

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: 213TTFW16039

Catalog No: E2016A

XRI® General Purpose General Purpose Motor, 7.50 & 7.50 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V,  
1800 & 1500 RPM, 213TC Frame, TEFC



Regal and Marathon are trademarks of Regal Rexnord Corporation or one of its affiliated companies.

©2023 Regal Rexnord Corporation, All Rights Reserved. MC017097E

**RegalRexnord**

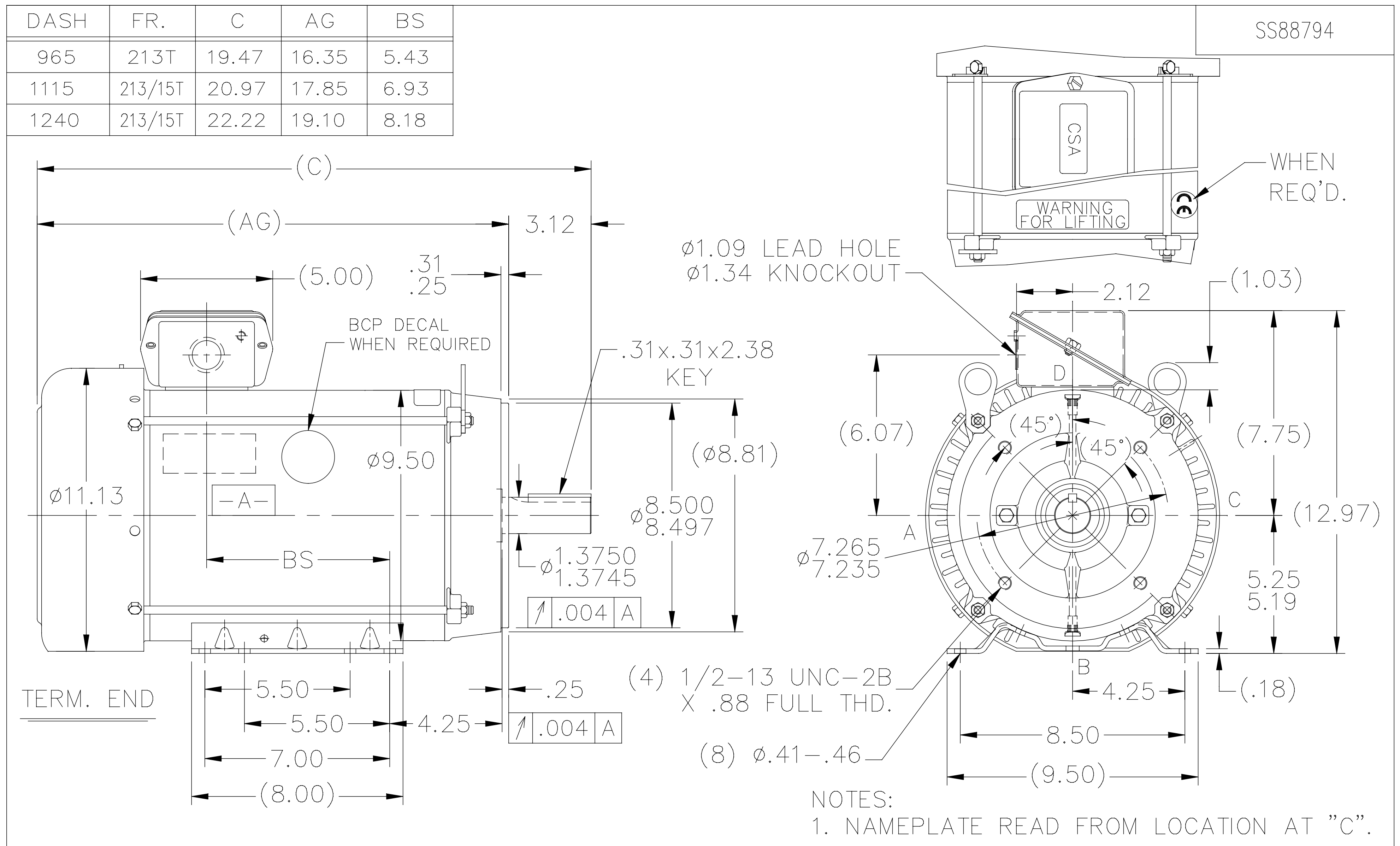
## Nameplate Specifications

|                        |                        |                            |                             |
|------------------------|------------------------|----------------------------|-----------------------------|
| Phase                  | 3                      | Output HP                  | 7.50 & 7.50 Hp              |
| Output KW              | 5.6 & 5.6 kW           | Voltage                    | 230/460 & 190/380 V         |
| Speed                  | 1765 & 1455 rpm        | Service Factor             | 1.15 & 1.15                 |
| Frame                  | 213TC                  | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection          | Efficiency                 | 91.7 & 89.5 %               |
| Ambient Temperature    | 40 °C                  | Frequency                  | 60 & 50 Hz                  |
| Current                | 19.4/9.7 & 23.6/11.8 A | Power Factor               | 80                          |
| Duty                   | Continuous             | Insulation Class           | F                           |
| Design Code            | B                      | KVA Code                   | H                           |
| Drive End Bearing Size | 309                    | Opp Drive End Bearing Size | 206                         |
| UL                     | Recognized             | CSA                        | Y                           |
| CE                     | Y                      | IP Code                    | 43                          |
| Number of Speeds       | 1                      |                            |                             |

## Technical Specifications

|                       |                              |                       |                  |
|-----------------------|------------------------------|-----------------------|------------------|
| Electrical Type       | Squirrel Cage Inverter Rated | Starting Method       | Line Or Inverter |
| Poles                 | 4                            | Rotation              | Reversible       |
| Resistance Main       | 1.18 Ohms                    | Mounting              | Rigid Base       |
| Motor Orientation     | Horizontal                   | Drive End Bearing     | Ball             |
