

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: W40 NEMA Premium Efficiency Three-Phase		Product code : 14494121 Catalog # : 007120T3E254TC-W40	
Frame : 254TC		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 : 247 lb			
Protection degree : IP23		Moment of inertia (J) : 2.29 sq.ft.lb			
Design : B					
Output [HP]	7.5	7.5	7.5	7.5	7.5
Poles	6	6	6	6	6
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	230/460	380	400	415	415
Rated current [A]	19.9/9.94	11.4	11.1	11.0	11.0
L. R. Amperes [A]	133/66.6	67.3	71.0	74.8	74.8
LRC [A]	6.7x(Code H)	5.9x(Code G)	6.4x(Code H)	6.8x(Code J)	6.8x(Code J)
No load current [A]	10.8/5.40	5.30	5.80	6.10	6.10
Rated speed [RPM]	1180	975	975	980	980
Slip [%]	1.67	2.50	2.50	2.00	2.00
Rated torque [ft.lb]	33.4	40.4	40.4	40.2	40.2
Locked rotor torque [%]	260	190	210	229	229
Breakdown torque [%]	300	240	260	290	290
Service factor	1.25	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	28s (cold) 16s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)
Noise level ²	59.0 dB(A)				
Efficiency (%)	25%	86.6	87.4	87.7	87.1
	50%	87.5	87.6	87.9	87.3
	75%	89.5	88.0	88.0	88.0
	100%	90.2	88.0	88.0	88.0
Power Factor	25%	0.34	0.40	0.36	0.33
	50%	0.58	0.65	0.61	0.58
	75%	0.70	0.77	0.74	0.71
	100%	0.77	0.83	0.81	0.79
Bearing type	: Drive end : 6309 Z C3	: Non drive end : 6209 Z C3	Foundation loads		
Sealing	: Without	: Without	Max. traction		
	: Bearing Seal	: Bearing Seal	Max. compression		
Lubrication interval	: 20000 h	: 20000 h			
Lubricant amount	: 13 g	: 9 g			
Lubricant type	: Mobil Polyrex EM				
Notes					
USABLE @208V 22.0A SF 1.15 SFA 25.3A					
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



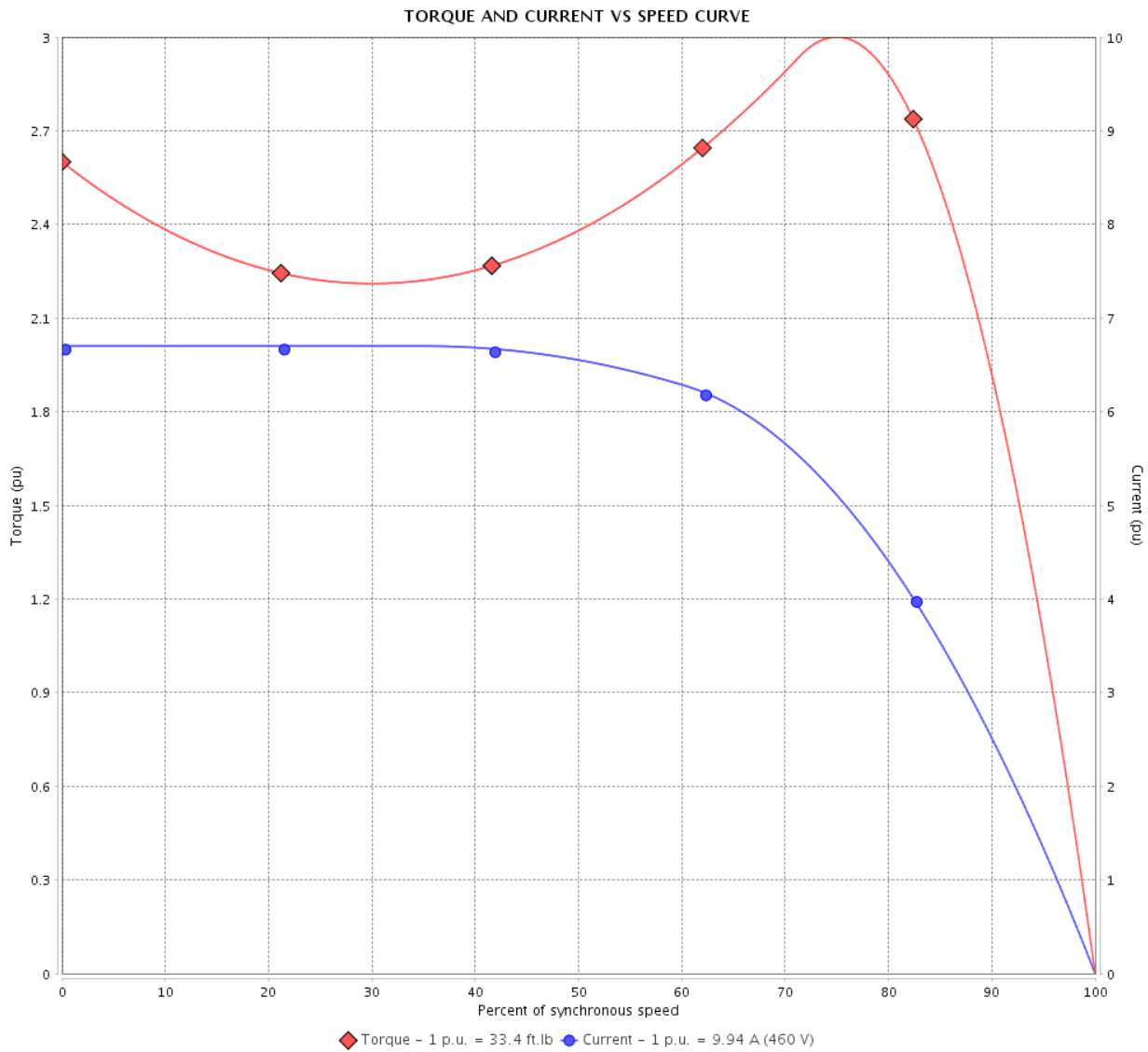
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14494121

Catalog # : 007120T3E254TC-W40



Performance : 230/460 V 60 Hz 6P

Rated current : 19.9/9.94 A
 LRC : 6.7
 Rated torque : 33.4 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 300 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 2.29 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

Locked rotor time : 28s (cold) 16s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



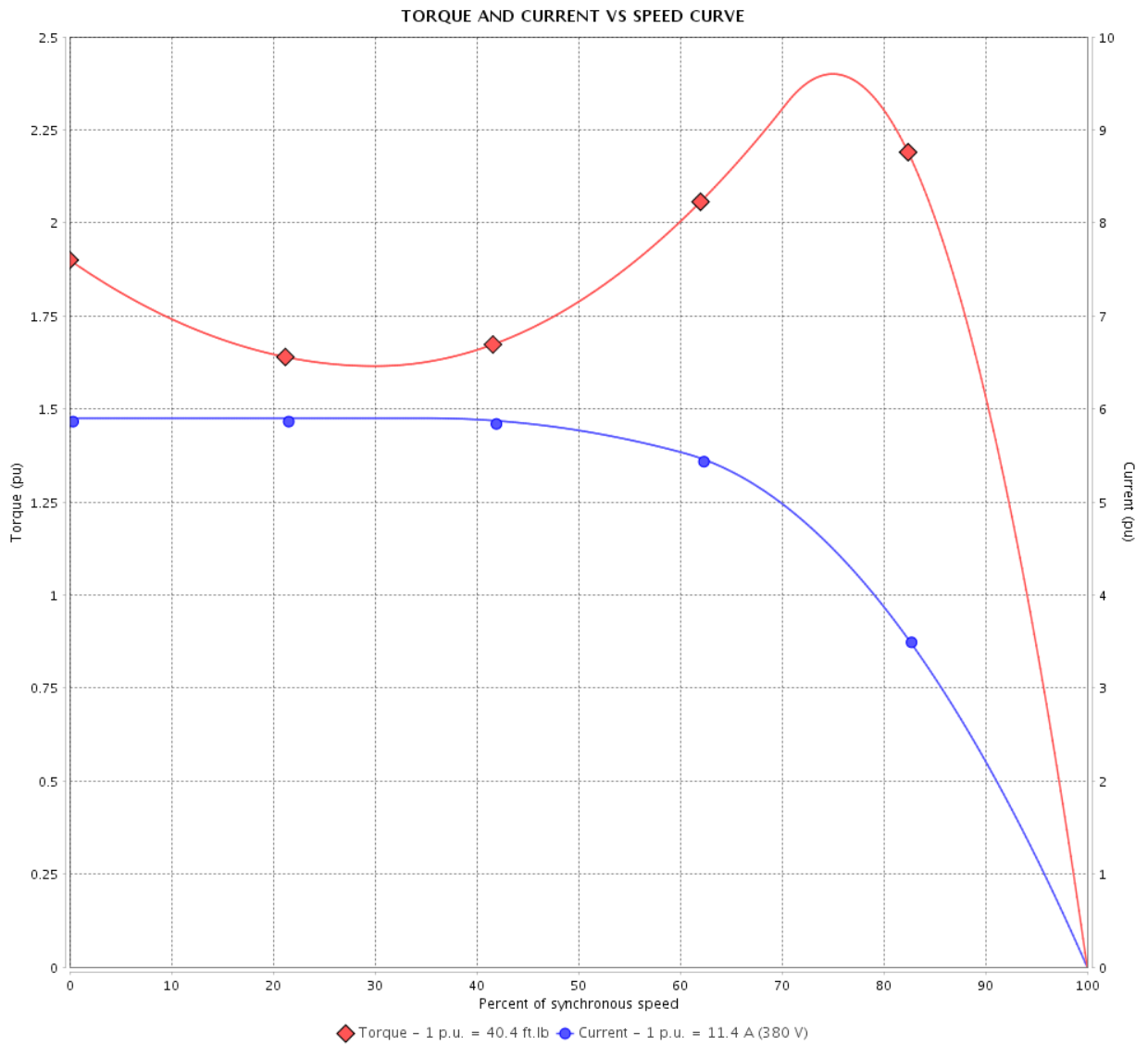
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14494121

