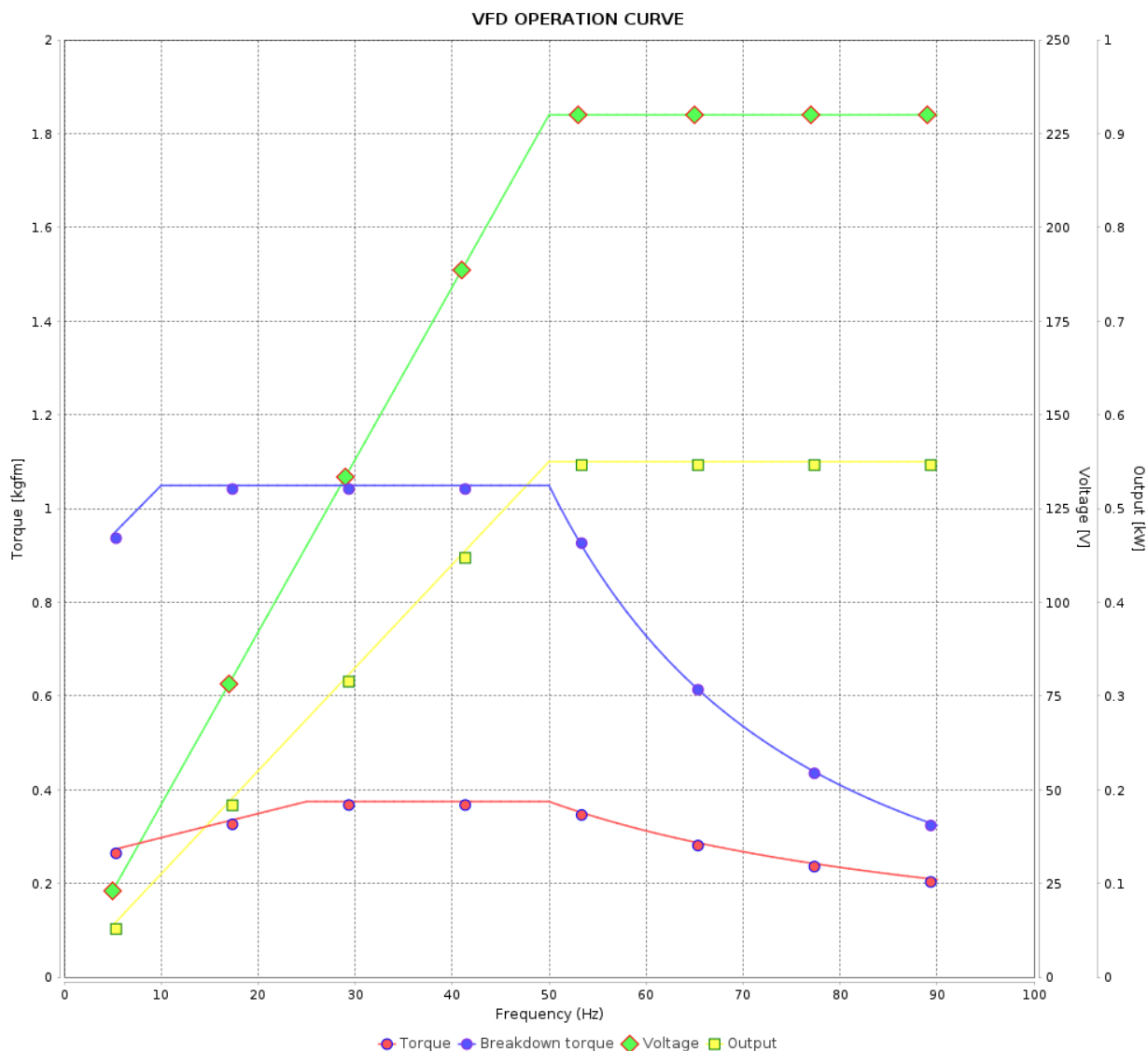
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