

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer								
Product line		: W40 NEMA Premium Efficiency Three-Phase		Product code :		13821180		
				Catalog # :		80036OT3Q5010S-W40		
Frame		: 5010/11		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		: 3529 lb		
Protection degree		: IP23		Moment of inertia (J)		: 89.0 sq.ft.lb		
Output [HP]	800	650	650	650	700	700	700	
Poles	2	2	2	2	2	2	2	
Frequency [Hz]	60	50	50	50	50	50	50	
Rated voltage [V]	460	380	400	415	380	400	415	
Rated current [A]	885	885	861	850	939	913	912	
L. R. Amperes [A]	6549	6638	6888	7225	6573	6848	7296	
LRC [A]	7.4x(Code H)	7.5x(Code H)	8.0x(Code J)	8.5x(Code J)	7.0x(Code G)	7.5x(Code H)	8.0x(Code J)	
No load current [A]	220	220	250	280	220	250	280	
Rated speed [RPM]	3575	2975	2975	2975	2970	2975	2975	
Slip [%]	0.69	0.83	0.83	0.83	1.00	0.83	0.83	
Rated torque [ft.lb]	1180	1150	1150	1150	1240	1240	1240	
Locked rotor torque [%]	200	190	210	229	180	200	220	
Breakdown torque [%]	250	260	290	320	240	260	280	
Service factor	1.15	1.15	1.15	1.15	1.00	1.00	1.00	
Temperature rise	80 K	105 K	80 K	80 K	105 K	105 K	105 K	
Locked rotor time	21s (cold) 12s (hot)	27s (cold) 15s (hot)	25s (cold) 14s (hot)	23s (cold) 13s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	
Noise level ²	89.0 dB(A)							
Efficiency (%)	25%	95.7	95.4	95.1	94.7	94.9	95.1	94.7
	50%	95.8	95.5	95.2	95.0	95.0	95.2	95.0
	75%	96.2	95.8	95.8	95.6	95.8	95.8	95.6
	100%	96.2	95.8	95.8	95.8	95.8	95.8	95.8
Power Factor	25%	0.56	0.55	0.49	0.45	0.57	0.52	0.47
	50%	0.78	0.77	0.71	0.67	0.78	0.74	0.69
	75%	0.85	0.84	0.80	0.76	0.85	0.81	0.78
	100%	0.87	0.86	0.84	0.82	0.87	0.85	0.82
Bearing type	: <u>Drive end</u> 6314 C3 <u>Non drive end</u> 6314 C3		Foundation loads					
Sealing	: Without Without		Max. traction					
	: Bearing Seal Bearing Seal		Max. compression					
Lubrication interval	: 4500 h 4500 h							
Lubricant amount	: 27 g 27 g							
Lubricant type	: Mobil Polyrex EM							
Notes								
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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Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermistor - 2 wires	1 x Phase	155 °C

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TORQUE AND CURRENT VS SPEED CURVE



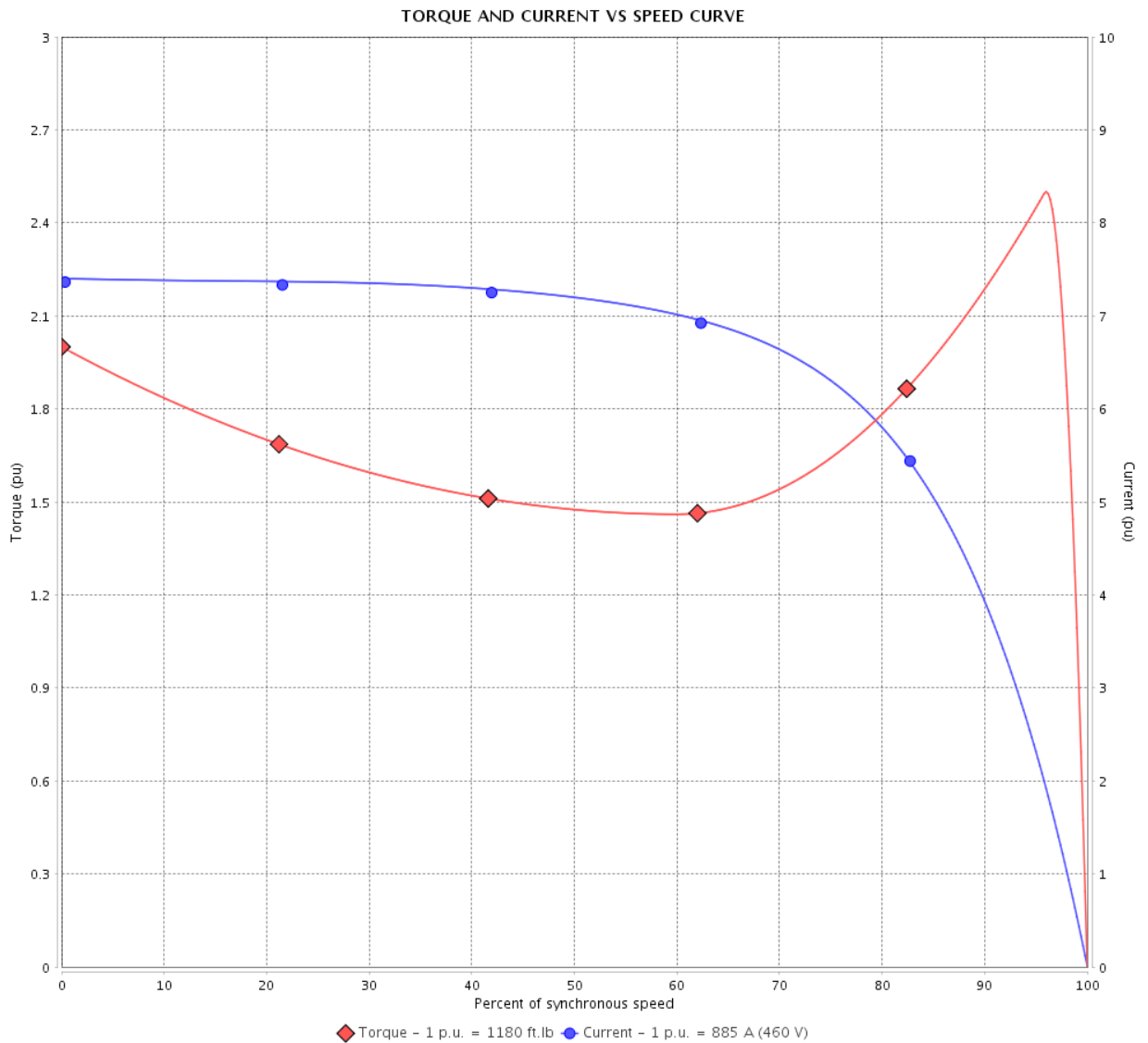
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 460 V 60 Hz 2P

Rated current : 885 A	Moment of inertia (J) : 89.0 sq.ft.lb
LRC : 7.4	Duty cycle : Cont.(S1)
Rated torque : 1180 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.15
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 3575 rpm	

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



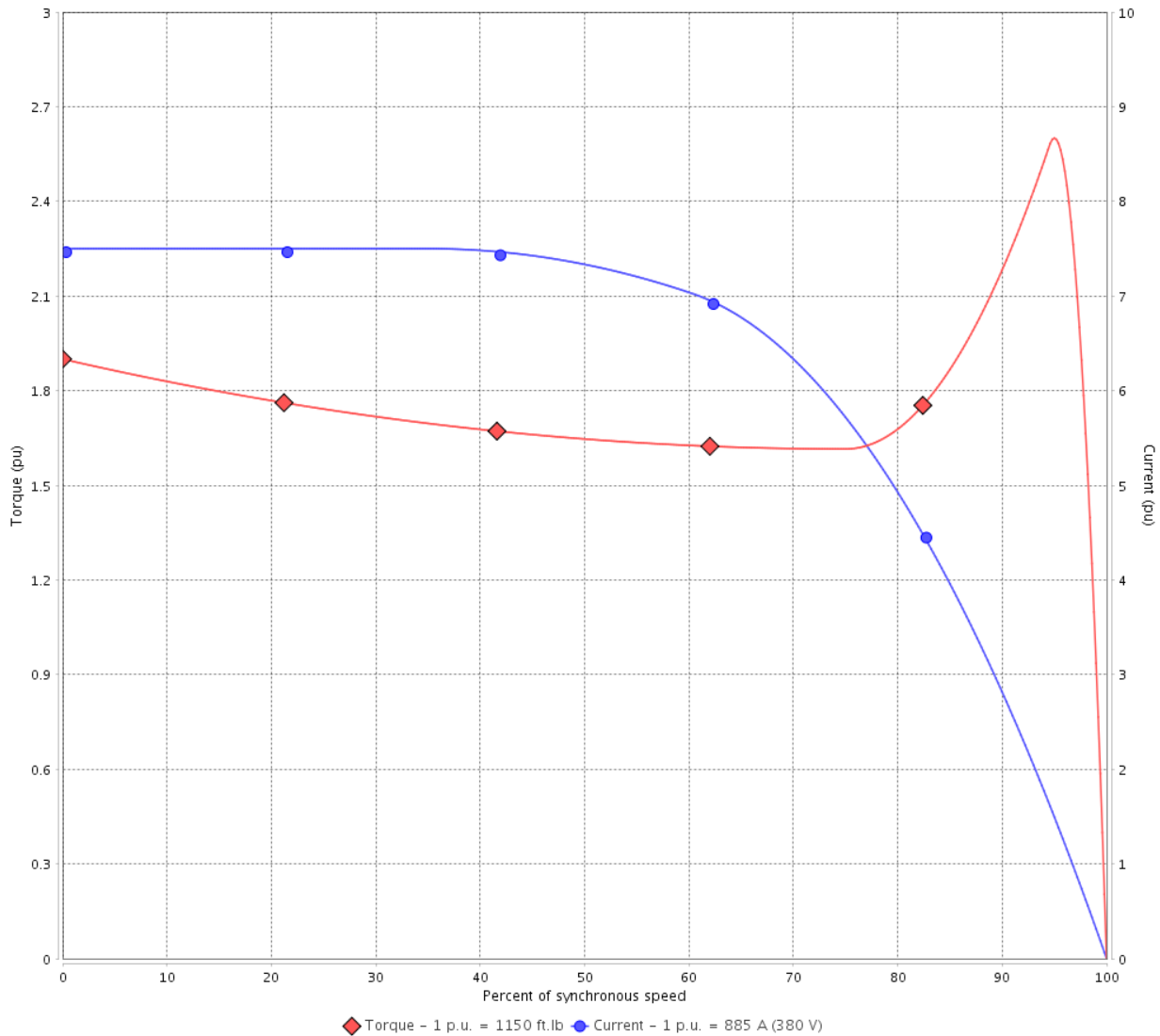
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 2P IE3

Rated current	: 885 A	Moment of inertia (J)	: 89.0 sq.ft.lb
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 1150 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 260 %	Temperature rise	: 105 K
Rated speed	: 2975 rpm		

Locked rotor time : 27s (cold) 15s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



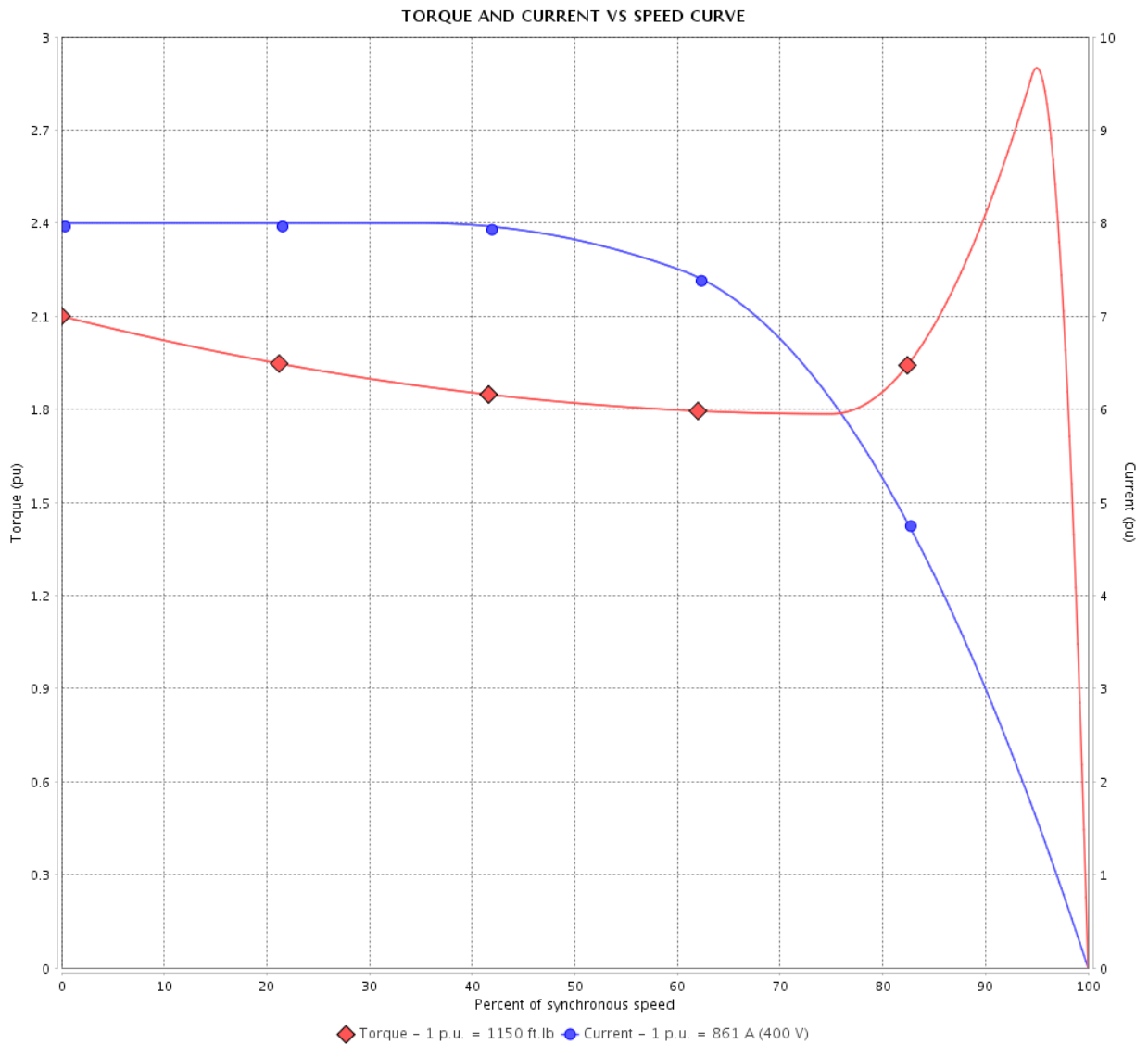
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 400 V 50 Hz 2P IE3

Rated current : 861 A
LRC : 8.0
Rated torque : 1150 ft.lb
Locked rotor torque : 210 %
Breakdown torque : 290 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



