

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line : NEMA Premium Efficiency Three-Phase	Product code : 11584354 Catalog # : 02509ST3QIE326T-W22			
Frame : 324/6T Insulation class : F Duty cycle : Cont.(S1) Ambient temperature : -20°C to +40°C Altitude : 1000 m.a.s.l. Protection degree : IP55 Design : B	Cooling method : IC411 - TEFC Mounting : F-1 Rotation <sup>1</sup> : Both (CW and CCW) Starting method : Direct On Line Approx. weight <sup>2</sup> : 561 lb Moment of inertia (J) : 11.9 sq.ft.lb			
Output [HP]	25    20    20    20    25    25    25			
Poles	8    8    8    8    8    8    8			
Frequency [Hz]	60    50    50    50    50    50    50			
Rated voltage [V]	460    380    400    415    380    400    415			
Rated current [A]	35.9    35.3    35.6    36.4    42.3    41.4    41.1			
L. R. Amperes [A]	187    177    192    200    178    190    197			
LRC [A]	5.2x(Code G)    5.0x(Code G)    5.4x(Code H)    5.5x(Code J)    4.2x(Code E)    4.6x(Code F)    4.8x(Code G)			
No load current [A]	20.0    19.6    22.2    24.6    19.6    22.2    24.6			
Rated speed [RPM]	880    730    730    735    725    725    730			
Slip [%]	2.22    2.67    2.67    2.00    3.33    3.33    2.67			
Rated torque [ft.lb]	149    144    144    143    181    181    180			
Locked rotor torque [%]	200    190    210    240    150    170    190			
Breakdown torque [%]	229    229    250    280    180    200    220			
Service factor	1.25    1.15    1.15    1.15    1.15    1.15    1.15			
Temperature rise	80 K    80 K    80 K    80 K    105 K    80 K    80 K			
Locked rotor time	41s (cold)    30s (cold)    30s (cold)    30s (cold)    30s (cold)    30s (cold)    30s (cold) 23s (hot)    17s (hot)    17s (hot)    17s (hot)    17s (hot)    17s (hot)    17s (hot)			
Noise level <sup>2</sup>	56.0 dB(A)    56.0 dB(A)    56.0 dB(A)    56.0 dB(A)    56.0 dB(A)    56.0 dB(A)    56.0 dB(A)			
Efficiency (%)	25%    89.2    89.5    86.4    85.0    90.7    88.2    87.2			
	50%    89.5    89.3    87.2    86.2    89.5    88.5    87.5			
	75%    91.0    90.1    89.1    88.6    90.2    89.5    89.5			
	100%    91.0    89.6    89.6    89.6    88.5    89.5    89.5			
Power Factor	25%    0.30    0.30    0.26    0.23    0.35    0.31    0.28			
	50%    0.51    0.51    0.46    0.42    0.58    0.53    0.49			
	75%    0.64    0.64    0.59    0.55    0.70    0.66    0.62			
	100%    0.71    0.71    0.67    0.64    0.75    0.72    0.70			
Bearing type	Drive end : 6312 C3    Non drive end : 6212 C3			
Sealing	Inpro/Seal    Inpro/Seal			
Lubrication interval	20000 h    20000 h			
Lubricant amount	21 g    13 g			
Lubricant type	Mobil Polyrex EM			
Foundation loads	Max. traction : 1238 lb Max. compression : 1799 lb			
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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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

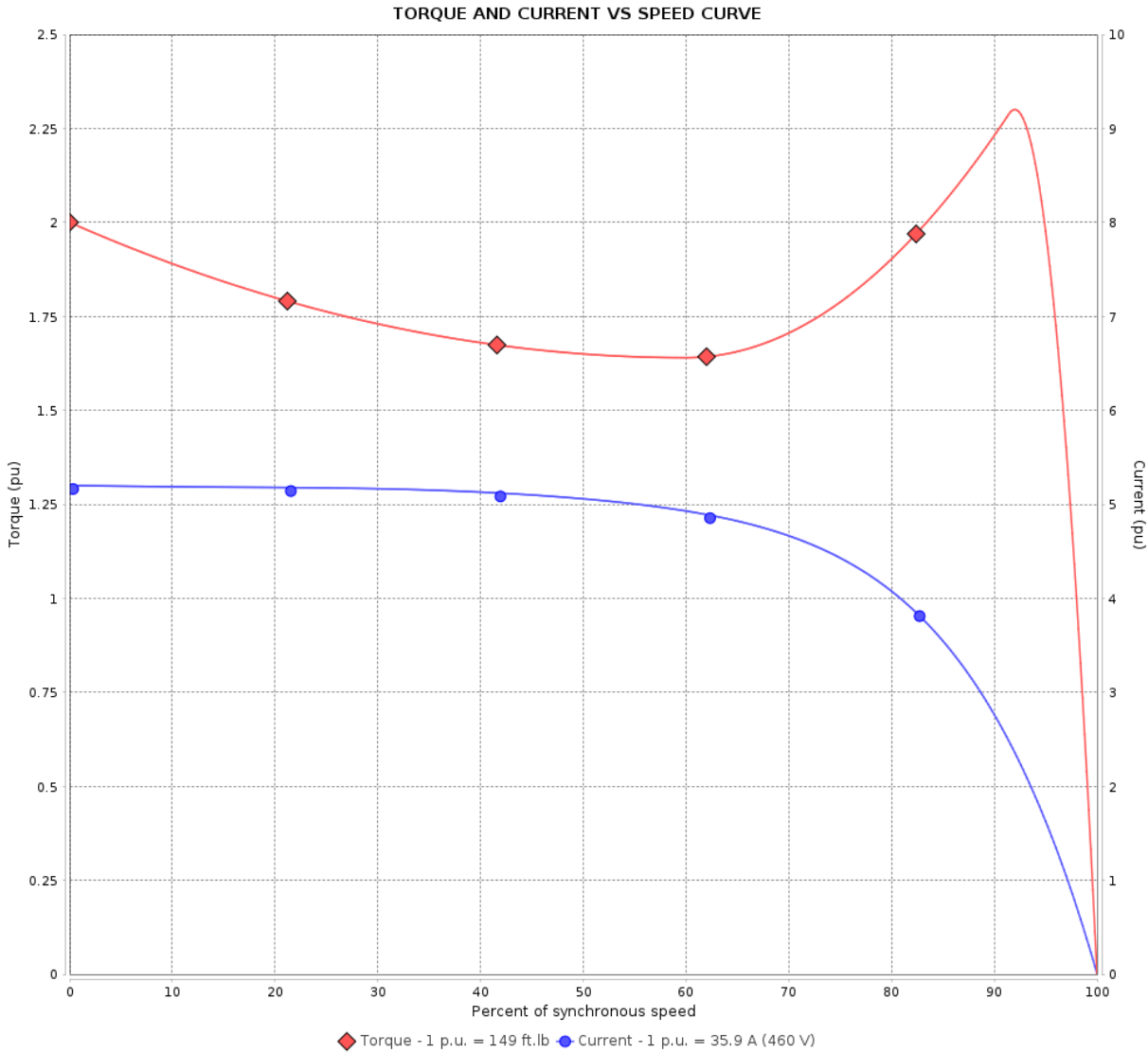
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 460 V 60 Hz 8P

Rated current	: 35.9 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 5.2	Duty cycle	: Cont.(S1)
Rated torque	: 149 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: B

Locked rotor time : 41s (cold) 23s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

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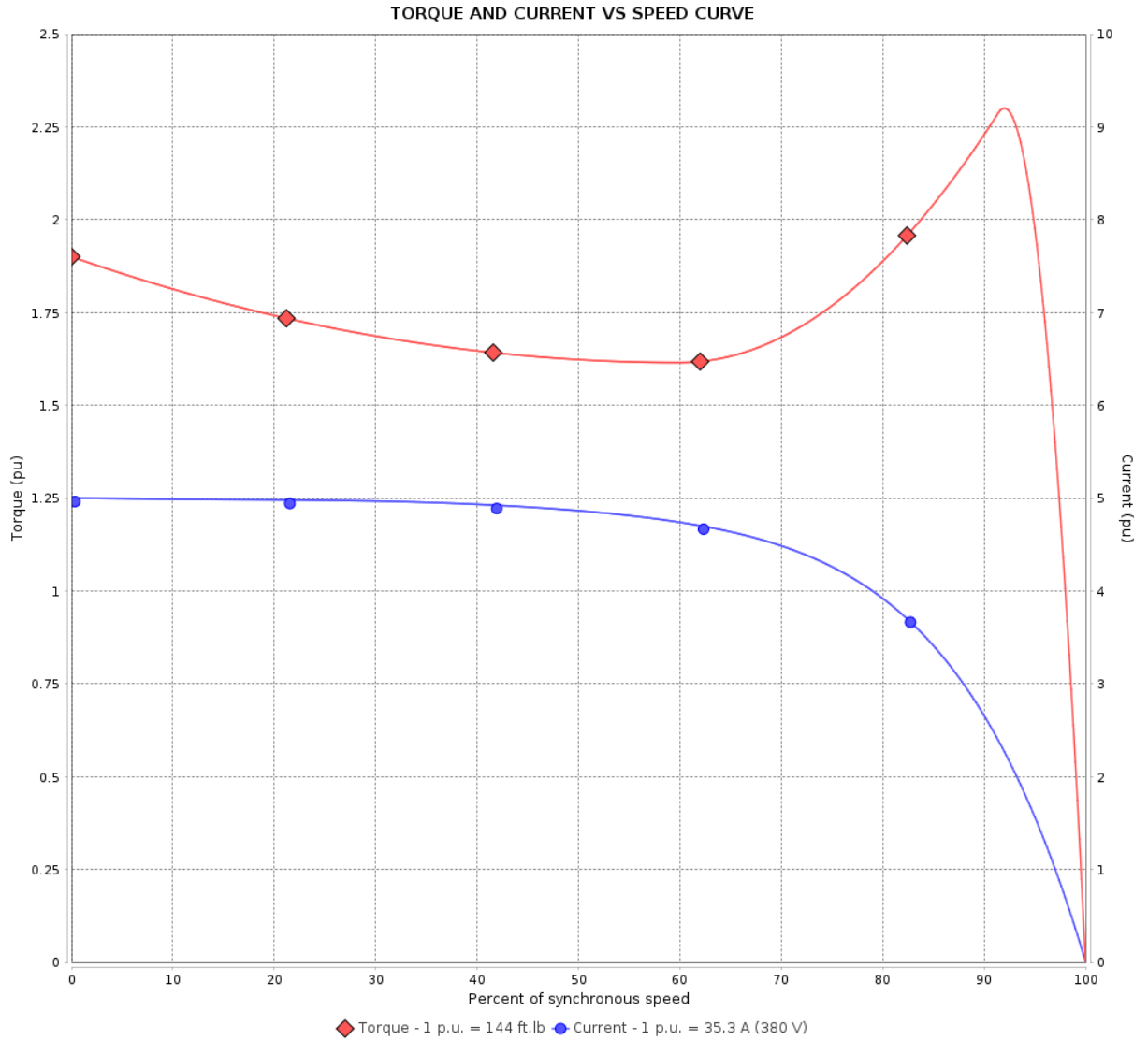
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 380 V 50 Hz 8P IE3

Rated current	: 35.3 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 144 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 730 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



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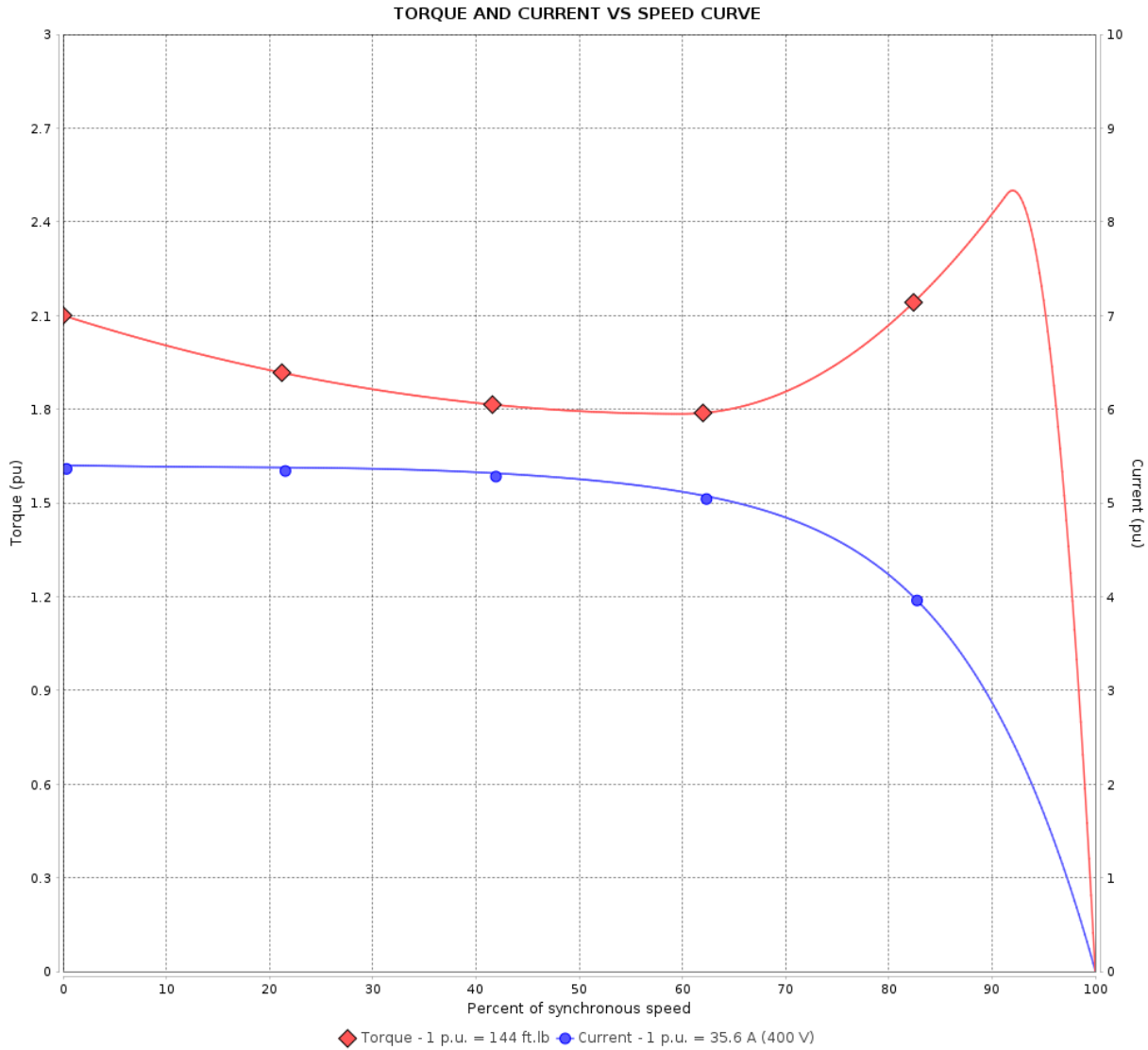
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Product code :

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Catalog # :

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Performance : 400 V 50 Hz 8P IE3

Rated current	: 35.6 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 5.4	Duty cycle	: Cont.(S1)
Rated torque	: 144 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