| Opp Drive End Bearing | Ball                         | Frame Material        | Rolled Steel     |
| Shaft Type            | T                            | Overall Length        | 20.97 in         |
| Frame Length          | 11.15 in                     | Shaft Diameter        | 1.375 in         |
| Shaft Extension       | 3.12 in                      | Assembly/Box Mounting | F3               |
| Inverter Load         | CONSTANT 10:1                |                       |                  |
| Connection Drawing    | A-EE7308                     | Outline Drawing       | SS88794-1115     |





|   |   |  |                |                             |        |  |                  |  |  |                      |                     |  |           |
|---|---|--|----------------|-----------------------------|--------|--|------------------|--|--|----------------------|---------------------|--|-----------|
|   |   |  |                | TOLERANCES UNLESS SPECIFIED |        | <div><div><div>REGAL™</div></div><div>Regal Beloit America, Inc.</div></div> |                  |  |  | DRAWN TAT 08-13-2004 |                     |  |           |
|   |   |  |                | DEC.                        | INCHES |  |                  |  |  | CHK ML 08-13-2004    |                     |  |           |
|   |   |  |                | .X                          | ±.1    |  |                  |  |  | APPD TB 08-13-2004   |                     |  |           |
|   |   |  |                | .XX                         | ±.03   | TITLE OUTLINE – F3 C’BOX MOUNTING<br>210T FR. –BB–TS–TEFC–R/S – C’FACE       |                  |  |  | SCALE 1=5            |                     |  |           |
|   |   |  |                | .XXX                        | ±.005  |  |                  |  |  | REF                  |                     |  |           |
| 1   | TITLE BLOCK LOGO CHANGE PER ECO-0078542 |  | MDV 06/09/2015 |                             | .XXXX  | ±.0005   | MAT’L.           |  |  |                      | FMF                 |  |           |
| NO.   | REVISION                                |  | BY & DATE      | CHK                         | ANG    | ±7’30”   | FINISH           |  |  |                      | PREV                |  |           |
| THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED<br>THIS IS AN ELECTRONICALLY GENERATED DOCUMENT – DO NOT SCALE THIS PRINT |   |  |                | RFP                         |        |  | CAD FILE ss88794 |  |  | SIZE<br>A            | DRAWING NO. PAGE OF |  | REV.<br>1 |
|   |   |  |                | DIST LB                     |        |  |                  |  |  |                      | SS88794             |  |           |



