### **DATA SHEET**

#### Three Phase Induction Motor - Squirrel Cage



Customer

Product line : NEMA Premium Efficiency Three-Product code: 13163456

Catalog #: 02018ET3E256TC-SG

Frame : 254/6TC Cooling method : IC411 - TEFC

Insulation class 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

: 1000 m.a.s.l. Approx. weight<sup>3</sup> : 258 lb Altitude : 2.64 sq.ft.lb

: IP55 Moment of inertia (J) Protection degree Design : B

Output [HP] 20 15 15 Poles 4 4 Frequency [Hz] 60 50 50 Rated voltage [V] 230/460 190/380 220/415 Rated current [A] 49.4/24.7 44.4/22.2 41.3/21.9 L. R. Amperes [A] 331/165 329/164 330/175 LRC [A] 8.0x(Code K) 6.7x(Code H) 7.4x(Code J) No load current [A] 22.2/11.1 21.9/10.9 22.5/11.9 Rated speed [RPM] 1765 1470 1475 Slip [%] 1.94 2.00 1.67 Rated torque [ft.lb] 59.5 53.6 53.4 Locked rotor torque [%] 270 270 310 Breakdown torque [%] 300 320 360 Service factor 1.15 1.15 1.15 Temperature rise 80 K 80 K 80 K Locked rotor time 28s (cold) 16s (hot) 0s (cold) 0s (hot) 0s (cold) 0s (hot) Noise level<sup>2</sup> 68.0 dB(A) 65.0 dB(A) 65.0 dB(A) 25% 91.0 91.8 91.1 50% 91.7 91.6 91.1 Efficiency (%) 75% 92.4 92.2 92.1 93.0 91.9 100% 91.8 25% 0.34 0.40 0.37 50% 0.58 0.66 0.63 Power Factor 75% 0.75 0.71 0.77

> Non drive end Foundation loads Drive end

0.82

Bearing type 6309 Z C3 6208 Z C3 Max. traction : 793 lb Sealing V'Ring Without Max. compression : 1051 lb

0.82

Bearing Seal

20000 h 20000 h Lubrication interval Lubricant amount 8 g 13 g Mobil Polyrex EM Lubricant type

Notes

USABLE @208V 54.6A SF 1.00 SFA 54.6A

100%

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.

0.79

Rev.		Changes Summary	Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			1 / 16	

### TORQUE AND CURRENT VS SPEED CURVE

### Three Phase Induction Motor - Squirrel Cage

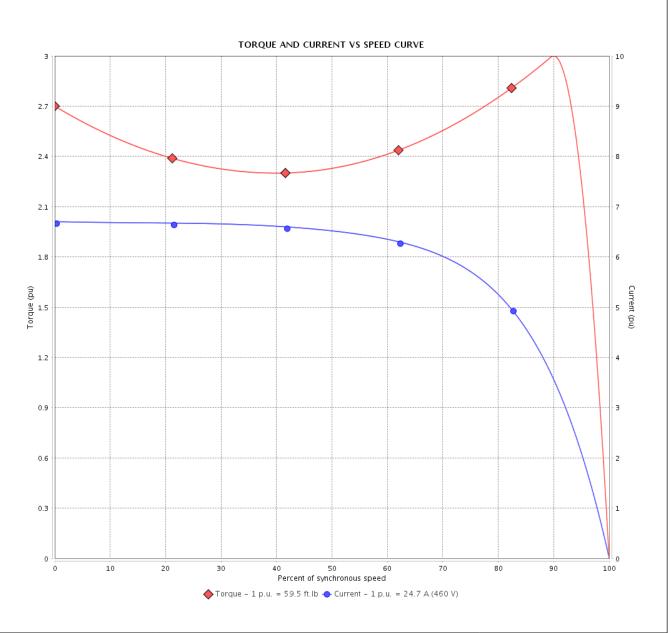


Customer :

Product line : NEMA Premium Efficiency Three- Product code : 13163456

Phase

Catalog #: 02018ET3E256TC-SG



Performance	: 230/460 V 60 Hz 4P			
Rated current LRC Rated torque Locked rotor torque Breakdown torque	: 49.4/24.7 A : 6.7 : 59.5 ft.lb : 270 % : 300 %	Moment of inertia (J) Duty cycle Insulation class Service factor Temperature rise	: 2.64 sq.ft.lb : Cont.(S1) : F : 1.15 : 80 K	
Rated speed	: 1765 rpm	Design	: B	
Locked reter time	: 28s (sold) 16s (hot)	I		