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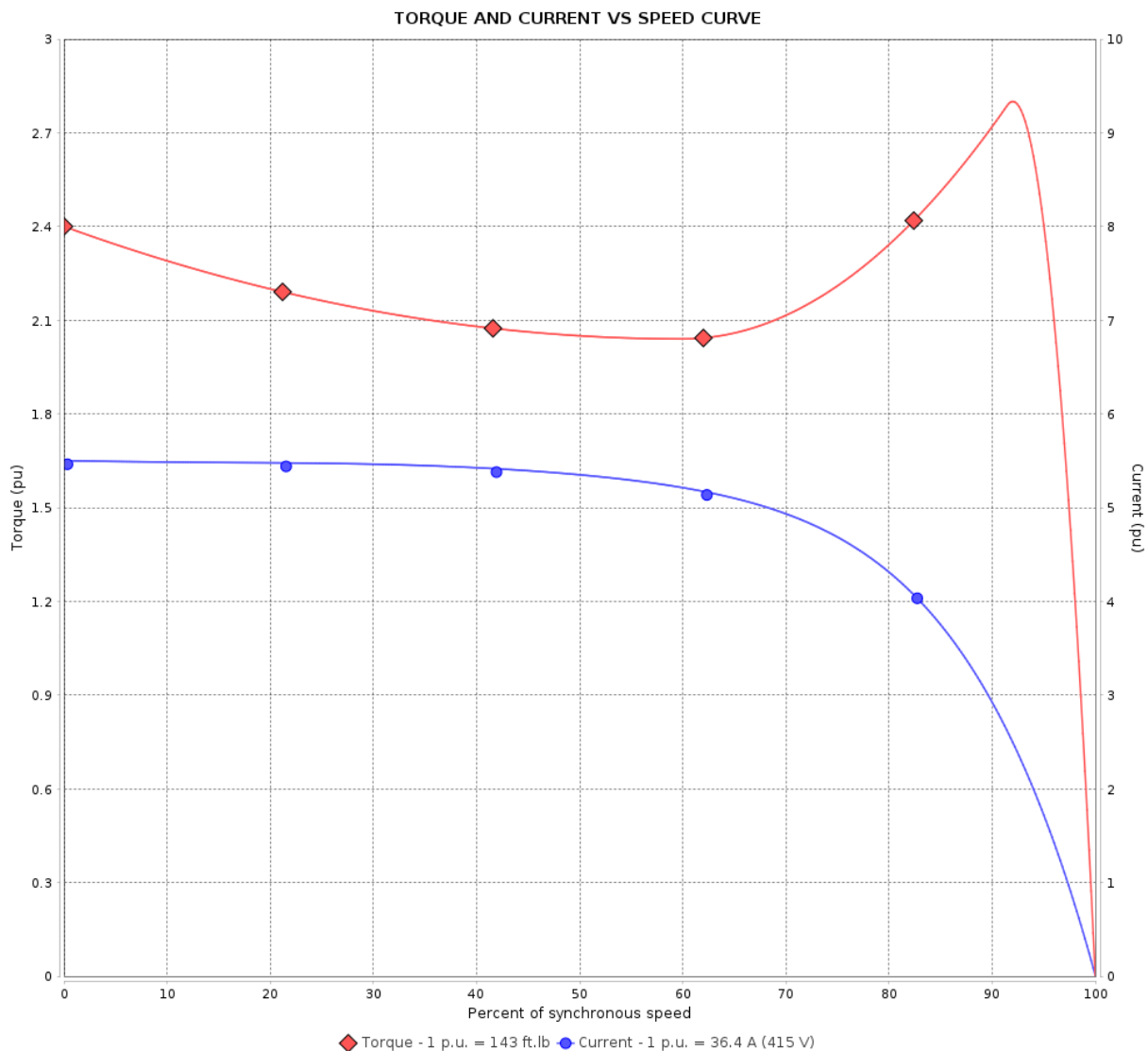
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Performance : 415 V 50 Hz 8P IE3

Rated current	: 36.4 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 143 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.15
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 735 rpm	Design	: B

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

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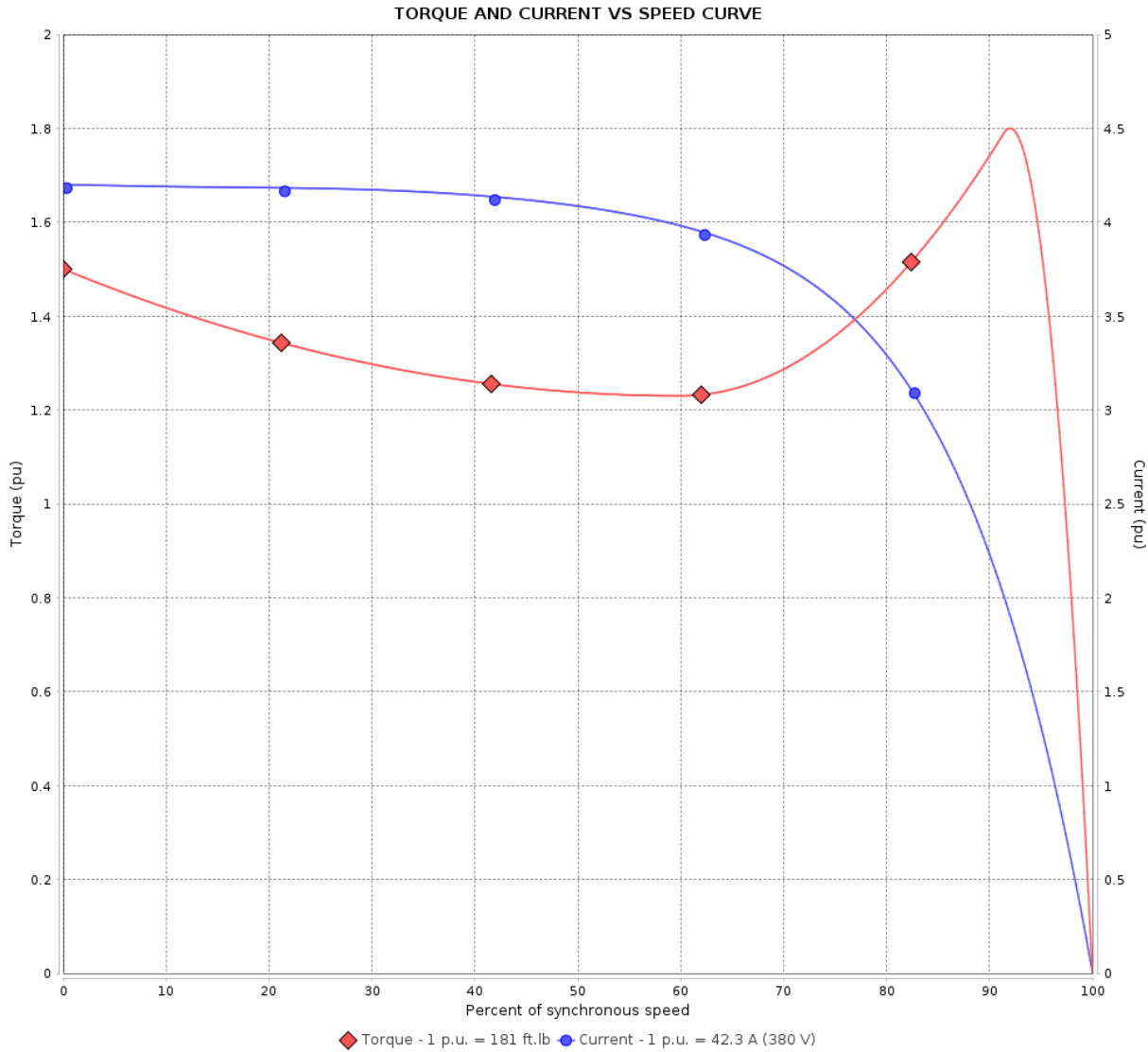
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 380 V 50 Hz 8P IE1

Rated current	: 42.3 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 4.2	Duty cycle	: Cont.(S1)
Rated torque	: 181 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.15
Breakdown torque	: 180 %	Temperature rise	: 105 K
Rated speed	: 725 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 :

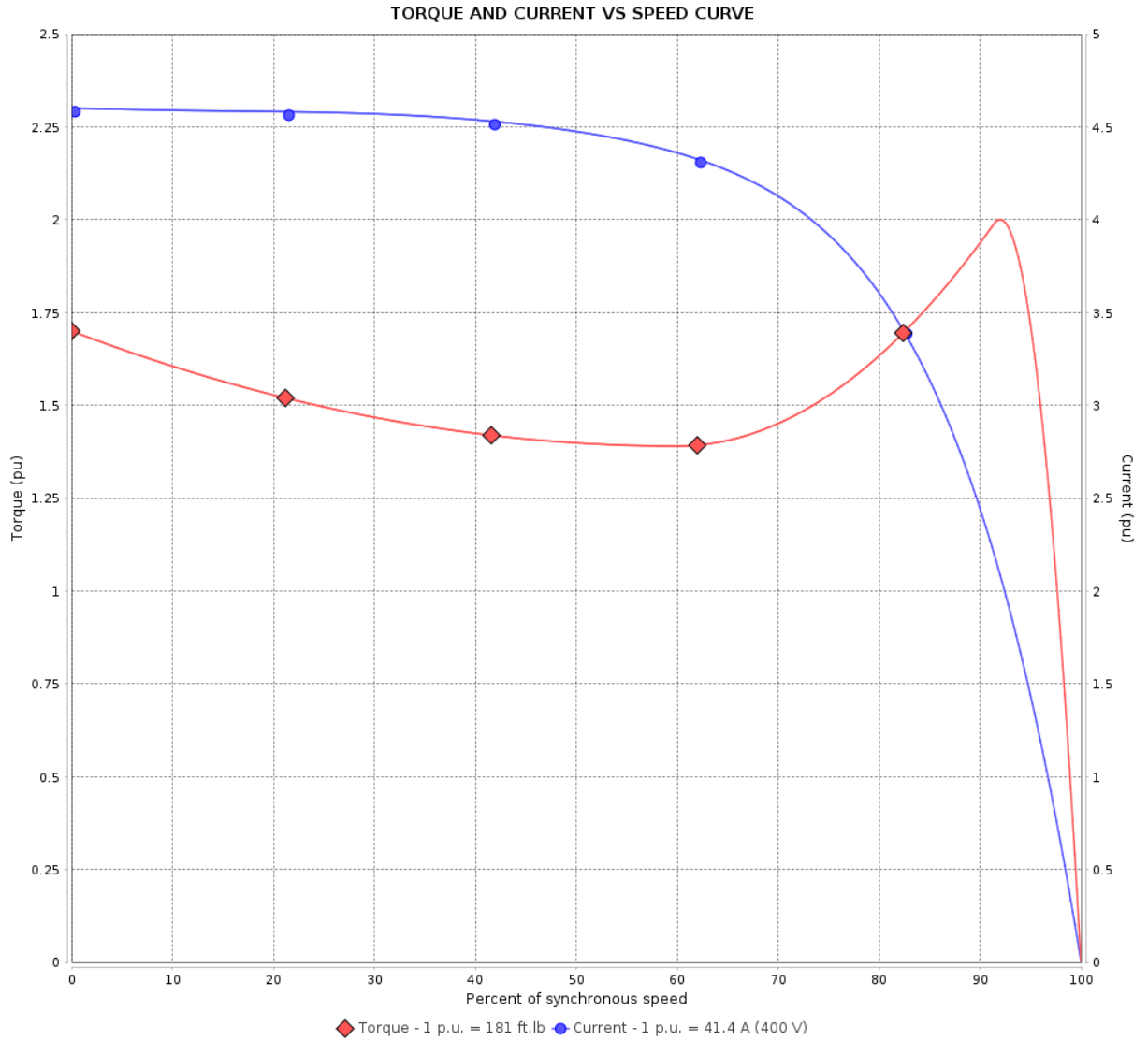
Product line : NEMA Premium Efficiency Three-Phase

Product code :

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Catalog # :

02509ST3QIE326T-W22



Performance : 400 V 50 Hz 8P IE2

Rated current	: 41.4 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 4.6	Duty cycle	: Cont.(S1)
Rated torque	: 181 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.15
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 725 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 :

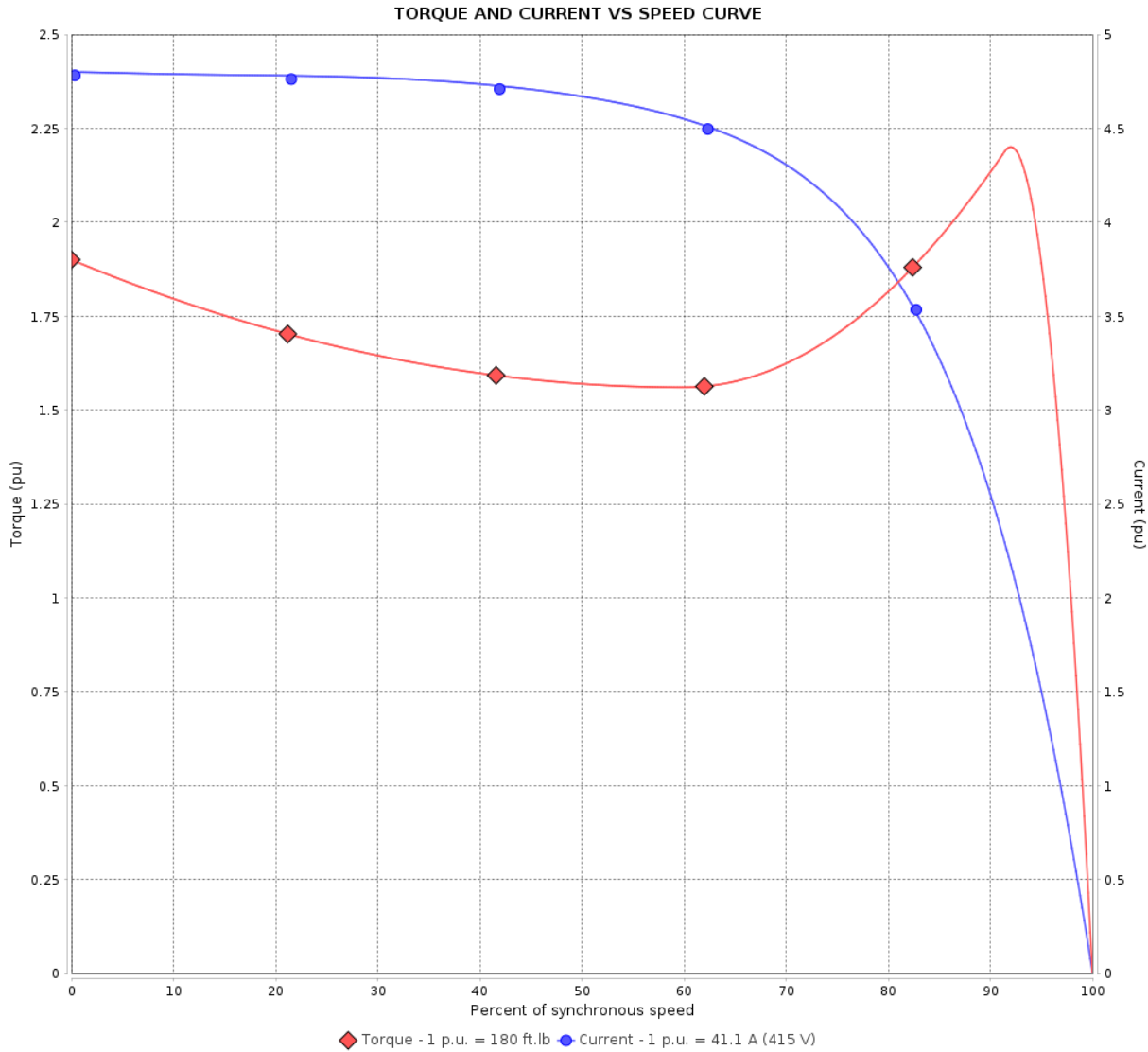
Product line : NEMA Premium Efficiency Three-Phase