| NO.   | REVISION                                       | BY & DATE      | CHK | ANG   | TOLERANCES<br>UNLESS SPECIFIED |                 | DRAWN RM | 11/20/1990               |
|---|--|----------------|-----|-------|--------------------------------|-----------------|----------|--------------------------|
|   |  |                |     |       | DEC.                           | INCHES          |          |                          |
| 5   | CHG TO REGAL LOGO                              | SL 09/10/2015  | AB  |       |                                |                 | CHK      | ML 11/21/1990            |
| 4   | REVISED IEC NOTATIONS                          | MSG 11/15/2011 | CMN | .X    | ±.1                            |                 | APPD     | SAS 04/24/2003           |
| 3   | ADDED IEC NOTATIONS... (U1), (V1) ETC. MU95194 | MSG 5/10/2010  | MJS | .XX   | ±.02                           |                 | SCALE    | 1=1                      |
| 2   | ADDED THE OPTIONAL CORD CONNECTION MU46318     | RDH 04/24/2003 | DRS | .XXX  | ±.005                          |                 | REF      |                          |
| 1   | REDRAWN  | RM 11/20/1990  |     | .XXXX | ±.0005                         |                 | FMF      |                          |
|   |  |                |     |       | ±7'30"                         |                 | PREV     |                          |
| THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED<br>THIS IS AN ELECTRONICALLY GENERATED DOCUMENT - DO NOT SCALE THIS PRINT |  |                |     |       | RFP                            | CAD FILE ee7308 | SIZE     | DRAWING NO. PAGE OF REV. |
|   |  |                |     |       | DIST WP                        |                 | A        | EE7308 5                 |

## CERTIFICATION DATA SHEET

Model#: 213TTFW16039 AA  
 CONN. DIAGRAM: A-EE7308  
 OUTLINE: SS88794-1115

WINDING#: K2134234 NONE 2  
 ASSEMBLY: F3

## TYPICAL MOTOR PERFORMANCE DATA

| HP          | KW        | SYNC. RPM | F.L. RPM  | FRAME | ENCLOSURE | KVA CODE | DESIGN |
|-------------|-----------|-----------|-----------|-------|-----------|----------|--------|
| 7 1/2&7 1/2 | 5.60&5.60 | 1800      | 1765&1455 | 213TC | TEFC      | H        | B      |

| PH | Hz    | VOLTS               | FL AMPS                | START TYPE          | DUTY           | INSL | S.F       | AMB°C | ELEVATION |
|----|-------|---------------------|------------------------|---------------------|----------------|------|-----------|-------|-----------|
| 3  | 60/50 | 230/460#190/<br>380 | 19.4/9.7&23.6/<br>11.8 | LINE OR<br>INVERTER | CONTINUOU<br>S | F4   | 1.15/1.15 | 40    | 3300      |

| FULL LOAD EFF:<br>91.7&89.5 | 3/4 LOAD EFF: 91 | 1/2 LOAD EFF: 90.2 | GTD. EFF | ELEC. TYPE        | NO LOAD AMPS |
|-----------------------------|------------------|--------------------|----------|-------------------|--------------|
| FULL LOAD PF: 80&80         | 3/4 LOAD PF: 72  | 1/2 LOAD PF: 60    | 91       | SQ CAGE INV RATED | 9.4 / 4.7    |

| F.L. TORQUE | LOCKED ROTOR AMPS | L.R. TORQUE  | B.D. TORQUE  | F.L. RISE°C |
|-------------|-------------------|--------------|--------------|-------------|
| 22 LB-FT    | 127 / 63.5        | 52 LB-FT 236 | 72 LB-FT 327 | 55          |

| SOUND PRESSURE<br>@ 3 FT. | SOUND POWER | ROTOR WK^2   | MAX. WK^2  | SAFE STALL TIME | STARTS<br>/HOUR | APPROX. MOTOR<br>WGT |
|---------------------------|-------------|--------------|------------|-----------------|-----------------|----------------------|
| 62 dBA                    | 72 dBA      | 0.85 LB-FT^2 | 45 LB-FT^2 | 25 SEC.         | 2               | 140 LBS.             |

