

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line : IE3 Three-Phase	Product code : 12862533			
Frame : 160M 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 : B5T Rotation ¹ : Both (CW and CCW) Starting method : Direct On Line Approx. weight ² : 314 lb Moment of inertia (J) : 2.83 sq.ft.lb			
Output [kW]	11	11	11	11
Poles	4	4	4	4
Frequency [Hz]	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460
Rated current [A]	21.5/12.4	20.9/12.1	20.7	18.4
L. R. Amperes [A]	151/86.7	167/96.9	176	156
LRC [A]	7.0	8.0	8.5	8.5
No load current [A]	9.00/5.18	9.50/5.51	10.5	9.20
Rated speed [RPM]	1475	1479	1480	1780
Slip [%]	1.67	1.40	1.33	1.11
Rated torque [ft.lb]	52.6	52.4	52.4	43.6
Locked rotor torque [%]	240	270	300	360
Breakdown torque [%]	270	300	320	360
Service factor	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	25s (cold) 14s (hot)	23s (cold) 13s (hot)	21s (cold) 12s (hot)	28s (cold) 16s (hot)
Noise level ²	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)	64.0 dB(A)
Efficiency (%)	25%			
	50%	91.4	90.7	90.6
	75%	91.4	91.6	91.4
	100%	91.4	91.4	91.4
Power Factor	25%			
	50%	0.69	0.65	0.61
	75%	0.80	0.77	0.74
	100%	0.85	0.83	0.81
Losses at normative operating points (speed;torque), in percentage of rated output power				
Losses (%)	P1 (0,9;1,0)	9.2	9.2	8.0
	P2 (0,5;1,0)	8.0	8.0	7.0
	P3 (0,25;1,0)	7.7	7.7	6.7
	P4 (0,9;0,5)	4.5	4.5	3.9
	P5 (0,5;0,5)	3.2	3.2	2.8
	P6 (0,5;0,25)	2.2	2.2	1.9
	P7 (0,25;0,25)	1.6	1.6	1.4
Bearing type : Drive end 6309 ZZ C3 Non drive end 6209 ZZ C3 Sealing : Oil Seal Lip Seal Lubrication interval : - - Lubricant amount : - - Lubricant type : Mobil Polyrex EM	Foundation loads Max. traction : 595 lb Max. compression : 909 lb			
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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Three Phase Induction Motor - Squirrel Cage



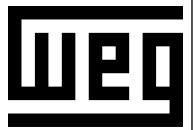
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Thermal protection

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

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TORQUE AND CURRENT VS SPEED CURVE

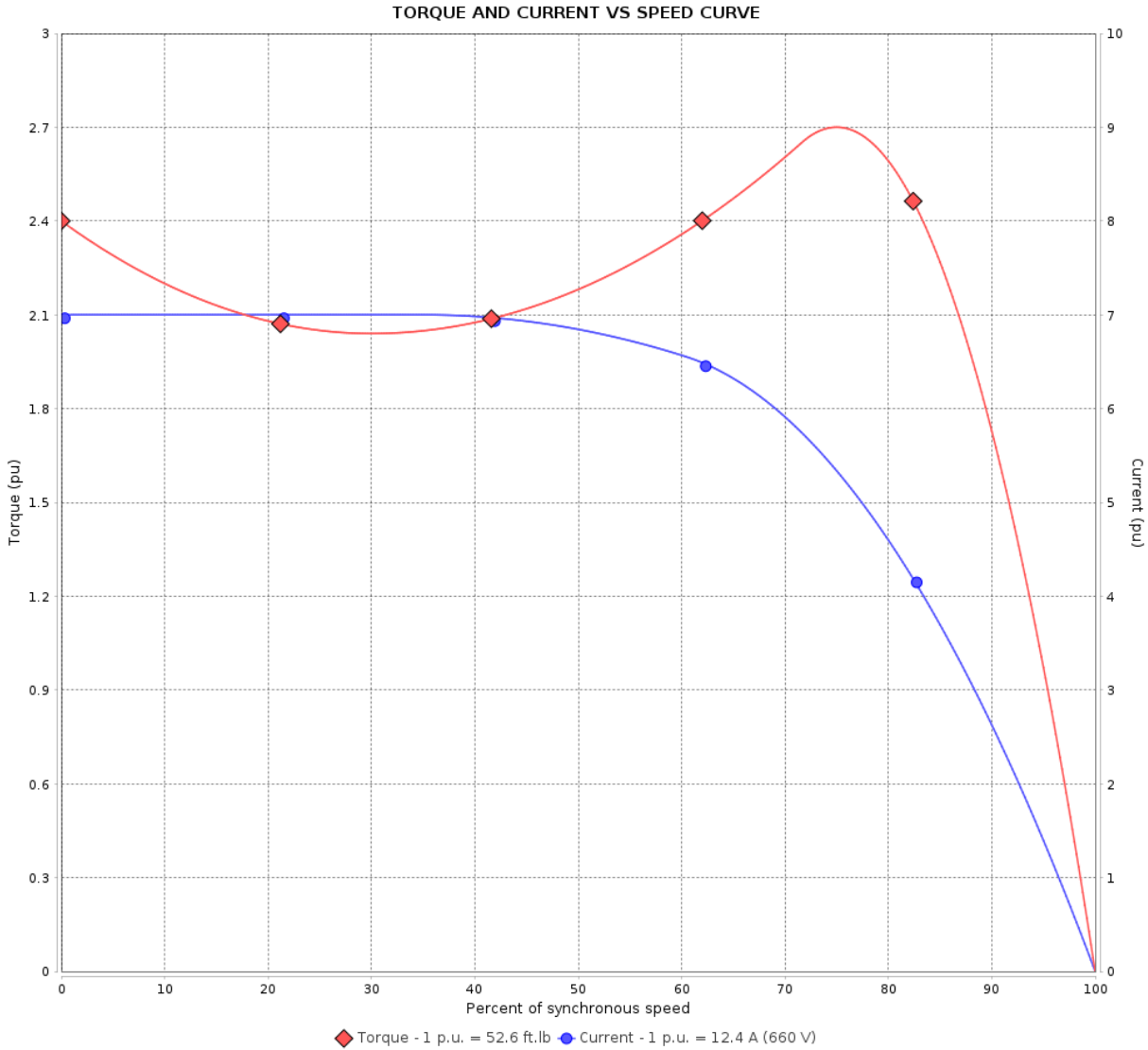
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : IE3 Three-Phase

Product code : 12862533



Performance : 380/660 V 50 Hz 4P

Rated current	: 21.5/12.4 A	Moment of inertia (J)	: 2.83 sq.ft.lb
LRC	: 7.0	Duty cycle	: S1
Rated torque	: 52.6 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: N

Locked rotor time : 25s (cold) 14s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