Product code :

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Catalog # :

02509ST3QIE326T-W22



Performance : 415 V 50 Hz 8P IE2

Rated current	: 41.1 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 4.8	Duty cycle	: Cont.(S1)
Rated torque	: 180 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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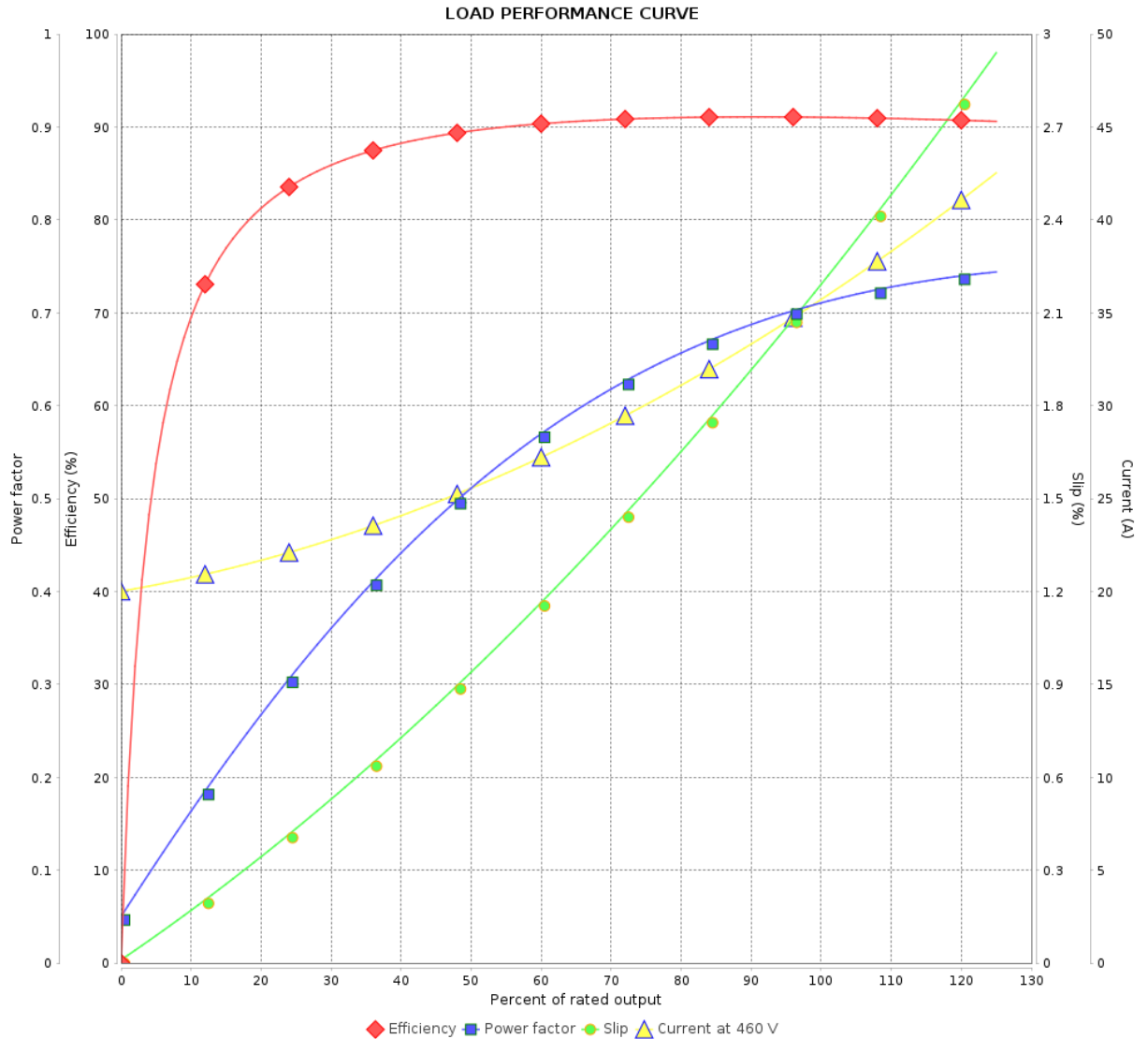
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Performance : 460 V 60 Hz 8P

Rated current : 35.9 A  
 LRC : 5.2  
 Rated torque : 149 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 229 %  
 Rated speed : 880 rpm

Moment of inertia (J) : 11.9 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 :

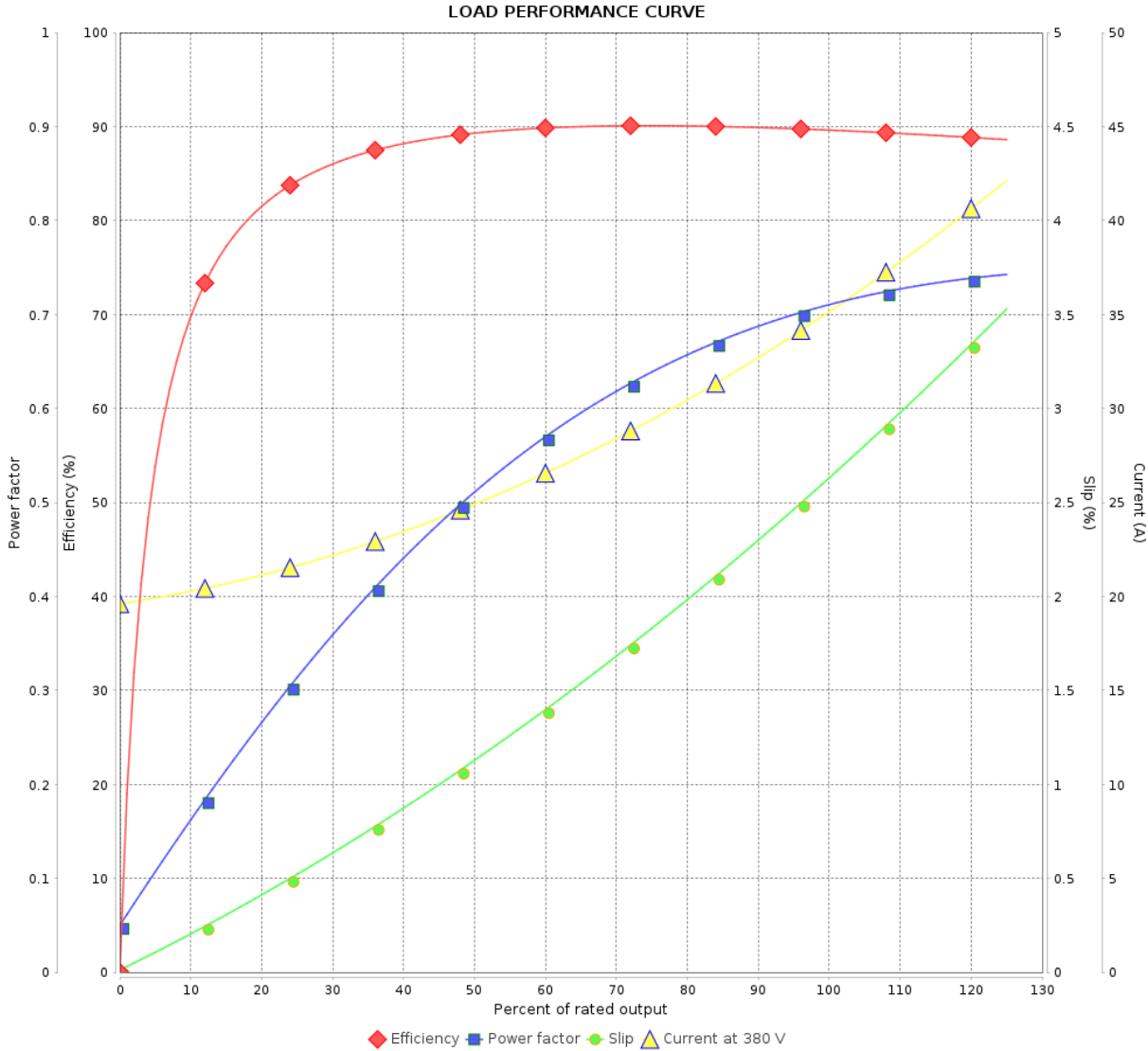
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Performance : 380 V 50 Hz 8P IE3

Rated current	: 35.3 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 144 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: B

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## Three Phase Induction Motor - Squirrel Cage



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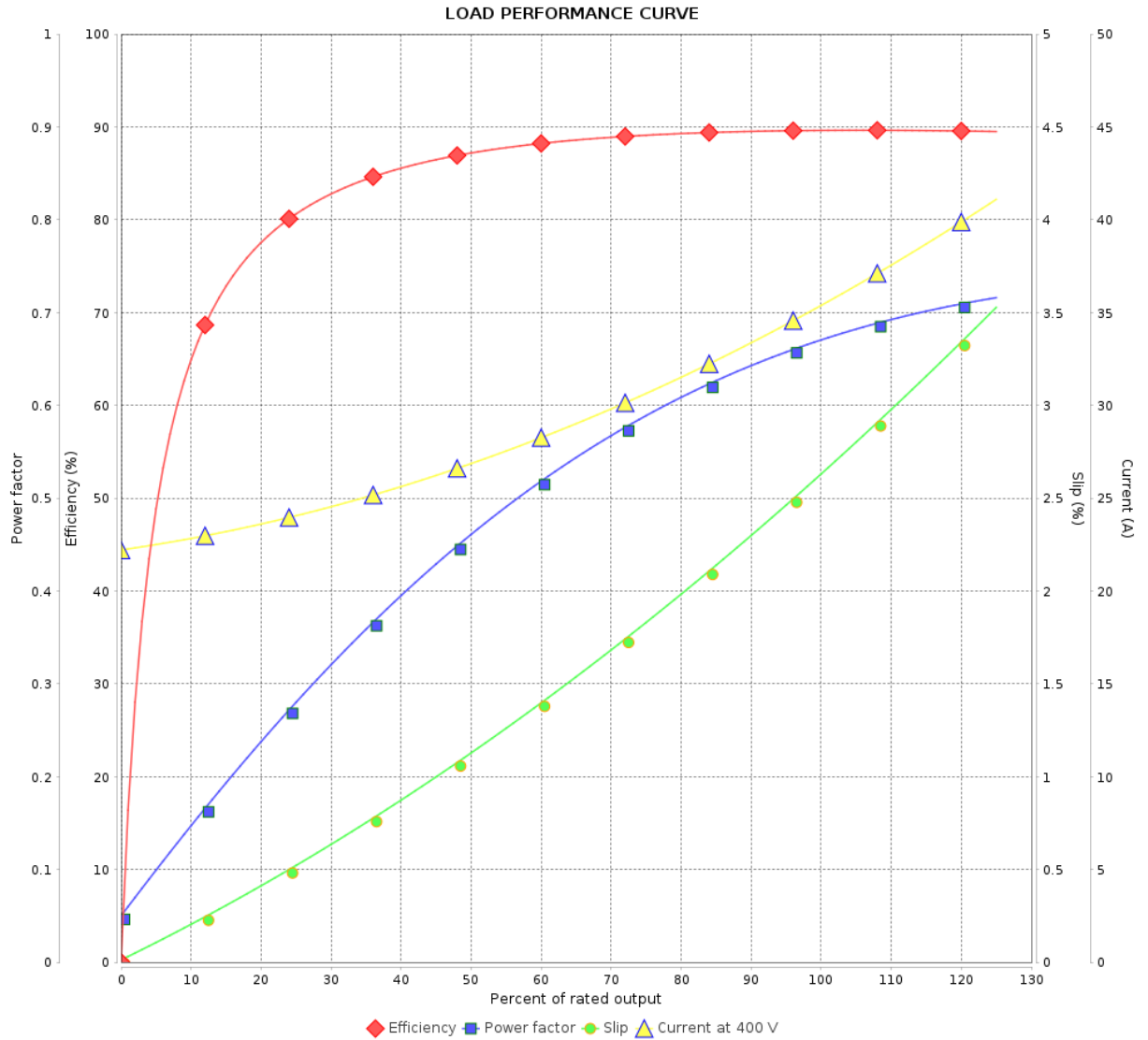
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Performance : 400 V 50 Hz 8P IE3

Rated current : 35.6 A  
 LRC : 5.4  
 Rated torque : 144 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 250 %  
 Rated speed : 730 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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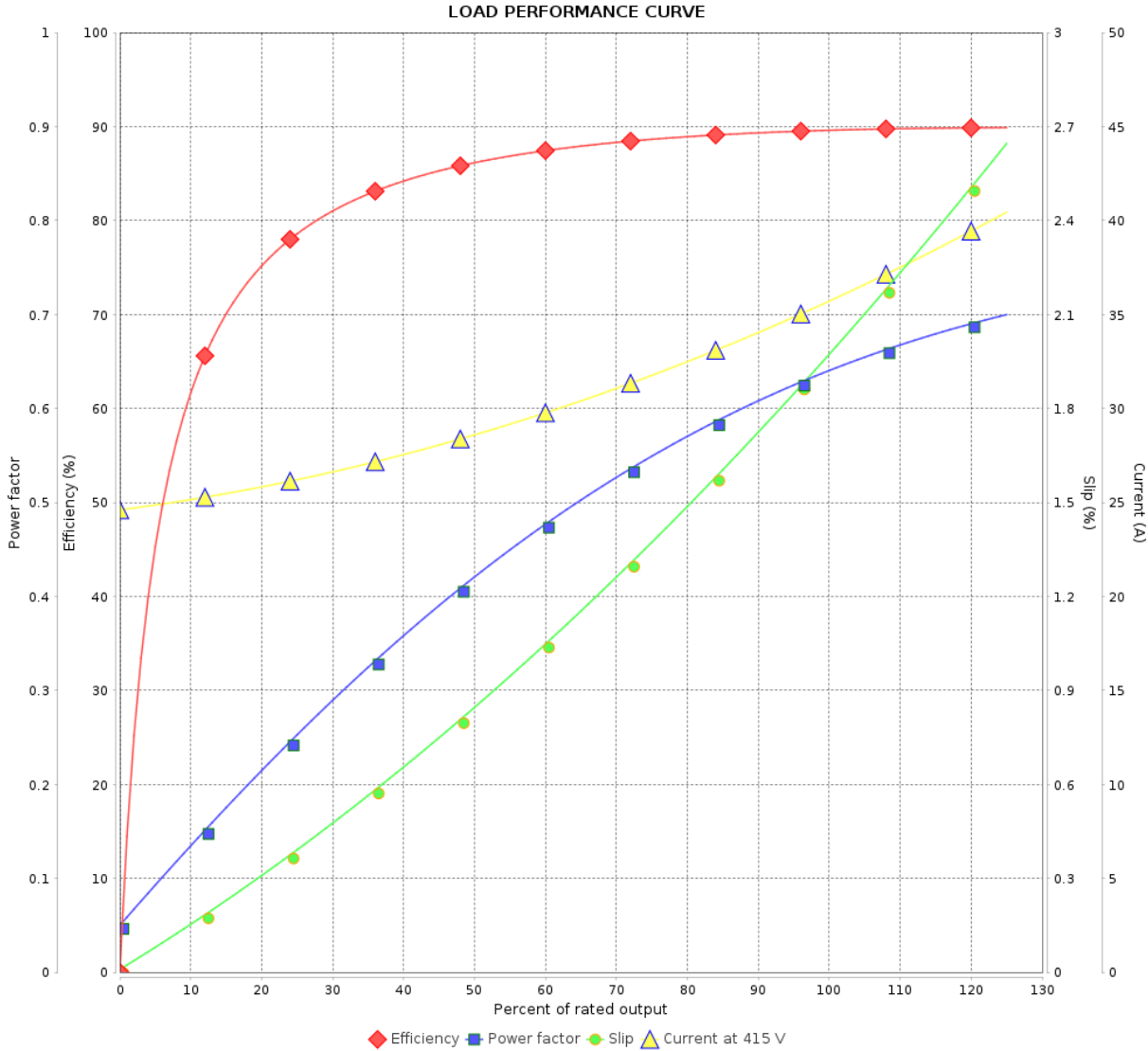
Product line : NEMA Premium Efficiency Three-Phase