## \*\*\* SUPPLEMENTAL INFORMATION \*\*\*

| DE BRACKET<br>TYPE | ODE BRACKET<br>TYPE | MOUNT<br>TYPE | ORIENTATION | SEVERE<br>DUTY | HAZARDOUS<br>LOCATION | DRIP<br>COVER | SCREENS | PAINT            |
|--------------------|---------------------|---------------|-------------|----------------|-----------------------|---------------|---------|------------------|
| C-FACE             | STANDARD            | RIGID         | HORIZONTAL  | FALSE          | NONE                  | FALSE         | NONE    | BLUE<br>(ENAMEL) |

| BEARINGS |      | GREASE     | SHAFT TYPE | SPECIAL DE | SPECIAL ODE | SHAFT<br>MATERIAL | FRAME<br>MATERIAL |
|----------|------|------------|------------|------------|-------------|-------------------|-------------------|
| DE       | OPE  |            |            |            |             |                   |                   |
| BALL     | BALL | POLYREX EM | T          | NONE       | NONE        | AISI 1045 (C-240) | ROLLED STEEL      |
| 309      | 206  |            |            |            |             |                   |                   |

| THERMO-PROTECTORS |            |          |          | THERMISTORS | CONTROL | SPACE /n HEATERS |
|-------------------|------------|----------|----------|-------------|---------|------------------|
| THERMOSTATS       | PROTECTORS | WDG RTDs | BRG RTDs |             |         |                  |
| NONE              | NOT        | NONE     | NONE     | NONE        | FALSE   | NONE VOLTS       |

If Inverter equals NONE, contact factory for further  
information

|                                       |        |         |  |
|---------------------------------------|--------|---------|--|
| INVERTER TORQUE: CONSTANT 10:1        |        |         |  |
| INV. HP SPEED RANGE: 1.5 X BASE SPEED |        |         |  |
| ENCODER: NONE                         |        |         |  |
| NONE NONE                             |        |         |  |
| NONE NONE PPR                         |        |         |  |
| BRAKE: NONE NONE                      |        |         |  |
| NONE P/N NONE                         |        |         |  |
| NONE NONE                             |        |         |  |
| NONE FT-LB                            | NONE V | NONE Hz |  |

\*  
N  
O  
T  
E  
S  
\*

DATE: 06/21/2017 09:38:50 AM  
 FORM 3531 REV.3 02/07/99  
 \*\* Subject to change without notice.

## Data Sheet

Date: 29-06-2017

Customer:

Attention:

