

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 NEMA Premium Efficiency Three-Phase	Product code :	14272938		
		Catalog # :	15036OT3G405TS-W40G		
Frame	: 404/5TS	Cooling method	: IC01 - ODP		
Insulation class	: F	Mounting	: F-1		
Duty cycle	: Cont.(S1)	Rotation ¹	: Both (CW and CCW)		
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line		
Altitude	: 1000 m.a.s.l.	Approx. weight ²	: 931 lb		
Protection degree	: IP23	Moment of inertia (J)	: 8.80 sq.ft.lb		
Design	: B				
Output [HP]	150	100	100	100	
Poles	2	2	2	2	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	167	137	133	133	
L. R. Amperes [A]	1102	986	1051	1117	
LRC [A]	6.6x(Code G)	7.2x(Code H)	7.9x(Code J)	8.4x(Code K)	
No load current [A]	40.0	43.8	43.7	48.9	
Rated speed [RPM]	3552	2960	2965	2965	
Slip [%]	1.33	1.33	1.17	1.17	
Rated torque [ft.lb]	222	177	177	177	
Locked rotor torque [%]	200	229	250	270	
Breakdown torque [%]	250	290	330	360	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	16s (cold) 9s (hot)	21s (cold) 12s (hot)	19s (cold) 11s (hot)	18s (cold) 10s (hot)	
Noise level ²	84.0 dB(A)				
Efficiency (%)	25%	93.5	93.3	92.6	91.8
	50%	93.6	93.7	93.2	92.7
	75%	94.1	94.4	94.2	93.9
	100%	94.1	94.7	94.7	94.7
Power Factor	25%	0.58	0.51	0.47	0.43
	50%	0.79	0.76	0.70	0.65
	75%	0.86	0.85	0.81	0.77
	100%	0.88	0.88	0.86	0.83
Bearing type	: <u>Drive end</u> 6314 C3 <u>Non drive end</u> 6212 Z C3	Foundation loads			
Sealing	: Without Without	Max. traction	: 1446 lb		
	: Bearing Seal Bearing Seal	Max. compression	: 2377 lb		
Lubrication interval	: 14418 h 20000 h				
Lubricant amount	: 27 g 13 g				
Lubricant type	: Mobil Polyrex EM				
Notes					
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 NEMA MG-1.		
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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



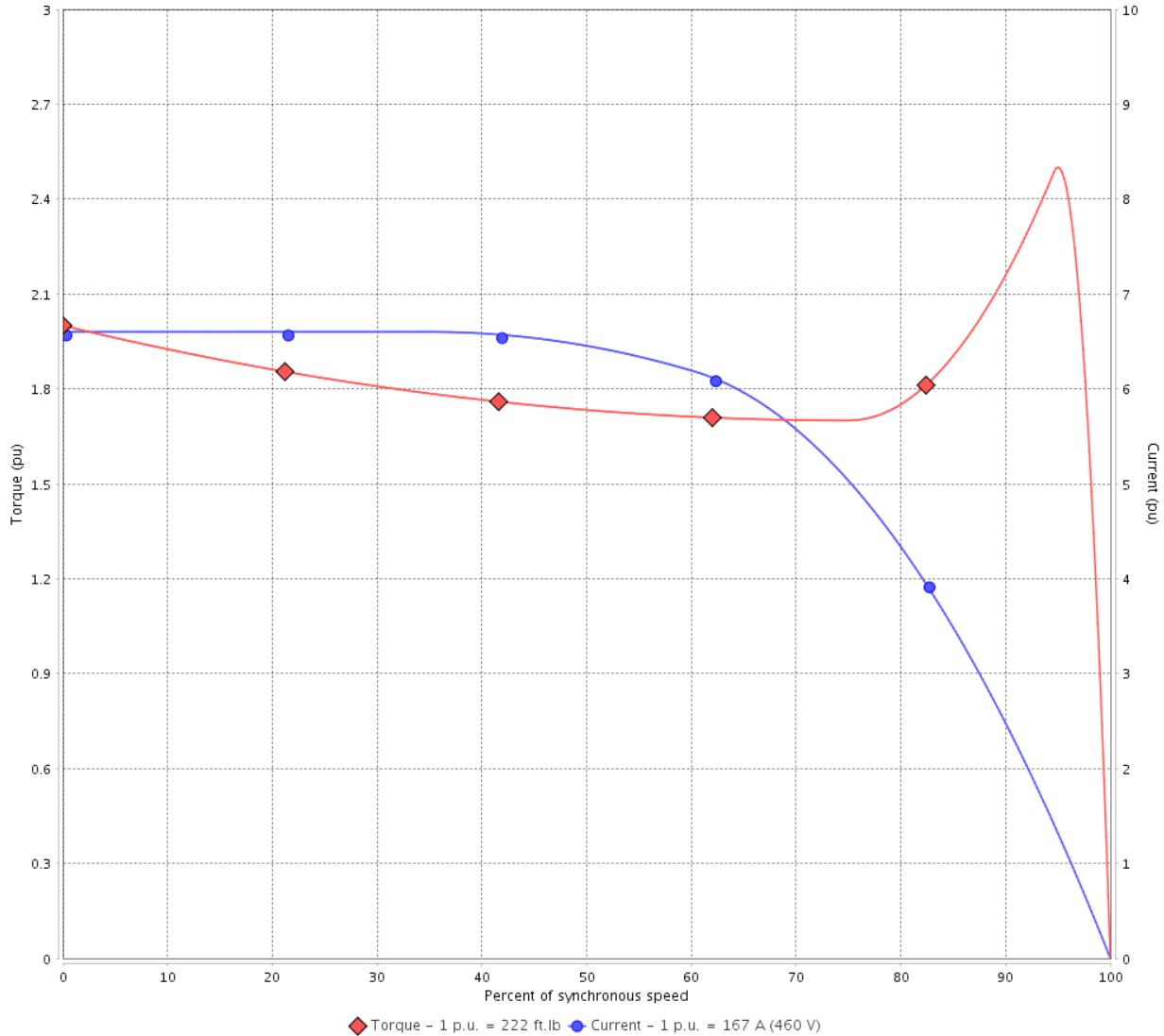
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14272938

Catalog # : 15036OT3G405TS-W40G

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 2P

Rated current	: 167 A	Moment of inertia (J)	: 8.80 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 222 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 3552 rpm	Design	: B

Locked rotor time : 16s (cold) 9s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



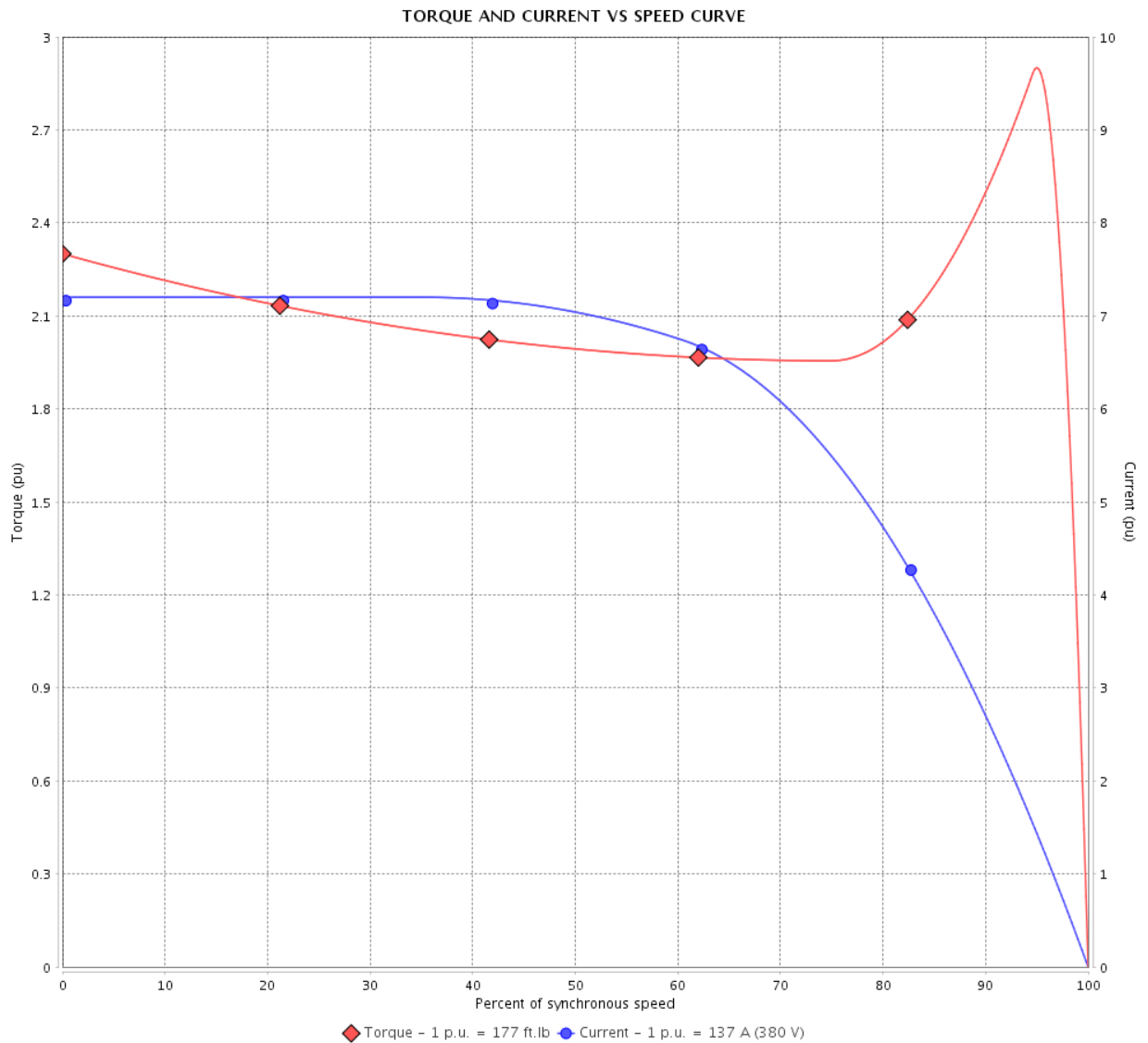
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14272938