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Catalog # :

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Performance : 415 V 50 Hz 8P IE3

Rated current : 36.4 A  
 LRC : 5.5  
 Rated torque : 143 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
 Rated speed : 735 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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

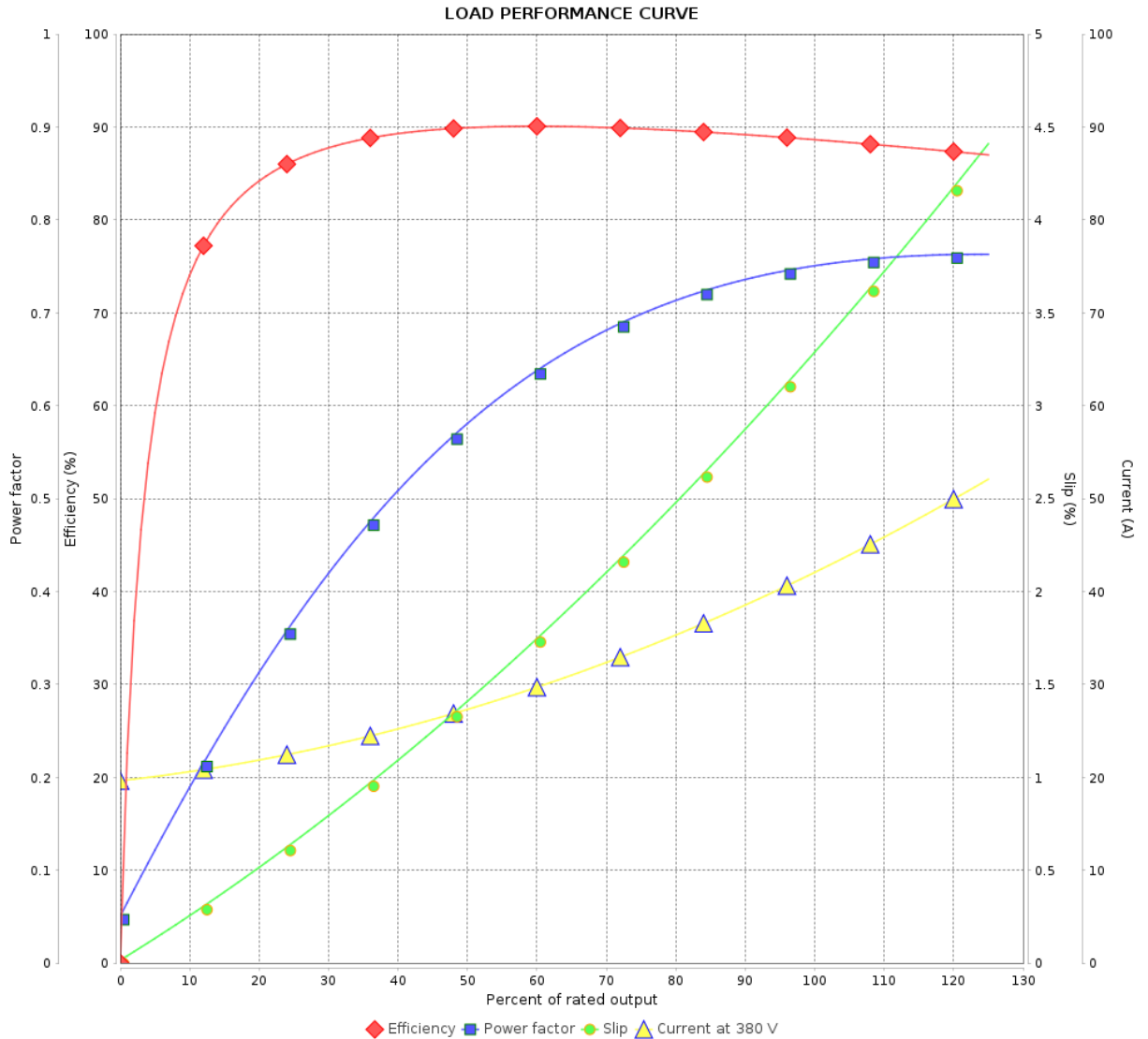
Product line : NEMA Premium Efficiency Three-Phase

Product code :

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Catalog # :

02509ST3QIE326T-W22



Performance : 380 V 50 Hz 8P IE1

Rated current : 42.3 A  
 LRC : 4.2  
 Rated torque : 181 ft.lb  
 Locked rotor torque : 150 %  
 Breakdown torque : 180 %  
 Rated speed : 725 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 105 K  
 Design : B

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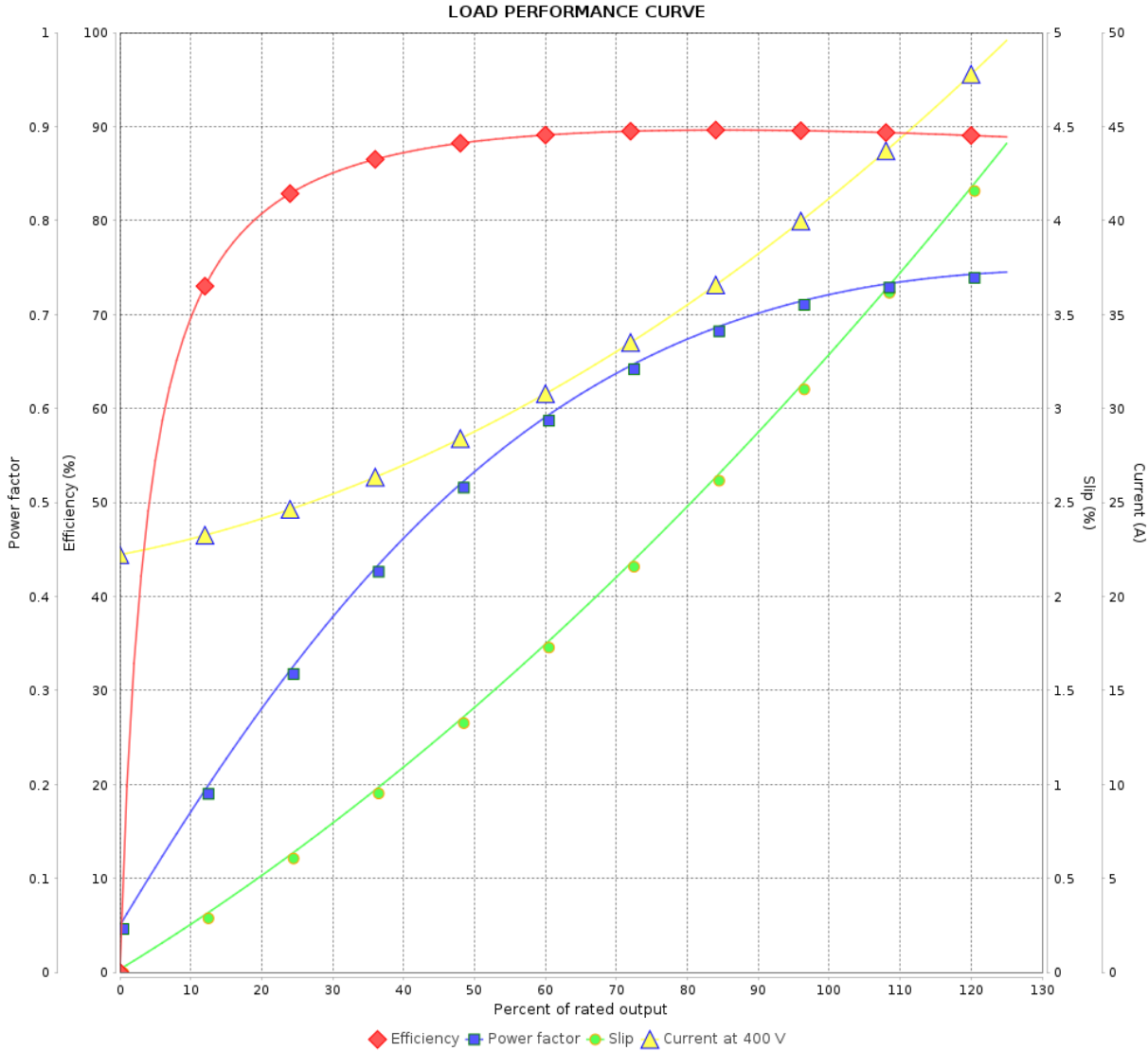
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Product code :

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Catalog # :

02509ST3QIE326T-W22



Performance : 400 V 50 Hz 8P IE2

Rated current : 41.4 A  
 LRC : 4.6  
 Rated torque : 181 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 200 %  
 Rated speed : 725 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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

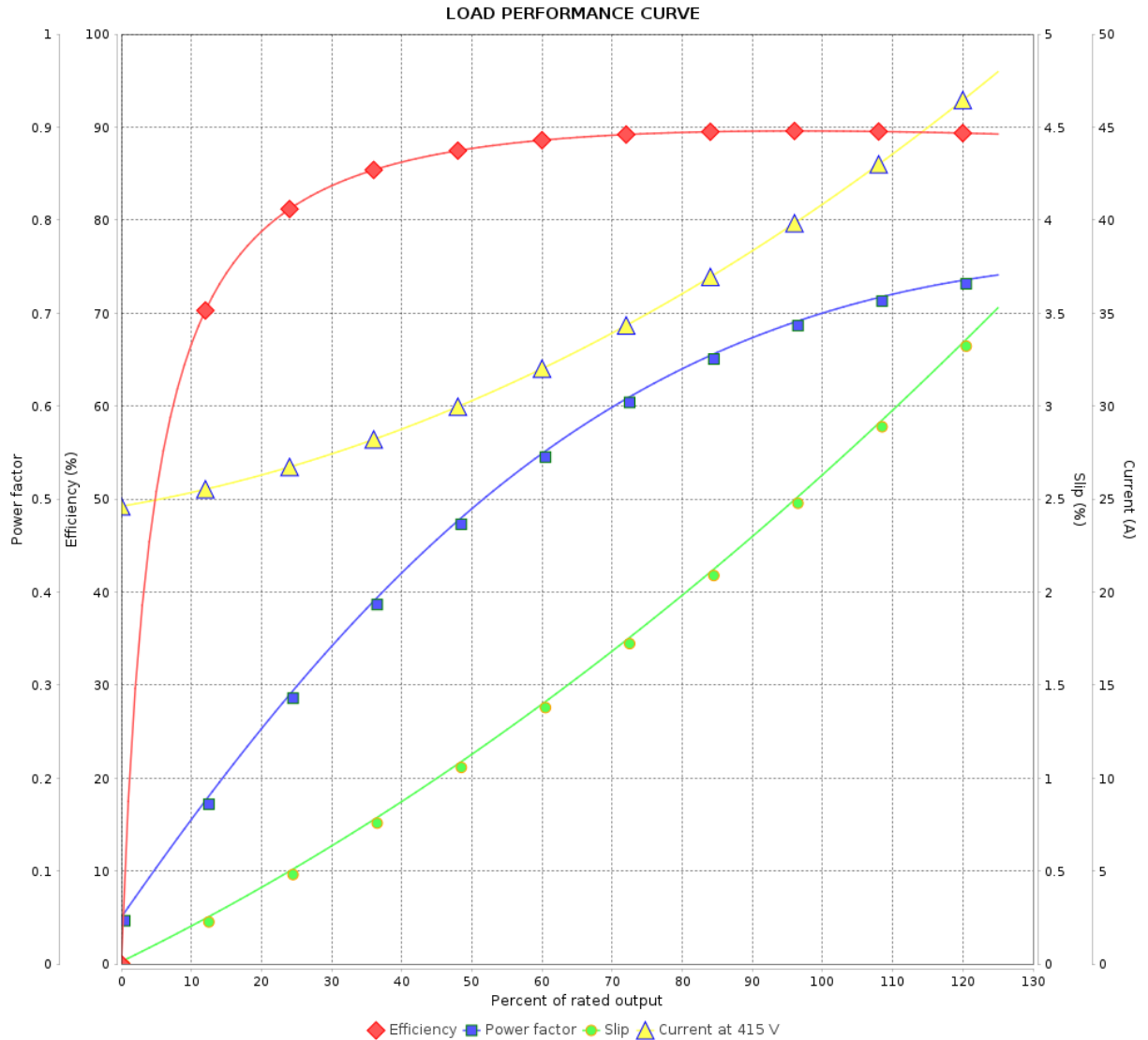
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Product code :

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Catalog # :

02509ST3QIE326T-W22



Performance : 415 V 50 Hz 8P IE2

Rated current : 41.1 A  
 LRC : 4.8  
 Rated torque : 180 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 220 %  
 Rated speed : 730 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