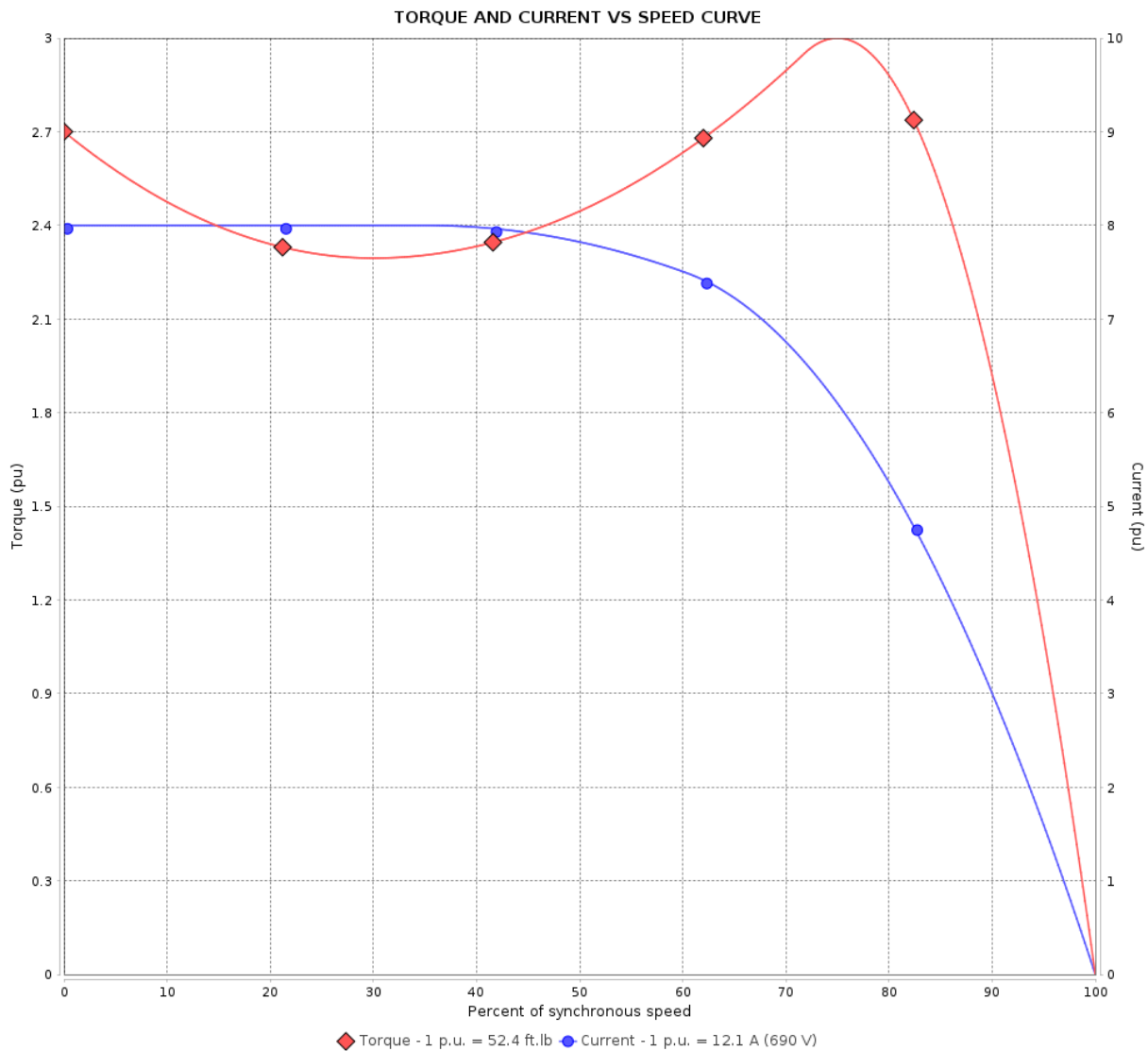


Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : IE3 Three-Phase

Product code : 12862533



Performance : 400/690 V 50 Hz 4P

Rated current	: 20.9/12.1 A	Moment of inertia (J)	: 2.83 sq.ft.lb
LRC	: 8.0	Duty cycle	: S1
Rated torque	: 52.4 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1479 rpm	Design	: N

Locked rotor time : 23s (cold) 13s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

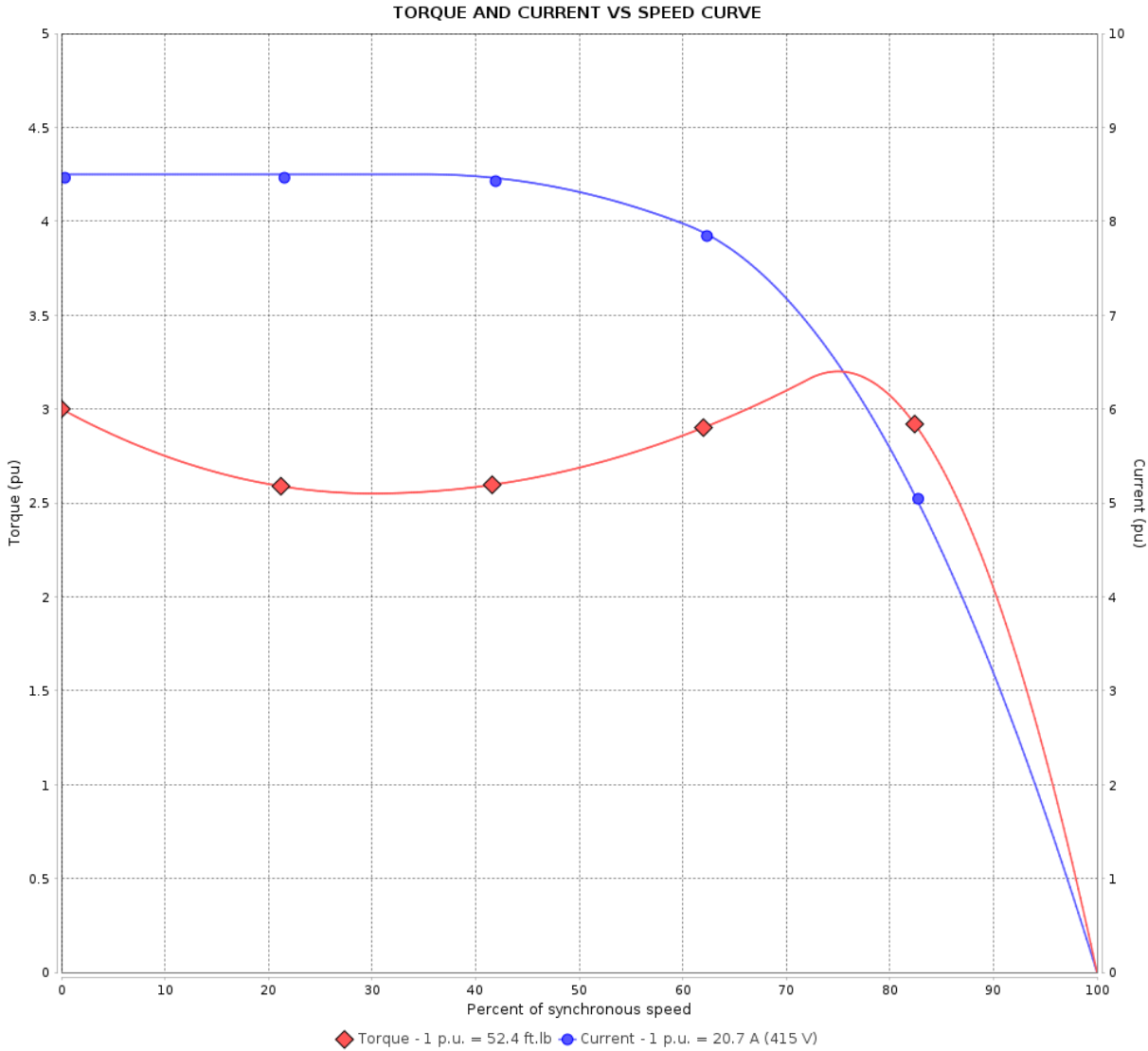
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : IE3 Three-Phase

Product code : 12862533



Performance : 415 V 50 Hz 4P

Rated current	: 20.7 A	Moment of inertia (J)	: 2.83 sq.ft.lb
LRC	: 8.5	Duty cycle	: S1
Rated torque	: 52.4 ft.lb	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: N

Locked rotor time : 21s (cold) 12s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

