

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase Product code : 14272483  
Catalog # : 04012OT3E364TC-W40

Frame : 364/5TC	Cooling method : IC01 - ODP
Insulation class : F	Mounting : F-1
Duty cycle : Cont.(S1)	Rotation <sup>1</sup> : Both (CW and CCW)
Ambient temperature : -20°C to +40°C	Starting method : Direct On Line
Altitude : 1000 m.a.s.l.	Approx. weight <sup>2</sup> : 772 lb
Protection degree : IP23	Moment of inertia (J) : 21.8 sq.ft.lb
Design : B	

Output [HP]	40	30	30	30
Poles	6	6	6	6
Frequency [Hz]	60	50	50	50
Rated voltage [V]	230/460	380	400	415
Rated current [A]	94.2/47.1	42.7	41.0	40.0
L. R. Amperes [A]	603/301	295	287	320
LRC [A]	6.4x(Code G)	6.9x(Code H)	7.0x(Code H)	8.0x(Code J)
No load current [A]	31.6/15.8	15.6	16.7	17.6
Rated speed [RPM]	1185	985	985	985
Slip [%]	1.25	1.50	1.50	1.50
Rated torque [ft.lb]	177	160	160	160
Locked rotor torque [%]	200	200	229	250
Breakdown torque [%]	229	260	290	310
Service factor	1.25	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	39s (cold) 22s (hot)	45s (cold) 25s (hot)	50s (cold) 28s (hot)	41s (cold) 23s (hot)
Noise level <sup>2</sup>	68.0 dB(A)			
Efficiency (%)	25%	93.5	91.7	91.7
	50%	93.6	91.8	91.8
	75%	94.1	92.2	92.2
	100%	94.1	92.2	92.2
Power Factor	25%	0.49	0.47	0.43
	50%	0.74	0.72	0.69
	75%	0.82	0.82	0.79
	100%	0.85	0.85	0.84

	<u>Drive end</u>	<u>Non drive end</u>	Foundation loads
Bearing type :	6314 C3	6212 Z C3	Max. traction : 1313 lb
Sealing :	Without	Without	Max. compression : 2085 lb
	<u>Bearing Seal</u>	<u>Bearing Seal</u>	
Lubrication interval :	20000 h	20000 h	
Lubricant amount :	27 g	13 g	
Lubricant type :	Mobil Polyrex EM		

Notes  
USABLE @208V 104A SF 1.15 SFA 120A

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

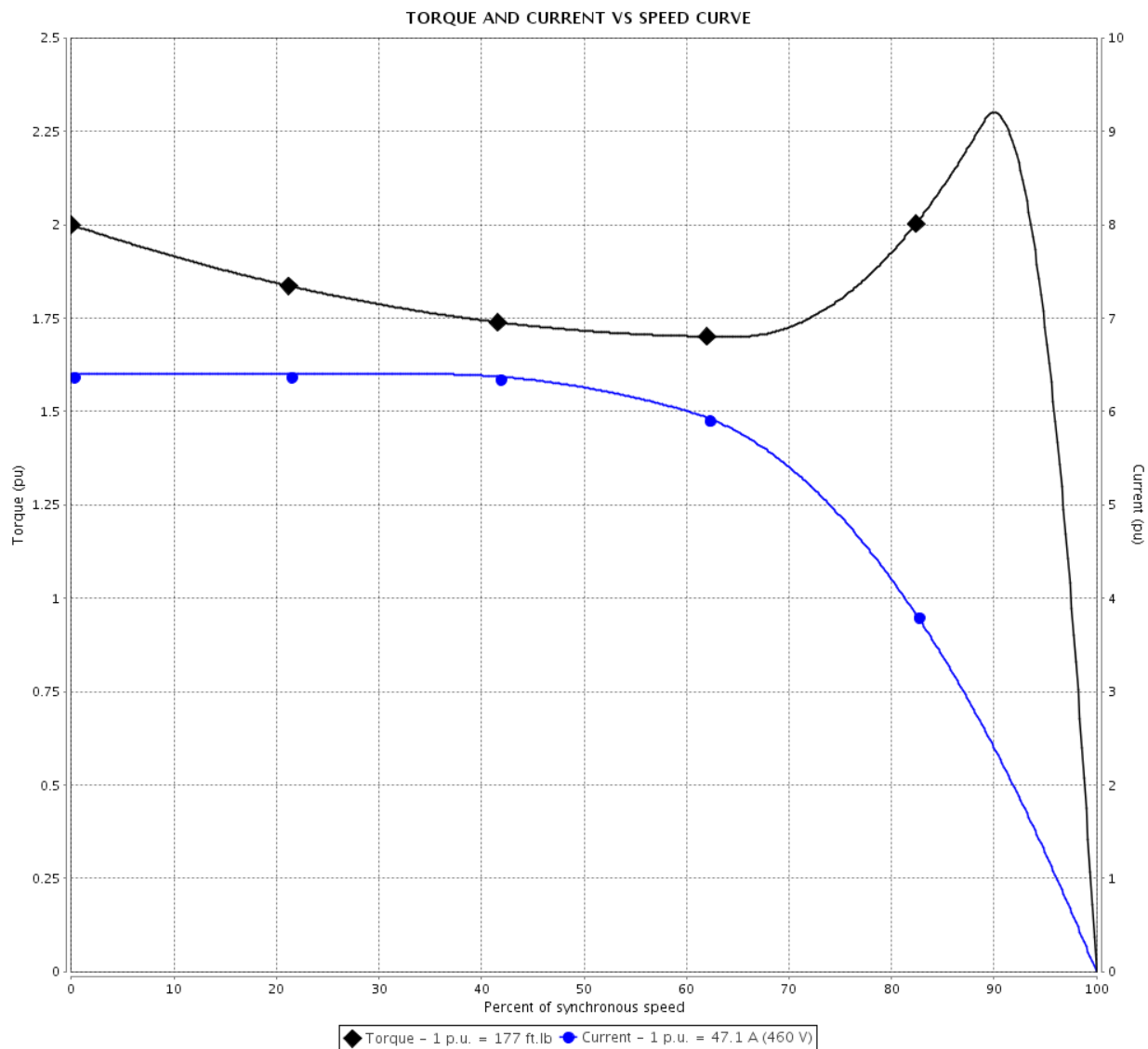


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14272483

Catalog # : 040120T3E364TC-W40



Performance : 230/460 V 60 Hz 6P

Rated current : 94.2/47.1 A  
LRC : 6.4  
Rated torque : 177 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 229 %  
Rated speed : 1185 rpm

Moment of inertia (J) : 21.8 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage

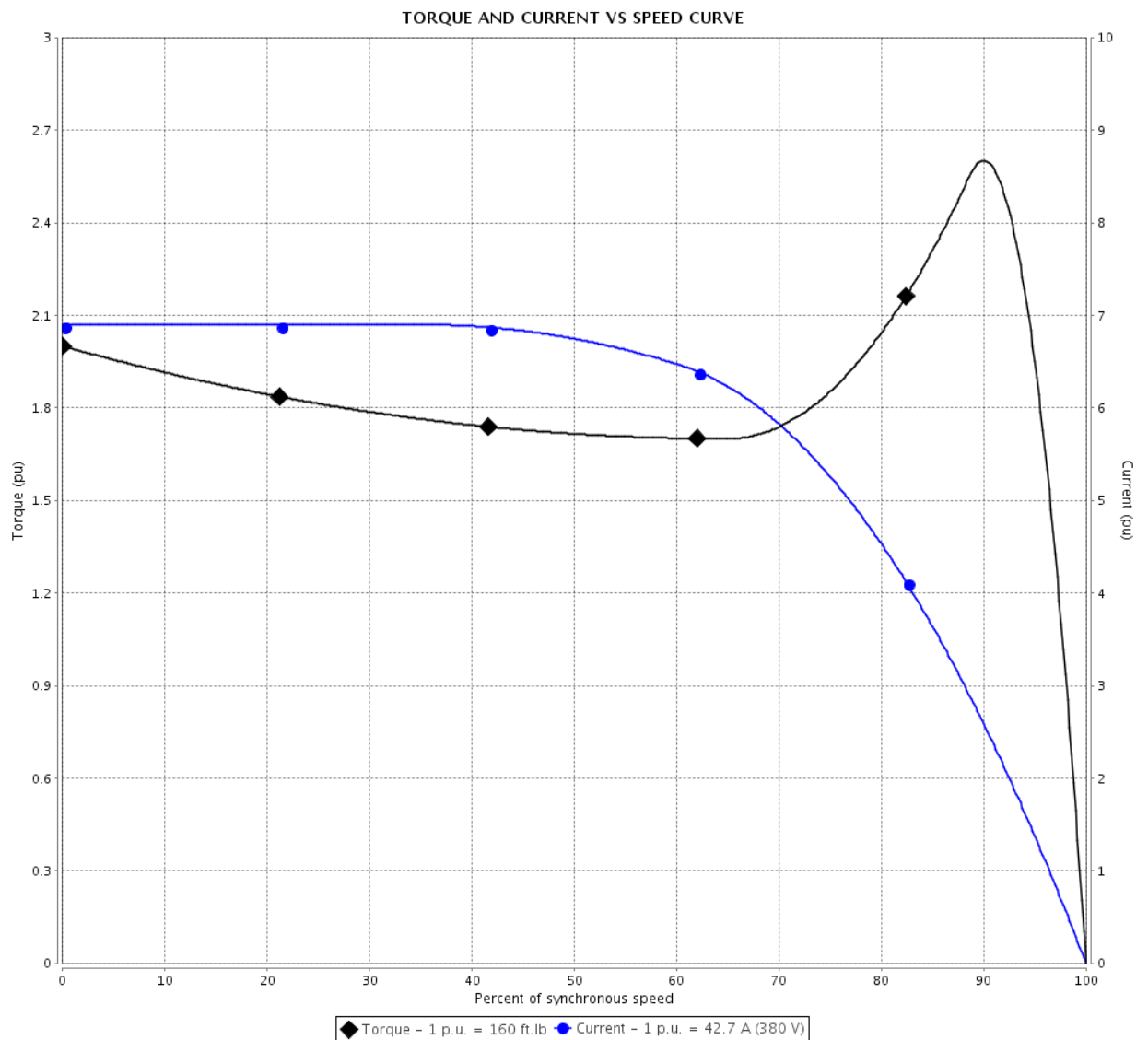


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14272483

Catalog # : 04012OT3E364TC-W40



Performance : 380 V 50 Hz 6P IE3

Rated current	: 42.7 A	Moment of inertia (J)	: 21.8 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

Locked rotor time : 45s (cold) 25s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage

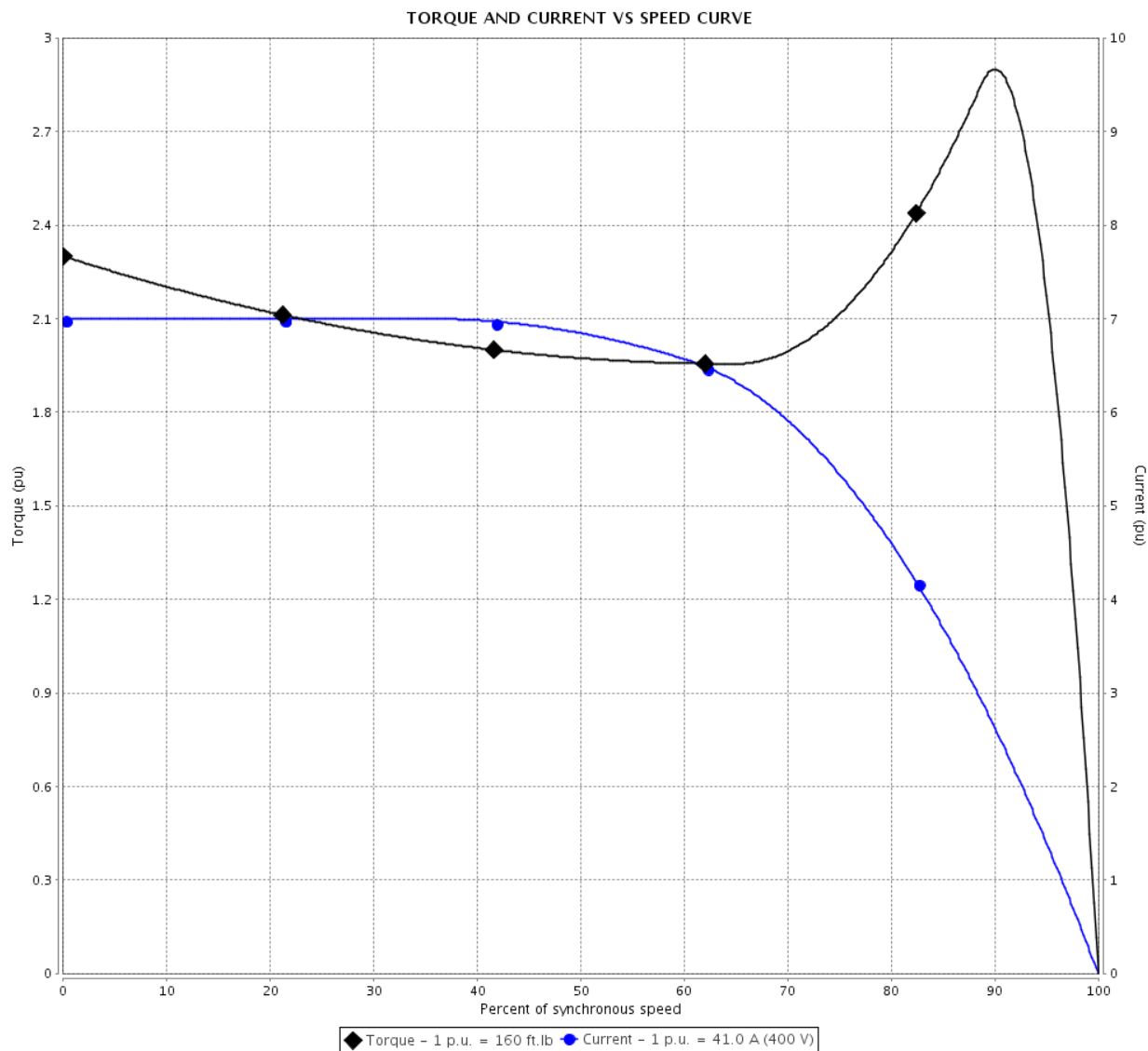


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14272483

Catalog # : 040120T3E364TC-W40



Performance : 400 V 50 Hz 6P IE3

Rated current	: 41.0 A	Moment of inertia (J)	: 21.8 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

Locked rotor time : 50s (cold) 28s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage