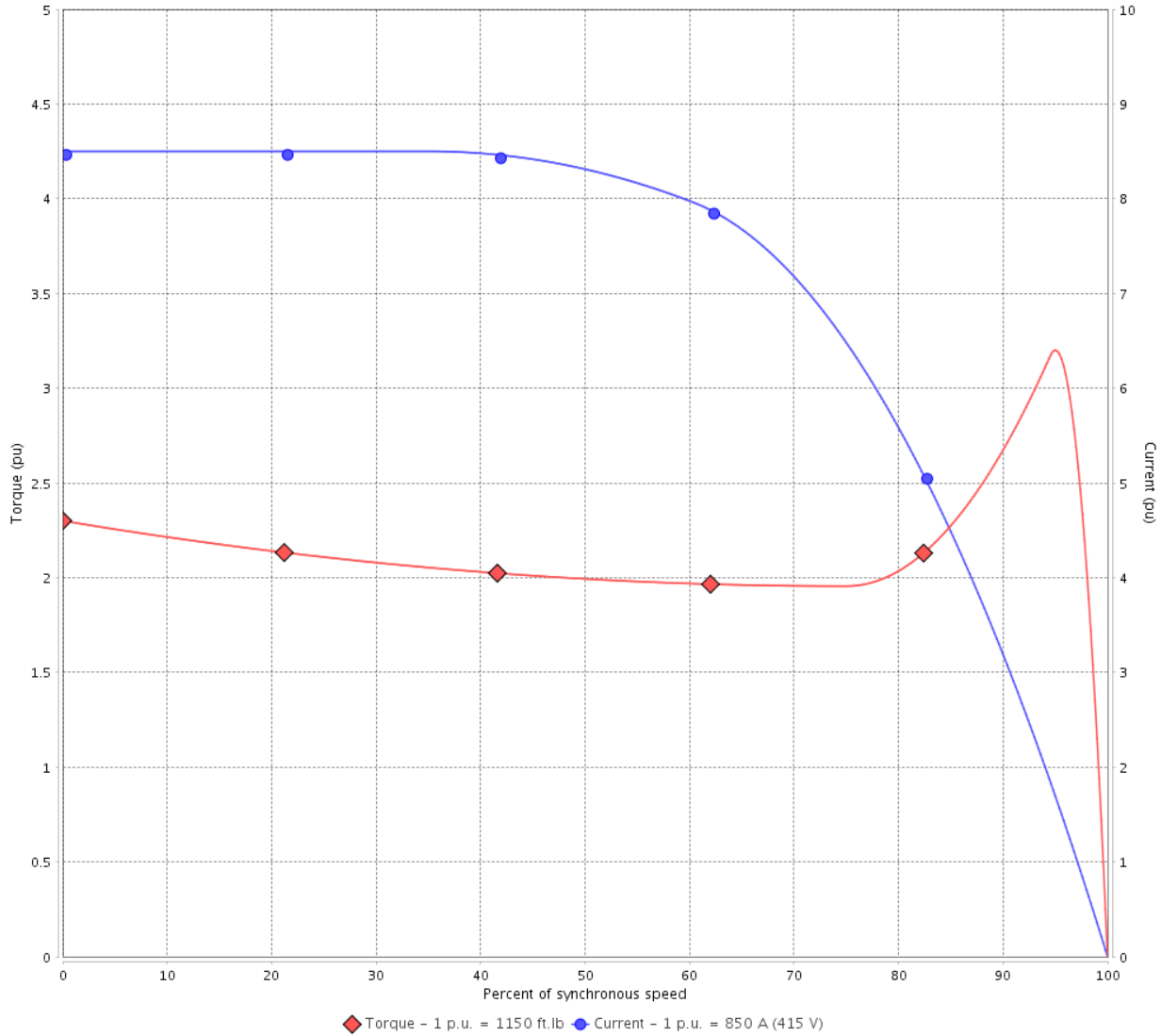
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 2P IE3

Rated current	: 850 A	Moment of inertia (J)	: 89.0 sq.ft.lb
LRC	: 8.5	Duty cycle	: Cont.(S1)
Rated torque	: 1150 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 2975 rpm		

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

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TORQUE AND CURRENT VS SPEED CURVE



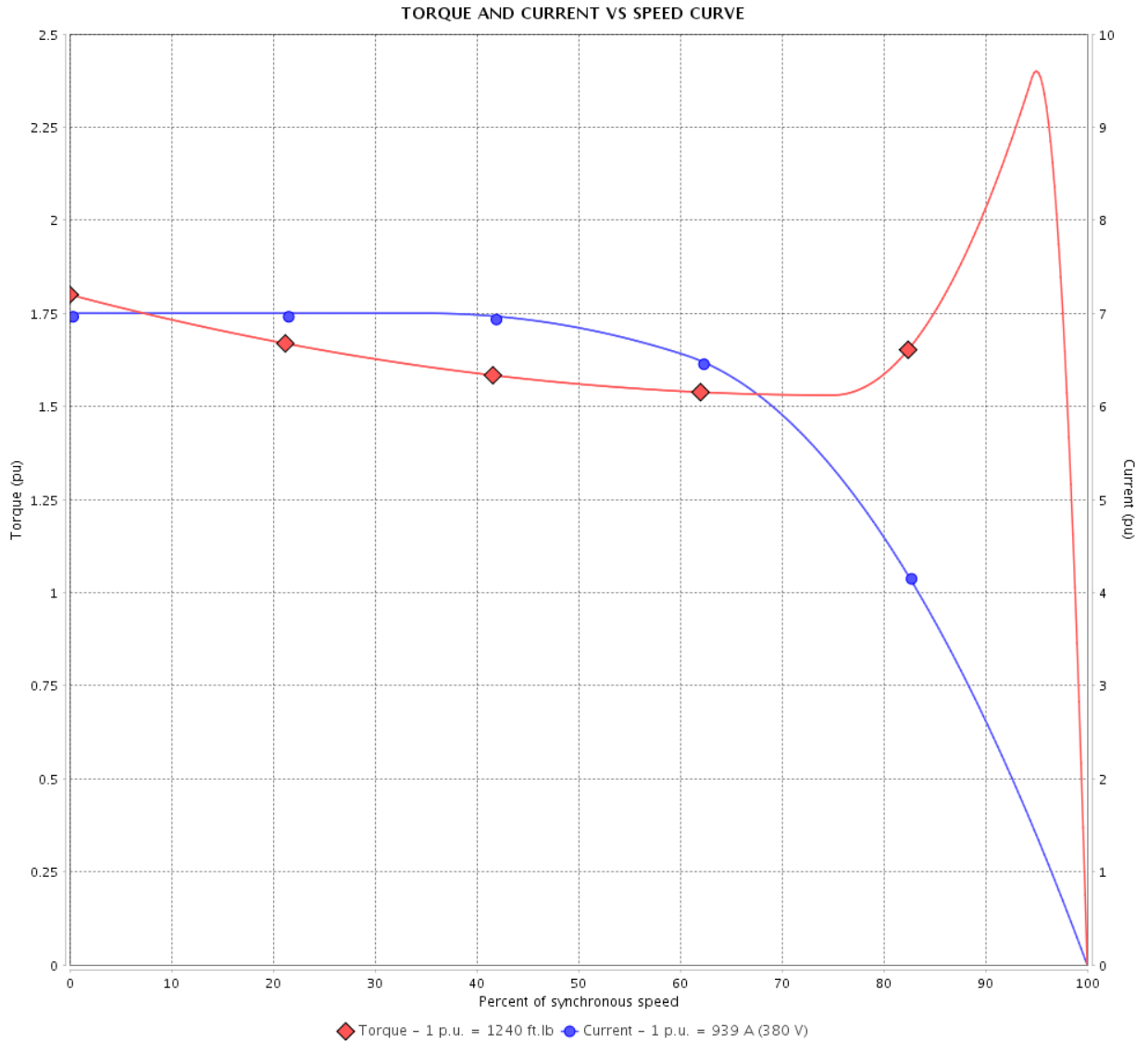
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 380 V 50 Hz 2P IE3

Rated current	: 939 A	Moment of inertia (J)	: 89.0 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 1240 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 2970 rpm		

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



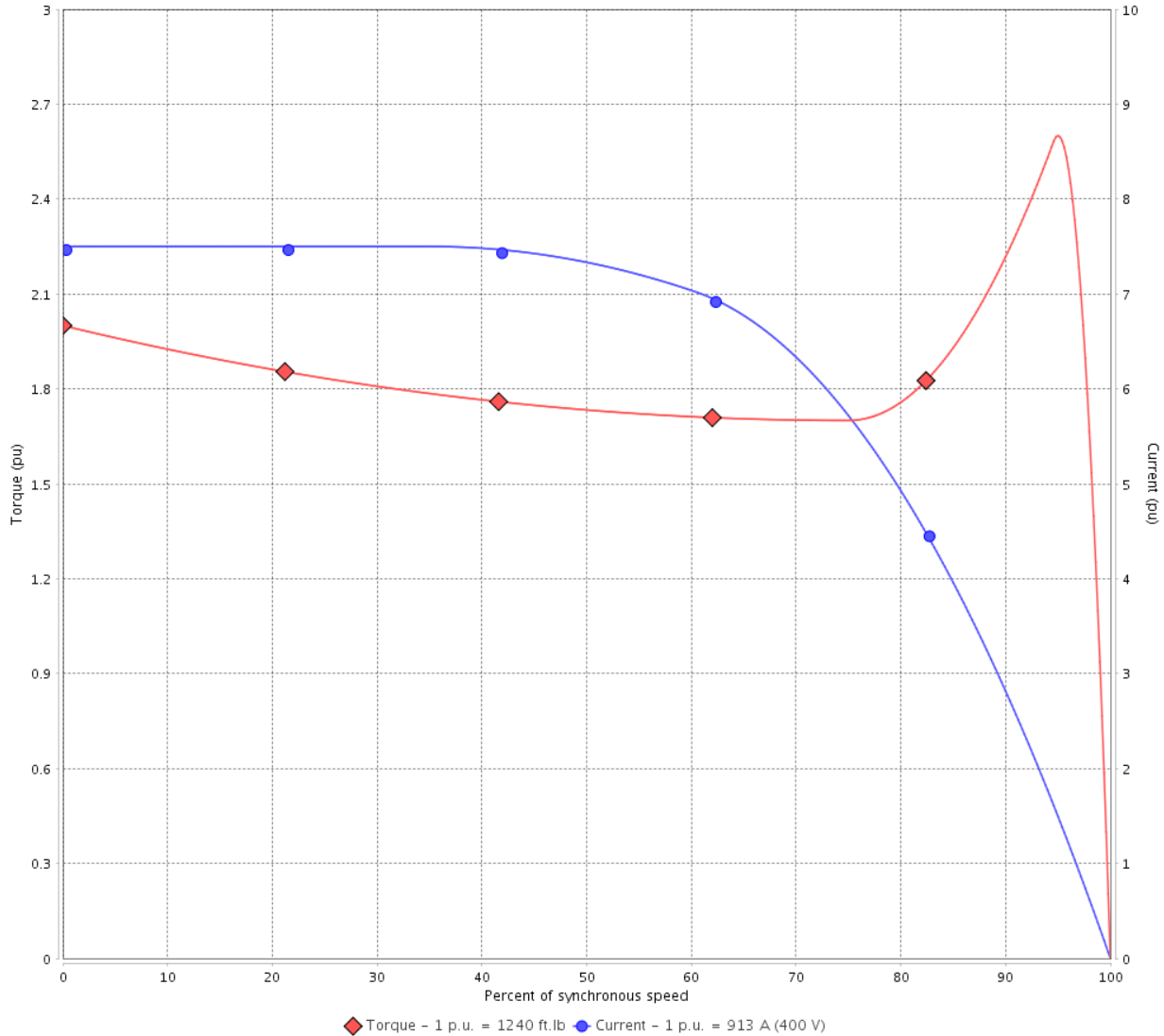
Customer :

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Product code : 13821180

Catalog # : 80036OT3Q5010S-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current	: 913 A	Moment of inertia (J)	: 89.0 sq.ft.lb
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 1240 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 105 K
Rated speed	: 2975 rpm		

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

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TORQUE AND CURRENT VS SPEED CURVE



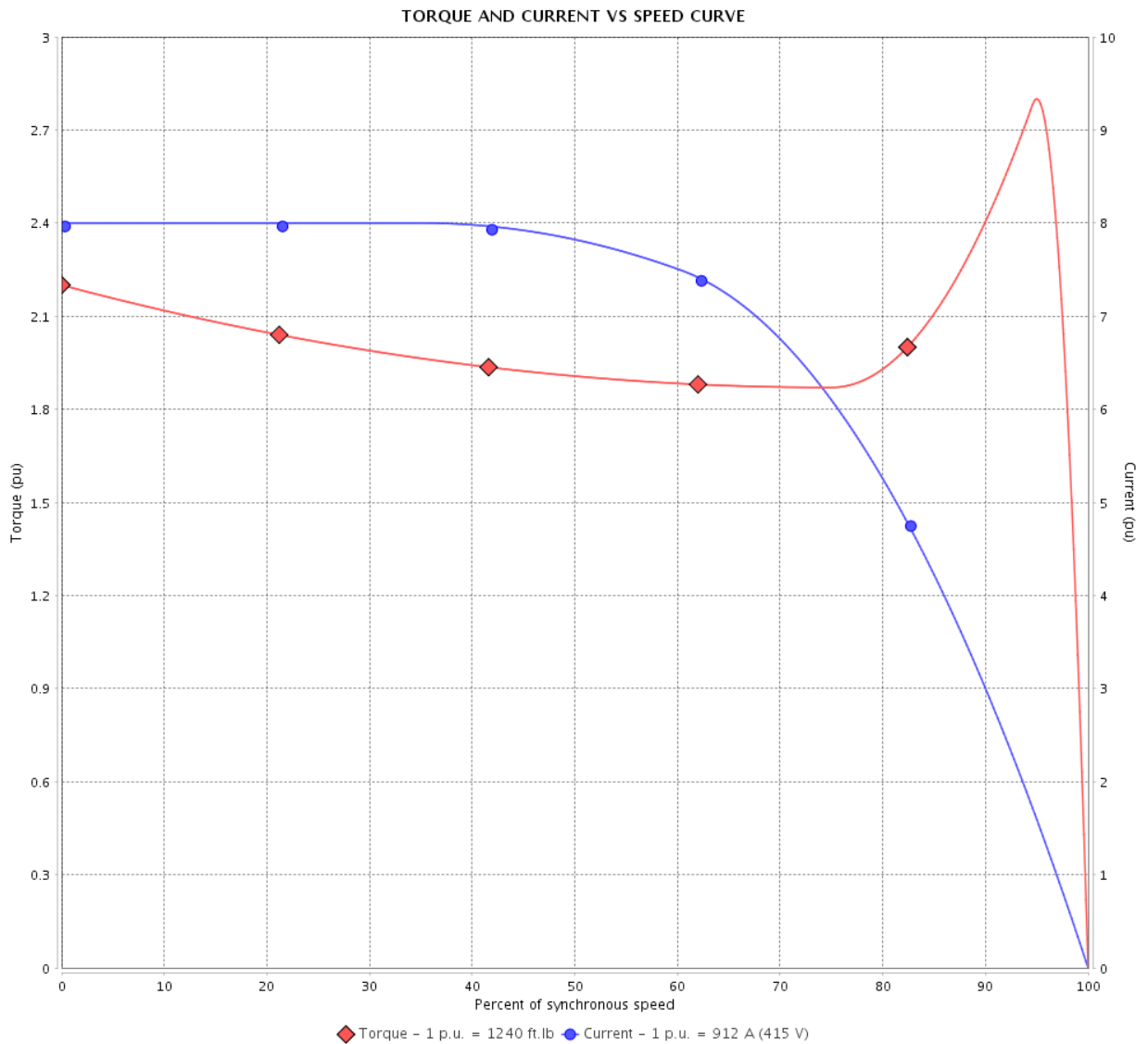
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 415 V 50 Hz 2P IE3