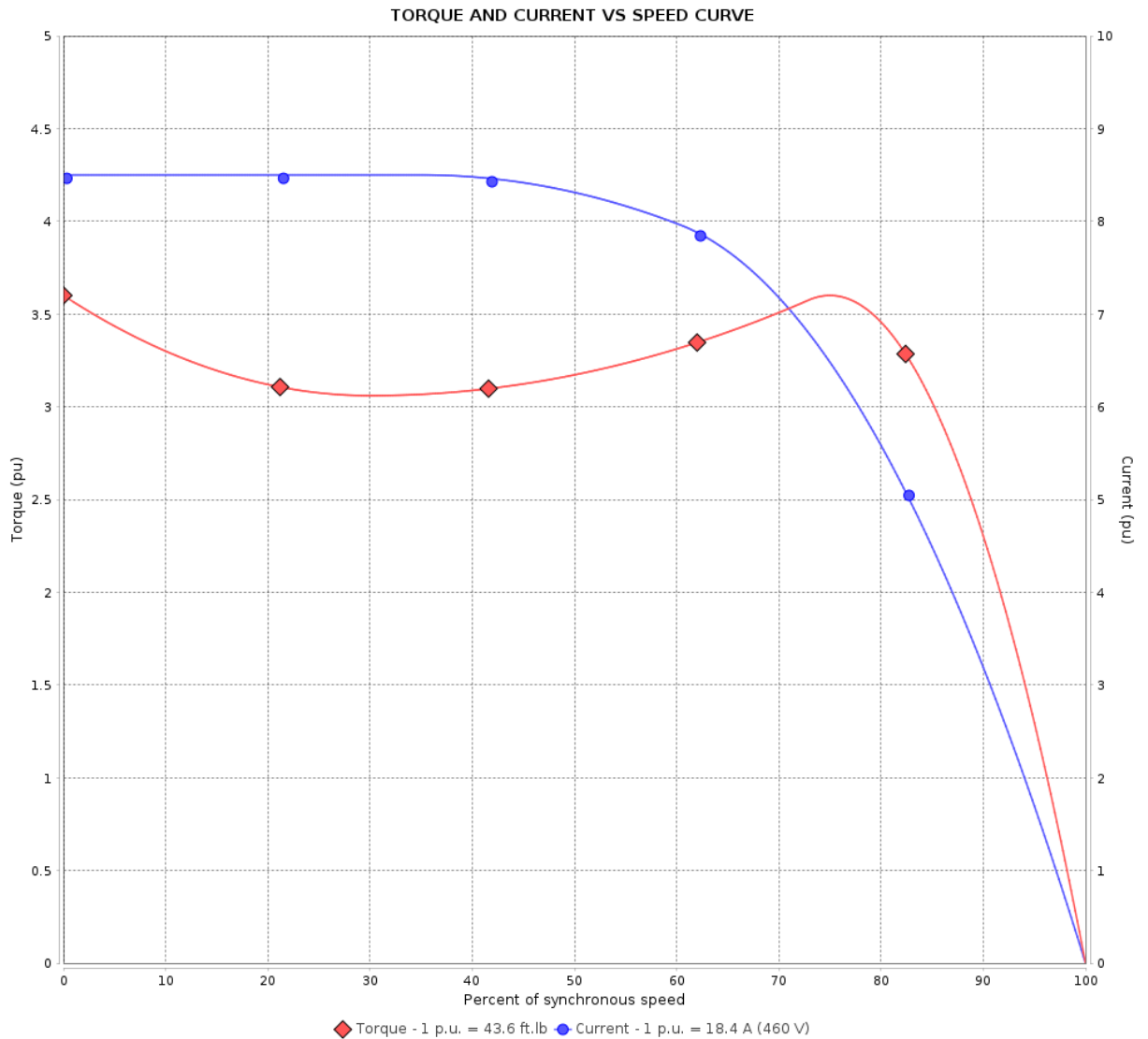


Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : IE3 Three-Phase

Product code : 12862533



Performance : 460 V 60 Hz 4P

Rated current	: 18.4 A	Moment of inertia (J)	: 2.83 sq.ft.lb
LRC	: 8.5	Duty cycle	: S1
Rated torque	: 43.6 ft.lb	Insulation class	: F
Locked rotor torque	: 360 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: N

Locked rotor time : 28s (cold) 16s (hot)

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LOAD PERFORMANCE CURVE

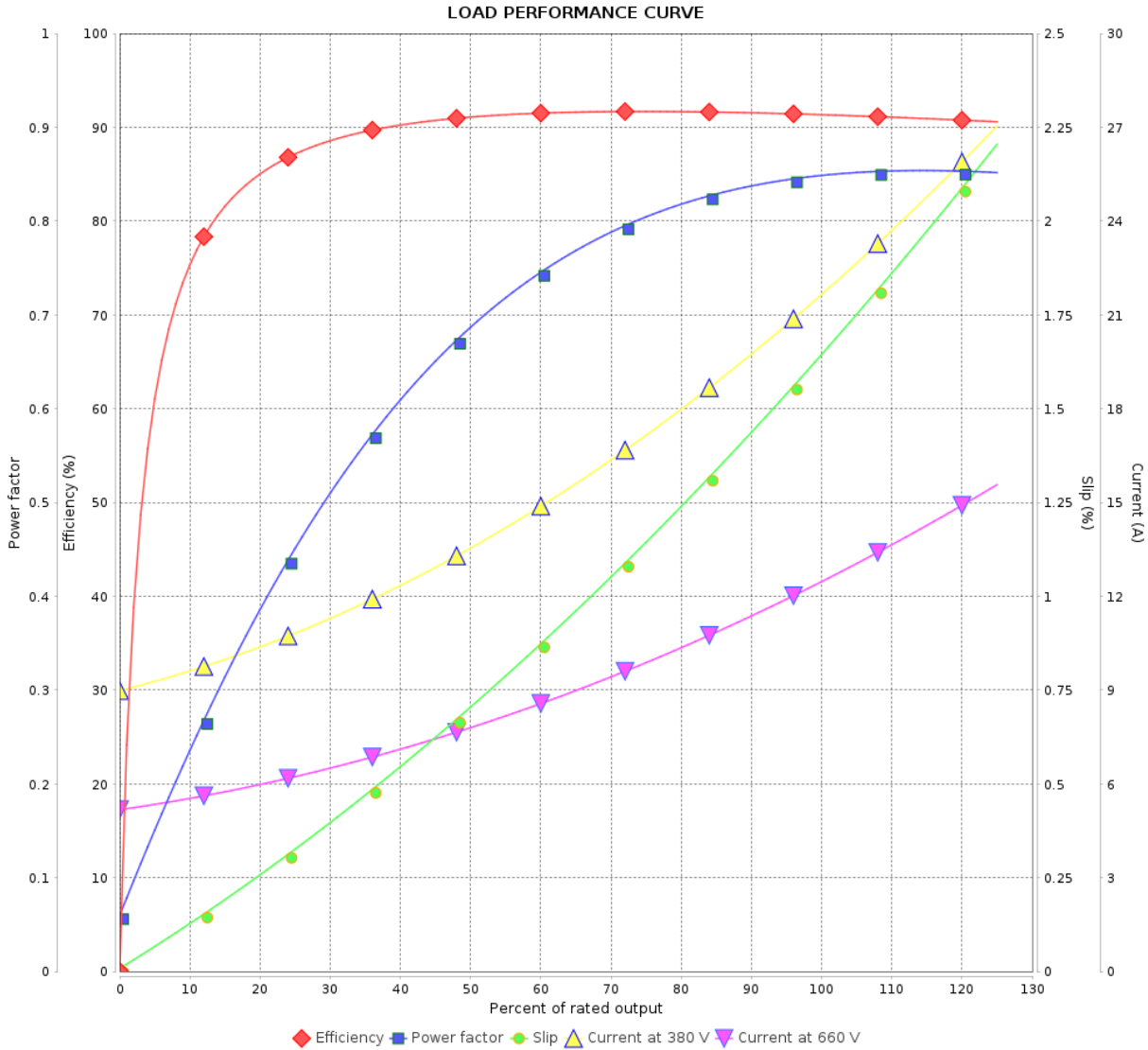
Three Phase Induction Motor - Squirrel Cage



Customer : _____

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Performance : 380/660 V 50 Hz 4P

