

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 JM Pump NEMA Premium Efficiency Three-Phase	Product code :	14484720		
		Catalog # :	04018OT3E324JM-W40		
Frame	: 324JM	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>	: 462 lb		
Protection degree	: IP23	Moment of inertia (J)	: 5.69 sq.ft.lb		
Design	: B				
Output [HP]	40	30	30	30	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	95.2/47.6	43.3	42.2	41.7	
L. R. Amperes [A]	590/295	290	283	313	
LRC [A]	6.2x(Code G)	6.7x(Code H)	6.7x(Code H)	7.5x(Code J)	
No load current [A]	37.0/18.5	18.3	20.3	22.1	
Rated speed [RPM]	1775	1475	1480	1480	
Slip [%]	1.39	1.67	1.33	1.33	
Rated torque [ft.lb]	118	107	106	106	
Locked rotor torque [%]	200	229	260	280	
Breakdown torque [%]	240	270	300	330	
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)	30s (cold) 17s (hot)	30s (cold) 17s (hot)	25s (cold) 14s (hot)	
Noise level <sup>2</sup>	66.0 dB(A)				
Efficiency (%)	25%	93.5	92.4	92.5	92.4
	50%	93.6	92.6	92.6	92.5
	75%	94.1	93.0	93.0	93.0
	100%	94.1	93.0	93.0	93.0
Power Factor	25%	0.44	0.42	0.38	0.34
	50%	0.70	0.68	0.63	0.59
	75%	0.80	0.78	0.75	0.72
	100%	0.84	0.83	0.81	0.79
Bearing type	: Drive end 6312 Z C3	Non drive end 6211 Z C3	Foundation loads		
Sealing	: Without	Without	Max. traction		
	Bearing Seal	Bearing Seal	Max. compression		
Lubrication interval	: 20000 h	20000 h			
Lubricant amount	: 21 g	11 g			
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 105A SF 1.15 SFA 121A					
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



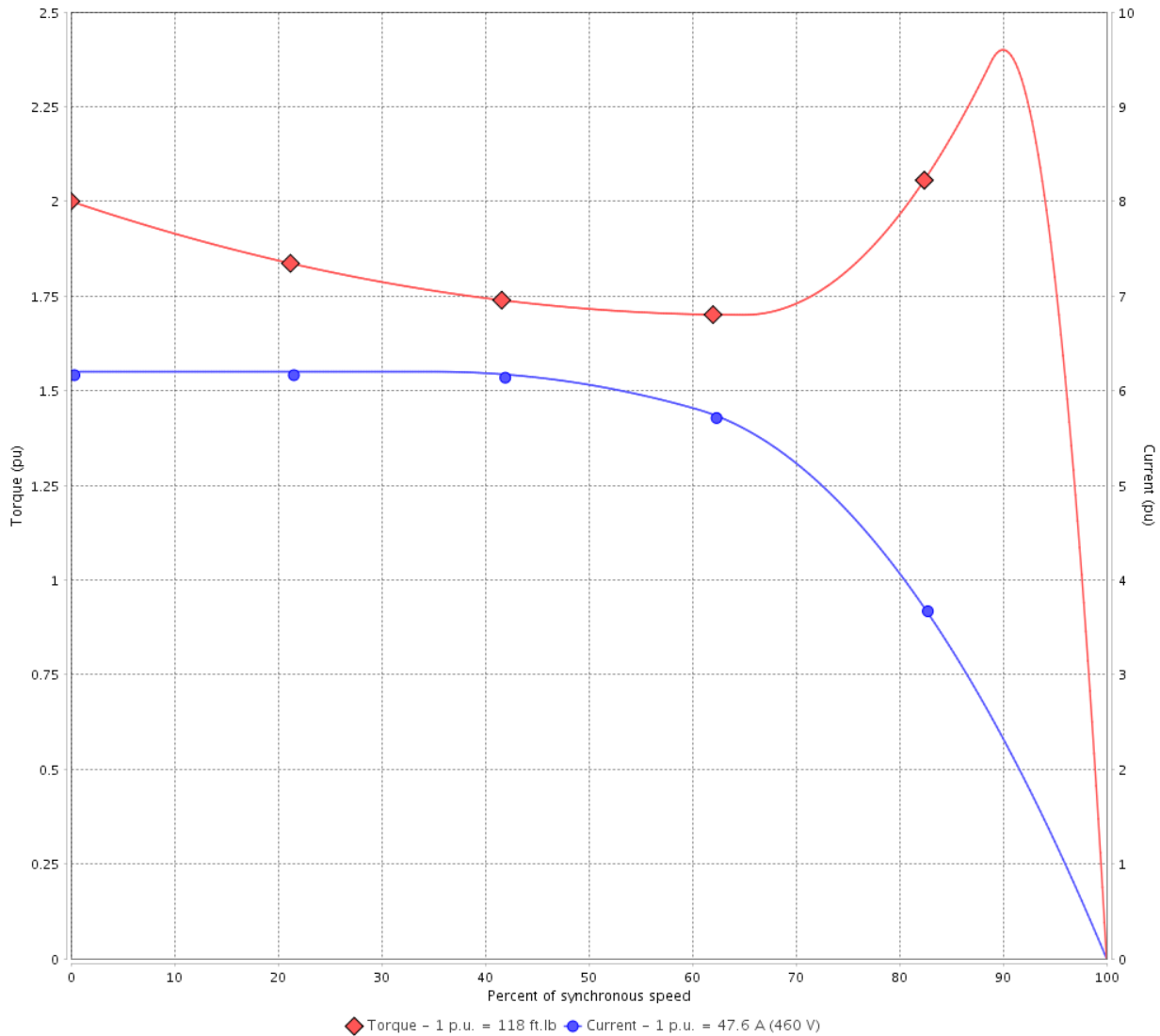
Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 95.2/47.6 A  
 LRC : 6.2  
 Rated torque : 118 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 240 %  
 Rated speed : 1775 rpm

Moment of inertia (J) : 5.69 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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

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# TORQUE AND CURRENT VS SPEED CURVE



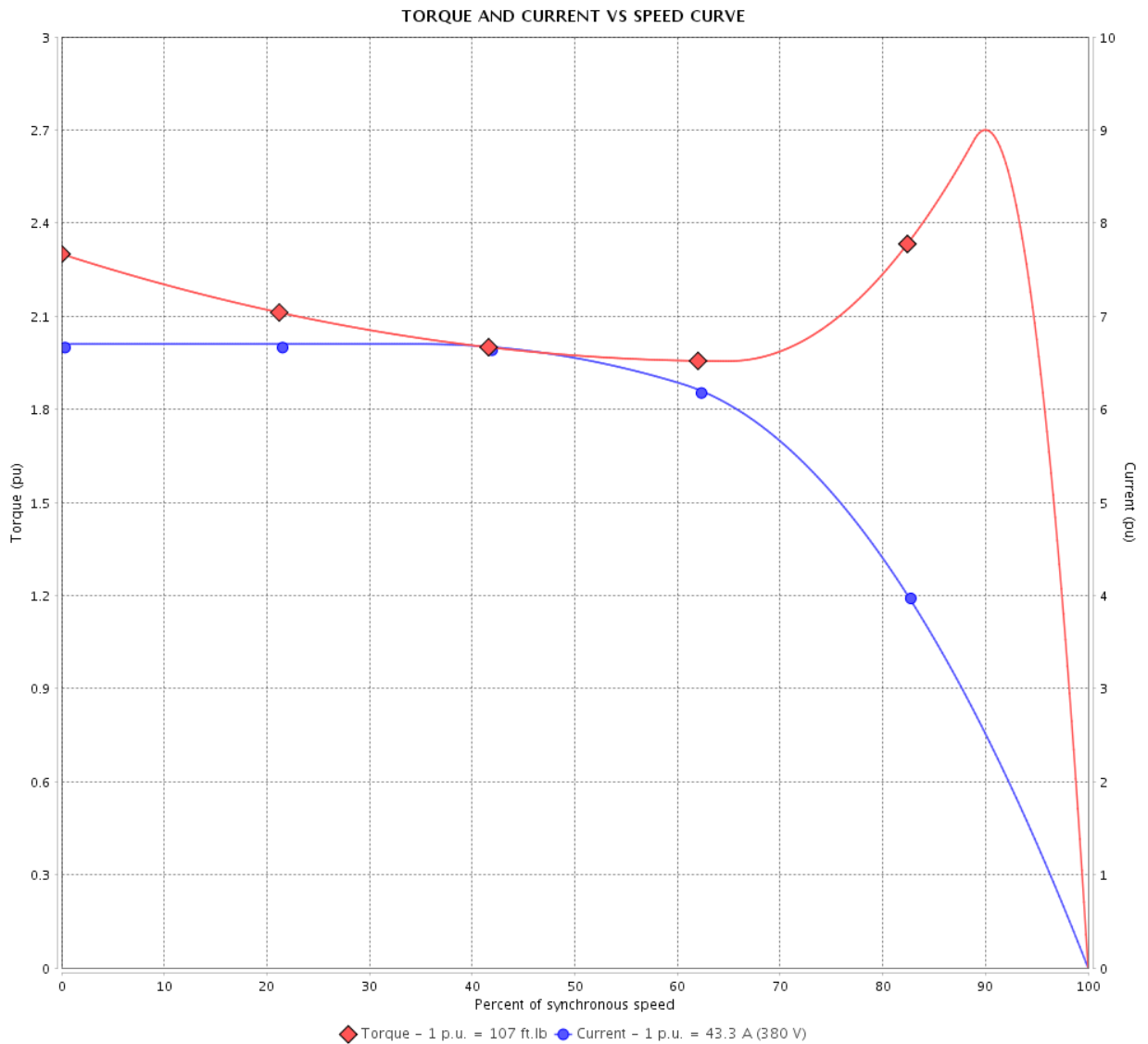
## Three Phase Induction Motor - Squirrel Cage

Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40



Performance : 380 V 50 Hz 4P IE3

Rated current	: 43.3 A	Moment of inertia (J)	: 5.69 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 107 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



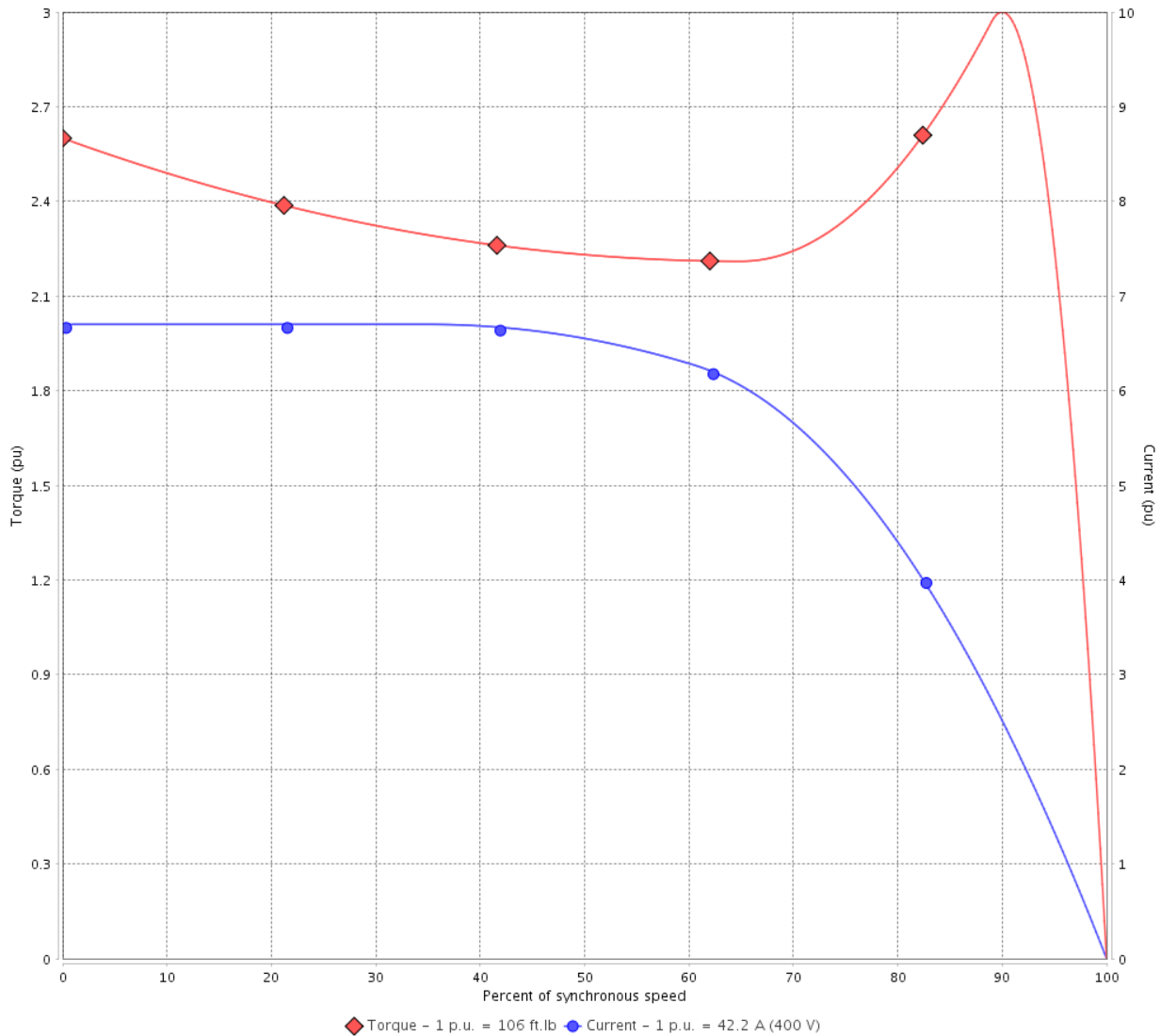
Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 42.2 A	Moment of inertia (J)	: 5.69 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 106 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



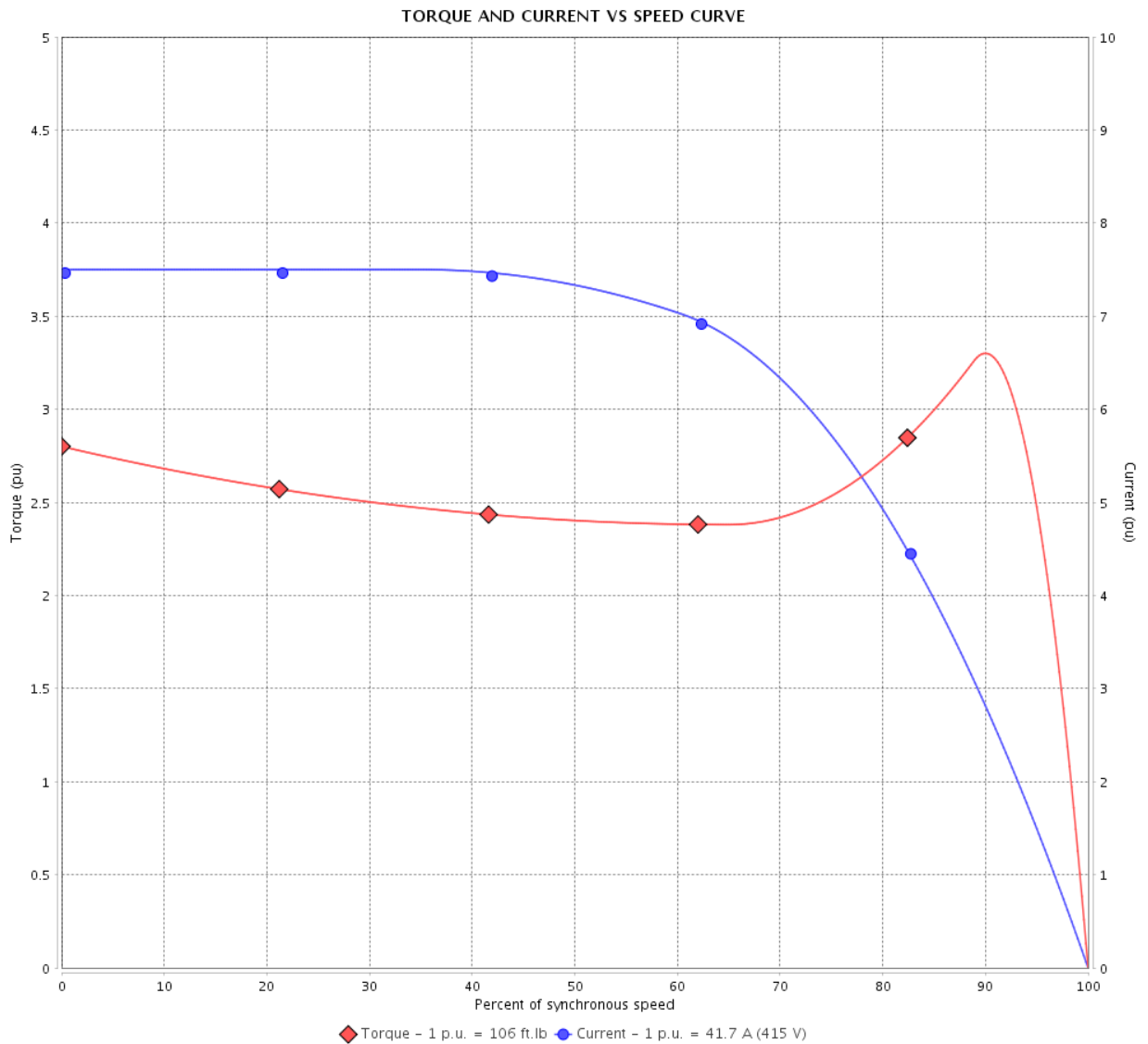
## Three Phase Induction Motor - Squirrel Cage

Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40



Performance : 415 V 50 Hz 4P IE3

Rated current	: 41.7 A	Moment of inertia (J)	: 5.69 sq.ft.lb
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 106 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