Catalog # : 007120T3E254TC-W40



Performance : 380 V 50 Hz 6P IE3

Rated current	: 11.4 A	Moment of inertia (J)	: 2.29 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 40.4 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 975 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



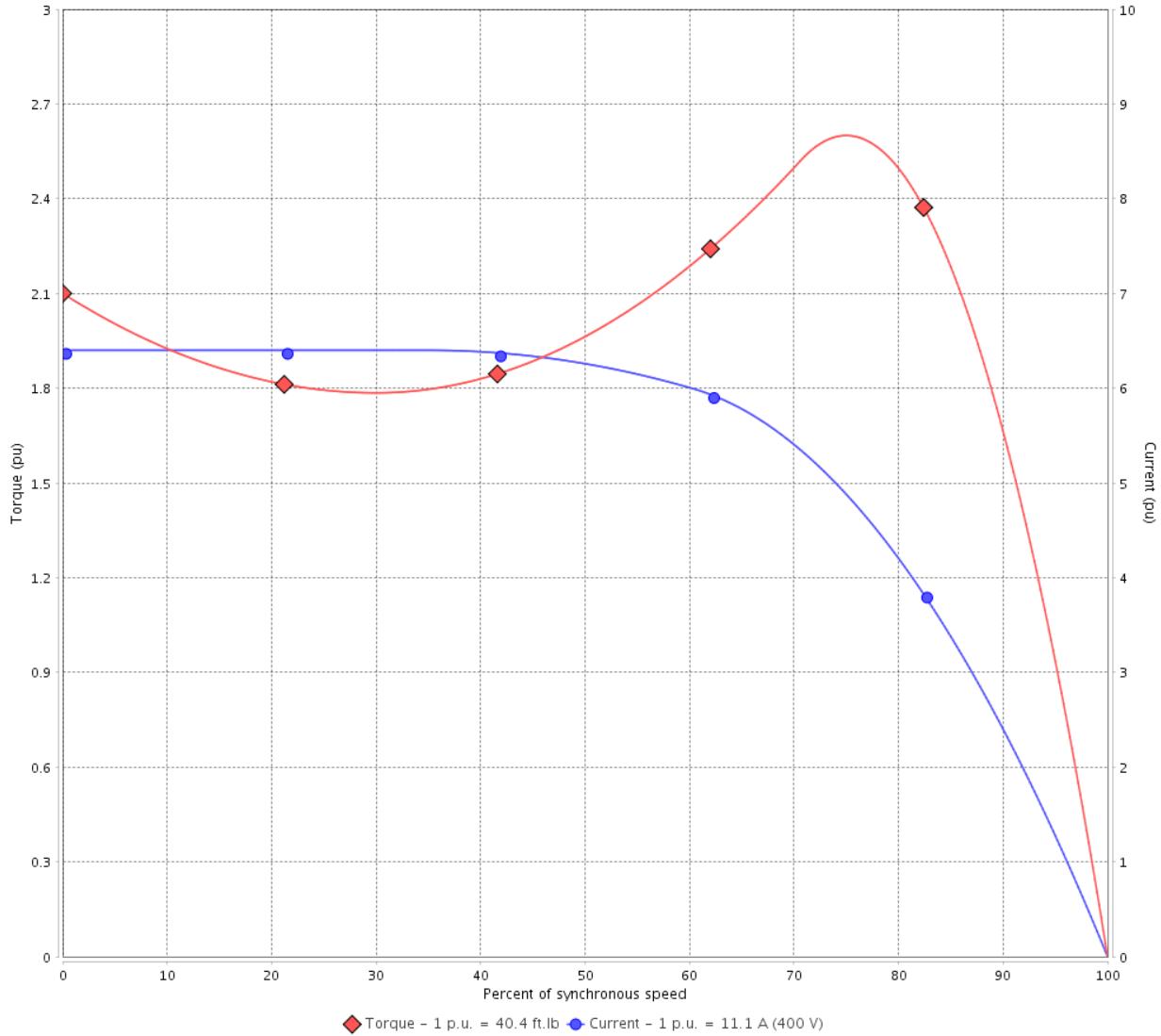
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14494121

Catalog # : 007120T3E254TC-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 11.1 A	Moment of inertia (J)	: 2.29 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 40.4 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



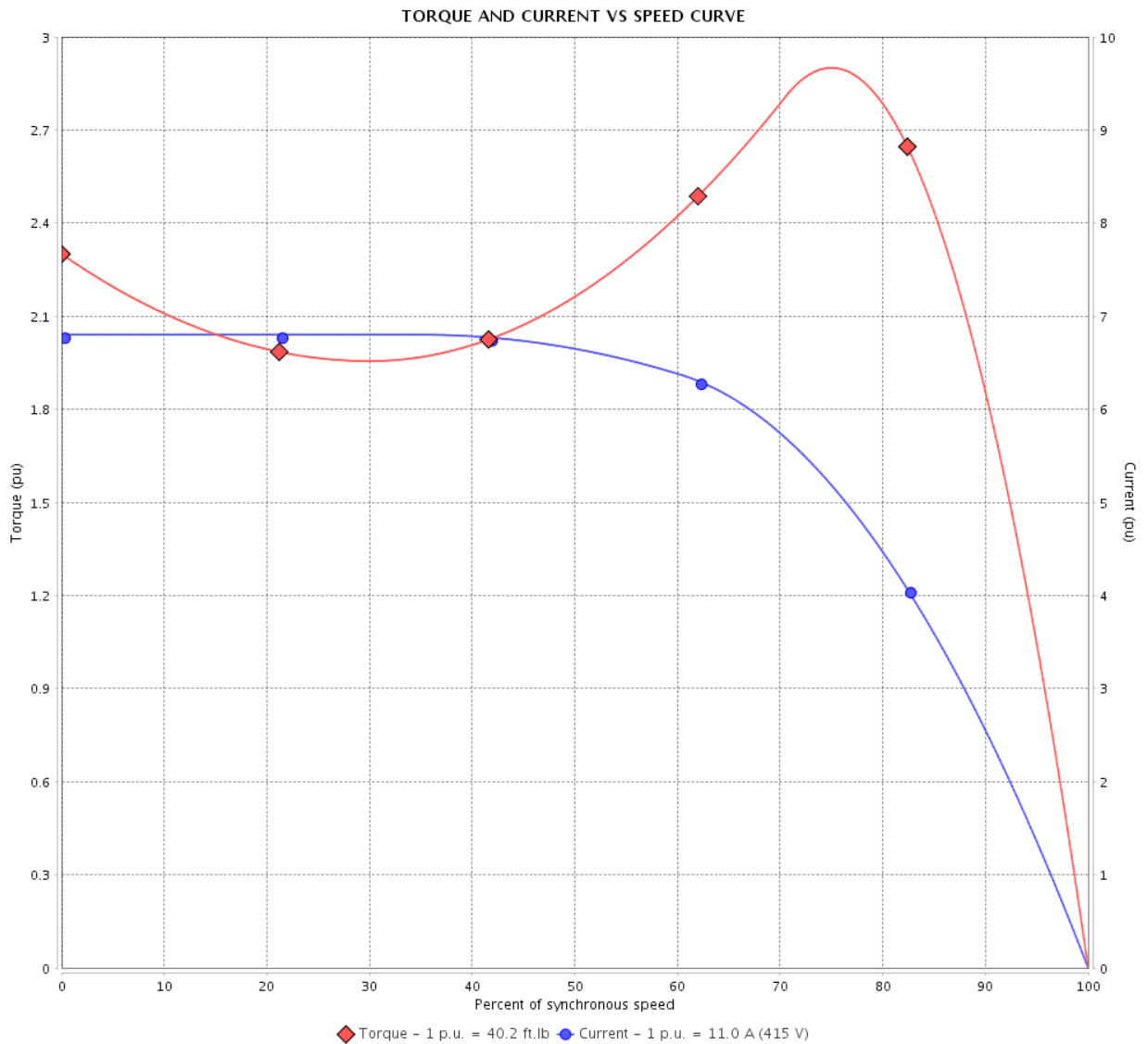
Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 14494121