Catalog # : 15036OT3G405TS-W40G



Performance : 380 V 50 Hz 2P IE3

Rated current	: 137 A	Moment of inertia (J)	: 8.80 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 177 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



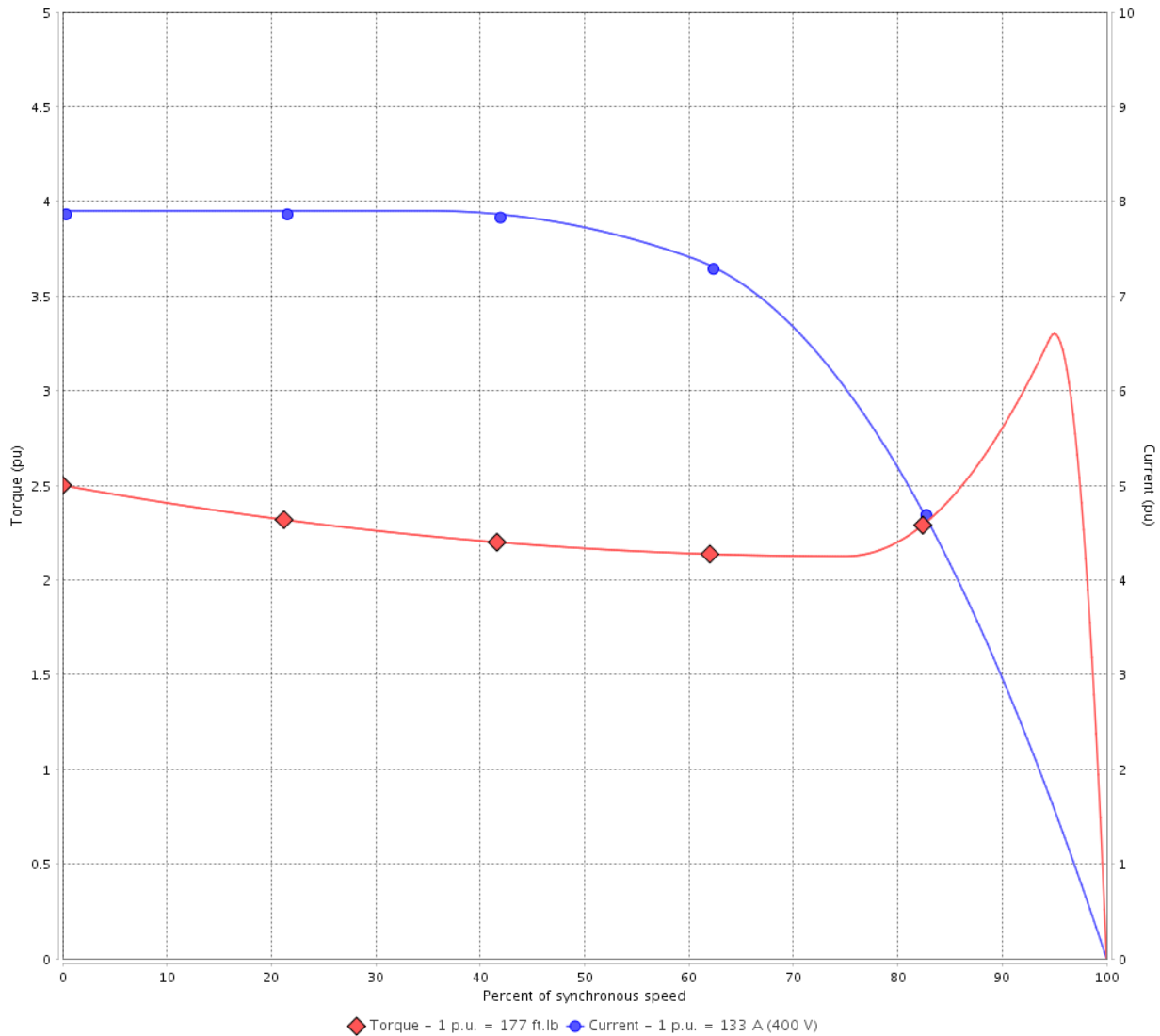
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14272938

Catalog # : 15036OT3G405TS-W40G

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current	: 133 A	Moment of inertia (J)	: 8.80 sq.ft.lb
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 177 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



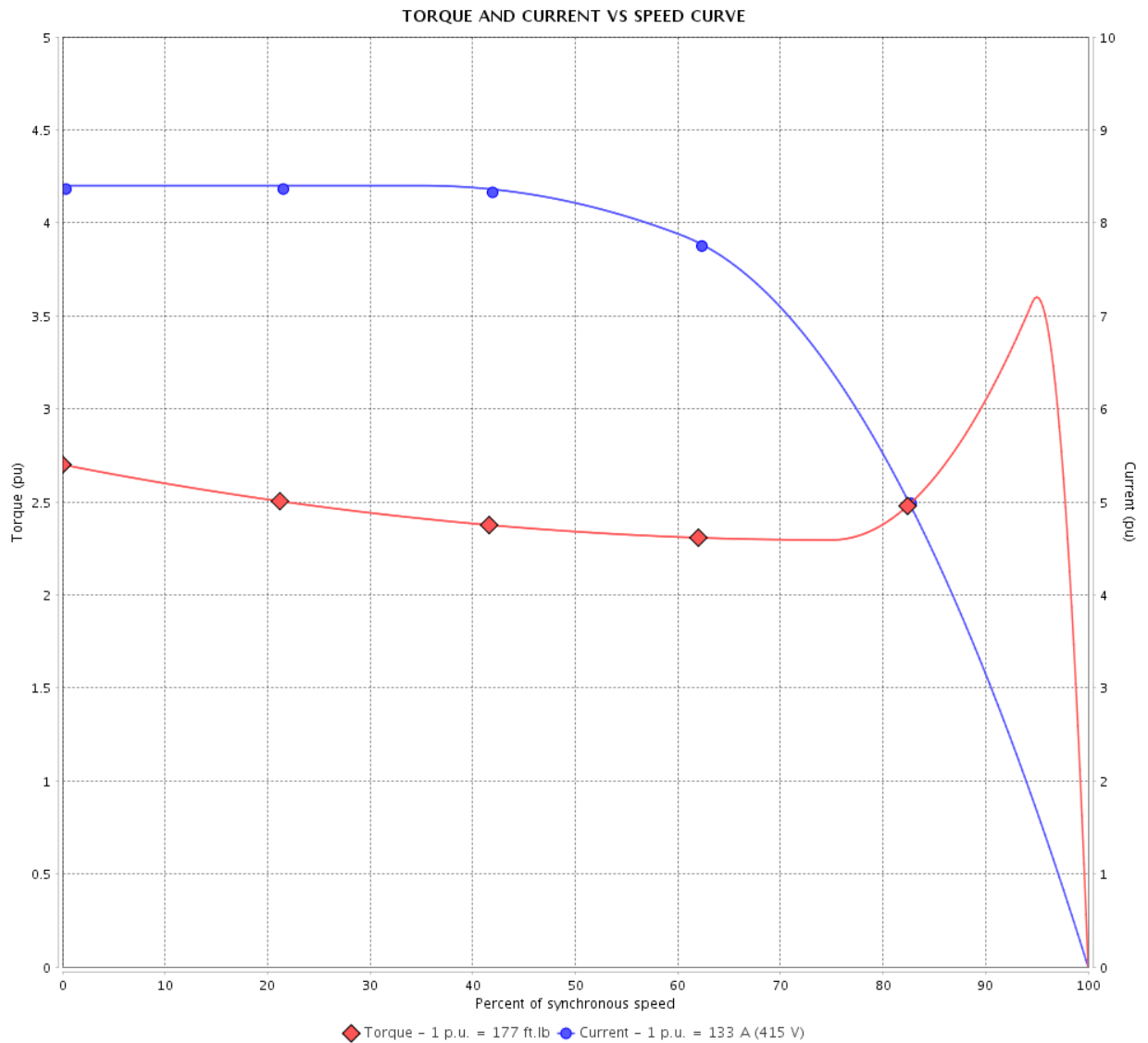
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Product code : 14272938

