

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 JP Pump NEMA Premium Efficiency Three-Phase	Product code :	14486176		
		Catalog # :	02036OT3E254JP-W40		
Frame	: 254JP	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>	: 215 lb		
Protection degree	: IP23	Moment of inertia (J)	: 0.8718 sq.ft.lb		
Design	: B				
Output [HP]	20	15	15	15	
Poles	2	2	2	2	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	48.6/24.3	21.6	21.2	21.5	
L. R. Amperes [A]	306/153	147	142	148	
LRC [A]	6.3x(Code G)	6.8x(Code H)	6.7x(Code H)	6.9x(Code J)	
No load current [A]	16.8/8.40	8.00	9.30	10.3	
Rated speed [RPM]	3535	2945	2950	2955	
Slip [%]	1.81	1.83	1.67	1.50	
Rated torque [ft.lb]	29.7	26.7	26.7	26.7	
Locked rotor torque [%]	200	200	220	229	
Breakdown torque [%]	280	290	320	350	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	21s (cold) 12s (hot)	18s (cold) 10s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	
Noise level <sup>2</sup>					
Efficiency (%)	25%	90.0	85.6	85.8	85.9
	50%	90.2	88.0	88.1	88.2
	75%	91.0	88.5	88.6	88.7
	100%	91.0	91.2	91.2	91.2
Power Factor	25%	0.48	0.46	0.39	0.35
	50%	0.72	0.69	0.62	0.57
	75%	0.82	0.80	0.75	0.70
	100%	0.85	0.85	0.82	0.78
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6209 Z C3	Foundation loads			
Sealing	: Without Bearing Seal Without Bearing Seal	Max. traction			
Lubrication interval	: 20000 h 20000 h	Max. compression			
Lubricant amount	: 13 g 9 g				
Lubricant type	: Mobil Polyrex EM				
Notes					
USABLE @208V 53.7A SF 1.15 SFA 61.8A					
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.		
Rev.	Changes Summary		Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			1 / 21	

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



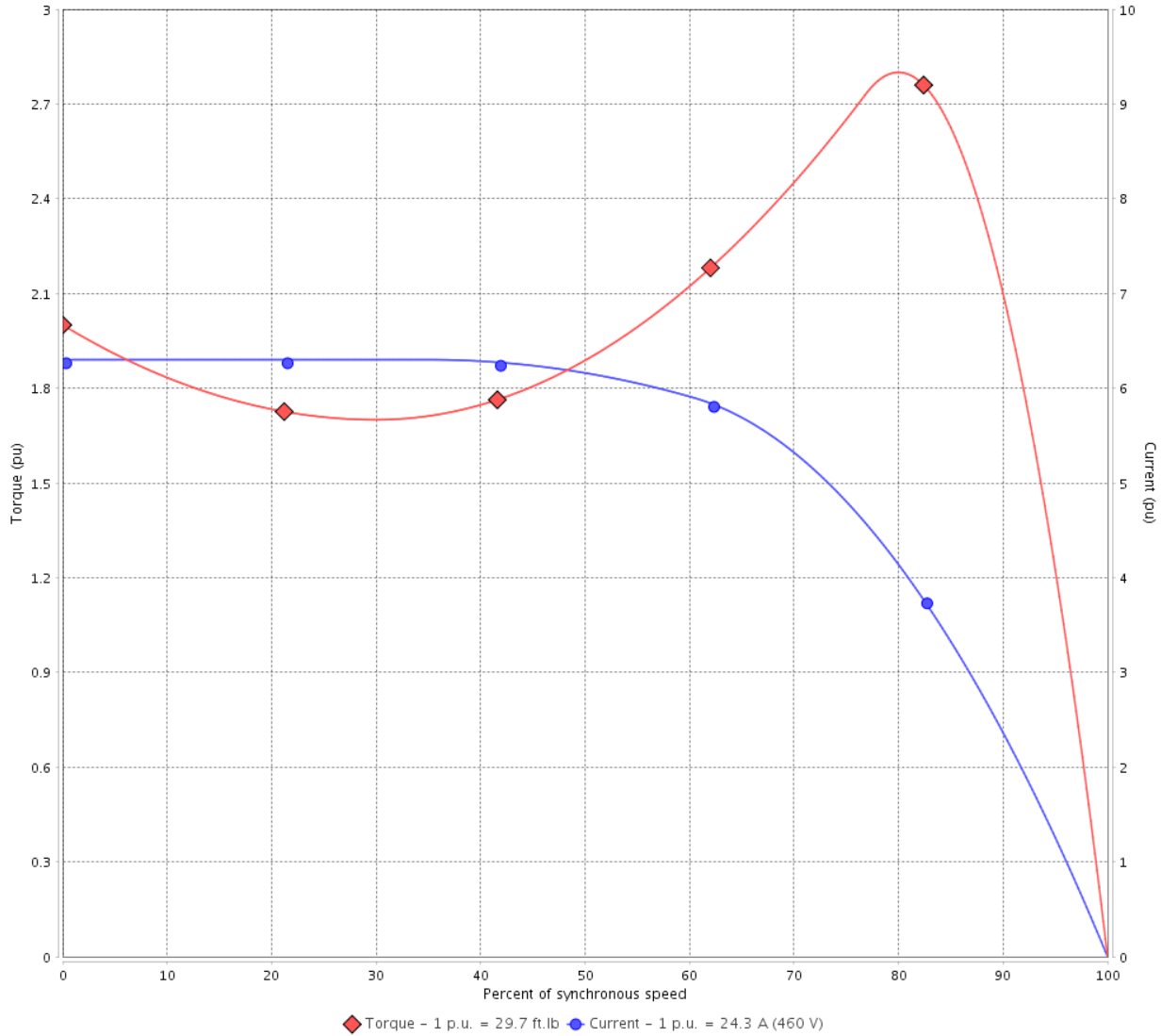
Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 48.6/24.3 A  
 LRC : 6.3  
 Rated torque : 29.7 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 280 %  
 Rated speed : 3535 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 21	Revision
Checked by				
Date	14/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



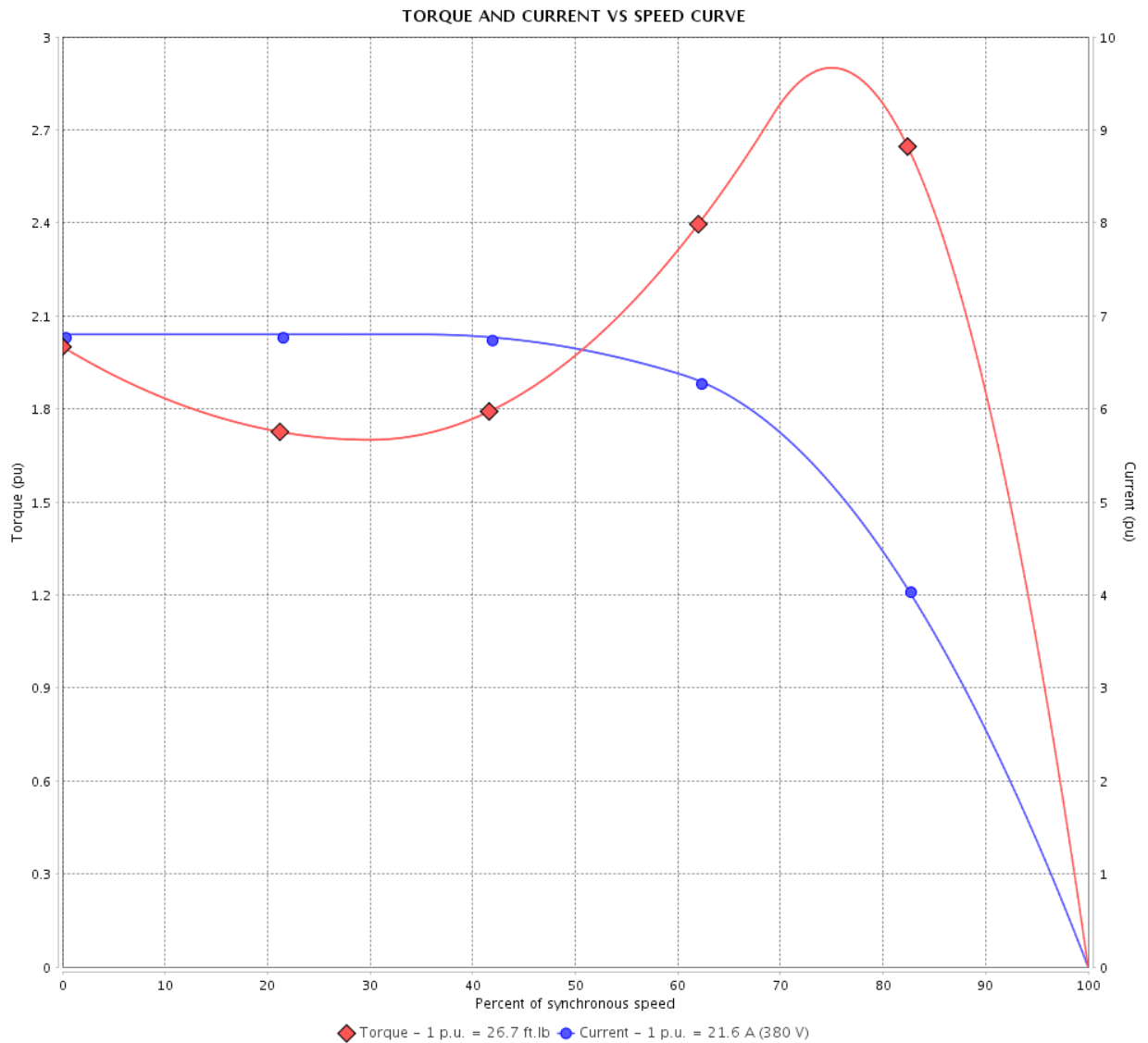
## Three Phase Induction Motor - Squirrel Cage

Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40



Performance : 380 V 50 Hz 2P IE3

Rated current	: 21.6 A	Moment of inertia (J)	: 0.8718 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 26.7 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 2945 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			3 / 21	
Date	14/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



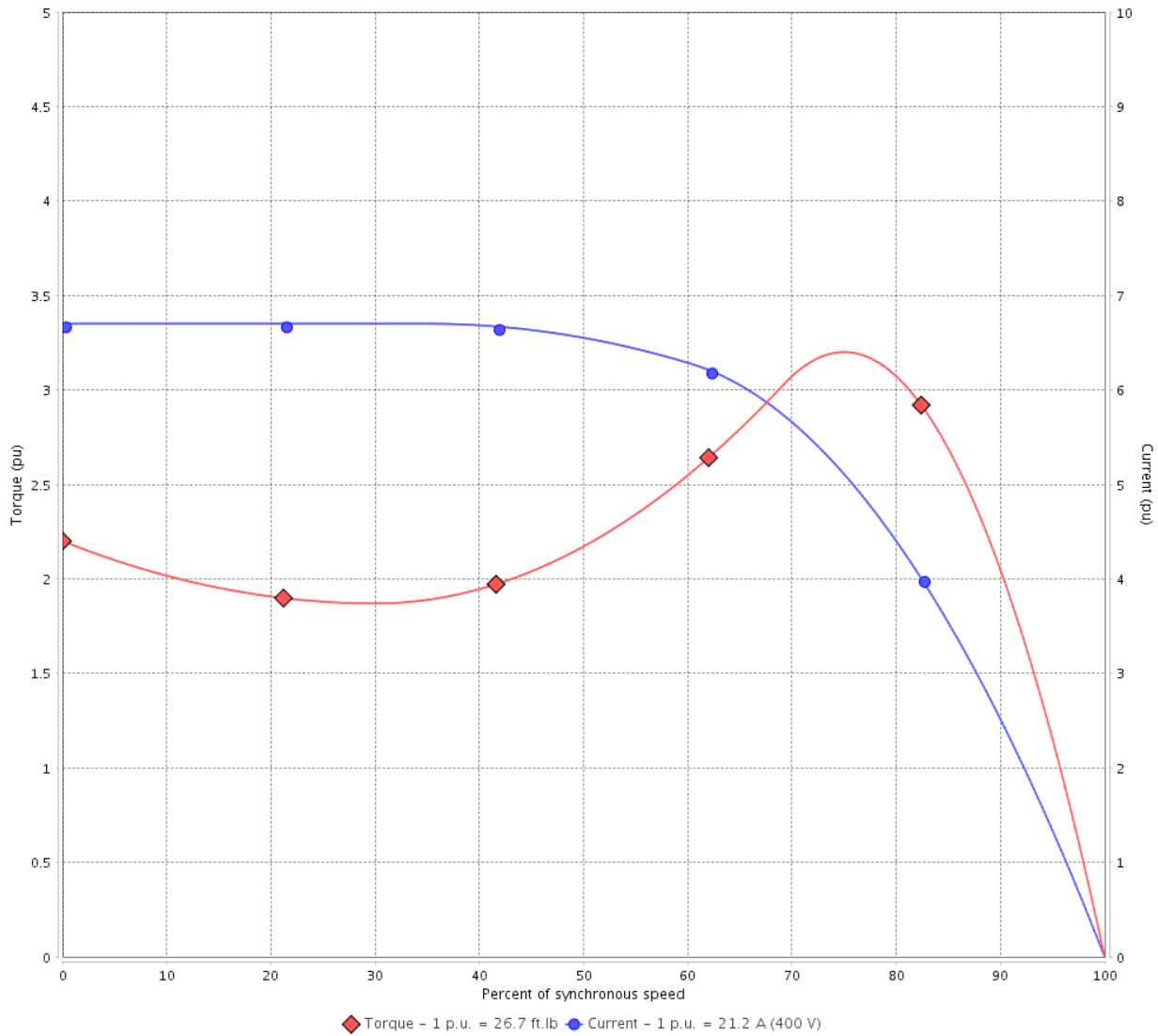
Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current	: 21.2 A	Moment of inertia (J)	: 0.8718 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 26.7 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 2950 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 21	Revision
Checked by				
Date	14/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



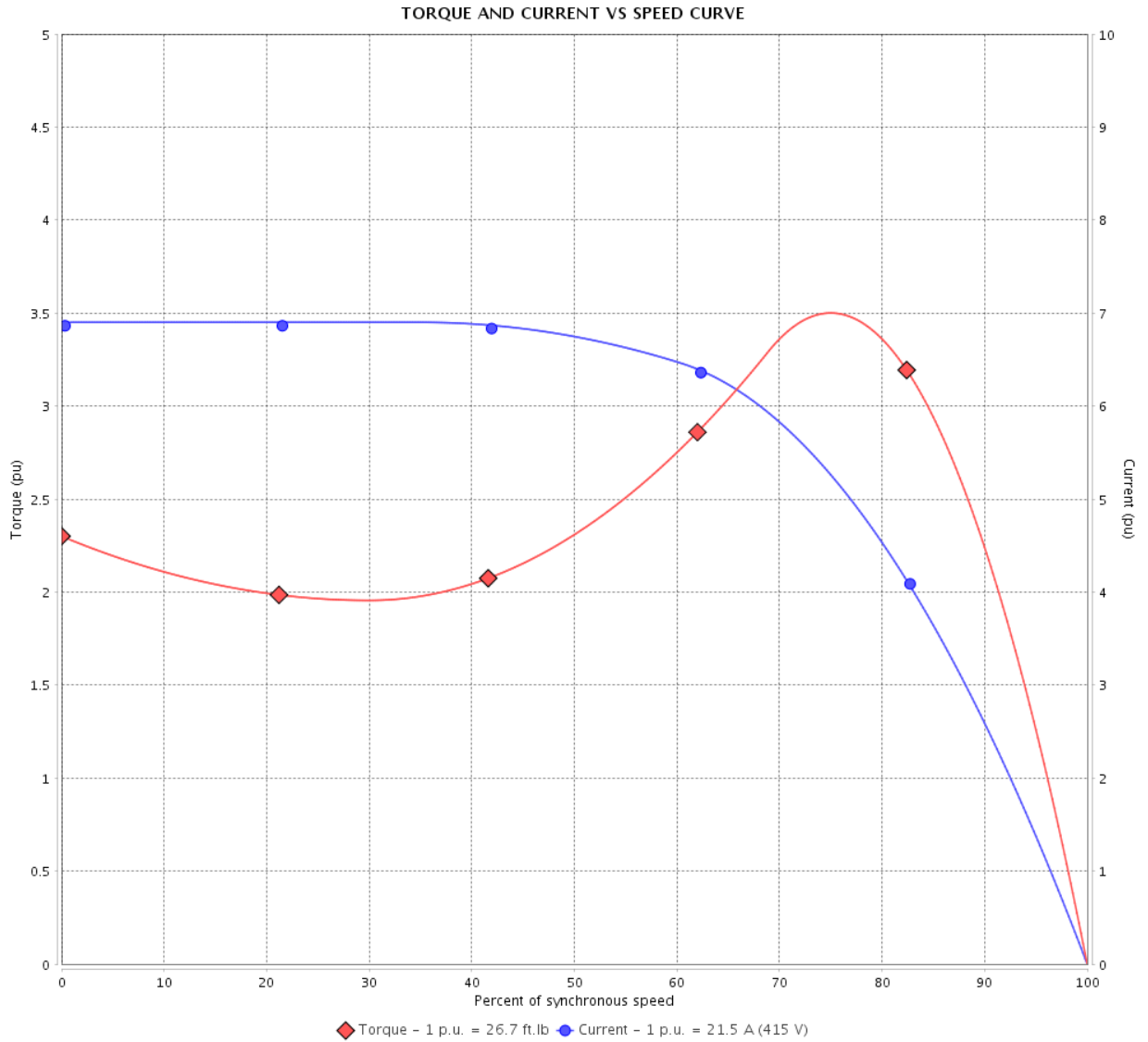
## Three Phase Induction Motor - Squirrel Cage

Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40



Performance : 415 V 50 Hz 2P IE3

Rated current	: 21.5 A	Moment of inertia (J)	: 0.8718 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 26.7 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 2955 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 21	Revision
Checked by				
Date	14/04/2022			