Rated current : 912 A
LRC : 8.0
Rated torque : 1240 ft.lb
Locked rotor torque : 220 %
Breakdown torque : 280 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K

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

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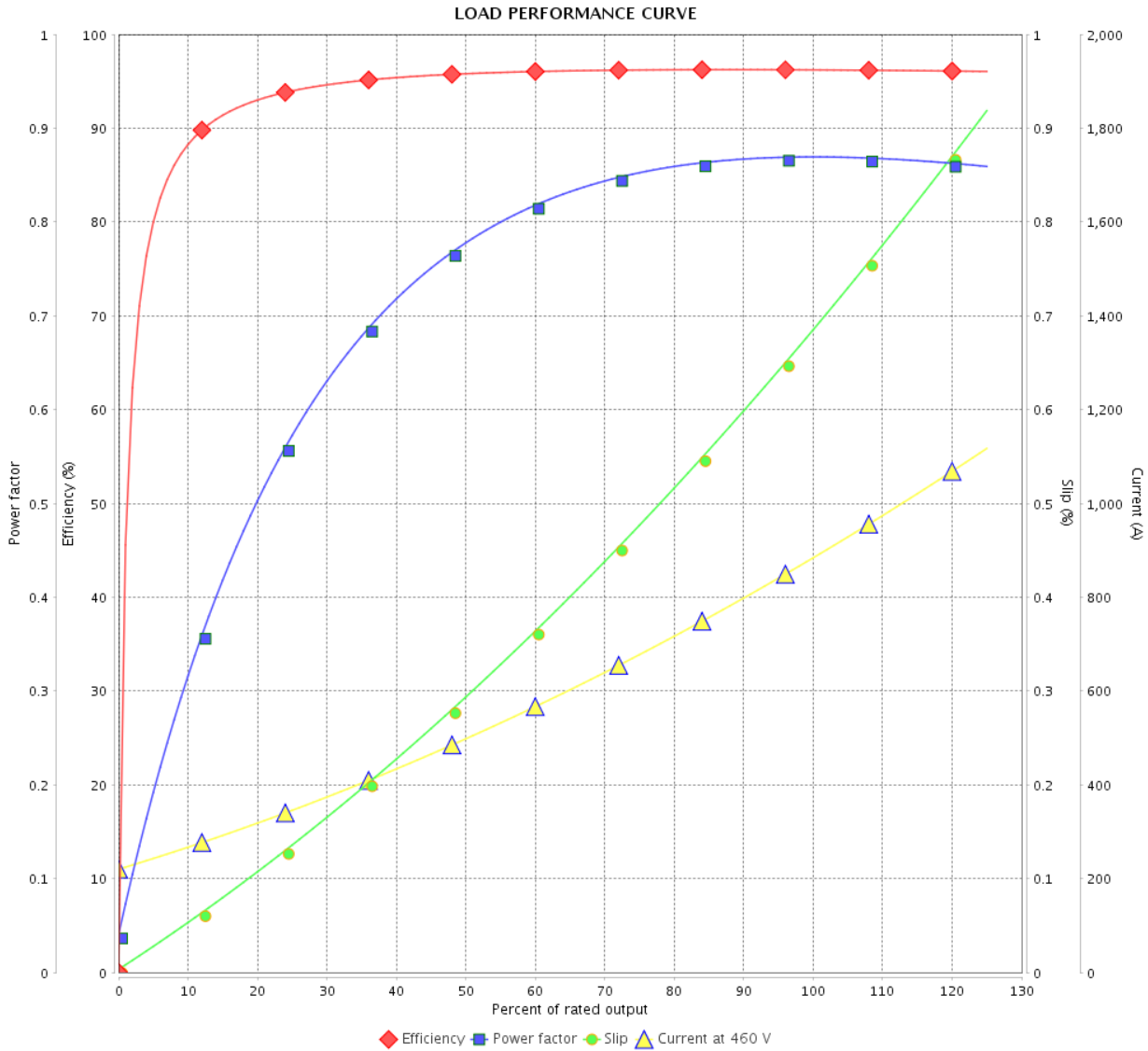


Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 460 V 60 Hz 2P

Rated current : 885 A
 LRC : 7.4
 Rated torque : 1180 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 250 %
 Rated speed : 3575 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K

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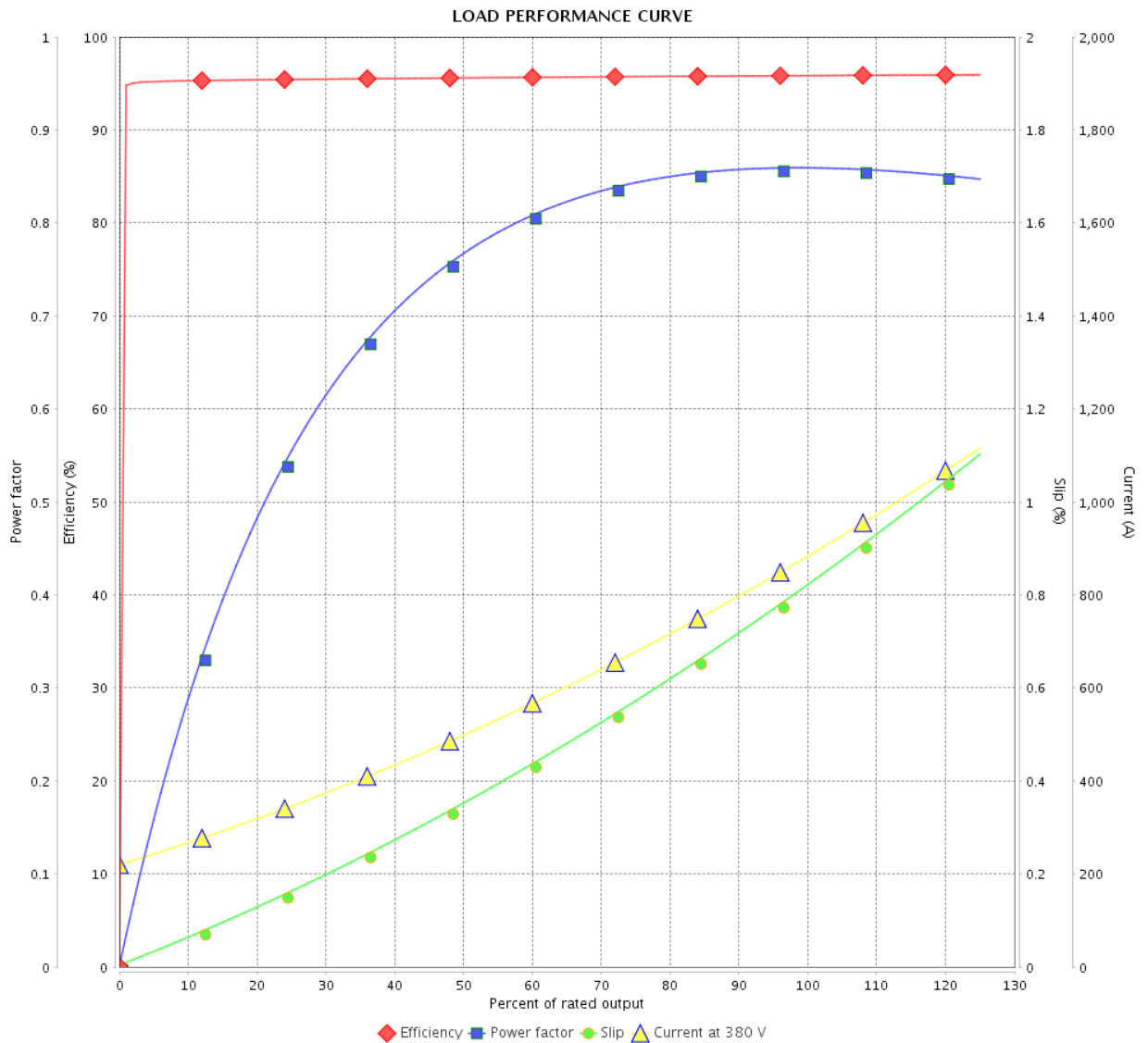


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Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 885 A
 LRC : 7.5
 Rated torque : 1150 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 260 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 105 K

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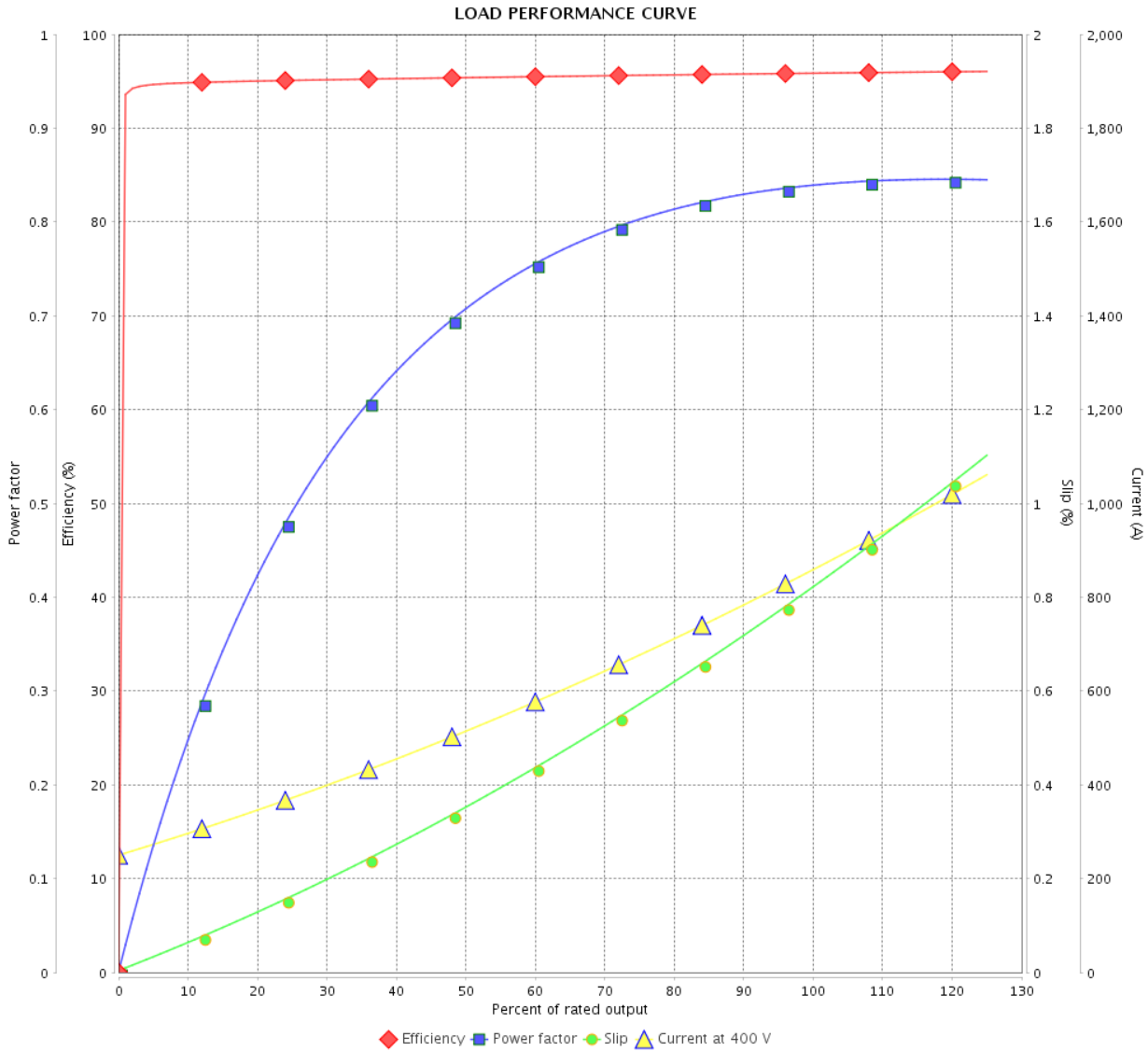


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Performance : 400 V 50 Hz 2P IE3

Rated current : 861 A
 LRC : 8.0
 Rated torque : 1150 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 290 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K

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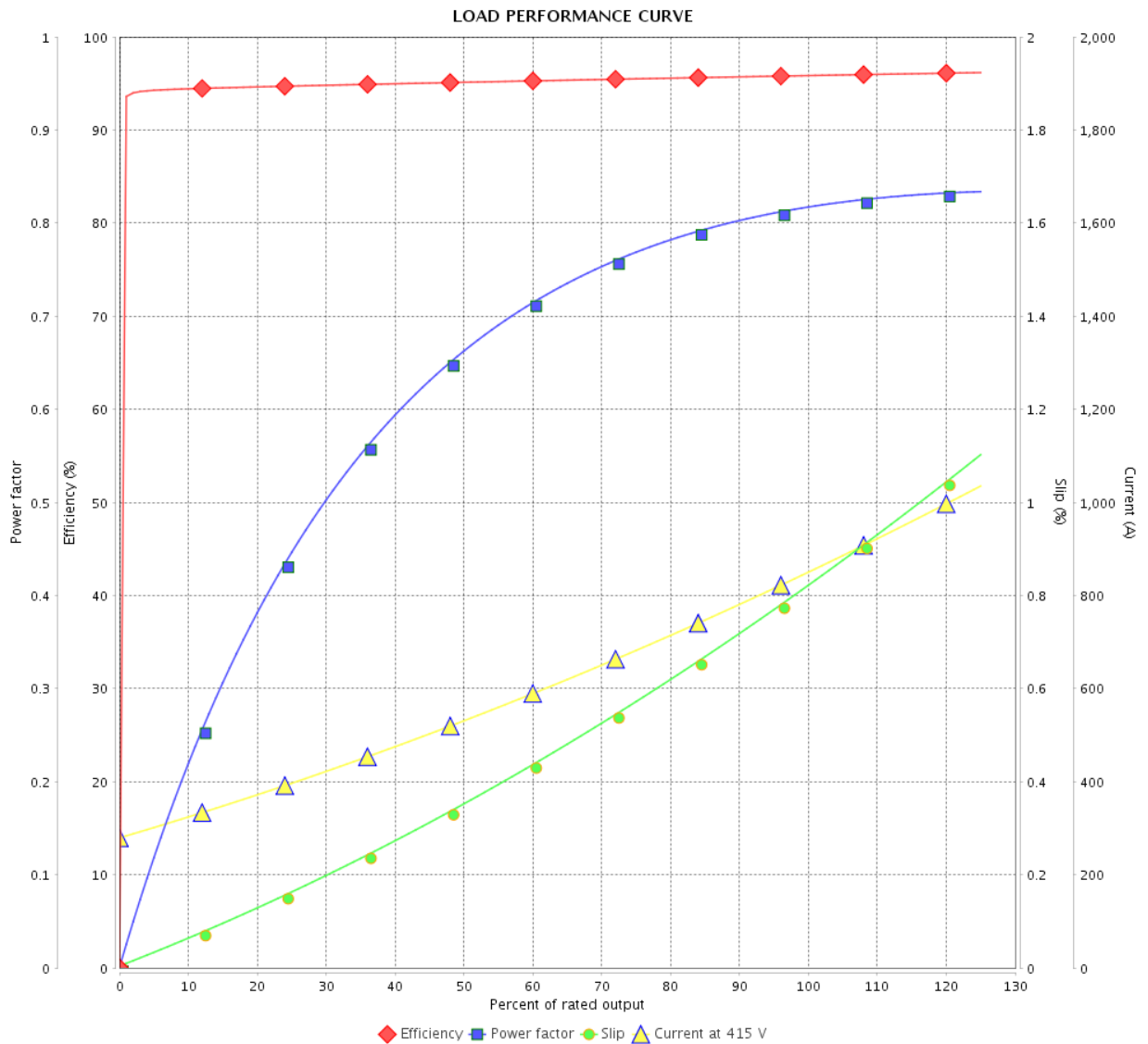