Rated current : 21.5/12.4 A
 LRC : 7.0
 Rated torque : 52.6 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 270 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 2.83 sq.ft.lb
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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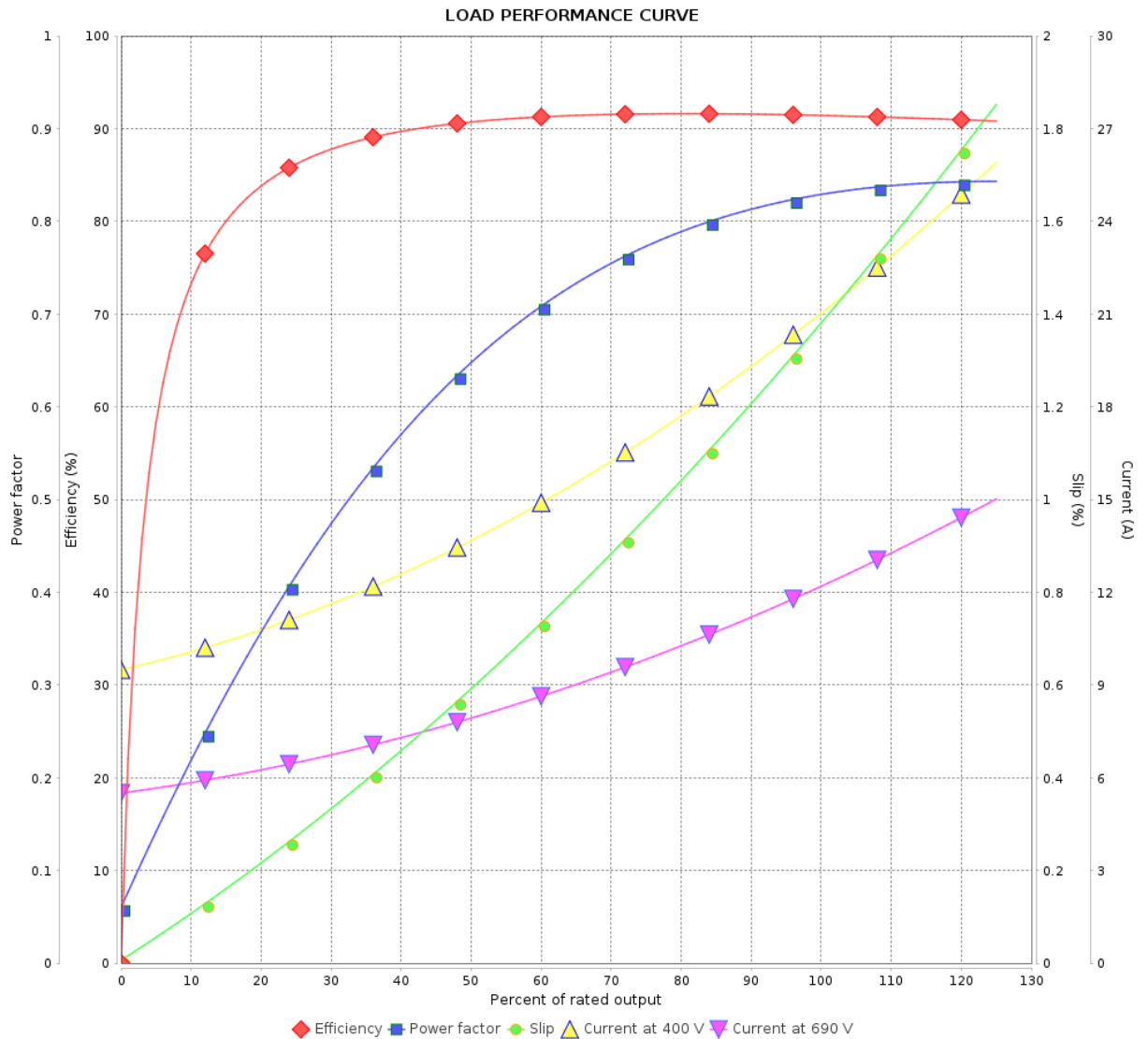
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 Breakdown torque : 300 %
 Rated speed : 1479 rpm

Moment of inertia (J) : 2.83 sq.ft.lb
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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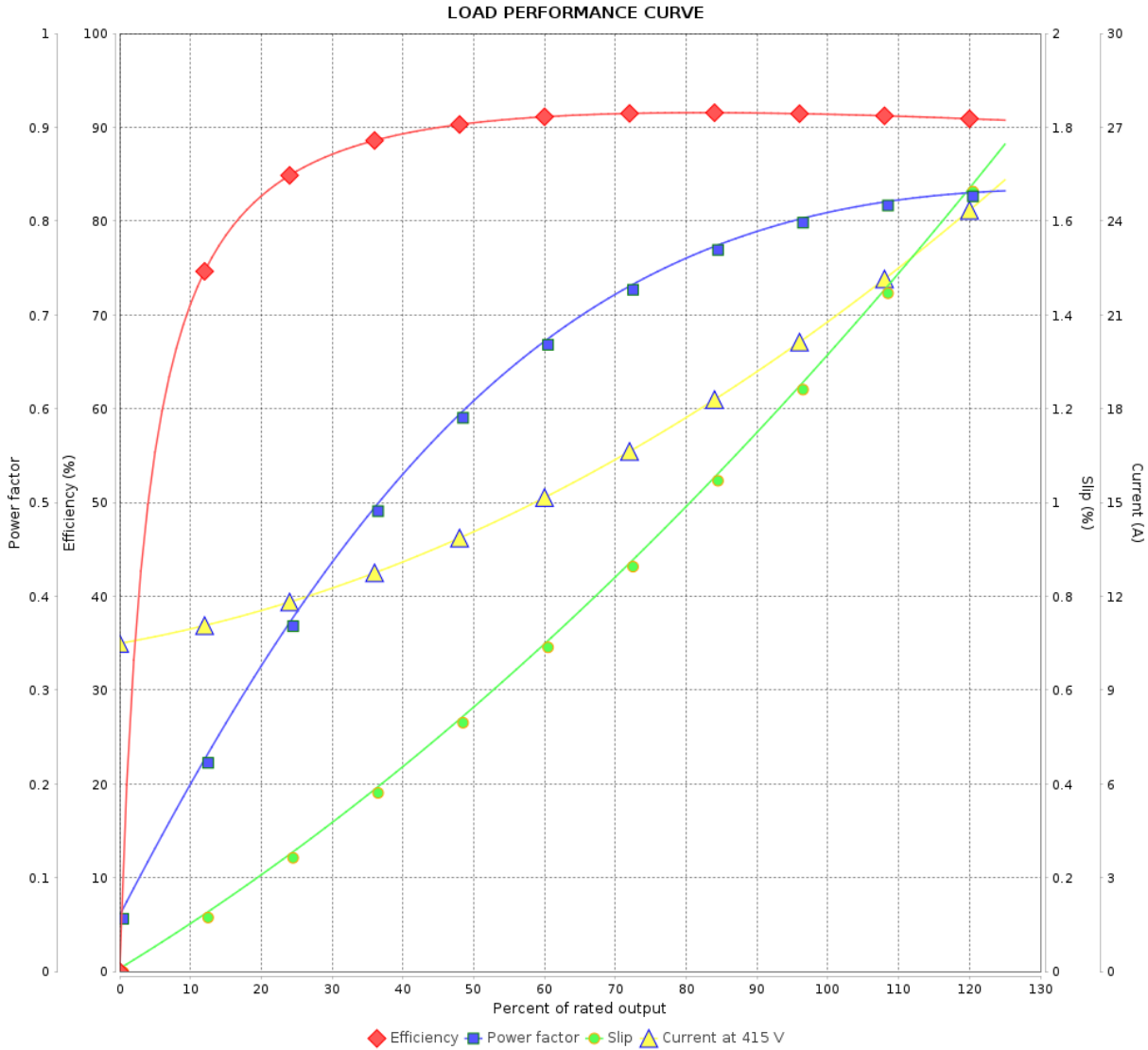
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Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: N

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LOAD PERFORMANCE CURVE

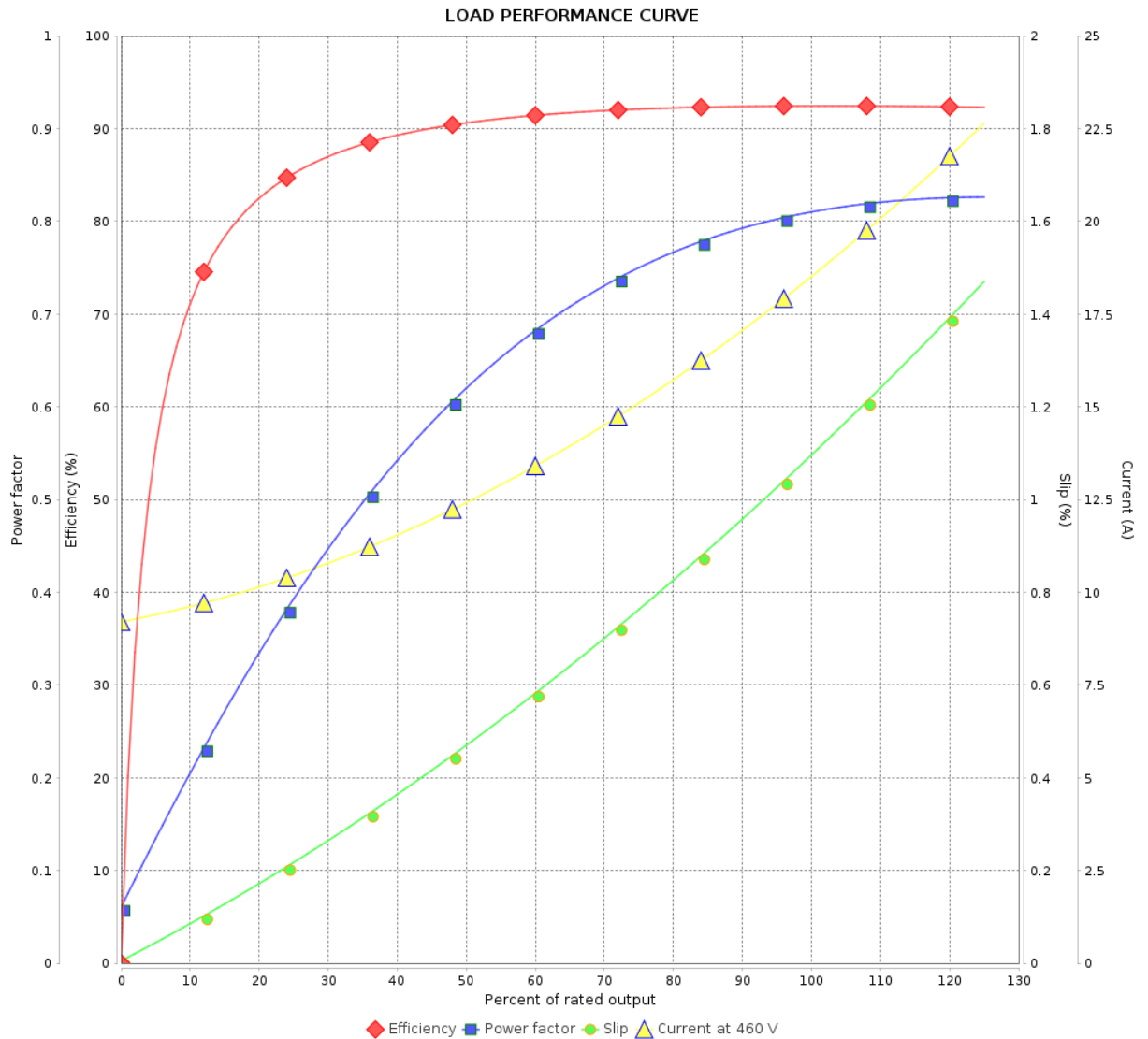
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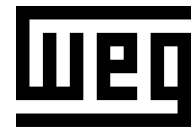
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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THERMAL LIMIT CURVE

