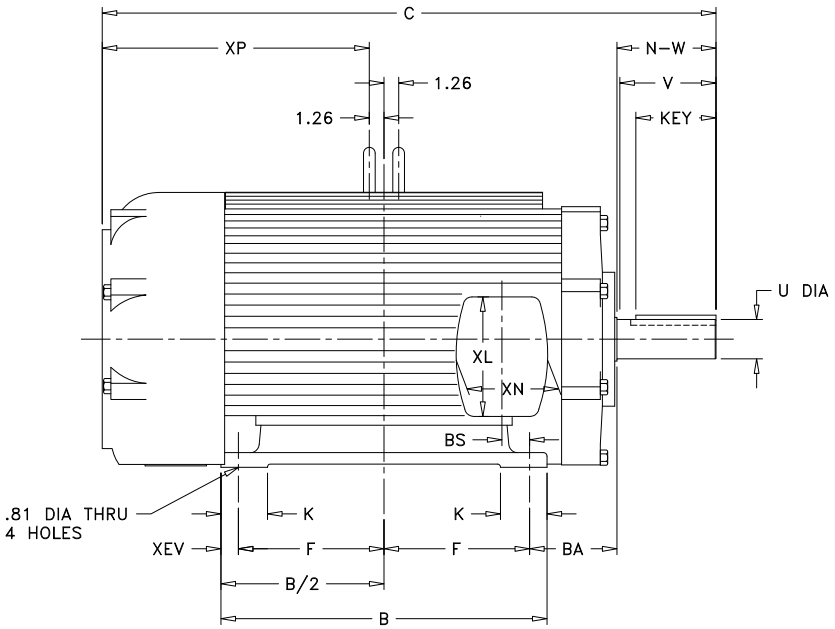
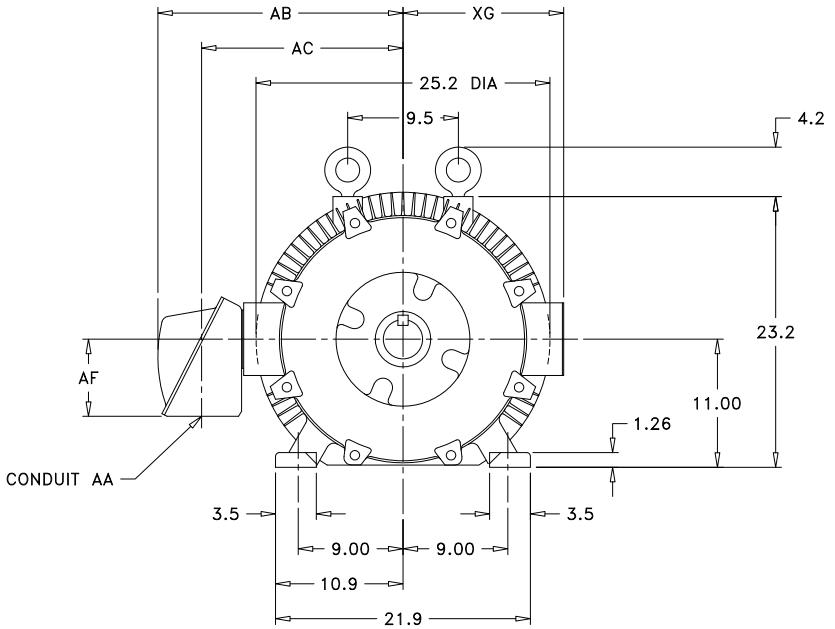