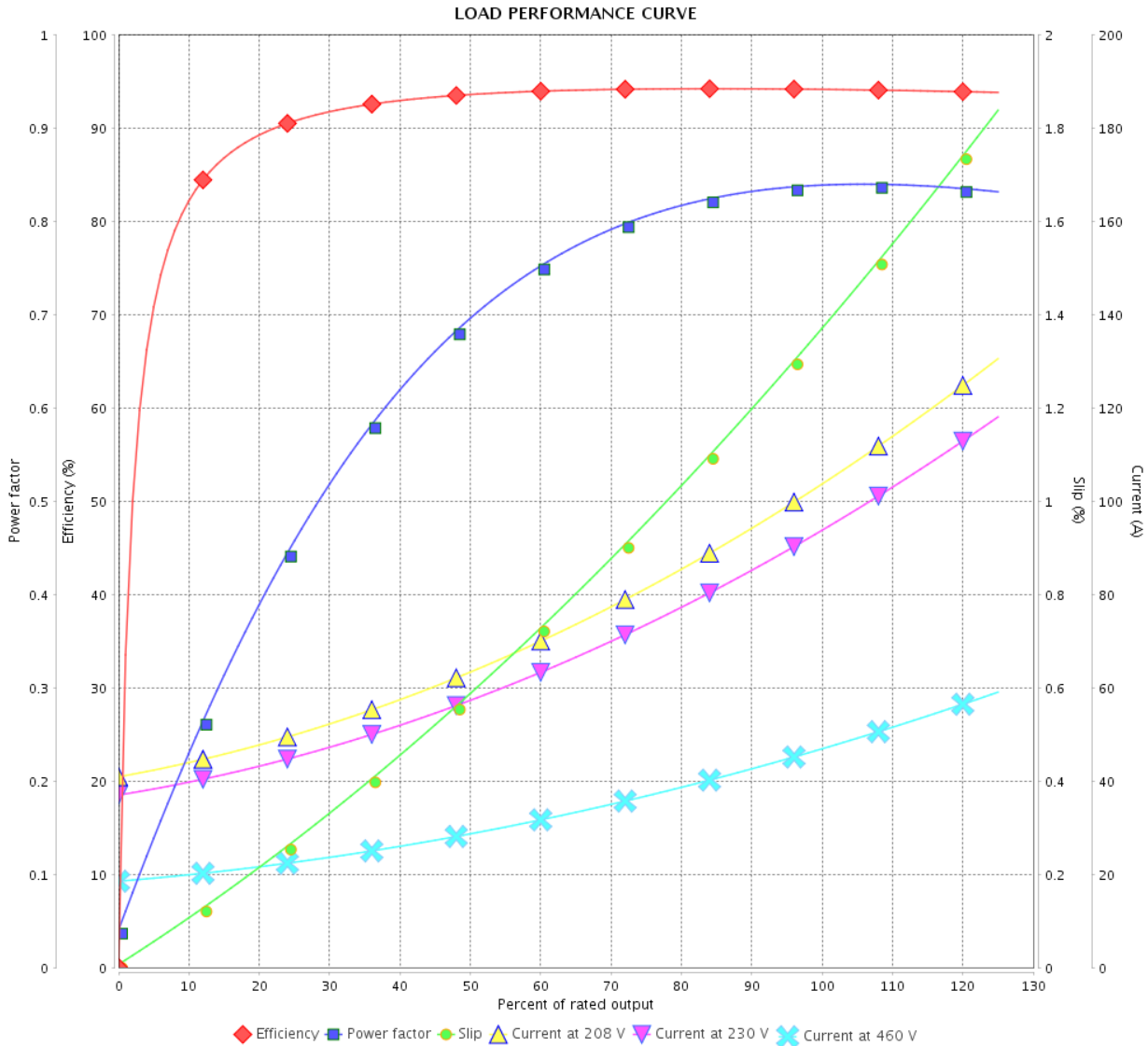


Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40



Performance : 230/460 V 60 Hz 4P

Rated current : 95.2/47.6 A  
 LRC : 6.2  
 Rated torque : 118 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 240 %  
 Rated speed : 1775 rpm

Moment of inertia (J) : 5.69 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

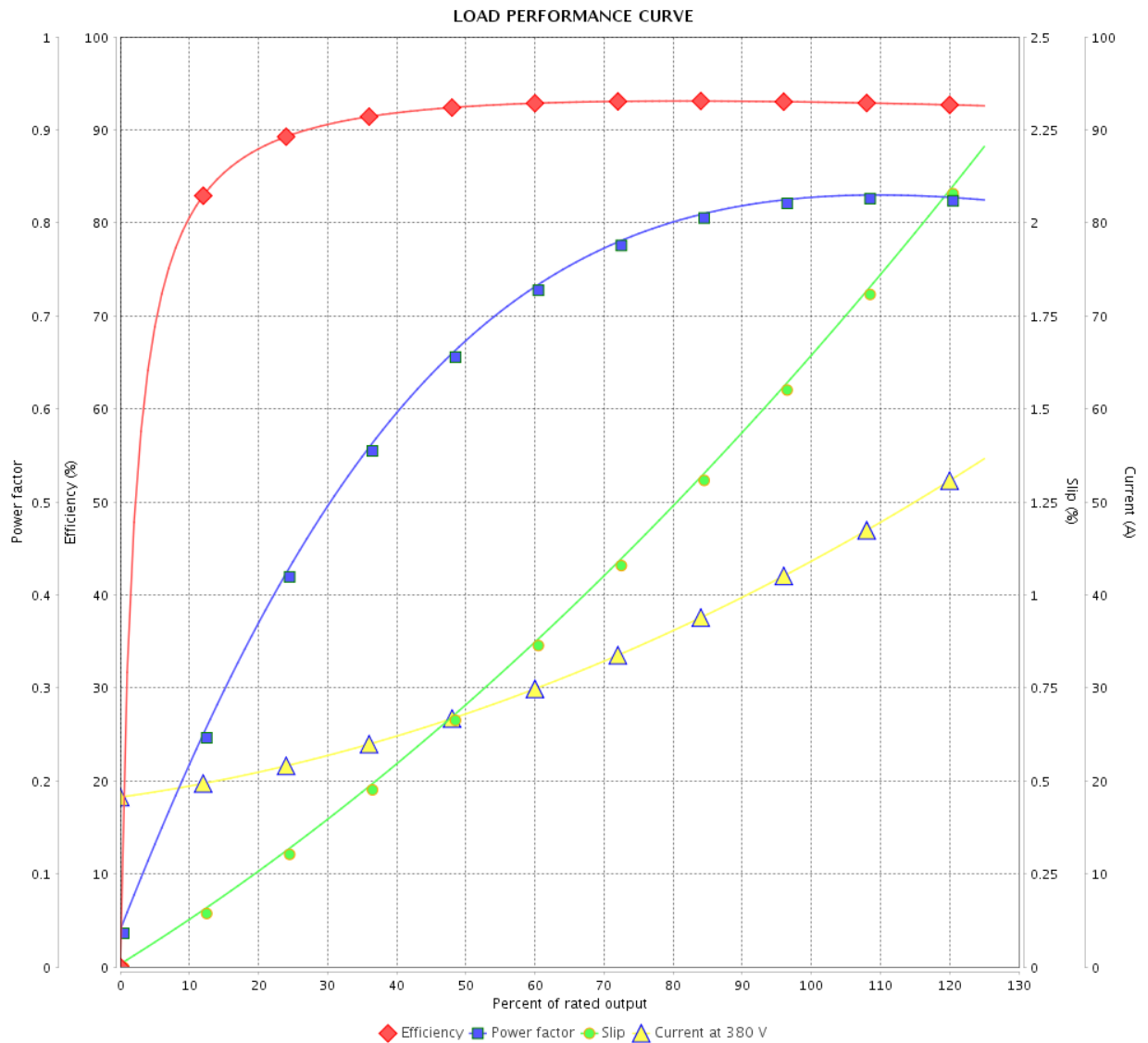


Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40



Performance : 380 V 50 Hz 4P IE3

Rated current : 43.3 A  
 LRC : 6.7  
 Rated torque : 107 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 270 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 5.69 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

