

# PRODUCT INFORMATION PACKET

Model No: 286TSTFCD6501

Catalog No: E608A

XRI®-SD Severe Duty Motor, 30 HP, 3 Ph, 60 Hz, 460 V, 3600 RPM, 286TS Frame, TEFC



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### Nameplate Specifications

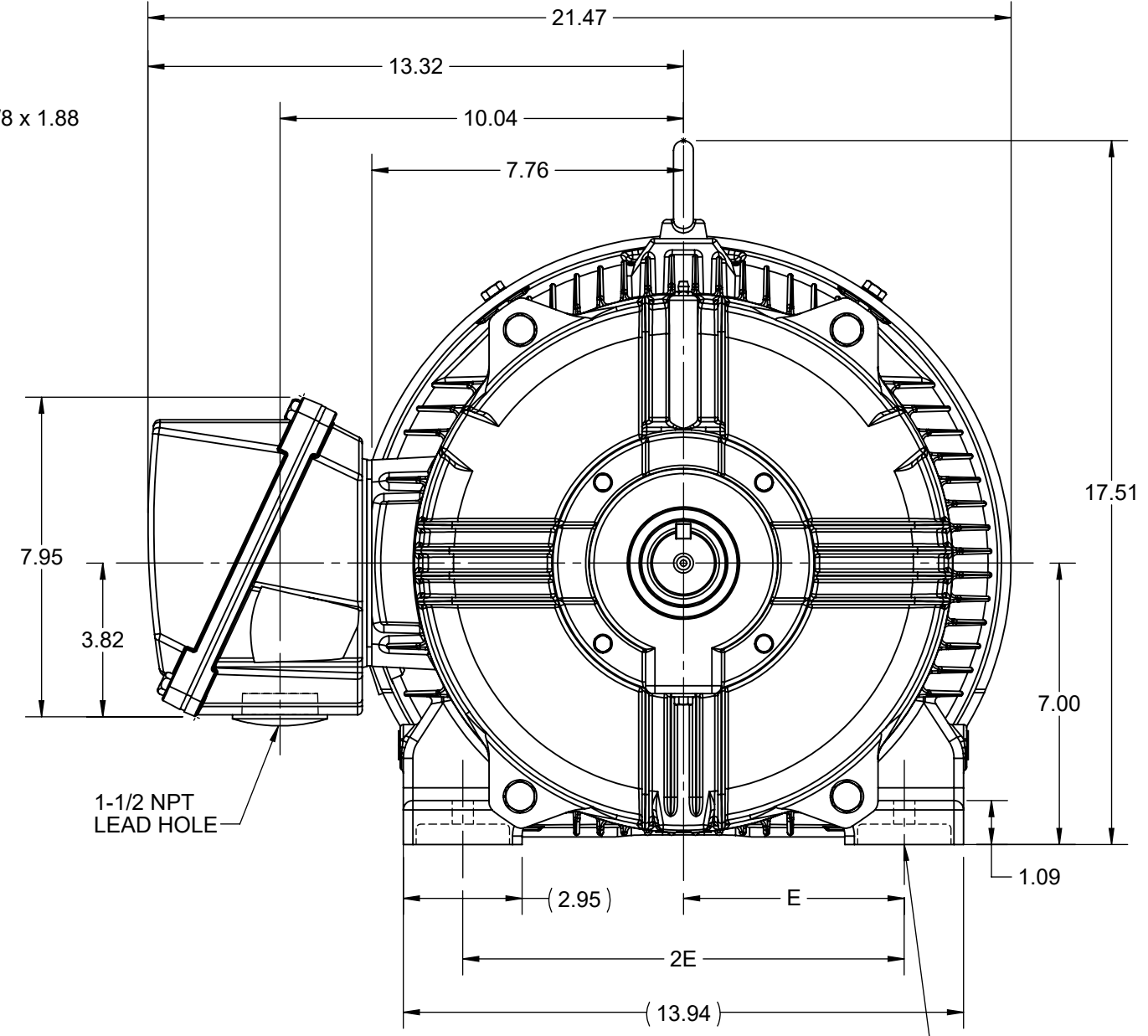
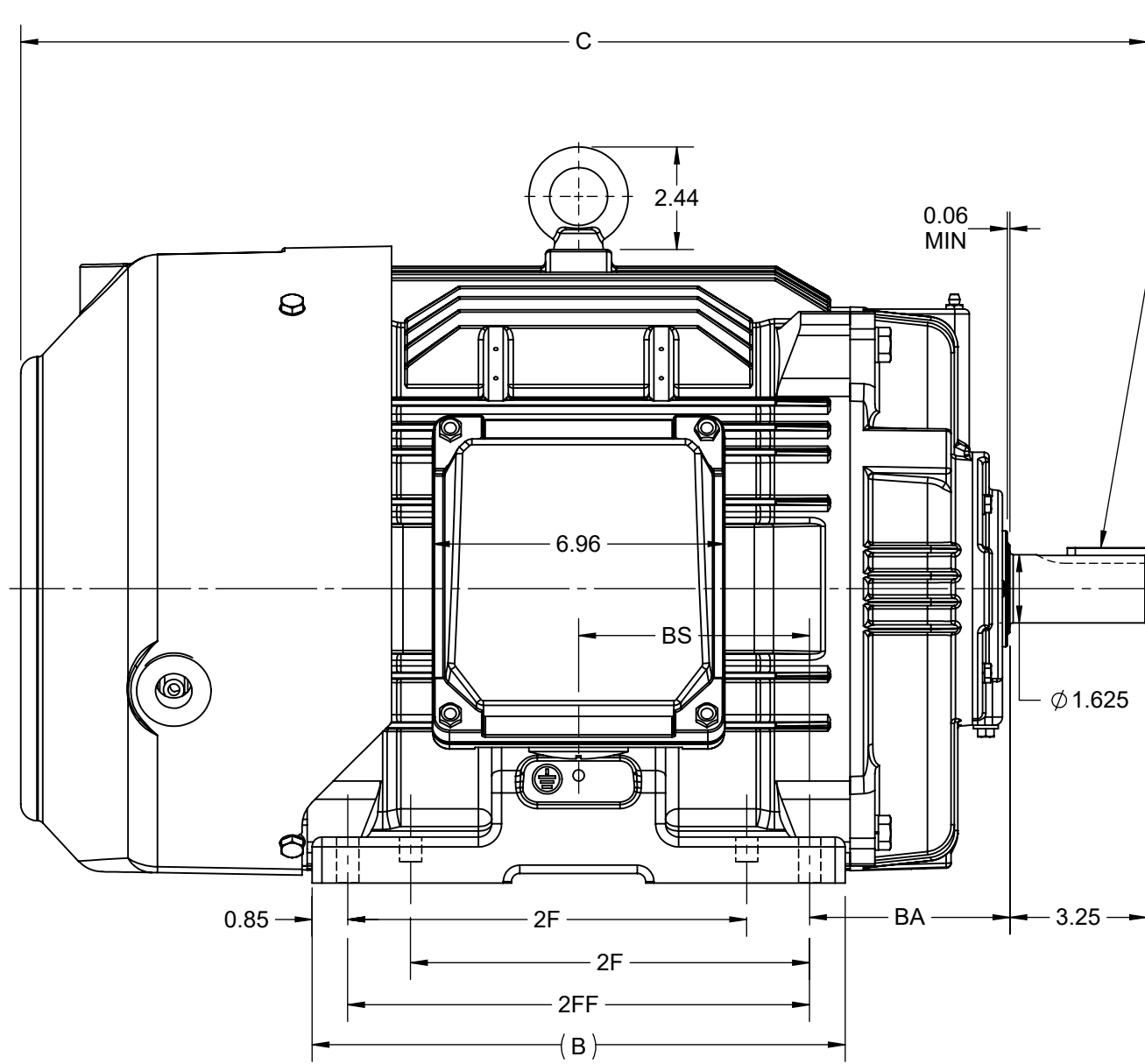
|                        |                       |                            |                                    |
|------------------------|-----------------------|----------------------------|------------------------------------|
| Output HP              | <b>30 Hp</b>          | Output KW                  | <b>22.4 kW</b>                     |
| Frequency              | <b>60 Hz</b>          | Voltage                    | <b>460 V</b>                       |
| Current                | <b>35.5 A</b>         | Speed                      | <b>3550 rpm</b>                    |
| Service Factor         | <b>1.15</b>           | Phase                      | <b>3</b>                           |
| Efficiency             | <b>91.7 %</b>         | Power Factor               | <b>86.5</b>                        |
| Duty                   | <b>Continuous</b>     | Insulation Class           | <b>H</b>                           |
| Design Code            | <b>B</b>              | KVA Code                   | <b>G</b>                           |
| Frame                  | <b>286TS</b>          | Enclosure                  | <b>Totally Enclosed Fan Cooled</b> |
| Thermal Protection     | <b>No Protection</b>  | Ambient Temperature        | <b>40 °C</b>                       |
| Drive End Bearing Size | <b>6311</b>           | Opp Drive End Bearing Size | <b>6211</b>                        |
| UL                     | <b>Listed</b>         | CSA                        | <b>Y</b>                           |
| CE                     | <b>Y</b>              | IP Code                    | <b>55</b>                          |
| Hazardous Location     | <b>DIVISION 2 T2B</b> | Number of Speeds           | <b>1</b>                           |