Catalog # : 15036OT3G405TS-W40G



Performance : 415 V 50 Hz 2P IE3

Rated current	: 133 A	Moment of inertia (J)	: 8.80 sq.ft.lb
LRC	: 8.4	Duty cycle	: Cont.(S1)
Rated torque	: 177 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

Locked rotor time : 18s (cold) 10s (hot)

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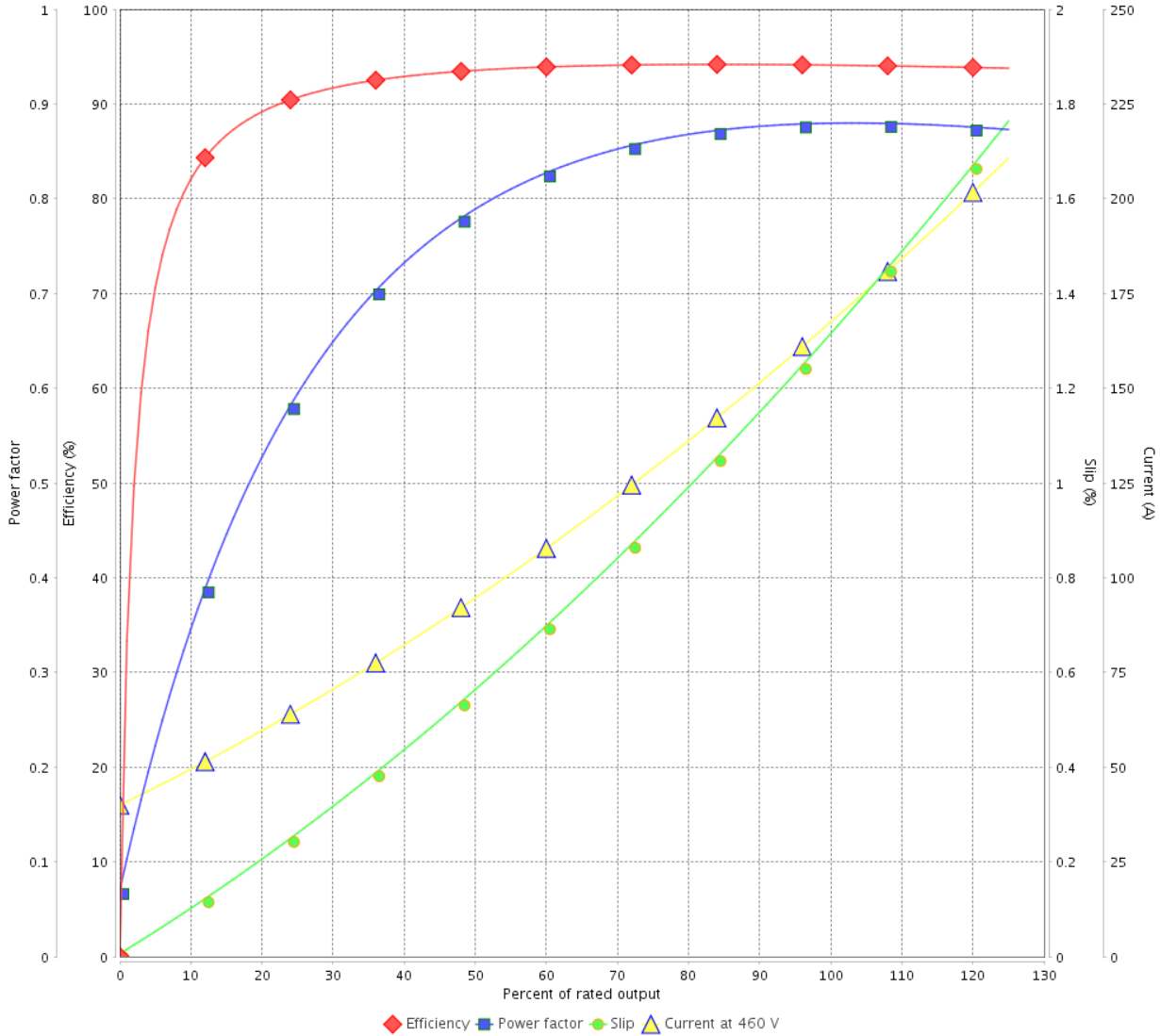
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14272938

Catalog # : 15036OT3G405TS-W40G

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 2P

Rated current : 167 A
 LRC : 6.6
 Rated torque : 222 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 3552 rpm

Moment of inertia (J) : 8.80 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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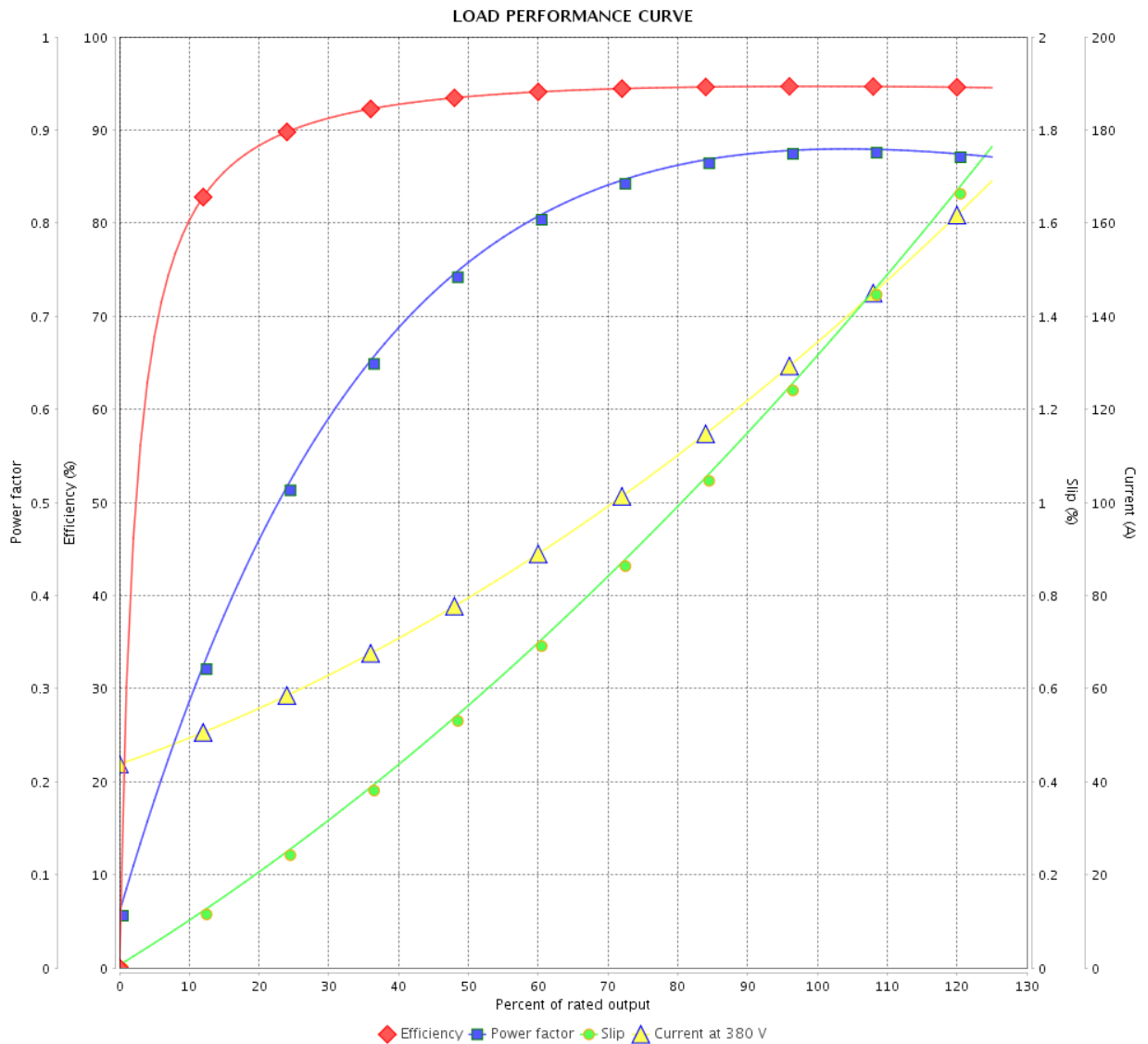


Customer :

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Product code : 14272938

Catalog # : 15036OT3G405TS-W40G



Performance : 380 V 50 Hz 2P IE3

Rated current : 137 A
 LRC : 7.2
 Rated torque : 177 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 290 %
 Rated speed : 2960 rpm