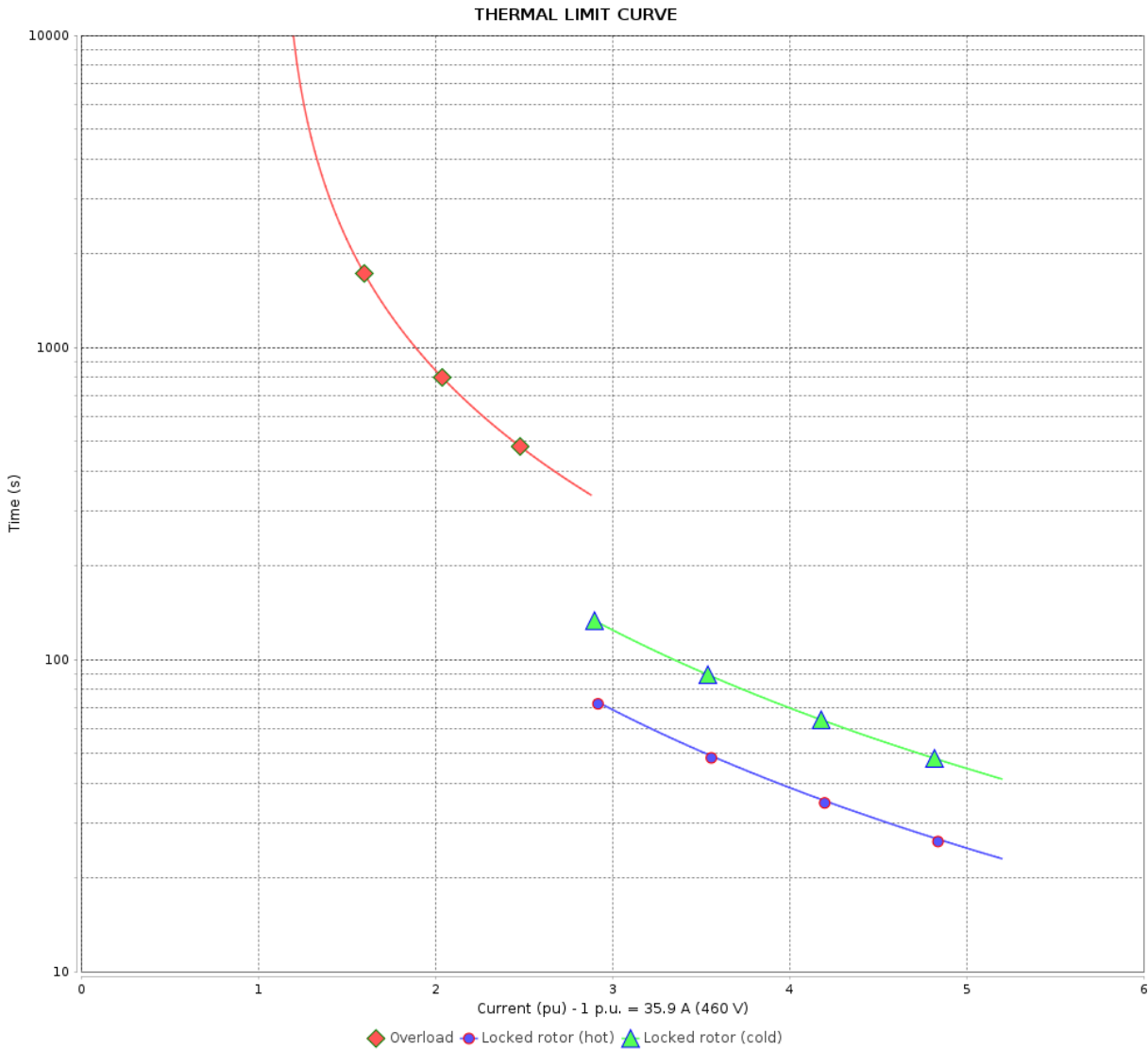
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Performance : 460 V 60 Hz 8P

Rated current	: 35.9 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 5.2	Duty cycle	: Cont.(S1)
Rated torque	: 149 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: B

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

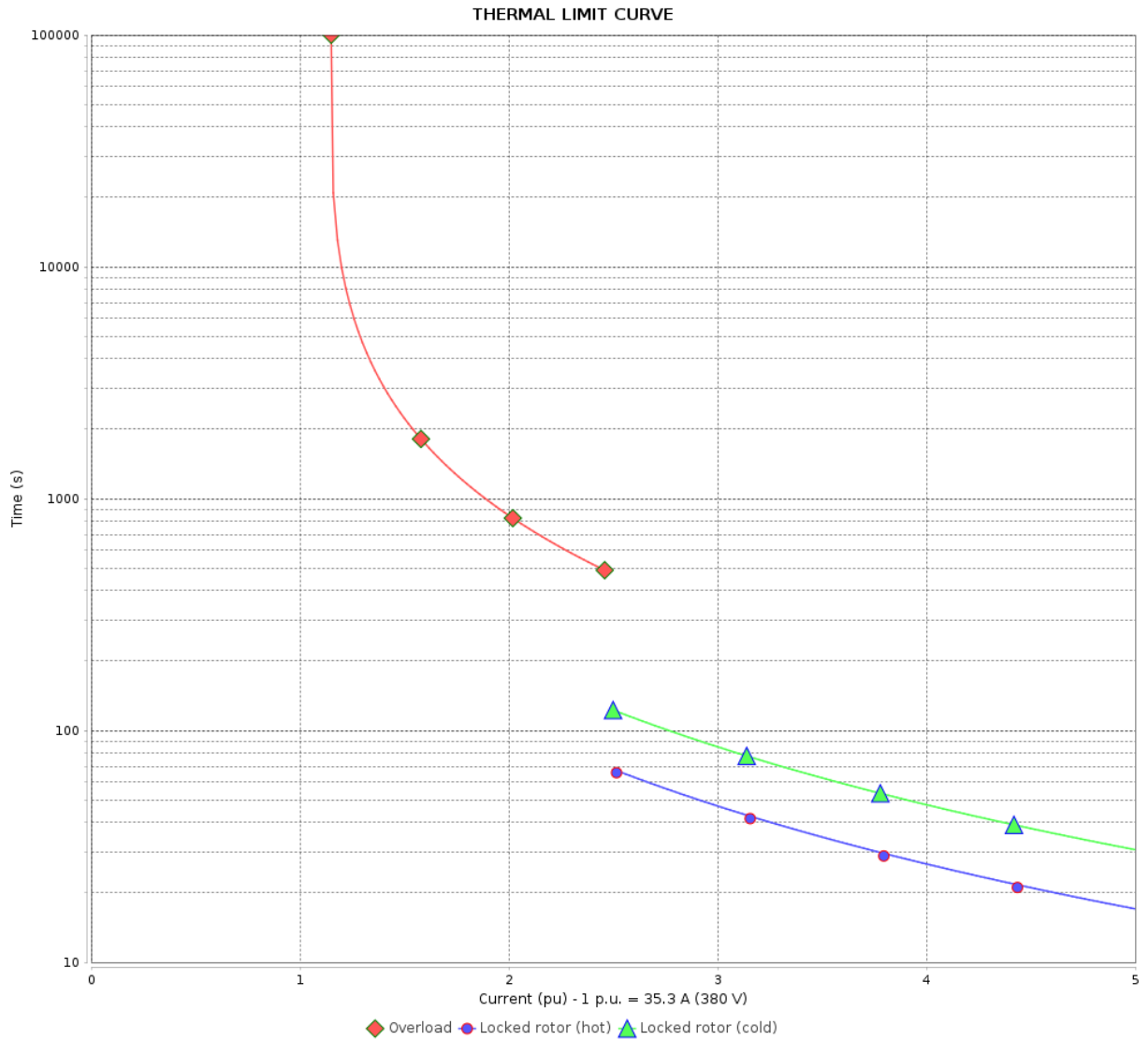
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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
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Cooling constant

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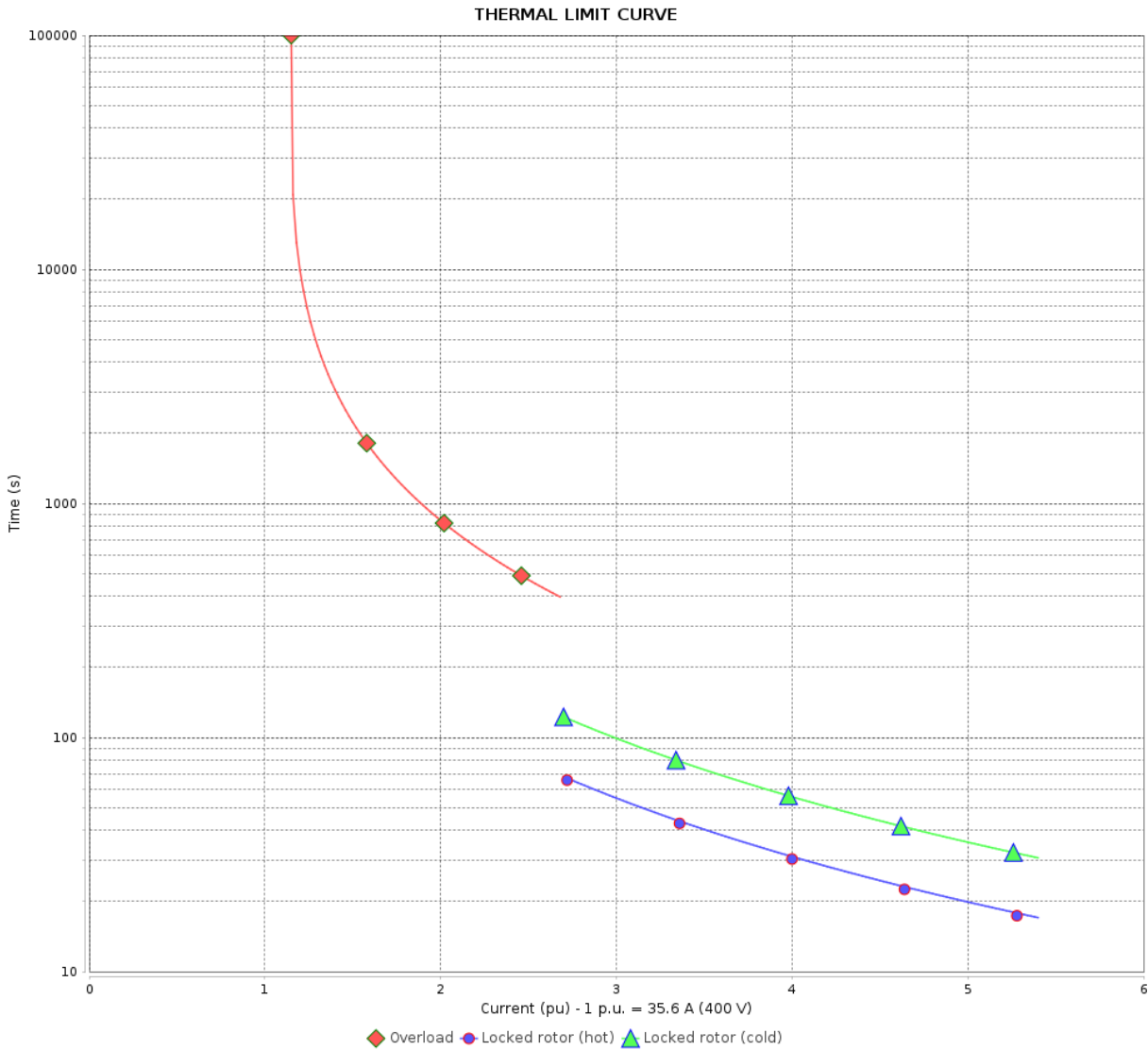
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Performance : 400 V 50 Hz 8P IE3

Rated current : 35.6 A  
 LRC : 5.4  
 Rated torque : 144 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 250 %  
 Rated speed : 730 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
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 Service factor : 1.15  
 Temperature rise : 80 K  
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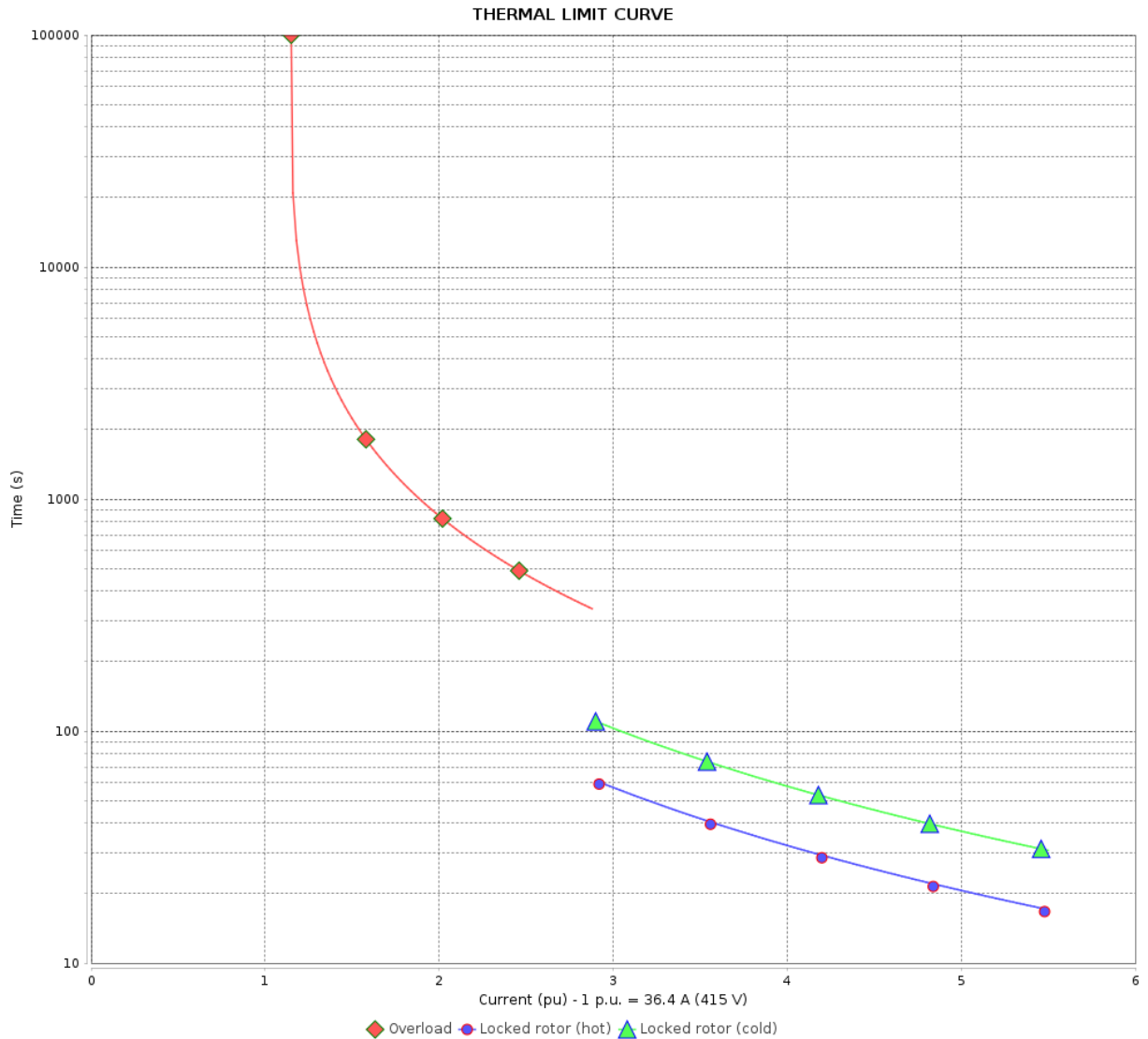
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Performance : 415 V 50 Hz 8P IE3