### Technical Specifications

|                       |                                     |                   |                                   |
|-----------------------|-------------------------------------|-------------------|-----------------------------------|
| Electrical Type       | <b>Squirrel Cage Inverter Rated</b> | Starting Method   | <b>Line Or Inverter</b>           |
| Poles                 | <b>2</b>                            | Rotation          | <b>Reversible</b>                 |
| Resistance Main       | <b>.338 Ohms</b>                    | Mounting          | <b>Rigid Base</b>                 |
| Motor Orientation     | <b>Horizontal</b>                   | Drive End Bearing | <b>Ball</b>                       |
| Opp Drive End Bearing | <b>Ball</b>                         | Frame Material    | <b>Cast Iron</b>                  |
| Shaft Type            | <b>TS</b>                           | Shaft Diameter    | <b>1.625 in</b>                   |
| Assembly/Box Mounting | <b>F1/F2 CAPABLE</b>                | Inverter Load     | <b>CONSTANT 2:1/VARIABLE 10:1</b> |
| Connection Drawing    | <b>EE7300U</b>                      | Outline Drawing   | <b>SS312943-200</b>               |

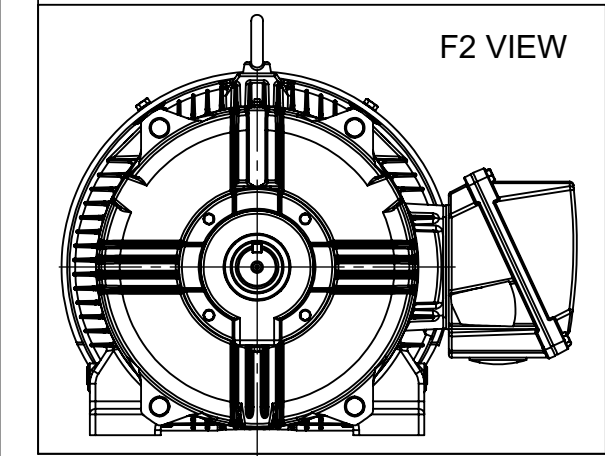
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| DASH NO. | 4     |       |      |       | 3    |       |      |      | MOUNTING | FRAME     |
|----------|-------|-------|------|-------|------|-------|------|------|----------|-----------|
|          | B     | C     | E    | 2E    | 2F   | 2FF   | BA   | BS   |          |           |
| 100      | 10.83 | 25.27 | 5.50 | 11.00 | ---  | 9.50  | 4.75 | 4.75 | 284TS    |           |
| 200      | 12.68 | 26.77 |      |       | 9.50 | 11.00 |      | 5.50 |          | 284/286TS |