Catalog # : 007120T3E254TC-W40



Performance : 415 V 50 Hz 6P IE3

Rated current	: 11.0 A	Moment of inertia (J)	: 2.29 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 40.2 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

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

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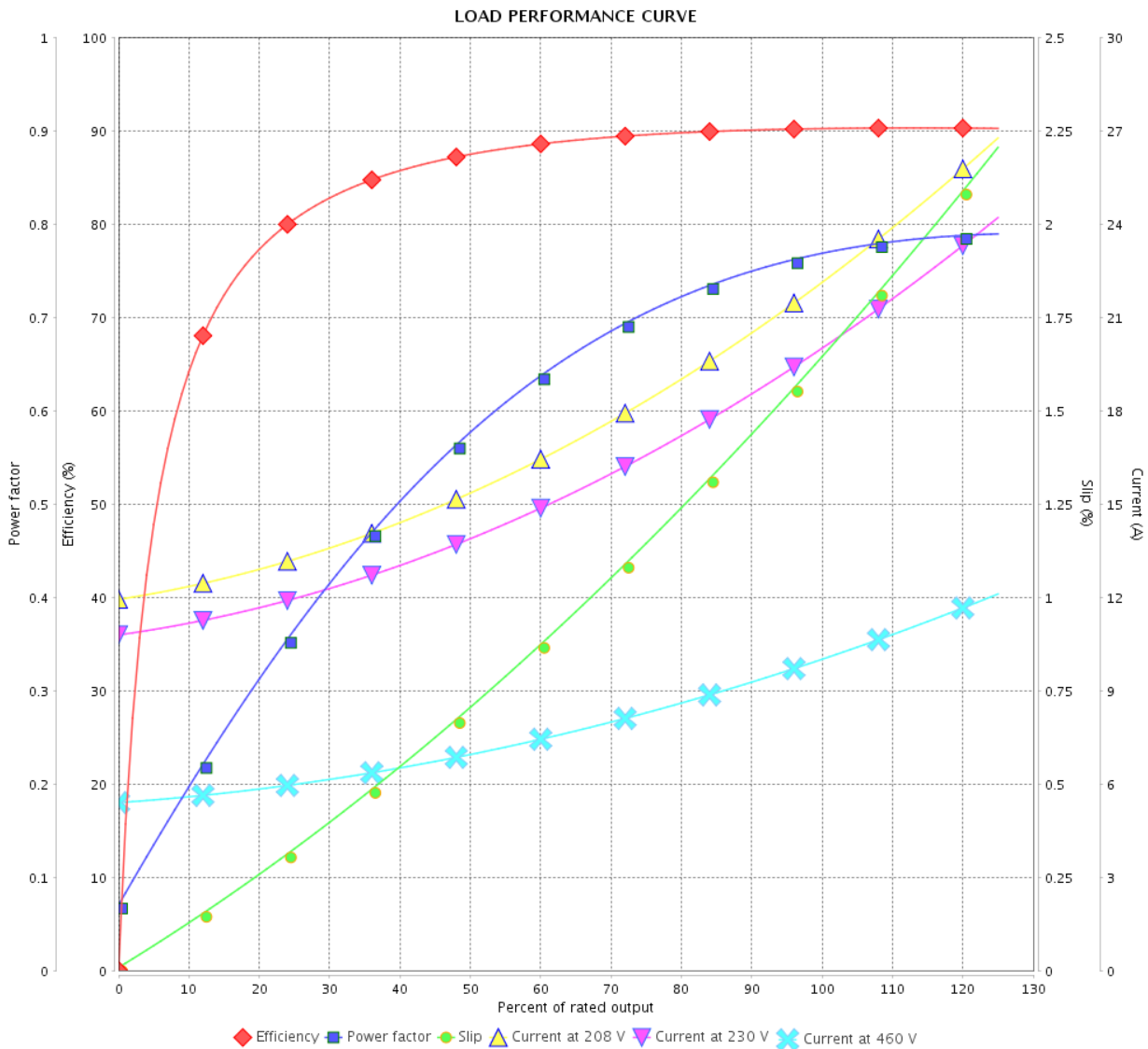


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14494121

Catalog # : 007120T3E254TC-W40



Performance : 230/460 V 60 Hz 6P

Rated current : 19.9/9.94 A
 LRC : 6.7
 Rated torque : 33.4 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 300 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 2.29 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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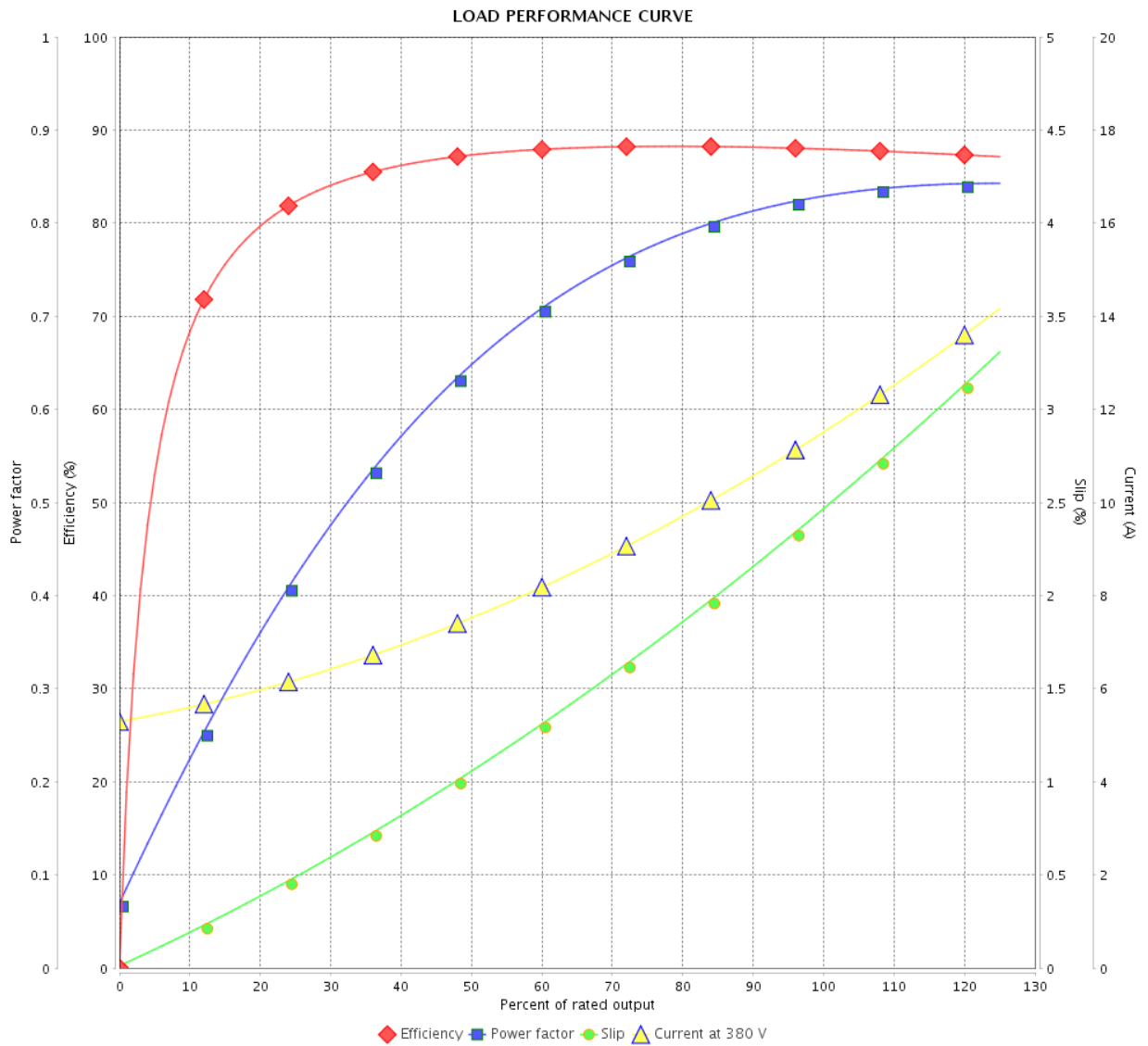


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Product code : 14494121

Catalog # : 007120T3E254TC-W40



Performance : 380 V 50 Hz 6P IE3

Rated current : 11.4 A
 LRC : 5.9
 Rated torque : 40.4 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 240 %
 Rated speed : 975 rpm

Moment of inertia (J) : 2.29 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