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

Rev.		Changes Summary	Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			2/16	

### TORQUE AND CURRENT VS SPEED CURVE



Three Phase Induction Motor - Squirrel Cage Customer Product line : NEMA Premium Efficiency Three-Product code: 13163456 Catalog #: 02018ET3E256TC-SG TORQUE AND CURRENT VS SPEED CURVE 4.5 3.5 Torque (pu) Current 0.5 Percent of synchronous speed ♦ Torque – 1 p.u. = 53.6 ft.lb ♦ Current – 1 p.u. = 22.2 A (380 V)

Performance : 190/380 V 50 Hz 4P Rated current : 44.4/22.2 A Moment of inertia (J) : 2.64 sq.ft.lb **LRC** : 7.4 Duty cycle : Cont.(S1) : 53.6 ft.lb Insulation class Rated torque : F Locked rotor torque : 270 % Service factor : 1.15 Breakdown torque : 320 % Temperature rise : 80 K Rated speed : 1470 rpm Design : B

Locked rotor time : 0s (cold) 0s (hot)

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Rev.		Changes Summary	Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			3 / 16	

### TORQUE AND CURRENT VS SPEED CURVE

### Three Phase Induction Motor - Squirrel Cage

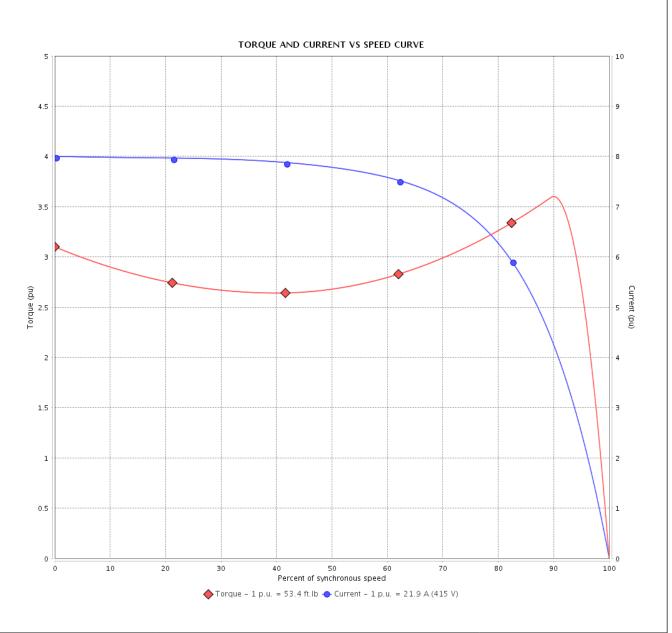


Customer :

Product line : NEMA Premium Efficiency Three- Product code : 13163456

Phase

Catalog #: 02018ET3E256TC-SG



Performance	: 220/415 V 50 Hz 4P			
Rated current LRC Rated torque Locked rotor torque Breakdown torque Rated speed	: 41.3/21.9 A : 8.0 : 53.4 ft.lb : 310 % : 360 % : 1475 rpm	Moment of inertia (J) Duty cycle Insulation class Service factor Temperature rise Design	: 2.64 sq.ft.lb : Cont.(S1) : F : 1.15 : 80 K : B	
Locked roter time	: Os (cold) Os (bot)			

Locked rotor time : 0s (cold) 0s (hot)

Rev.		Changes Summary	Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			4 / 16	

