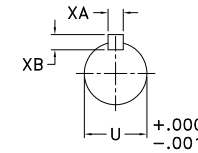
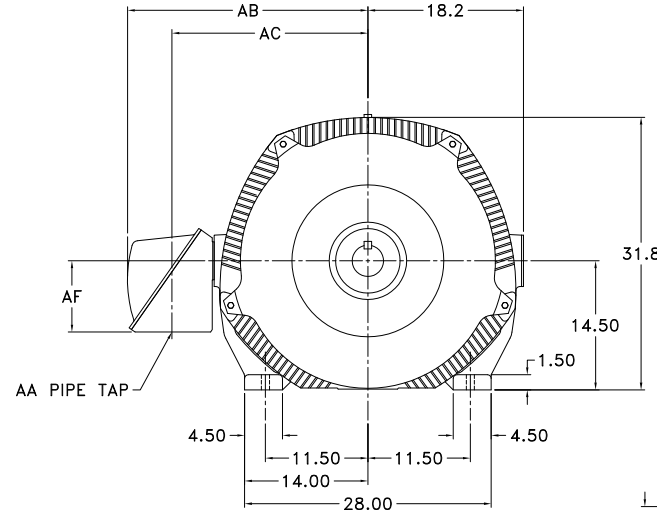
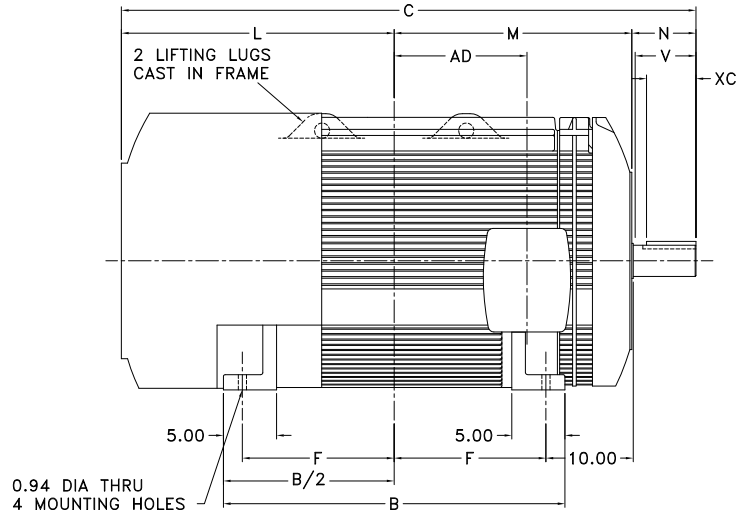


TYPE HS SQUIRREL CAGE INDUCTION MOTOR
ENCLOSURE - TOTALLY ENCLOSED FAN COOLED
AND EXPLOSION PROOF
BEARING - ANTI-FRICTION AND SOLID SLEEVE

NOTES

- A- THIS DRAWING IS NOT TO BE REGARDED AS INDICATING EXACT DETAILS OF CONSTRUCTION. IT IS PROPERLY DIMENSIONED FOR ERECTION PURPOSES ONLY.
 - B- AIR INLET OPENING ON END OF MOTOR. WHEN INSTALLING MOTOR AVOID LOCATING MOTOR SO THAT ADJACENT STRUCTURES ARE CLOSER THAN 12 INCHES TO MOTOR ENDS. ALSO THAT NO ADJACENT STRUCTURE CAUSES EXHAUST AIR TO BE DIRECTED INTO INLET OPENINGS.
 - C- MOUNTING BOLTS, DOWELS AND COUPLING NOT SUPPLIED BY E.T.I. UNLESS SPECIFICALLY ORDERED.
 - D- EACH FOOT MUST BE MOUNTED ON A BASE EQUAL TO OR LARGER THAN THE PAD AREA.
 - E- SLEEVE BEARINGS HAVE 0.50 MINIMUM ENDFLOAT. COUPLING ENDFLOAT SHOULD BE 0.19 MAXIMUM WITH ROTOR LOCATED ON MECHANICAL CENTERLINE.
 - F- FOR MOUNTING OF MOTOR USE .875-9 THD/INCH HOLD DOWN BOLTS.
 - G- NON DRIVE END BEARING INSULATED.
- DEVICES



