

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 JM Pump NEMA Premium Efficiency Three-Phase	Product code :	14023474		
		Catalog # :	10036OT3E365JM-W40		
Frame	: 364/5JM	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>	: 774 lb		
Protection degree	: IP23	Moment of inertia (J)	: 7.20 sq.ft.lb		
Design	: B				
Output [HP]	100	75	75	75	
Poles	2	2	2	2	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	232/116	103	100	97.8	
L. R. Amperes [A]	1531/766	773	800	773	
LRC [A]	6.6x(Code G)	7.5x(Code H)	8.0x(Code J)	7.9x(Code J)	
No load current [A]	59.0/29.5	28.5	32.5	35.0	
Rated speed [RPM]	3555	2960	2964	2967	
Slip [%]	1.25	1.33	1.20	1.10	
Rated torque [ft.lb]	148	133	133	133	
Locked rotor torque [%]	180	220	240	250	
Breakdown torque [%]	229	260	280	320	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	23s (cold) 13s (hot)	19s (cold) 11s (hot)	18s (cold) 10s (hot)	19s (cold) 11s (hot)	
Noise level <sup>2</sup>	84.0 dB(A)				
Efficiency (%)	25%	92.2	88.0	88.2	88.2
	50%	92.4	90.2	90.3	90.3
	75%	93.6	91.9	92.0	92.0
	100%	93.6	94.3	94.3	94.3
Power Factor	25%	0.55	0.53	0.47	0.47
	50%	0.77	0.74	0.69	0.70
	75%	0.84	0.83	0.78	0.80
	100%	0.87	0.86	0.84	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	: 1068 lb		
	: Bearing Seal Bearing Seal	Max. compression	: 1843 lb		
Lubrication interval	: 14418 h 20000 h				
Lubricant amount	: 27 g 13 g				
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 257A SF 1.15 SFA 295A					
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



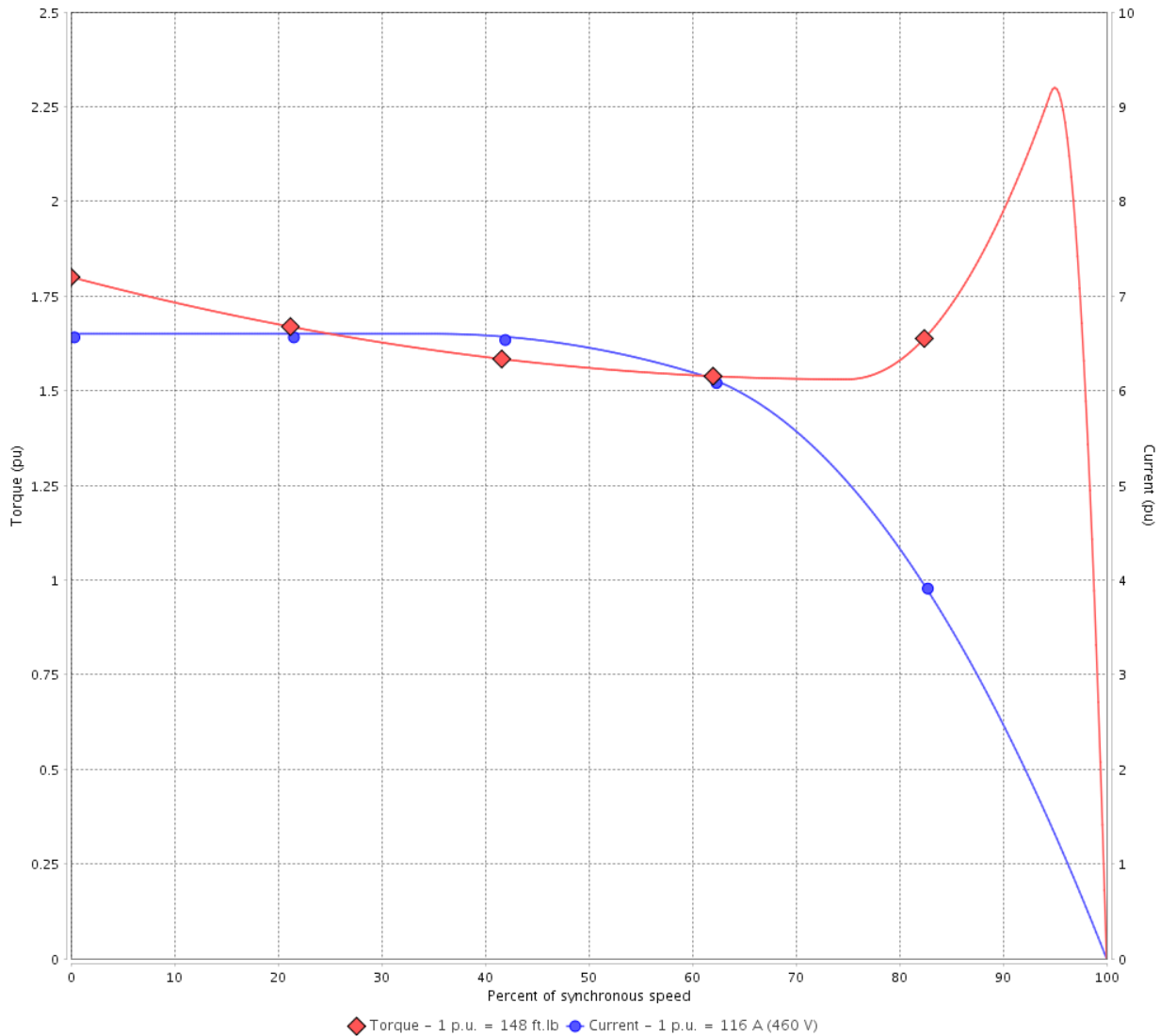
Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

Rated current	: 232/116 A	Moment of inertia (J)	: 7.20 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 148 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.25
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 3555 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



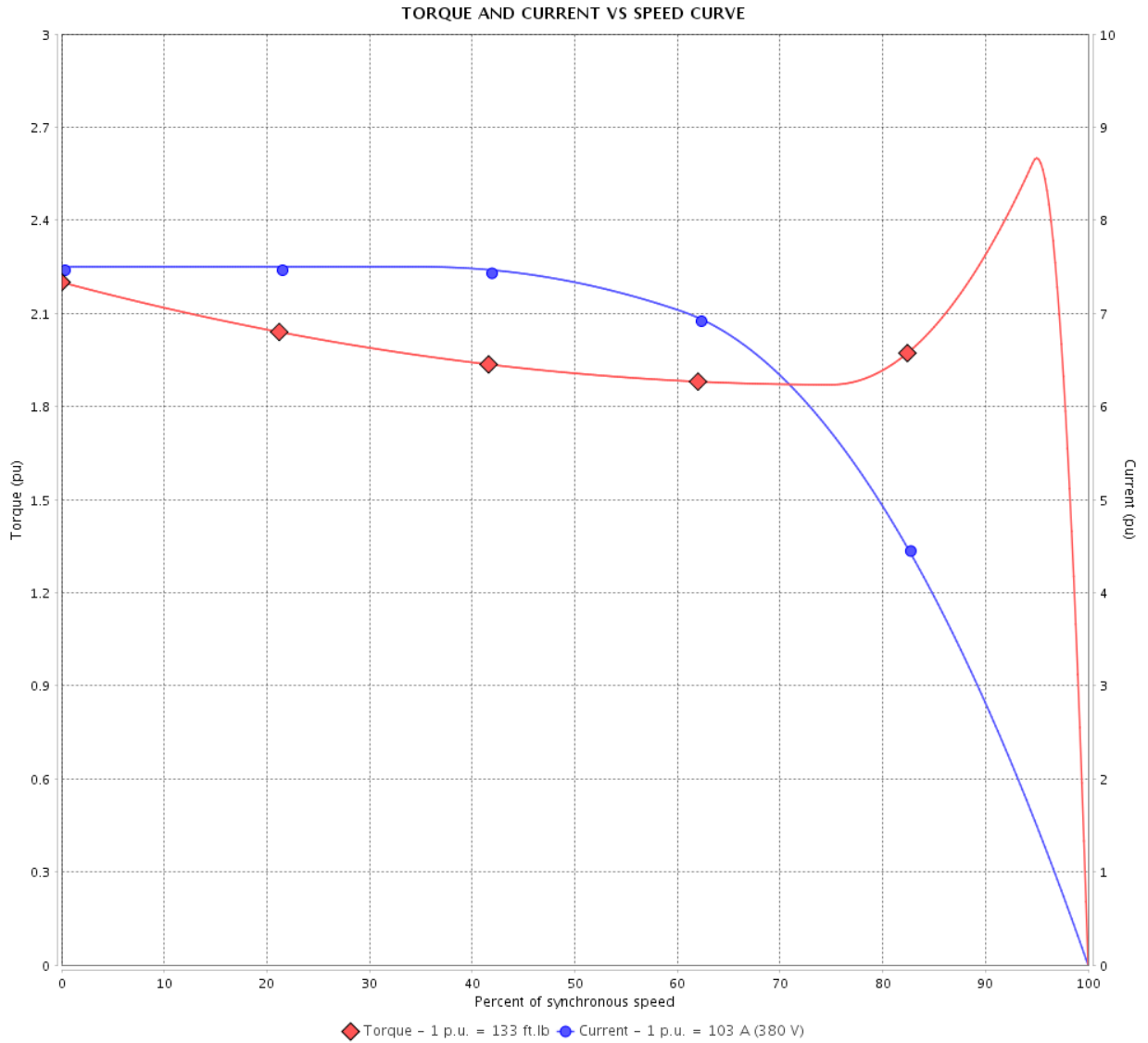
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40