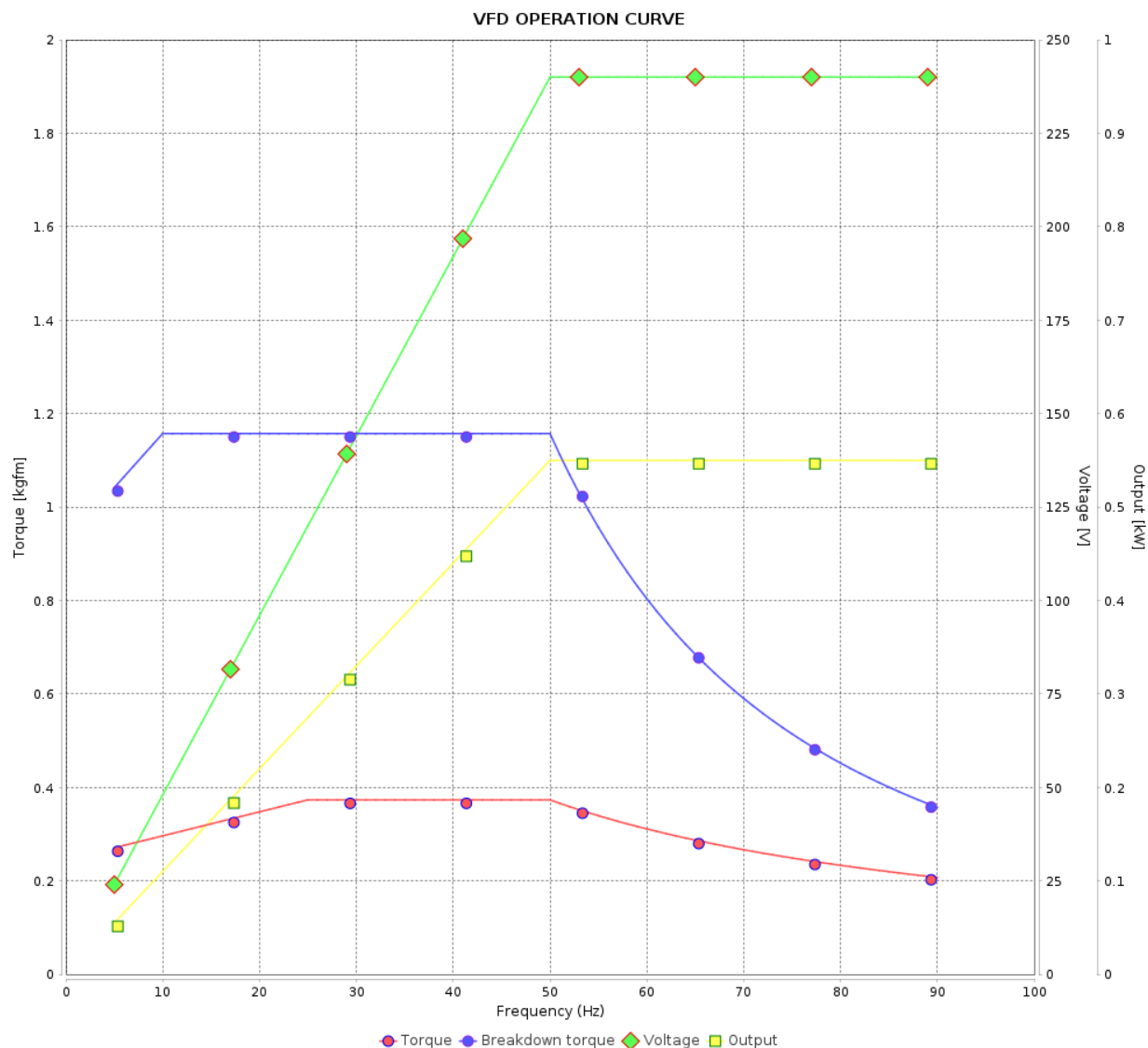
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