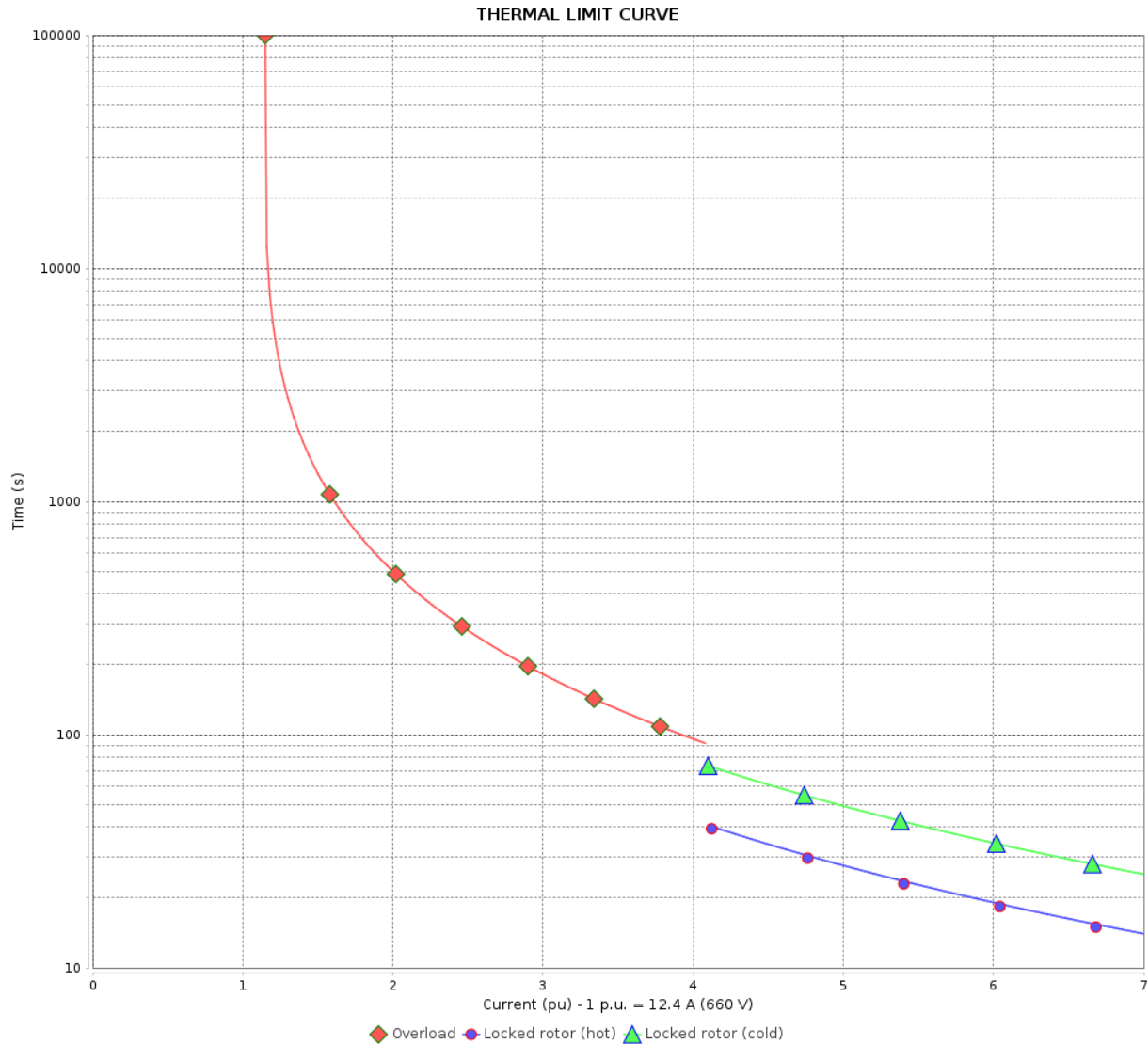
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 Breakdown torque : 270 %
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Moment of inertia (J) : 2.83 sq.ft.lb
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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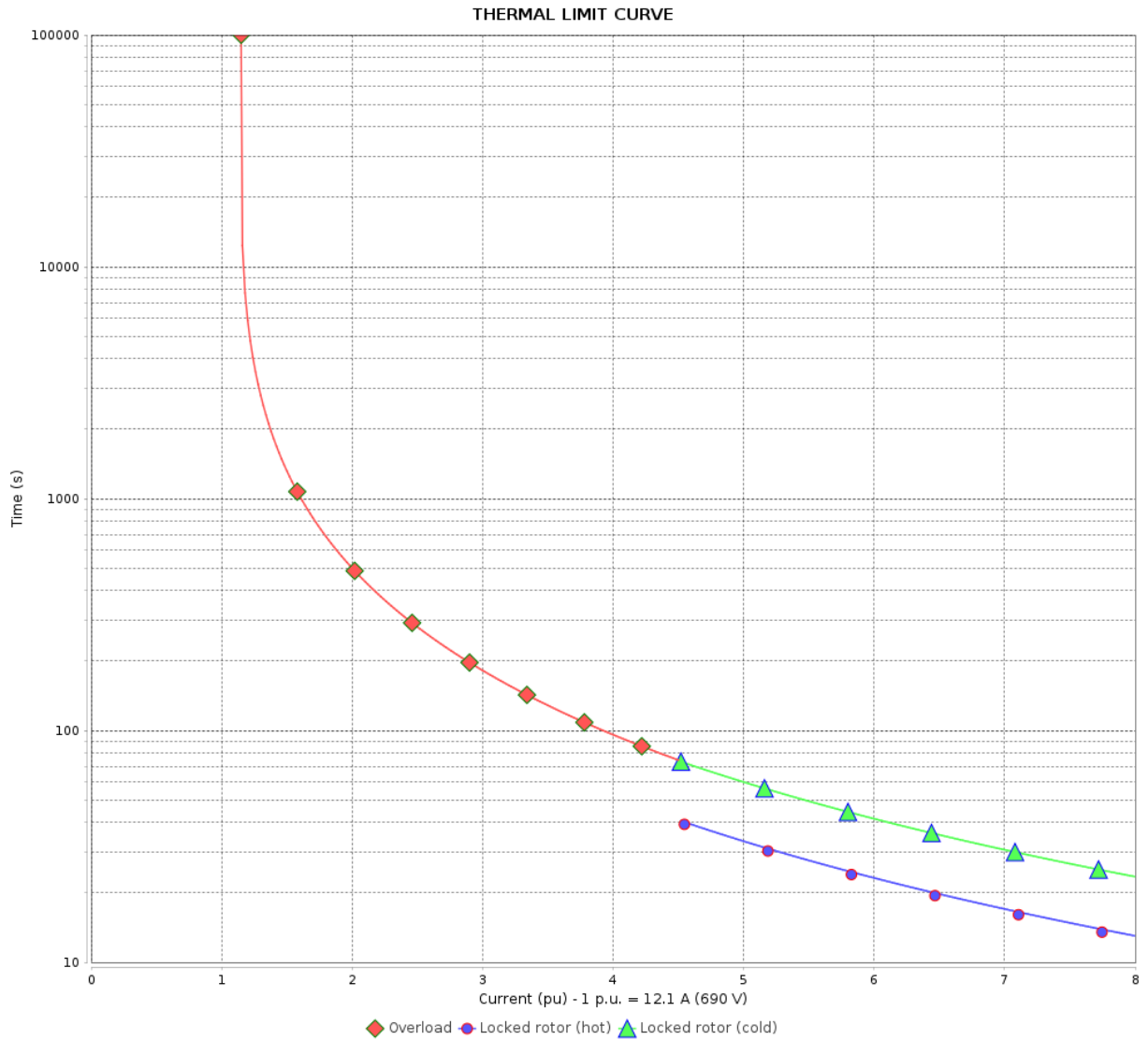
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 Breakdown torque : 300 %
 Rated speed : 1479 rpm