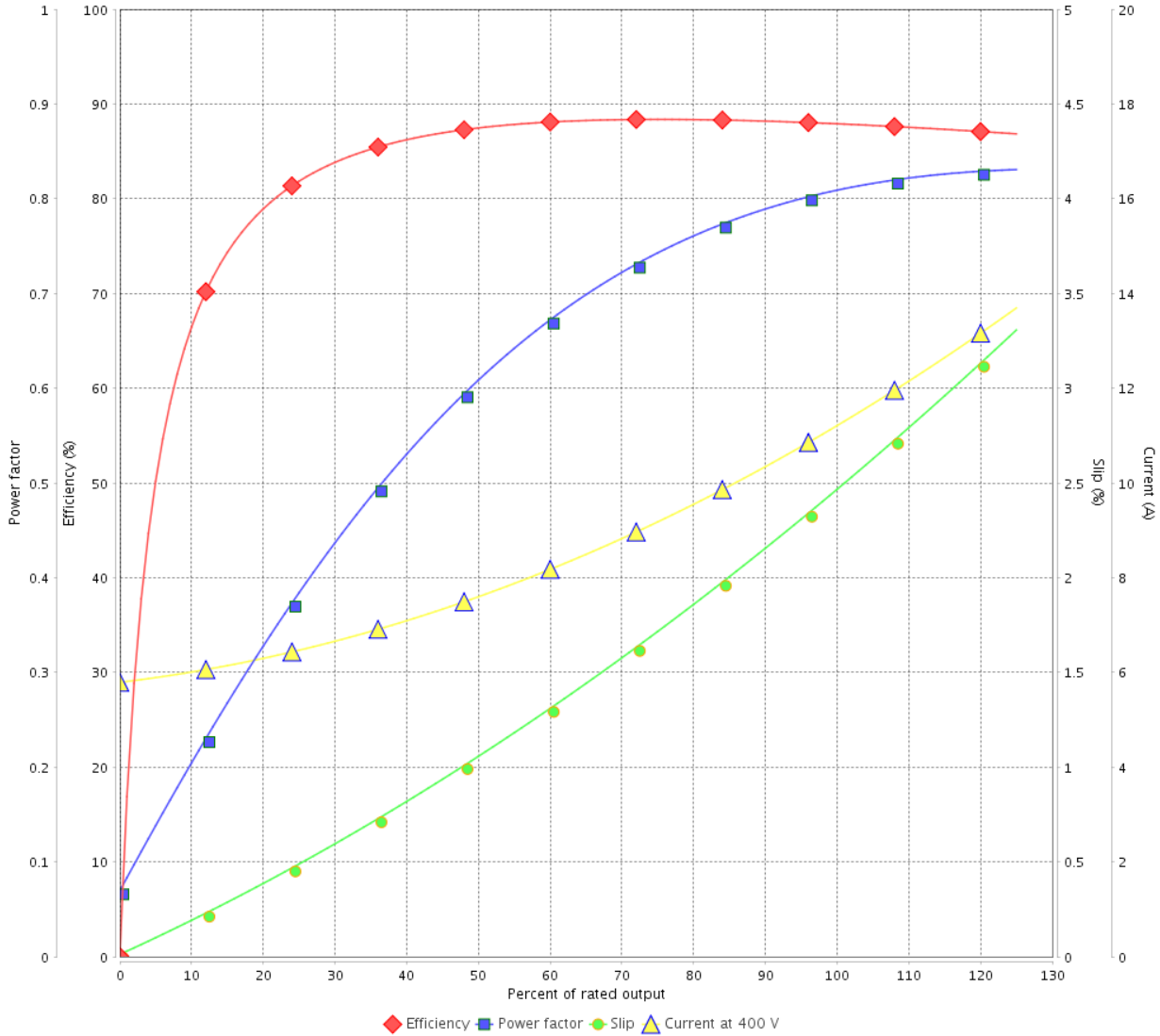
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14494121

Catalog # : 007120T3E254TC-W40

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current : 11.1 A
LRC : 6.4
Rated torque : 40.4 ft.lb
Locked rotor torque : 210 %
Breakdown torque : 260 %
Rated speed : 975 rpm

Moment of inertia (J) : 2.29 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

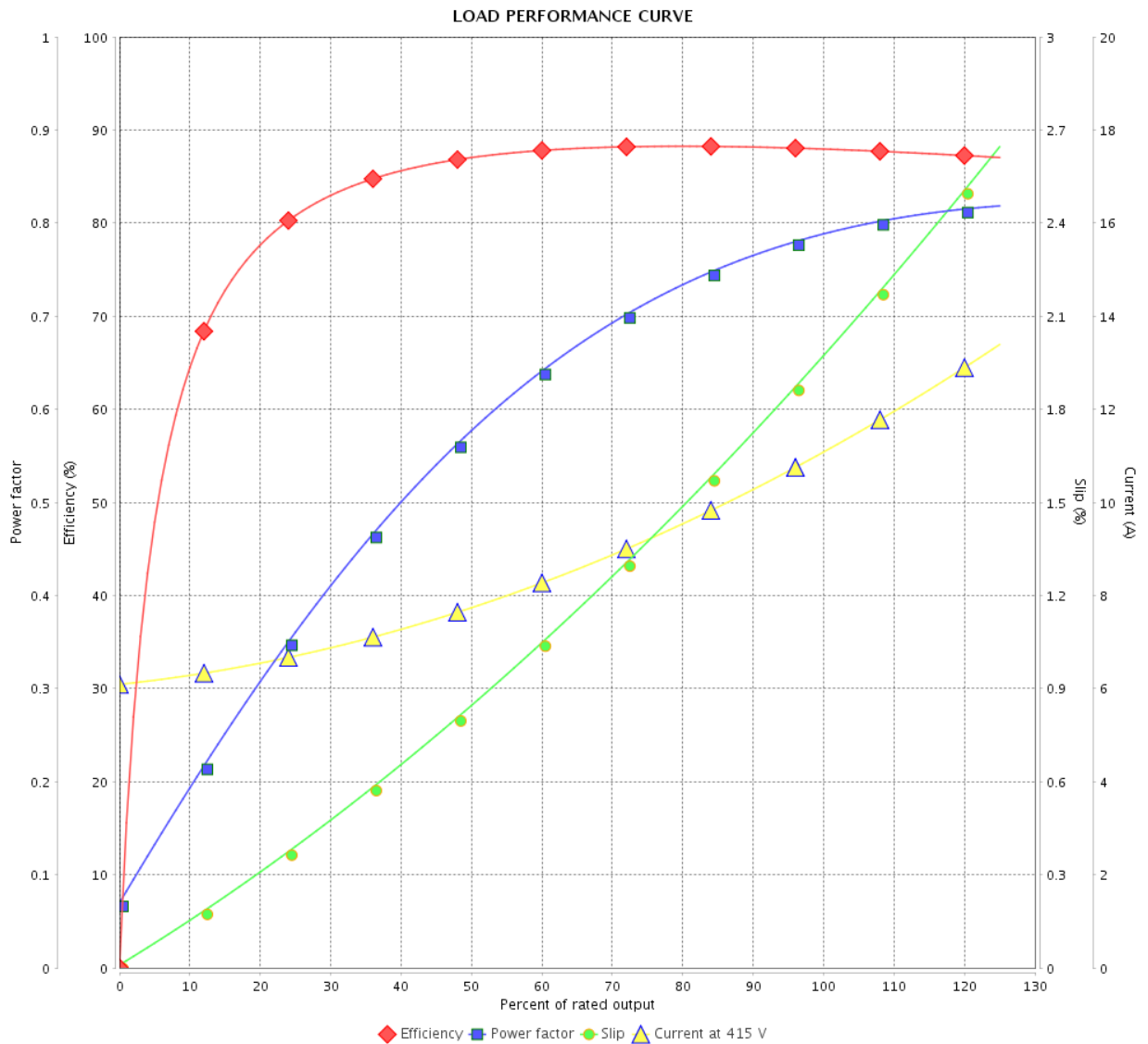


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Product code : 14494121

Catalog # : 007120T3E254TC-W40



Performance : 415 V 50 Hz 6P IE3

Rated current : 11.0 A
LRC : 6.8
Rated torque : 40.2 ft.lb
Locked rotor torque : 229 %
Breakdown torque : 290 %
Rated speed : 980 rpm

Moment of inertia (J) : 2.29 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 NEMA Premium Efficiency
Three-Phase

Product code : 14494121

Catalog # : 00712OT3E254TC-W40

Performance : 230/460 V 60 Hz 6P

Rated current : 19.9/9.94 A
LRC : 6.7
Rated torque : 33.4 ft.lb
Locked rotor torque : 260 %
Breakdown torque : 300 %
Rated speed : 1180 rpm

Moment of inertia (J) : 2.29 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