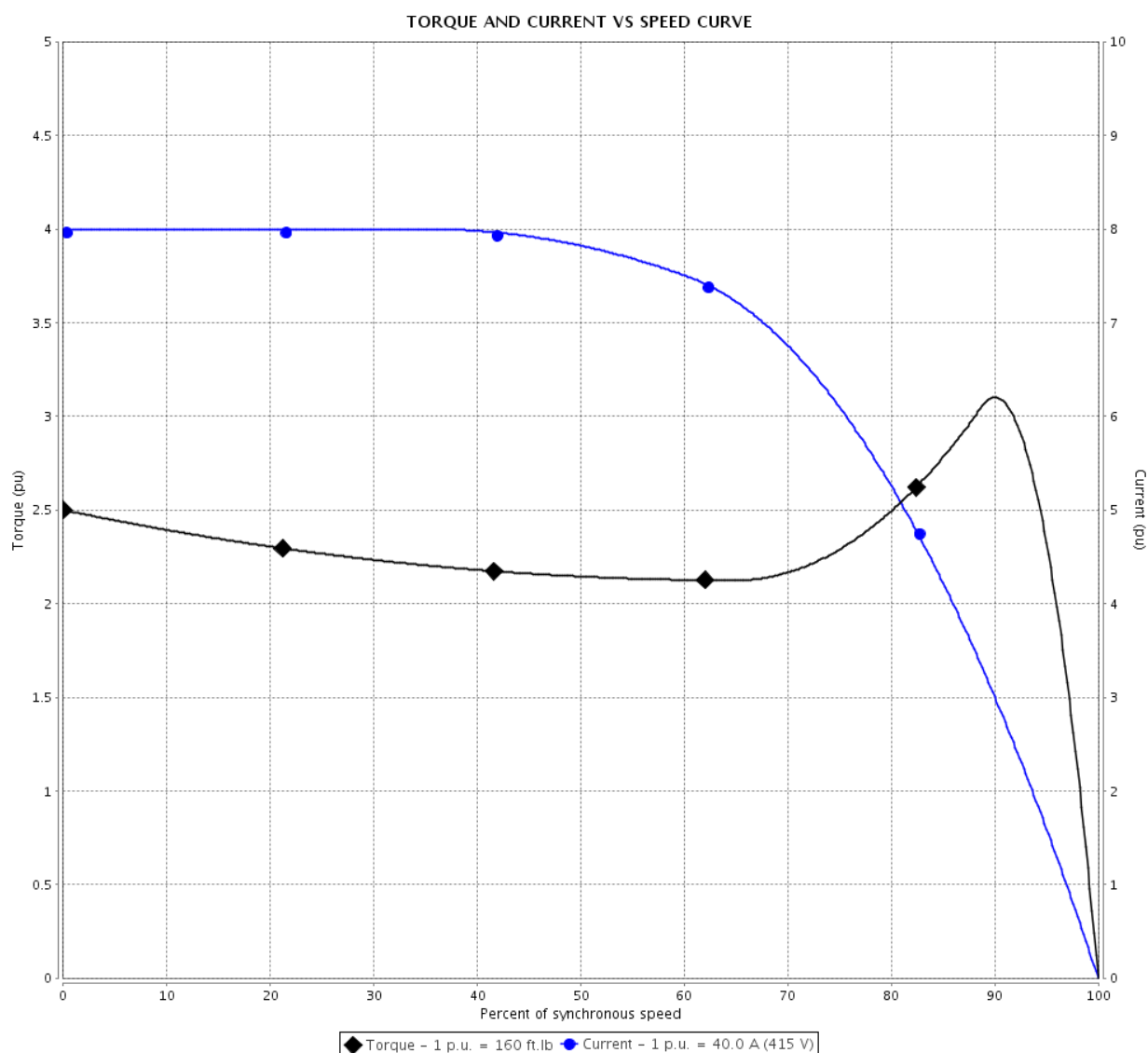


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14272483

Catalog # : 04012OT3E364TC-W40



Performance : 415 V 50 Hz 6P IE3

Rated current	: 40.0 A	Moment of inertia (J)	: 21.8 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

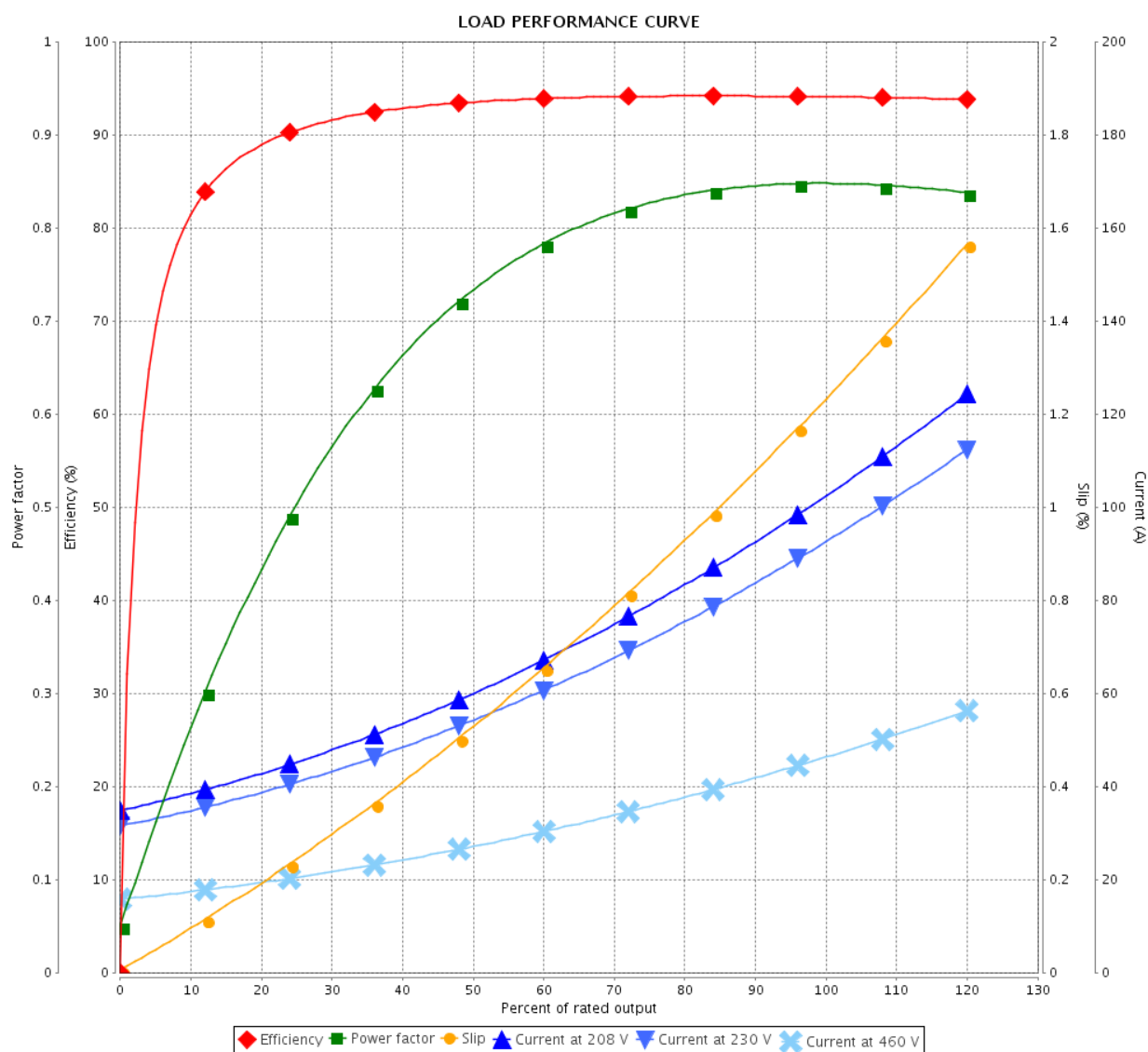


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14272483

Catalog # : 040120T3E364TC-W40



Performance : 230/460 V 60 Hz 6P

Rated current : 94.2/47.1 A  
LRC : 6.4  
Rated torque : 177 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 229 %  
Rated speed : 1185 rpm

Moment of inertia (J) : 21.8 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