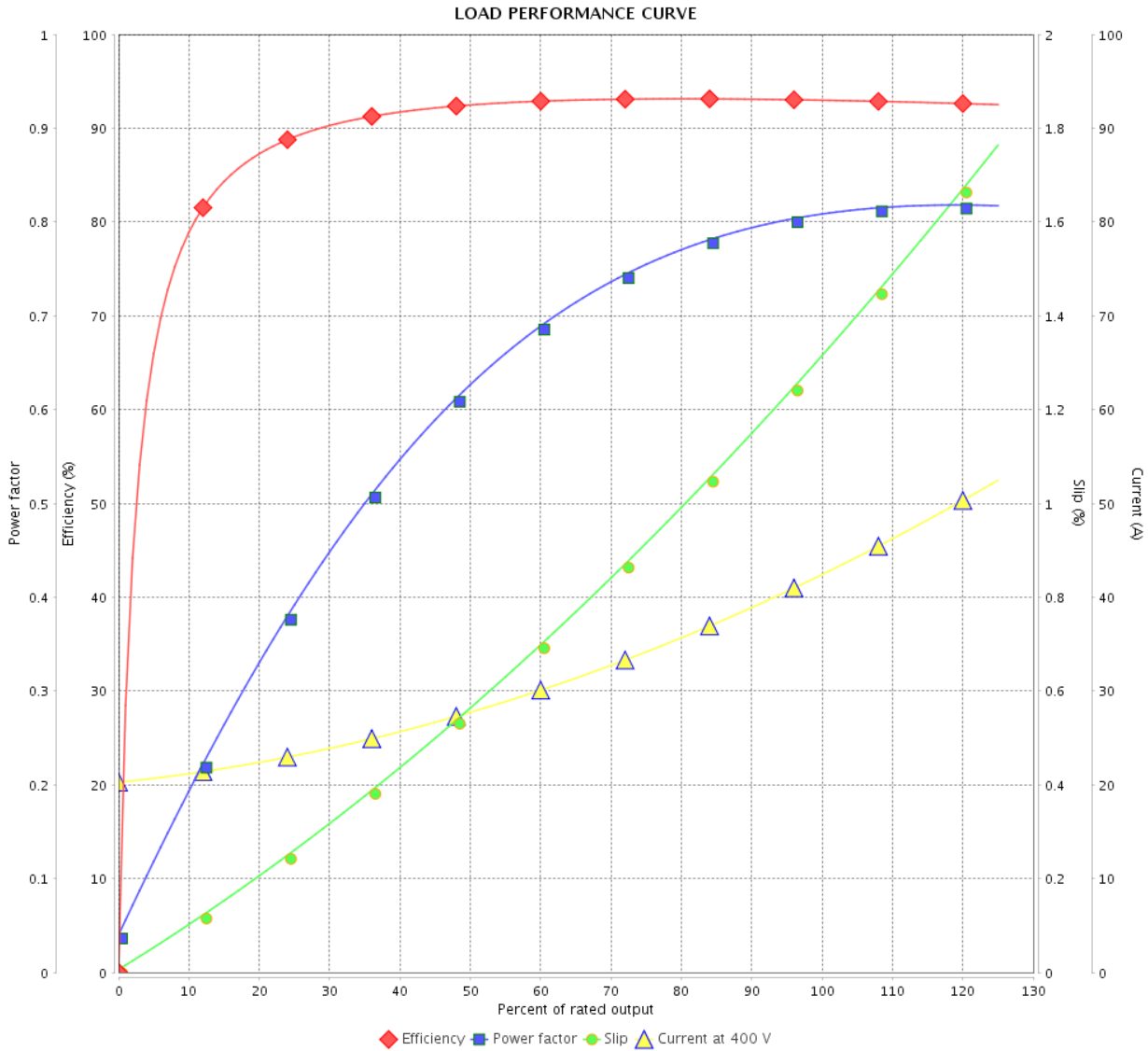


Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40



Performance : 400 V 50 Hz 4P IE3

Rated current : 42.2 A  
LRC : 6.7  
Rated torque : 106 ft.lb  
Locked rotor torque : 260 %  
Breakdown torque : 300 %  
Rated speed : 1480 rpm

Moment of inertia (J) : 5.69 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

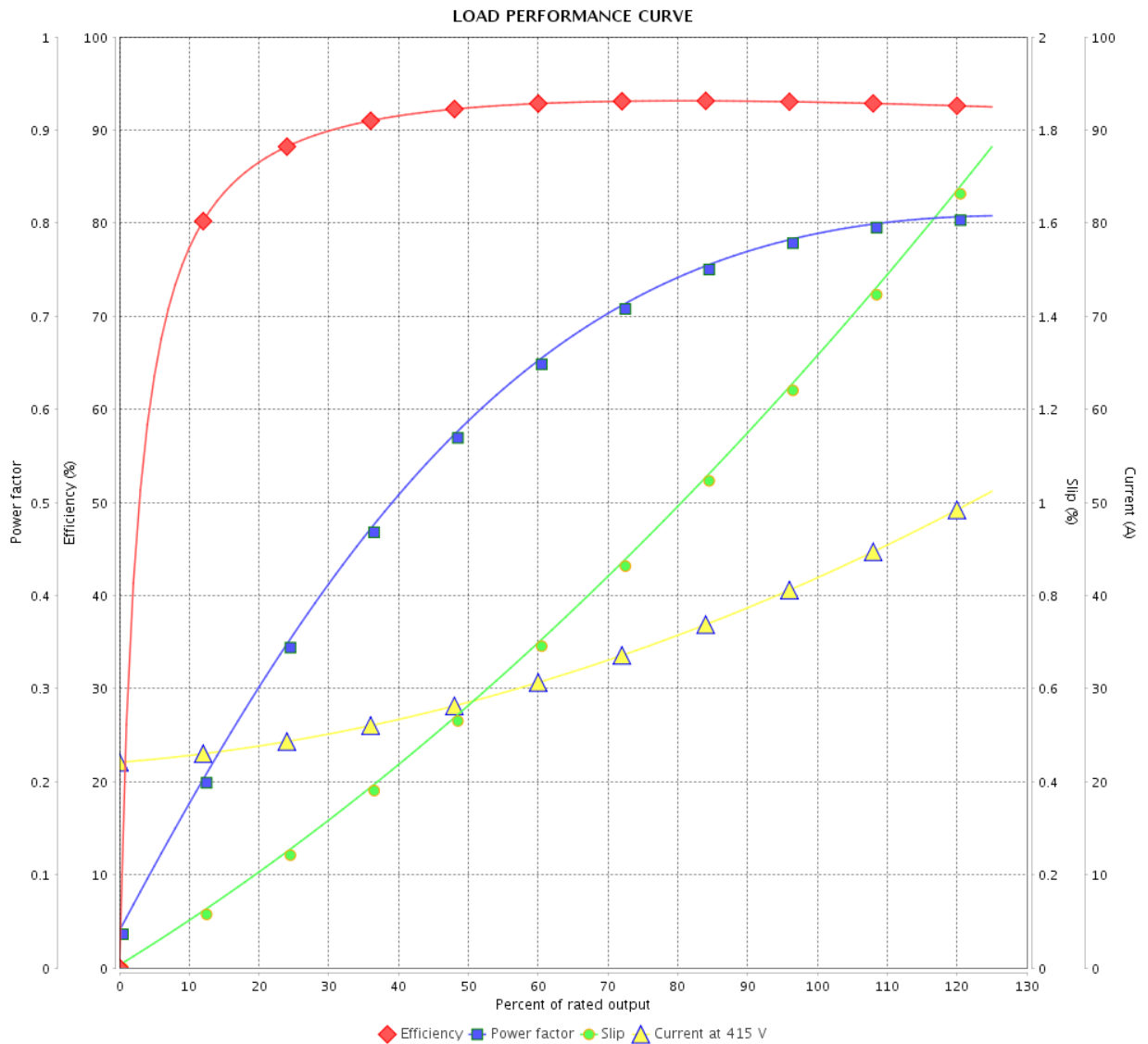


Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40



Performance : 415 V 50 Hz 4P IE3

Rated current : 41.7 A  
 LRC : 7.5  
 Rated torque : 106 ft.lb  
 Locked rotor torque : 280 %  
 Breakdown torque : 330 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 5.69 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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Locked rotor torque : 200 %  
Breakdown torque : 240 %  
Rated speed : 1775 rpm

Moment of inertia (J) : 5.69 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

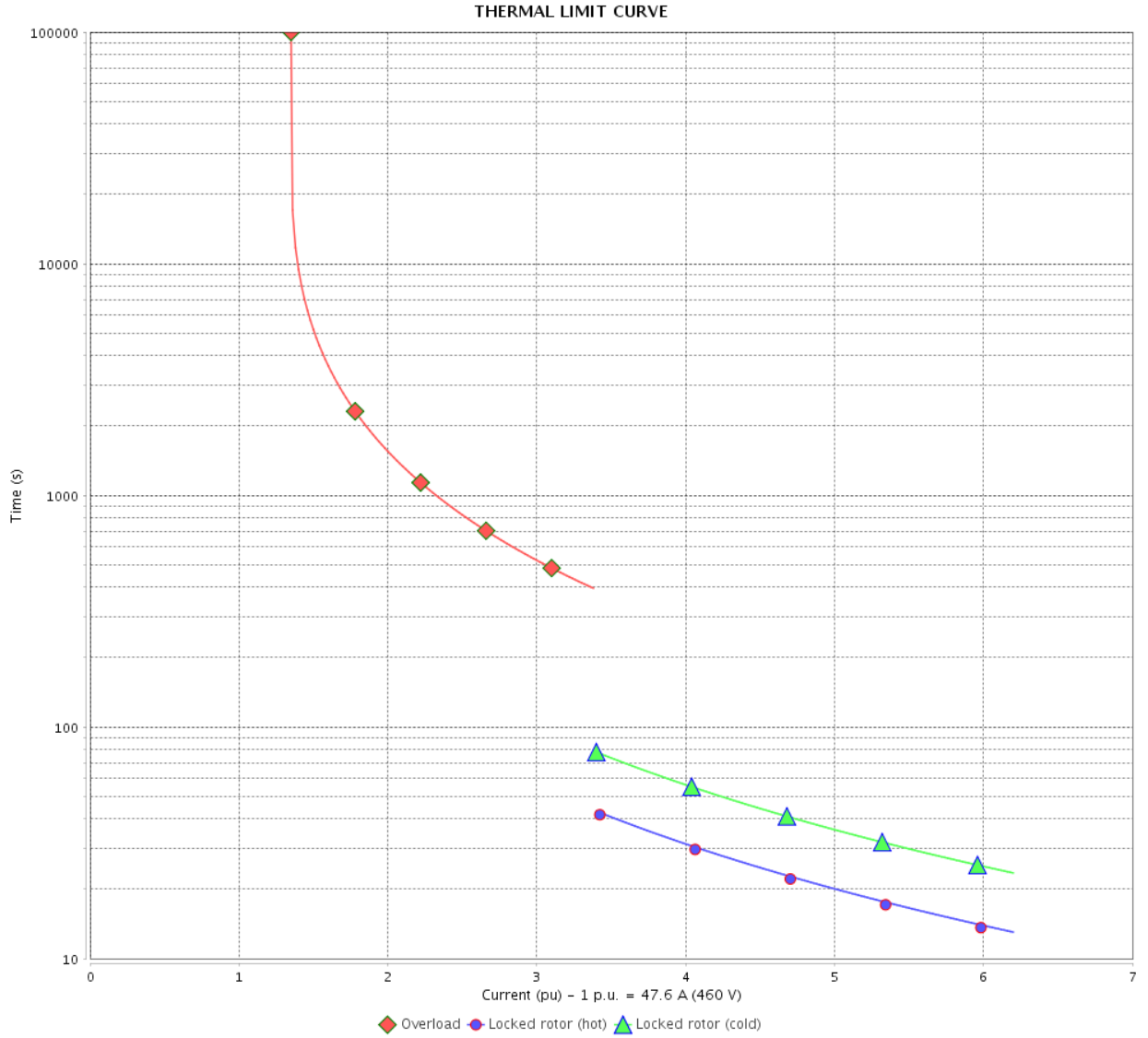
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# THERMAL LIMIT CURVE