3/8 x 3/8 x 1.88 KEY

1-1/2 NPT LEAD HOLE



|   |                    |                               |
|---|--------------------|-------------------------------|
| DRAWING REVISION<br>D   | REVISION BY<br>VS  | REV DATE/© DATE<br>13-10-2020 |
| ECO<br>CR-0000305   | APPROVED BY<br>SBD | DATE<br>13-10-2020            |
| ECO DESCRIPTION<br><b>NEW DRAWING RELEASE</b><br>COPYRIGHT (PER REVISION DATE) REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS. |                    |                               |

PRIMARY DIMENSIONS ARE INCH  
mm DIMENSIONS IN [BRACKETS]  
ARE FOR REFERENCE ONLY

|                        |   |
|------------------------|---|
| DRAWN BY<br>BISWA      | <b>REGAL</b> ® Regal Beloit America, Inc.                       |
| DATE<br>24/12/2018     |   |
| APPROVED BY<br>SBD     | DESCRIPTION<br><b>OUTLINE</b><br>284/286TS FR-NEMA-SD & IEEE841 |
| DATE<br>24/12/2018     | MATERIAL  |
| REFERENCE              | PROCESS/FINISH  |
| THIRD ANGLE PROJECTION | SIZE<br>B   |
|                        | DRAWING NUMBER<br><b>SS312943</b>                               |
|                        | SHEET<br>1 OF 1   |