Performance : 380 V 50 Hz 2P IE3

Rated current	: 103 A	Moment of inertia (J)	: 7.20 sq.ft.lb
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 133 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



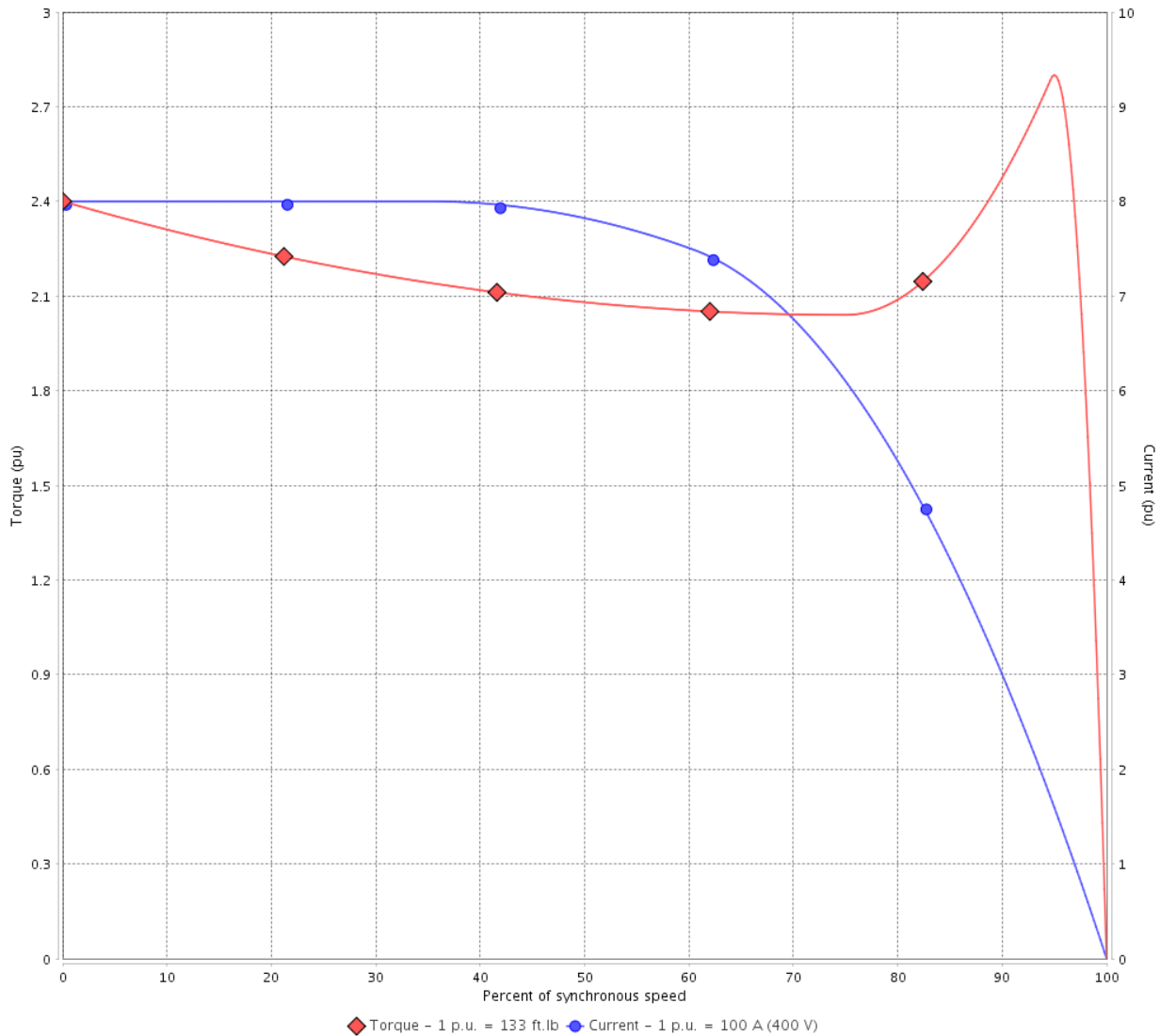
Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current	: 100 A	Moment of inertia (J)	: 7.20 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 133 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 2964 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



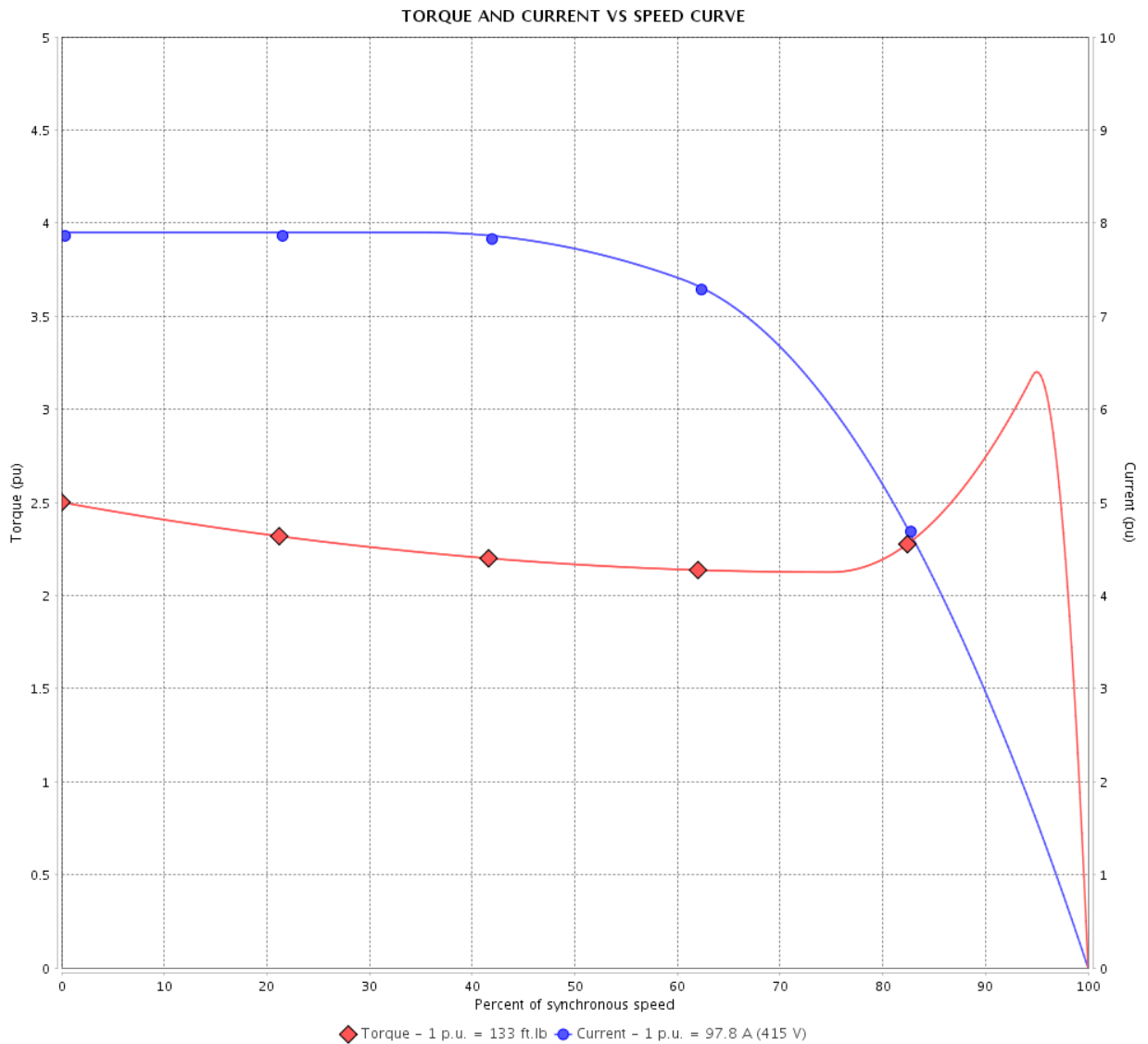
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40



Performance : 415 V 50 Hz 2P IE3

Rated current	: 97.8 A	Moment of inertia (J)	: 7.20 sq.ft.lb
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 133 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 2967 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