Heating constant

Cooling constant

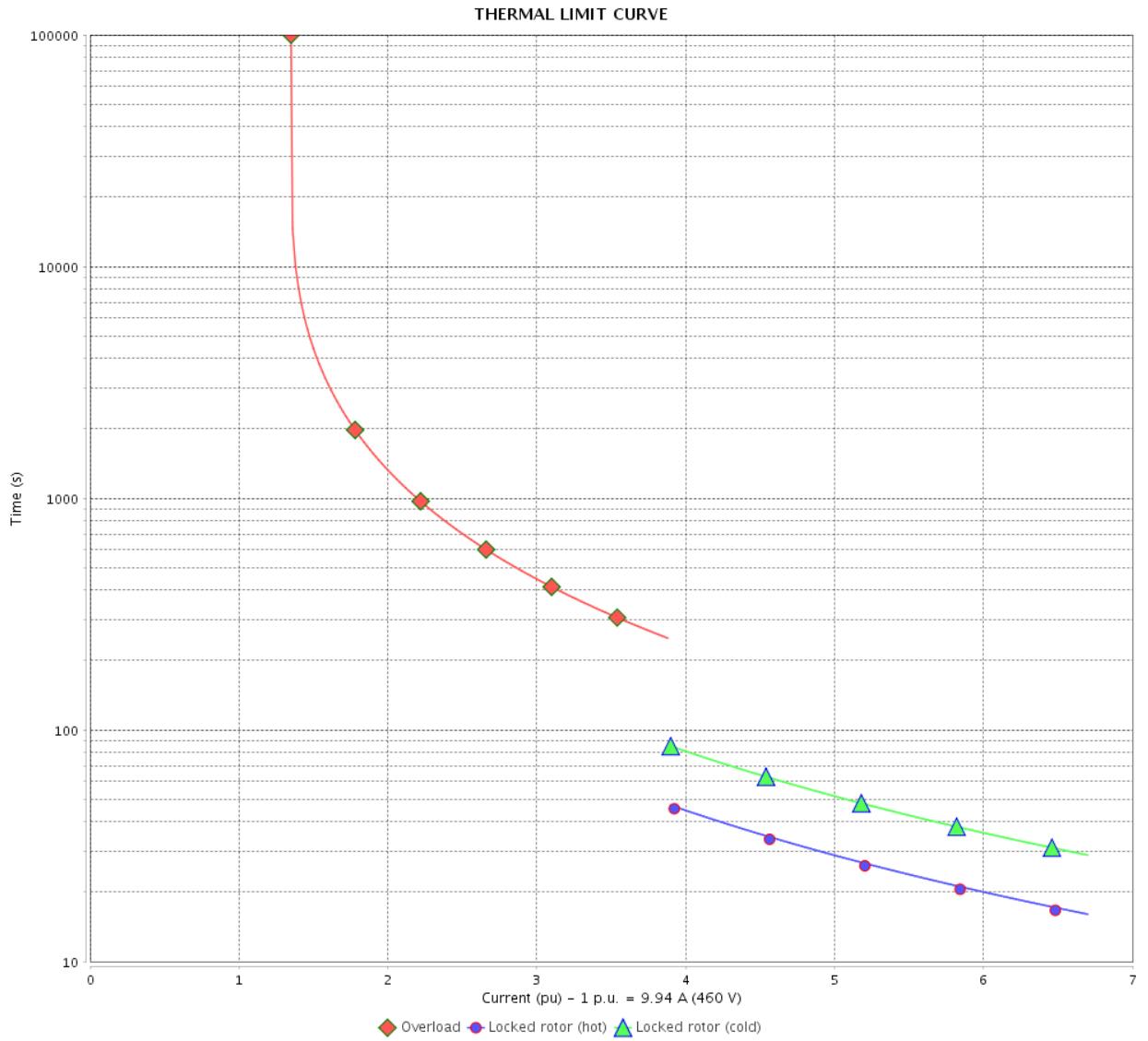
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Three Phase Induction Motor - Squirrel Cage



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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Product code : 14494121

Catalog # : 00712OT3E254TC-W40

Performance : 380 V 50 Hz 6P IE3

Rated current	: 11.4 A	Moment of inertia (J)	: 2.29 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 40.4 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Heating constant

Cooling constant

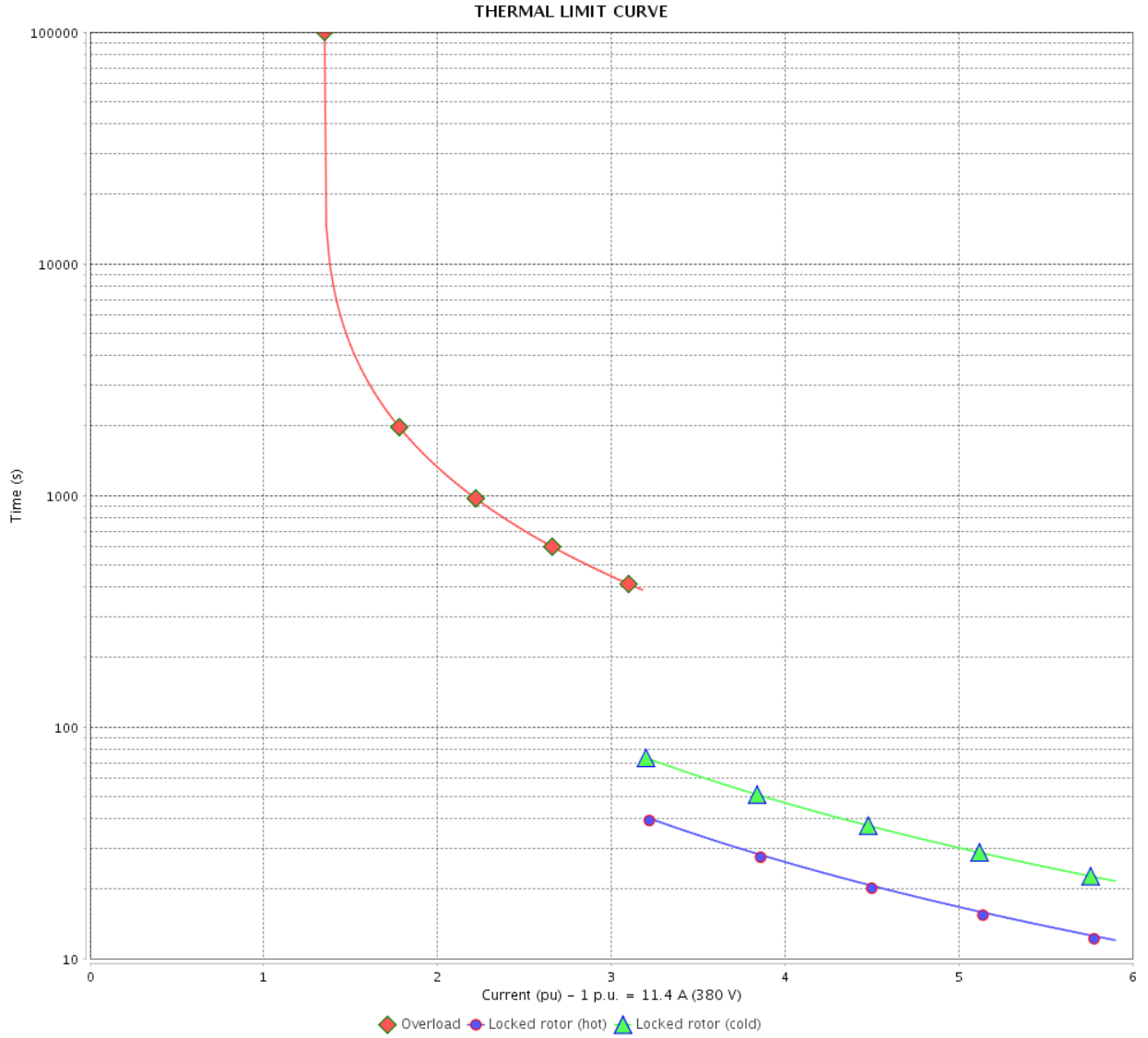
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
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Product code : 14494121

Catalog # : 00712OT3E254TC-W40

Performance : 400 V 50 Hz 6P IE3

Rated current	: 11.1 A	Moment of inertia (J)	: 2.29 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 40.4 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Heating constant