| | REAR SHAFT EXTENSION | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FRAME SIZE | U | N–W | V | KEY SIZE | B | C | F | K | XEV | XG | XP | F1 ASSY BS | BA | APPROX WEIGHT |
| 444TS | 2.375 | 4.75 | 4.50 | .625 X .625 X 3.00 | 17.5 | 38.5 | 7.25 | 4.0 | 1.50 | 12.8 | 17.7 | 4.13 | 7.50 | 2000 |
| 444T | 3.375 | 8.50 | 8.25 | .875 X .875 X 6.88 | 17.5 | 42.2 | 7.25 | 4.0 | 1.50 | 12.8 | 17.7 | 4.13 | 7.50 | 2000 |
| 445TS | 2.375 | 4.75 | 4.50 | .625 X .625 X 3.00 | 18.5 | 40.5 | 8.25 | 4.5 | 1.00 | 12.8 | 18.7 | 5.13 | 7.50 | 2300 |
| 445T | 3.375 | 8.50 | 8.25 | .875 X .875 X 6.88 | 18.5 | 44.2 | 8.25 | 4.5 | 1.00 | 12.8 | 18.7 | 5.13 | 7.50 | 2300 |
| 447TS | 2.375 | 4.75 | 4.50 | .625 X .625 X 3.00 | 23.0 | 44.0 | 10.00 | 4.0 | 1.50 | 14.4 | 20.4 | 2.38 | 7.50 | 2600 |
| 447T | 3.375 | 8.50 | 8.25 | .875 X .875 X 6.88 | 23.0 | 47.7 | 10.00 | 4.0 | 1.50 | 14.4 | 20.4 | 2.38 | 7.50 | 2600 |
| 449TS | 2.375 | 4.75 | 4.50 | .625 X .625 X 3.00 | 28.0 | 49.0 | 12.50 | 4.0 | 1.50 | 14.4 | 22.9 | 2.38 | 7.50 | 3200 |
| 449T | 3.375 | 8.50 | 8.25 | .875 X .875 X 6.88 | 28.0 | 52.7 | 12.50 | 4.0 | 1.50 | 14.4 | 22.9 | 2.38 | 7.50 | 3200 |
| 449TU | 4.125 | 12.38 | 12.12 | 1.00 X 1.00 X 10.62 | 28.0 | 56.6 | 12.50 | 4.0 | 1.50 | 14.4 | 22.9 | 2.38 | 7.50 | 3200 |

| STANDARD CAST IRON CONDUIT BOXES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TEFC | | | | | | EXPLOSION PROOF | | | | | |
| AA | AB | AC | AF | XL | XN | AA | AB | AC | AF | XL | XN |
| 3.00 | 21.10 | 17.30 | 6.62 | 10.62 | 7.76 | 3.00 | 21.50 | 17.00 | 7.00 | 12.26 | 11.00 |
| 4.00 | 25.30 | 19.44 | 9.38 | 13.68 | 11.50 | 4.00 | 24.50 | 18.62 | 10.38 | 16.50 | 13.00 |

NOTES:
A. THIS OUTLINE IS NOT TO BE REGARDED AS INDICATING THE EXACT DETAILS OF CONSTRUCTION. IT IS PROPERLY DIMENSIONED FOR ERECTION PURPOSES ONLY.
B. EACH FOOT MUST BE MOUNTED ON A BASE EQUAL TO OR LARGER THAN THE PAD AREA.
C. MOUNTING BOLTS, DOWELS & SHIMS ARE NOT SUPPLIED BY TOSHIBA
D. ANTI–FRICTION BEARINGS MUST BE REGREASED WHILE MOTOR IS RUNNING.

THESE DRAWINGS ARE PREPARED IN ACCORDANCE WITH THE NORMAL AND ACCEPTED STANDARDS WITHIN THE ELECTRICAL INDUSTRY FOR THE PURPOSE OF OBTAINING CUSTOMER APPROVAL AS PART OF THE MANUFACTURING OR PRODUCTION PROCESS. ANY USE OR COMMUNICATION OF THE DRAWINGS BY THE CUSTOMER (OTHER THAN FOR GRANTING APPROVAL) SHALL BE THE SOLE RESPONSIBILITY OF THE CUSTOMER.

ISSUE 1 STANDARD
REVISIONS

PRELIMINARY SHAFT AND MOUNTING ONLY

G.O. _____ S.O. _____ CUST. ORDER _____

CUST. _____

RATING _____

PER: _____ DATE _____

TOSHIBA INDUSTRIAL PRODUCTS CANADA, STONEY CREEK

THIRD ANGLE PROJECTION

THE INFORMATION CONTAINED HEREON WHICH IS THE PROPERTY OF TOSHIBA INDUSTRIAL PRODUCTS CANADA – TIPCA MUST BE MAINTAINED IN CONFIDENCE, AND NO PORTION OF THIS DRAWING MAY BE REPRODUCED OR USED WITHOUT THE EXPRESS PERMISSION OF THE COMPANY.