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Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 415 V 50 Hz 2P IE3

Rated current : 850 A
LRC : 8.5
Rated torque : 1150 ft.lb
Locked rotor torque : 229 %
Breakdown torque : 320 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K

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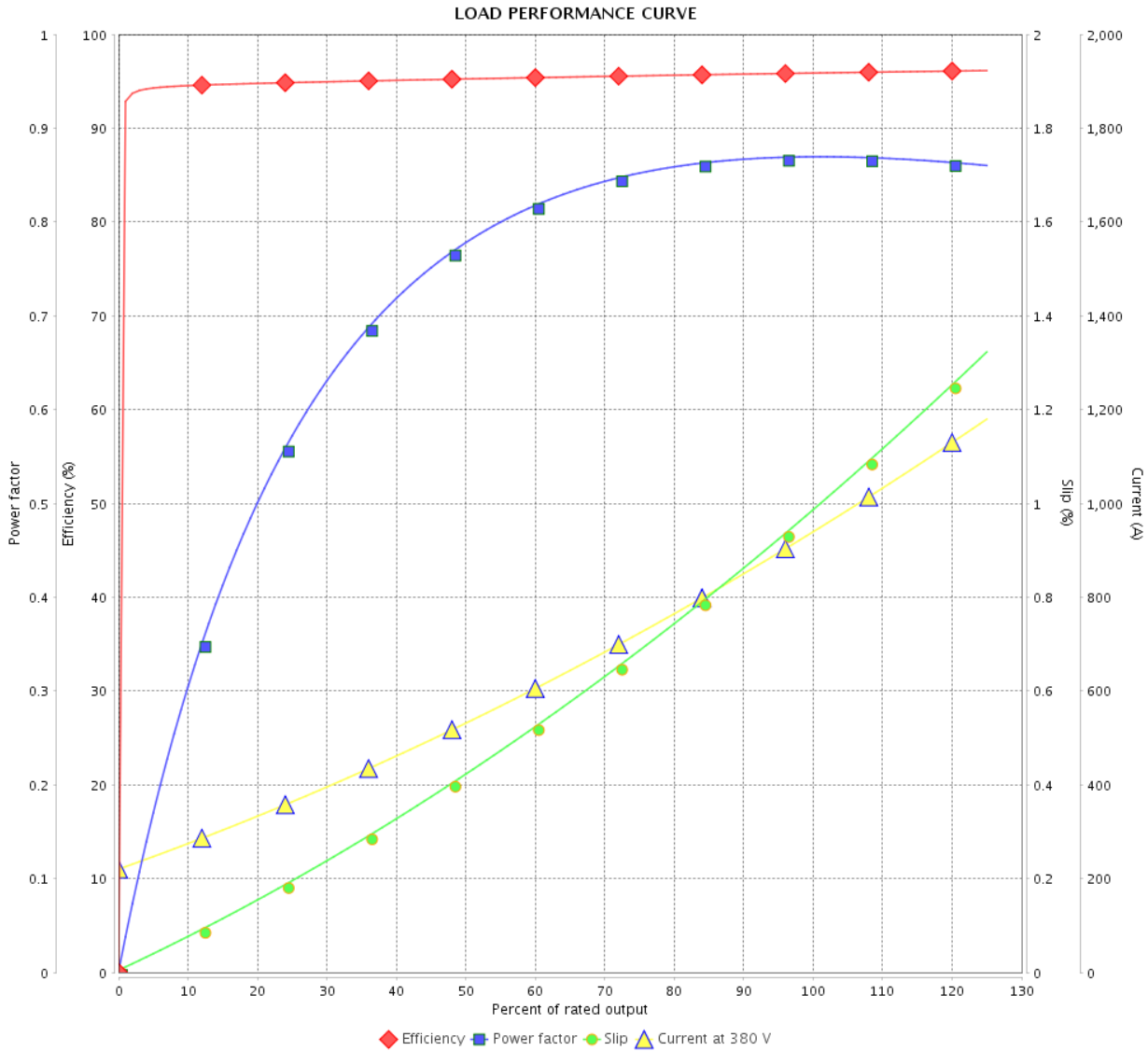


Customer : _____

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Three-Phase

Product code : 13821180

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Performance : 380 V 50 Hz 2P IE3

Rated current : 939 A
 LRC : 7.0
 Rated torque : 1240 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 240 %
 Rated speed : 2970 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K

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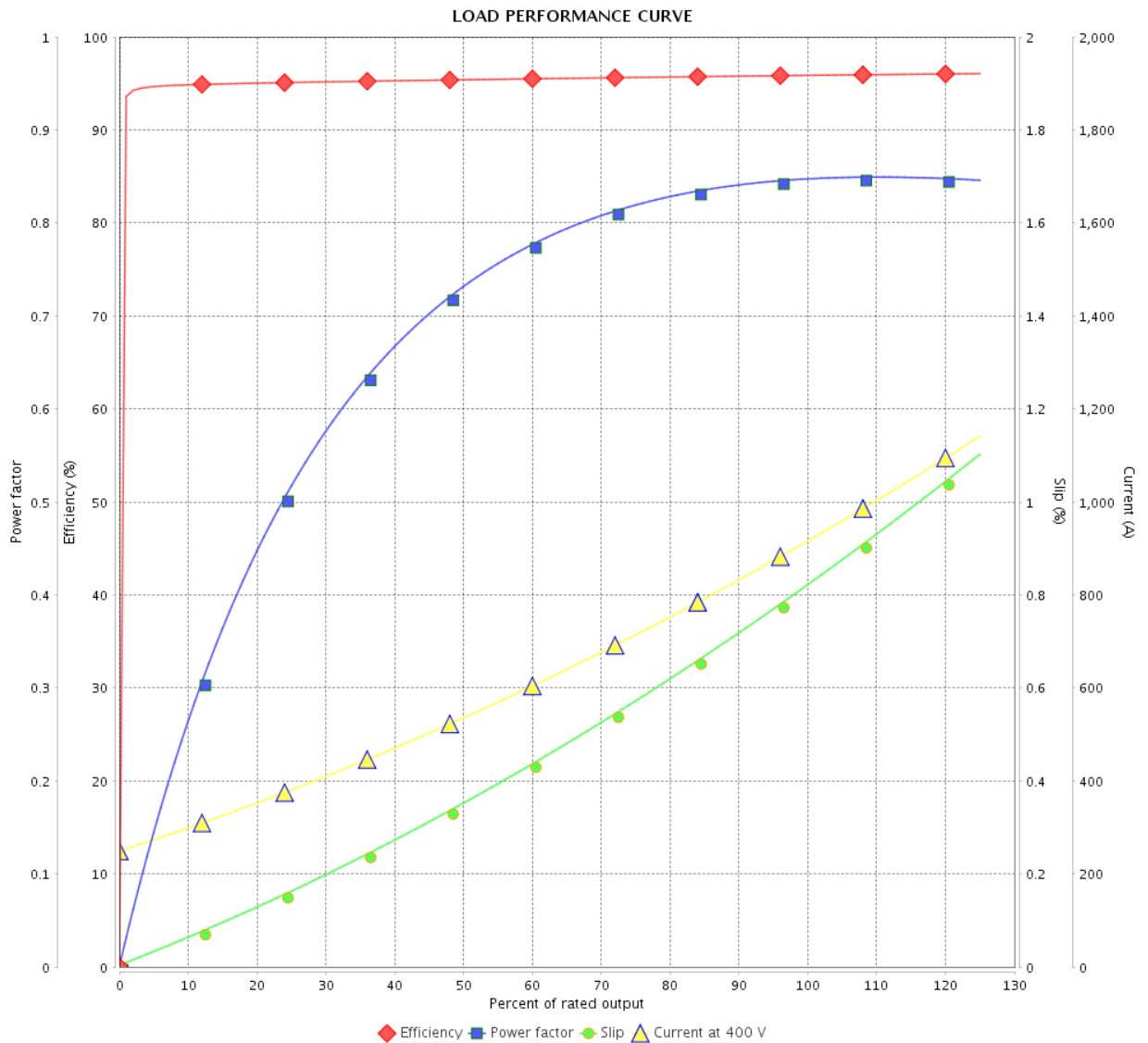


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 400 V 50 Hz 2P IE3

Rated current : 913 A
 LRC : 7.5
 Rated torque : 1240 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 260 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K

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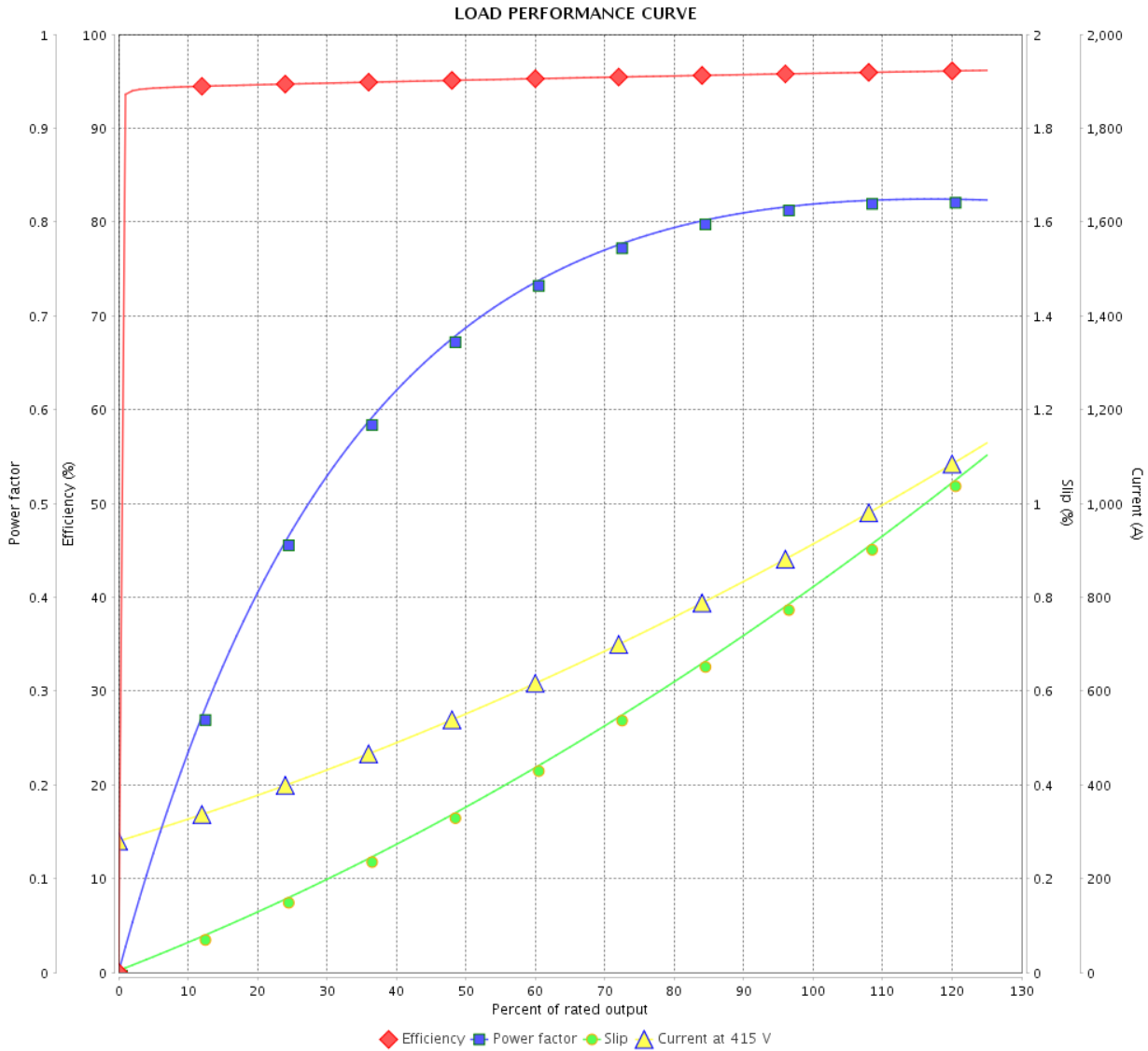


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 415 V 50 Hz 2P IE3

Rated current : 912 A
 LRC : 8.0
 Rated torque : 1240 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 280 %
 Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K

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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase Product code : 13821180
 Catalog # : 80036OT3Q5010S-W40

Performance : 460 V 60 Hz 2P

Rated current : 885 A	Moment of inertia (J) : 89.0 sq.ft.lb
LRC : 7.4	Duty cycle : Cont.(S1)
Rated torque : 1180 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.15
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 3575 rpm	