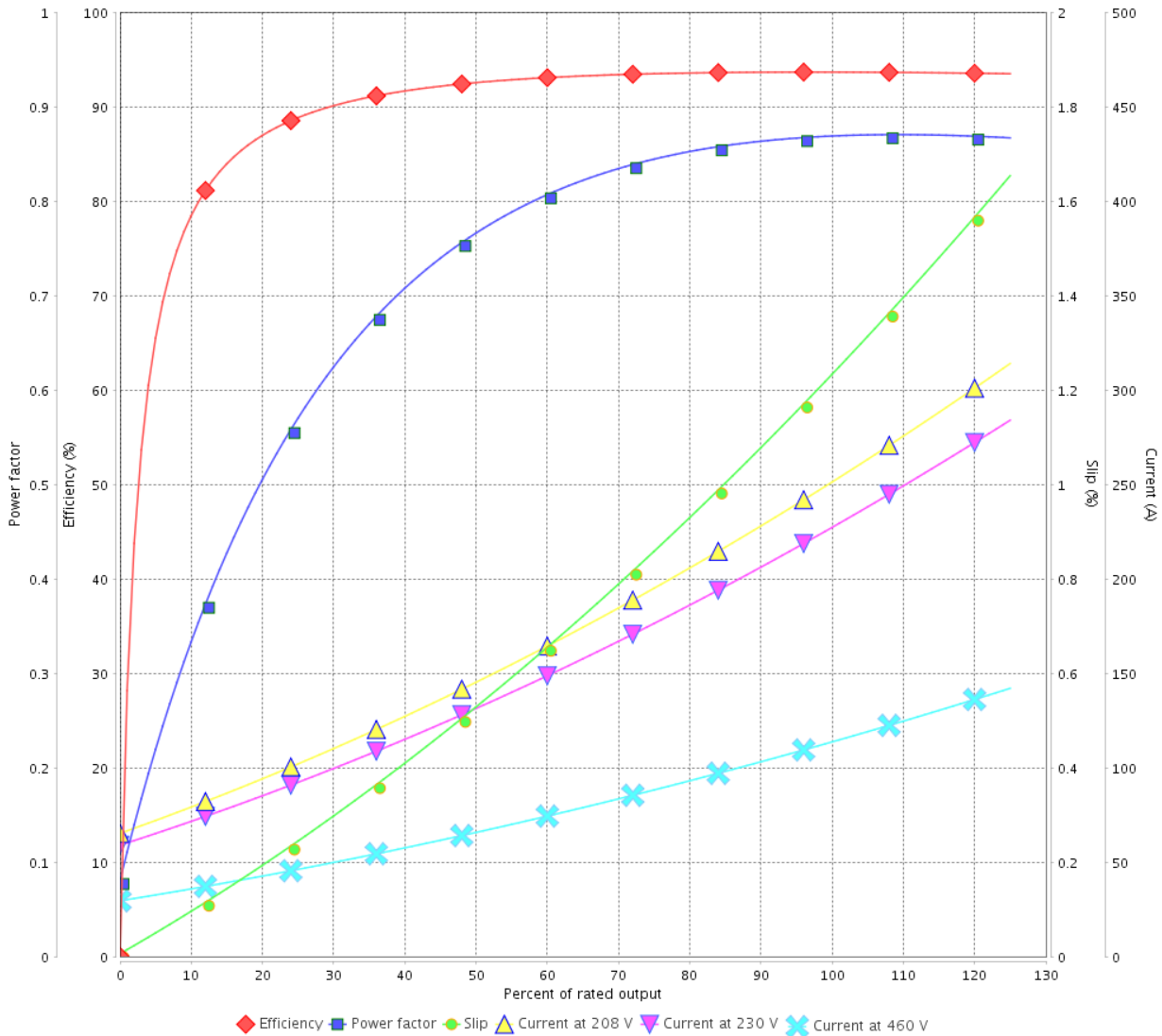
Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40

LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 232/116 A  
 LRC : 6.6  
 Rated torque : 148 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 229 %  
 Rated speed : 3555 rpm

Moment of inertia (J) : 7.20 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

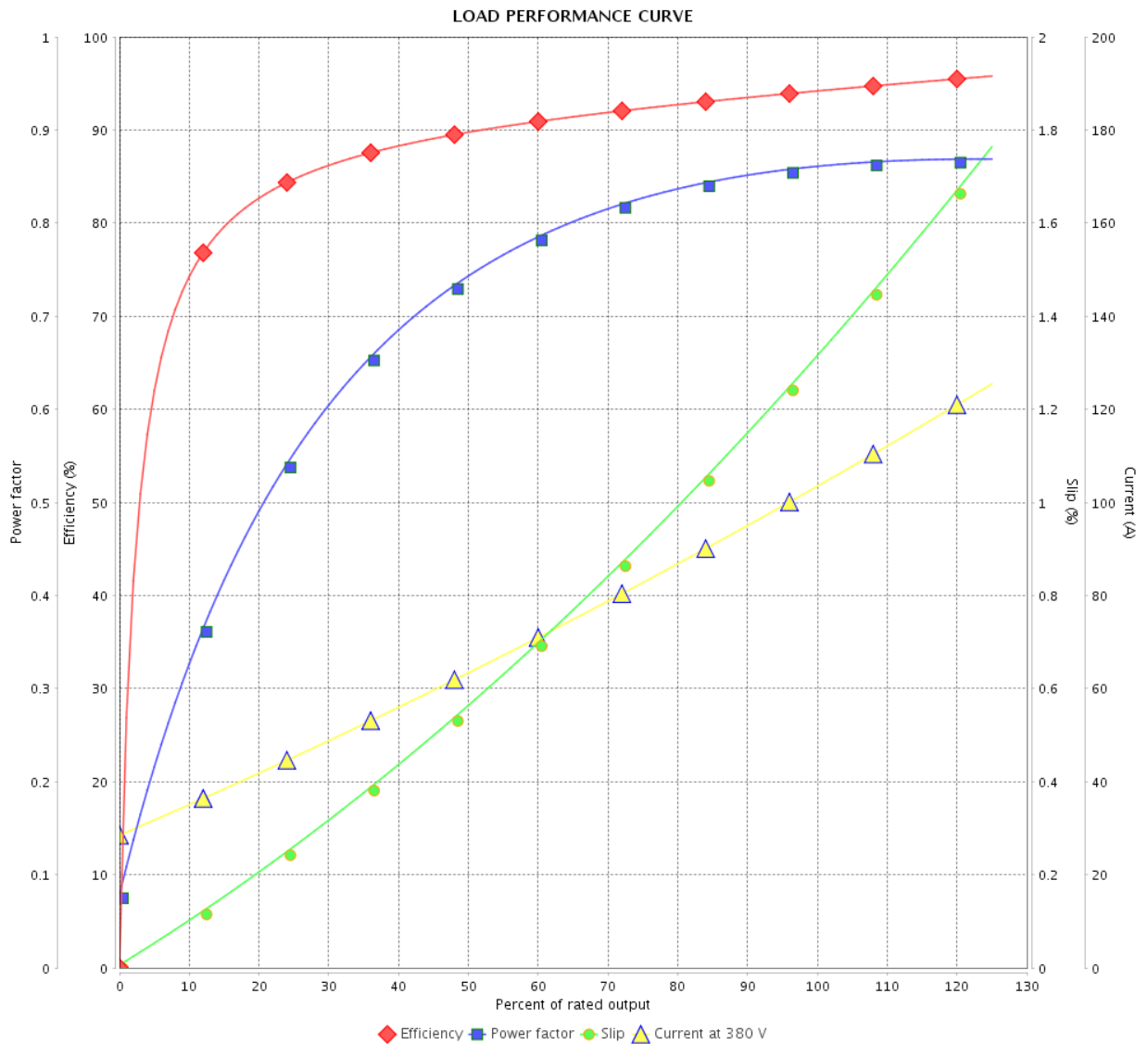


Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 103 A  
 LRC : 7.5  
 Rated torque : 133 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 260 %  
 Rated speed : 2960 rpm

Moment of inertia (J) : 7.20 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