TOSHIBA INDUSTRIAL PRODUCTS CANADA TOSHIBA

TITLE TYPE HSBN MOTOR FRAME 440
OUTLINE – TEFC/TEXP ENCLOSURE

DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED | SCALE: N.T.S. | SHEET: OF

| DRAWN | DATE | APP.BY | DATE |
|---|---|---|---|
| N.WEST | | | |
| CHECKED | | APP.BY | |
| CHECKED | | APP.BY | |

E10C076

TOSHIBA

| Issued Date | | Transmit # | |
|---|---|---|---|
| Issued By | | Issued Rev | |

# TYPICAL MOTOR PERFORMANCE DATA

**Model:** 2004XPAK11A-C

| HP | kW | Pole | FL RPM | Frame | Voltage | Hz | Phase | FL Amps |
|---|---|---|---|---|---|---|---|---|
| 200 HP | 149 kW | 4 | 1782 | N449T | 4000 V | 60 | 3 | 26.3 |
| **Enclosure** | **IP** | **Ins. Class** | **S.F.** | **Duty** | **NEMA Nom. Eff.** | **NEMA Design** | **kVA Code** | **Ambient (°C)** |
| TEXP | 55 | F | 1.15 | Cont. | 93.5 | B | G | 40 |

| Load | HP | kW | Amperes | Efficiency (%) | Power Factor (%) |
|---|---|---|---|---|---|
| **Full Load** | 200 | 149 | 26.3 | 93.5 | 87.8 |
| **¾ Load** | 150 | 112 | 19.9 | 92.8 | 87.6 |
| **½ Load** | 100 | 75 | 14.1 | 91.8 | 83.5 |
| **¼ Load** | 50 | 37 | | | |
| **No Load** | | | 6.2 | | 12 |
| **Locked Rotor** | | | 166 | | 26.3 |

| Torque | | | | Rotor wk² Inertia |
|---|---|---|---|---|
| **Full Load (lb-ft)** | **Locked Rotor (% FLT)** | **Pull Up (% FLT)** | **Break Down (% FLT)** | **(lb-ft²)** |
| 586 | 139 | 129 | 217 | 75 |

| Safe Stall Time(s) | | Sound Pressure dB(A) @ 1M | Bearings* | | Approx. Motor Weight |
|---|---|---|---|---|---|
| **Cold** | **Hot** | | **DE** | **NDE** | **(lbs)** |
| 32 | 37 | - | 6319C3 | 6319C3 | 3100 |

*Bearings are the only recommended spare part(s).

**Motor Options:**

| | |
|---|---|
| **Customer** | |
| **Customer PO** | |
| **Sales Order** | |
| **Project #** | |

**Tag:**

All characteristics are average expected values.

**TOSHIBA INTERNATIONAL CORPORATION · HOUSTON, TEXAS U.S.A.**

| Engineering | | Doc. Written By | | Doc.# / Rev | |
|---|---|---|---|---|---|
| Engr. Date | | Doc. Approved By | | Doc. Issued | |

TOSHIBA

| Issued Date | | Transmit # | |
|---|---|---|---|
| Issued By | | Issued Rev | |

# NAMEPLATE DATA

**Model:** 2004XPAK11A-C

| HP | kW | Pole | FL RPM | Frame | Voltage | Hz | Phase | FL Amps |
|---|---|---|---|---|---|---|---|---|
| 200 | 149 | 4 | 1782 | N449T | 4000 | 60 | 3 | 26.3 |
| **Enclosure** | **IP** | **Ins. Class** | **S.F.** | **Duty** | **NEMA Nom. Eff.** | **NEMA Design** | **kVA Code** | **Ambient (°C)** |
| TEXP | 55 | F | 1.15 | Cont. | 93.5 | B | G | 40 |

**Type:** HSB

**Form:**

**Drive End Bearing:** 6319C3

**Non-Drive End Bearing:** 6319C3

**Power Factor:** 87.8

**Max Safe RPM:**

**Comments 1:**

**Comments 2:**

**Comments 3:**

**Comments 4:**

| | |
|---|---|
| **Customer** | |
| **Customer PO** | |
| **Sales Order** | |
| **Project #** | |

**Tag:**

All characteristics are average expected values.