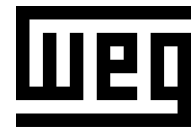
Heating constant

Cooling constant

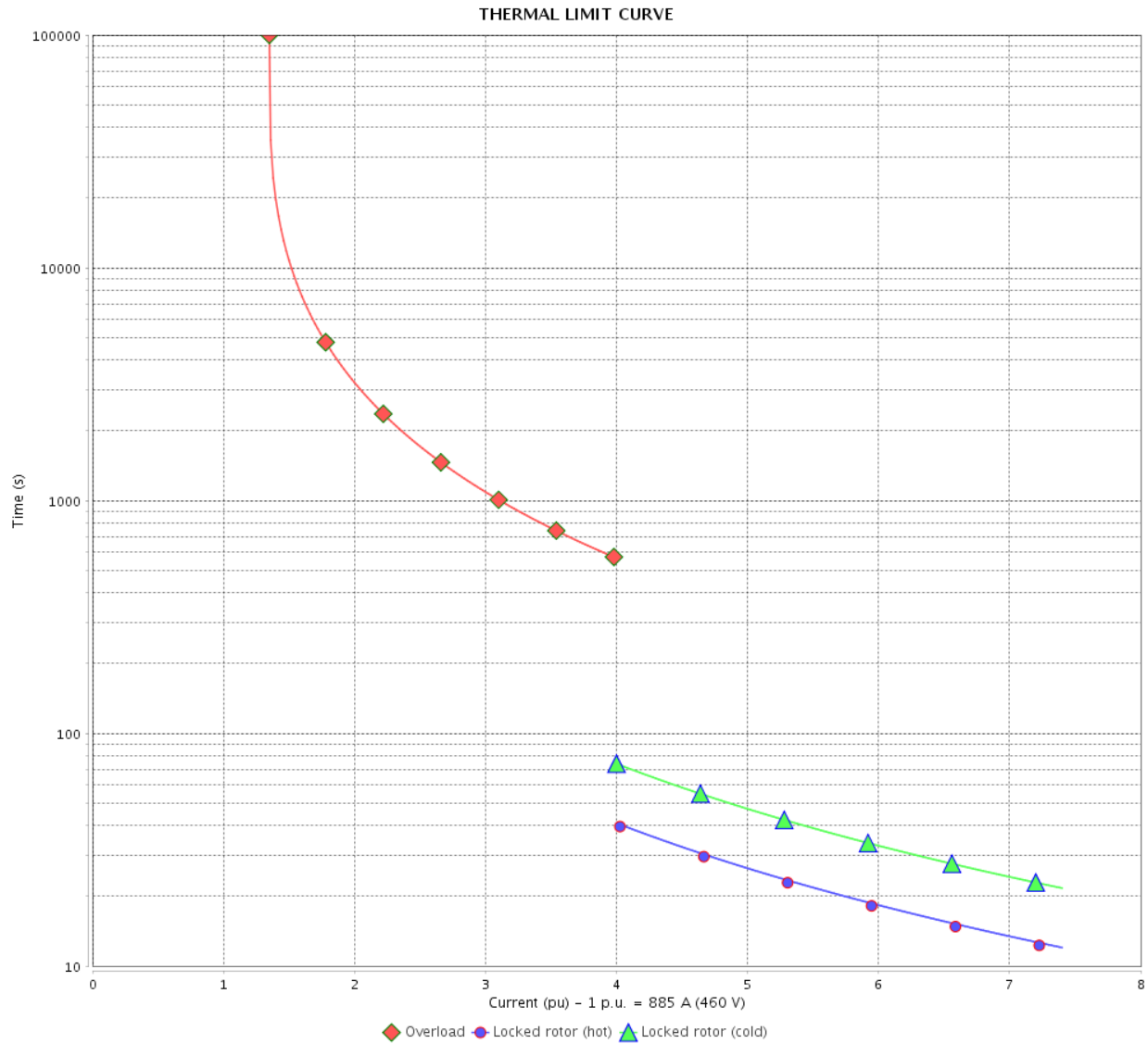
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Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
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Product code : 13821180

Catalog # : 80036OT3Q5010S-W40

Performance : 380 V 50 Hz 2P IE3

Rated current : 885 A
LRC : 7.5
Rated torque : 1150 ft.lb
Locked rotor torque : 190 %
Breakdown torque : 260 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 105 K

Heating constant

Cooling constant

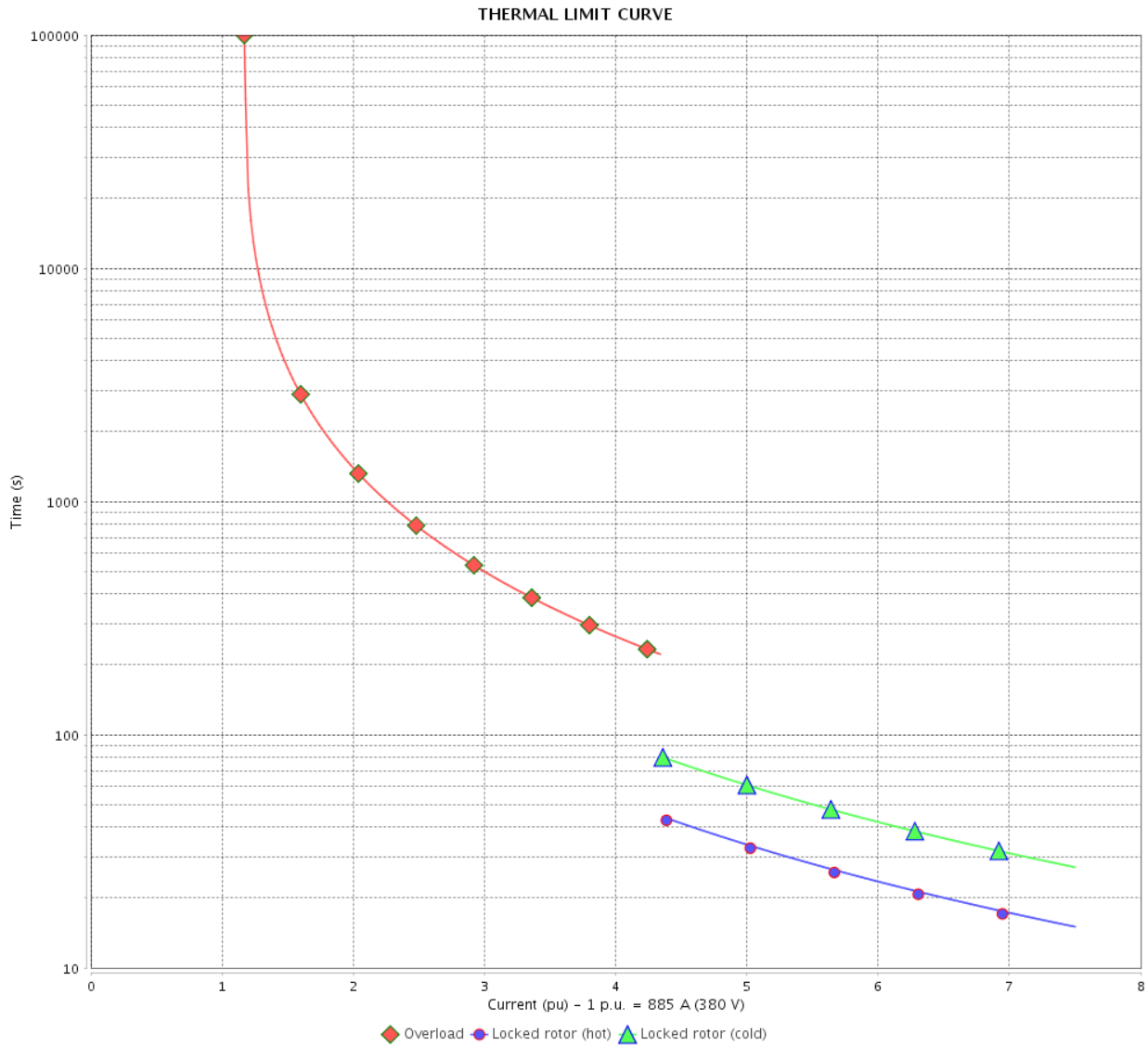
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Three Phase Induction Motor - Squirrel Cage



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Breakdown torque : 290 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
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Temperature rise : 80 K

Heating constant

Cooling constant

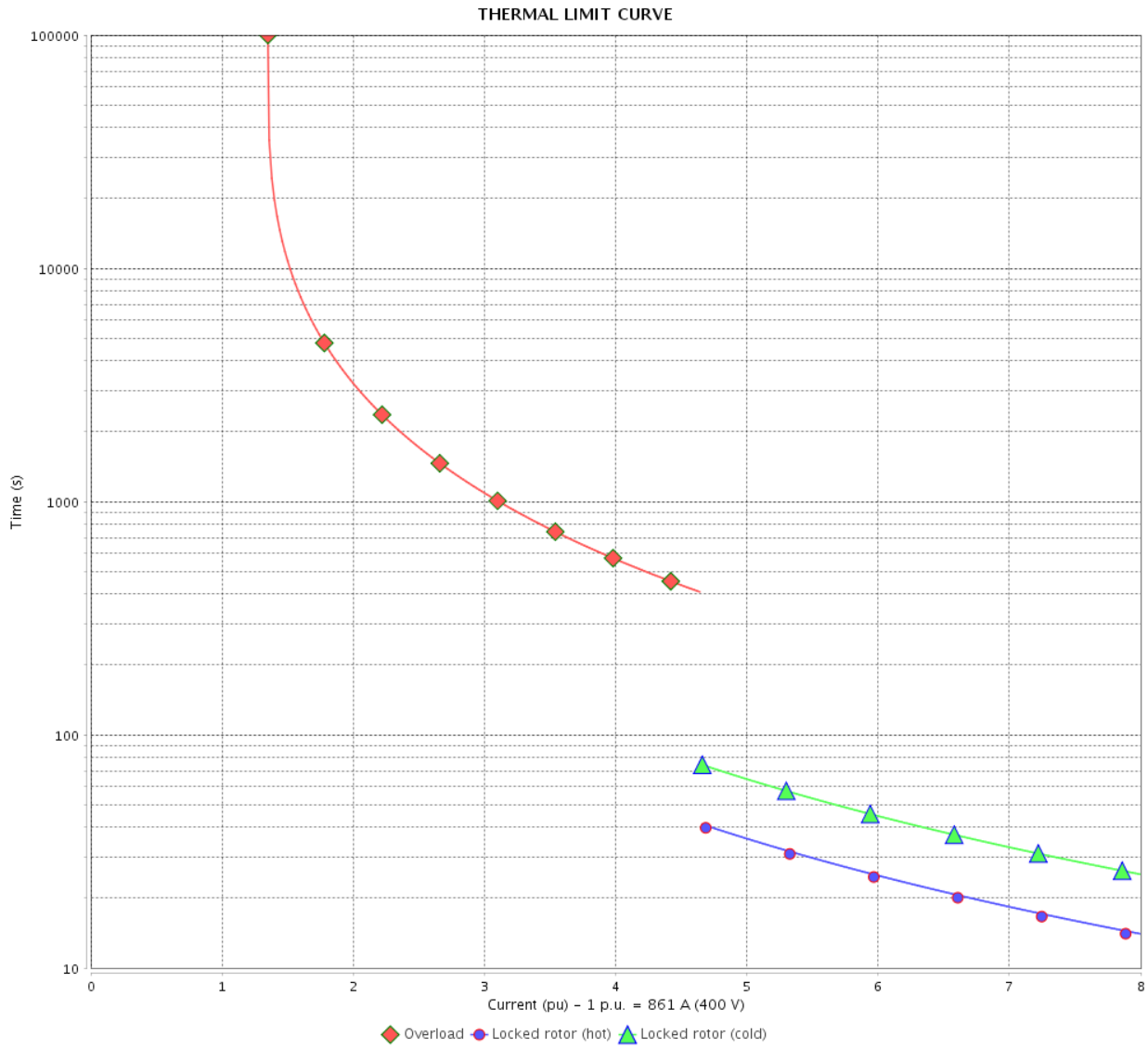
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Heating constant

Cooling constant

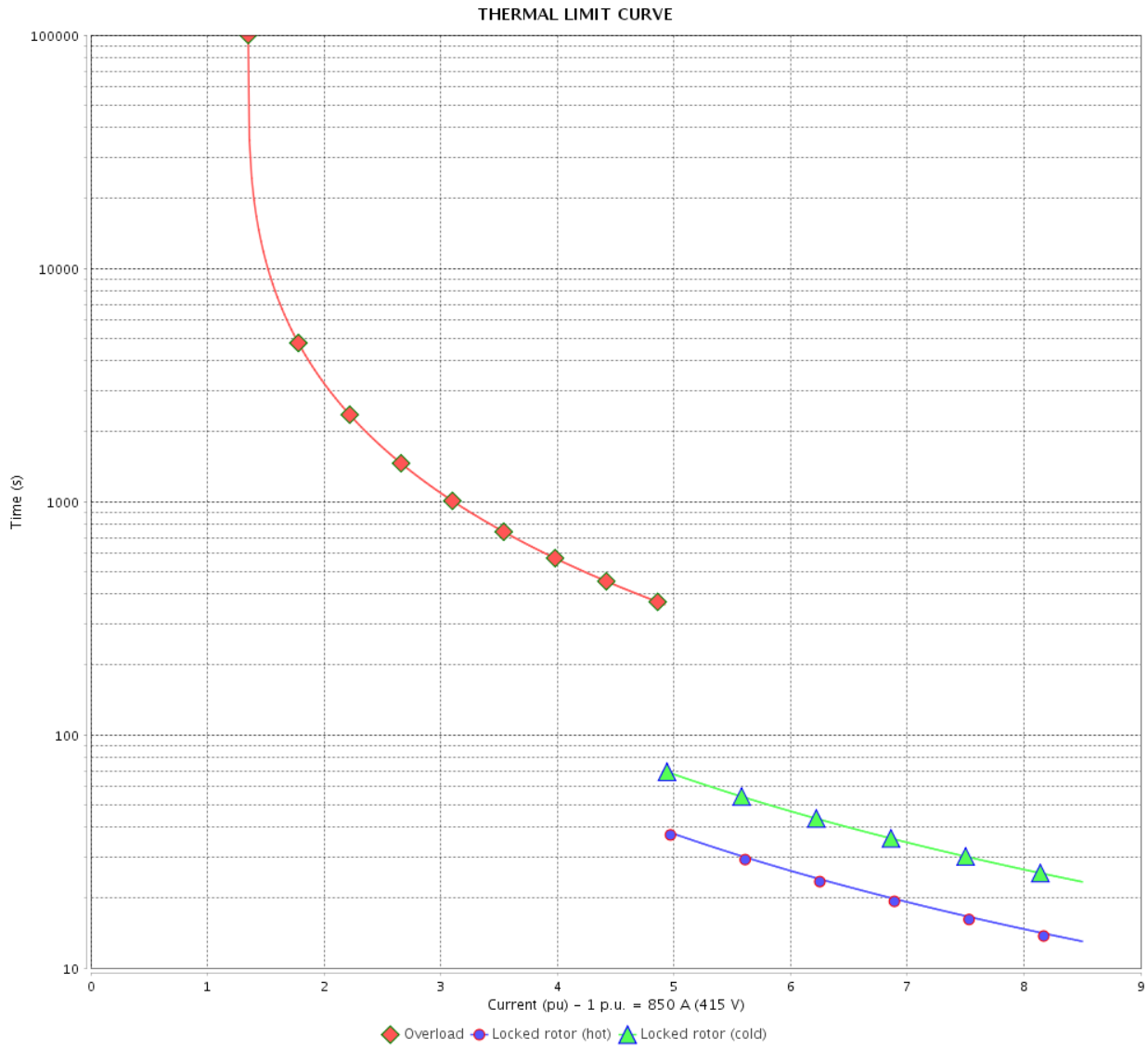
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Temperature rise : 105 K