Moment of inertia (J) : 8.80 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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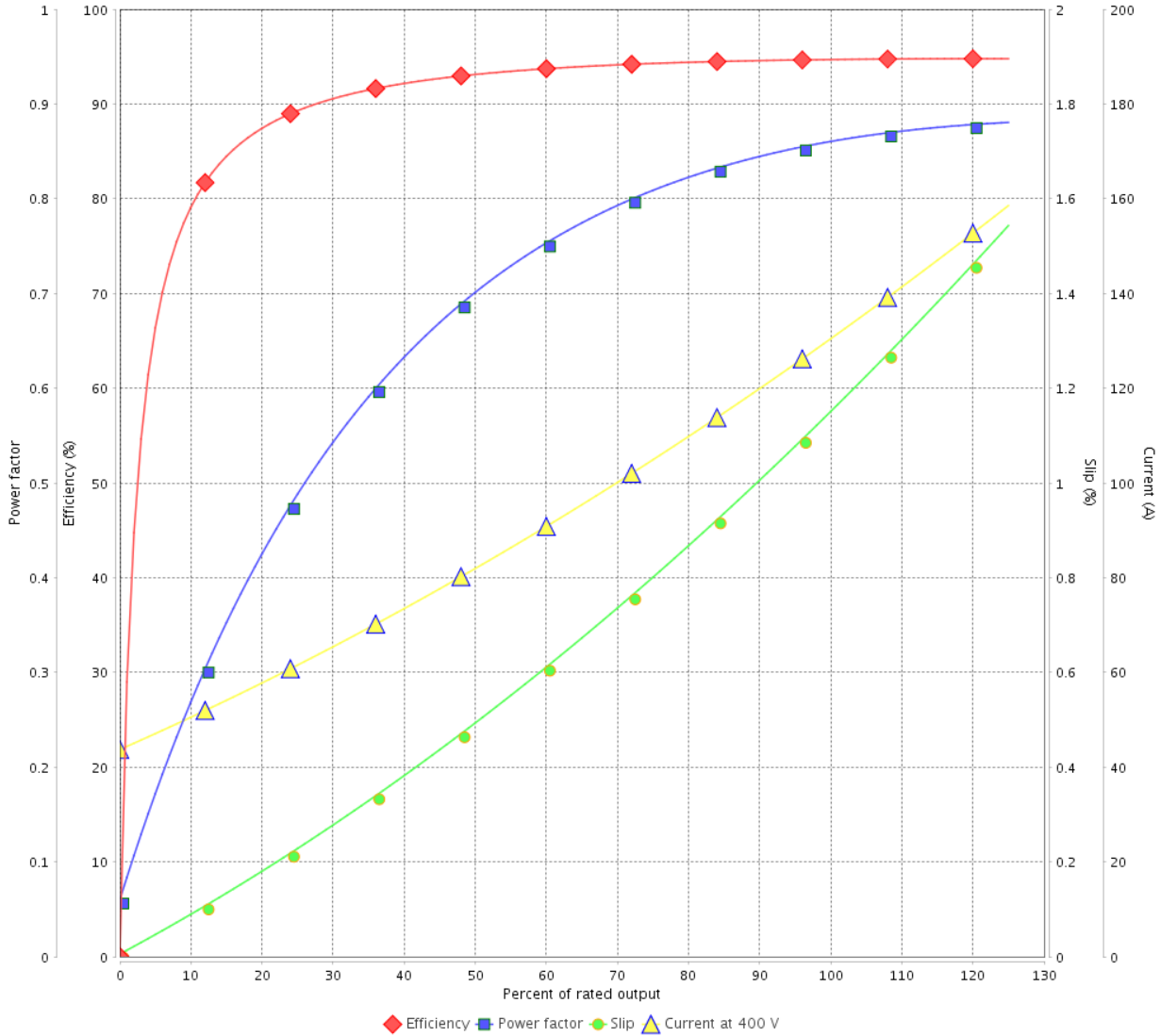
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LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 133 A
LRC : 7.9
Rated torque : 177 ft.lb
Locked rotor torque : 250 %
Breakdown torque : 330 %
Rated speed : 2965 rpm

Moment of inertia (J) : 8.80 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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Three Phase Induction Motor - Squirrel Cage

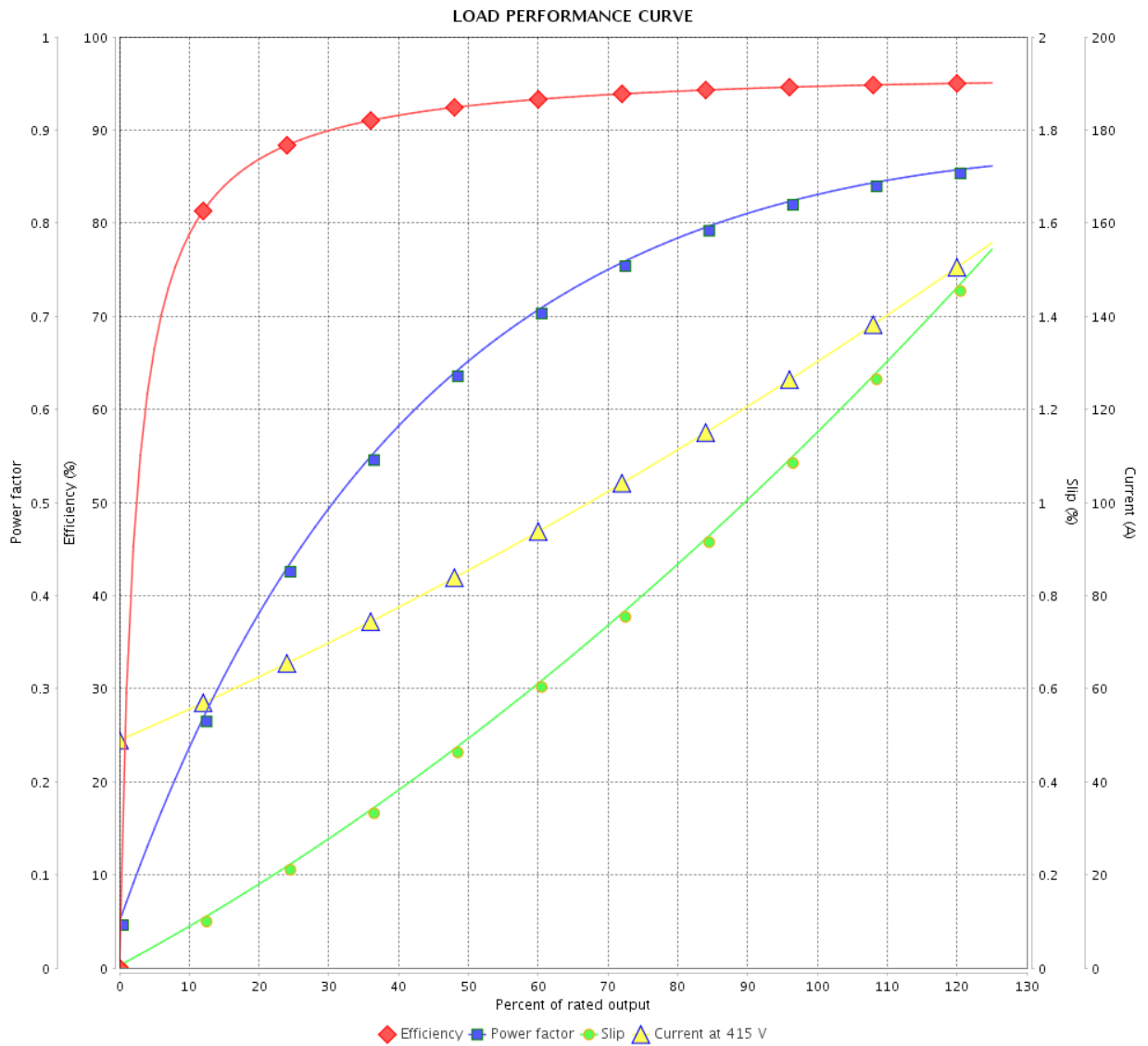


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Performance : 415 V 50 Hz 2P IE3

Rated current : 133 A
 LRC : 8.4
 Rated torque : 177 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 360 %
 Rated speed : 2965 rpm

Moment of inertia (J) : 8.80 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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THERMAL LIMIT CURVE



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Rated torque	: 222 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 3552 rpm	Design	: B