### LOAD PERFORMANCE CURVE

#### Three Phase Induction Motor - Squirrel Cage

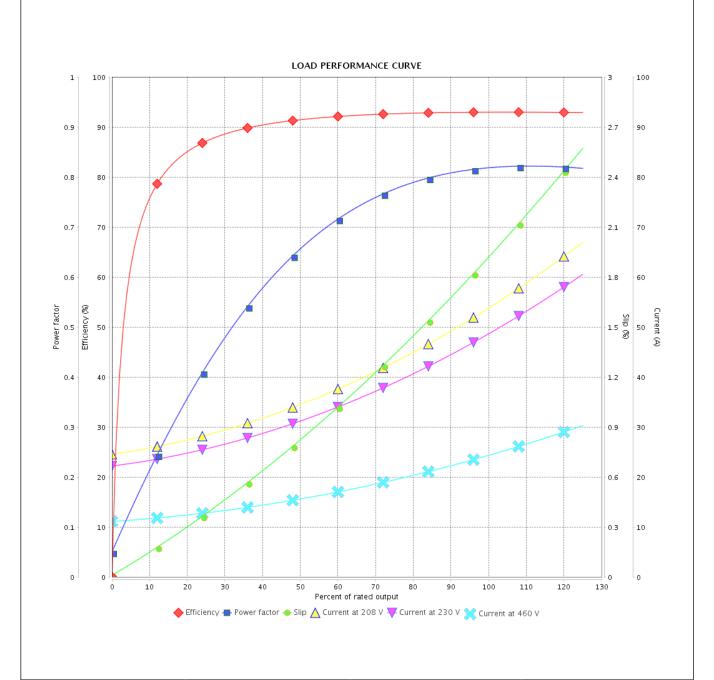


Customer

Product line : NEMA Premium Efficiency Three- Product code : 13163456

Phase

Catalog #: 02018ET3E256TC-SG



Performance	:	230/460 V 60 Hz 4P				
Rated current	ed current : 49.4/24.7 A		Moment o	Moment of inertia (J)		
LRC	:	6.7	Duty cycle	; · ·	: Cont.(S1)	
Rated torque	:	59.5 ft.lb	Insulation	class	: F	
Locked rotor torqu	ue :	270 %	Service fa	ctor	: 1.15	
Breakdown torque		300 %	Temperati	Temperature rise		
Rated speed	:	1765 rpm	Design		: B	
Rev.		Changes Summary	1	Performed	Checked	Date
Dorformed by						
Performed by						
Checked by					Page	Revision
Date	14/04/2022				5 / 16	

### LOAD PERFORMANCE CURVE

#### Three Phase Induction Motor - Squirrel Cage



Customer :

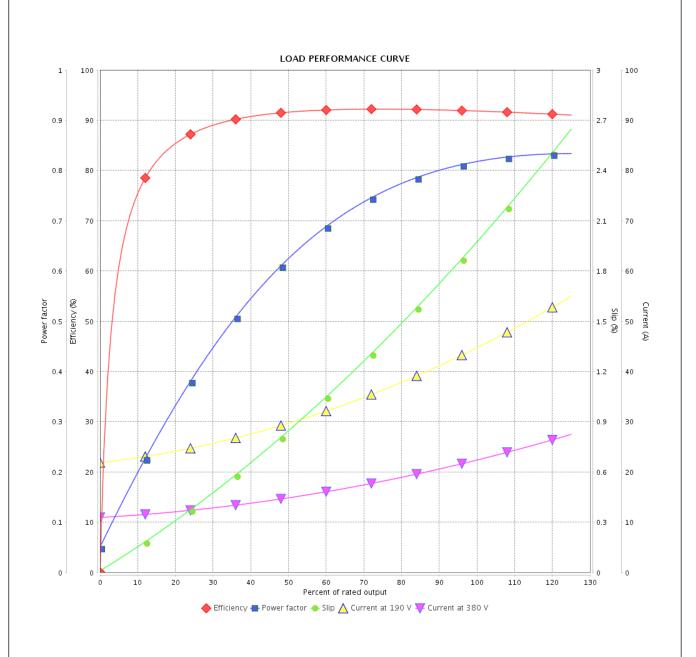
Product line : NEMA Premium Efficiency Three- Product code :

Phase

Catalog #: 02018ET3E256TC-SG

13163456

6/16



Performance	. 1	90/380 V 50 Hz 4P	· )		,	
			10/300 V 30 HZ 41			
Rated current	: 4	4.4/22.2 A	4.4/22.2 A Moment of inertia (J)		: 2.64 sq.ft.lb	
LRC	: 7	<sup>'</sup> .4	Duty cycle	<b>;</b>	: Cont.(S1)	
Rated torque : 53.6 ft.lb		Insulation	class	: F		
Locked rotor torq	ue : 2	70 %	Service fa	ctor	: 1.15	
Breakdown torqu		20 %	Temperatu	Temperature rise		
Rated speed	: 1	470 rpm	Design		: B	
Rev.		Changes Summar	ry	Performed	Checked	Date
Performed by						
Checked by					Page	Revision