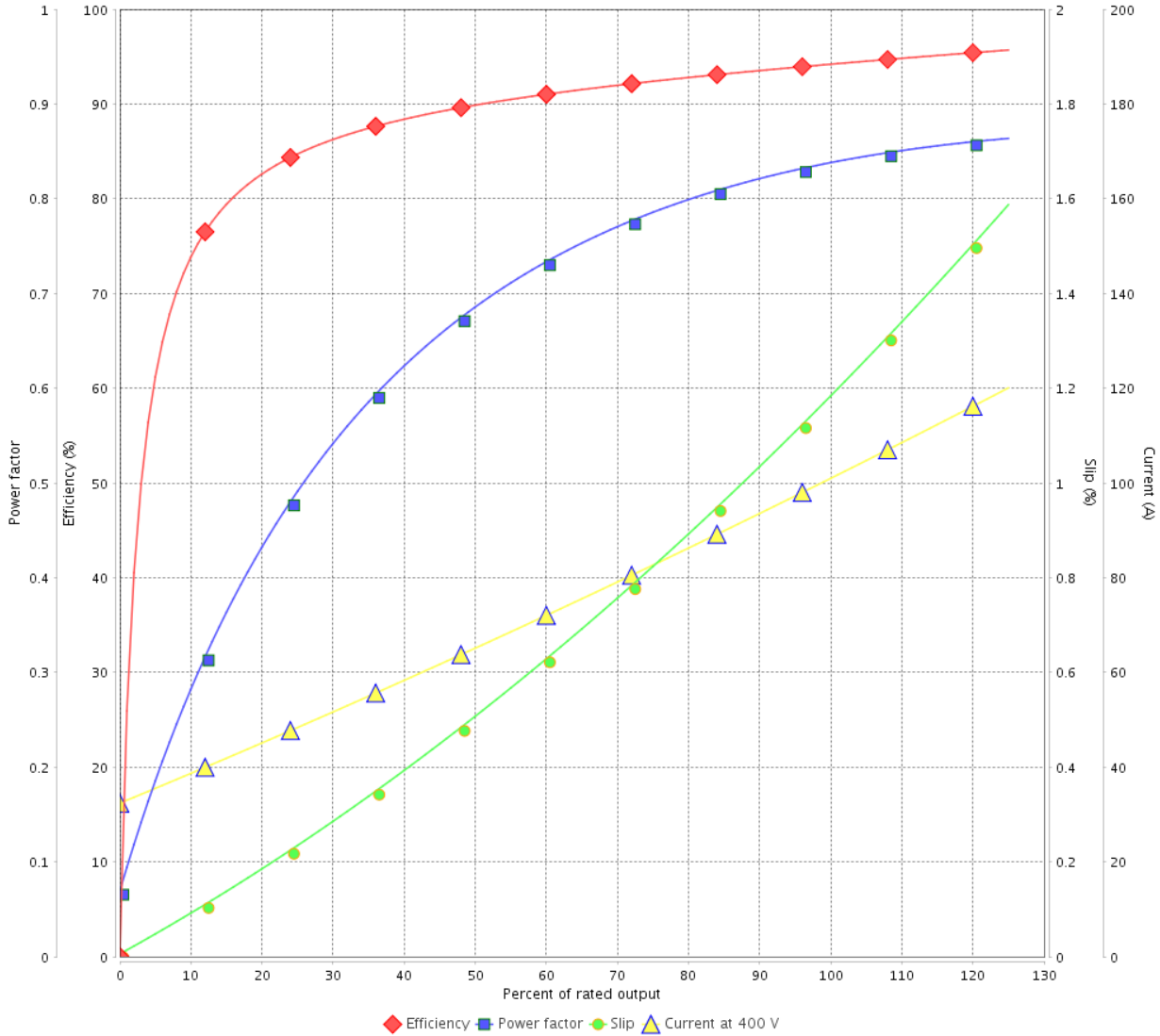
Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14023474

Catalog # : 100360T3E365JM-W40

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 100 A  
 LRC : 8.0  
 Rated torque : 133 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
 Rated speed : 2964 rpm

Moment of inertia (J) : 7.20 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

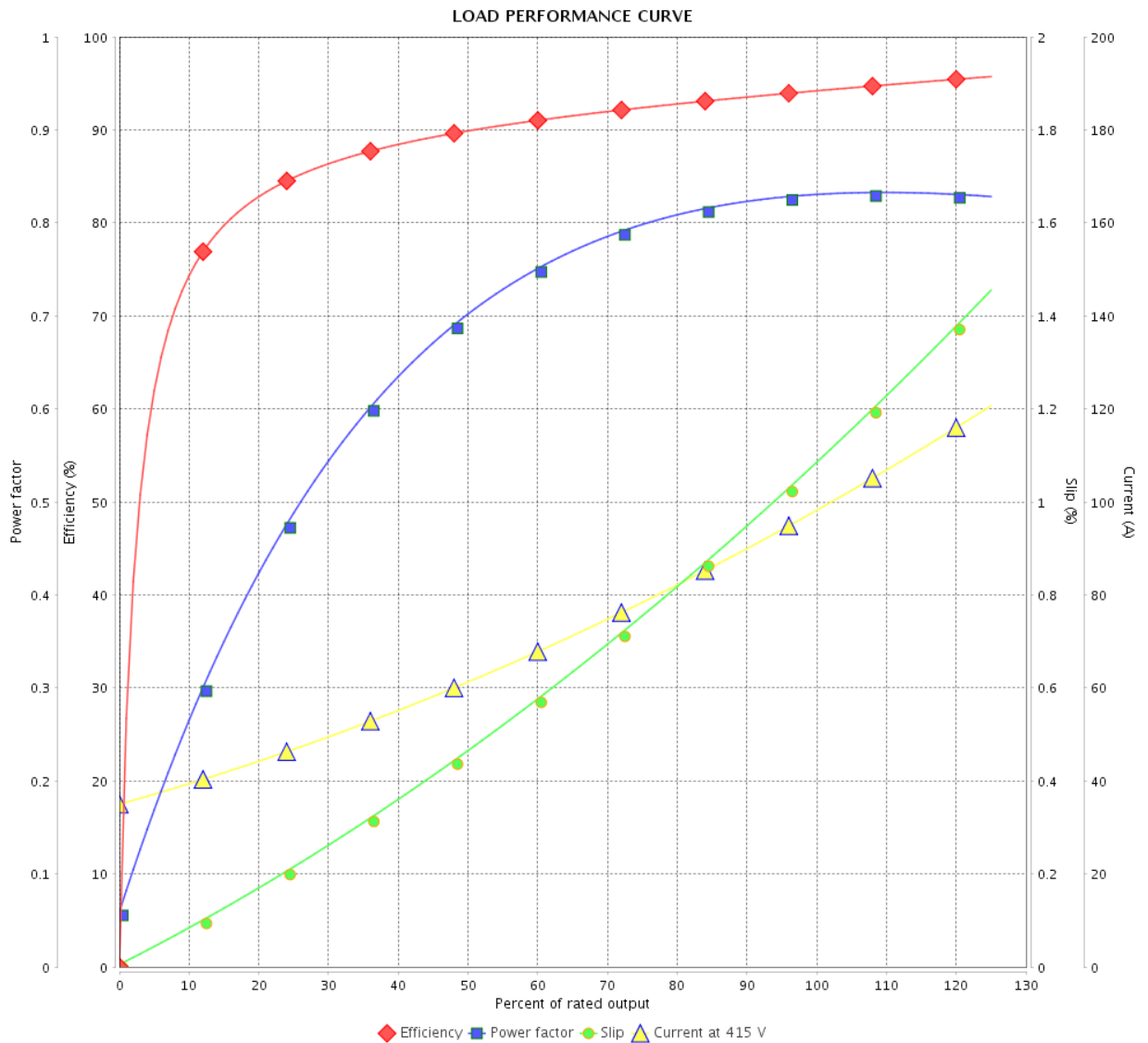


Customer : \_\_\_\_\_

Product line : W40 JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40



Performance : 415 V 50 Hz 2P IE3

Rated current : 97.8 A  
LRC : 7.9  
Rated torque : 133 ft.lb  
Locked rotor torque : 250 %  
Breakdown torque : 320 %  
Rated speed : 2967 rpm

Moment of inertia (J) : 7.20 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



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40

Performance : 230/460 V 60 Hz 2P

Rated current : 232/116 A  
LRC : 6.6  
Rated torque : 148 ft.lb  
Locked rotor torque : 180 %  
Breakdown torque : 229 %  
Rated speed : 3555 rpm

Moment of inertia (J) : 7.20 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

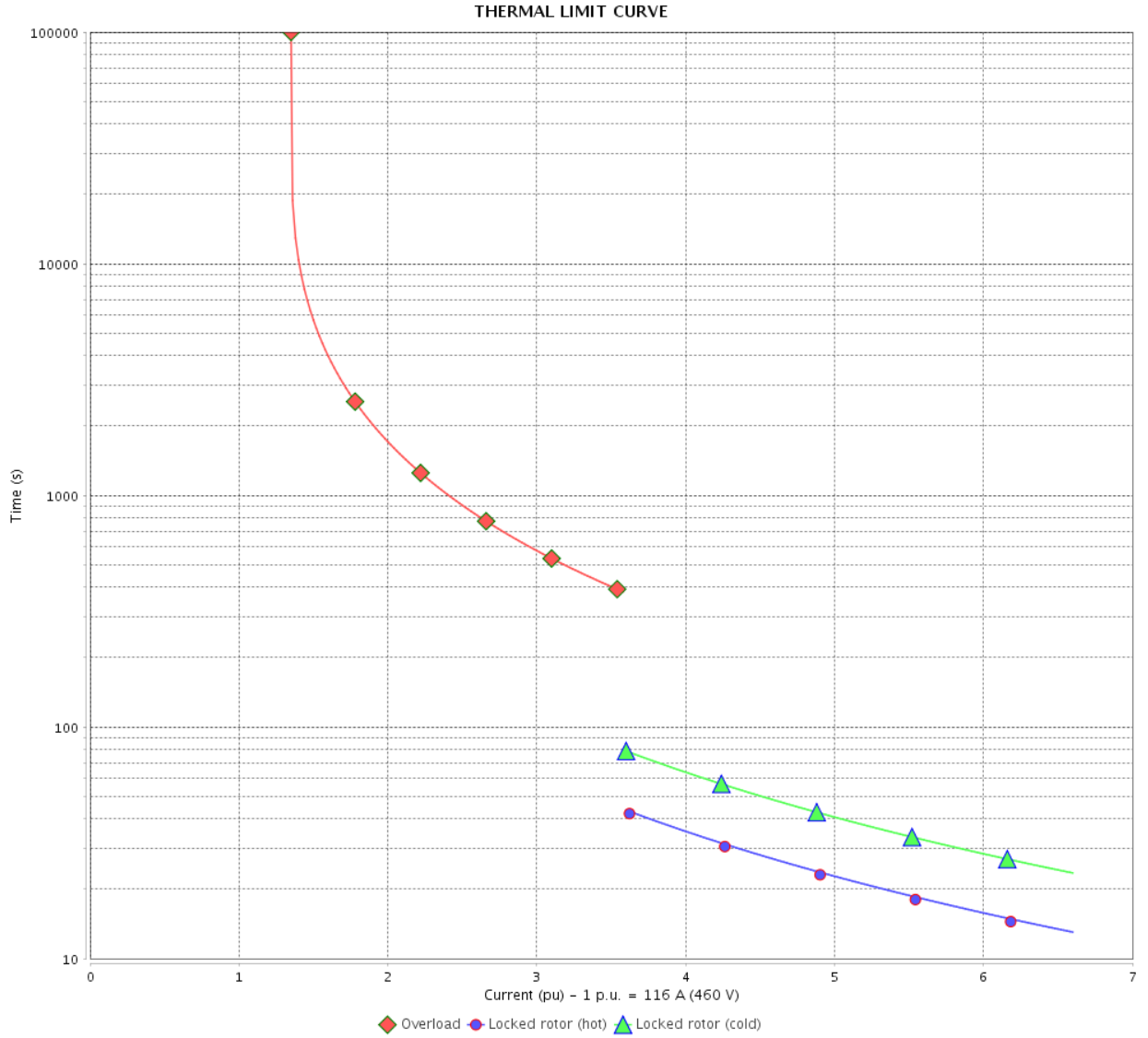
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 14023474