Heating constant

Cooling constant

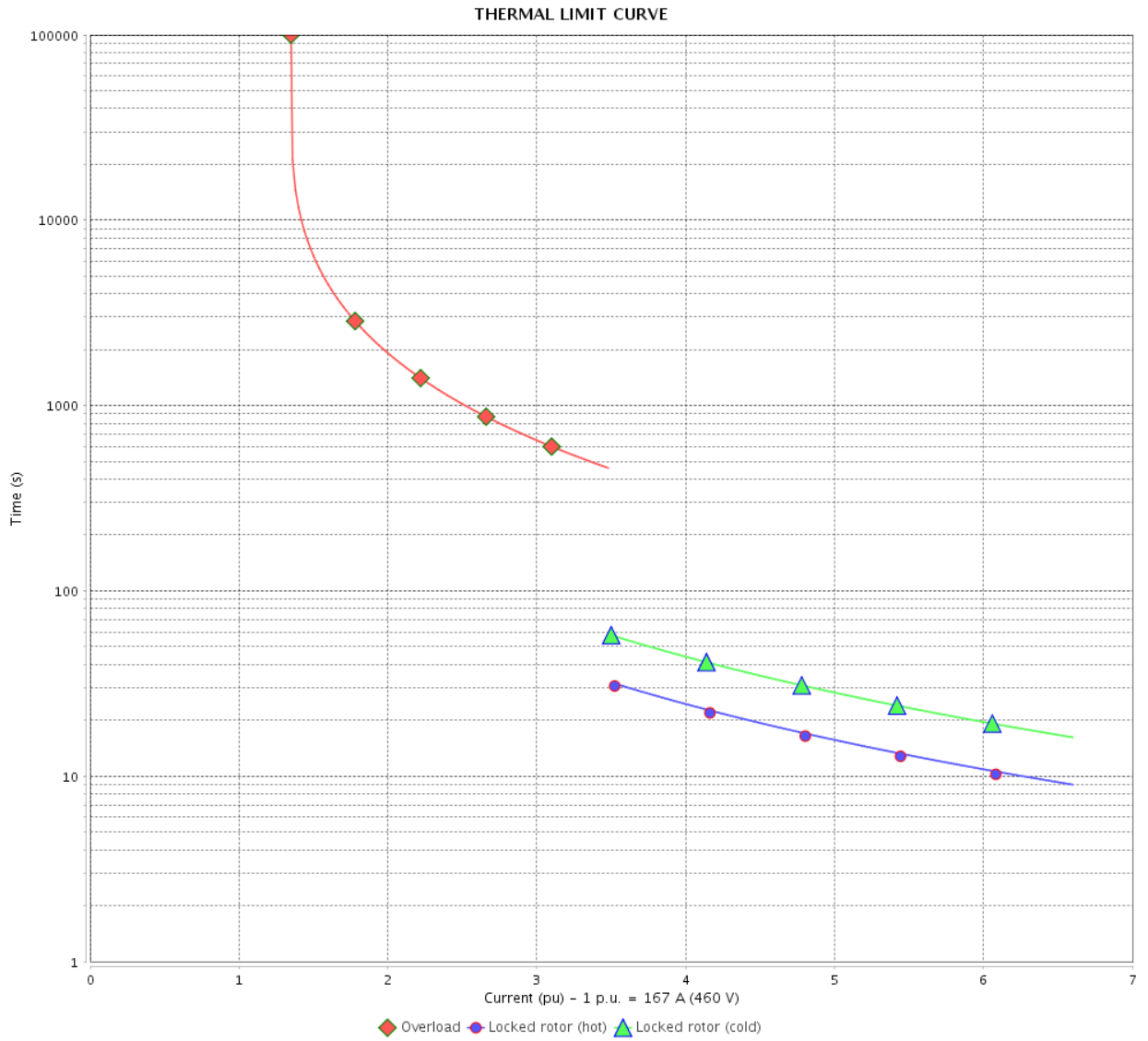
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THERMAL LIMIT CURVE

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Rated current	: 137 A	Moment of inertia (J)	: 8.80 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 177 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: B

Heating constant

Cooling constant

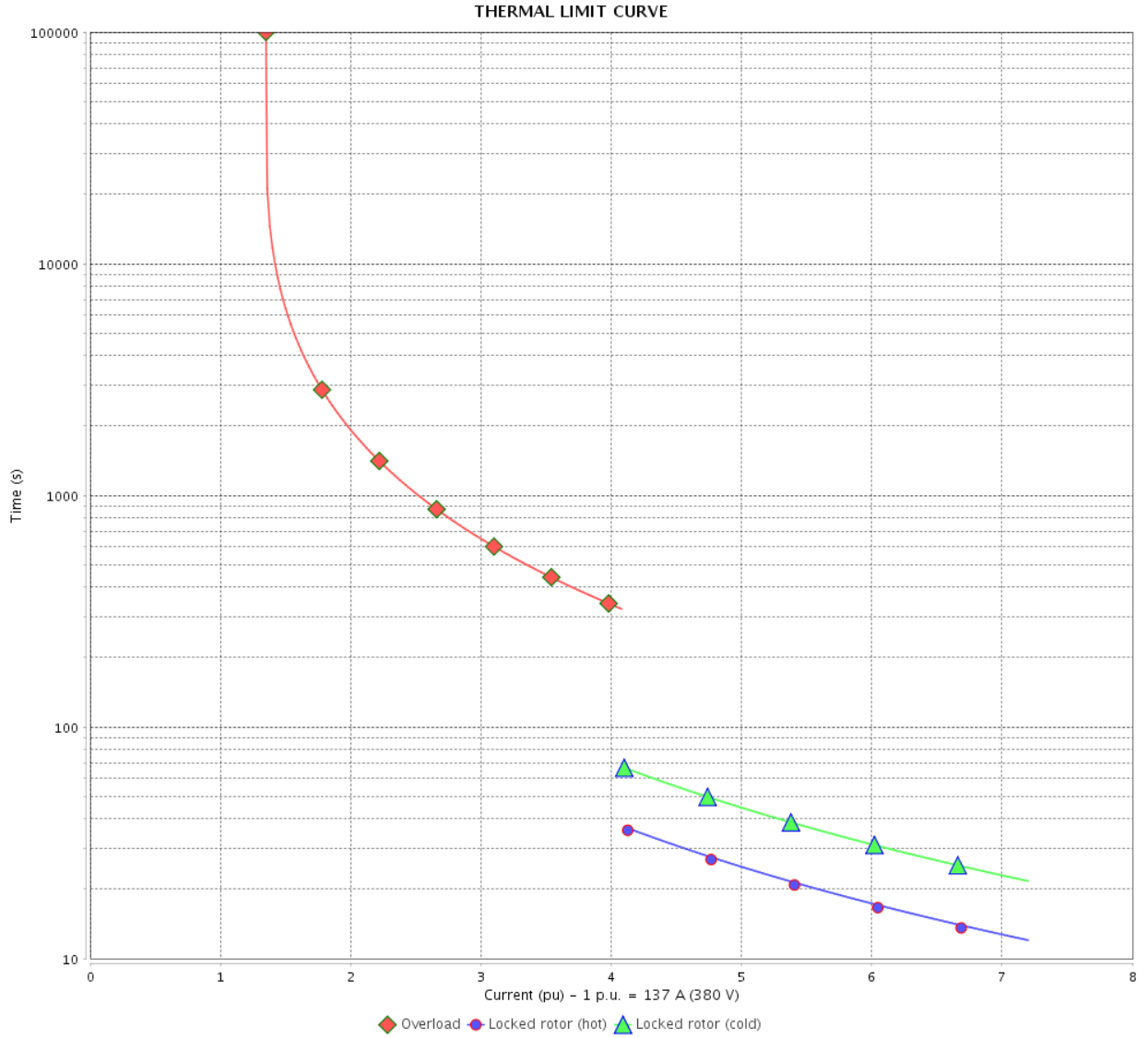
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Product code : 14272938

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Performance : 400 V 50 Hz 2P IE3

Rated current	: 133 A	Moment of inertia (J)	: 8.80 sq.ft.lb
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 177 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

Heating constant

Cooling constant

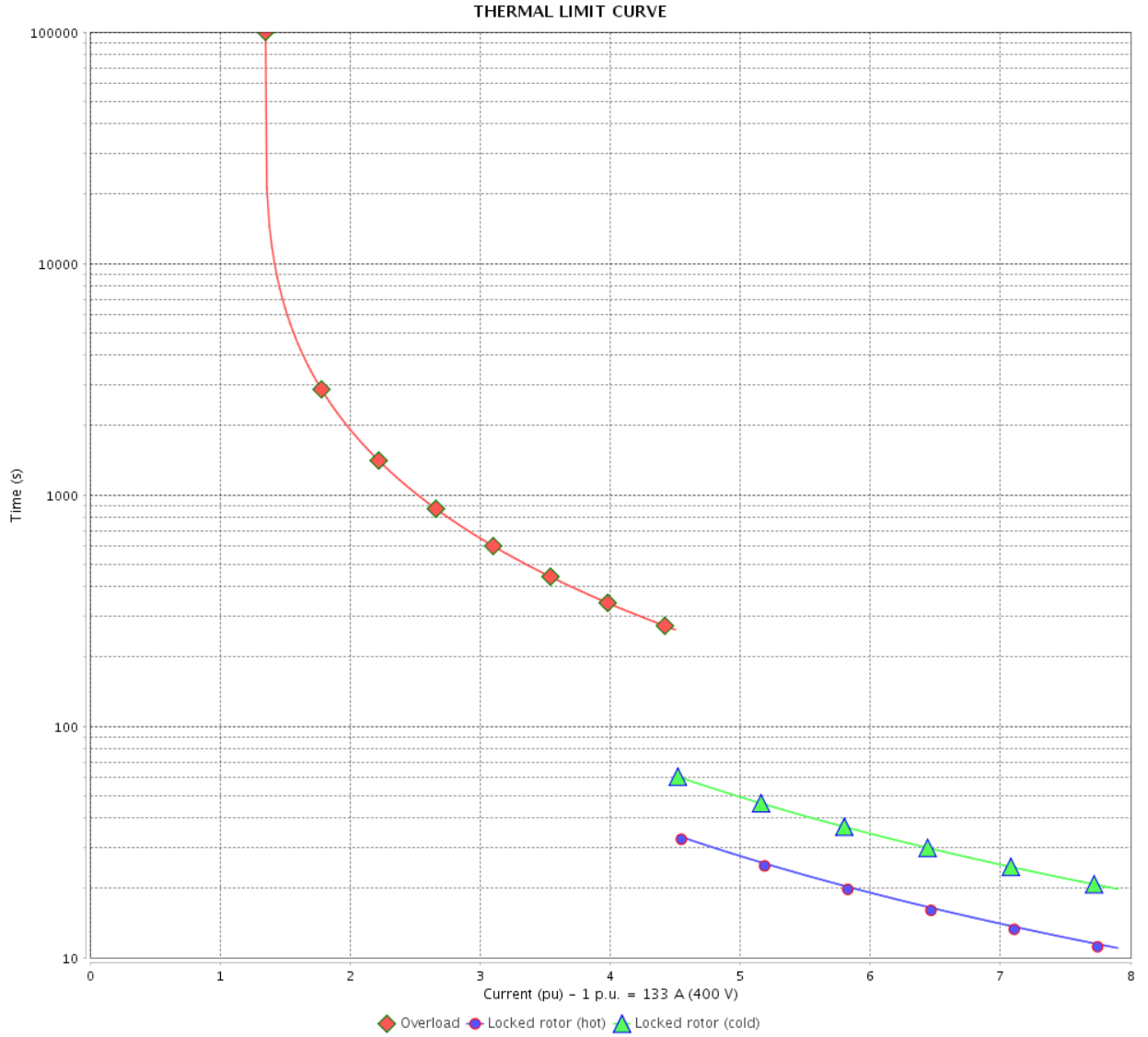
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THERMAL LIMIT CURVE