**IF MOTOR HAS 9 LEADS**

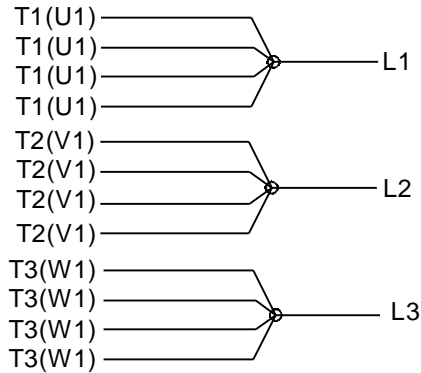


**IF MOTOR HAS 6 LEADS**



A-9806 DECAL IF CALLED FOR

**IF MOTOR HAS 12 LEADS**



**VIEW OF TERMINAL END**

|  |                           |                           |  |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
|--|---------------------------|---------------------------|--|---|-----------------------------------|----------------|----------------|-----------|--------------|----------------|---------------|--------|---------|-----|-------|---------|--|------|--------|----------|--|-------|---------|-----------|--|---------------------------|
| DRAWING REVISION<br><b>L</b>   | REVISION BY<br><b>AJW</b> | DATE<br><b>05-04-2015</b> | TOLERANCES UNLESS OTHERWISE SPECIFIED:   | DRAWN BY<br><b>DRS</b>  | <b>Regal Beloit America, Inc.</b> |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
| ECO<br><b>ECO-0077067</b>  | APPROVED BY<br><b>EWH</b> | DATE<br><b>05-05-2015</b> | <table style="font-size: small; border-collapse: collapse;"> <tr> <td><u>DEC.</u></td> <td><u>INCH</u></td> <td><u>mm</u></td> <td><u>ANGLE</u></td> </tr> <tr> <td>.X</td> <td>±0.1</td> <td>[±2.5]</td> <td>±7' 30"</td> </tr> <tr> <td>.XX</td> <td>±0.02</td> <td>[±0.51]</td> <td></td> </tr> <tr> <td>.XXX</td> <td>±0.005</td> <td>[±0.127]</td> <td></td> </tr> <tr> <td>.XXXX</td> <td>±0.0005</td> <td>[±0.0127]</td> <td></td> </tr> </table> | <u>DEC.</u>   |                                   |                | <u>INCH</u>    | <u>mm</u> | <u>ANGLE</u> | .X             | ±0.1          | [±2.5] | ±7' 30" | .XX | ±0.02 | [±0.51] |  | .XXX | ±0.005 | [±0.127] |  | .XXXX | ±0.0005 | [±0.0127] |  | DATE<br><b>09-27-1996</b> |
| <u>DEC.</u>  | <u>INCH</u>               | <u>mm</u>                 | <u>ANGLE</u>   |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
| .X   | ±0.1                      | [±2.5]                    | ±7' 30"  |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
| .XX  | ±0.02                     | [±0.51]                   |  |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
| .XXX   | ±0.005                    | [±0.127]                  |  |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
| .XXXX  | ±0.0005                   | [±0.0127]                 |  |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
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|  |                           |                           | MATERIAL   |   |                                   | PROCESS/FINISH |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
|  |                           |                           |  |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
| REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.076/.381] X 45°<br>CORNER FILLETS: R.02 [.51]<br>MACHINED SURFACES: 200 $\sqrt{\text{INCH}}$ 5.1 $\sqrt{\text{mm}}$  |                           |                           | DATE<br><b>09-30-1996</b>  | <table style="font-size: small; border-collapse: collapse;"> <tr> <td>SIZE</td> <td>DRAWING NUMBER</td> <td>SHEET</td> </tr> <tr> <td><b>A</b></td> <td><b>EE7300U</b></td> <td><b>1 OF 1</b></td> </tr> </table> |                                   | SIZE           | DRAWING NUMBER | SHEET     | <b>A</b>     | <b>EE7300U</b> | <b>1 OF 1</b> |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
|  |                           |                           | SIZE   |   |                                   | DRAWING NUMBER | SHEET          |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
| <b>A</b>   | <b>EE7300U</b>            | <b>1 OF 1</b>             |  |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
| mm SHOWN IN [BRACKETS]   |                           |                           | REFERENCE  | THIRD ANGLE PROJECTION  |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |
|  |                           |                           |  |   |                                   |                |                |           |              |                |               |        |         |     |       |         |  |      |        |          |  |       |         |           |  |                           |



DATA VOLTS: 460

**CERTIFICATION DATA SHEET**

CONN. DIAGRAM: EE7300U  
 REFERENCE MODEL #: 286TSTFCD6501  
 OUTLINE: SS312943-286TS CAT #: E608A  
 WINDING: HE31802003 NONE 1 MOUNTING: F1/F2 CAPABLE