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

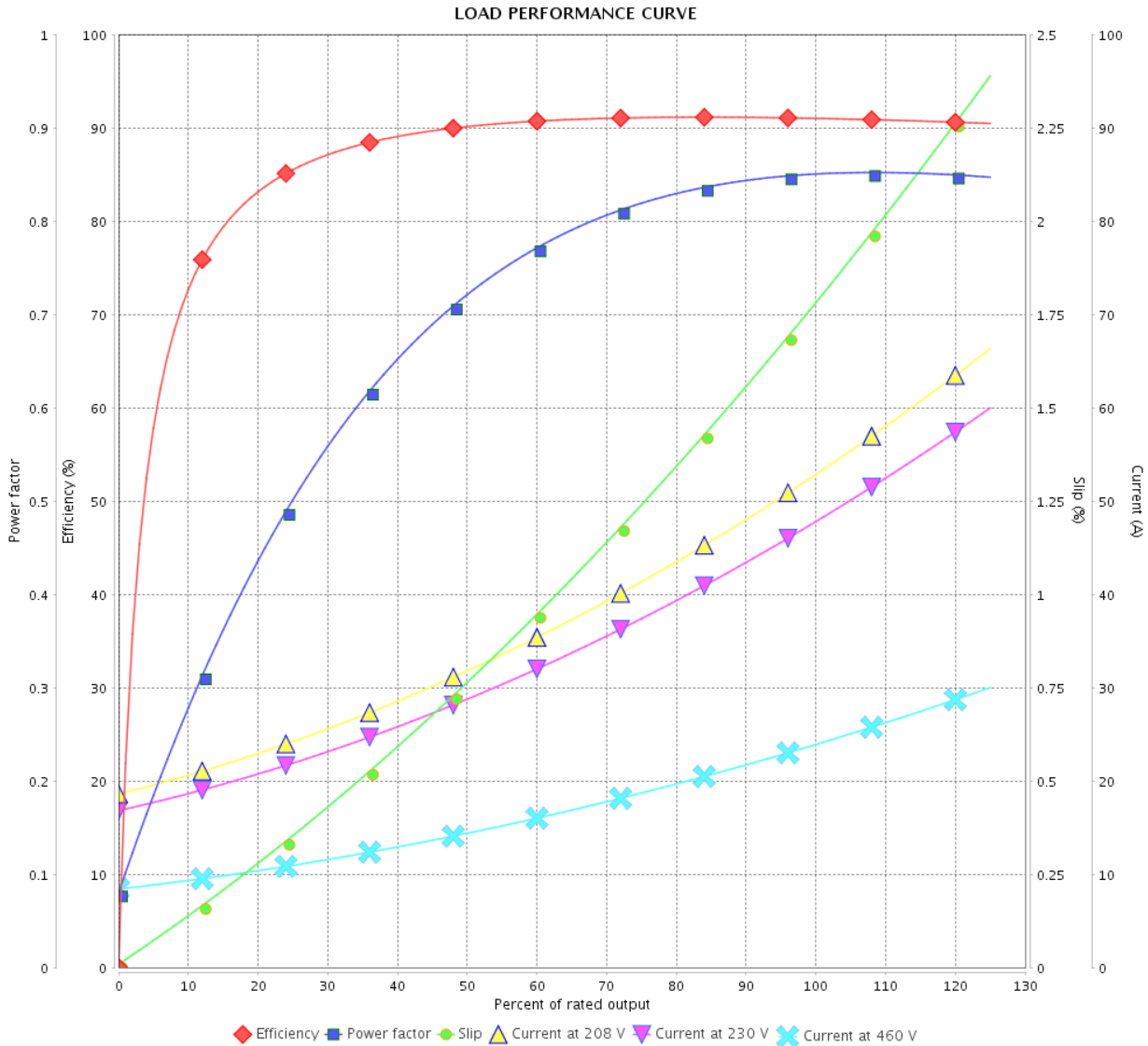


Customer : \_\_\_\_\_

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40



Performance : 230/460 V 60 Hz 2P

Rated current : 48.6/24.3 A  
 LRC : 6.3  
 Rated torque : 29.7 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 280 %  
 Rated speed : 3535 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 21	Revision
Checked by				
Date	14/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

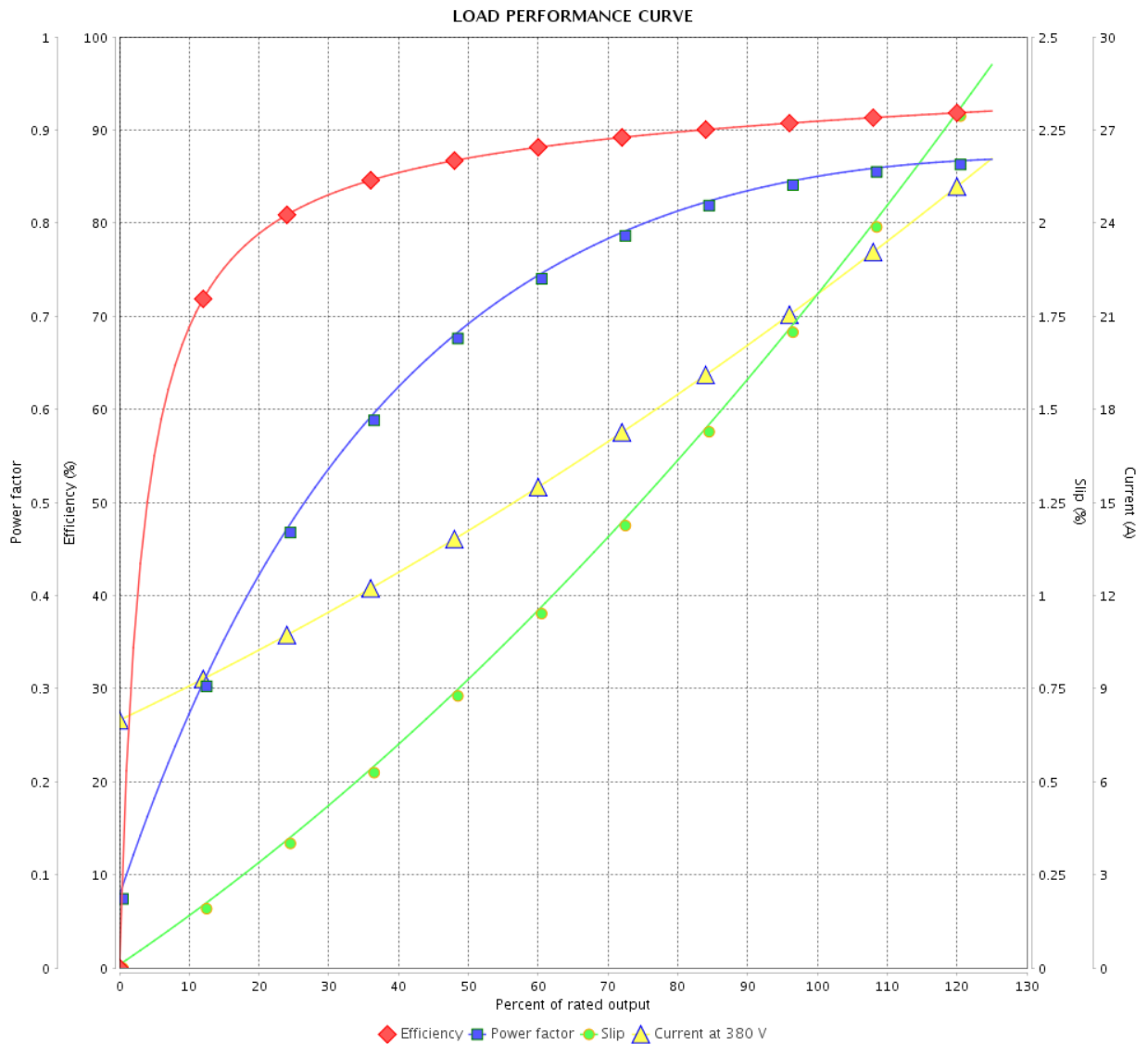


Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 21.6 A  
 LRC : 6.8  
 Rated torque : 26.7 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 290 %  
 Rated speed : 2945 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