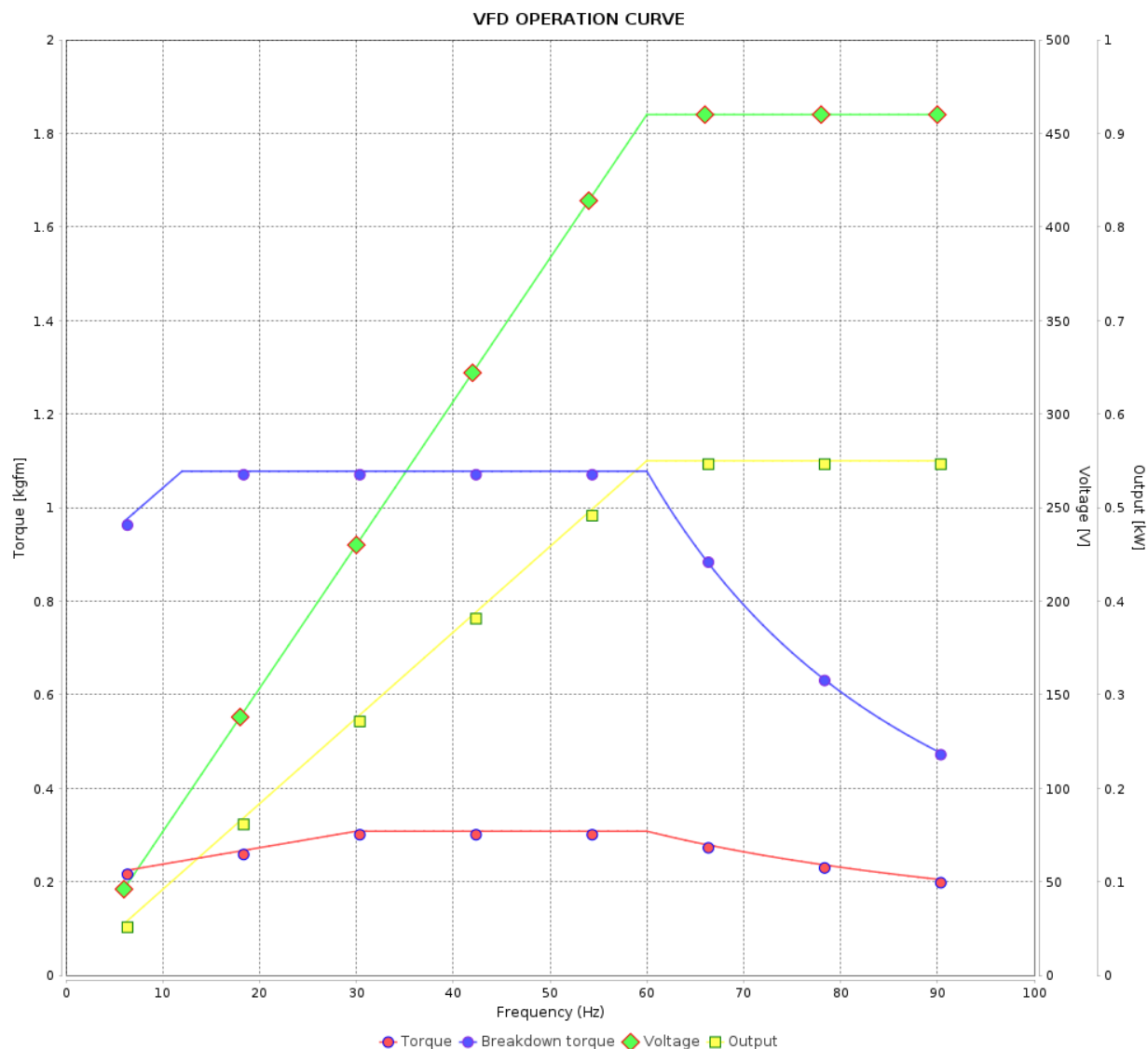
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