**TYPICAL MOTOR PERFORMANCE DATA**

| HP                               | KW   | SYNC RPM     | FL RPM            | FRAME               | ENCLOSURE          | TYPE                    | KVA CODE       | DESIGN       |            |
|----------------------------------|--|--------------|-------------------|---------------------|--------------------|-------------------------|----------------|--------------|------------|
| 30                               | 22.4   | 3600         | 3550              | 286TS               | TEFC               | TFC                     | G              | B            |            |
| PH                               | HZ   | VOLTS        | AMPS              | START TYPE          | DUTY               | INSL                    | S.F.           | AMB (° C)    | ELEV. (Ft) |
| 3                                | 60   | 460          | 35.5              | LINE OR INVERTER    | CONT               | H                       | 1.15           | 40           | 3300       |
| F.L. EFF                         | 91.7   | 3/4 LD EFF   | 91.7              | 1/2 LD EFF          | 91.4               | GTD EFF                 | 91.0           | ELECT. TYPE  |            |
| F.L. PF                          | 86.5   | 3/4 LD PF    | 83.5              | 1/2 LD PF           | 75.5               | SQ CAGE INV RATED       |                |              |            |
| F.L. TORQUE                      | LR AMPS  | L.R. TORQUE  |                   | B.D. TORQUE         |                    | F.L. RISE (° C)         |                |              |            |
| 44.4 LB-FT                       | 210  | 77.0 LB-FT   | 173%              | 107 LB-FT           | 241%               | 65                      |                |              |            |
| SOUND PRESSURE                   | SOUND  | ROTOR WK²    | MAX. LOAD WK²     | SAFE STALL TIME     | STARTS/HOUR        | APROX.                  |                |              |            |
| 75 dBA                           | 84 dBA   | 3.3 LB-FT²   | 32 LB-FT²         | 20 SEC.             | 2                  | 492 LB.                 |                |              |            |
| *** SUPPLEMENTAL INFORMATION *** |  |              |                   |                     |                    |                         |                |              |            |
| DE BRACKET TYPE                  | ODE BRACKET TYPE   | MOUNT TYPE   | MOTOR ORIENTATION | SEVERE DUTY         | HAZARDOUS LOCATION | DRIP COVER              | SCREENS        | PAINT        |            |
| STANDARD                         | STANDARD   | RIGID        | HORIZONTAL        | PREMIUM SEVERE DUTY | DIVISION 2 T2B     | NO                      | NONE           | BLUE (EPOXY) |            |
| BEARINGS                         |  | GREASE       | SHAFT TYPE        | SPECIAL DE          | SPECIAL ODE        | SHAFT MATERIAL          | FRAME MATERIAL |              |            |
| DE                               | ODE  | POLYREX EM   | TS                | NONE                | NONE               | 1045 HOT ROLLED (C-204) | CAST IRON      |              |            |
| BALL 6311                        | BALL 6211  |              |                   |                     |                    |                         |                |              |            |
| THERMOSTATS                      | PROTECTORS   | WDG RTD's    | BRG RTD's         | THERMISTORS         | CONTROL            | SPACE HEATERS           |                |              |            |
| NONE                             | NOT  | NONE         | NONE              | NONE                | FALSE              | NA                      |                |              |            |
| R1 (ohms/ph)                     | R2 (ohms/ph)   | X1 (ohms/ph) | X2 (ohms/ph)      | Xm (ohms/ph)        | VIBRATION (in/sec) | FLOAT                   |                |              |            |
| 0.229                            | 0.106  | 0.706        | 0.785             | 22.136              | 0.080              | ODE                     |                |              |            |
| *<br>N<br>O<br>T<br>E<br>S<br>*  | If Inverter equals NONE, contact factory for further information |              |                   |                     |                    |                         |                |              |            |
|                                  | INVERTER TORQUE: CONSTANT 2:1/VARIABLE 10:1                      |              |                   |                     |                    |                         |                |              |            |
|                                  | INV. HP SPEED RANGE: NONE  |              |                   |                     |                    |                         |                |              |            |
|                                  | ENCODER: NONE  |              |                   |                     |                    |                         |                |              |            |
|                                  | NONE<br>NONE<br>NONE PPR   |              |                   |                     |                    |                         |                |              |            |
| PREPARED BY: _____               |  |              |                   |                     | BRAKE: NONE        |                         |                |              |            |
| DATE: 5/13/2020                  |  |              |                   |                     | NONE               |                         |                |              |            |
|                                  |  |              |                   |                     | FT-LB: NA          |                         |                |              |            |
|                                  |  |              |                   |                     | VOLTAGE: NONE HZ:  |                         |                |              |            |

FORM: 3531 REV\_4 2/27/06  
 \*\* Subject to change without notice.

Data Sheet

Date: 5/6/2020  
 Customer: \_\_\_\_\_  
 Attention: \_\_\_\_\_  
 Submitted by: \_\_\_\_\_