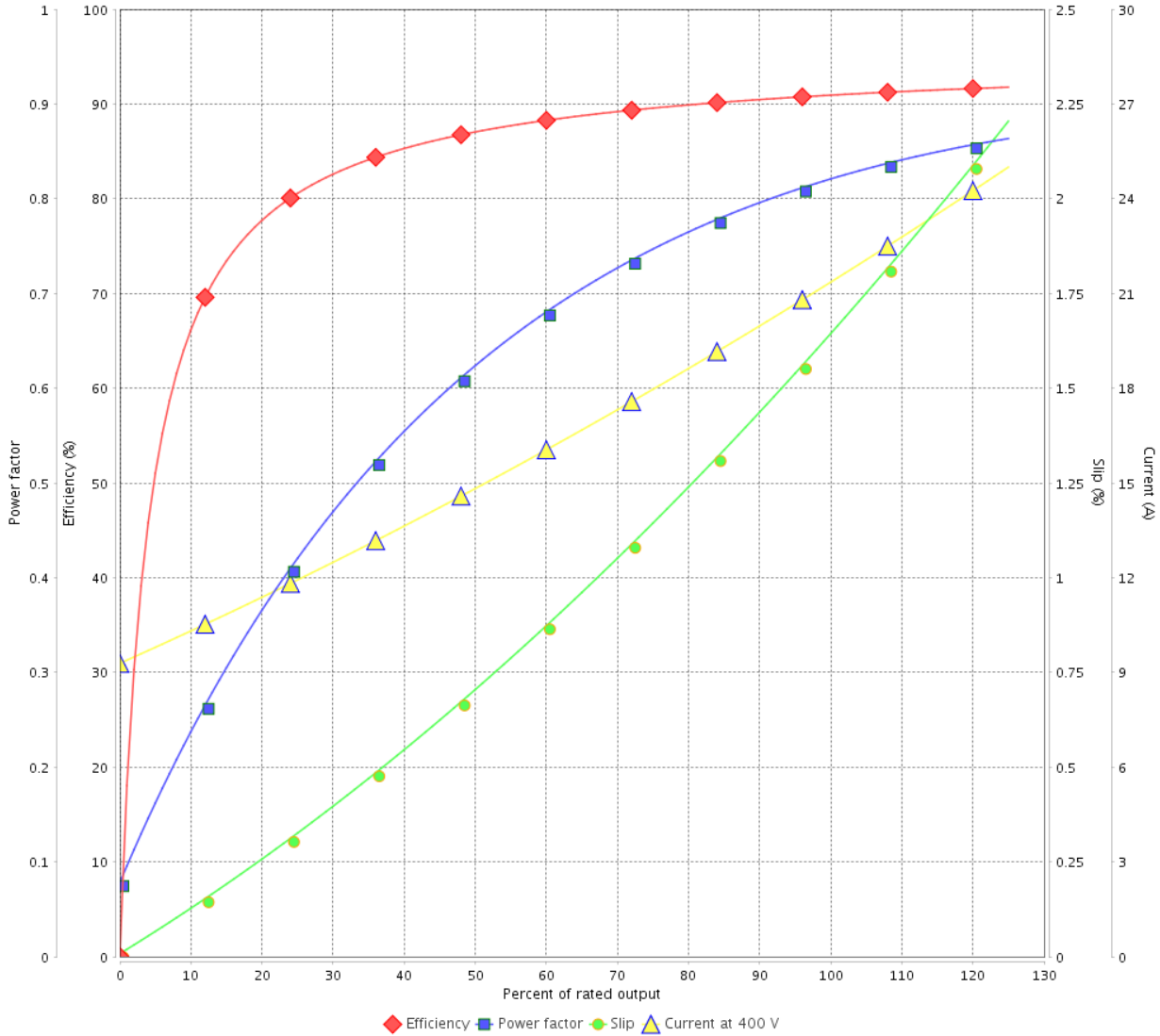
Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 21.2 A  
LRC : 6.7  
Rated torque : 26.7 ft.lb  
Locked rotor torque : 220 %  
Breakdown torque : 320 %  
Rated speed : 2950 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			8 / 21	
Date	14/04/2022			



# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

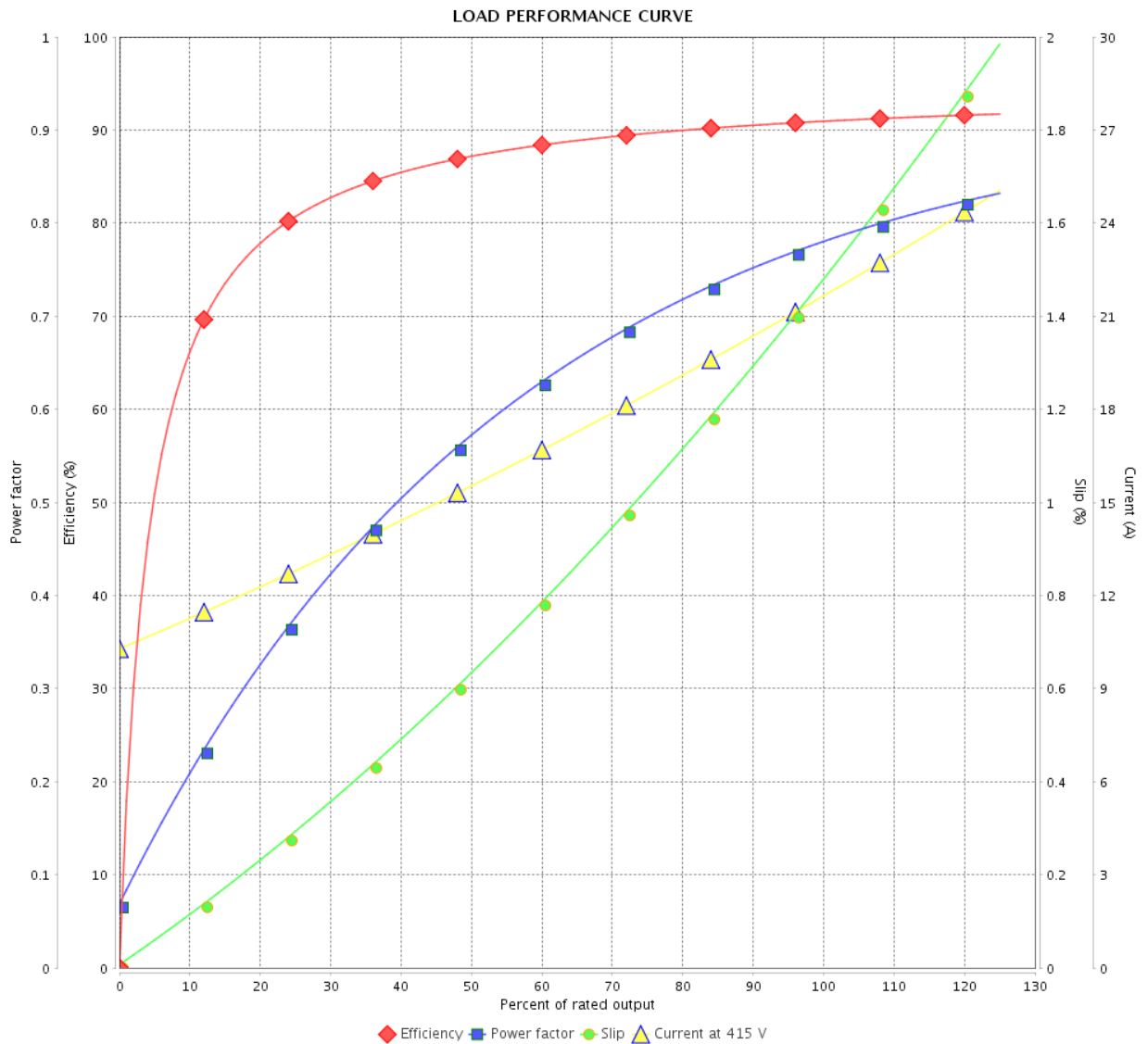


Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40



Performance : 415 V 50 Hz 2P IE3

Rated current : 21.5 A  
 LRC : 6.9  
 Rated torque : 26.7 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 350 %  
 Rated speed : 2955 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		9 / 21		
Date		14/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

Performance : 230/460 V 60 Hz 2P

Rated current : 48.6/24.3 A  
LRC : 6.3  
Rated torque : 29.7 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 280 %  
Rated speed : 3535 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.25  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

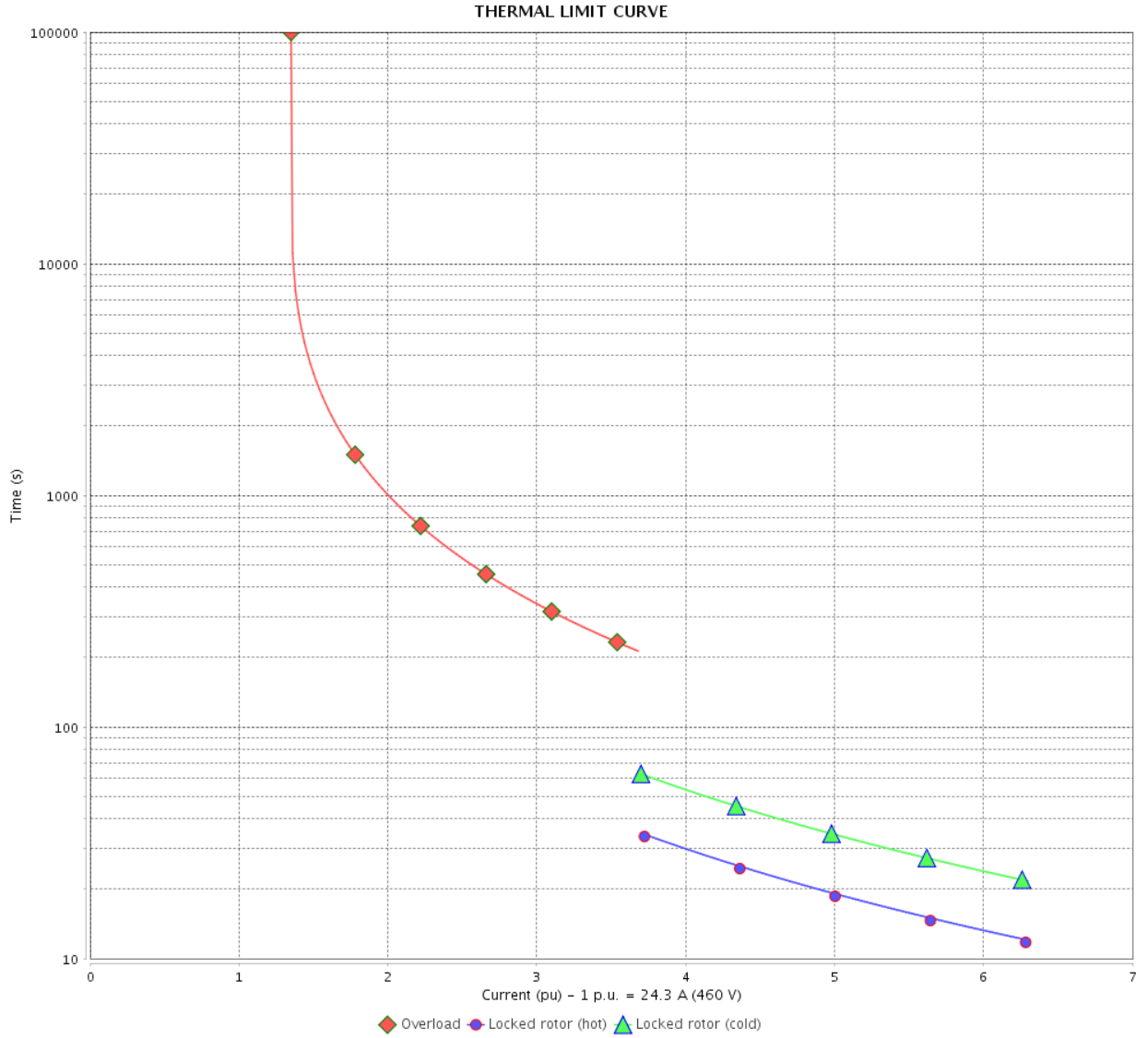
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Performed by				
Checked by			Page	Revision
Date	14/04/2022		10 / 21	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		11 / 21		
Date		14/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