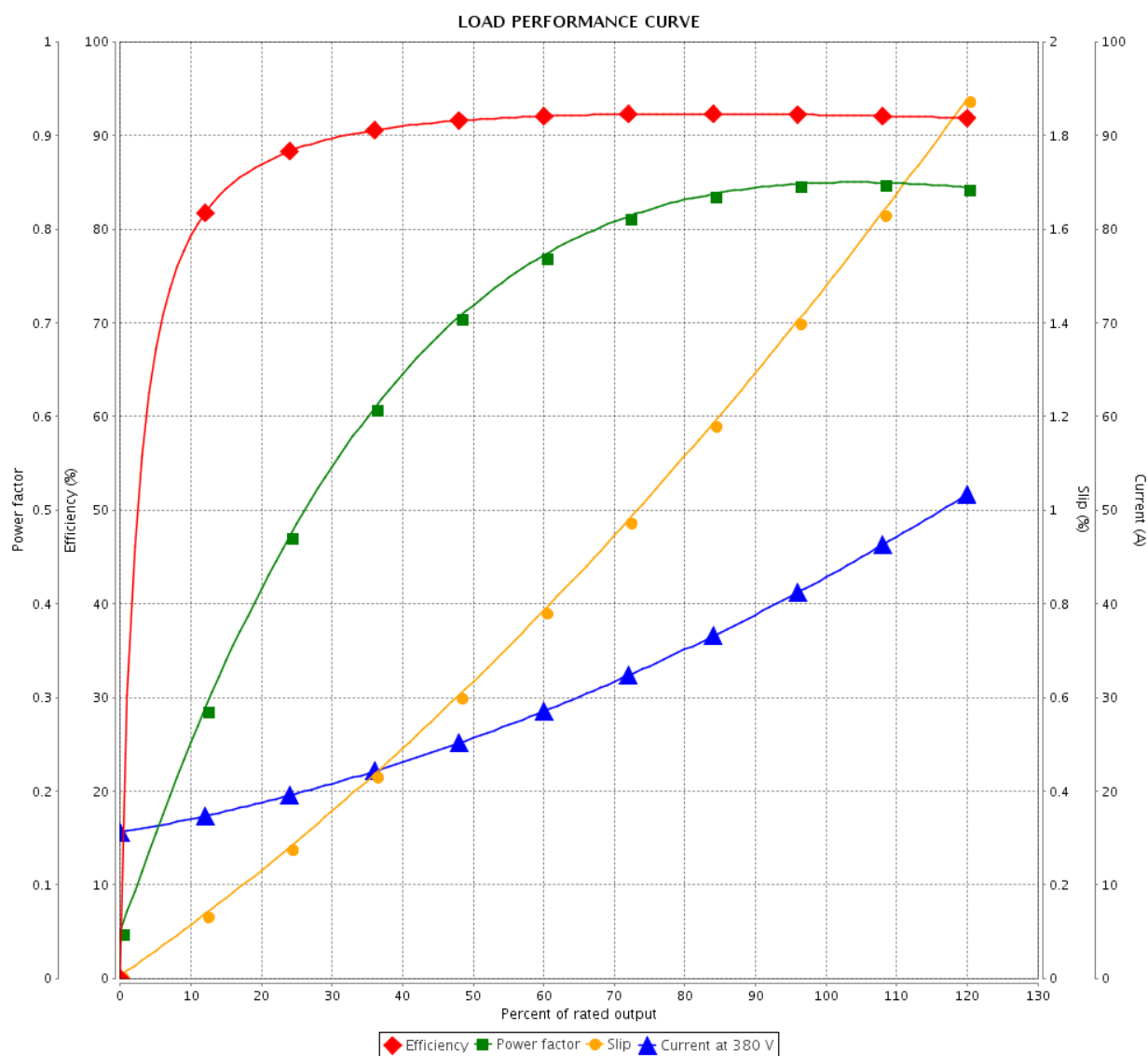


Customer :

Product line : W40 NEMA Premium Efficiency  
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Product code : 14272483

Catalog # : 04012OT3E364TC-W40



Performance : 380 V 50 Hz 6P IE3

Rated current	: 42.7 A	Moment of inertia (J)	: 21.8 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

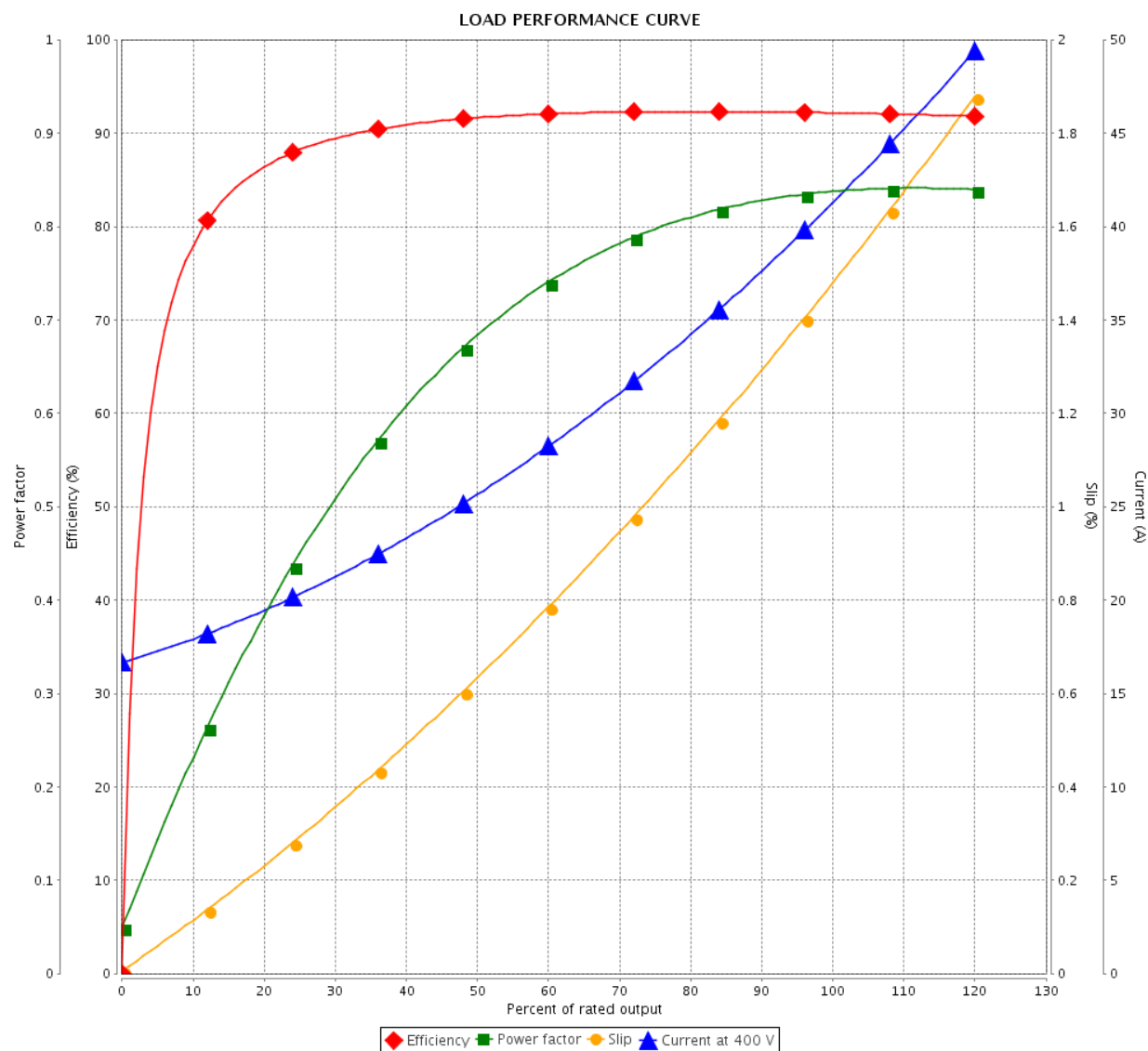


Customer :

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Catalog # : 040120T3E364TC-W40



Performance : 400 V 50 Hz 6P IE3

Rated current	: 41.0 A	Moment of inertia (J)	: 21.8 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

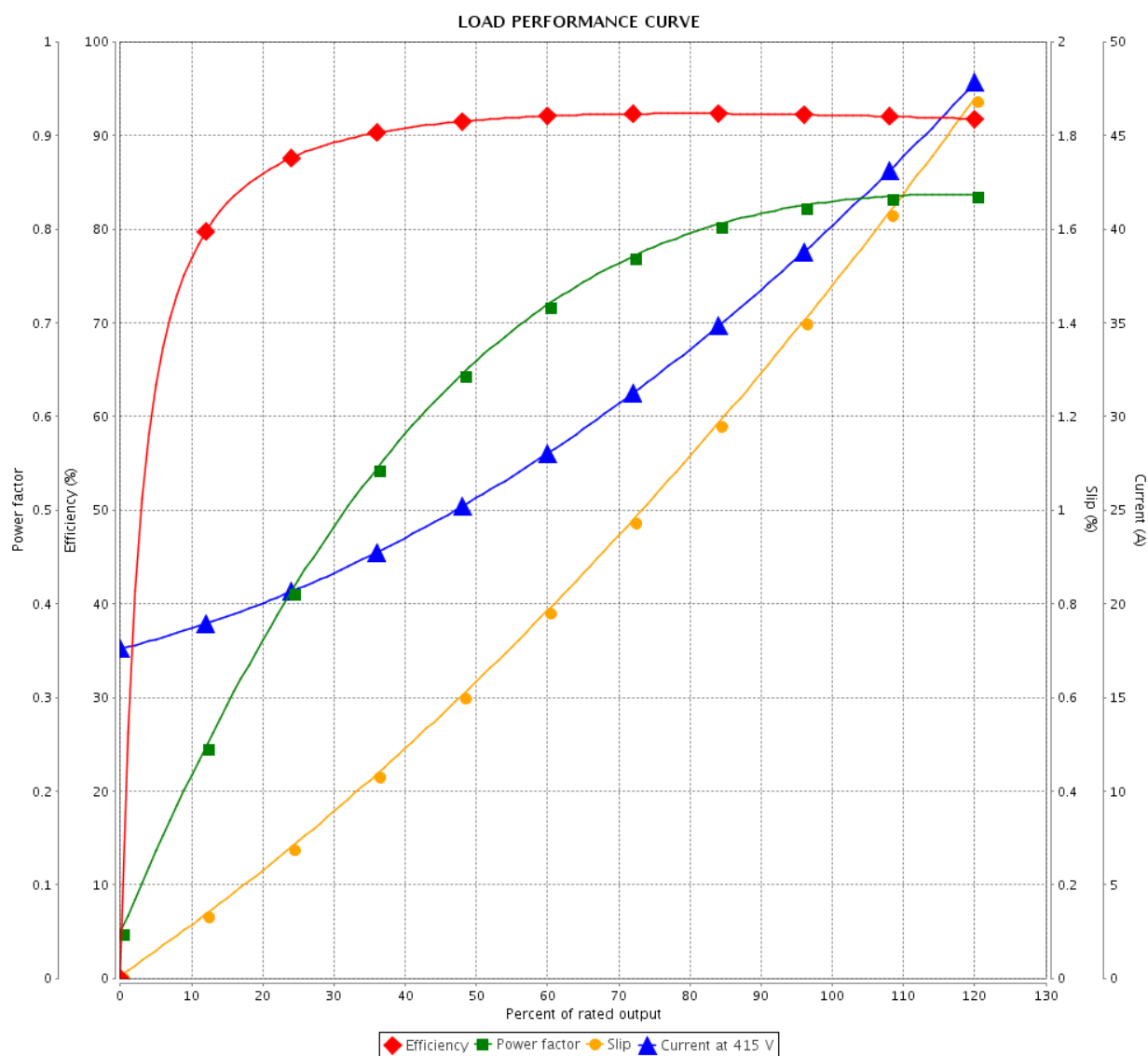


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Product code : 14272483

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Performance : 415 V 50 Hz 6P IE3