Rated current : 36.4 A  
 LRC : 5.5  
 Rated torque : 143 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
 Rated speed : 735 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
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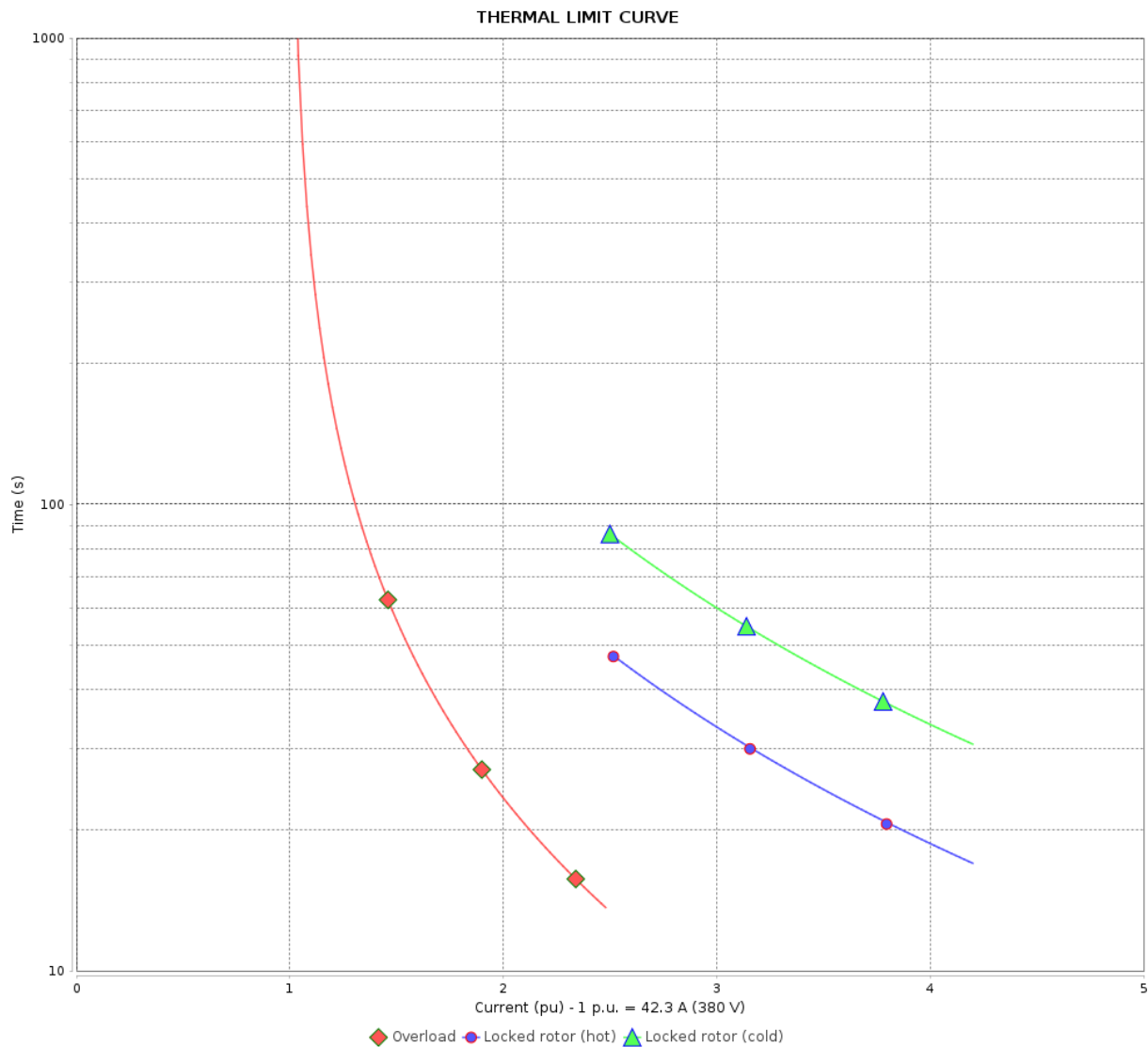
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LRC	: 4.2	Duty cycle	: Cont.(S1)
Rated torque	: 181 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.15
Breakdown torque	: 180 %	Temperature rise	: 105 K
Rated speed	: 725 rpm	Design	: B

Heating constant

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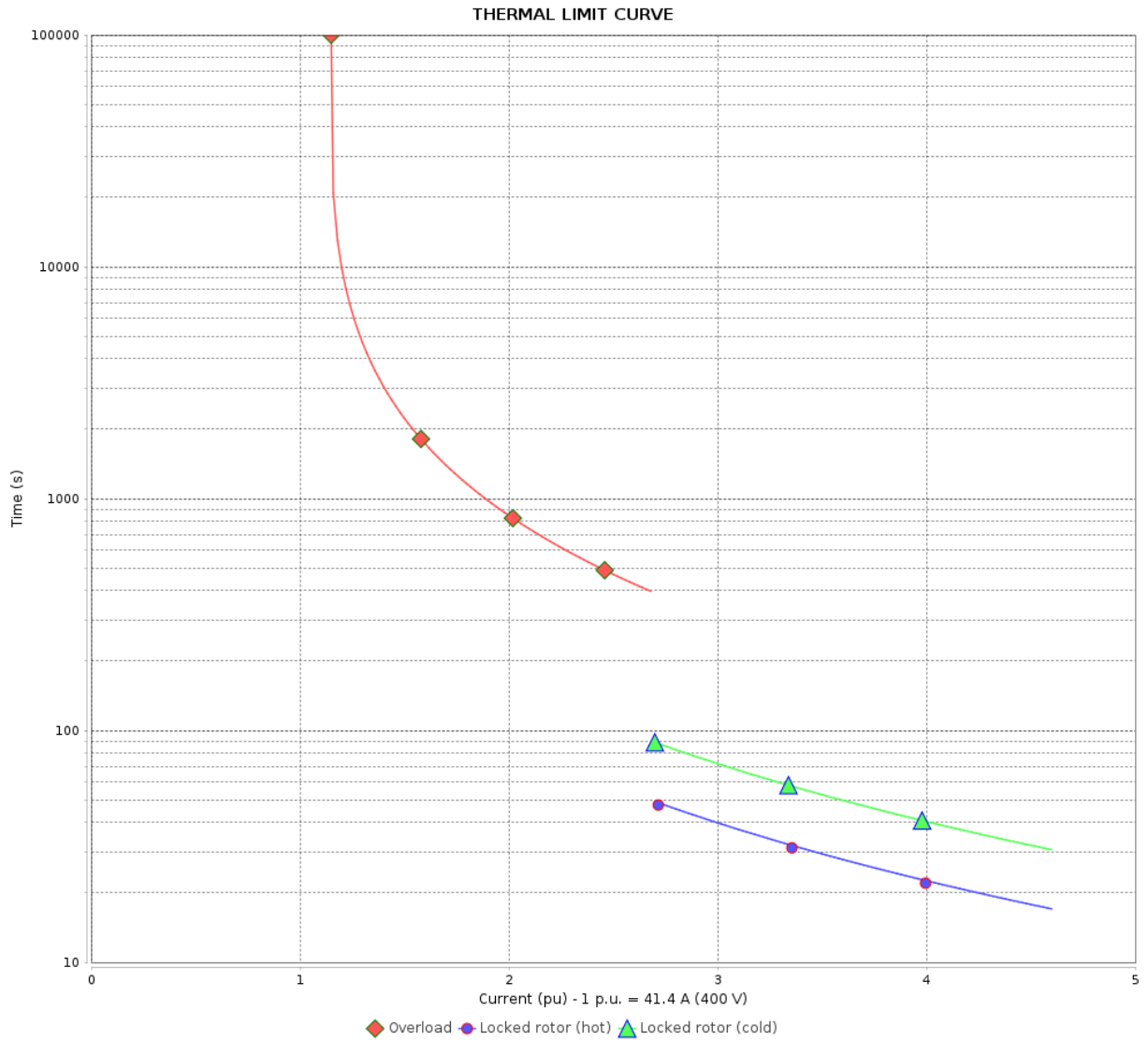
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Rated current : 41.4 A  
 LRC : 4.6  
 Rated torque : 181 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 200 %  
 Rated speed : 725 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
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 Temperature rise : 80 K  
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## Three Phase Induction Motor - Squirrel Cage



Customer :

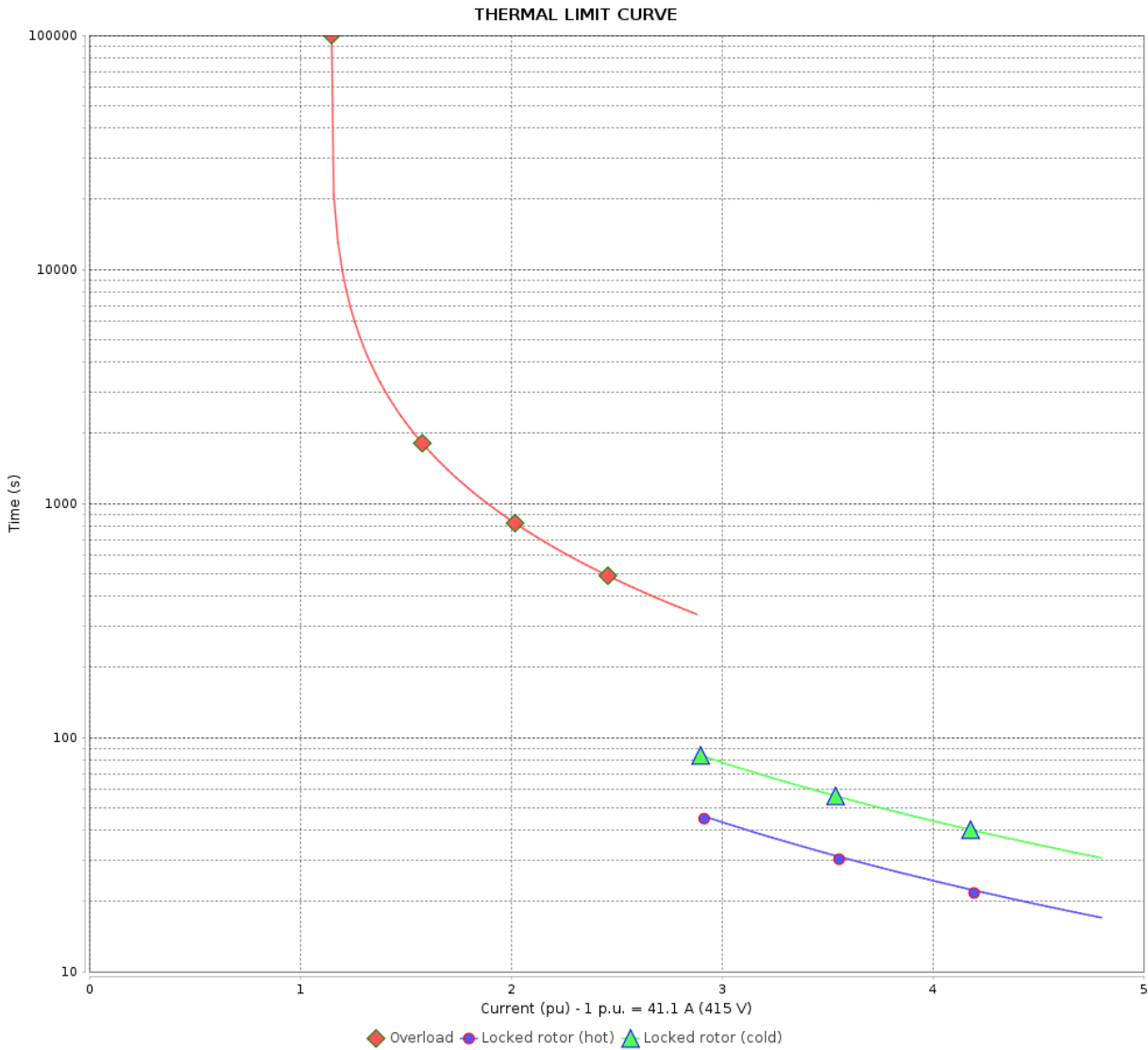
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 415 V 50 Hz 8P IE2

Rated current	: 41.1 A	Moment of inertia (J)	: 11.9 sq.ft.lb
LRC	: 4.8	Duty cycle	: Cont.(S1)
Rated torque	: 180 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			22 / 29	
Date	26/10/2022			

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

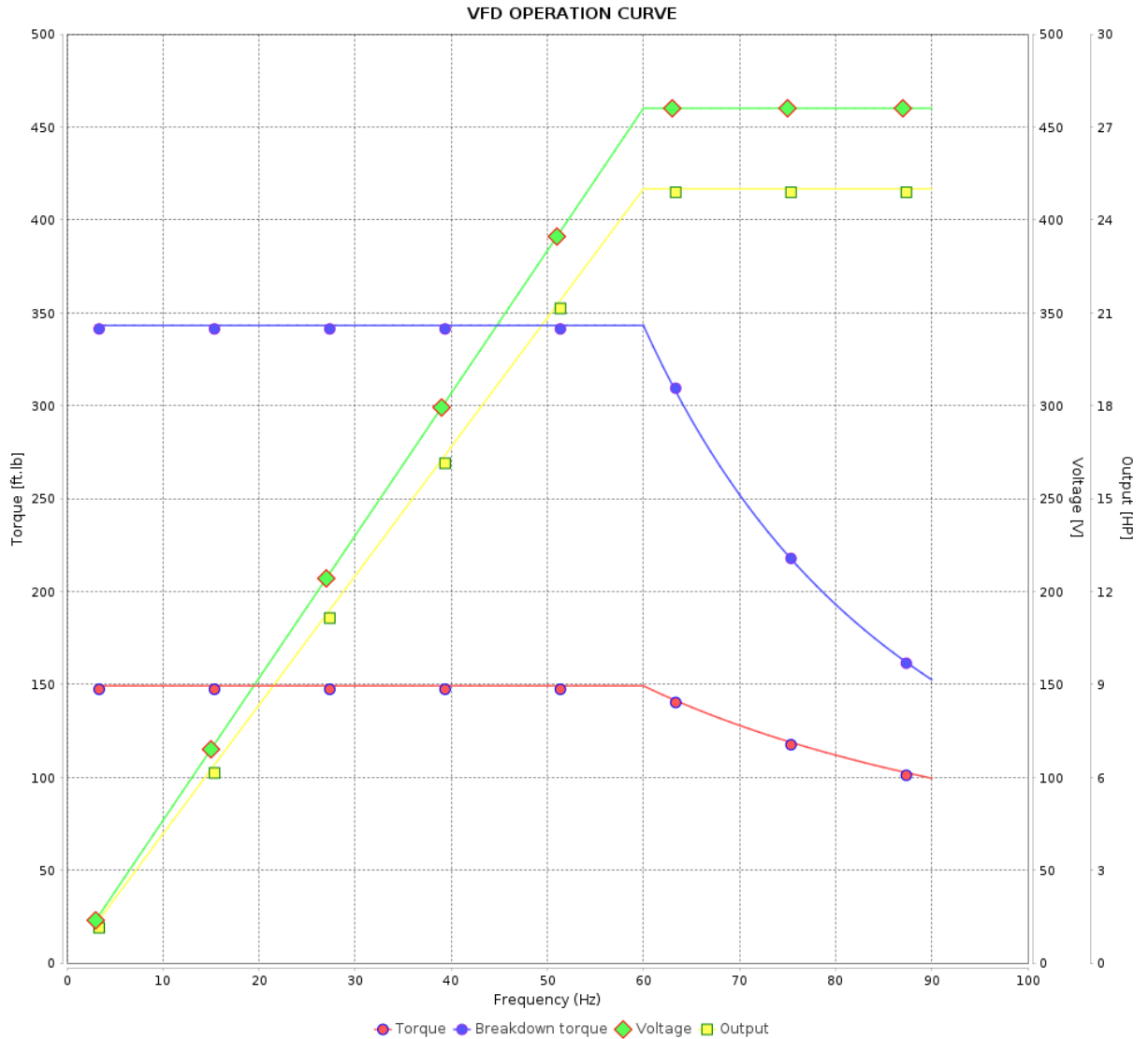
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 460 V 60 Hz 8P

Rated current : 35.9 A  
 LRC : 5.2  
 Rated torque : 149 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 229 %  
 Rated speed : 880 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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Performed by					
Checked by					
Date					26/10/2022
		Page	Revision		
		23 / 29			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