Performance : 380 V 50 Hz 2P IE3

Rated current : 21.6 A  
LRC : 6.8  
Rated torque : 26.7 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 290 %  
Rated speed : 2945 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

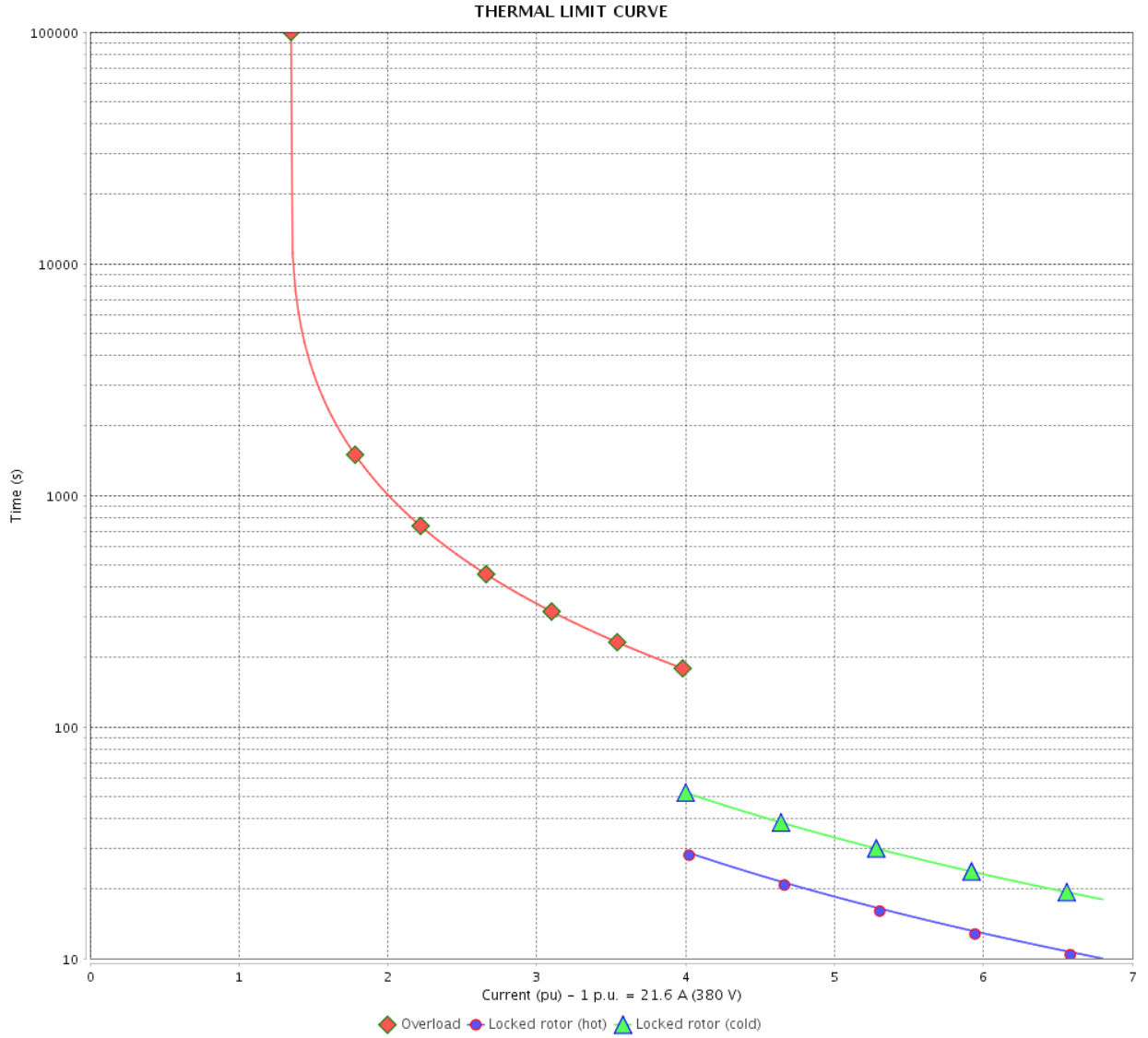
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Checked by			Page	Revision
Date	14/04/2022		12 / 21	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		13 / 21		
Date		14/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

Performance : 400 V 50 Hz 2P IE3

Rated current : 21.2 A  
LRC : 6.7  
Rated torque : 26.7 ft.lb  
Locked rotor torque : 220 %  
Breakdown torque : 320 %  
Rated speed : 2950 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

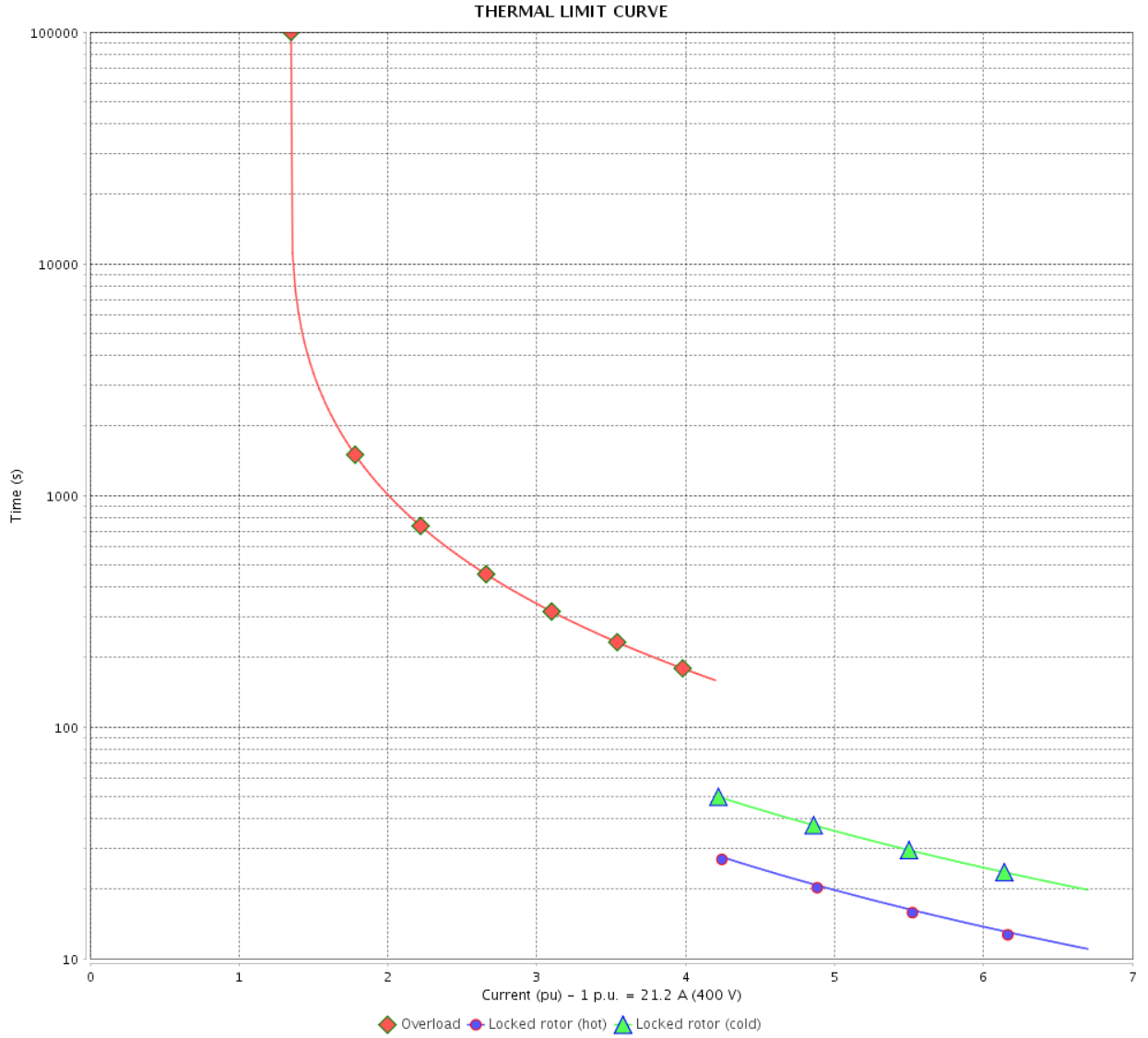
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Date	14/04/2022		14 / 21	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		15 / 21		
Date		14/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