Heating constant

Cooling constant

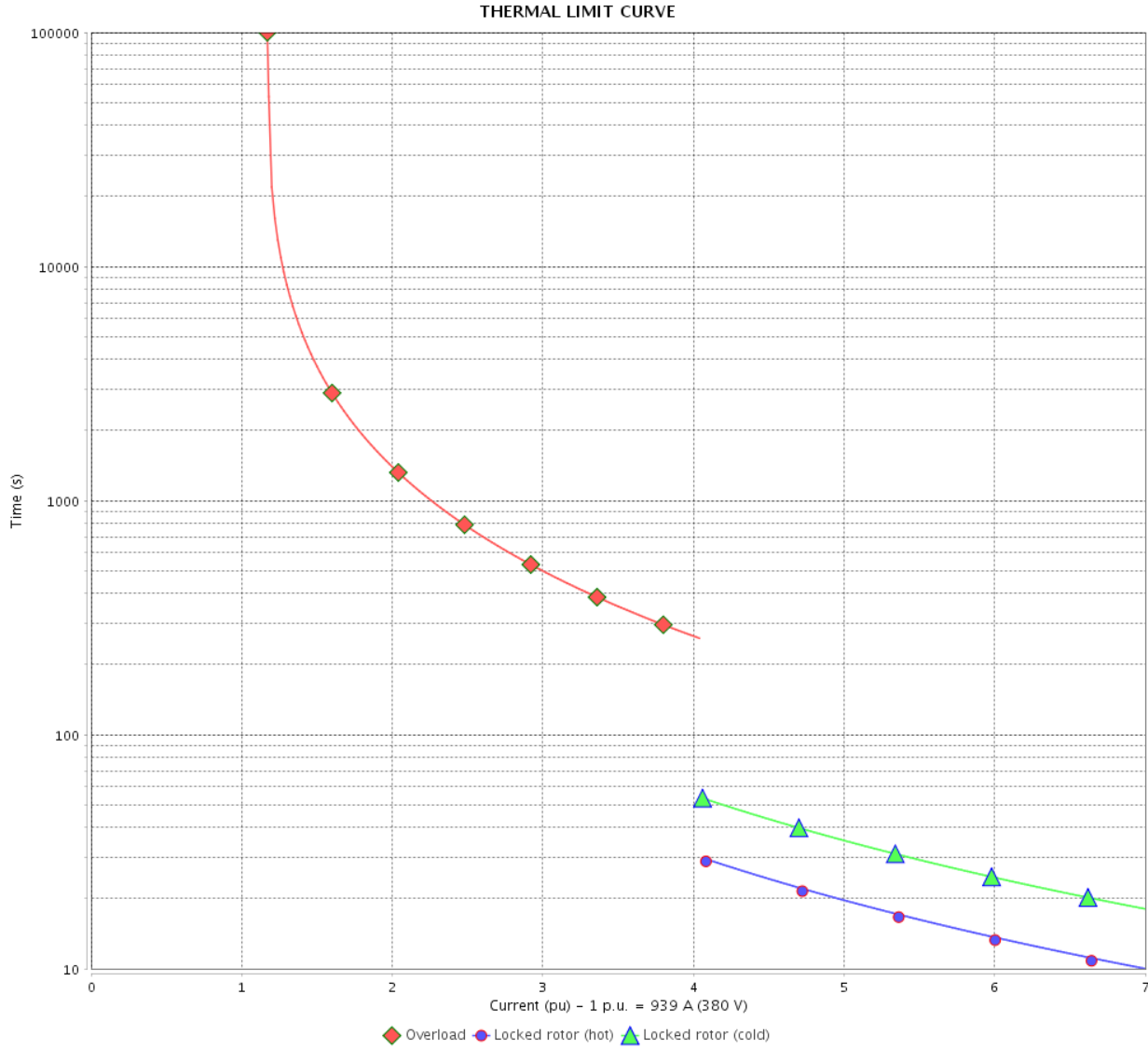
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Catalog # : 80036OT3Q5010S-W40

Performance : 400 V 50 Hz 2P IE3

Rated current : 913 A
LRC : 7.5
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Locked rotor torque : 200 %
Breakdown torque : 260 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K

Heating constant

Cooling constant

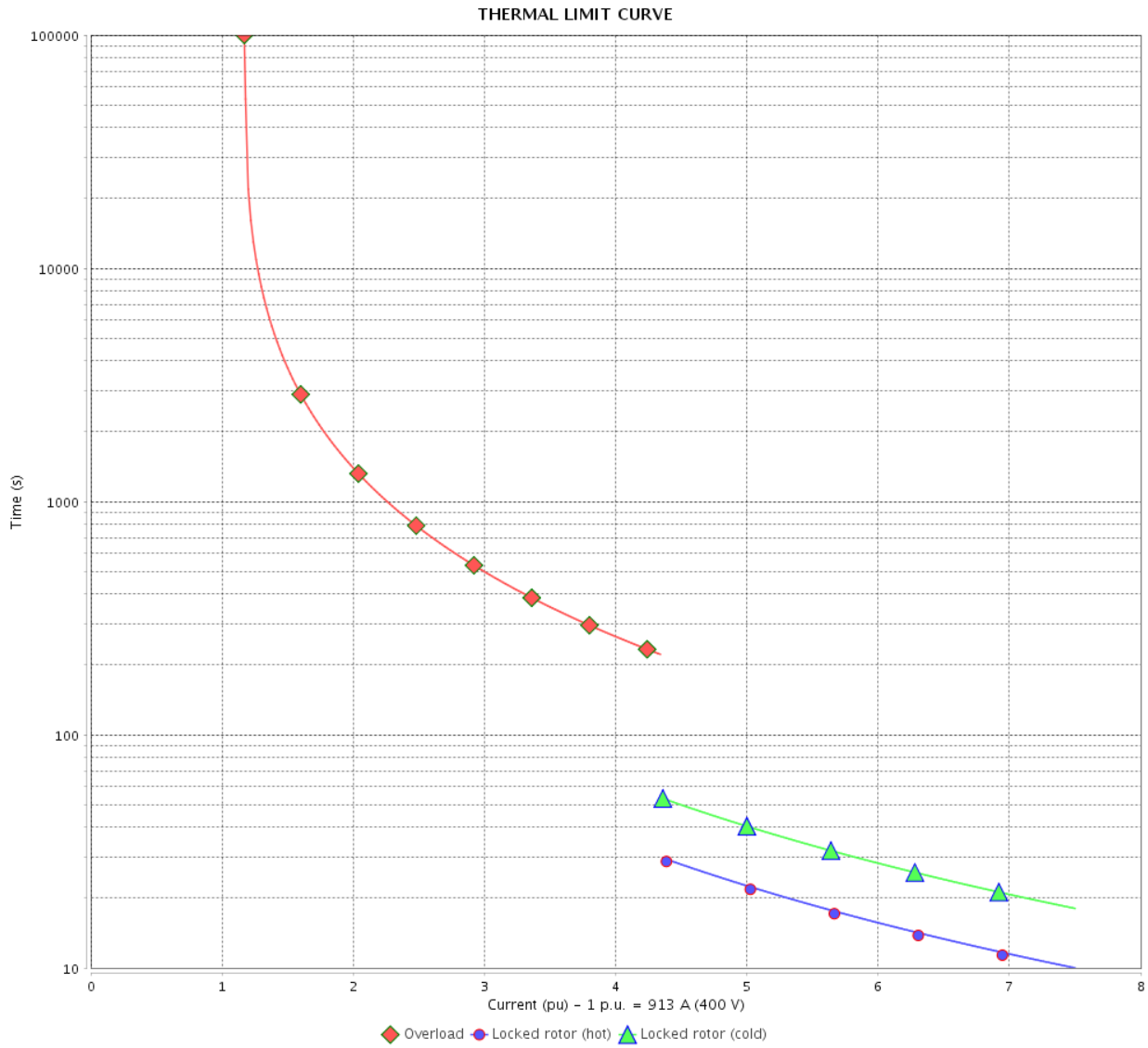
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		27 / 37	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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Performed by		Page		Revision
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Date		13/04/2022		

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40

Performance : 415 V 50 Hz 2P IE3

Rated current : 912 A
LRC : 8.0
Rated torque : 1240 ft.lb
Locked rotor torque : 220 %
Breakdown torque : 280 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K

Heating constant

Cooling constant

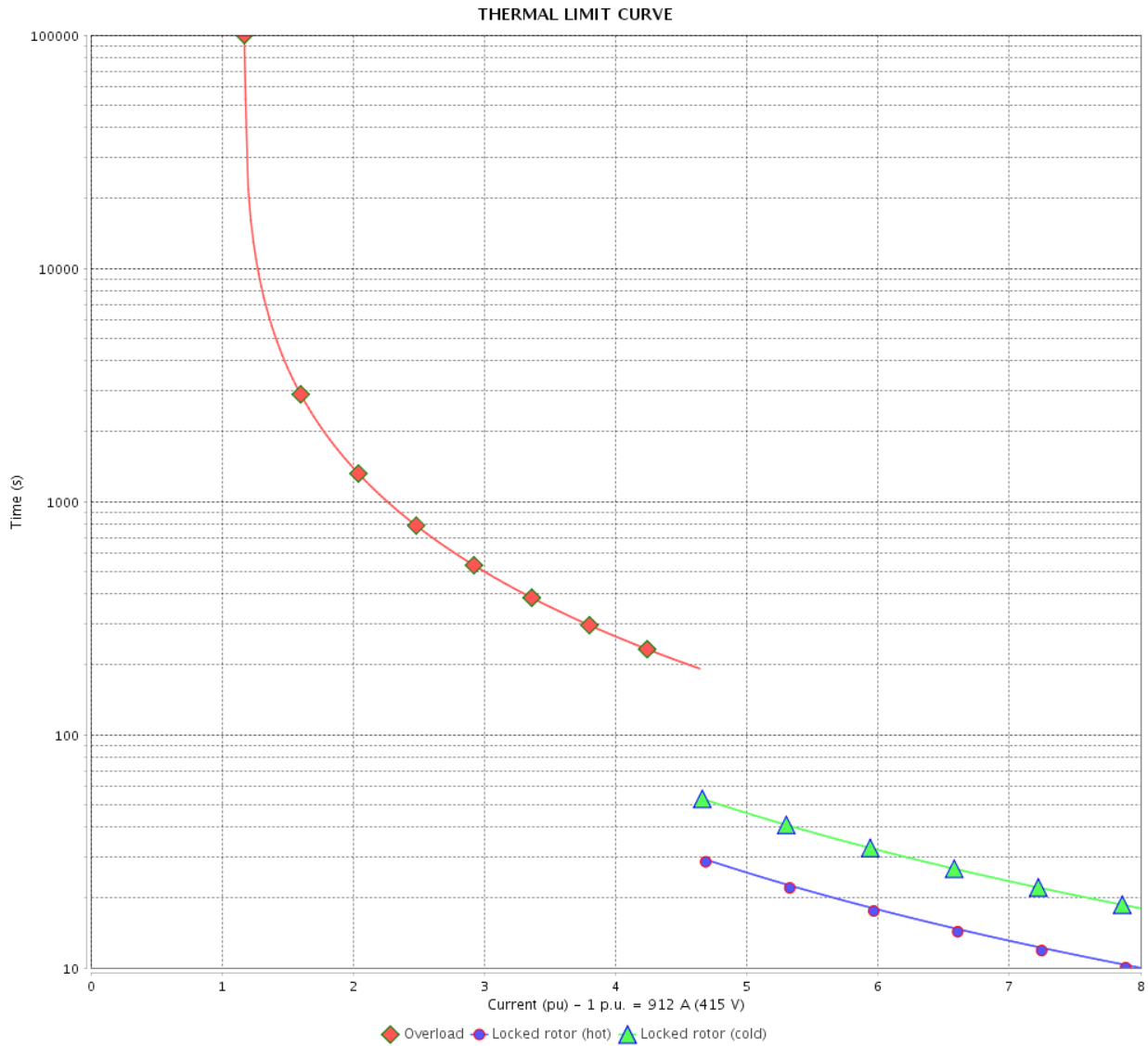
Rev.	Changes Summary	Performed	Checked	Date
Performed by				Page 29 / 37
Checked by				
Date	13/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		30 / 37		
Date		13/04/2022		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

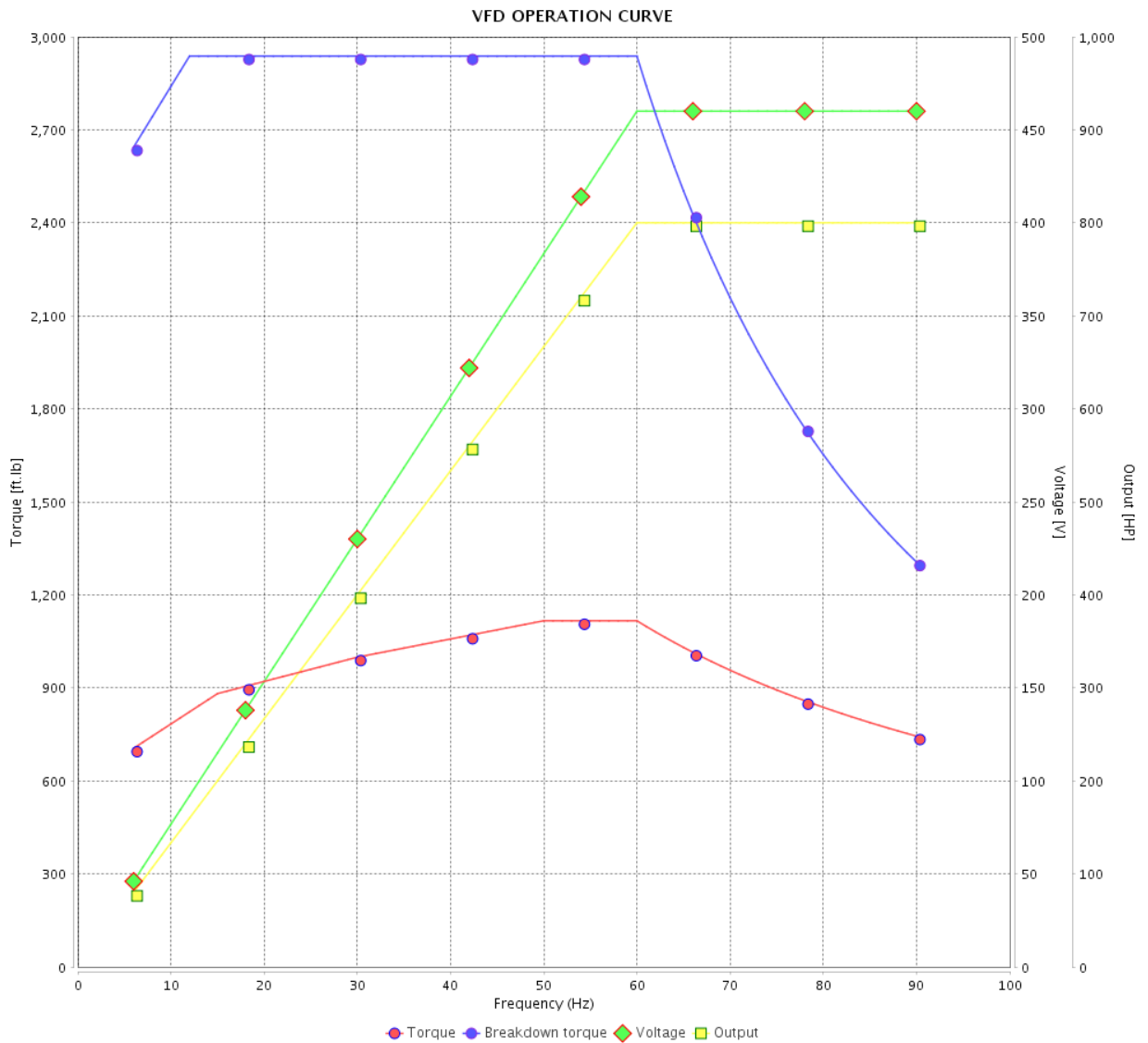


Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 460 V 60 Hz 2P

Rated current : 885 A
LRC : 7.4
Rated torque : 1180 ft.lb
Locked rotor torque : 200 %
Breakdown torque : 250 %
Rated speed : 3575 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K