Rated current	: 40.0 A	Moment of inertia (J)	: 21.8 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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# THERMAL LIMIT CURVE

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Moment of inertia (J) : 21.8 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

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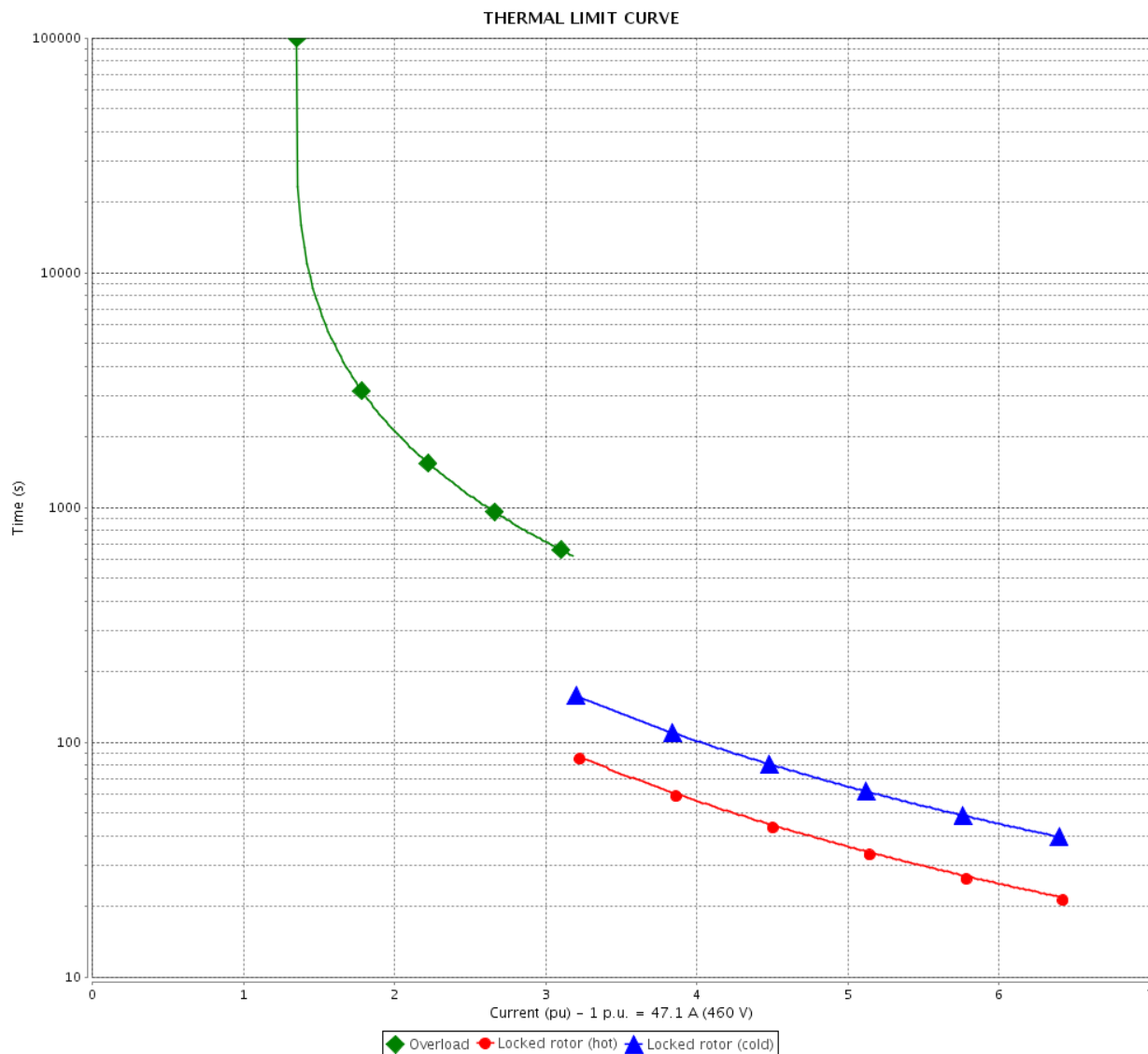
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Customer

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Product line

: W40 NEMA Premium Efficiency  
Three-Phase

Product code :

14272483

Catalog # :

04012OT3E364TC-W40

Performance : 380 V 50 Hz 6P IE3

Rated current

: 42.7 A

LRC

: 6.9

Rated torque

: 160 ft.lb

Locked rotor torque

: 200 %

Breakdown torque

: 260 %

Rated speed

: 985 rpm

Moment of inertia (J)

: 21.8 sq.ft.lb

Duty cycle

: Cont.(S1)

Insulation class

: F

Service factor

: 1.00

Temperature rise

: 80 K

Design

: B

Heating constant

Cooling constant

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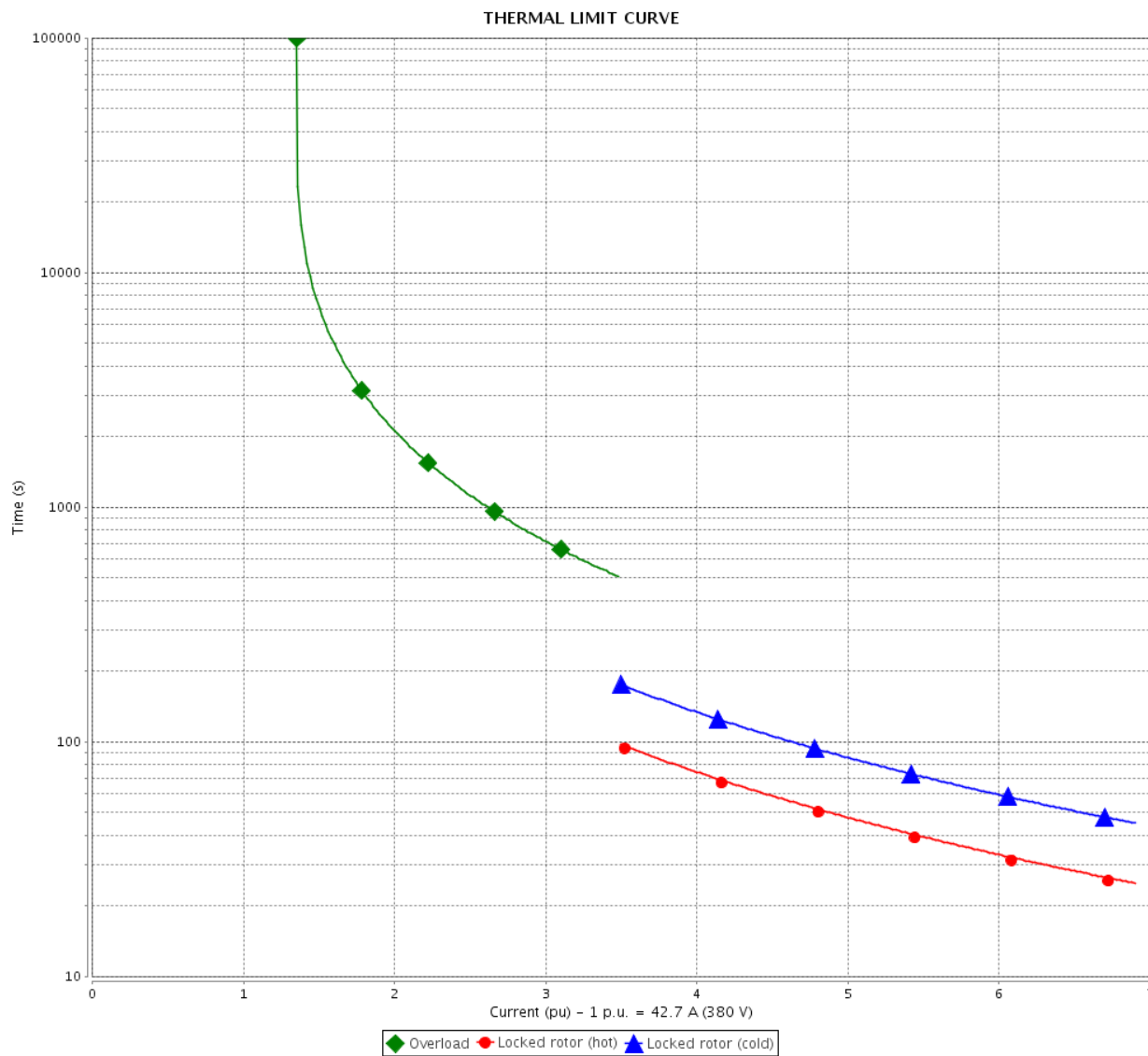
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Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