Performance : 415 V 50 Hz 2P IE3

Rated current : 21.5 A  
LRC : 6.9  
Rated torque : 26.7 ft.lb  
Locked rotor torque : 229 %  
Breakdown torque : 350 %  
Rated speed : 2955 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		16 / 21	

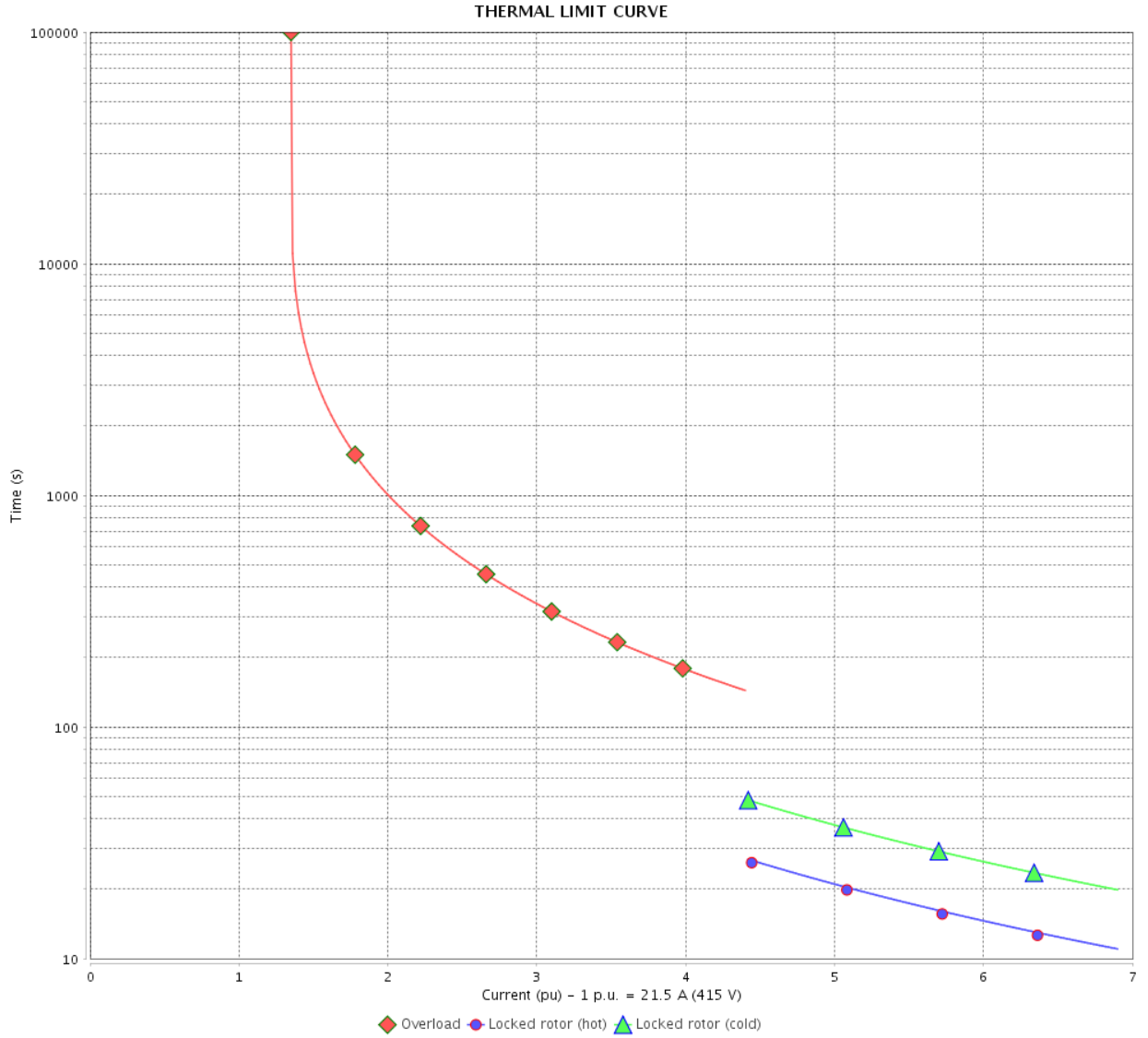


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 17 / 21		Revision
Checked by				
Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



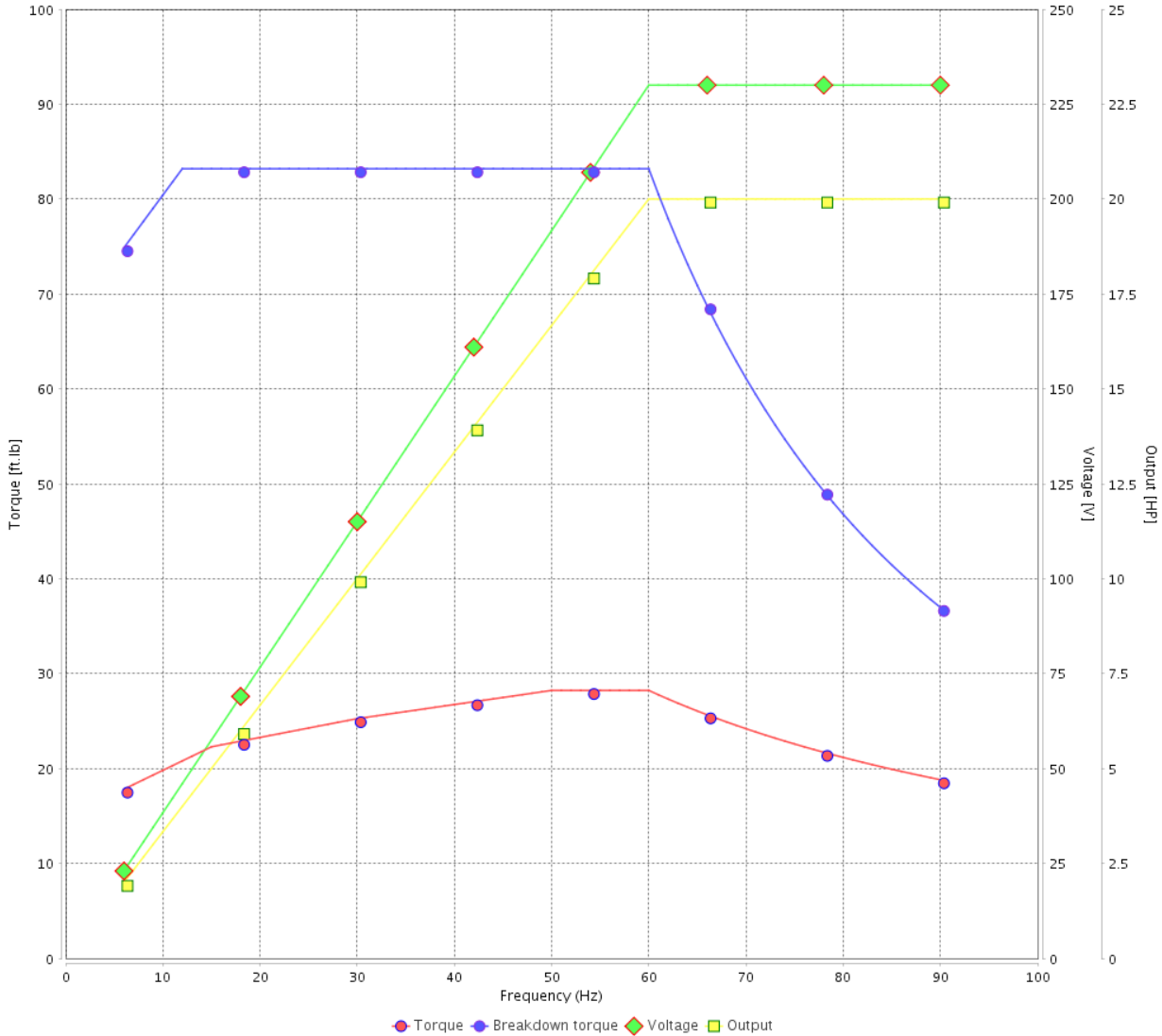
Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 48.6/24.3 A  
 LRC : 6.3  
 Rated torque : 29.7 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 280 %  
 Rated speed : 3535 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 18 / 21	Revision
Checked by				
Date	14/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