286TSTFCD6501

Submittal

Data @ 460 V

Motor Load Data

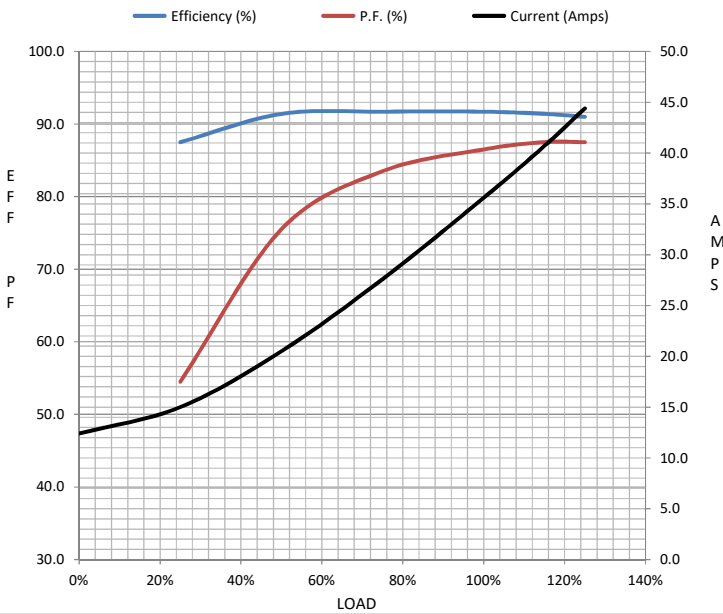
| Load           | 0%   | 25%  | 50%  | 75%  | 100% | 115%  | 125% | LR   |
|----------------|------|------|------|------|------|-------|------|------|
| Current (Amps) | 12.4 | 15.0 | 20.5 | 27.6 | 35.6 | 40.7  | 44.4 | 210  |
| Torque (ft-lb) | 0.00 | 11.0 | 22.0 | 33.0 | 44.4 | 51.0  | 55.5 | 77.0 |
| RPM            | 3600 | 3588 | 3575 | 3565 | 3550 | 3,542 | 3536 | 0    |
| Efficiency (%) |      | 87.5 | 91.4 | 91.7 | 91.7 | 91.4  | 91.0 |      |
| P.F. (%)       | 8.0  | 54.5 | 75.5 | 83.5 | 86.5 | 87.5  | 87.5 | 35.0 |

Motor Speed Data

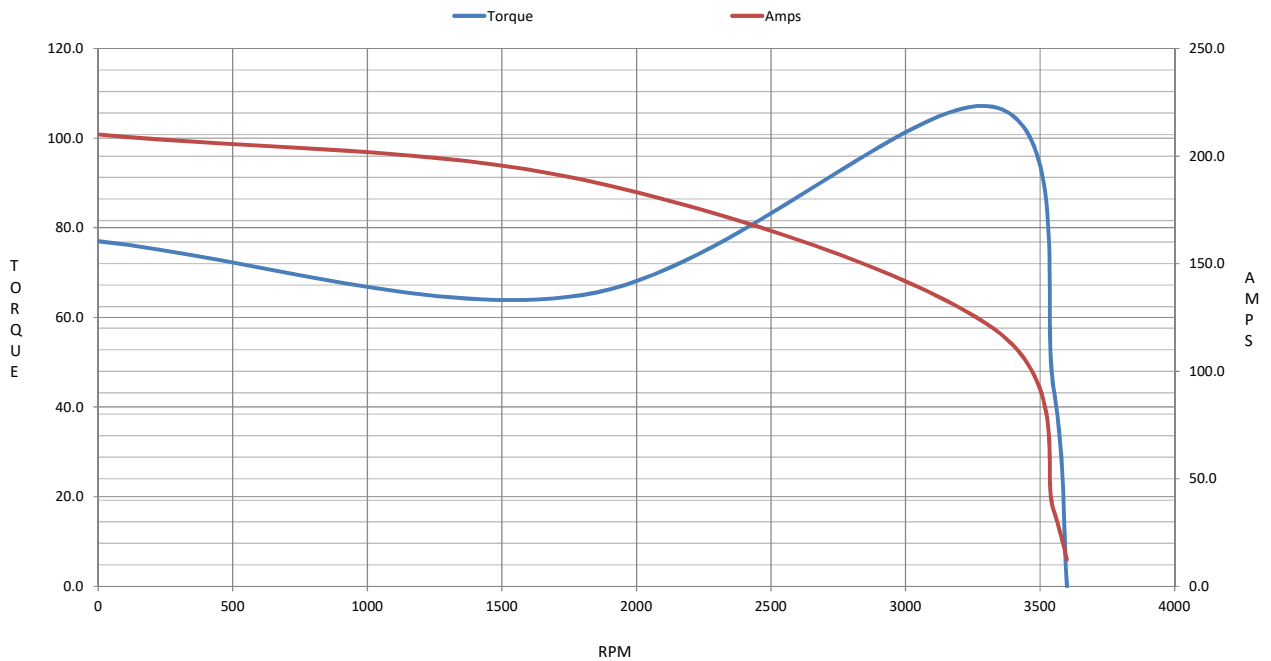
|                | LR   | Pull-Up | BD   | Rated | Idle |
|----------------|------|---------|------|-------|------|
| Speed (RPM)    | 0    | 1800    | 3325 | 3550  | 3600 |
| Current (Amps) | 210  | 189     | 120  | 35.6  | 12.4 |
| Torque (ft-lb) | 77.0 | 65.0    | 107  | 44.4  | 0.00 |