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 : 14484720

Catalog # : 04018OT3E324JM-W40

Performance : 380 V 50 Hz 4P IE3

Rated current : 43.3 A	Moment of inertia (J) : 5.69 sq.ft.lb
LRC : 6.7	Duty cycle : Cont.(S1)
Rated torque : 107 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 270 %	Temperature rise : 80 K
Rated speed : 1475 rpm	Design : B

Heating constant

Cooling constant

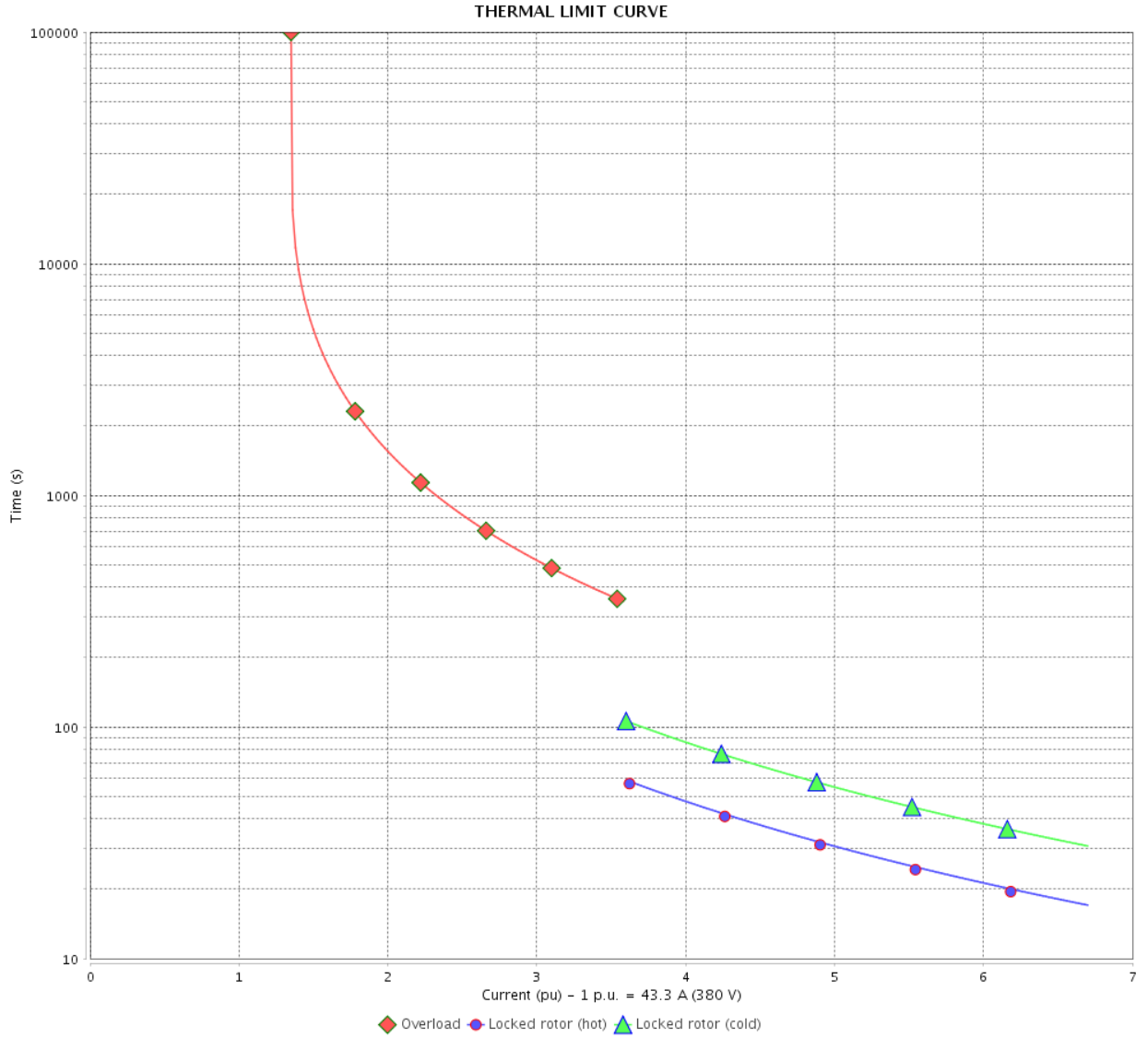
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Three Phase Induction Motor - Squirrel Cage



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 : 14484720

Catalog # : 04018OT3E324JM-W40

Performance : 400 V 50 Hz 4P IE3

Rated current	: 42.2 A	Moment of inertia (J)	: 5.69 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 106 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

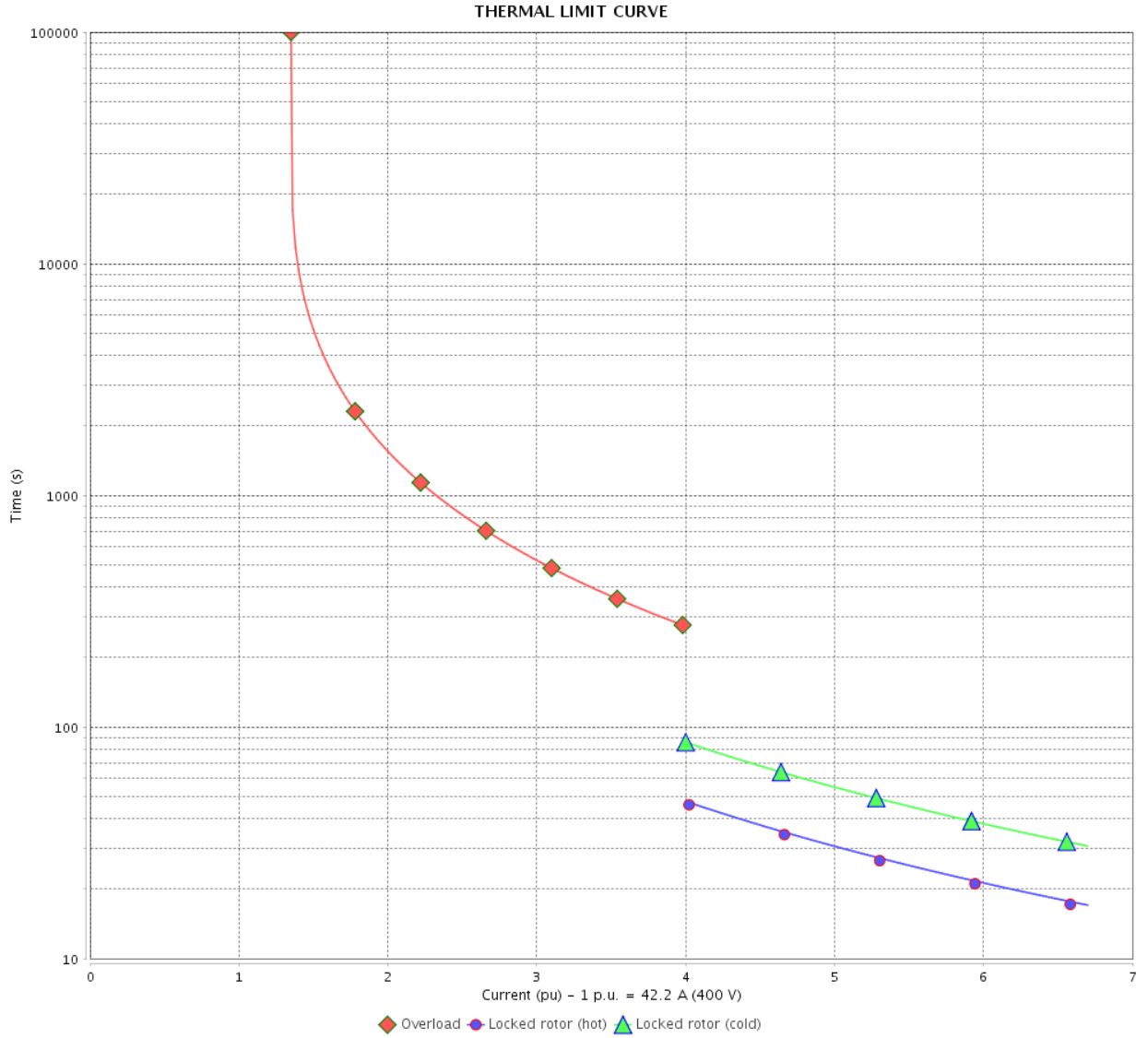
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# THERMAL LIMIT CURVE