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Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14272938

Catalog # : 15036OT3G405TS-W40G

Performance : 415 V 50 Hz 2P IE3

Rated current	: 133 A	Moment of inertia (J)	: 8.80 sq.ft.lb
LRC	: 8.4	Duty cycle	: Cont.(S1)
Rated torque	: 177 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

Heating constant

Cooling constant

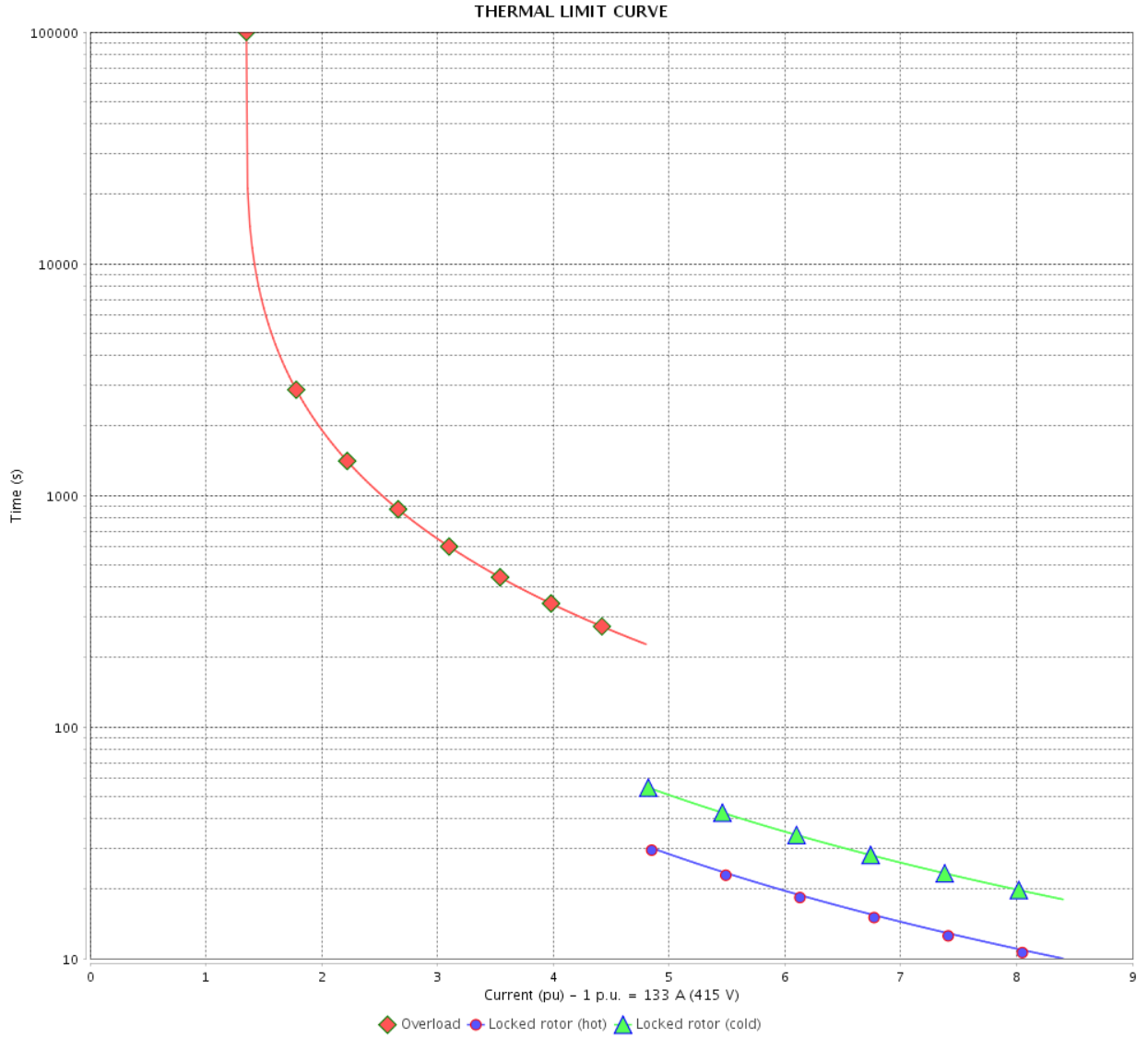
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Three Phase Induction Motor - Squirrel Cage



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



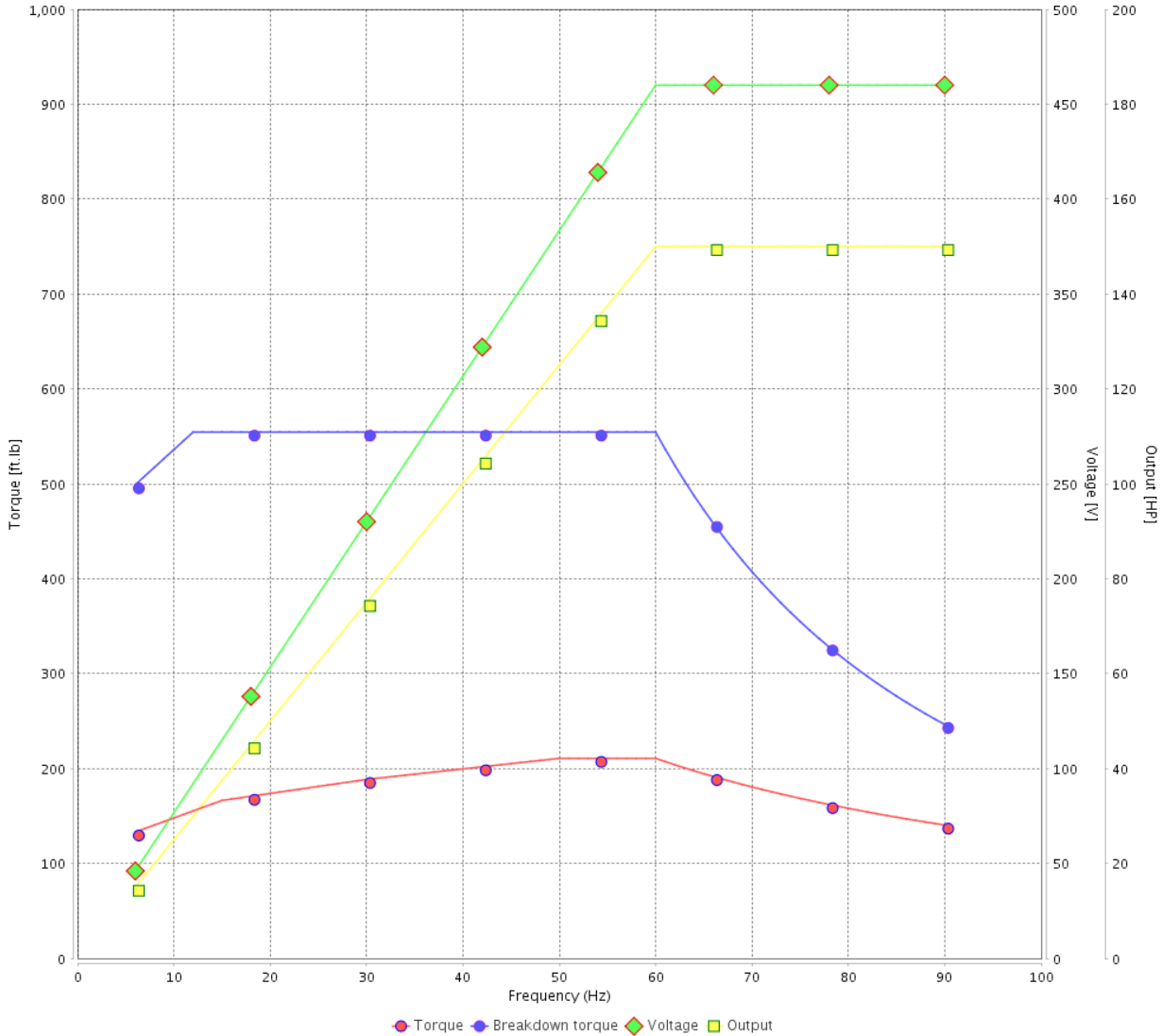
Customer :