14/04/2022

Date

## LOAD PERFORMANCE CURVE

#### Three Phase Induction Motor - Squirrel Cage

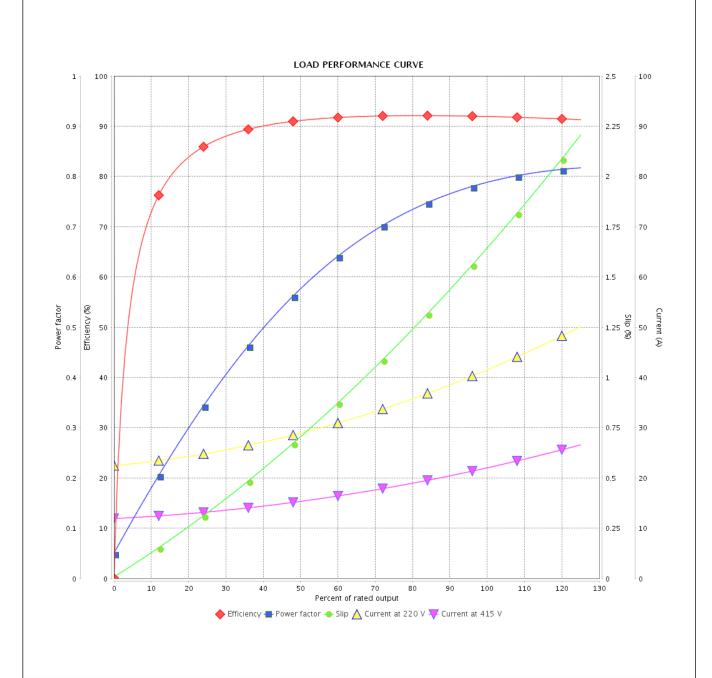


Customer

Product line : NEMA Premium Efficiency Three- Product code : 13163456

Phase

Catalog #: 02018ET3E256TC-SG



Performance		220/415 V 50 Hz 4P				
Rated current	rrent : 41.3/21.9 A M		Moment o	Moment of inertia (J)		
LRC	:	8.0	Duty cycle	)	: Cont.(S1)	
Rated torque	:	53.4 ft.lb	Insulation	class	: F	
Locked rotor tord	que :	310 %	Service fa	ctor	: 1.15	
Breakdown torque		360 %	Temperati	Temperature rise		
Rated speed	:	1475 rpm	Design		: B	
Rev.		Changes Summary	у	Performed	Checked	Date
Performed by						
Checked by					Page	Revision
Date	14/04/2022				7 / 16	

### Three Phase Induction Motor - Squirrel Cage

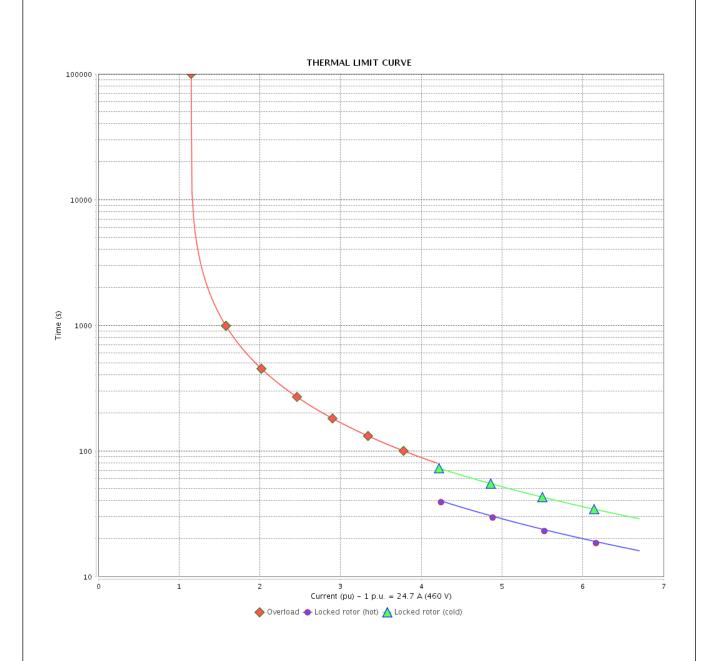


Customer	:					
Product line		NEMA Premium Efficiency	Three-	Product code :	13163456	
	PI	hase		Catalog # :	02018ET3E25	56TC-SG
Performance Rated current		30/460 V 60 Hz 4P 9.4/24.7 A	Momento	f inertia (J)	: 2.64 sq.ft.lb	
LRC	: 6.	7	Duty cycle	<b>;</b>	: Cont.(S1)	
Rated torque Locked rotor torque		9.5 ft.lb 70 %	Insulation Service fa		: F : 1.15	
Breakdown torque	: 30	00 %	Temperatu		: 80 K	
Rated speed	: 17	765 rpm	Design		: B	
Heating constant						
Cooling constant Rev.		Changes Summary		Performed	Checked	Date
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Performed by						
Checked by					Page	Revision
D :	4.4/0.4/0.000				0 / 40	