**TOSHIBA INTERNATIONAL CORPORATION · HOUSTON, TEXAS U.S.A.**

| | | | | | |
|---|---|---|---|---|---|
| **Engineering** | | **Doc. Written By** | D. Suarez | **Doc.# / Rev** | MPCF-1120 / 0 |
| **Engr. Date** | | **Doc. Approved By** | M. Campbell | **Doc. Issued** | 6/8/2011 |

| | | | |
|---|---|---|---|
| Issued Date | | Transmit # | |
| Issued By | | Issued Rev | |

TOSHIBA

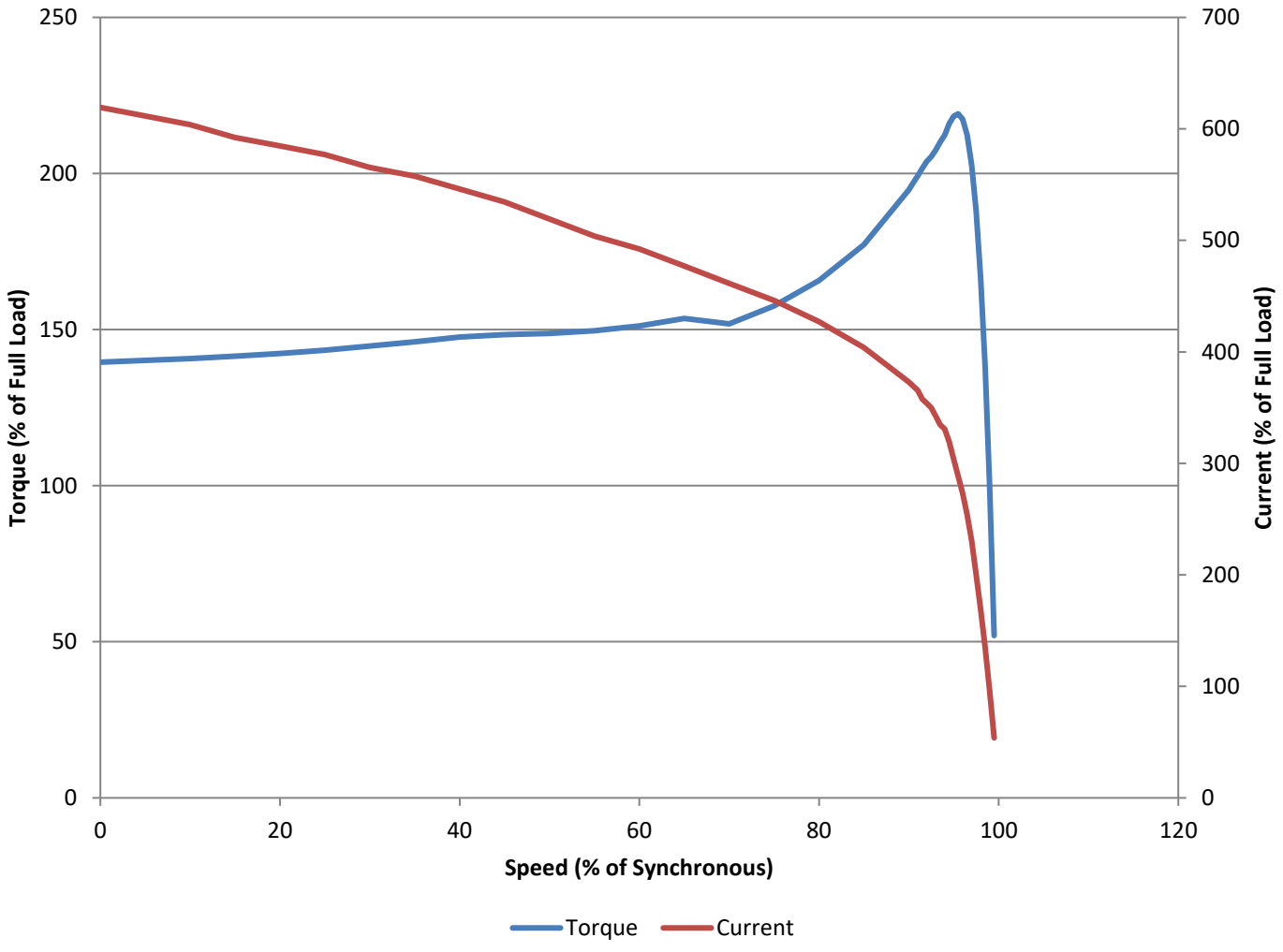
# SPEED TORQUE/CURRENT CURVE

**Model:** 2004XPAK11A-C

| HP | kW | Pole | FL RPM | Frame | Voltage | Hz | Phase | FL Amps |
|---|---|---|---|---|---|---|---|---|
| 200 HP | 149 kW | 4 | 1782 | N449T | 4000 V | 60 | 3 | 26.3 |
| **Enclosure** | **IP** | **Ins. Class** | **S.F.** | **Duty** | **NEMA Nom. Eff.** | **NEMA Design** | **kVA Code** | **Ambient (°C)** |
| TEXP | 55 | F | 1.15 | Cont. | 93.5 | B | G | 40 |

| Locked Rotor Amps | Rotor wk² Inertia (lb-ft²) | Torque | | | |
|---|---|---|---|---|---|
| | | Full Load (lb-ft) | Locked Rotor (%) | Pull Up (%) | Break Down (%) |
| 166 | 75 | 586 | 139 | 129 | 217 |

## Design Values




| | | | | | |
|---|---|---|---|---|---|
| **Customer** | | | **wk² Load Inertia (lb-ft²)** | | |
| **Customer PO** | | | **Load Type** | | |
| **Sales Order** | | | **Voltage (%)** | 100 | |
| **Project #** | | | **Accel. Time** | | |

**Tag:**

All characteristics are average expected values.

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| | | | | | |
|---|---|---|---|---|---|
| **Engineering** | | **Doc. Written By** | D. Suarez | **Doc.# / Rev** | MPCF-1121/0 |
| **Engr. Date** | | **Doc. Approved By** | M. Campbell | **Doc. Issued** | 6/8/2011 |

| | | | |
|---|---|---|---|
| Issued Date | | Transmit # | |
| Issued By | | Issued Rev | |

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# SPARE PARTS LIST*