Heating constant

Cooling constant

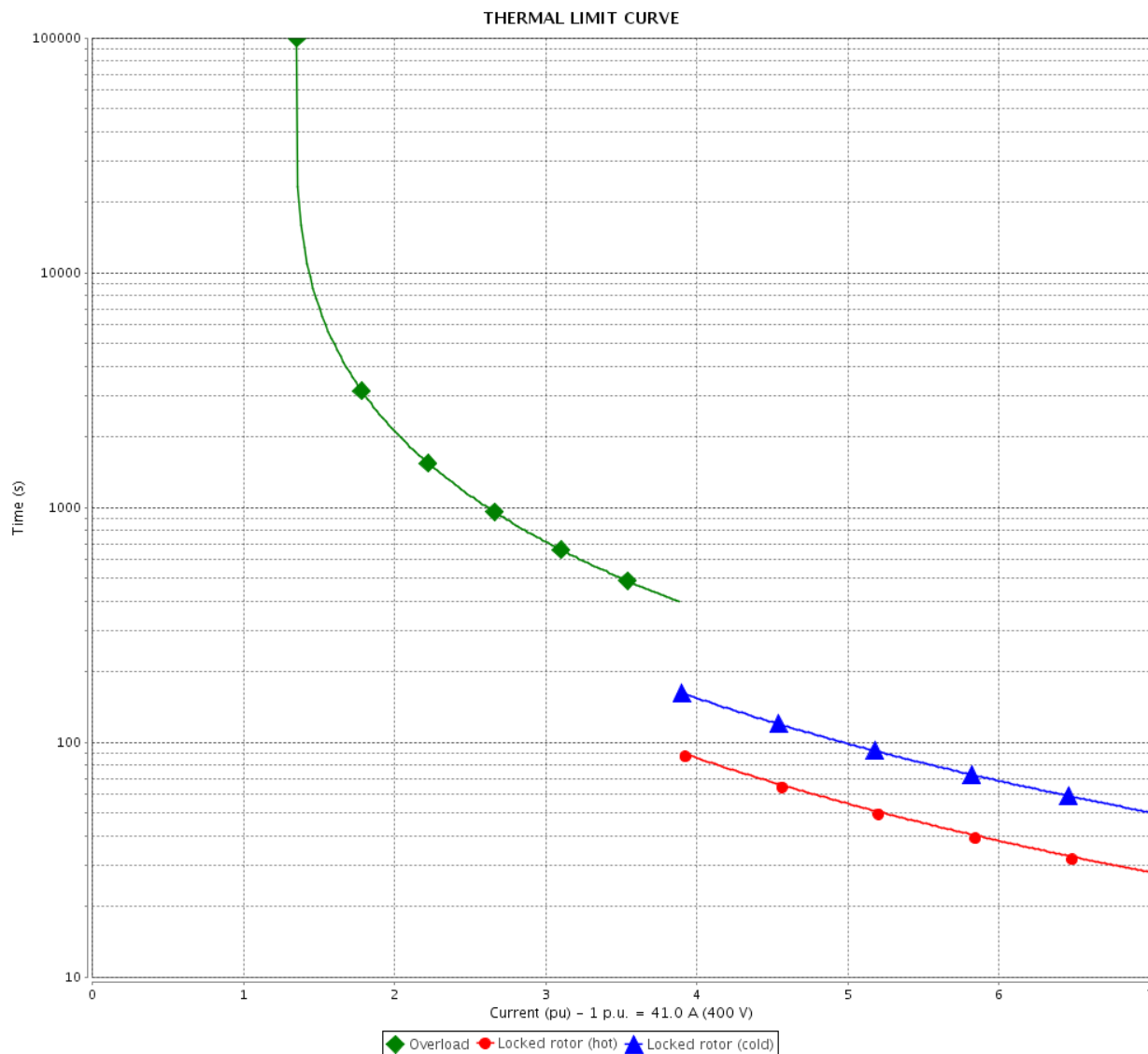
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## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 NEMA Premium Efficiency  
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Product code : 14272483

Catalog # : 04012OT3E364TC-W40

Performance : 415 V 50 Hz 6P IE3

Rated current	: 40.0 A	Moment of inertia (J)	: 21.8 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

Heating constant

Cooling constant

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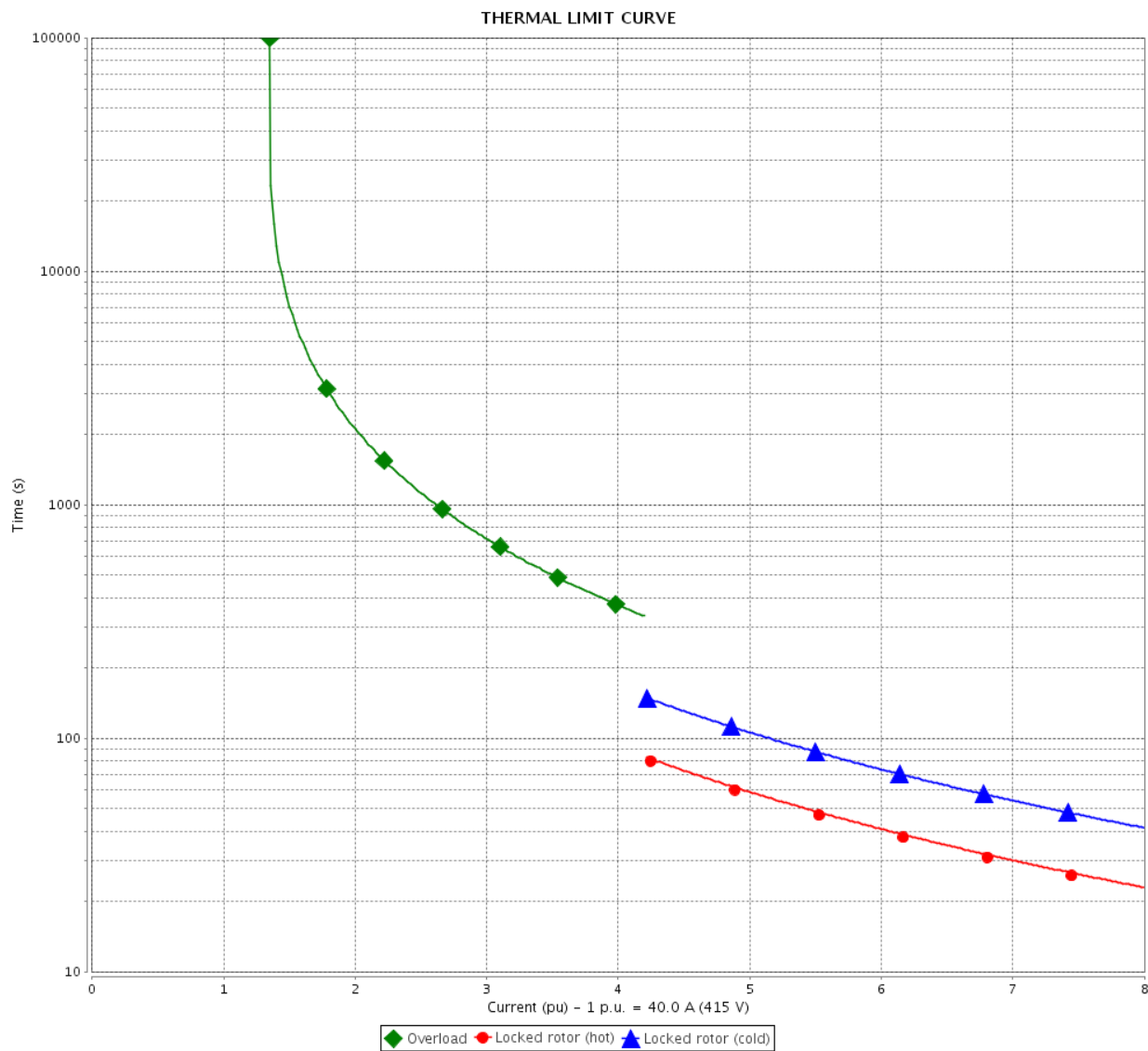