Cooling constant

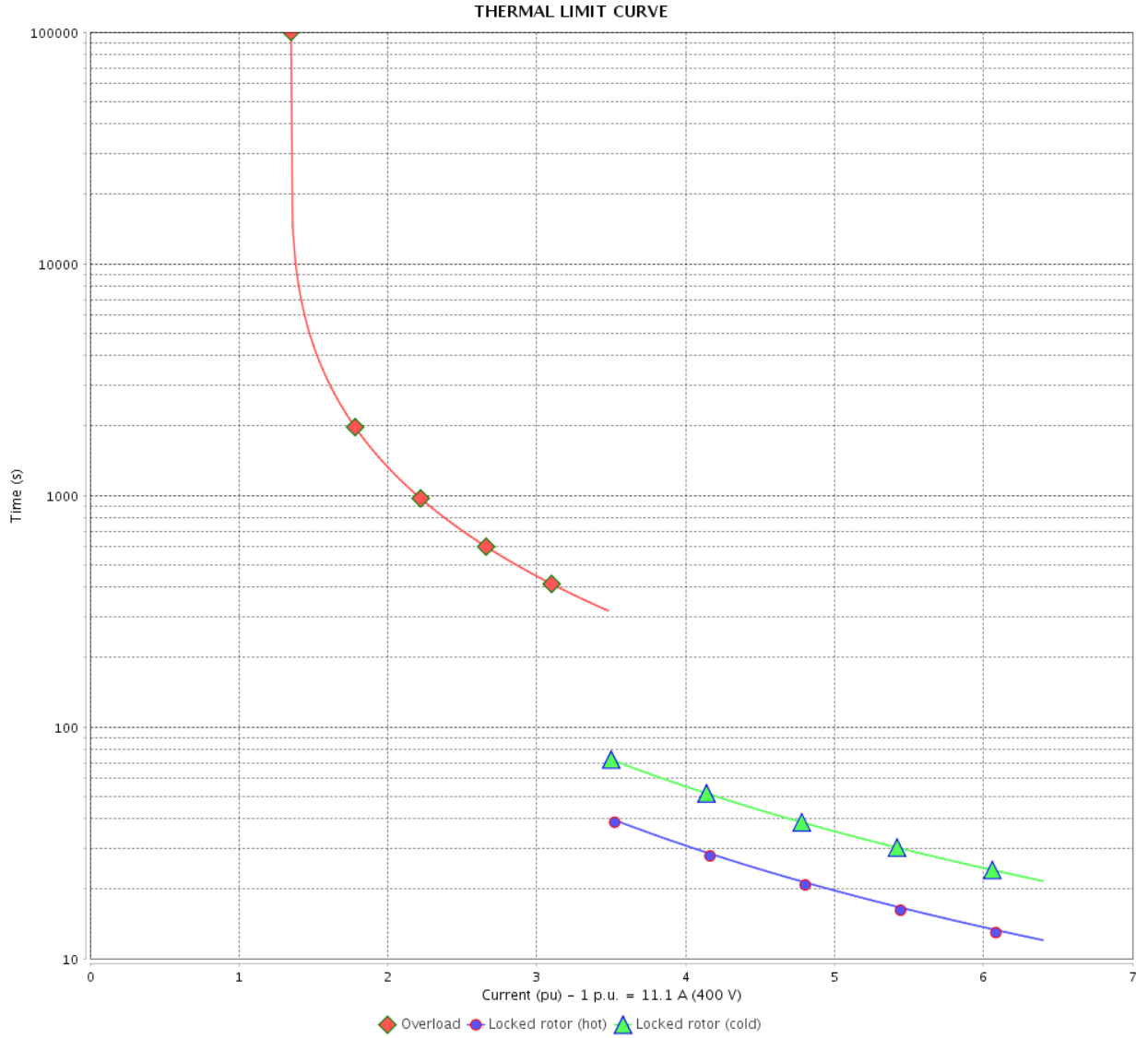
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14494121

Catalog # : 00712OT3E254TC-W40

Performance : 415 V 50 Hz 6P IE3

Rated current	: 11.0 A	Moment of inertia (J)	: 2.29 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 40.2 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 980 rpm	Design	: B

Heating constant

Cooling constant

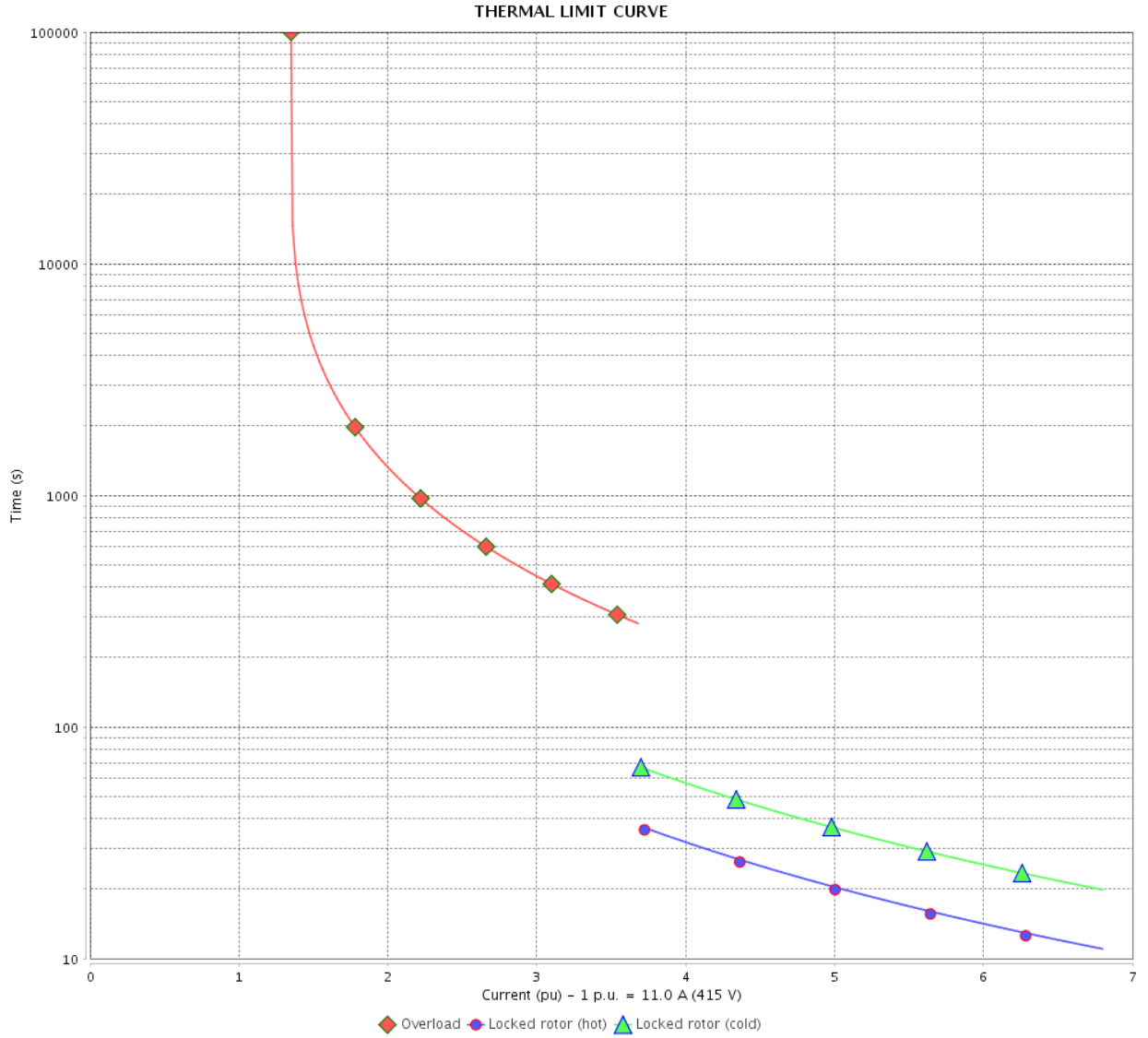
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



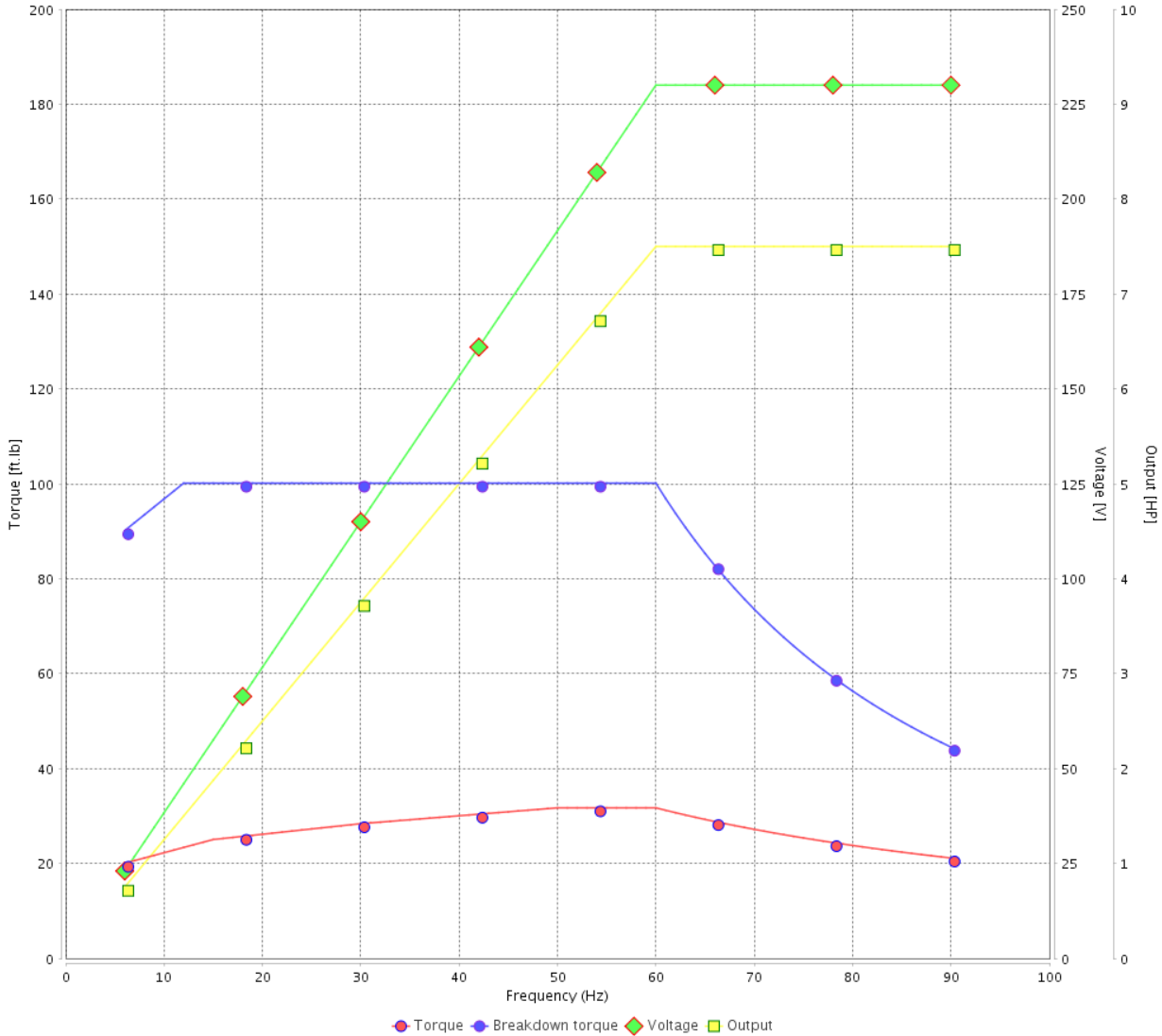
Customer :