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Performed by			Page	Revision
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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

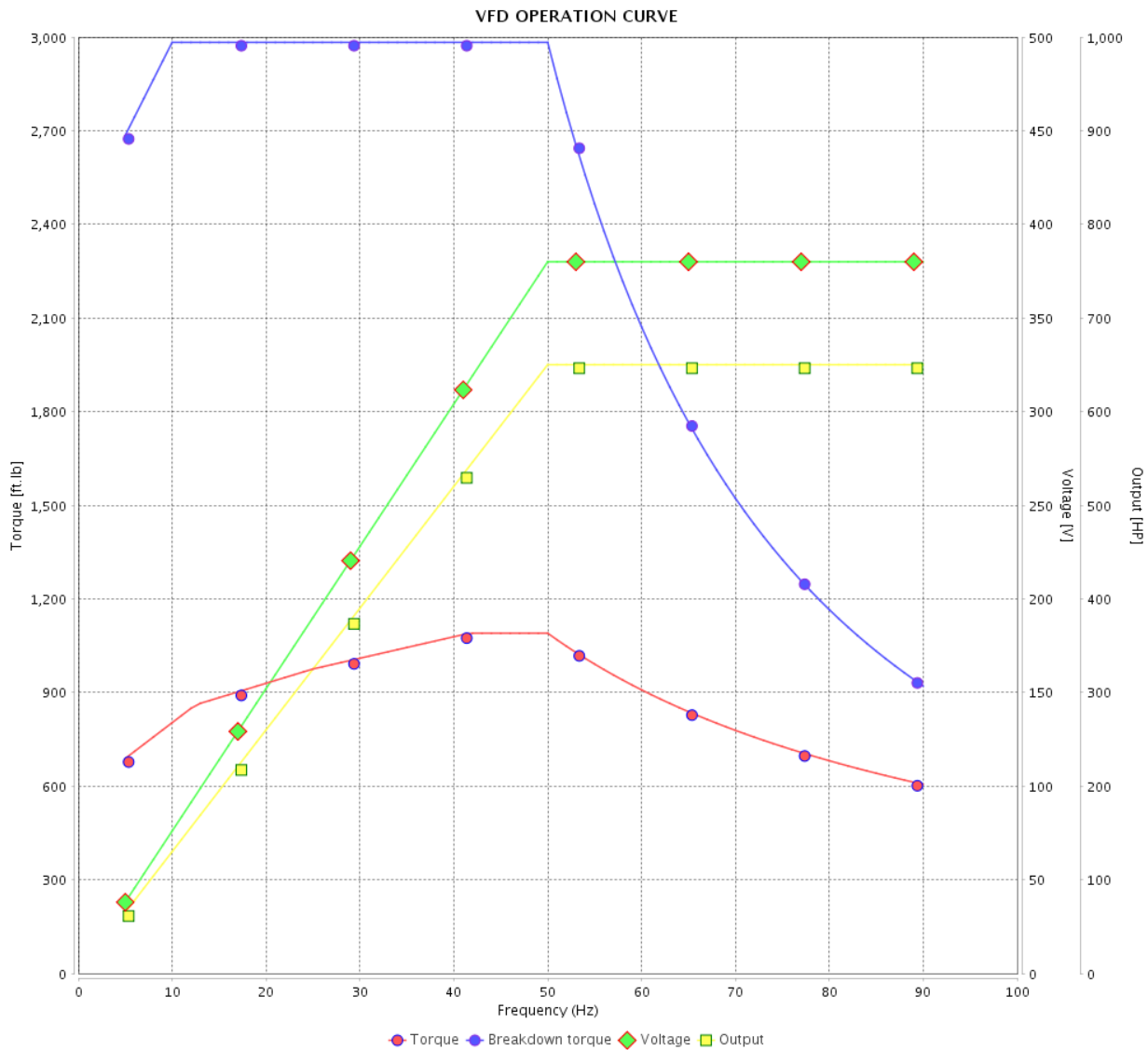


Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 885 A
LRC : 7.5
Rated torque : 1150 ft.lb
Locked rotor torque : 190 %
Breakdown torque : 260 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 105 K

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Performed by			Page 32 / 37	Revision
Checked by				
Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

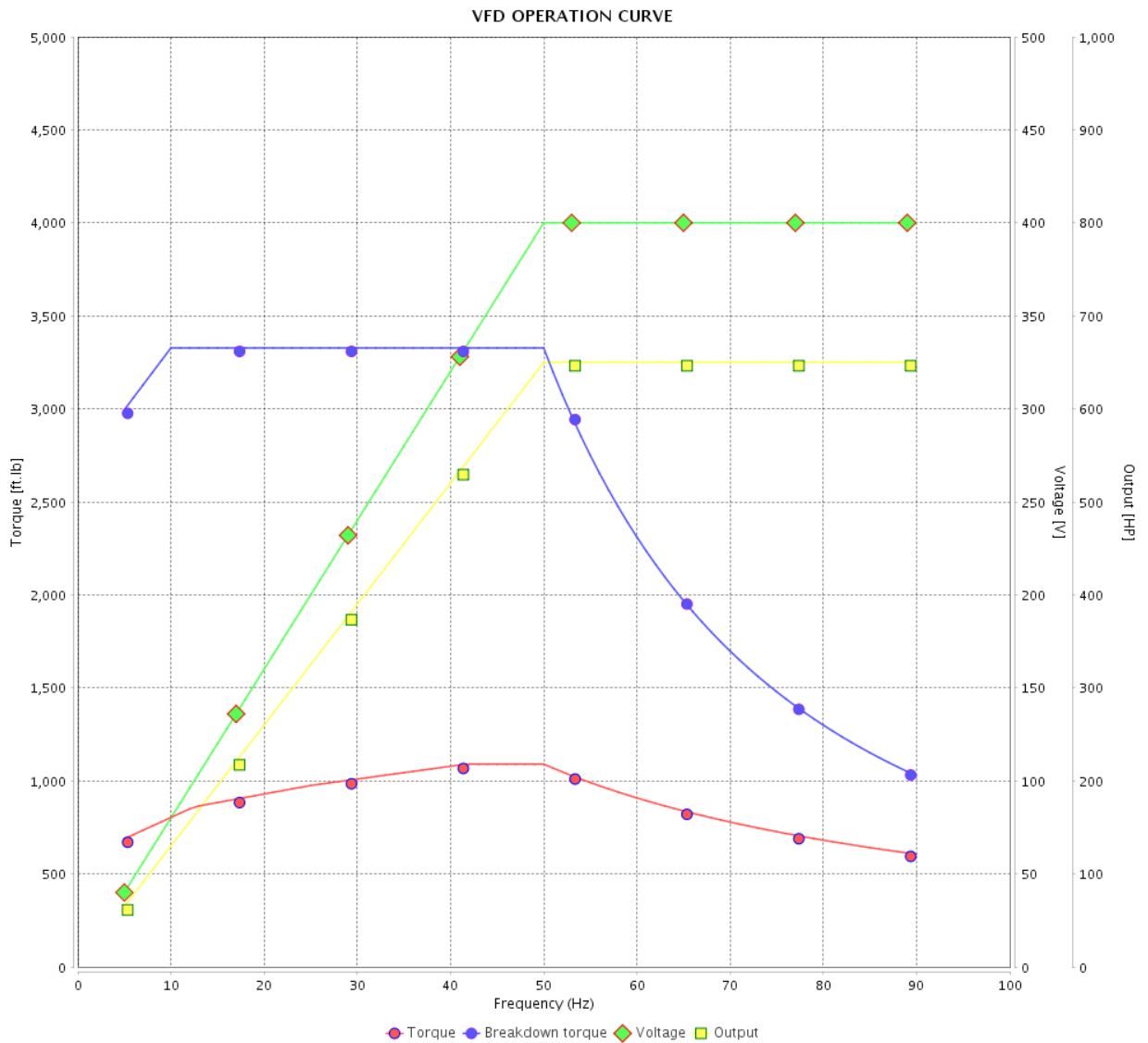


Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 400 V 50 Hz 2P IE3

Rated current : 861 A
LRC : 8.0
Rated torque : 1150 ft.lb
Locked rotor torque : 210 %
Breakdown torque : 290 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K

Rev.	Changes Summary	Performed	Checked	Date
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Date		13/04/2022		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



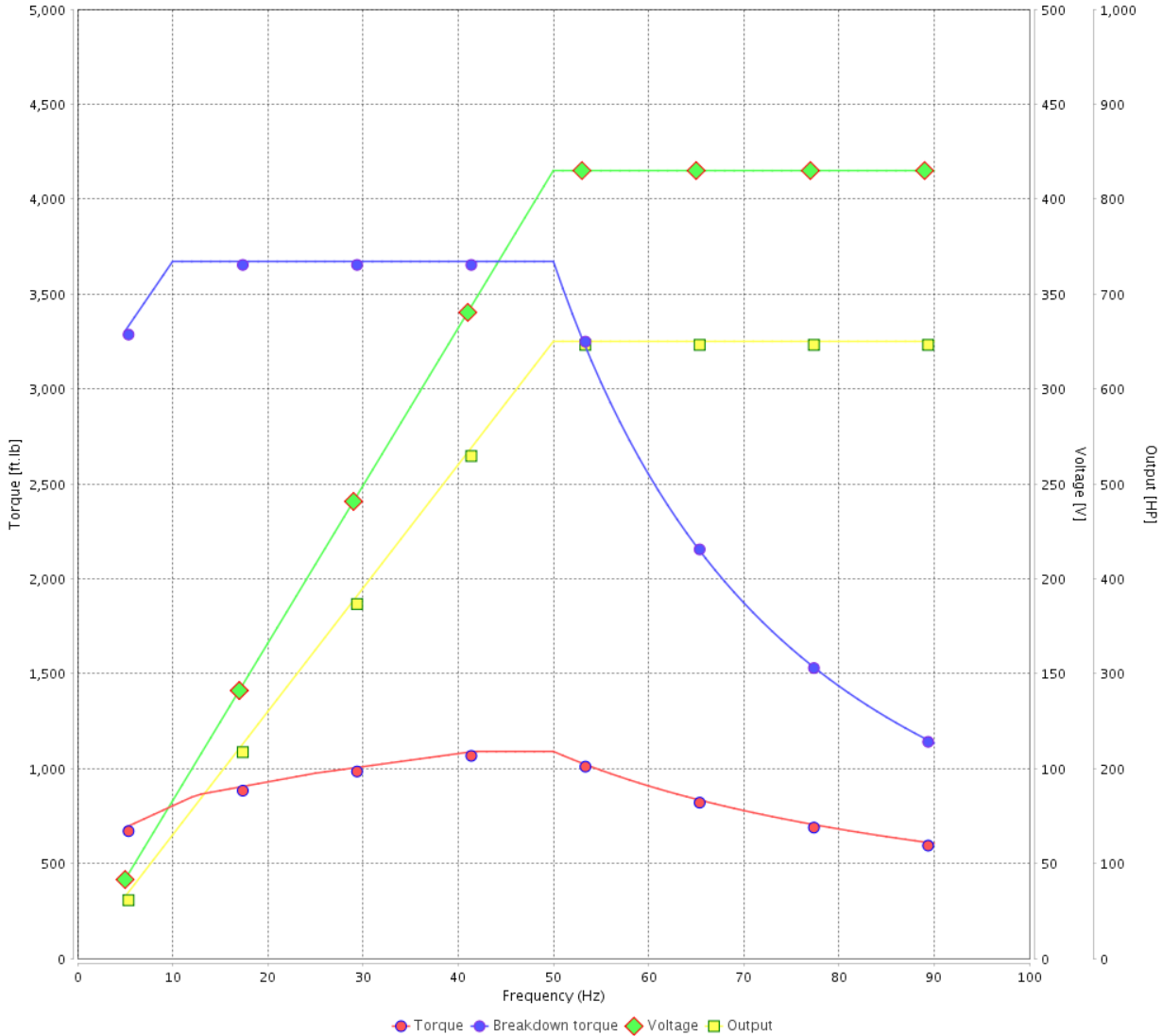
Customer : _____

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40

VFD OPERATION CURVE



Performance : 415 V 50 Hz 2P IE3

Rated current : 850 A
LRC : 8.5
Rated torque : 1150 ft.lb
Locked rotor torque : 229 %
Breakdown torque : 320 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.15
Temperature rise : 80 K

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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

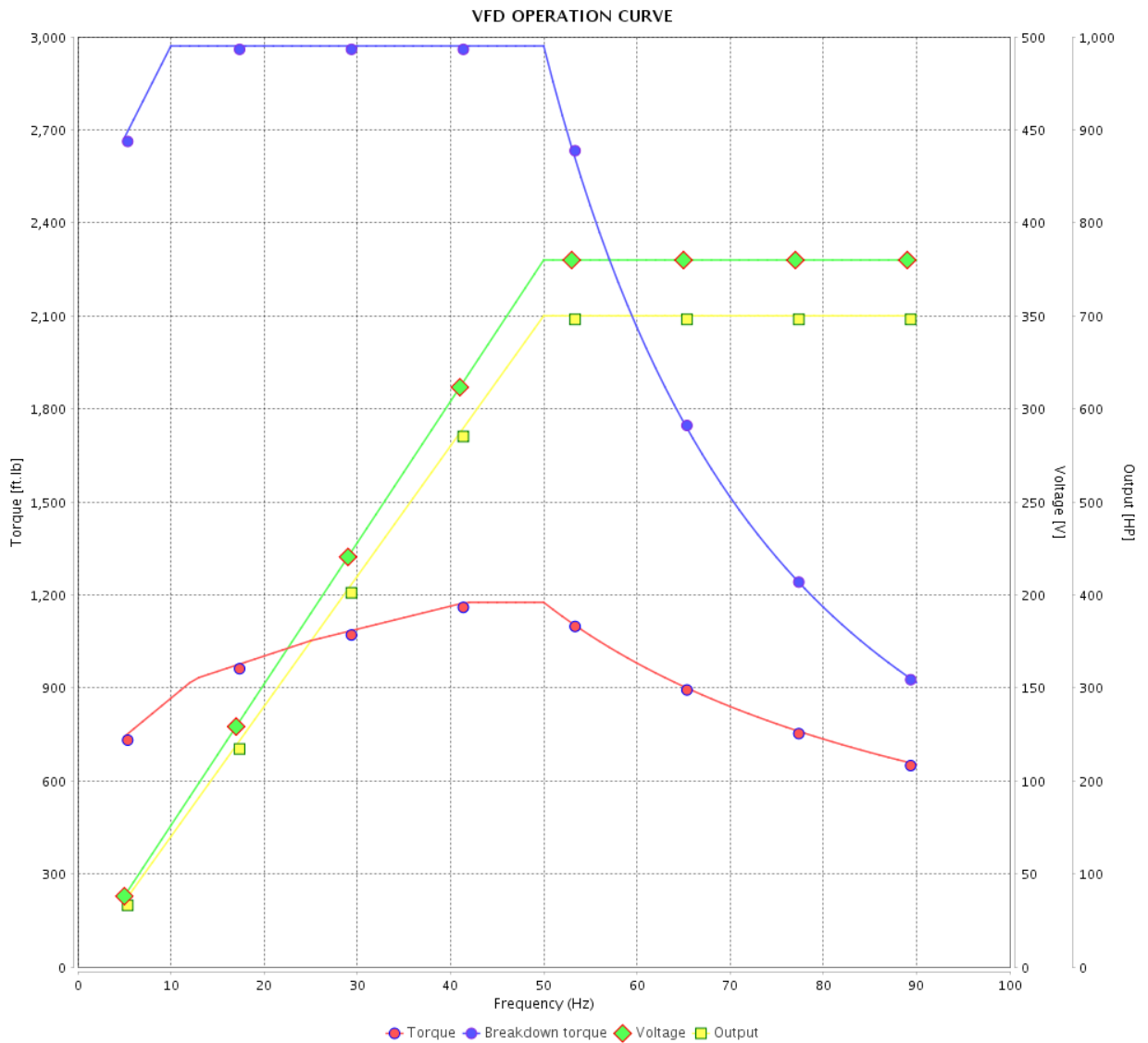


Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 939 A
LRC : 7.0
Rated torque : 1240 ft.lb
Locked rotor torque : 180 %
Breakdown torque : 240 %
Rated speed : 2970 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K