Information Block

|                             |                            |        |        |         |
|-----------------------------|----------------------------|--------|--------|---------|
| HP                          | 30.0                       |        |        |         |
| Sync. RPM                   | 3600                       |        |        |         |
| Frame                       | 286                        |        |        |         |
| Enclosure                   | TEFC                       |        |        |         |
| Construction                | TFC                        |        |        |         |
| Voltage                     | 460 V                      |        |        |         |
| Frequency                   | 60 Hz                      |        |        |         |
| Design                      | B                          |        |        |         |
| LR Code letter              | G                          |        |        |         |
| Service Factor              | 1.15                       |        |        |         |
| Temp Rise @ FL              | 65 °C                      |        |        |         |
| Duty                        | CONT                       |        |        |         |
| Ambient                     | 40 °C                      |        |        |         |
| Elevation                   | 3,300 feet                 |        |        |         |
| Rotor/Shaft wk <sup>2</sup> | 3.3 Lb-Ft <sup>2</sup>     |        |        |         |
| Ref Wdg                     | HE31802003 NONE            |        |        |         |
| Sound Pressure @ 1M         | 75 dBA                     |        |        |         |
| VFD Rating                  | CONSTANT 2:1/VARIABLE 10:1 |        |        |         |
| Outline Dwg                 | SS312943-286TS             |        |        |         |
| Conn. Diag                  | EE7300U                    |        |        |         |
| Additional Specifications:  |                            |        |        |         |
| 0                           |                            |        |        |         |
| 0                           |                            |        |        |         |
| EQUIV CKT (OHMS / PHASE)    |                            |        |        |         |
| R1                          | R2                         | X1     | X2     | Xm      |
| 0.2290                      | 0.1060                     | 0.7060 | 0.7850 | 22.1360 |



Speed -Torque Curve



## EC Declaration of Conformity

The undersigned representing  
the manufacturer:

Regal Beloit America  
100 East Randolph St.  
Wausau, WI 54401

and the authorized representative  
established within the Community:

Marathon Electric UK  
6F Thistleton Road Ind. Estate  
Market Overton  
Oakham, Rutland LE15 7PP UK

are committed to providing customers with products that comply with applicable regulations and international protocols to which they are subject, including the requirements of the European Parliament Directive on the Harmonization of the laws relating to electrical equipment designed for use within certain voltage limits (2014/35/EU).

Regal Beloit America declares that the following product(s), to which this declaration relates, are in conformity with the relevant sections of the EC standards listed below.

This statement supersedes any statements previously issued pertaining to the product(s) listed below and is subject to change without notice.

Model No : 286TSTFCD6501

(Model No. may contain prefix and/or suffix characters)

Catalog No : E608A

Rework No : N/A

Directives :

Low Voltage Directive 2014/35/EU

Harmonized Standards Used :

EN 60034-1: 2010 (IEC 60034-1: 2010)

EN 60034-5: 2001/A1:2007 (IEC 60034-5: 2000/A1:2006)

Authorized Representative:



Michael A. Logsdon  
Vice President, Technology

Authorized Representative in the Community:



Julian Clark  
Marketing Engineer

Created on 09/01/2022

**CE 22**