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Product code : 14272938

Catalog # : 15036OT3G405TS-W40G

VFD OPERATION CURVE



Performance : 460 V 60 Hz 2P

Rated current : 167 A
LRC : 6.6
Rated torque : 222 ft.lb
Locked rotor torque : 200 %
Breakdown torque : 250 %
Rated speed : 3552 rpm

Moment of inertia (J) : 8.80 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

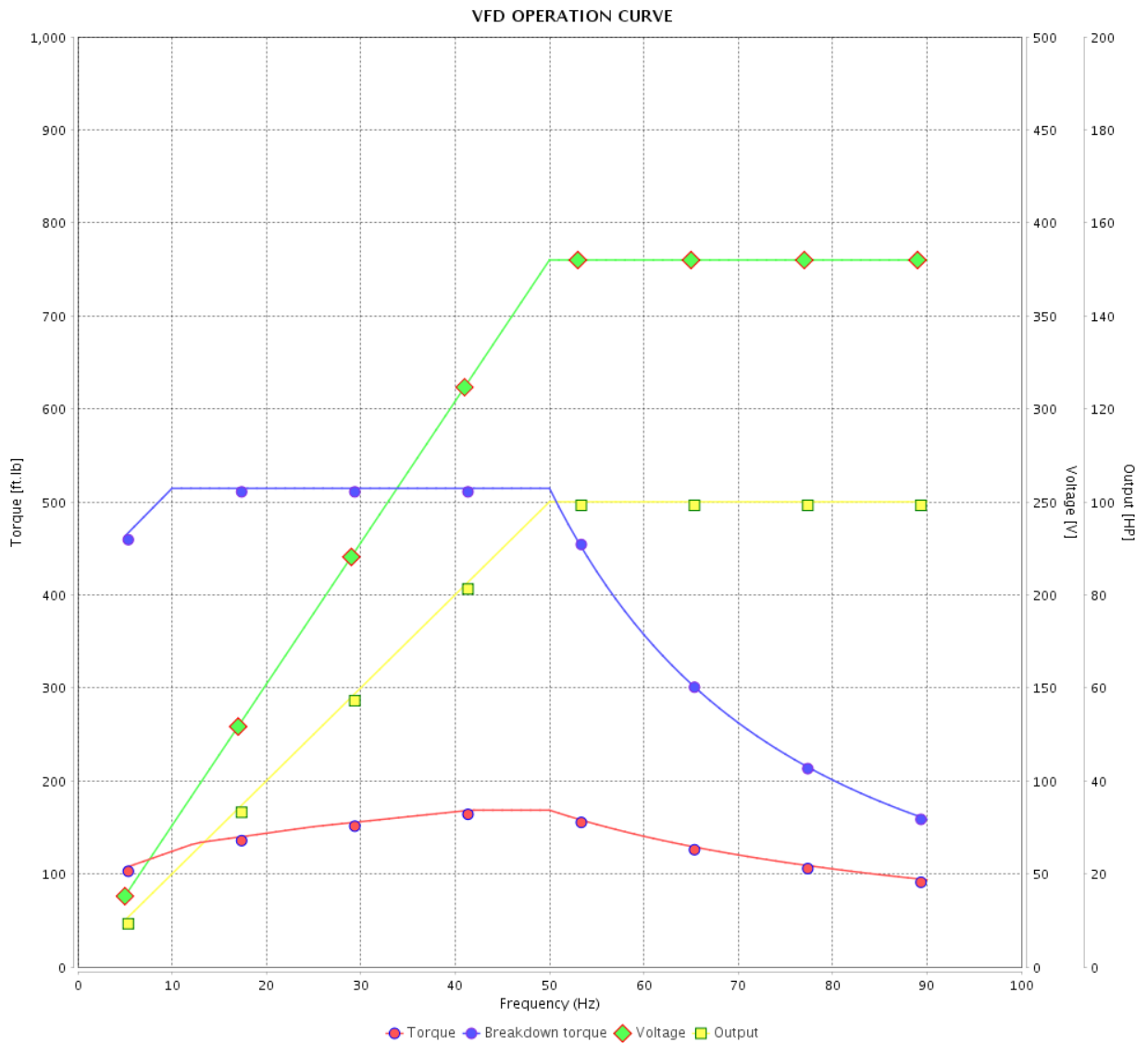


Customer :

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Three-Phase

Product code : 14272938

Catalog # : 15036OT3G405TS-W40G



Performance : 380 V 50 Hz 2P IE3

Rated current : 137 A
LRC : 7.2
Rated torque : 177 ft.lb
Locked rotor torque : 229 %
Breakdown torque : 290 %
Rated speed : 2960 rpm

Moment of inertia (J) : 8.80 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



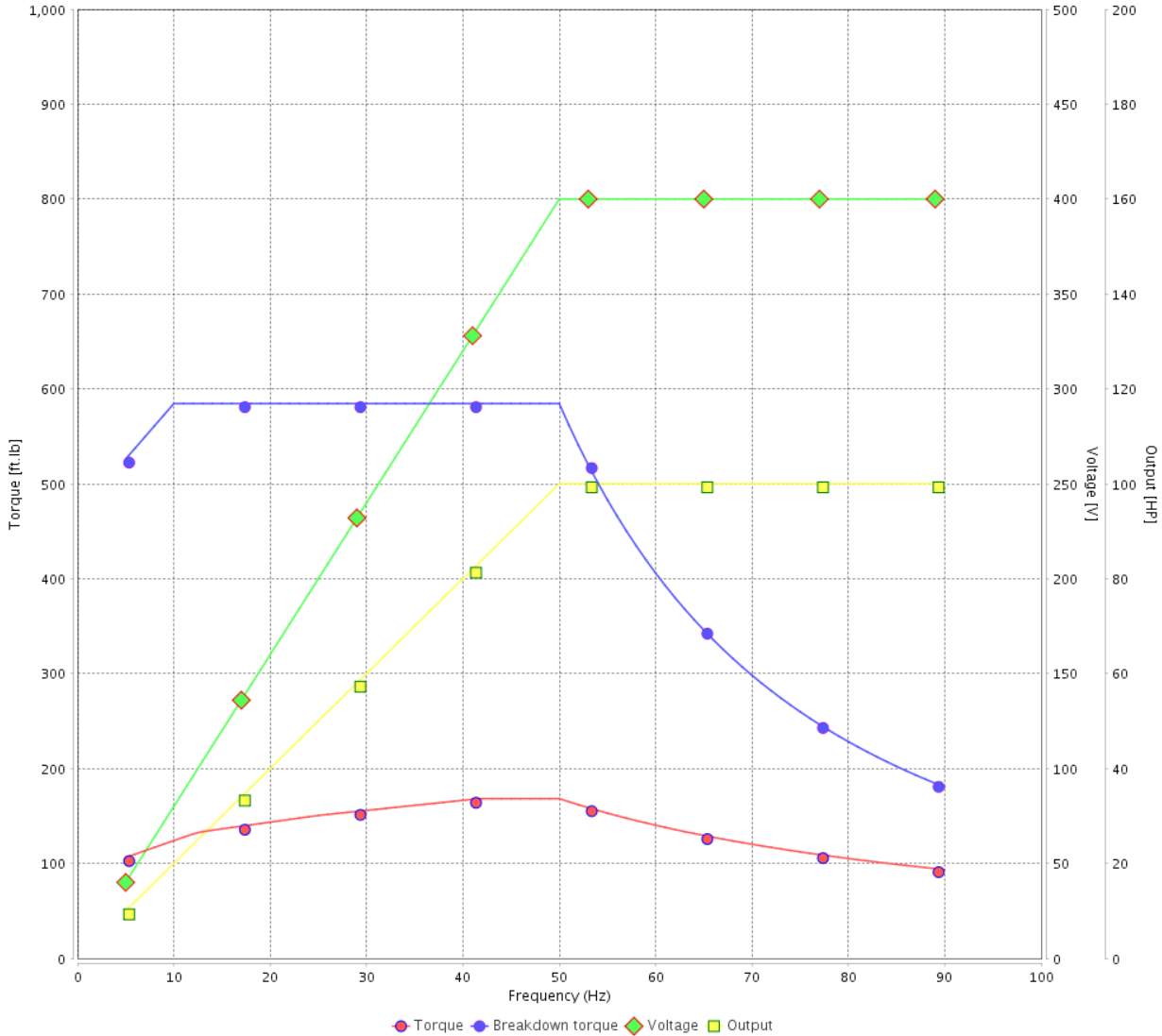
Customer :

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Product code : 14272938

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VFD OPERATION CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 133 A
LRC : 7.9
Rated torque : 177 ft.lb
Locked rotor torque : 250 %
Breakdown torque : 330 %
Rated speed : 2965 rpm

Moment of inertia (J) : 8.80 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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VFD OPERATION CURVE