### Three Phase Induction Motor - Squirrel Cage



Customer



Rev.		Changes Summary	Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			9 / 16	

### Three Phase Induction Motor - Squirrel Cage

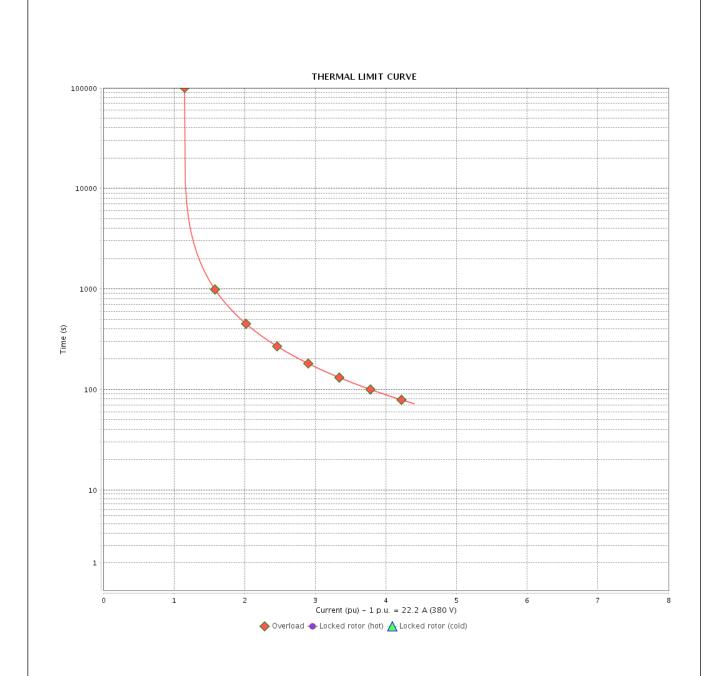


Customer	:					
Product line		NEMA Premium Efficiency <sup>-</sup> Phase		Product code :	13163456 02018ET3E2	56TC-SG
Performance Rated current		190/380 V 50 Hz 4P 14.4/22.2 A	Moment of	f inertia (J)	: 2.64 sq.ft.lb	
LRC Rated torque Locked rotor tord Breakdown torqu Rated speed	: 7 : 5 que : 2 ue : 3	7.4 53.6 ft.lb 270 % 320 % 1470 rpm	Duty cycle Insulation Service fac Temperatu Design	class	: Cont.(S1) : F : 1.15 : 80 K : B	
Heating constant Cooling constant Rev.		Changes Summary		Performed	Checked	Date
Performed by Checked by Date	14/04/2022				Page 10 / 16	Revision

#### Three Phase Induction Motor - Squirrel Cage



Customer :



Rev.		Changes Summary	Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			11 / 16	