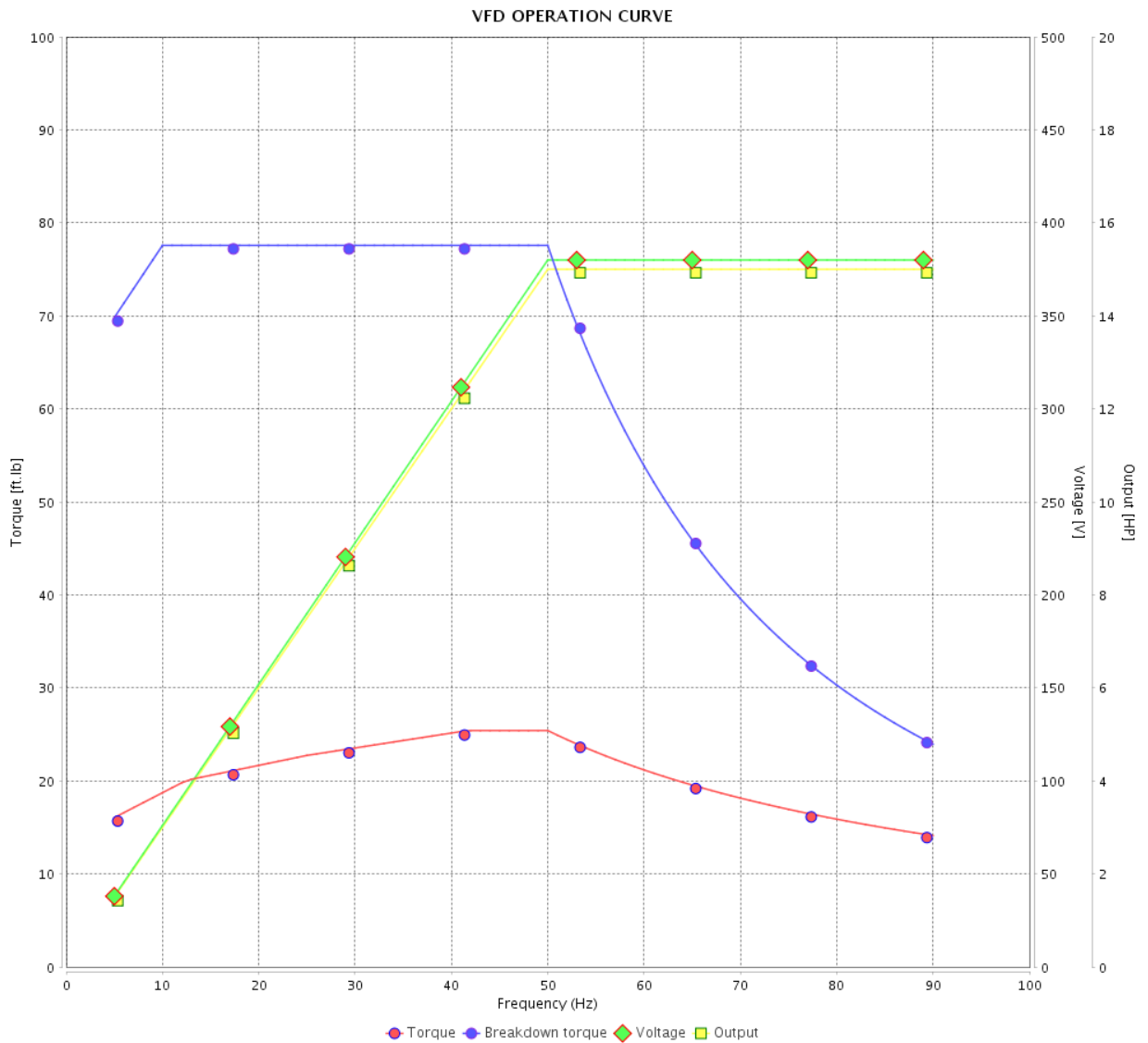


Customer :

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 21.6 A  
 LRC : 6.8  
 Rated torque : 26.7 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 290 %  
 Rated speed : 2945 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 19 / 21	Revision
Checked by				
Date	14/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



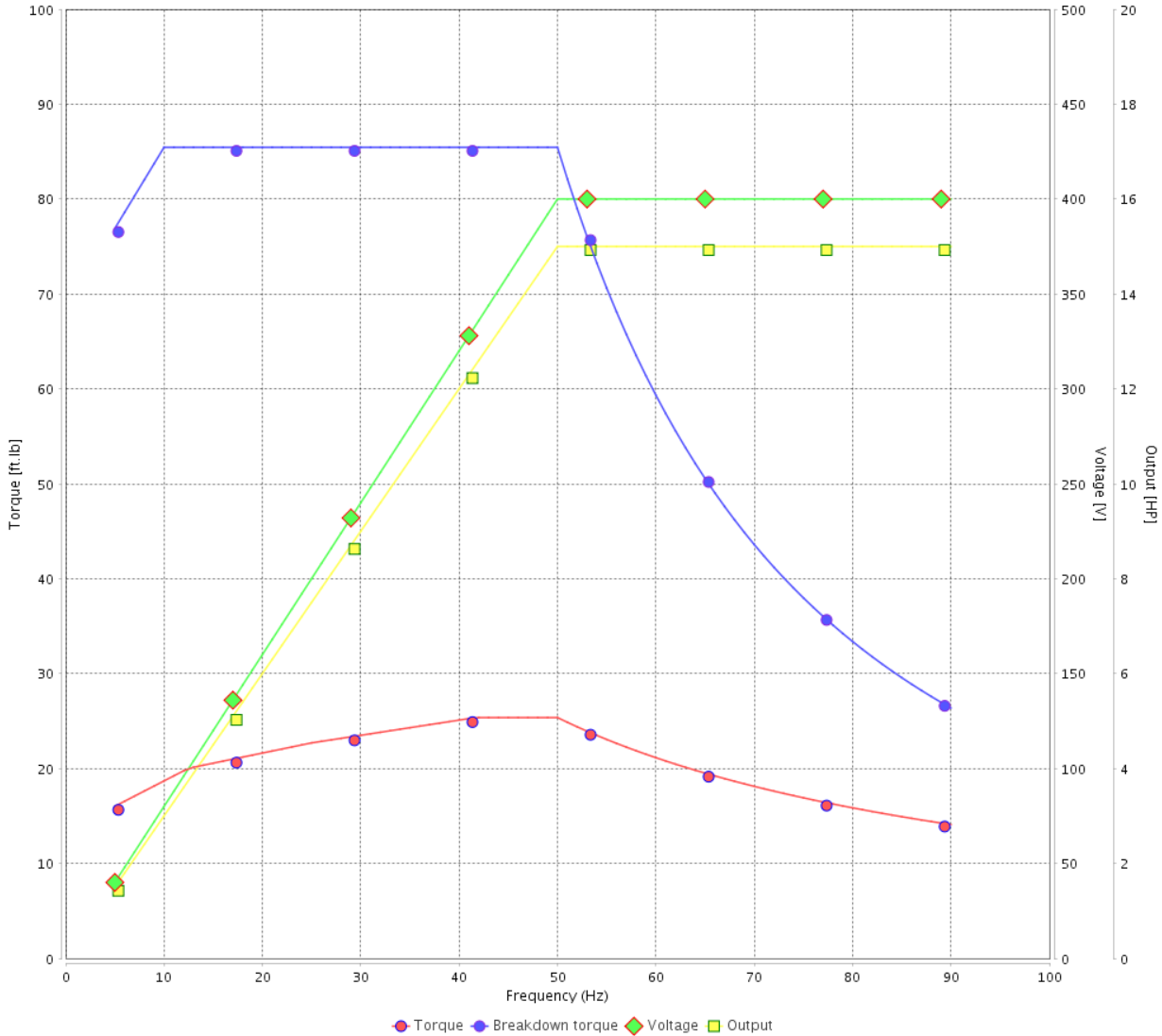
Customer : \_\_\_\_\_

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

Product code : 14486176

Catalog # : 02036OT3E254JP-W40

VFD OPERATION CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 21.2 A  
 LRC : 6.7  
 Rated torque : 26.7 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 320 %  
 Rated speed : 2950 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 20 / 21	Revision
Checked by				
Date	14/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