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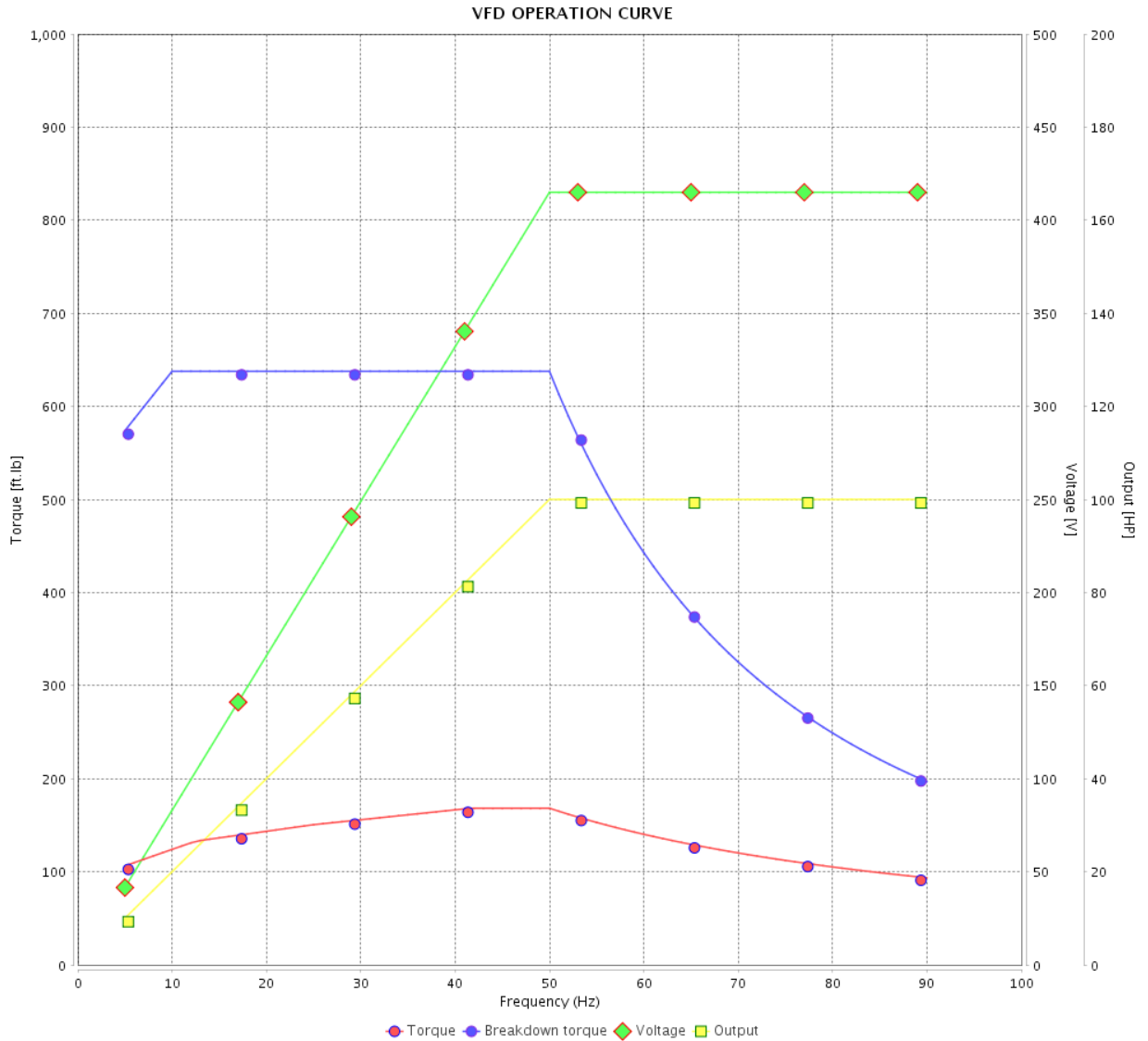


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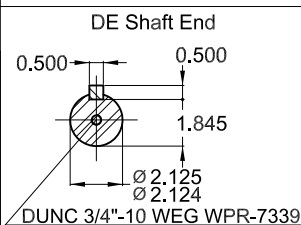
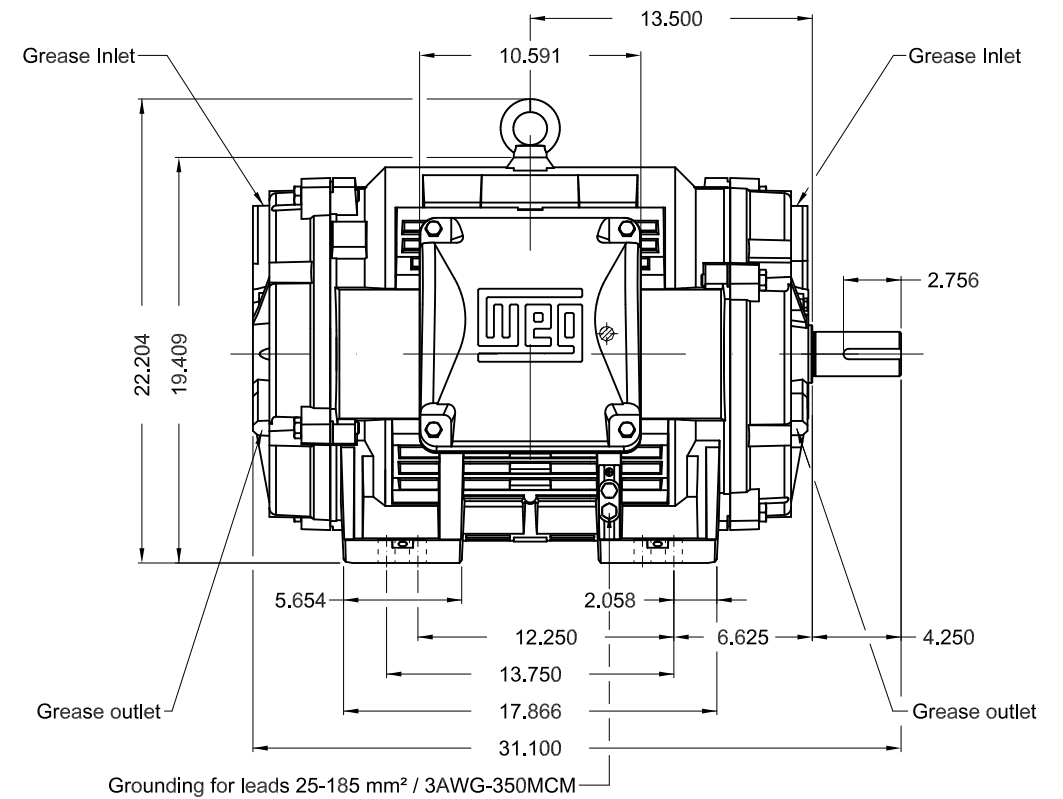
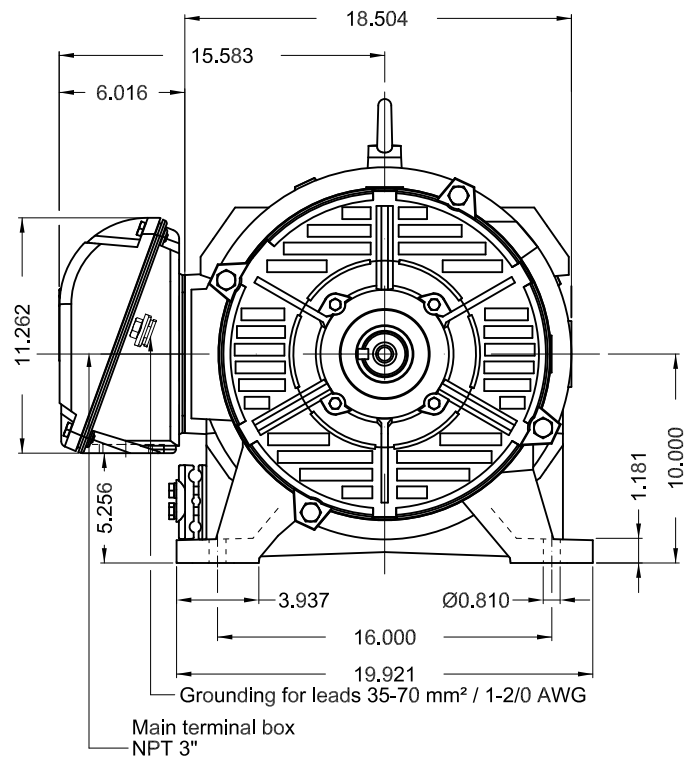


Performance : 415 V 50 Hz 2P IE3

Rated current : 133 A
LRC : 8.4
Rated torque : 177 ft.lb
Locked rotor torque : 270 %
Breakdown torque : 360 %
Rated speed : 2965 rpm

Moment of inertia (J) : 8.80 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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Internal AEGIS ground ring on the DE

Color RAL 5009

Painting plan 203A

Mounting NEMA F-1

Mounting B3R(D)

150 HP 02 Poles 60 Hz

A

1:9

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF.					
CHECKED		FRAME 404/5TS IP23 ODP					
RELEASED							
REL DT.		WMO Jaragua do Sul	Product Engineering				

PREVIEW
WDD



SHEET 1 / 1