#### Three Phase Induction Motor - Squirrel Cage

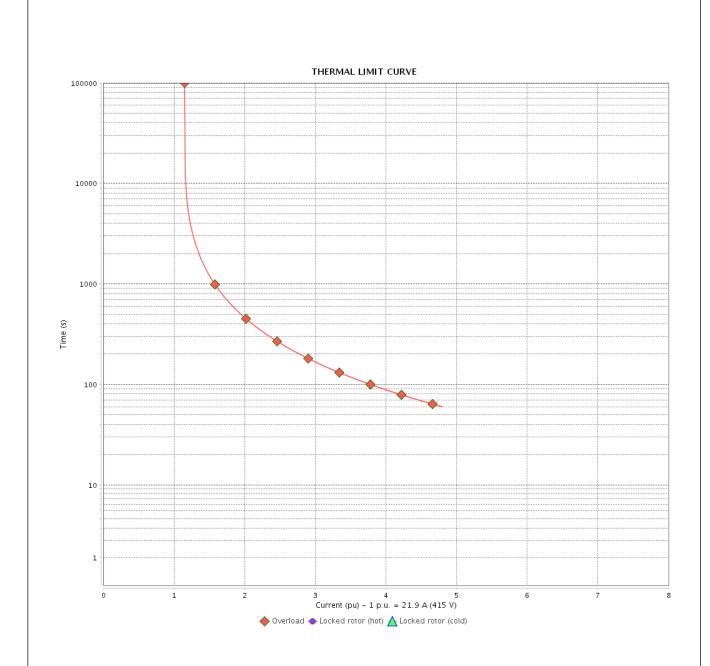


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Customer	:					
Product line		: NEMA Premium Efficiency Three Phase		Product code :	13163456	
		11400		Catalog # :	02018ET3E2	256TC-SG
Performance		220/415 V 50 Hz 4P				
Rated current LRC Rated torque Locked rotor torc	: 8 : 5 : que	41.3/21.9 A 3.0 53.4 ft.lb 310 %	Duty cycle Insulation Service fa	class actor	: 2.64 sq.ft.lb : Cont.(S1) : F : 1.15	
Breakdown torqu Rated speed		360 % 1475 rpm	Temperat Design	ure rise	: 80 K : B	
Heating constan	t					
Cooling constan						
Rev.		Changes Summary		Performed	Checked	Date
Performed by						
Checked by					Page	Revision
Date	14/04/2022				12 / 16	

#### Three Phase Induction Motor - Squirrel Cage



Customer



Rev.		Changes Summary	Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			13 / 16	

## VFD OPERATION CURVE

#### Three Phase Induction Motor - Squirrel Cage



Customer :

Date

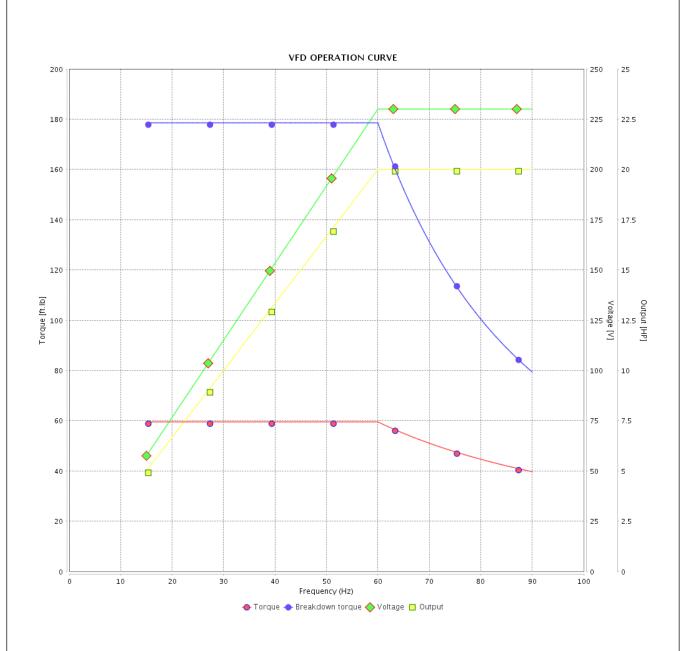
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Product line : NEMA Premium Efficiency Three- Product of

Phase

Product code: 13163456

Catalog #: 02018ET3E256TC-SG



Performance : 230/460 V 60 Hz 4P Rated current : 49.4/24.7 A Moment of inertia (J) : 2.64 sq.ft.lb **LRC** : 6.7 Duty cycle : Cont.(S1) Insulation class : 59.5 ft.lb : F Rated torque Locked rotor torque : 270 % Service factor : 1.15 Breakdown torque : 300 % Temperature rise : 80 K Rated speed : 1765 rpm Design : B Rev. Performed Checked Date **Changes Summary** Performed by Page Checked by Revision