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Product code : 14494121

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VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 6P

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 Locked rotor torque : 260 %
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 Rated speed : 1180 rpm

Moment of inertia (J) : 2.29 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

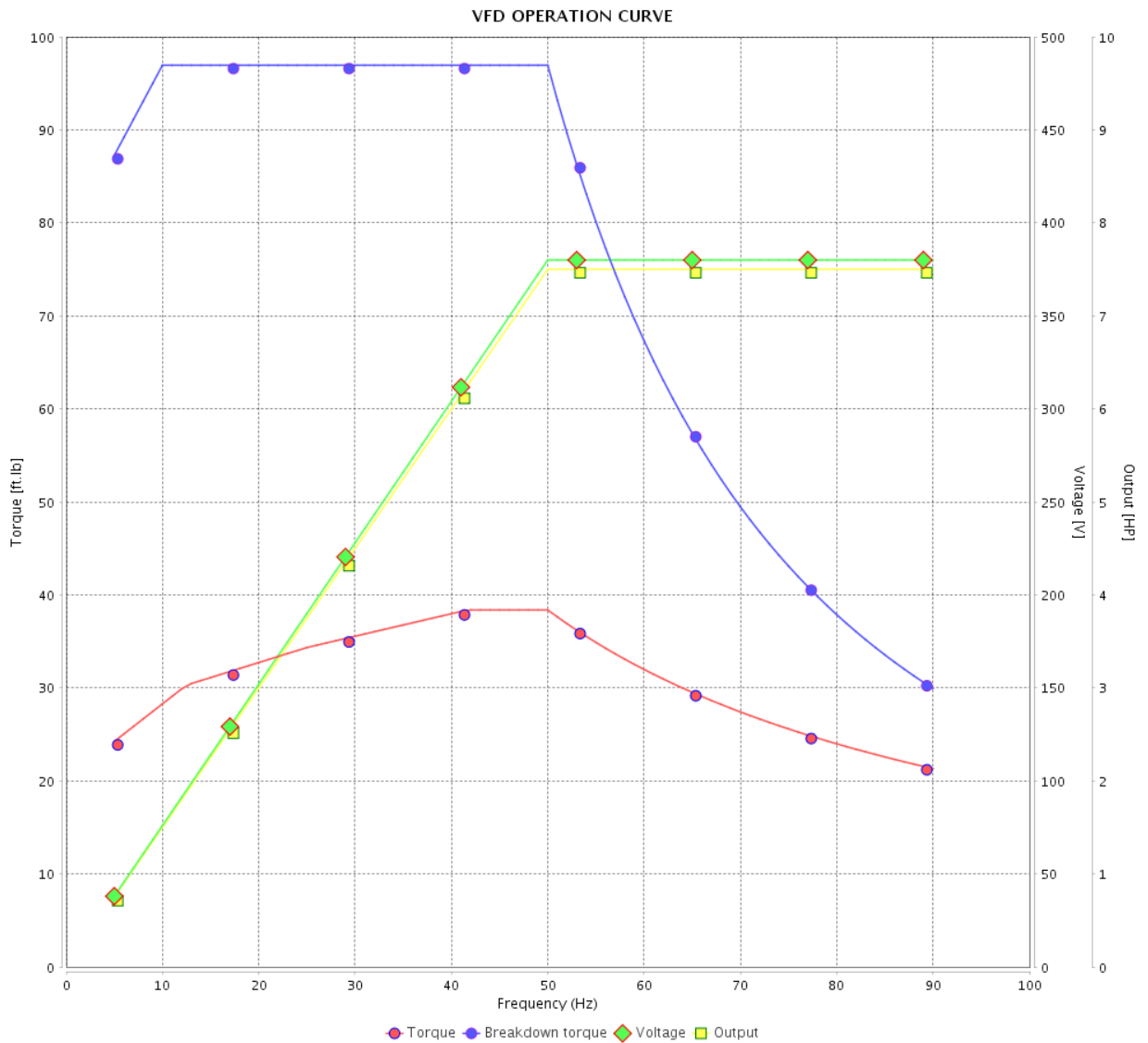


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Performance : 380 V 50 Hz 6P IE3

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Rated speed : 975 rpm

Moment of inertia (J) : 2.29 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