Catalog # : 10036OT3E365JM-W40

Performance : 380 V 50 Hz 2P IE3

Rated current : 103 A	Moment of inertia (J) : 7.20 sq.ft.lb
LRC : 7.5	Duty cycle : Cont.(S1)
Rated torque : 133 ft.lb	Insulation class : F
Locked rotor torque : 220 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 2960 rpm	Design : B

Heating constant

Cooling constant

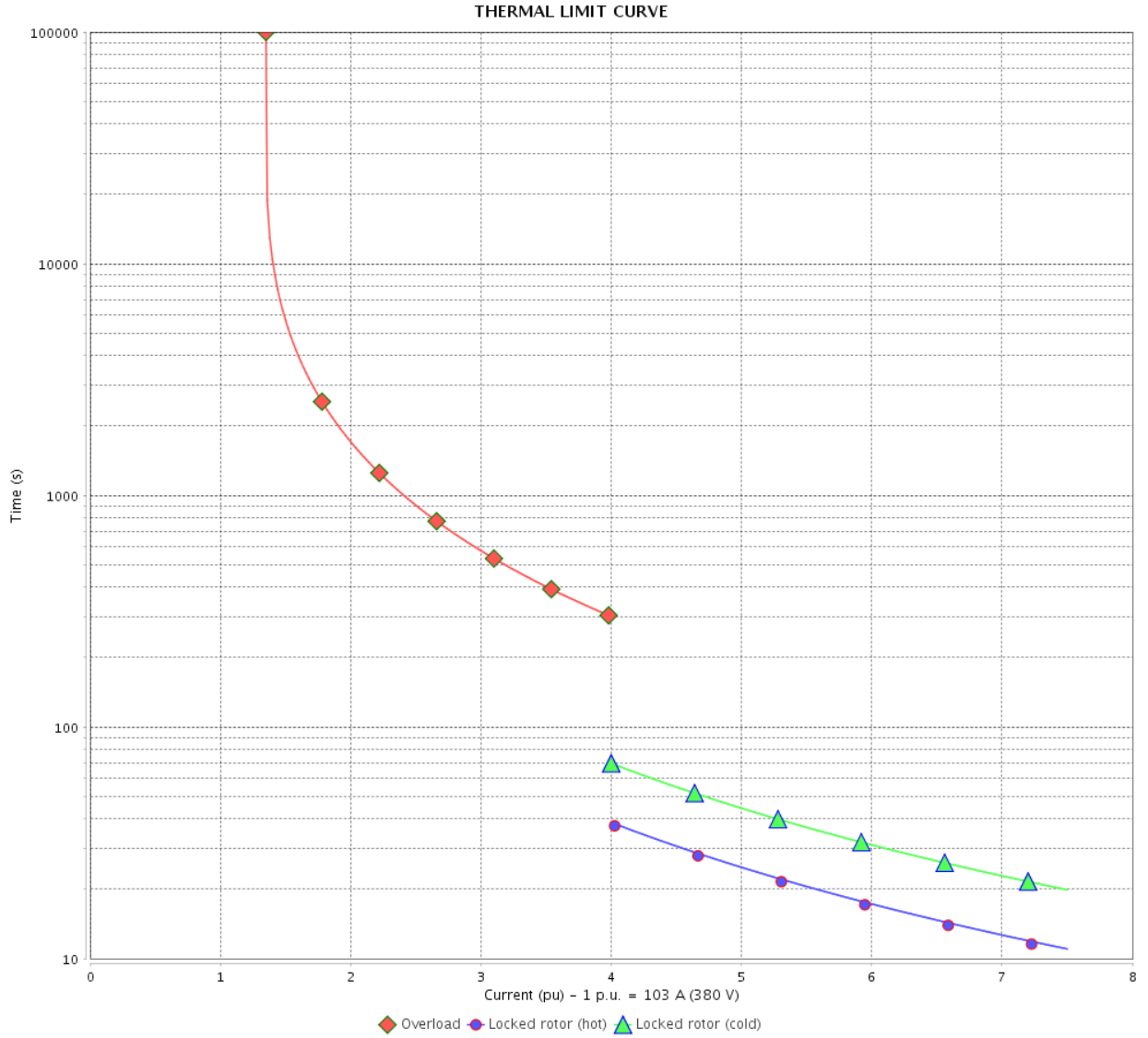
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40

Performance : 400 V 50 Hz 2P IE3

Rated current	: 100 A	Moment of inertia (J)	: 7.20 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 133 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 2964 rpm	Design	: B

Heating constant

Cooling constant

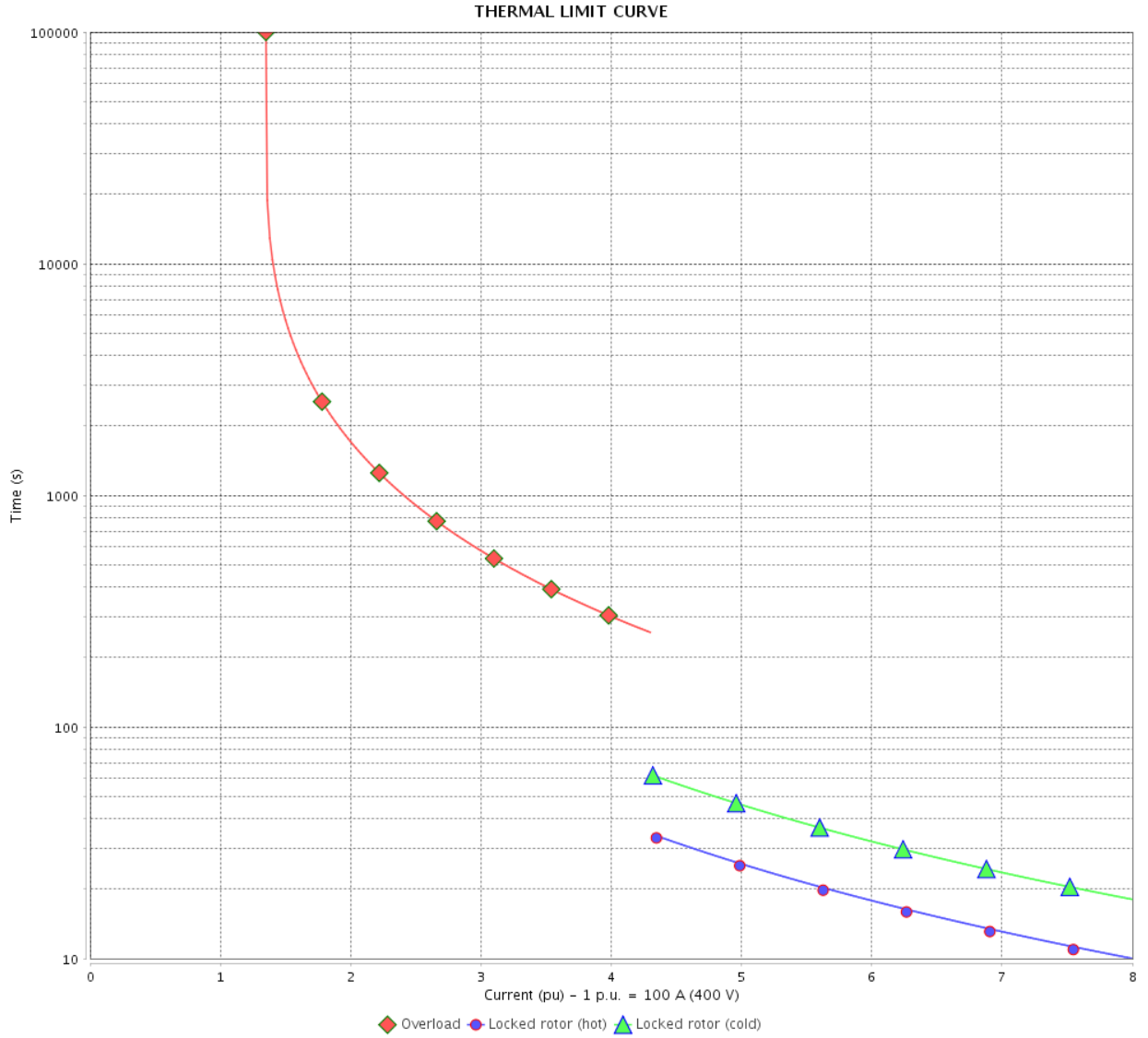
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Date				