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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

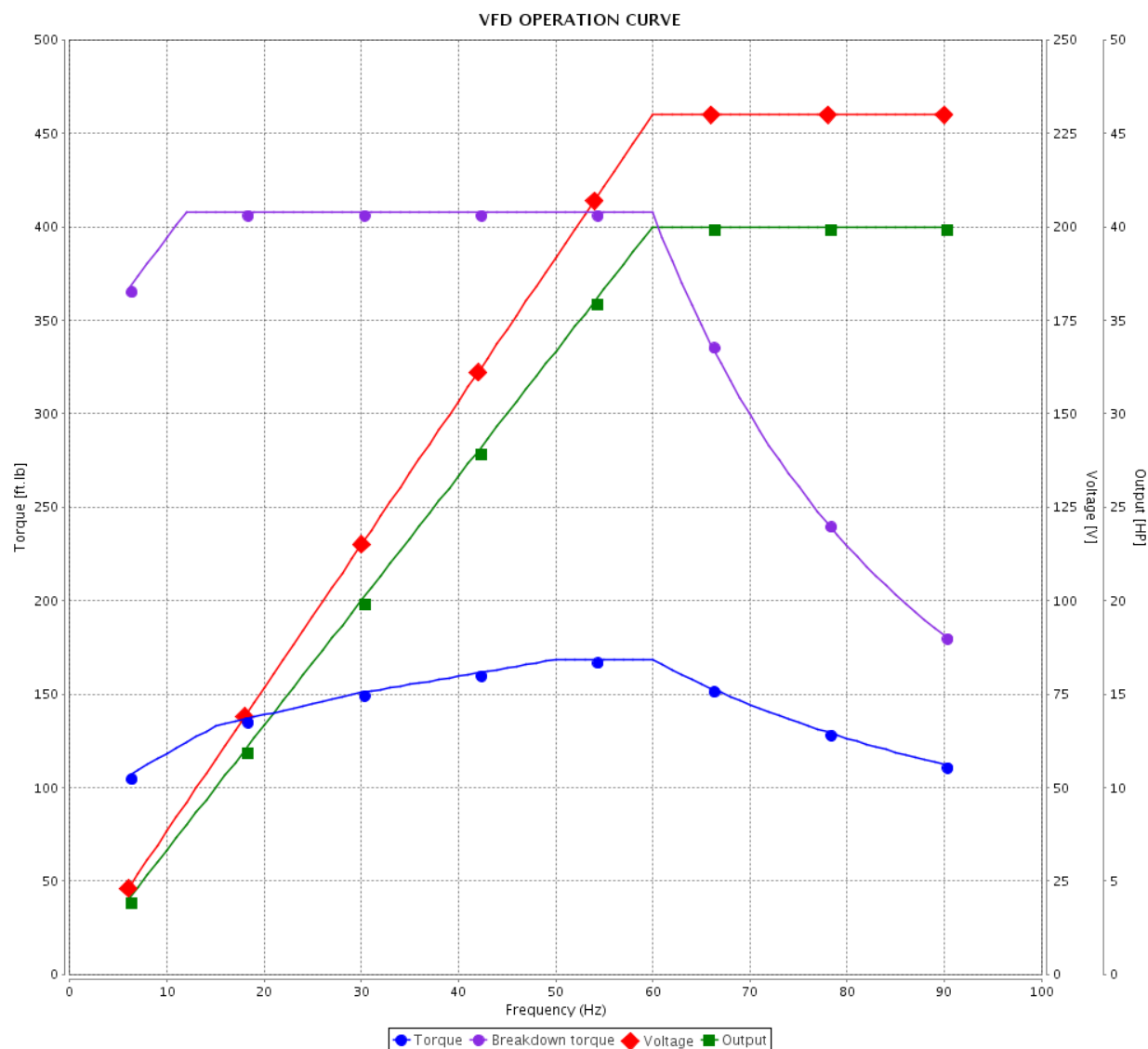


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Performance : 230/460 V 60 Hz 6P

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Breakdown torque : 229 %  
Rated speed : 1185 rpm

Moment of inertia (J) : 21.8 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

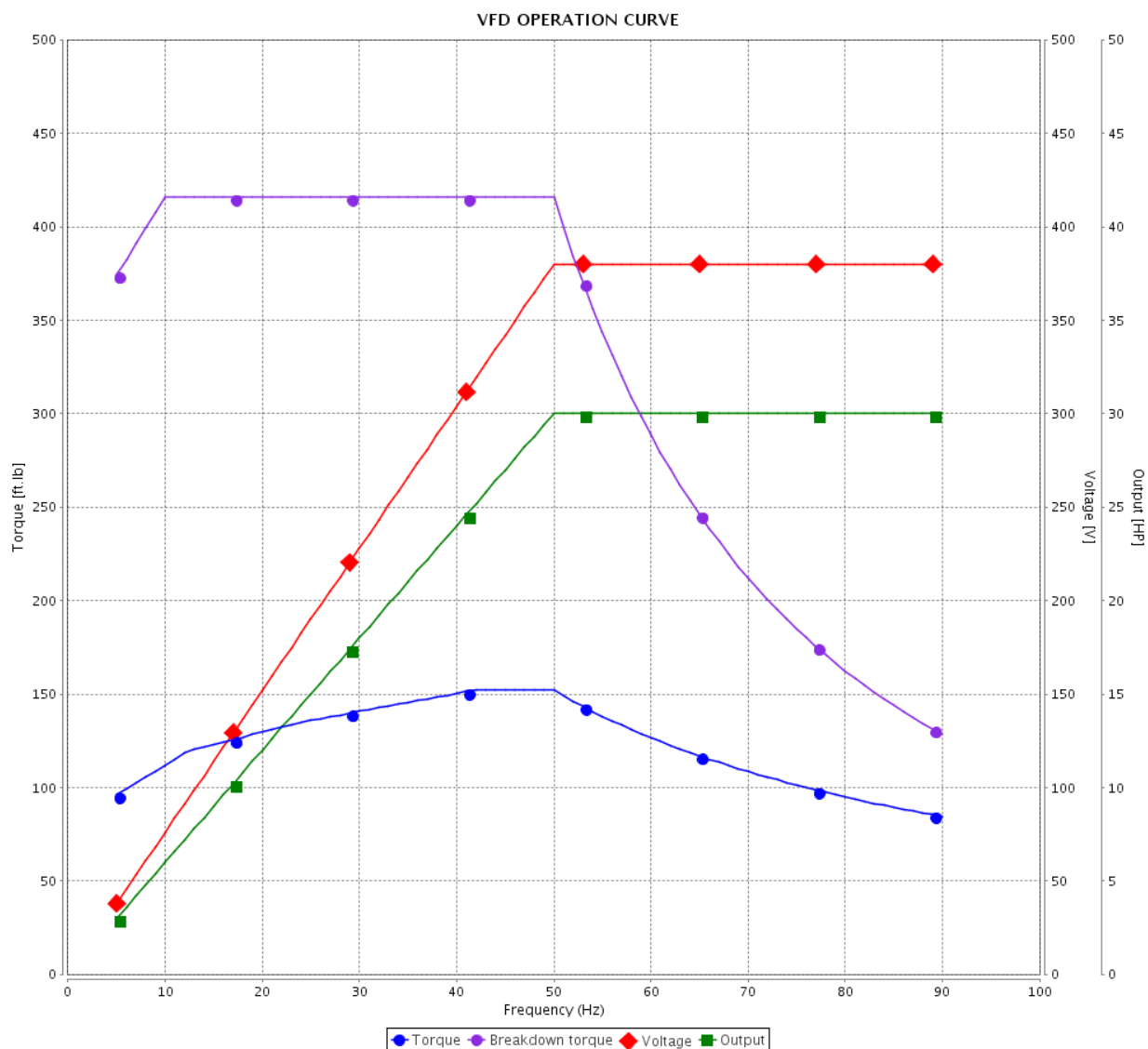


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Performance : 380 V 50 Hz 6P IE3