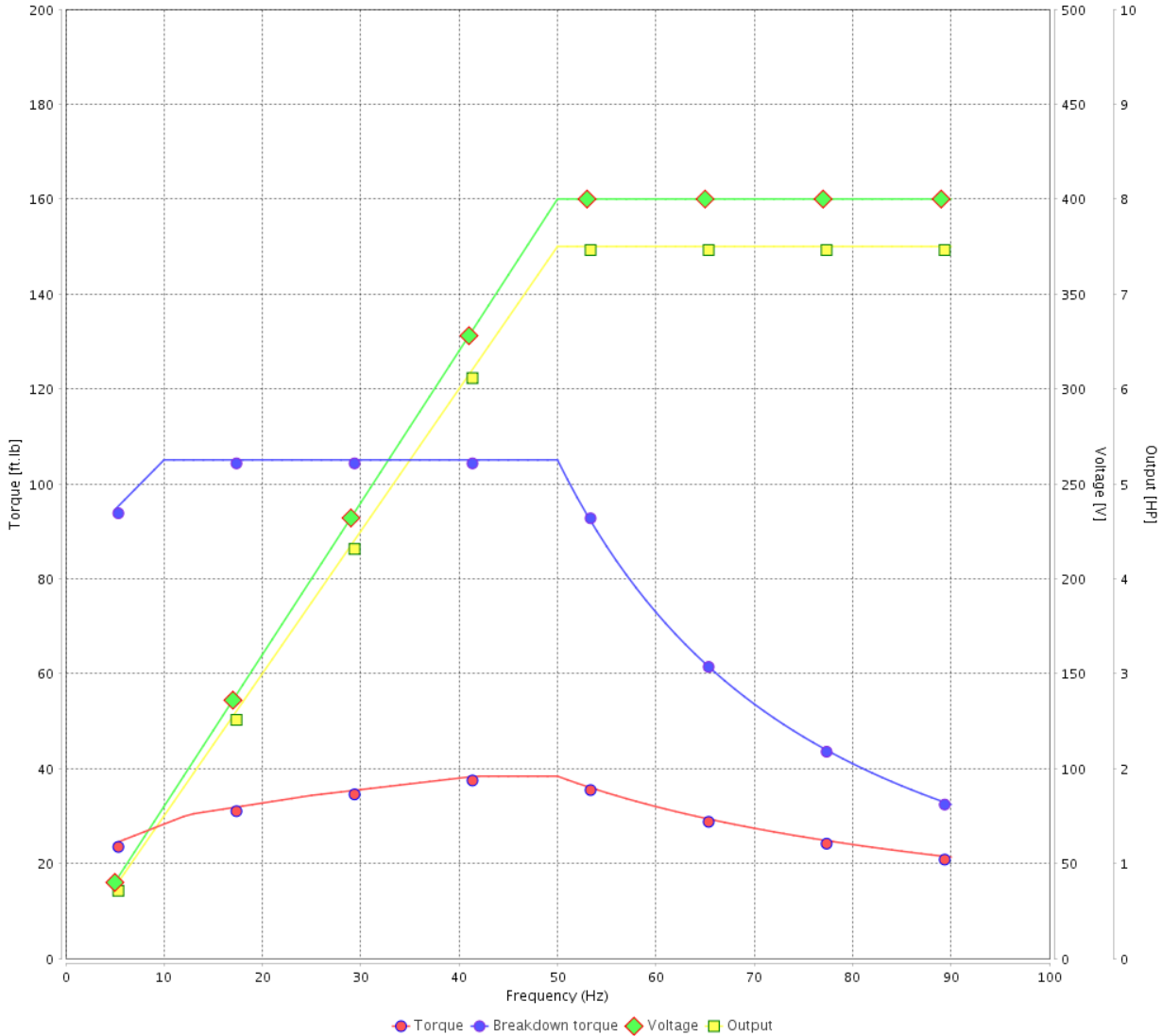
Customer : _____

Product line : W40 NEMA Premium Efficiency Three-Phase

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VFD OPERATION CURVE



Performance : 400 V 50 Hz 6P IE3

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VFD OPERATION CURVE

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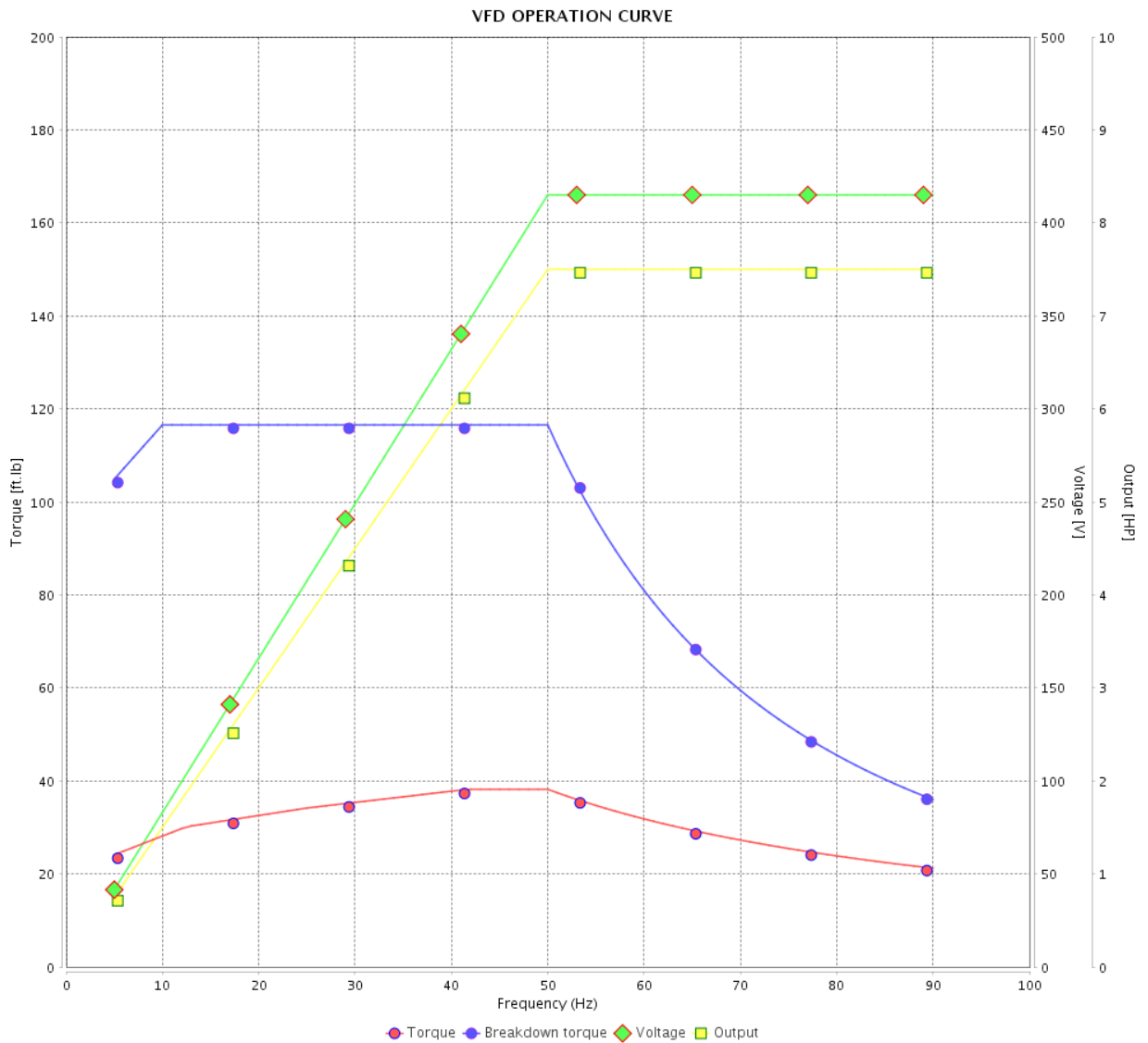


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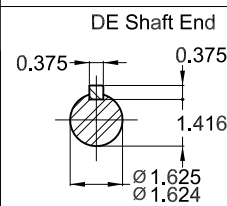
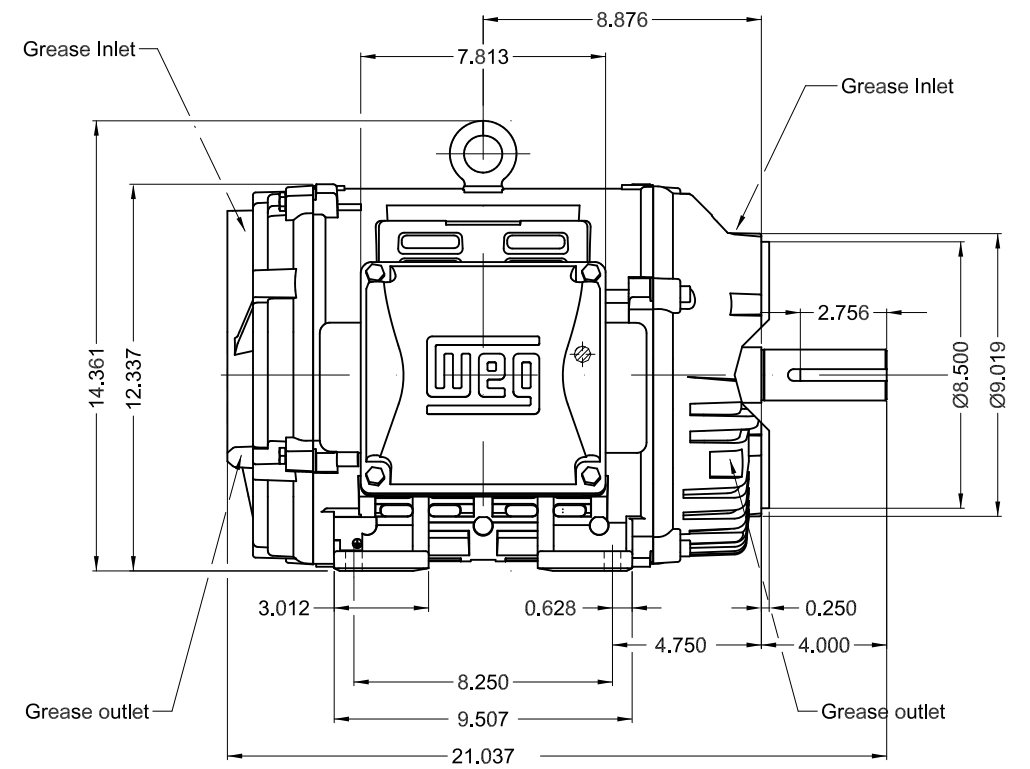
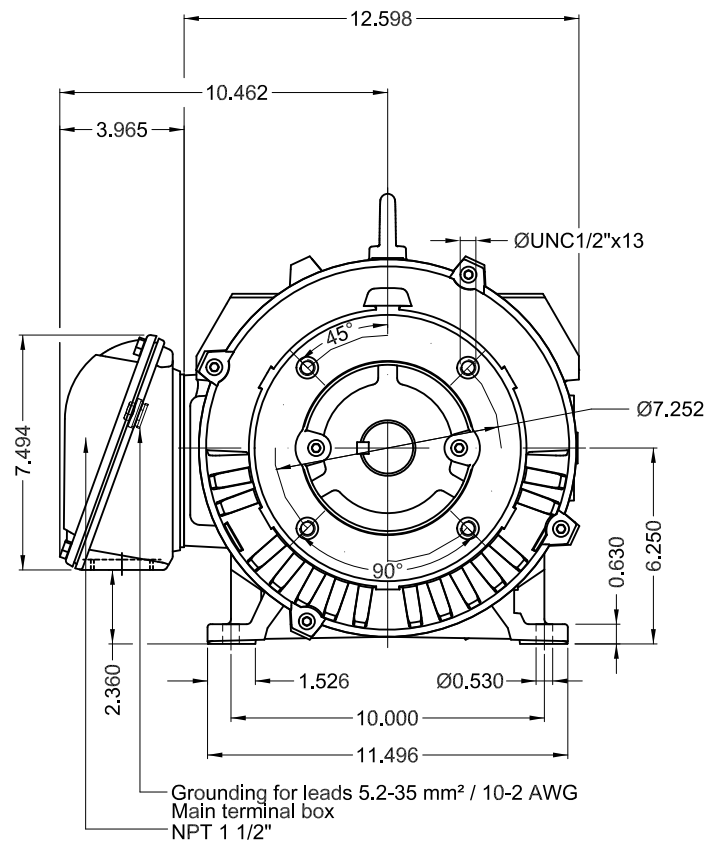


Performance : 415 V 50 Hz 6P IE3

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

7.5 HP 06 Poles 60 Hz A

1:6

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF. FRAME 254TC IP23 ODP					
CHECKED							
RELEASED							
REL DT.		WMO Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD