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40

Performance : 415 V 50 Hz 2P IE3

Rated current : 97.8 A	Moment of inertia (J) : 7.20 sq.ft.lb
LRC : 7.9	Duty cycle : Cont.(S1)
Rated torque : 133 ft.lb	Insulation class : F
Locked rotor torque : 250 %	Service factor : 1.00
Breakdown torque : 320 %	Temperature rise : 80 K
Rated speed : 2967 rpm	Design : B

Heating constant

Cooling constant

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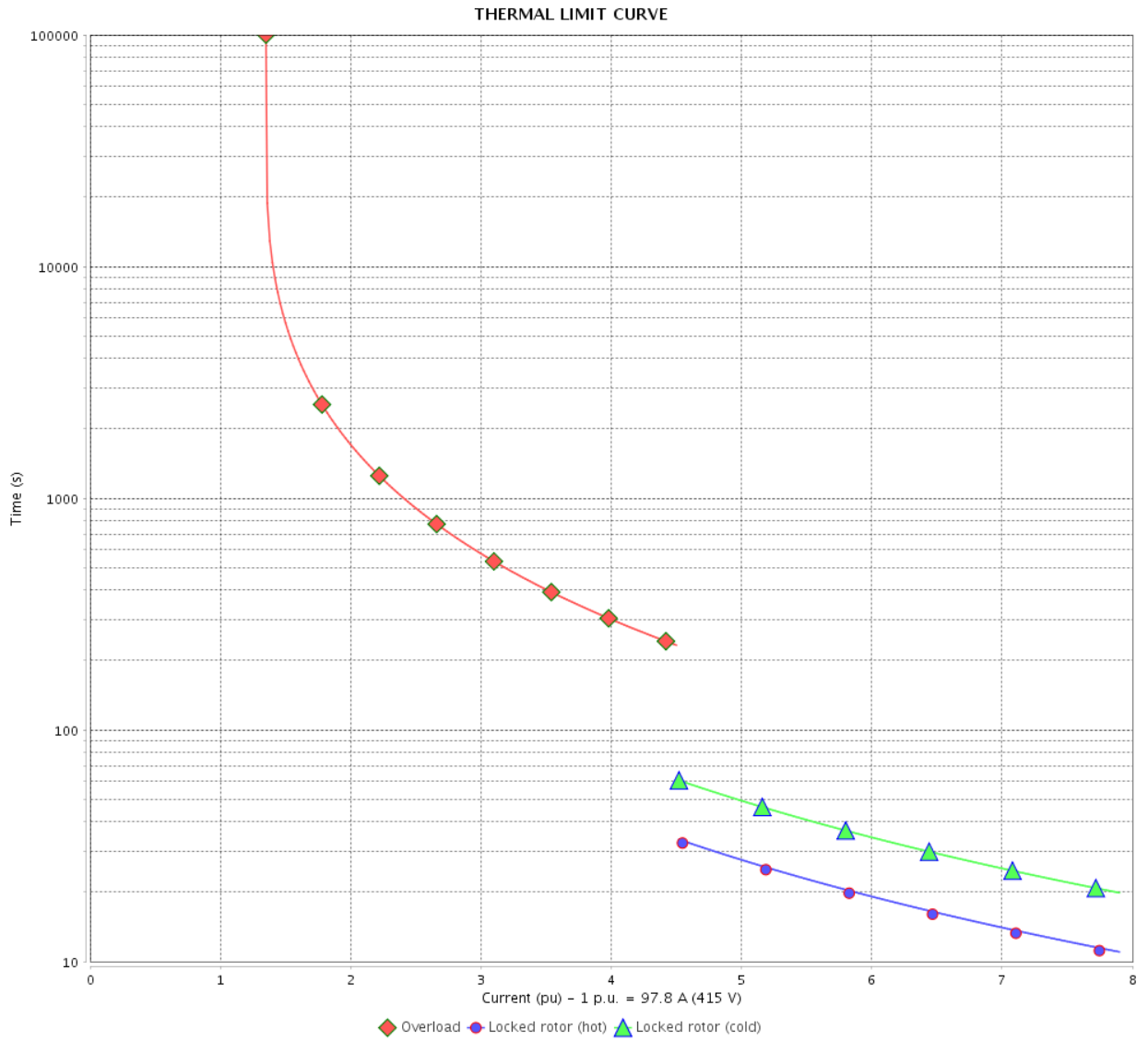


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Three Phase Induction Motor - Squirrel Cage



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

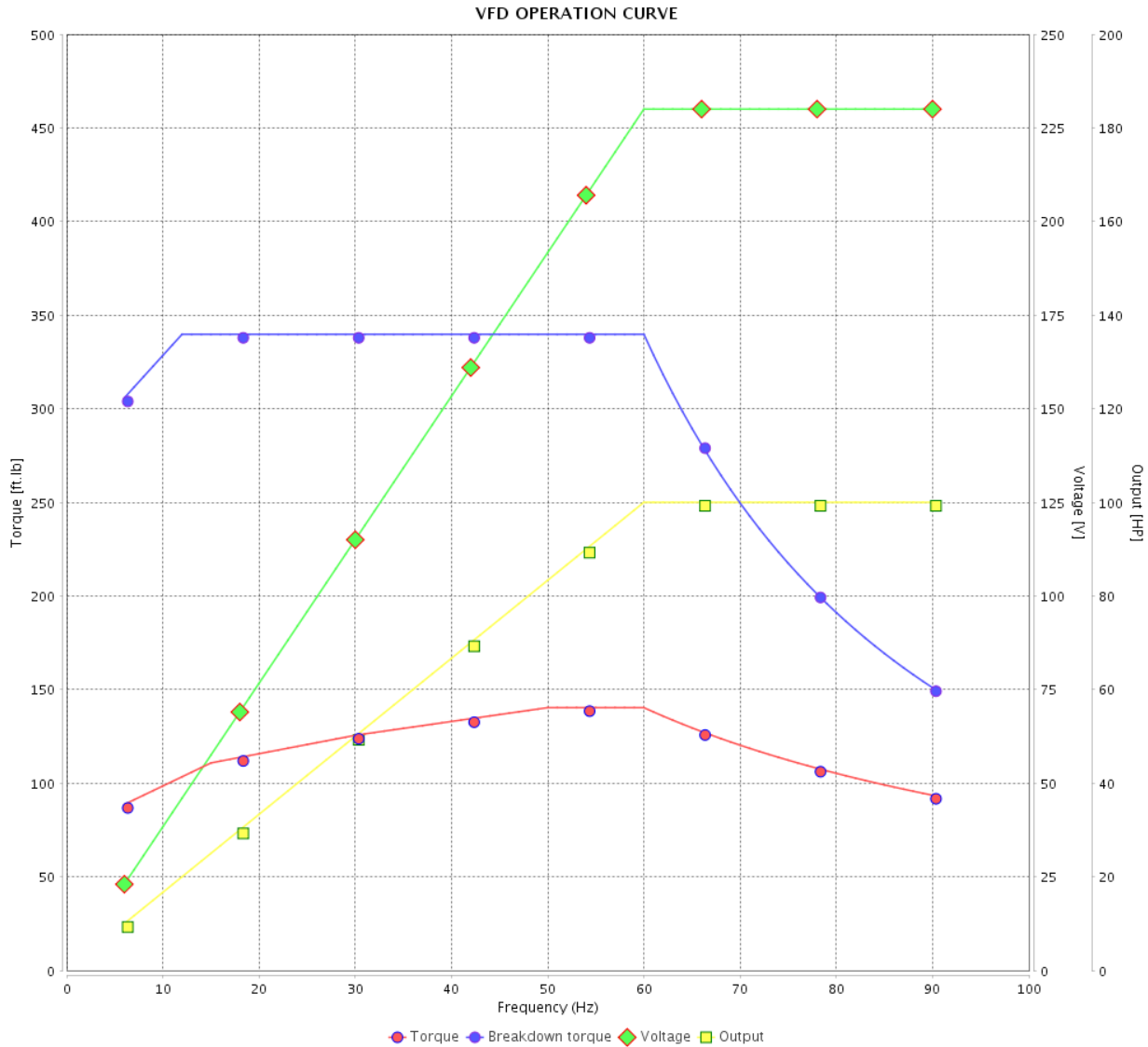


Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14023474

Catalog # : 10036OT3E365JM-W40



Performance : 230/460 V 60 Hz 2P

Rated current : 232/116 A  
 LRC : 6.6  
 Rated torque : 148 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 229 %  
 Rated speed : 3555 rpm

Moment of inertia (J) : 7.20 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

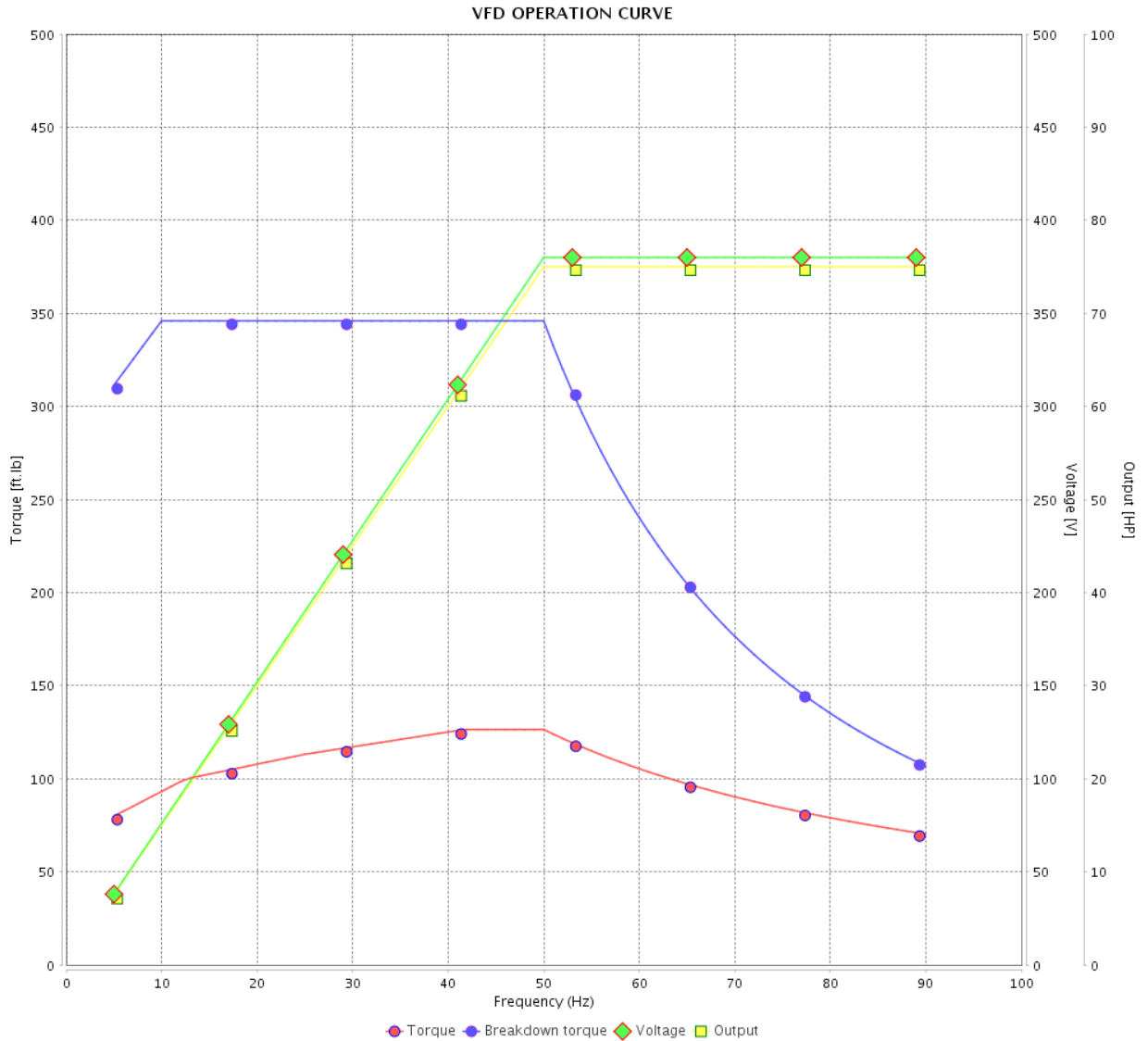


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 Locked rotor torque : 220 %  
 Breakdown torque : 260 %  
 Rated speed : 2960 rpm

Moment of inertia (J) : 7.20 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



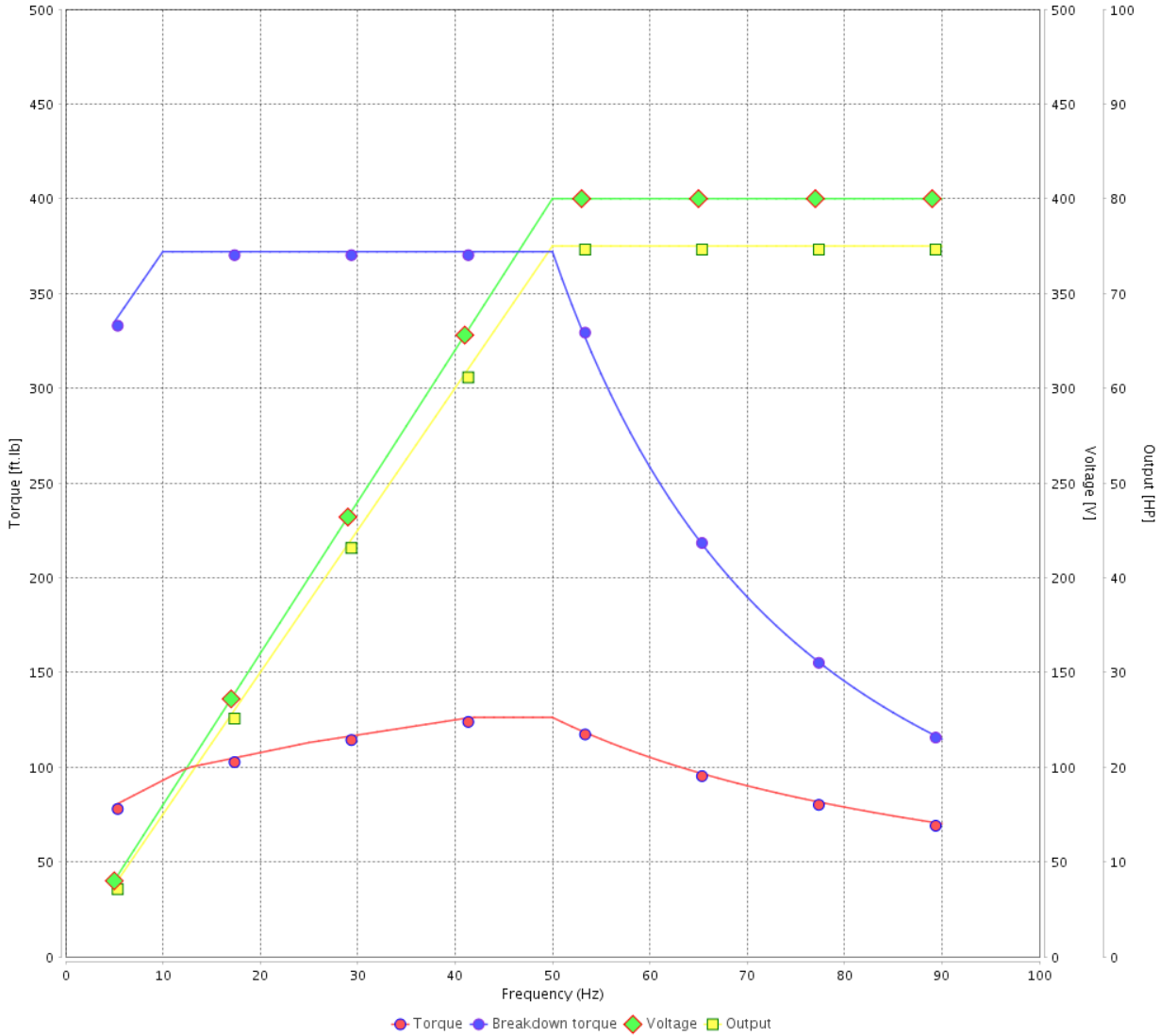
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VFD OPERATION CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 100 A  
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 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
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Moment of inertia (J) : 7.20 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