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 : 14484720

Catalog # : 04018OT3E324JM-W40

Performance : 415 V 50 Hz 4P IE3

Rated current	: 41.7 A	Moment of inertia (J)	: 5.69 sq.ft.lb
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 106 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

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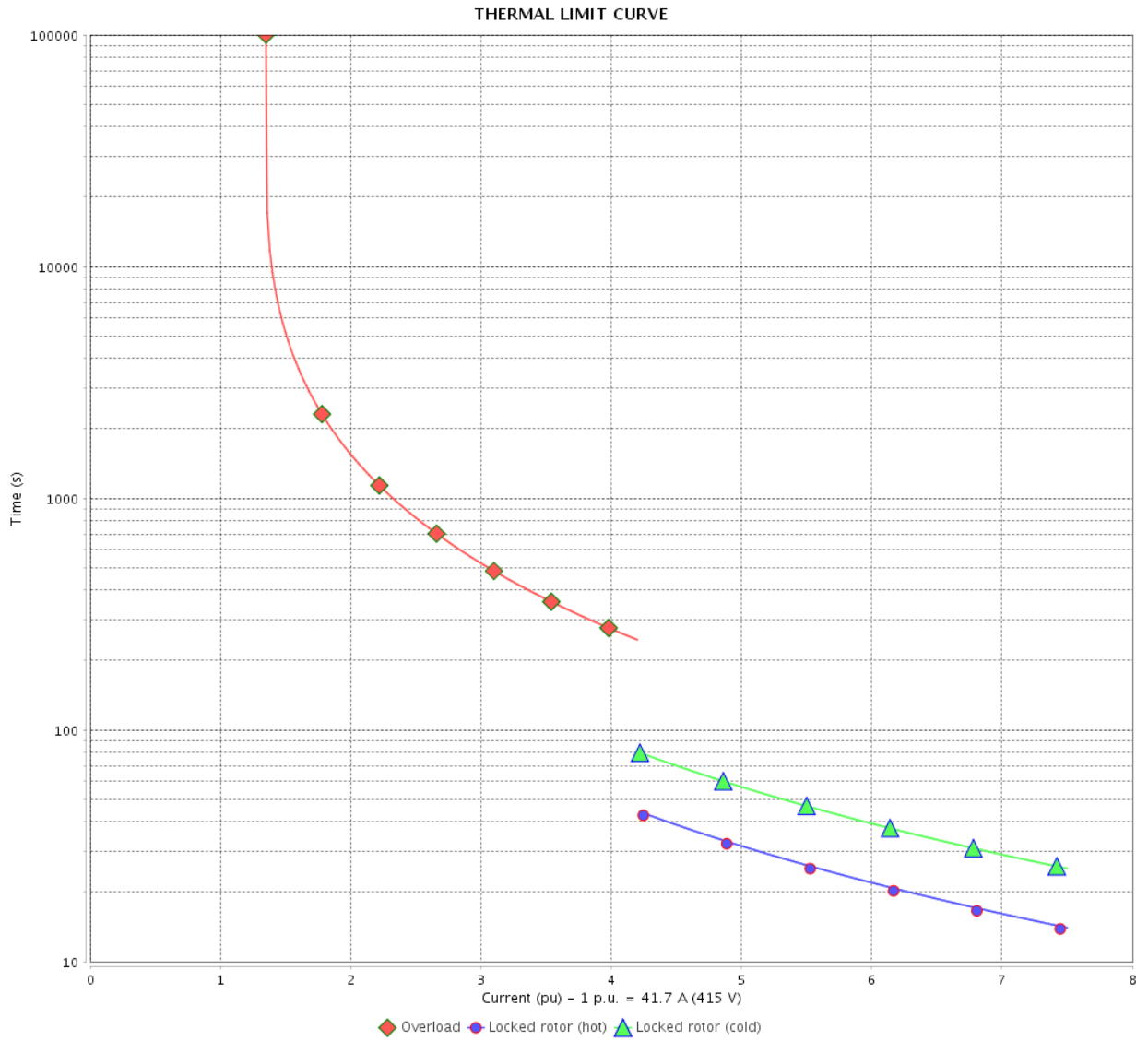


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

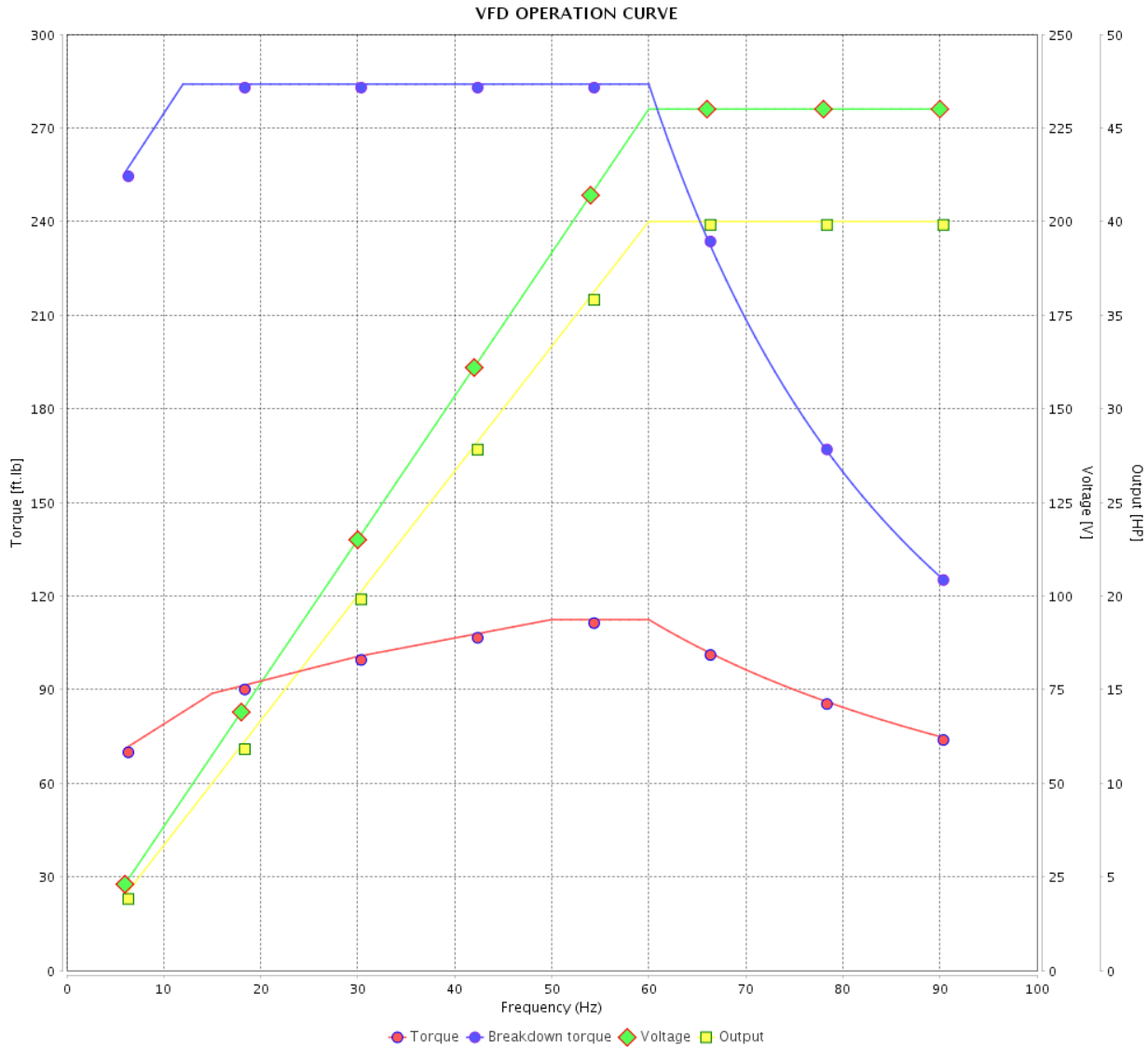


Customer :