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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



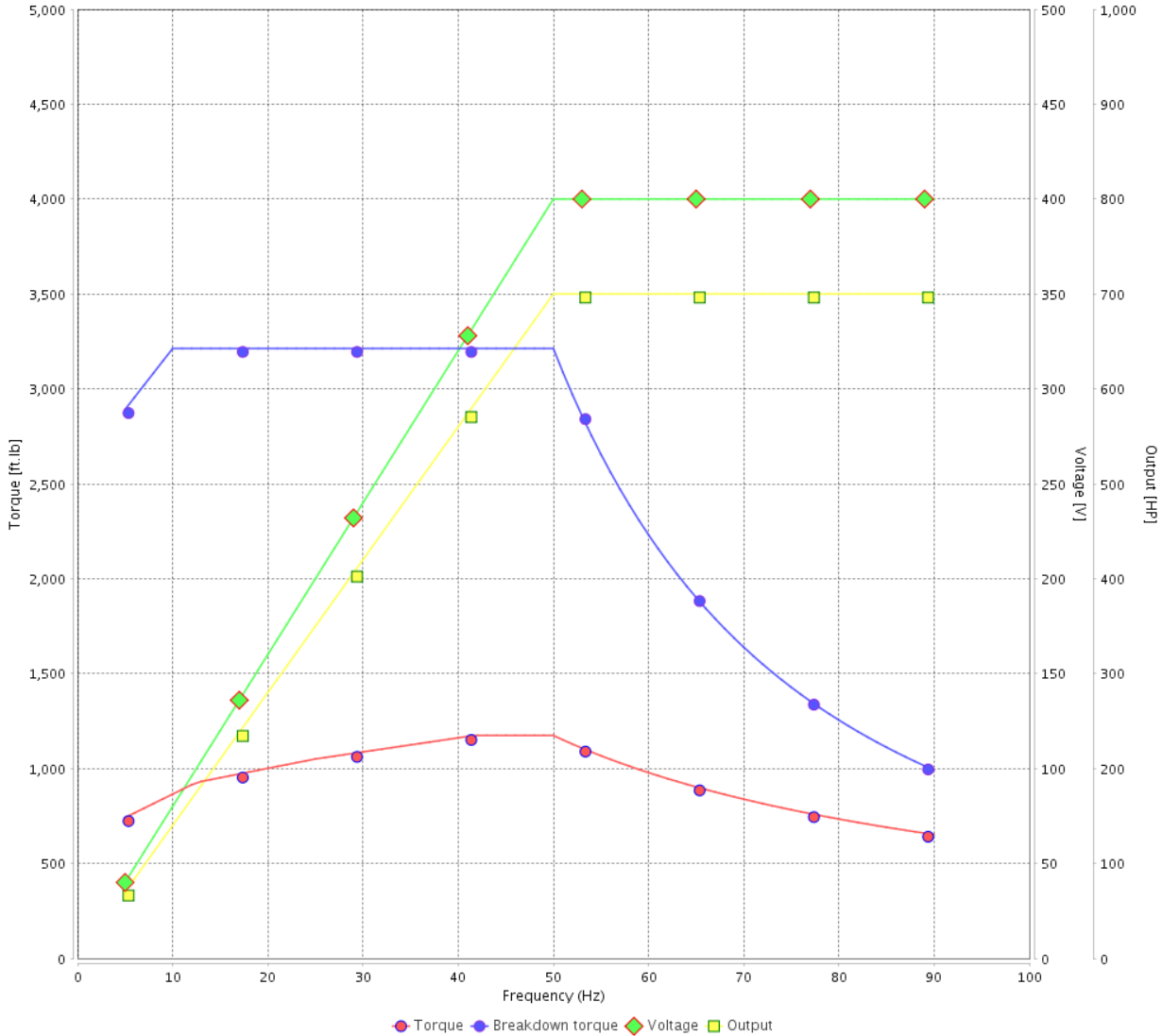
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40

VFD OPERATION CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 913 A
LRC : 7.5
Rated torque : 1240 ft.lb
Locked rotor torque : 200 %
Breakdown torque : 260 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 36 / 37	Revision
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Date	13/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

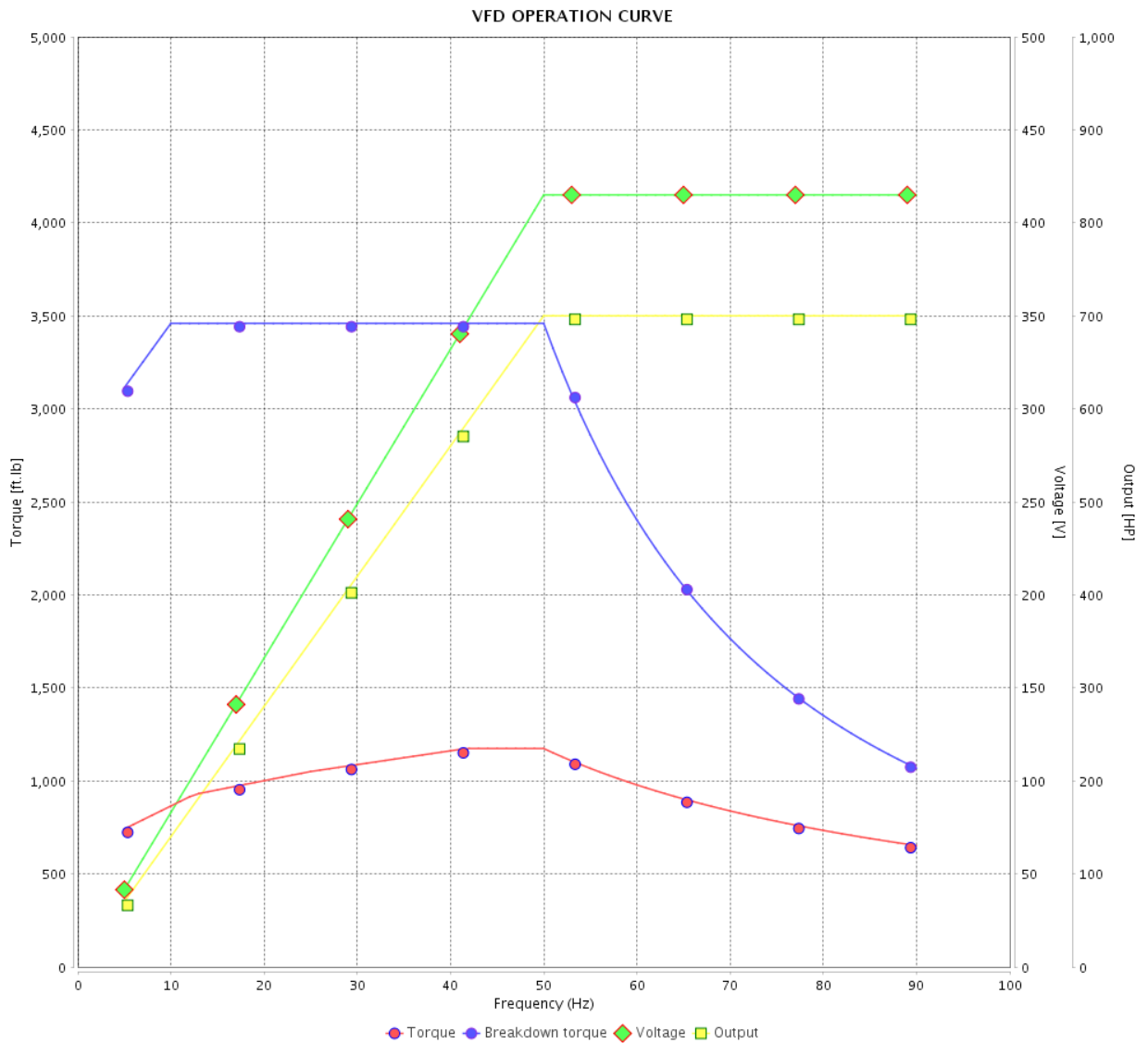


Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 13821180

Catalog # : 80036OT3Q5010S-W40

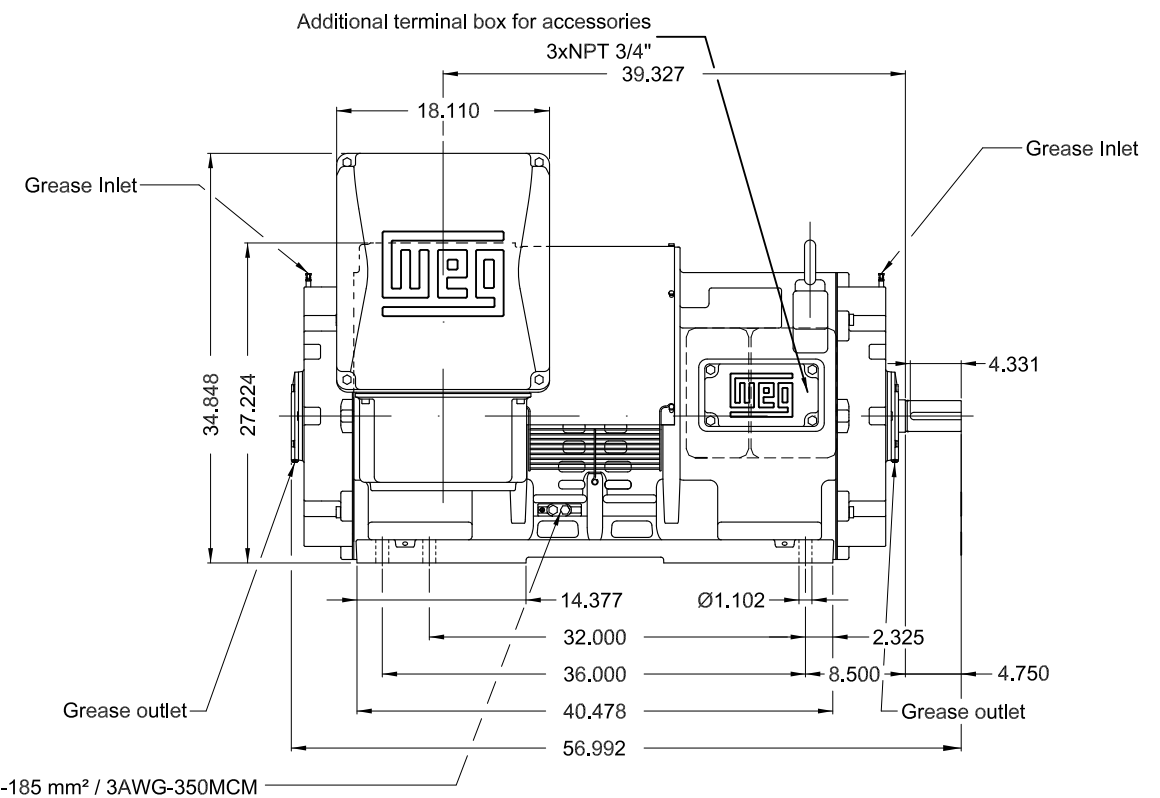
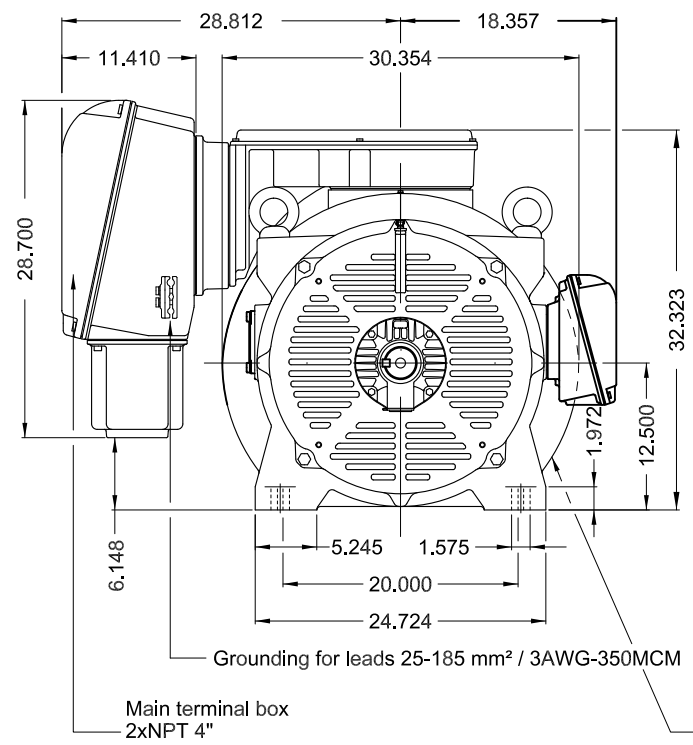


Performance : 415 V 50 Hz 2P IE3

Rated current : 912 A
LRC : 8.0
Rated torque : 1240 ft.lb
Locked rotor torque : 220 %
Breakdown torque : 280 %
Rated speed : 2975 rpm

Moment of inertia (J) : 89.0 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 105 K

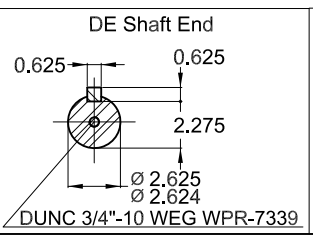
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Date	13/04/2022			



800 HP 02 Poles 60 Hz A

1:16

- NDE endshield with electrically insulated bearing hub
- Color RAL 5009
- Painting plan 203A
- Mounting NEMA F-1
- Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS				EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF. FRAME 5010/11 IP23 ODP				PREVIEW WDD				
CHECKED										
RELEASED										
REL DT.		WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1				