14 / 16

## VFD OPERATION CURVE

#### Three Phase Induction Motor - Squirrel Cage



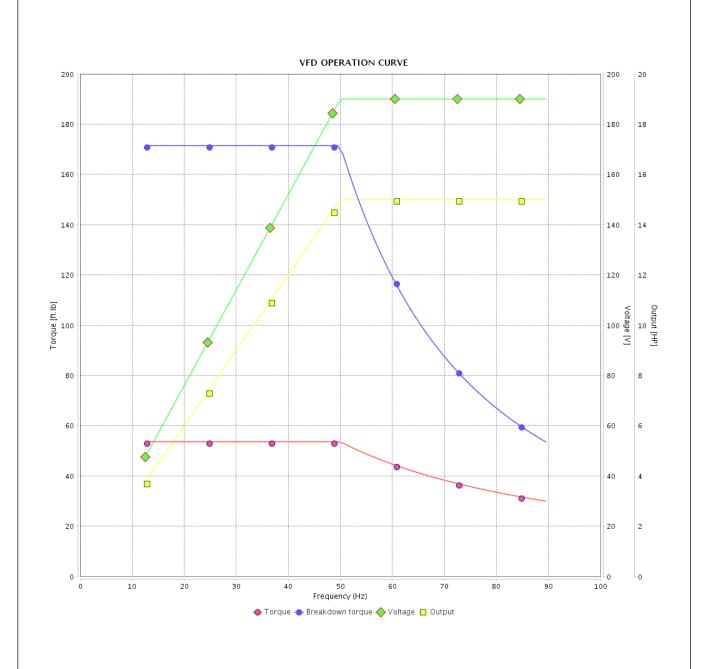
Customer

Product line : NEMA Premium Efficiency Three- Product code :

Phase

Catalog #: 02018ET3E256TC-SG

13163456



Performance : 1		: 190/380 V 50 Hz 4P					
LRC : Rated torque :		4.4/22.2 A .4 3.6 ft.lb	Moment of inertia (J) Duty cycle Insulation class		: 2.64 sq.ft.lb : Cont.(S1) : F		
Locked rotor torque Breakdown torque Rated speed		270 % Service factor 320 % Temperature rise 1470 rpm Design			: 1.15 : 80 K : B		
Rev. Changes Summary		1	Performed	Checked	Date		
Performed by							
Checked by		1			Page	Revision	
Date	14/04/2022	1			15 / 16		

# VFD OPERATION CURVE

#### Three Phase Induction Motor - Squirrel Cage



Customer :