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

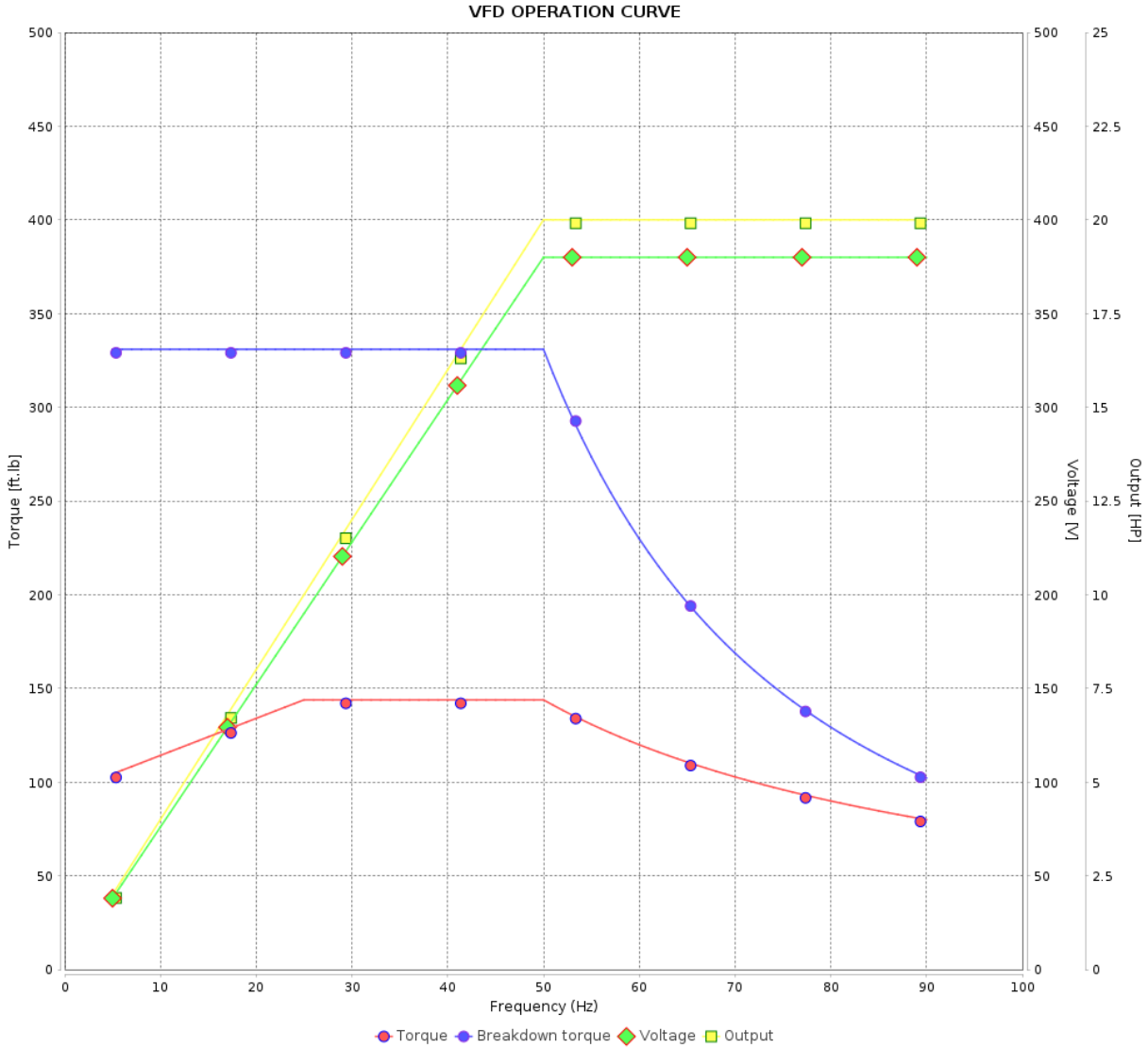
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 380 V 50 Hz 8P IE3

Rated current : 35.3 A  
 LRC : 5.0  
 Rated torque : 144 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 229 %  
 Rated speed : 730 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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



# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

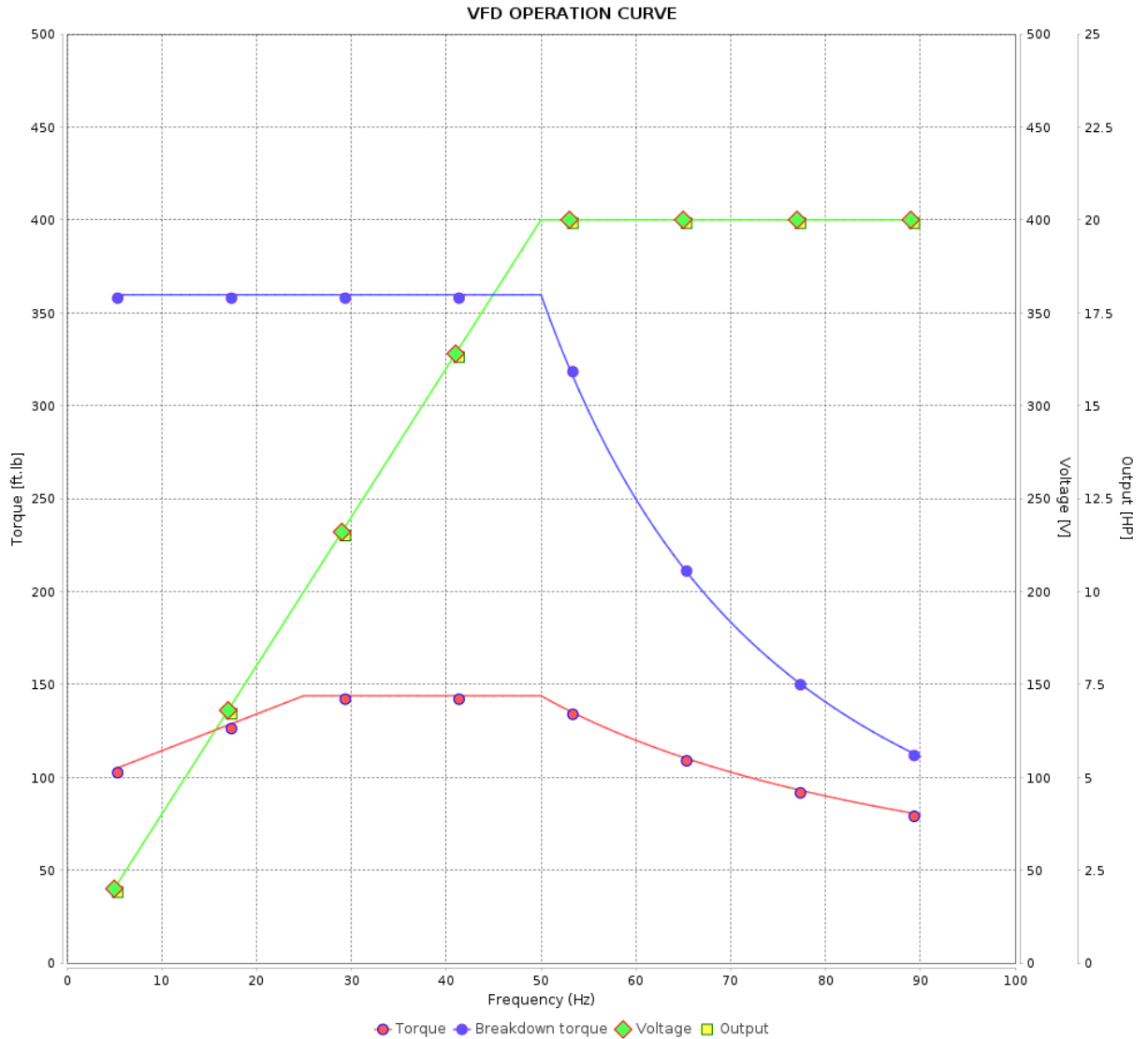


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code :  
Catalog # :

11584354  
02509ST3QIE326T-W22



Performance : 400 V 50 Hz 8P IE3

Rated current : 35.6 A  
 LRC : 5.4  
 Rated torque : 144 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 250 %  
 Rated speed : 730 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

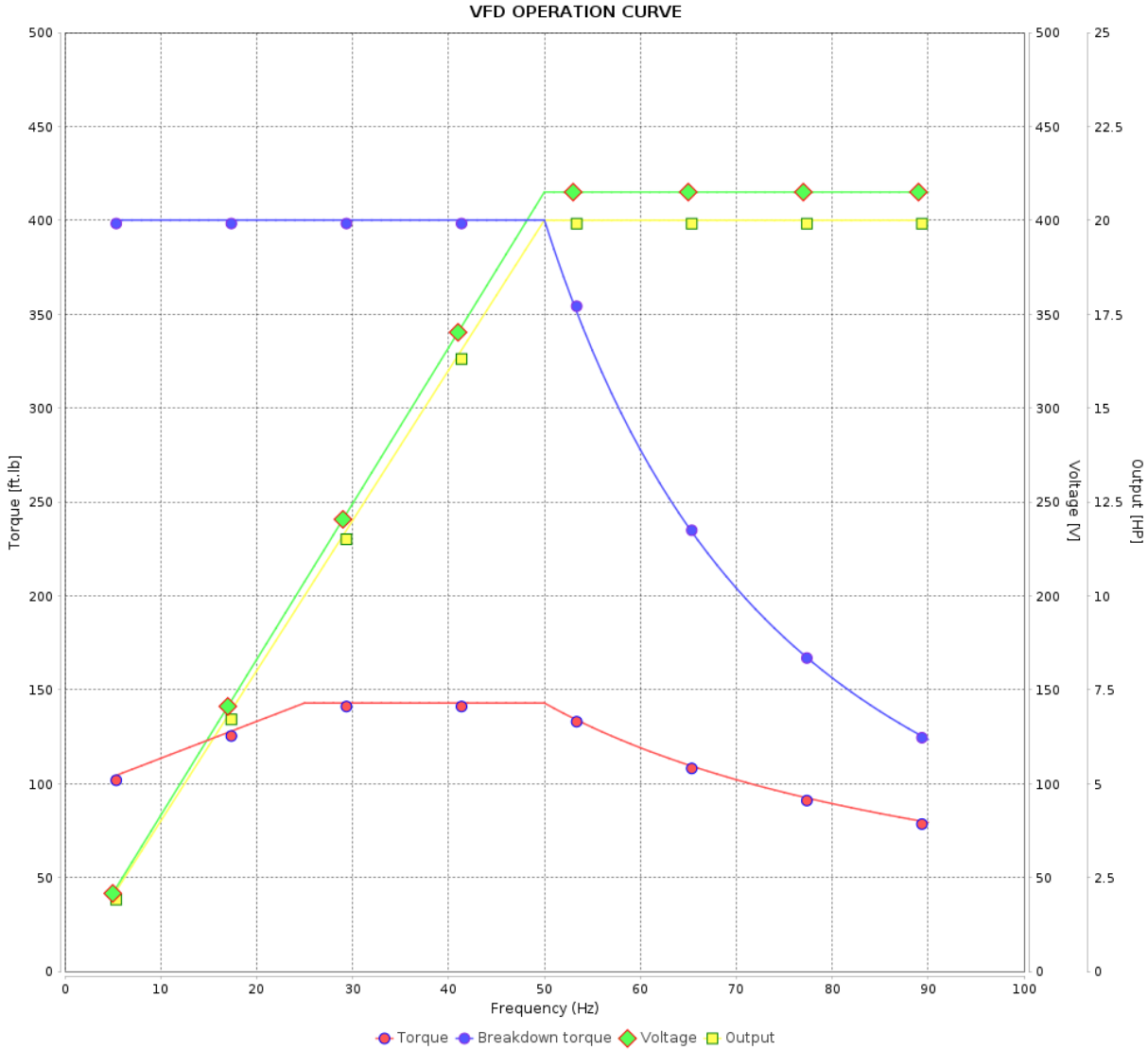
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 415 V 50 Hz 8P IE3

Rated current : 36.4 A  
 LRC : 5.5  
 Rated torque : 143 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 280 %  
 Rated speed : 735 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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Checked by				
Date	26/10/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

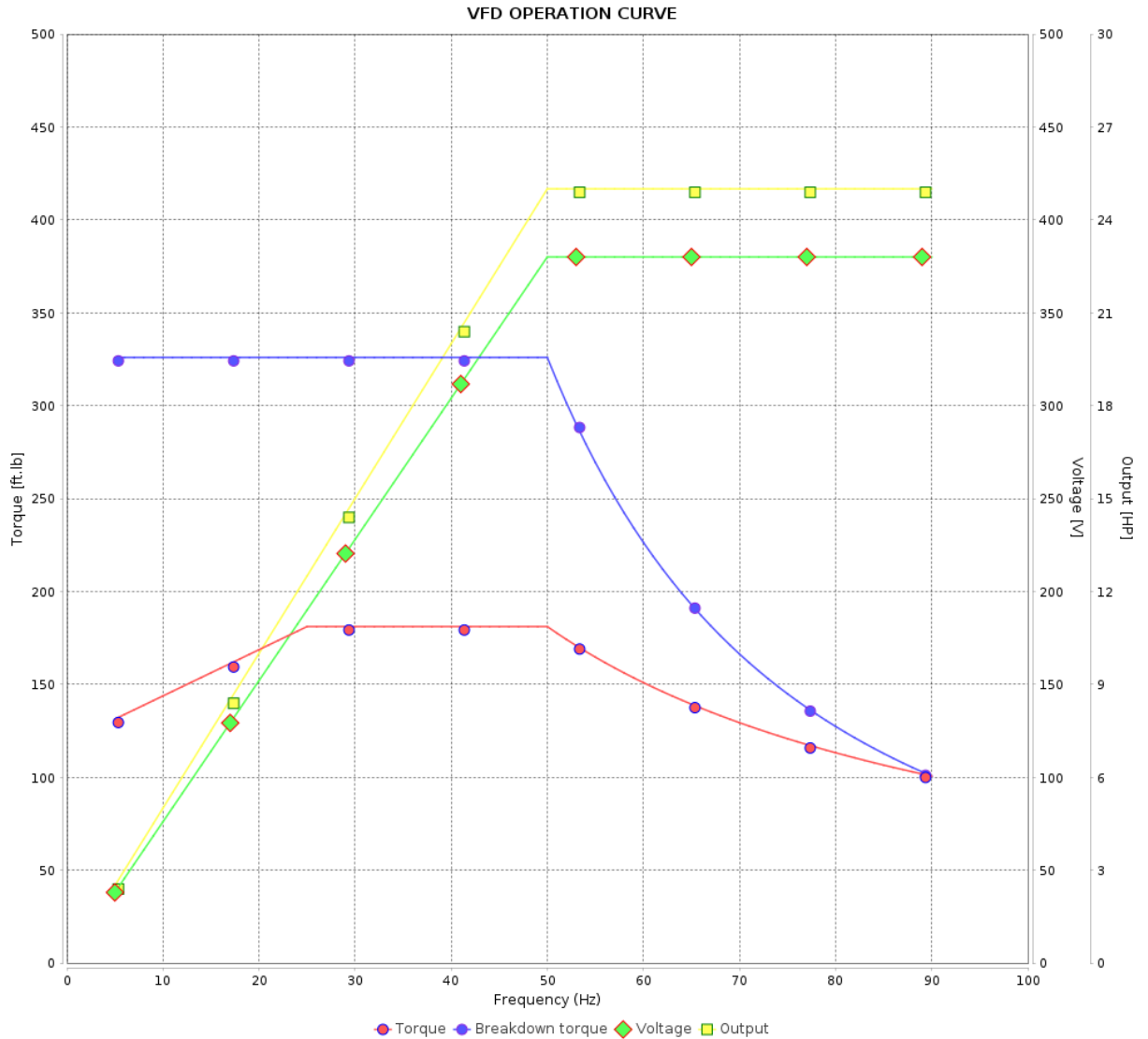
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 380 V 50 Hz 8P IE1