Moment of inertia (J) : 2.83 sq.ft.lb
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant
 Cooling constant

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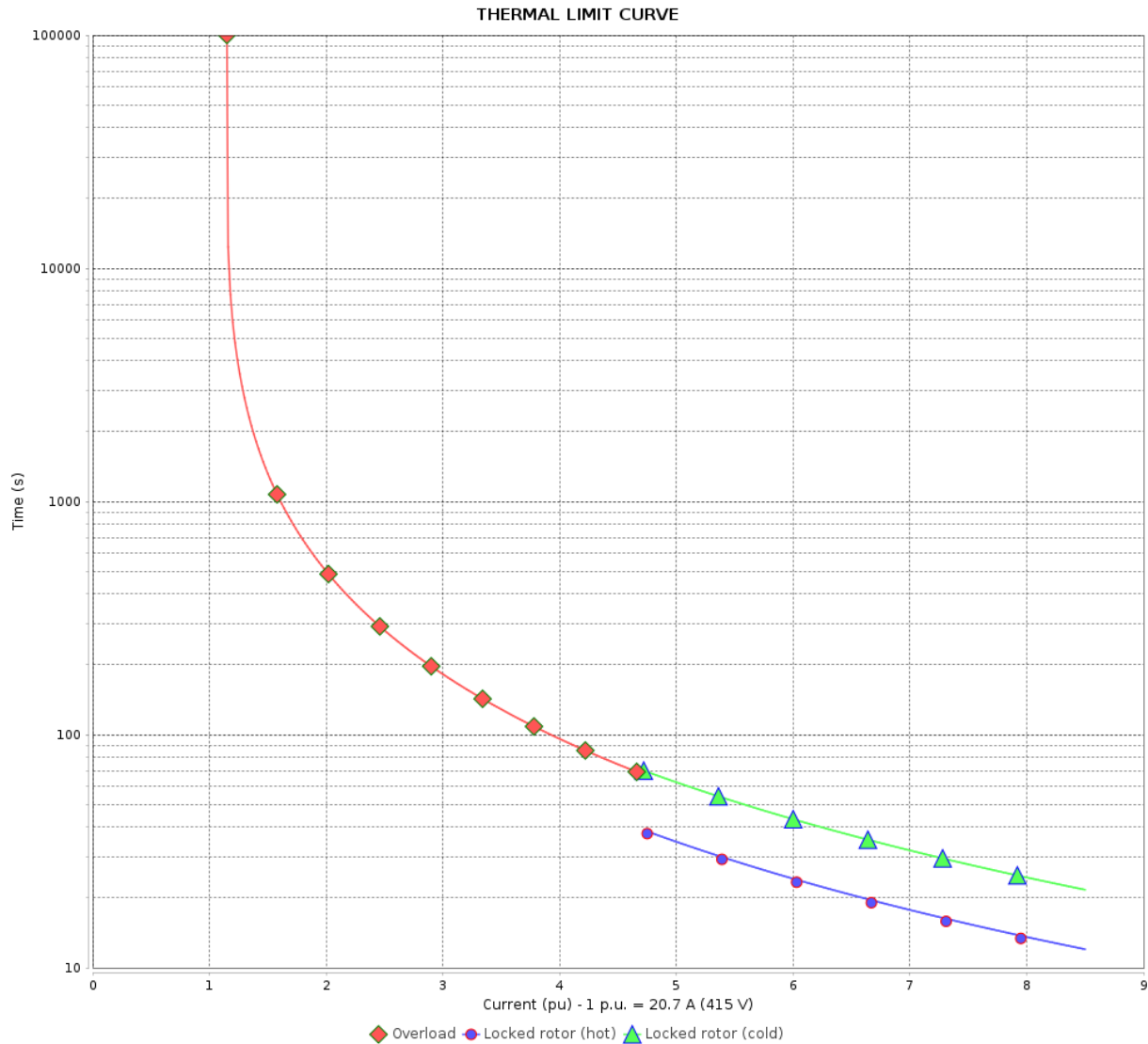
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Rated torque	: 52.4 ft.lb	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: N

Heating constant

Cooling constant

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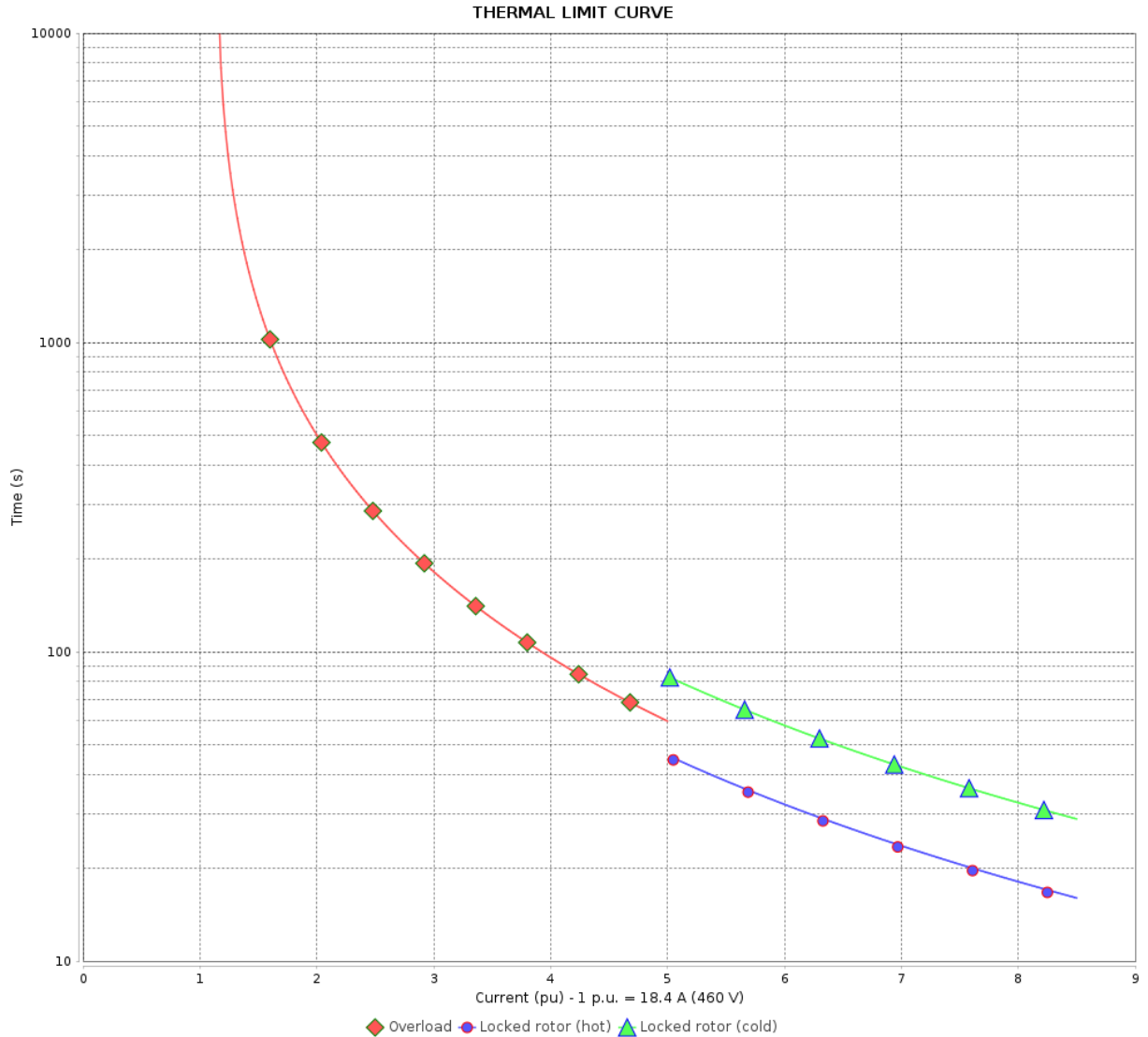
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Customer :