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

Product code : 14484720

Catalog # : 04018OT3E324JM-W40



Performance : 230/460 V 60 Hz 4P

Rated current : 95.2/47.6 A  
 LRC : 6.2  
 Rated torque : 118 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 240 %  
 Rated speed : 1775 rpm

Moment of inertia (J) : 5.69 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

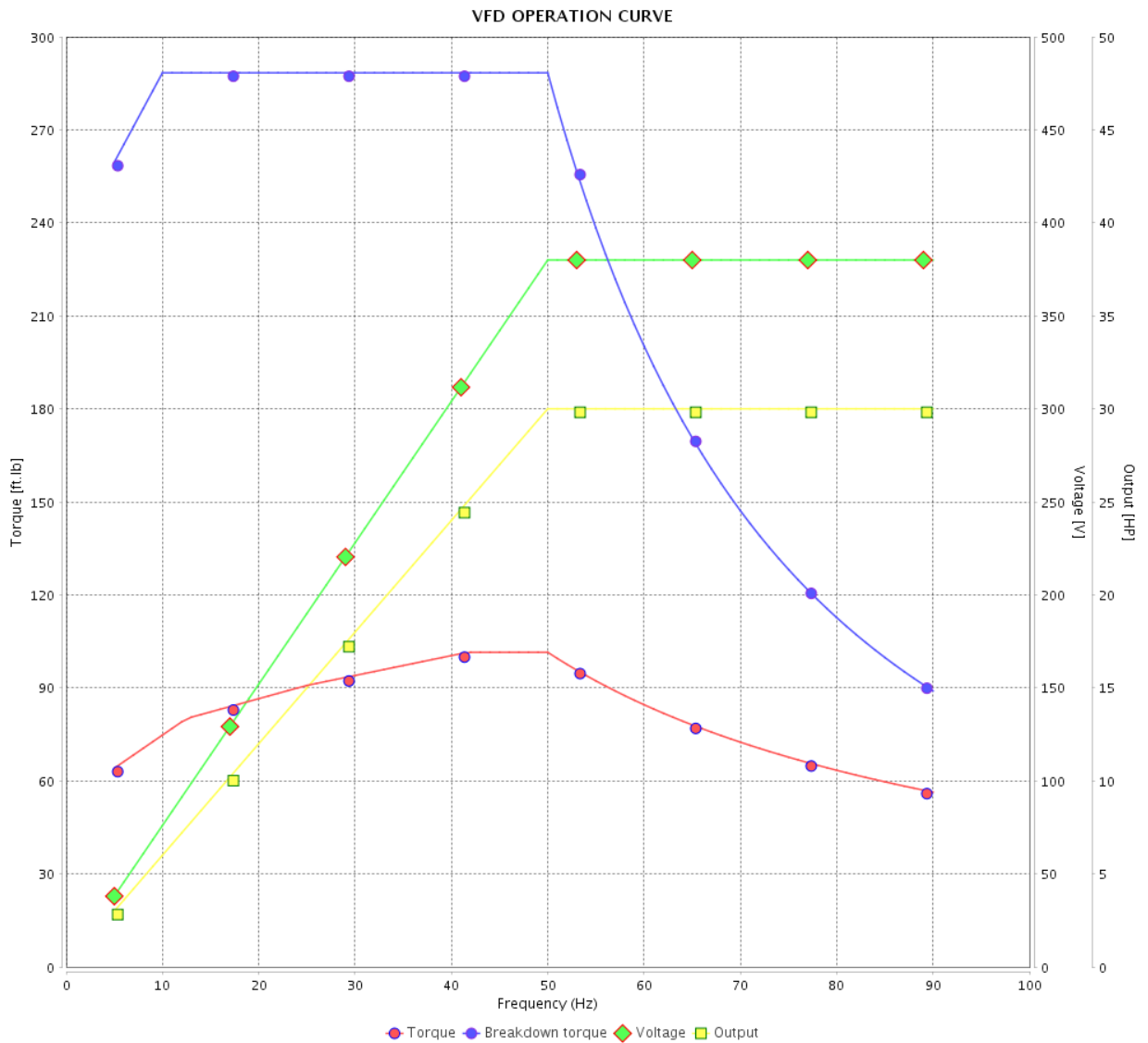


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Performance : 380 V 50 Hz 4P IE3

Rated current : 43.3 A  
 LRC : 6.7  
 Rated torque : 107 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 270 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 5.69 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



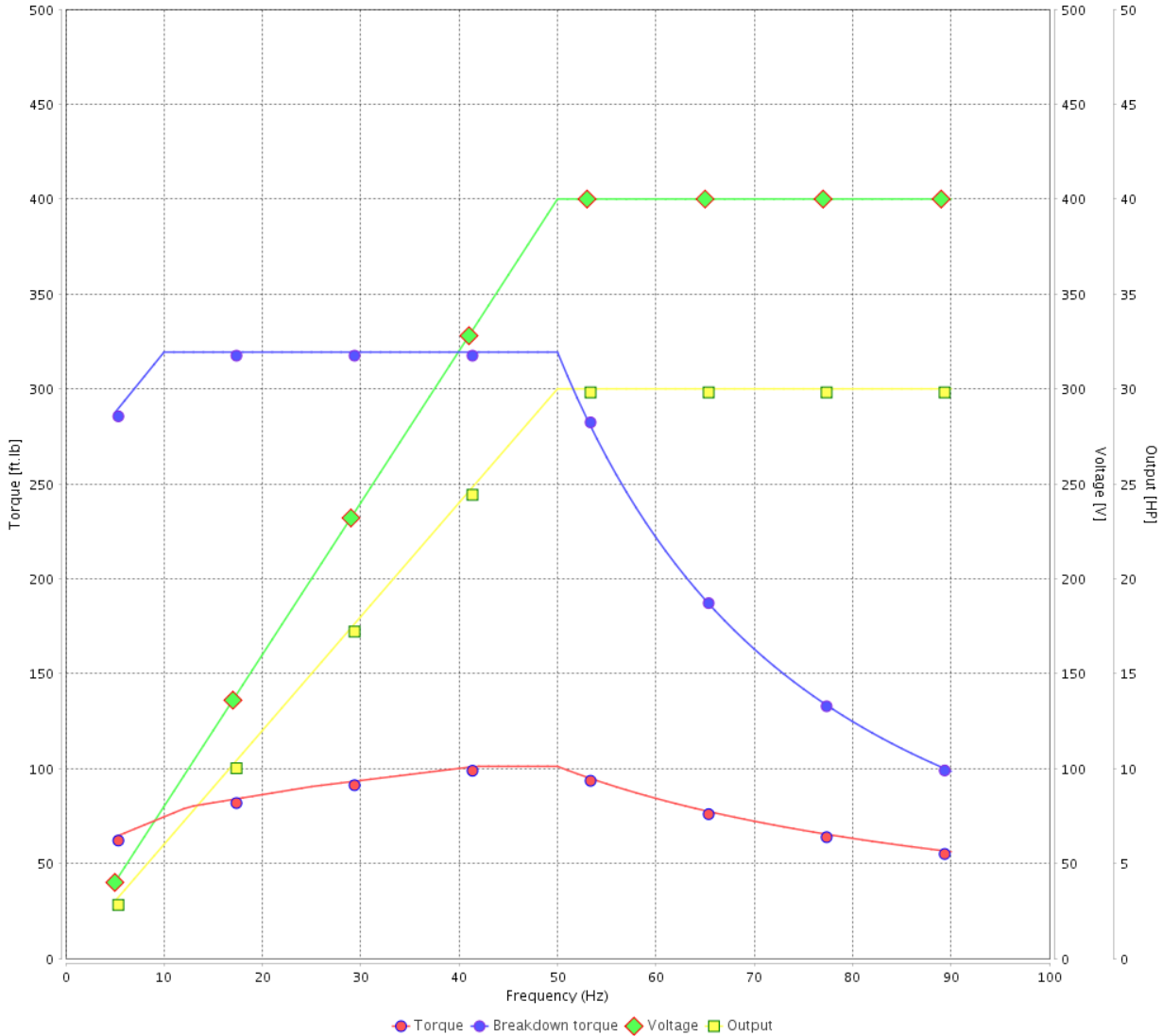
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VFD OPERATION CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 42.2 A  
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 Rated torque : 106 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 300 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 5.69 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