Rated current : 42.3 A  
 LRC : 4.2  
 Rated torque : 181 ft.lb  
 Locked rotor torque : 150 %  
 Breakdown torque : 180 %  
 Rated speed : 725 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 105 K  
 Design : B

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Date		26/10/2022		

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

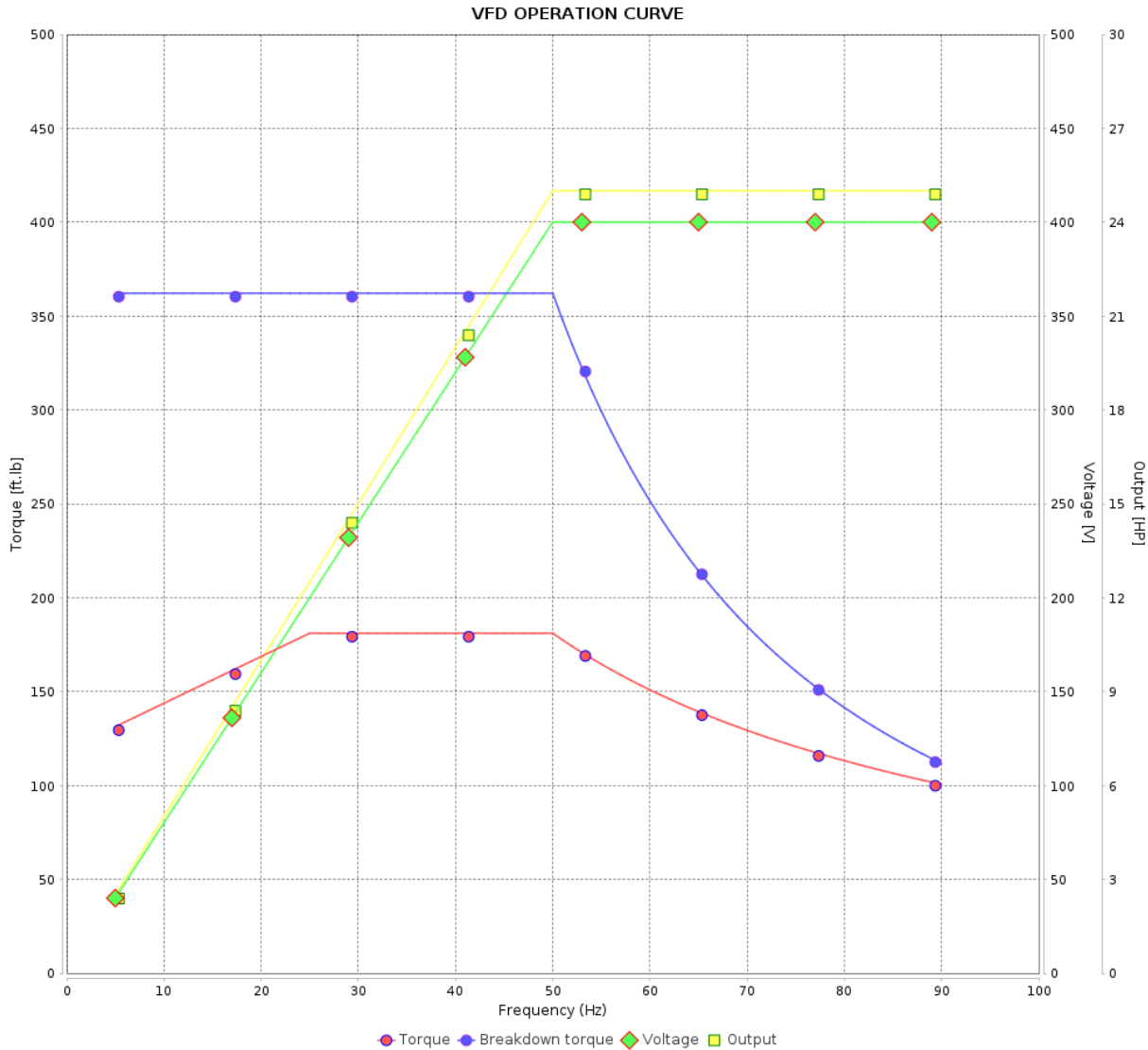
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22



Performance : 400 V 50 Hz 8P IE2

Rated current : 41.4 A  
 LRC : 4.6  
 Rated torque : 181 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 200 %  
 Rated speed : 725 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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Performed by			Page 28 / 29	Revision
Checked by				
Date	26/10/2022			

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

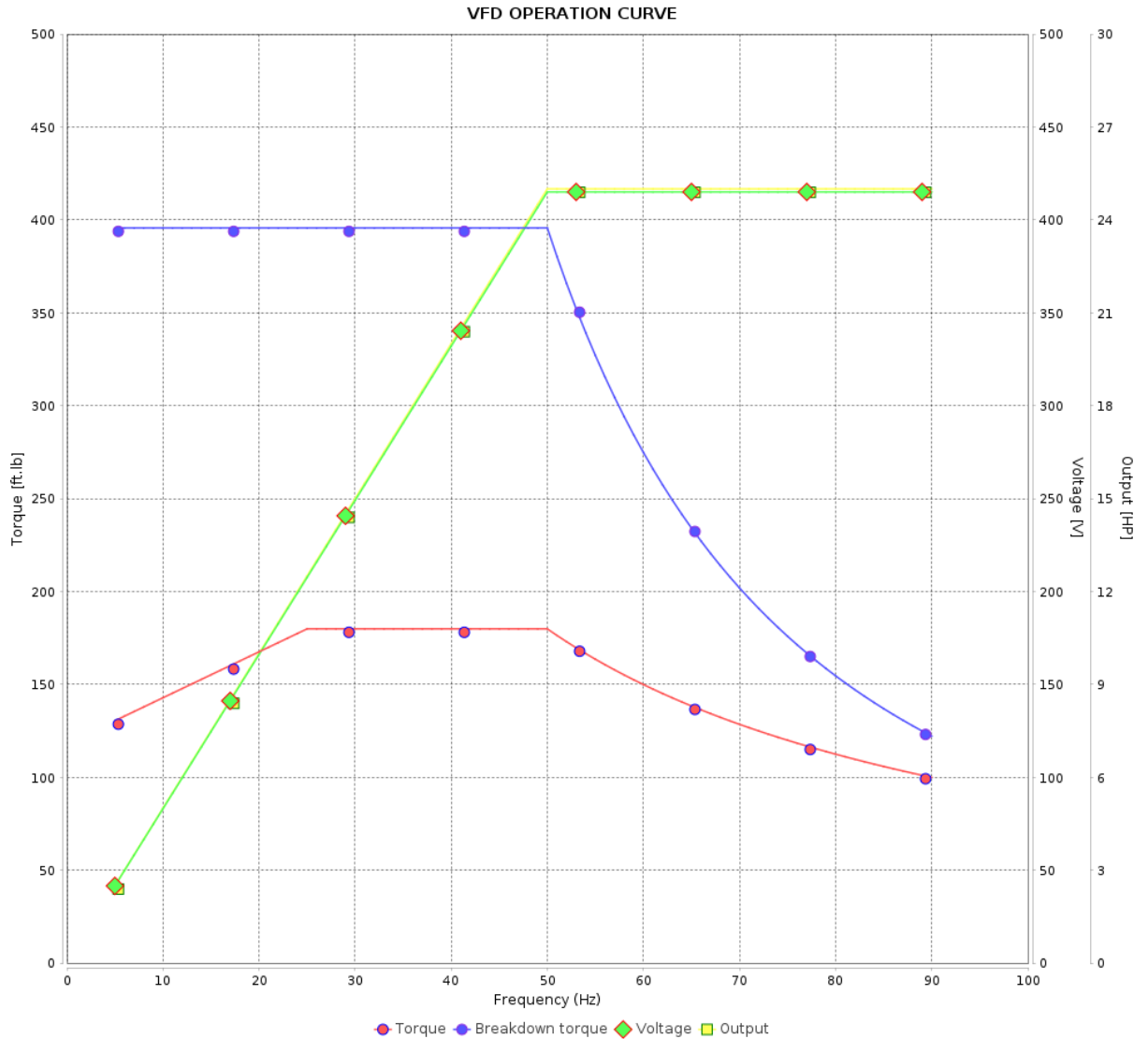
Product line : NEMA Premium Efficiency Three-Phase

Product code :

11584354

Catalog # :

02509ST3QIE326T-W22

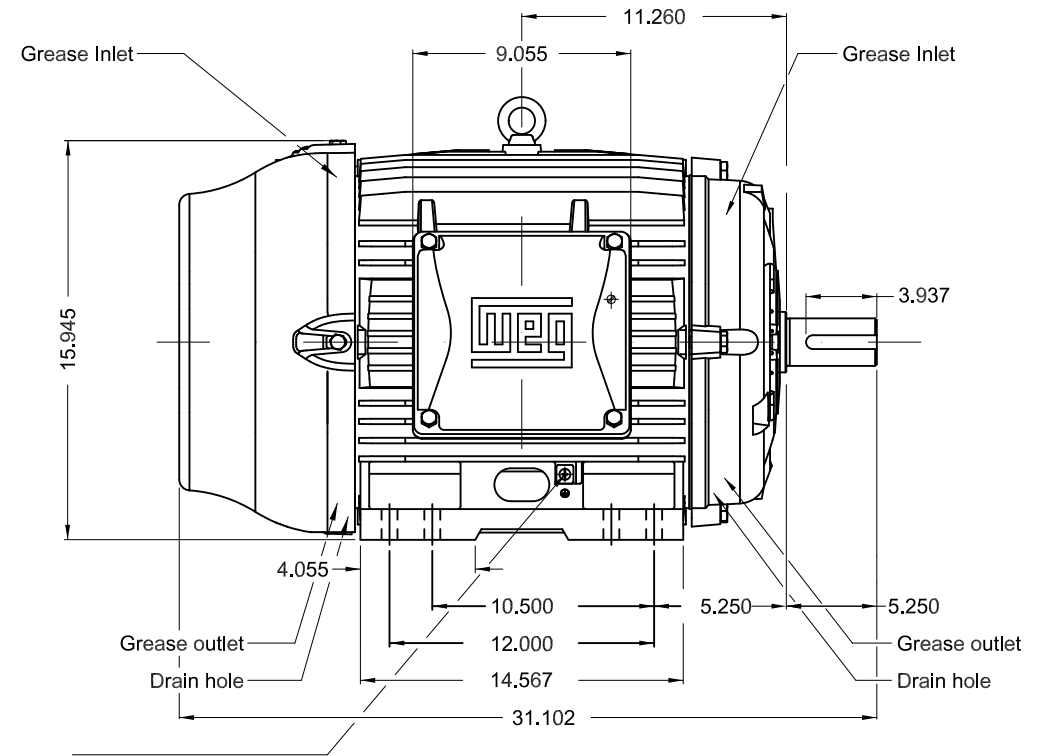
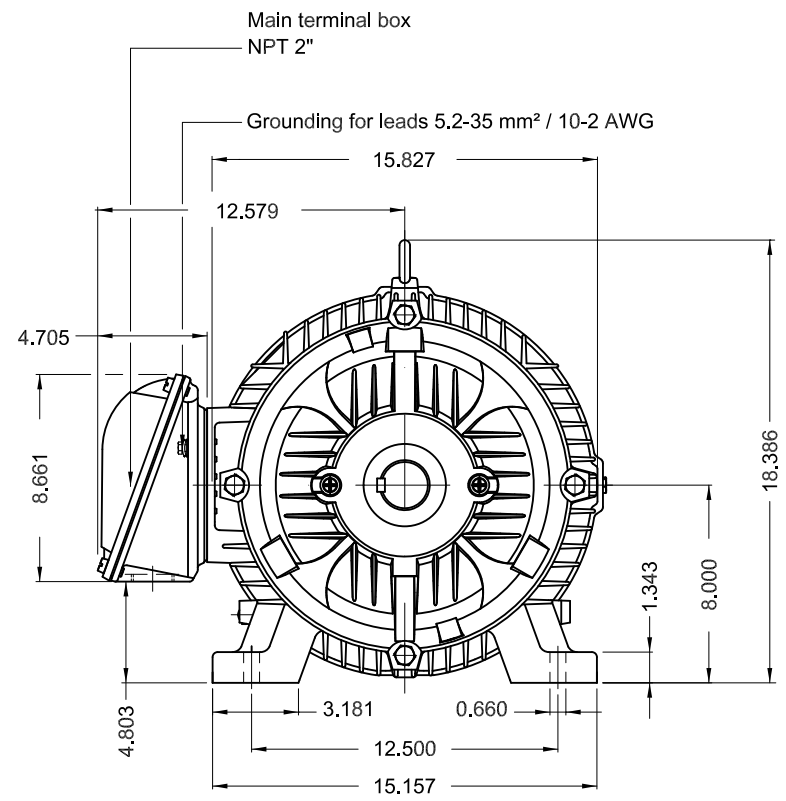


Performance : 415 V 50 Hz 8P IE2

Rated current : 41.1 A  
 LRC : 4.8  
 Rated torque : 180 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 220 %  
 Rated speed : 730 rpm

Moment of inertia (J) : 11.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
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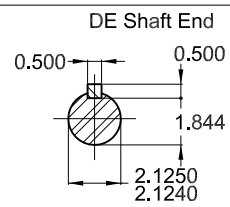


Grounding for leads 5.2-35 mm² / 10-2 AWG

25 HP 08 Poles 60 Hz

Dimensions in inches

Grease outlet according to IEEE841  
 Color RAL 5009  
 Painting plan 202E  
 Mounting B3R(D)



ECM		LOC	SUMMARY OF MODIFICATIONS		HYBRISUSER						00
EXECUTED	HYBRISUSER		THREE PH. MOTOR IEEE 841 W22 PREM. EFF.		EXECUTED	CHECKED	RELEASED	DATE	VER		
CHECKED			FRAME 324/6T IP55 TEFC							PREVIEW	
RELEASED										WDD   00	
REL DT.		WMO	Jaragua do Sul	Product Engineering						SHEET	1 / 1





**NEMA**  
Premium  
W22



FOR SAFE AREA  
Mod.TE1BFOXON  
CC029A



Class I, Div 2, Gr A, B, C and D - T3  
Class I, Zone 2, IIC - T3  
Class II, Div 2, Gr F and G - T4  
For use on PWM: Gr. A, B, C, D and F,  
VT 1000:1, CT 20:1, 1.00SF - T3A

MODEL 02509ST3QIE326T-W22



Inverter Duty Motor  
Severe Duty

MADE IN BRAZIL  
11584354

PH3 60Hz Fr. 324/6T 1000m.a.s.l. IP55 TEFC 561lb

V 460

A 35.9

HP 25

kW 18.5

SF 1.25

SFA 44.9

RPM 880

PF 0.71

AMB 40°C

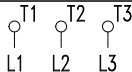
INS cl. F DT80K

NEMA NOM EFF 91.0%

DUTY CONT.

DES B Code G

GUARANT. EFF 89.5%



460V



→ 6312-C3 (21g) 60BC03X30

→ 6212-C3 (13g) 60BC02X30



MOBIL POLYREX EM (20000h)