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Performance : 460 V 60 Hz 4P

Rated current	: 18.4 A	Moment of inertia (J)	: 2.83 sq.ft.lb
LRC	: 8.5	Duty cycle	: S1
Rated torque	: 43.6 ft.lb	Insulation class	: F
Locked rotor torque	: 360 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: N

Heating constant

Cooling constant

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VFD OPERATION CURVE

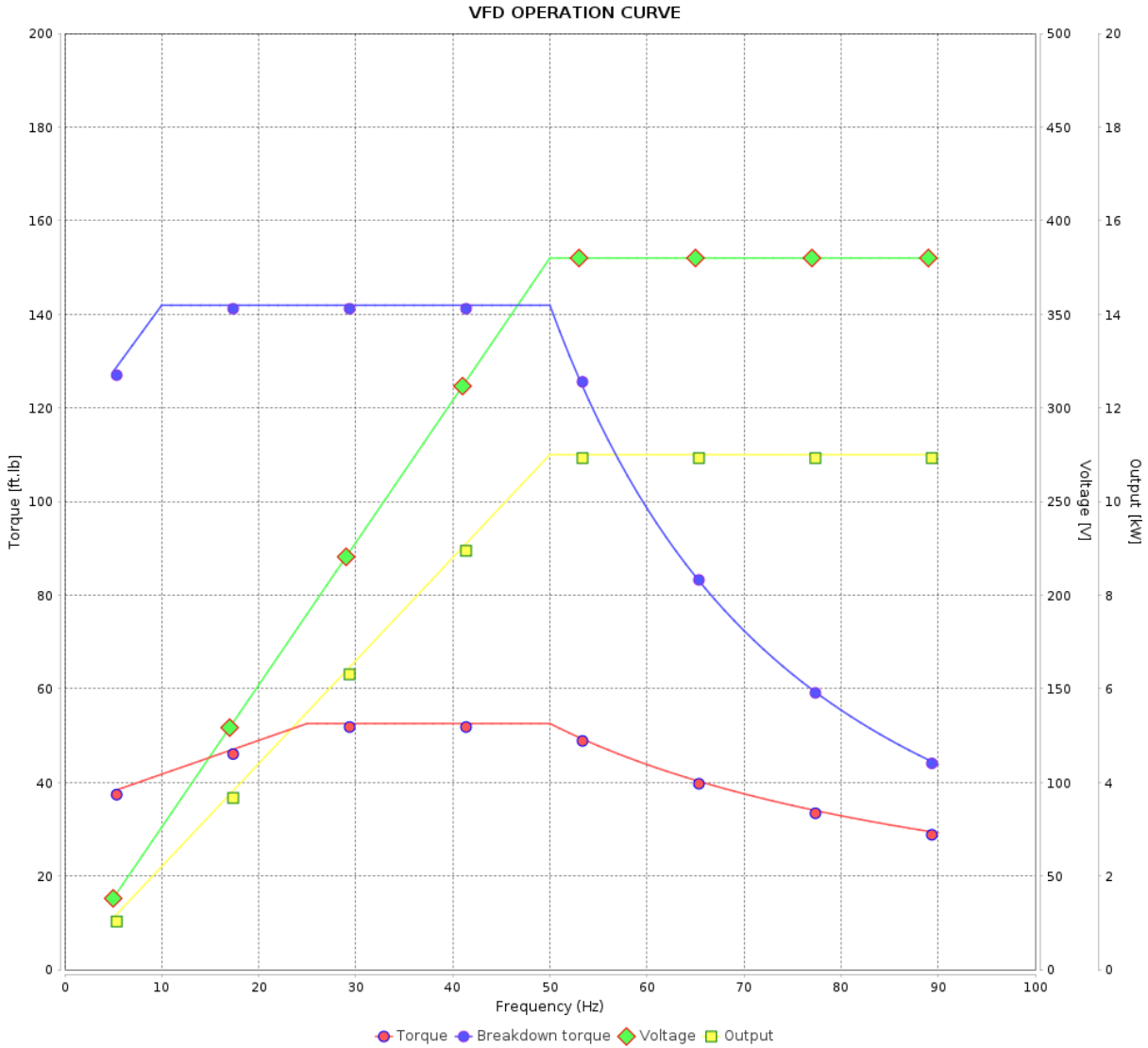
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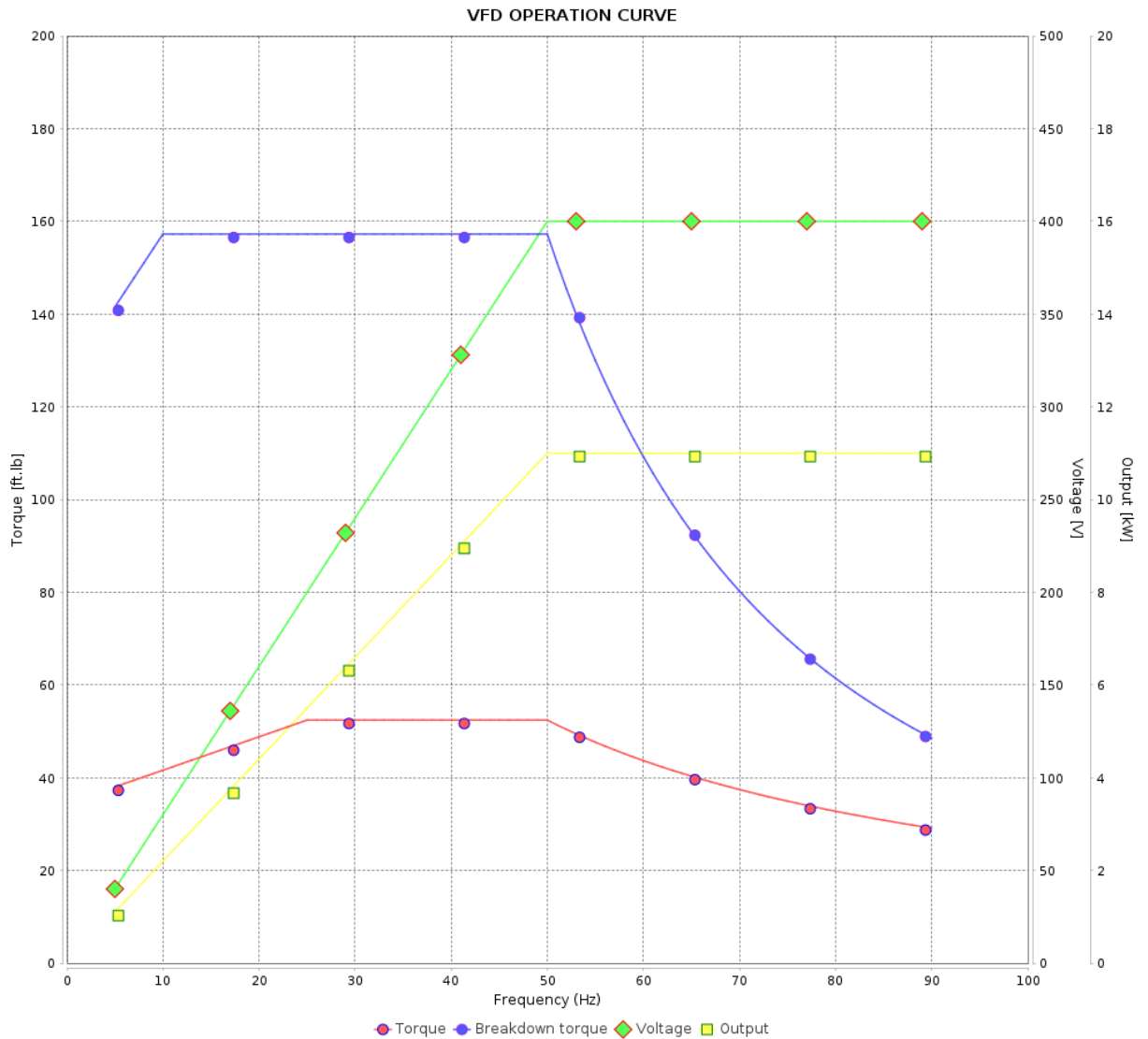
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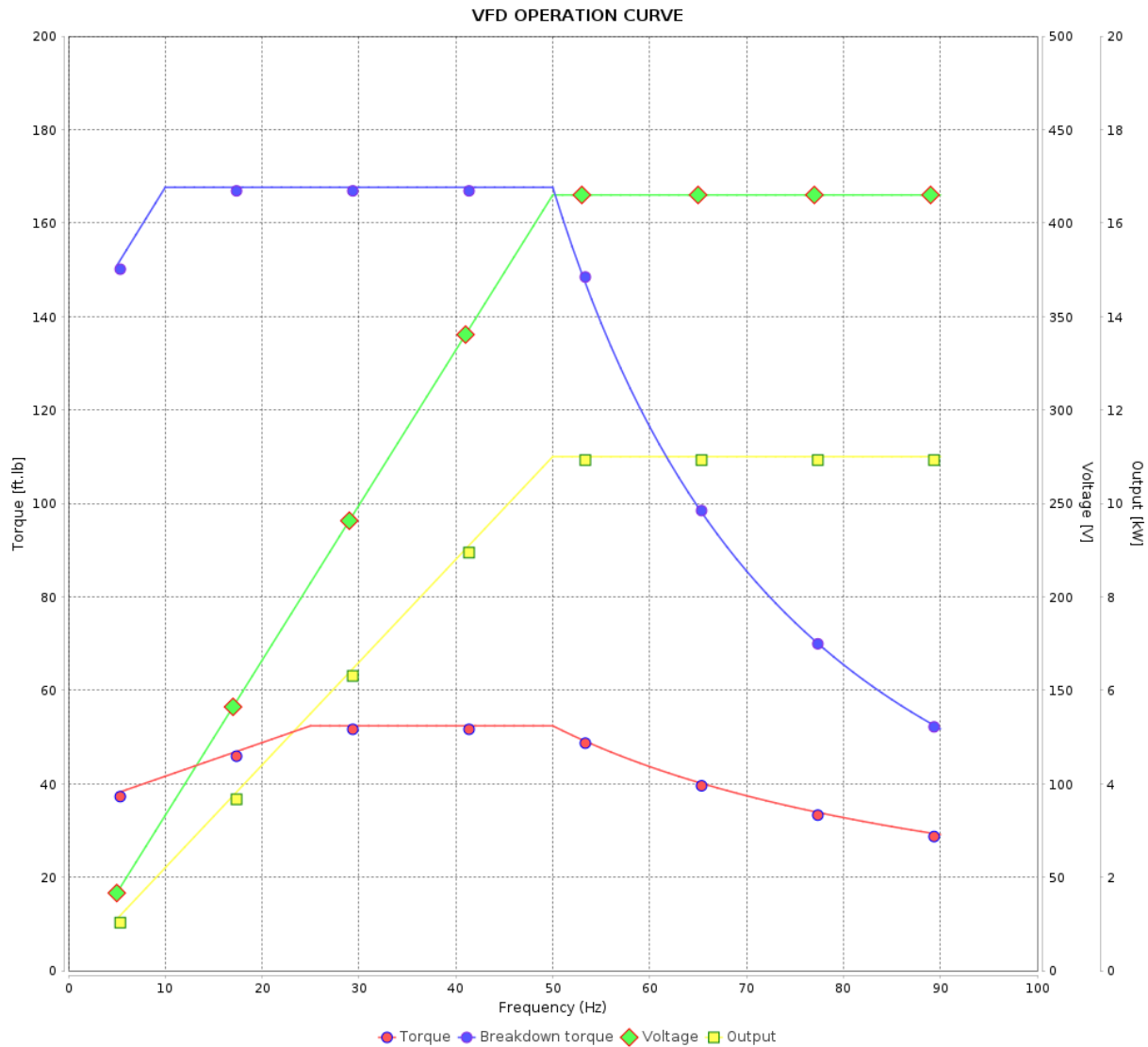
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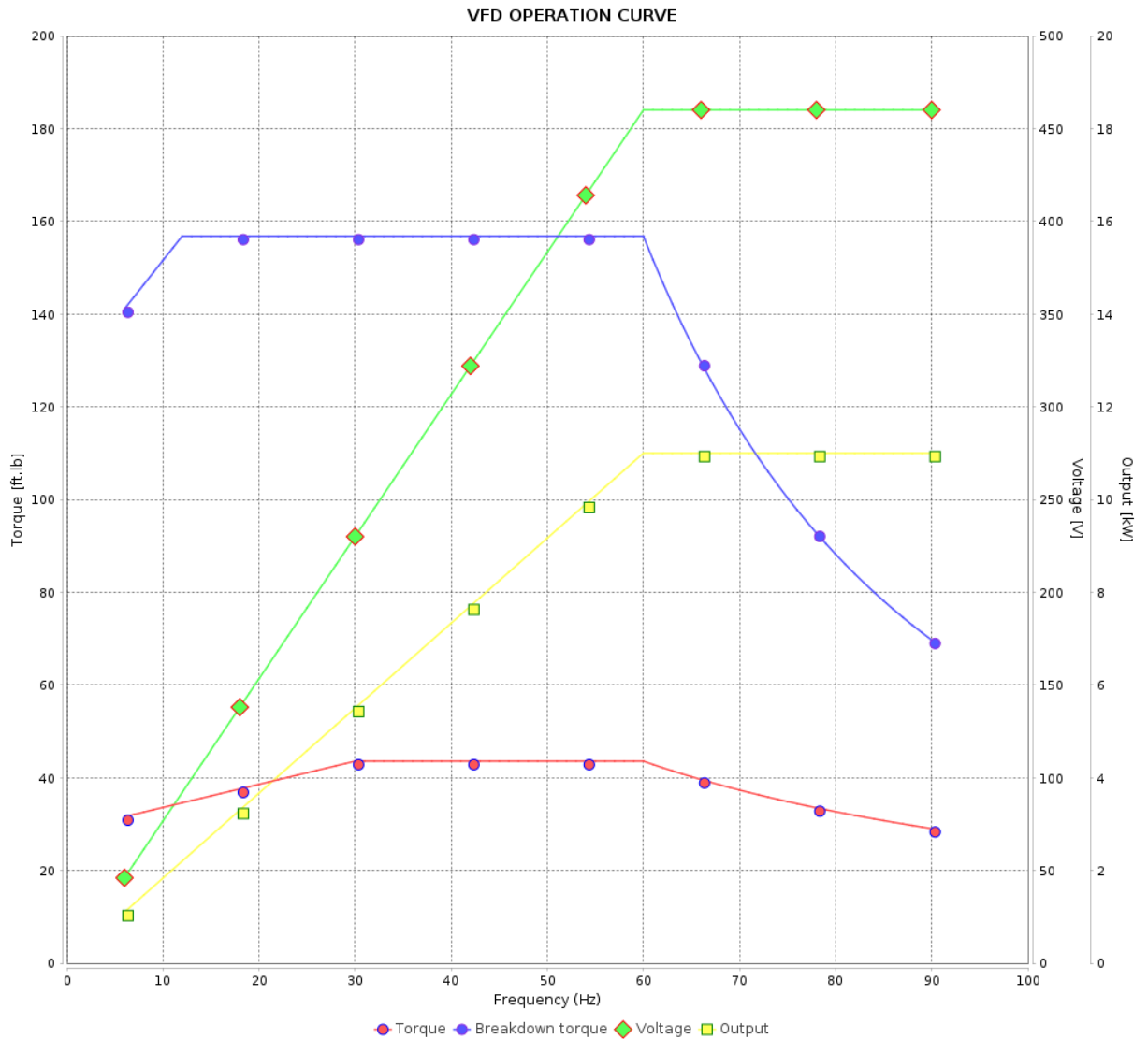
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