**Model:** 2004XPAK11A-C

| HP | kW | Pole | FL RPM | Frame | Voltage | Hz | Phase | FL Amps |
|---|---|---|---|---|---|---|---|---|
| 200 HP | 149 kW | 4 | 1782 | N449T | 4000 V | 60 | 3 | 26.3 |
| **Enclosure** | **IP** | **Ins. Class** | **S.F.** | **Duty** | **NEMA Nom. Eff.** | **NEMA Design** | **kVA Code** | **Ambient (°C)** |
| TEXP | 55 | F | 1.15 | Cont. | 93.5 | B | G | 40 |

| | |
|---|---|
| **Bearings DE** | 6319C3 |
| **Bearings NDE** | 6319C3 |

*Bearings are the only recommended spare part(s).

Other than the grease used for regreasable bearings and the oil used for oil-lubricated bearings, Toshiba advises that there are no "use" parts. The only insurance spares that Toshiba suggests for these squirrel-cage induction motors are industry-standard and commercially available off-the-shelf bearings as noted above.

Motor components such as terminal boxes, fan covers and other machined parts are available on special request. In these cases, please advise our order entry department of the model and serial numbers found on the motor nameplate and a description of the needed components. With this information they will be able to furnish the current part number, price and availability.

Note: Our internal part numbers are subject to change without notice and are not published.

| | |
|---|---|
| **Customer** | |
| **Customer PO** | |
| **Sales Order** | |
| **Project #** | |

**Tag:**

All characteristics are average expected values.

**TOSHIBA INTERNATIONAL CORPORATION · HOUSTON, TEXAS U.S.A.**

| | | | | | |
|---|---|---|---|---|---|
| **Engineering** | | **Doc. Written By** | D. Suarez | **Doc.# / Rev** | MPCF-1125 / 0 |
| **Engr. Date** | | **Doc. Approved By** | M. Campbell | **Doc. Issued** | 6/8/2011 |