Submitted by: FAREEDA DUDEKULA



213TTFW16039

Submittal

Data @ 460 V

## Motor Load Data

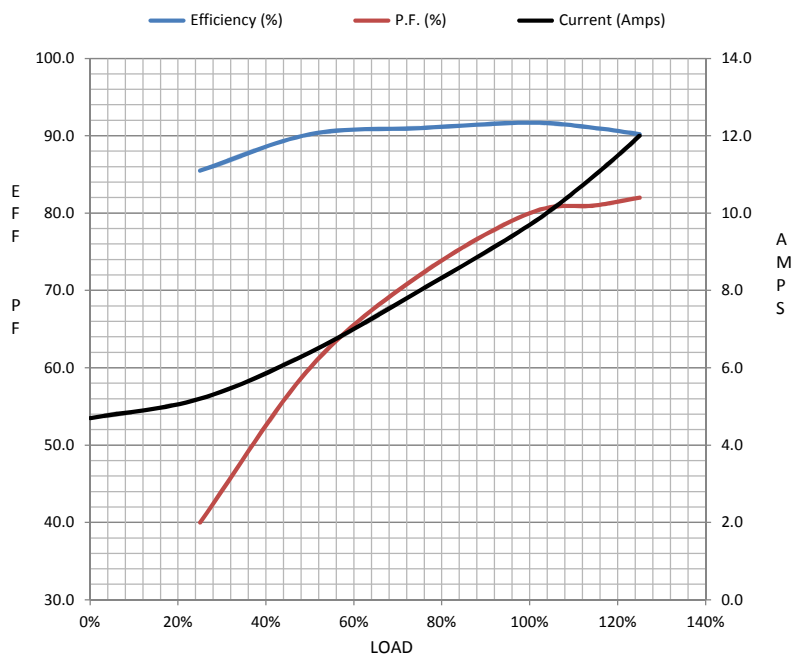
| Load           | 0%   | 25%  | 50%  | 75%  | 100% | 115%  | 125% | LR   |  |
|----------------|------|------|------|------|------|-------|------|------|--|
| Current (Amps) | 4.7  | 5.2  | 6.4  | 8.0  | 9.7  | 11.0  | 12.0 | 63.5 |  |
| Torque (ft-lb) | 0.00 | 5.5  | 11.0 | 16.5 | 22.0 | 25.5  | 28.0 | 52.0 |  |
| RPM            | 1800 | 1790 | 1782 | 1775 | 1765 | 1,755 | 1750 | 0    |  |
| Efficiency (%) |      | 85.5 | 90.2 | 91.0 | 91.7 | 91.0  | 90.2 |      |  |
| P.F. (%)       | 6.0  | 40.0 | 60.0 | 72.0 | 80.0 | 81.0  | 82.0 | 40.0 |  |

## Motor Speed Data

|                | LR   | Pull-Up | BD   | Rated | Idle |
|----------------|------|---------|------|-------|------|
| Speed (RPM)    | 0    | 900     | 1575 | 1765  | 1800 |
| Current (Amps) | 63.5 | 57.0    | 40.0 | 9.7   | 4.7  |
| Torque (ft-lb) | 52.0 | 49.0    | 72.0 | 22.0  | 0.00 |

## Information Block

|                             |                         |        |        |         |
|-----------------------------|-------------------------|--------|--------|---------|
| HP                          | 7.5                     |        |        |         |
| Sync. RPM                   | 1800                    |        |        |         |
| Frame                       | 213                     |        |        |         |
| Enclosure                   | TEFC                    |        |        |         |
| Construction                | TFW                     |        |        |         |
| Voltage                     | 230/460#190/38(V        |        |        |         |
| Frequency                   | 60 Hz                   |        |        |         |
| Design                      | B                       |        |        |         |
| LR Code letter              | H                       |        |        |         |
| Service Factor              | 1.15                    |        |        |         |
| Temp Rise @ FL              | 55 ° C                  |        |        |         |
| Duty                        | CONT                    |        |        |         |
| Ambient                     | 40 ° C                  |        |        |         |
| Elevation                   | 1,000 feet              |        |        |         |
| Rotor/Shaft wk <sup>2</sup> | 0.85 Lb-Ft <sup>2</sup> |        |        |         |
| Ref Wdg                     | K2134234 NONE           |        |        |         |
| Sound Pressure @ 1M         | 62 dBA                  |        |        |         |
| VFD Rating                  | CONSTANT 10:1           |        |        |         |
| Outline Dwg                 | SS88794-1115            |        |        |         |
| Conn. Diag                  | A-EE7308                |        |        |         |
| Additional Specifications:  |                         |        |        |         |
| 0                           |                         |        |        |         |
| 365THFS8036                 |                         |        |        |         |
| EQUIV CKT (OHMS / PHASE)    |                         |        |        |         |
| R1                          | R2                      | X1     | X2     | Xm      |
| 0.7750                      | 0.6050                  | 2.6080 | 3.8560 | 57.8340 |



## Speed -Torque Curve