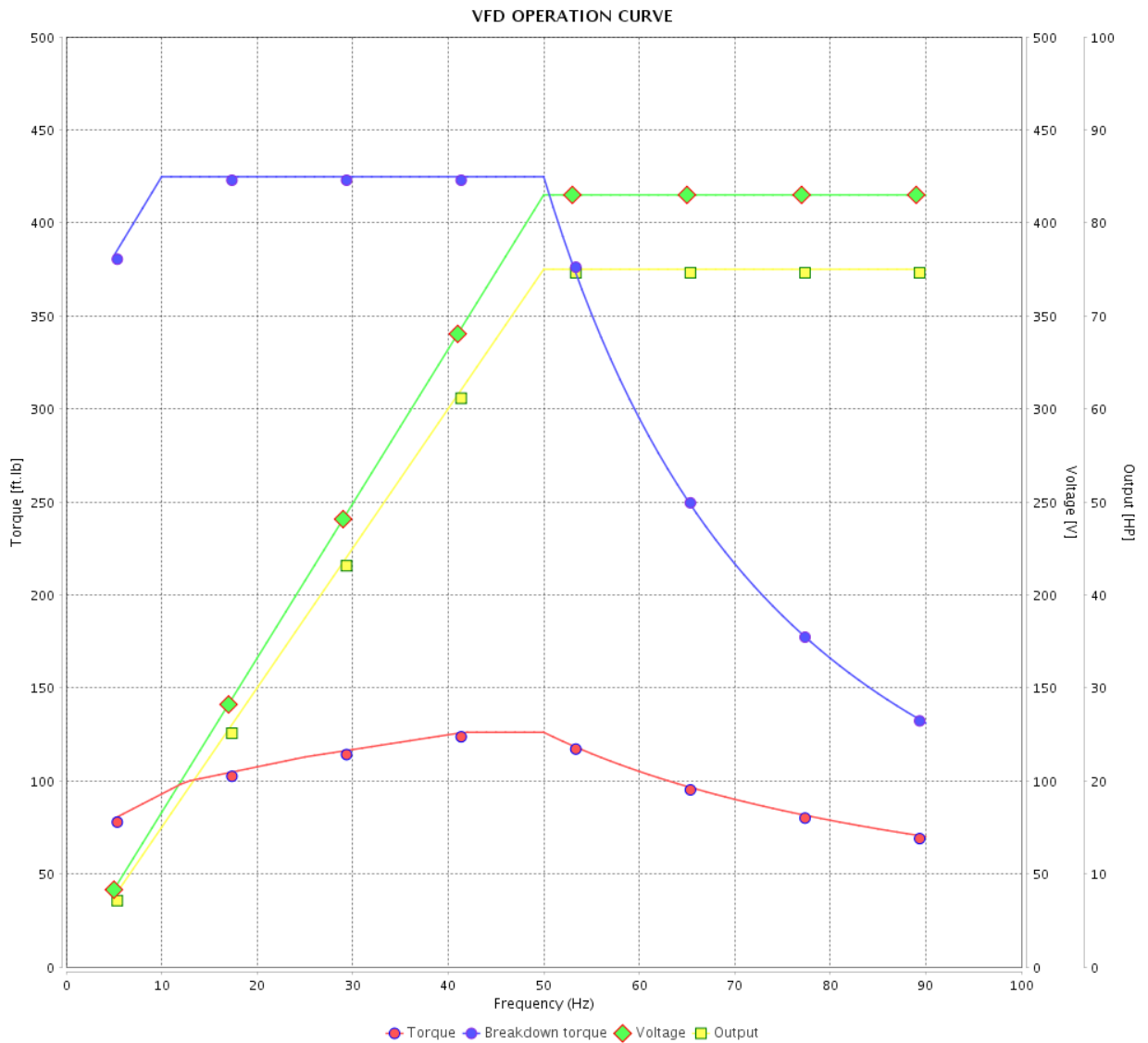


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Catalog # : 10036OT3E365JM-W40

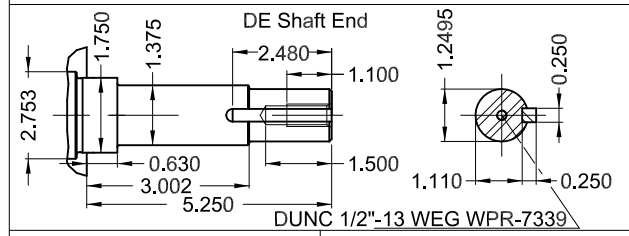
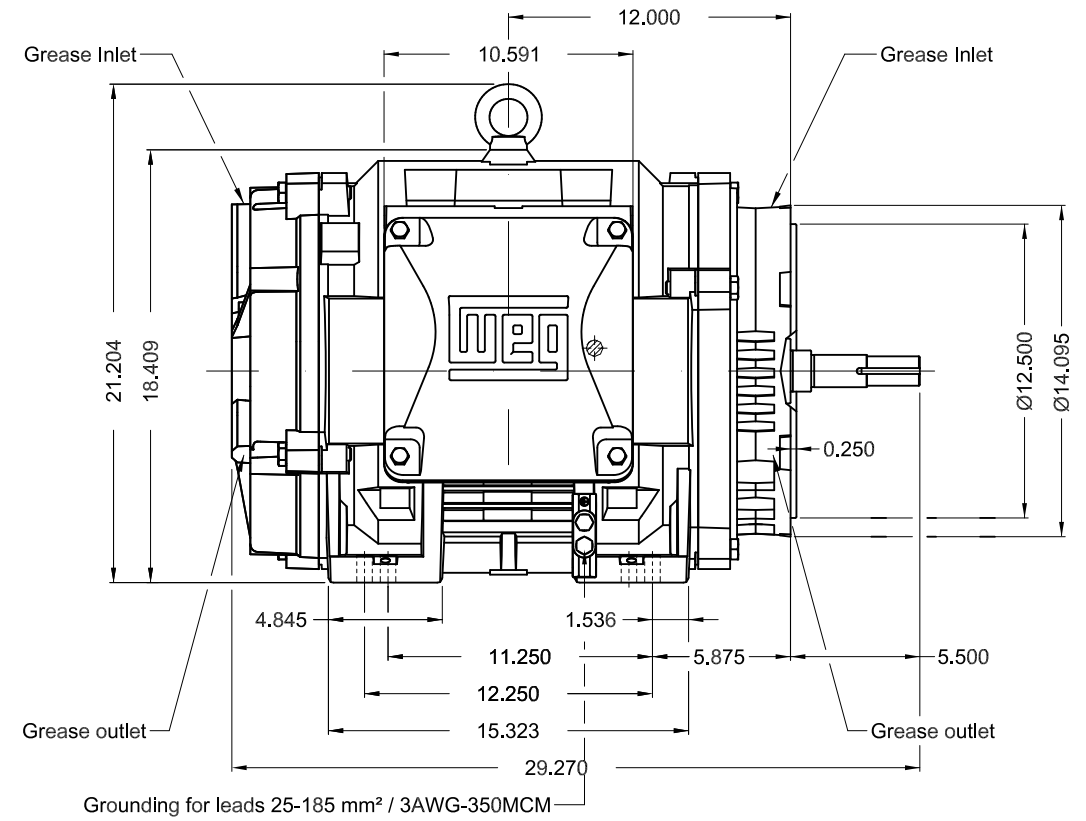
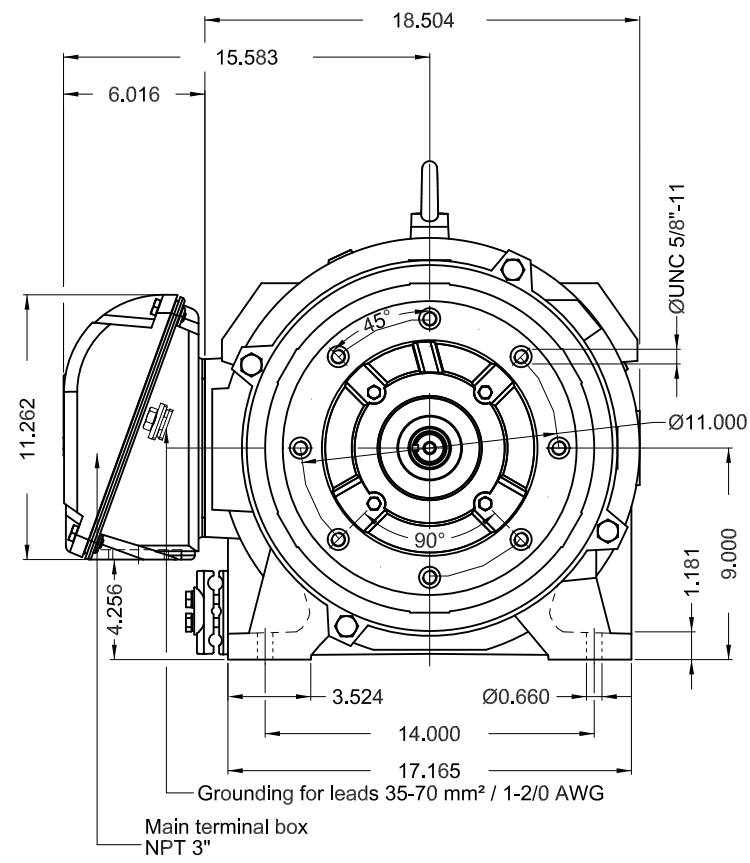


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Rated current : 97.8 A  
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 Rated torque : 133 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 320 %  
 Rated speed : 2967 rpm

Moment of inertia (J) : 7.20 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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- Color RAL 5009
- Painting plan 203A
- Mounting NEMA F-1
- Mounting B34R(D)

100 HP 02 Poles 60 Hz											A	
											1:8	
ECM	LOC	SUMMARY OF MODIFICATIONS					EXECUTED	CHECKED	RELEASED	DATE	VER	
EXECUTED	PIRWUSER	THREE PH. MOTOR W40 CLOSE COUPLED PUMP JM TYPE PREM. EFF.										
CHECKED		FRAME 364/5JM IP23 ODP										
RELEASED												
REL DT.		WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1						



Dimensions in inches

XME A3