Checked by

Date

14/04/2022

Product line : NEMA Premium Efficiency Three- Product

Phase

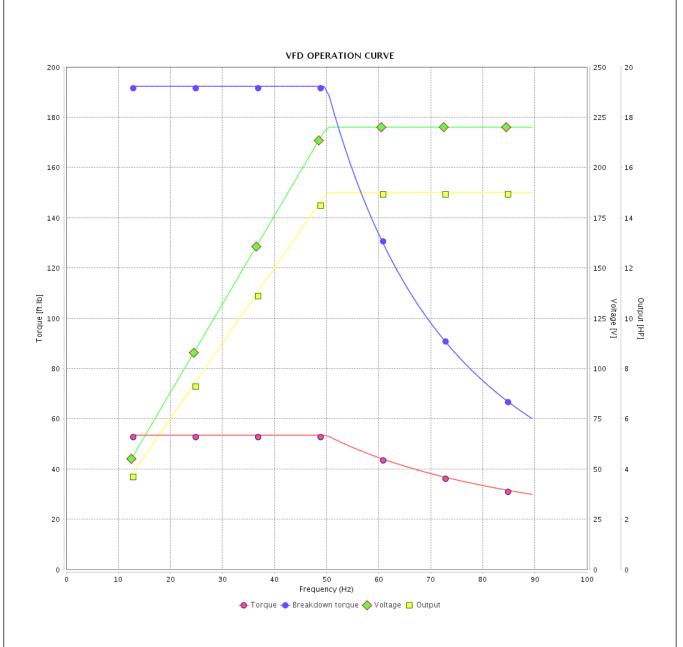
Product code: 13163456

Catalog #: 02018ET3E256TC-SG

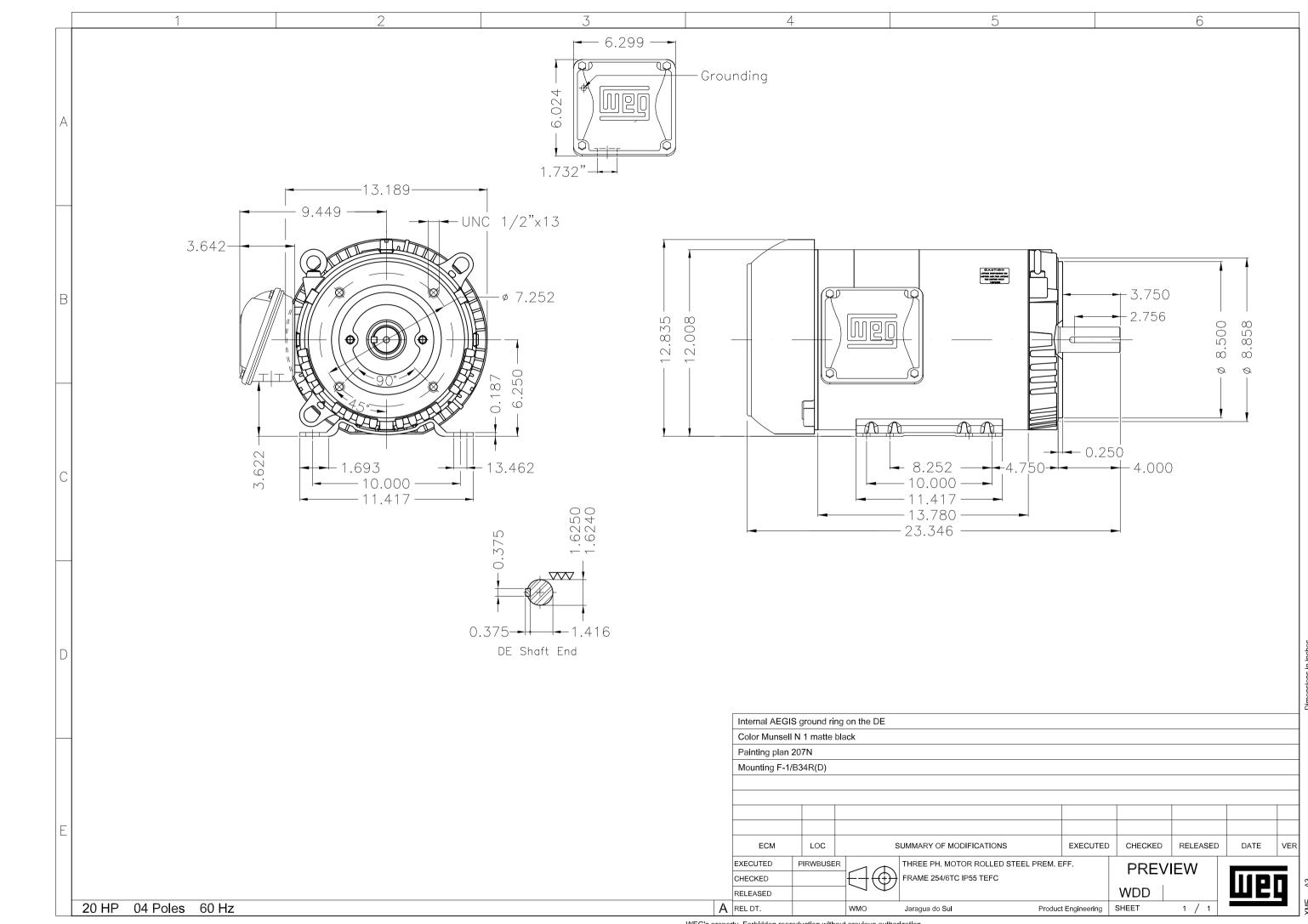
Page

16 / 16

Revision



Performance	: 220/415 V 50 Hz 4P			
Rated current LRC Rated torque Locked rotor torqu Breakdown torque Rated speed		Moment of inertia Duty cycle Insulation class Service factor Temperature rise Design	(J) : 2.64 sq.ft.lb : Cont.(S1) : F : 1.15 : 80 K : B	
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MODEL 02018ET3E256TC-SG

W01.TE0IC0X0N

10JAN2019

쏦 230/460

H

80K AMB USABLE @ 208V HP(kW) 20(15) INS CL F AT ALTERNATE RATING: 254/6TC m.a.s.l. S

56.8/28.

SFA

49.4/24.7

Z D D D D

RPM

ENCL

0°04 CONT 1765 CODE

SF1.00

255

B

DES

9

ř

190-220/380-415V EFF 91.8% (IE3) 54.6A NEMA NOM.EFF. 93.0% 50Hz 1470RPM 15HP

44.4-40.7/22.2-21.6A

1000

0.82 SF 1.15

IEC 60034-1 SF1.15

T2-WHT T4-YEL T6-GRY T8-RED

T1-BLU

T12

T114T12

13-ORG T5-BLK HIGH

MOT

ES TO REVERSE THE ROTATION T9-BRK RED T10-CURRY T11-GRN T7-PNK

T12-VLT

MOBIL POLYREX EM WARNING: Motor must be grounded in accordance with local and nationa electrical codes to prevent serious electrical shocks. Disconnect power Electric Motor 6208-Z-C3 6309-Z-C3 ODE: source before servicing unit.

AVERTISSEMENT: Le moteur doit être mis à la terre conformément

sux codes électriques locaux et nationaux afin d'éviter tout choc