Rated current : 42.7 A  
LRC : 6.9  
Rated torque : 160 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 260 %  
Rated speed : 985 rpm

Moment of inertia (J) : 21.8 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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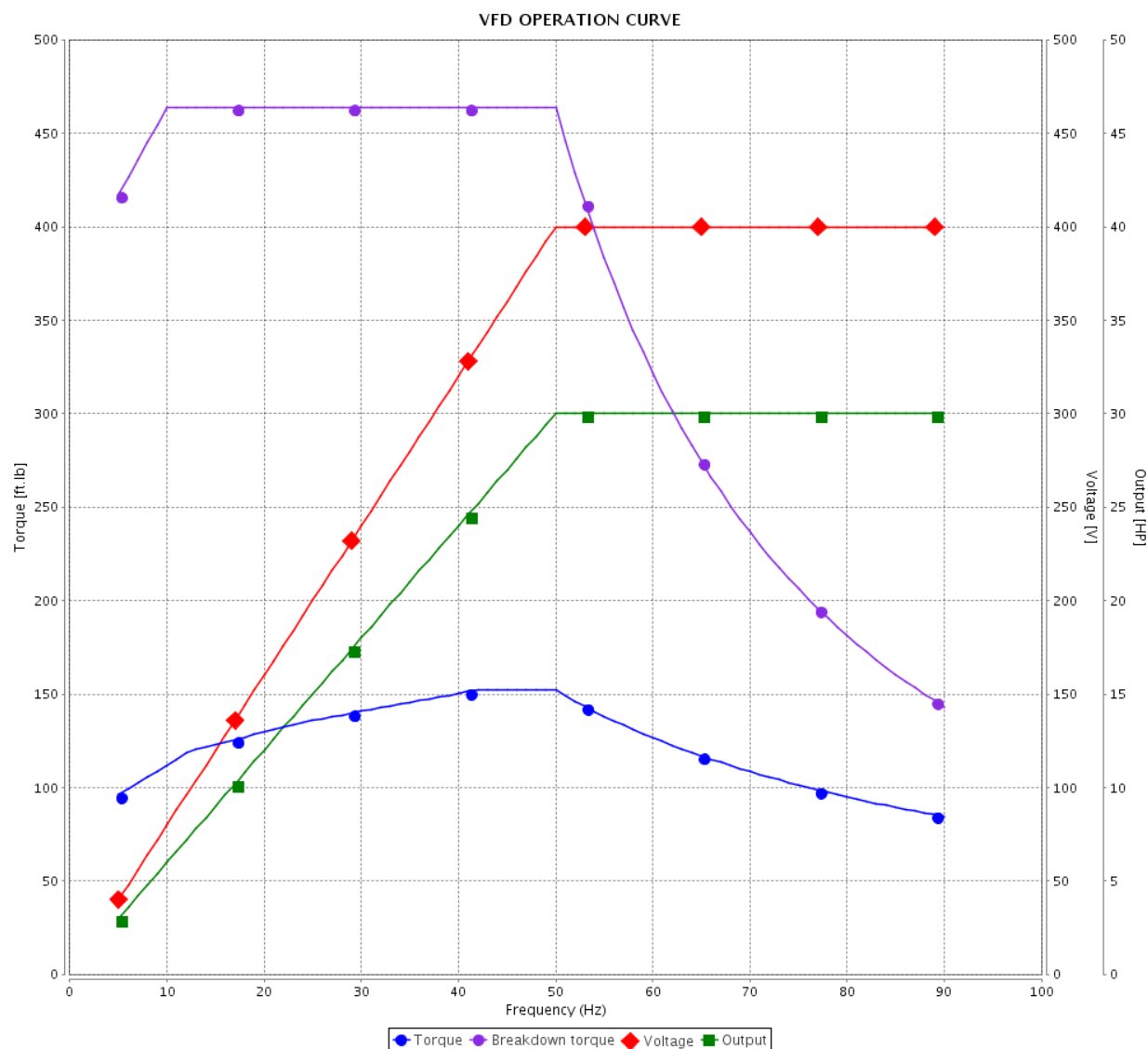


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Rated speed : 985 rpm

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Insulation class : F  
Service factor : 1.00  
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Design : B

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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

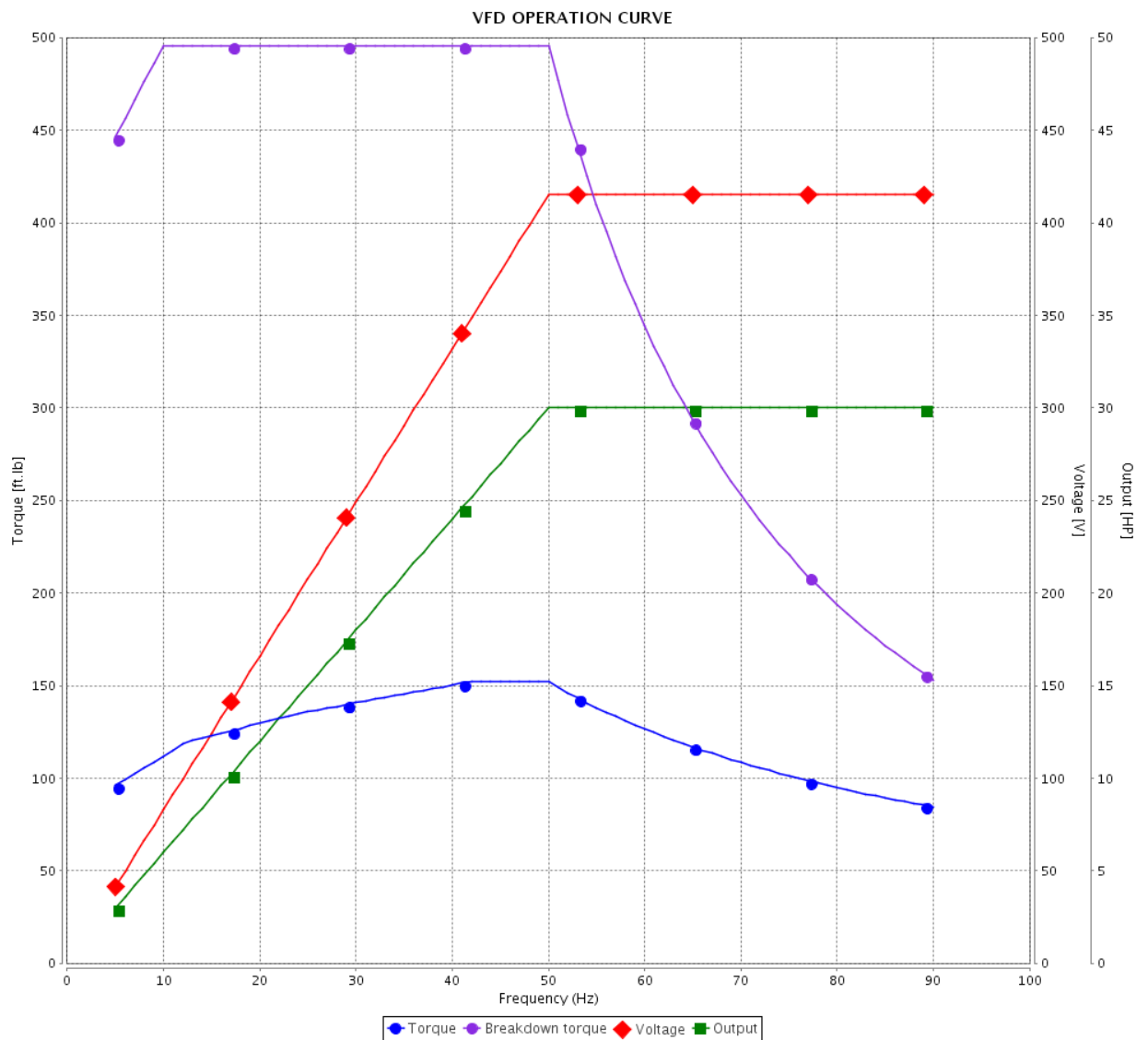


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LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 160 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 985 rpm	Design	: B

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