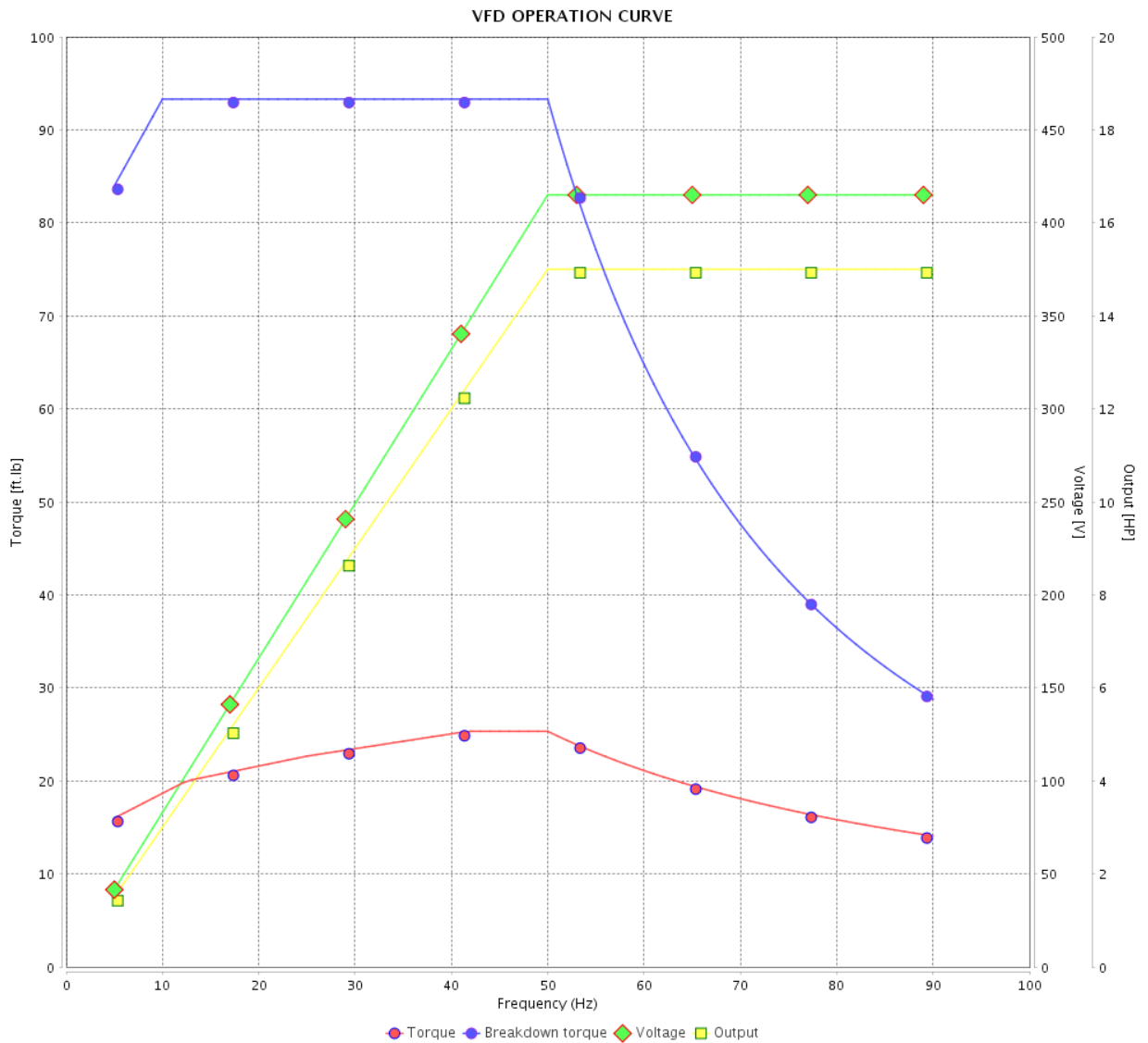


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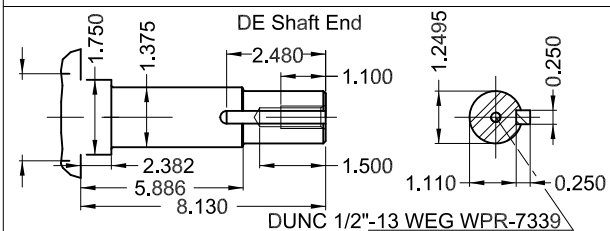
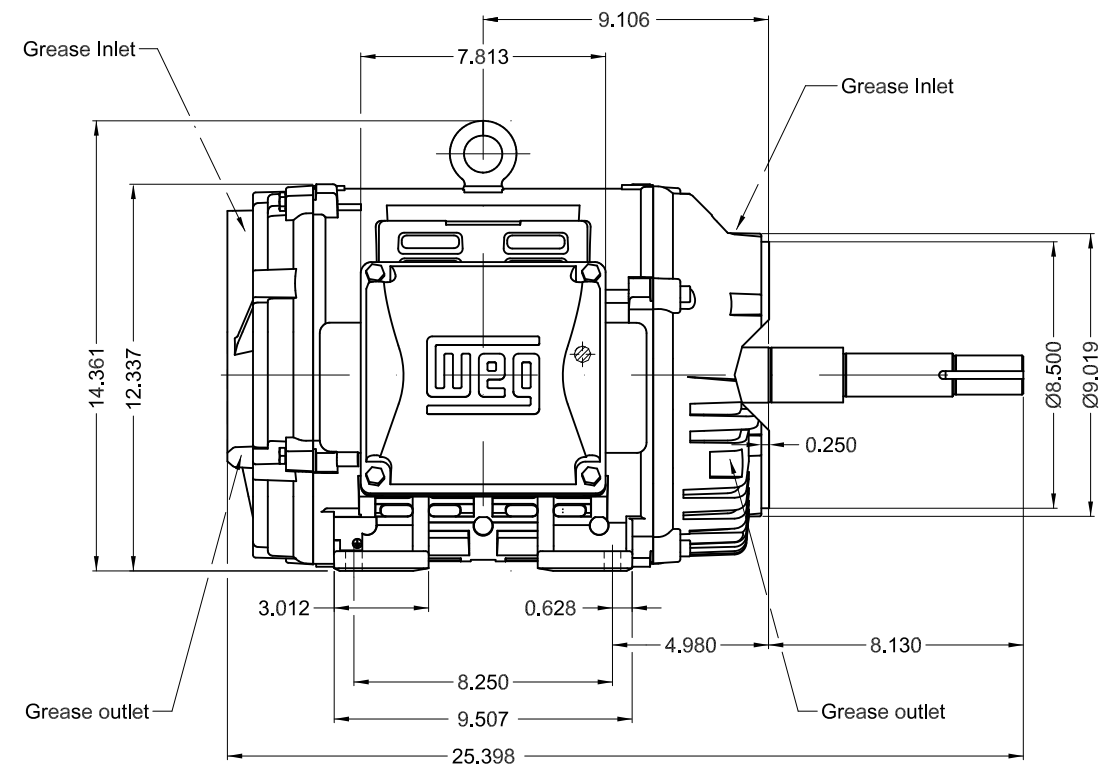
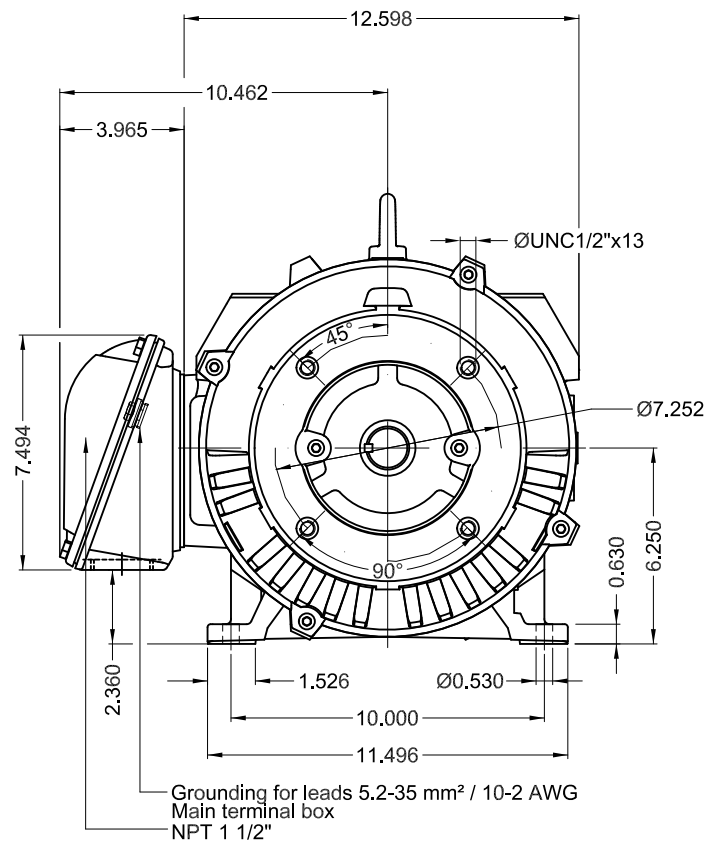


Performance : 415 V 50 Hz 2P IE3

Rated current : 21.5 A  
 LRC : 6.9  
 Rated torque : 26.7 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 350 %  
 Rated speed : 2955 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by				Page 21 / 21
Checked by				
Date	14/04/2022			
				Revision



20 HP 02 Poles 60 Hz

Dimensions in inches

1:6

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 CLOSE COUPLED PUMP JP TYPE PREM. FT. FRAME 254JP IP23 ODP					
CHECKED							
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**  
WDD



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



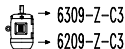
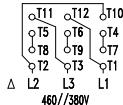
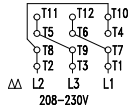
IEC 60034-1  
 MOD.T01#FOXON



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

MODEL 020360T3E254JP-W40  
 MADE IN BRAZIL  
 14486176

PH 3	FR 254JP	HP(kW) 20.0(15.0)		Hz 60	
V 230/460		A 48.6/24.3		RPM 3535	DES B
NEMA NOM EFF 91.0 %		INS. CL. F ΔT 80 K		IP23	
ENCL ODP		DUTY CONT.		AMB. 40°C	
CODE G	PF 0.85	SF 1.25	SFA 60.8/30.4		
USABLE @208V 53.7 A		SF 1.15	SFA 61.8		
15HP 11kW 50Hz 380V 21.6A 2945RPM SF1.00 EFF 91.2% (IE3)				ALT 1000	m.a.s.l.



MOBIL POLYREX EM  
 13 g 20000 h

ALT 1000 m.a.s.l. 225 Lbs