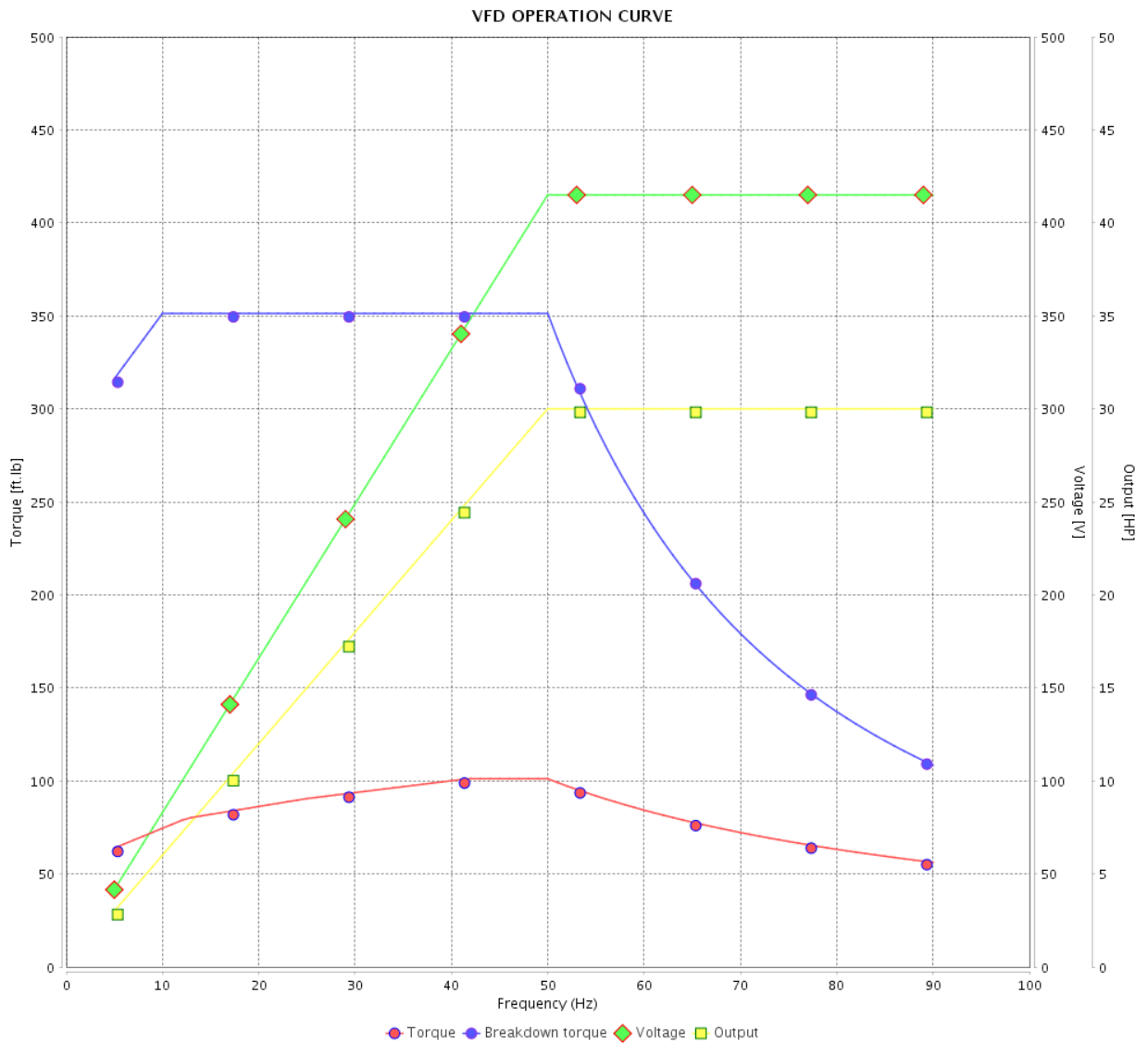


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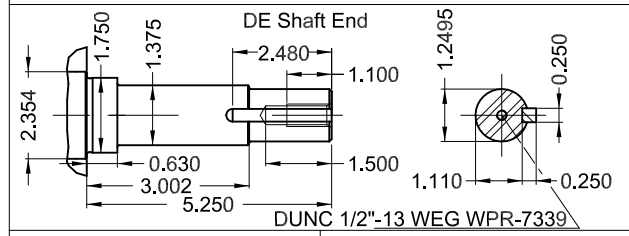
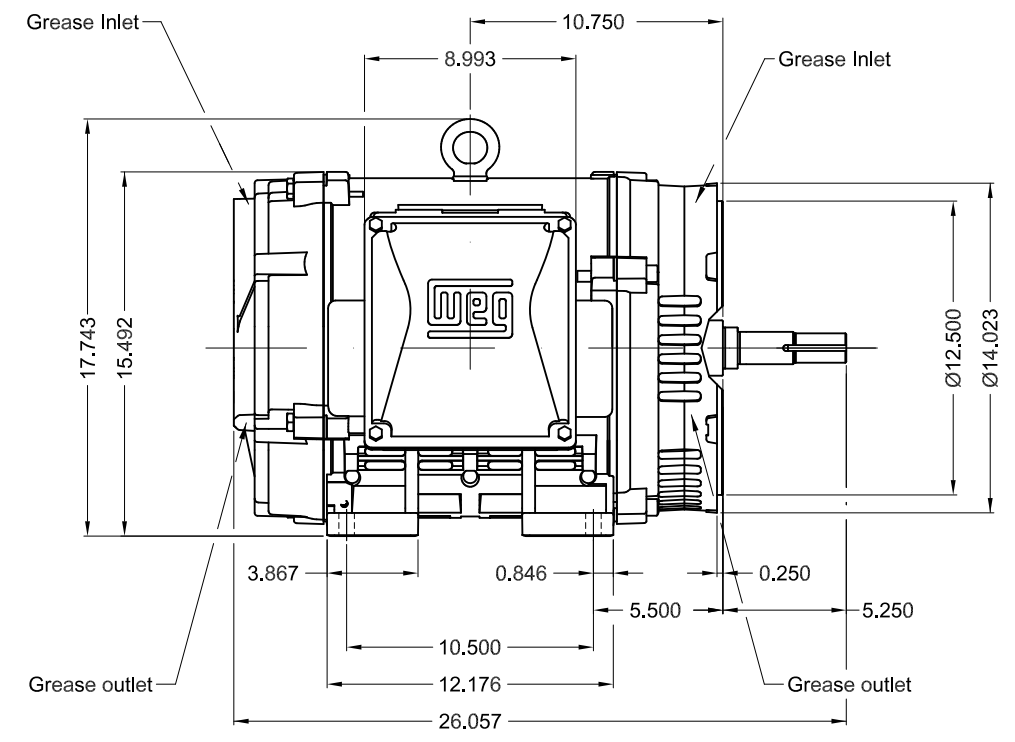
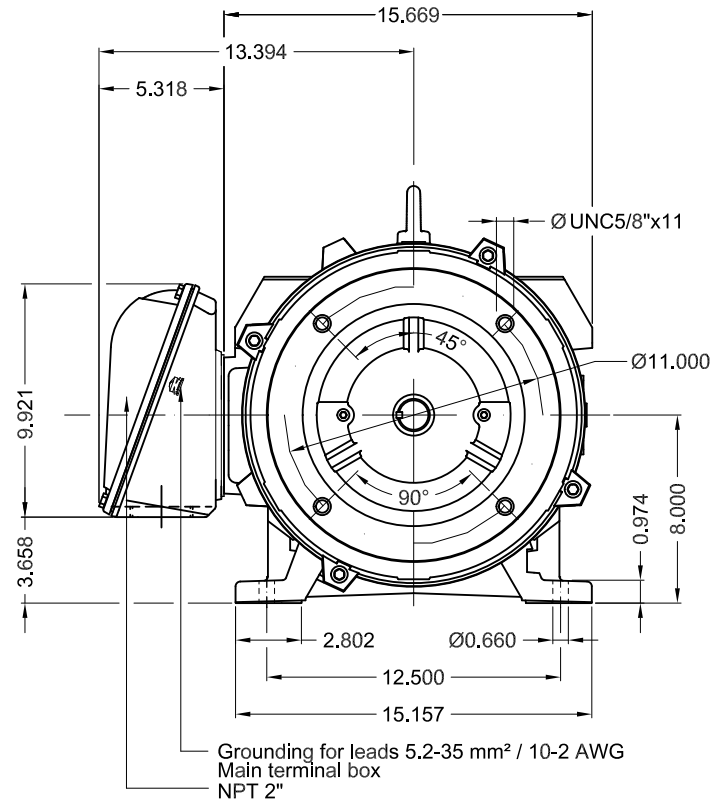


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40 HP 04 Poles 60 Hz A

1:8

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 CLOSE COUPLED PUMP JM TYPE PREM-EST.					
CHECKED		FRAME 324JM IP23 ODP					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	WDD	SHEET	1 / 1	

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

PREVIEW



**WEG** **W40 NEMA**  
**CC029A Premium**  
*Inverter Duty Motor*



IEC 60034-1  
 MOD.T01#FOXON



For 60Hz use on PWM, VT 1000:1, CT 3:1, 1.0SF

MODEL 040180T3E324JM-W40  
 MADE IN BRAZIL  
 14484720

PH 3	FR 324JM	HP(kW) 40.0(30.0)	Hz 60		
V 230/460	A 95.2/47.6	RPM 1775	DES B		
NEMA NOM EFF 94.1 %	INS. CL. F ΔT 80 K	IP23			
ENCL ODP	DUTY CONT.	AMB. 40°C			
CODE G	PF 0.84	SF 1.25	SFA 119/59.5	→ 6312-Z-C3 → 6211-Z-C3	
USABLE @208V 105 A	SF 1.15	SFA 121	MOBIL POLYREX EM 21 g 20000 h		
30HP 22kW 50Hz 380V 43.3A 1475RPM SF1.00 EFF 93.0% (IE3)	ALT 1000 m.a.s.l.	461 Lbs			