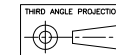
END VIEW OF SHAFT

FRAME SIZE	REAR SHAFT EXTENSION											RECOMMENDED COUPLING BORE		APPROX WEIGHT	
	U	KEY SIZE			N	V	B	C	F	L	M	AD	MIN.		MAX.
		XA	XB	XC											
5809H	2.875	.750	.750	4.00	5.76	5.50	35.5	61.56	16.00	29.80	26.00	14.50	2.8730	2.8740	5400
5809S	3.375	.875	.875	5.00	6.76	6.50	35.5	62.56	16.00	29.80	26.00	14.50	3.3720	3.3735	5400
5809L	3.875	1.000	1.000	6.00	7.76	7.50	35.5	63.56	16.00	29.80	26.00	14.50	3.8720	3.8735	5400
5809U	4.125	1.000	1.000	10.62	12.38	12.12	35.5	68.18	16.00	29.80	26.00	14.50	4.1215	4.1230	5450
5810H	2.875	.750	.750	4.00	5.76	5.50	39.5	65.56	18.00	31.80	28.00	16.50	2.8730	2.8740	6150
5810S	3.375	.875	.875	5.00	6.76	6.50	39.5	66.56	18.00	31.80	28.00	16.50	3.3720	3.3735	6150
5810L	3.875	1.000	1.000	6.00	7.76	7.50	39.5	67.56	18.00	31.80	28.00	16.50	3.8720	3.8735	6150
5810U	4.125	1.000	1.000	10.62	12.38	12.12	39.5	72.18	18.00	31.80	28.00	16.50	4.1215	4.1230	6200
5811H	2.875	.750	.750	4.00	5.76	5.50	43.5	69.56	20.00	33.80	30.00	18.50	2.8730	2.8740	6900
5811S	3.375	.875	.875	5.00	6.76	6.50	43.5	70.56	20.00	33.80	30.00	18.50	3.3720	3.3735	6900
5811L	3.875	1.000	1.000	6.00	7.76	7.50	43.5	71.56	20.00	33.80	30.00	18.50	3.8720	3.8735	6900
5811U	4.125	1.000	1.000	10.62	12.38	12.12	43.5	76.18	20.00	33.80	30.00	18.50	4.1215	4.1230	6950

CONDUIT BOX							
FAN COOLED - STANDARD				EXPLOSION PROOF			
AA	AB	AC	AF	AA	AB	AC	AF
3.00	28.94	23.09	9.38	3.00	32.31	24.00	13.00

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.

PRELIMINARY SHAFT AND MOUNTING ONLY
G.O. _____ S.O. _____ CUST. ORDER _____
CUST. _____
RATING _____
PER: _____ DATE _____
TOSHIBA INDUSTRIAL PRODUCTS CANADA, STONEY CREEK



TOSHIBA INDUSTRIAL PRODUCTS CANADA				TOSHIBA			
TITLE TYPE HS MOTOR FRAME 5800							
OUTLINE - TEFC/TEXP ENCLOSURE							
DESIGNED IN INCHES	SCALE: N.T.S.	SHEET: _____	OF: _____	DATE			
DESIGNED: N.WEST	DATE: 10/9/78	APP BY: _____					
CHECKED: _____	APP BY: _____						

REVISION	STANDARD
1	



Issued Date

Transmit #

Issued By

Issued Rev

TYPICAL MOTOR PERFORMANCE DATA

Model: 4503XPAL11F-C

HP	kW	Pole	FL RPM	Frame	Voltage	Hz	Phase	FL Amps
450 hp	336 kW	2	3574 rpm	5810S	4000 V	60	3	54.5 A
Enclosure	IP	Ins. Class	S.F.	Duty	NEMA Nom. Eff.	NEMA Design	kVA Code	Ambient (°C)
TEXP	55	F	1.15	Cont.	94.5	B	F	40

Load	HP	kW	Amperes	Efficiency (%)	Power Factor (%)
Full Load	450	336	54.5	94.5	94.4
¾ Load	337.5	252	40.8	94	94.9
½ Load	225	168	27.9	92.7	93.9
¼ Load	112.5	84			
No Load			7.6		15.9
Locked Rotor			365.3		19.8

Torque				Rotor wk ² Inertia (lb-ft ²)
Full Load (lb-ft)	Locked Rotor (% FLT)	Pull Up (% FLT)	Break Down (% FLT)	
664	96	96	232	130

Safe Stall Time(s)		Sound Pressure dB(A) @ 1M	Bearings*		Approx. Motor Weight (lbs)
Cold	Hot		DE	NDE	
38	33	-	Sleeve	Sleeve	6500

*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	



Issued Date		Transmit #	
Issued By		Issued Rev	

NAMEPLATE DATA

Model: 4503XPAL11F-C

HP	kW	Pole	FL RPM	Frame	Voltage	Hz	Phase	FL Amps
450	335.5605	2	3574	5810S	4000	60	3	54.52
Enclosure	IP	Ins. Class	S.F.	Duty	NEMA Nom. Eff.	NEMA Design	kVA Code	Ambient (°C)
TEXP	55	F	1.15	Cont.	94.5	B	F	40

Type: HSB _____
 Form: _____
 Drive End Bearing: Sleeve _____
 Non-Drive End Bearing: Sleeve _____
 Power Factor: 94.4 _____
 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



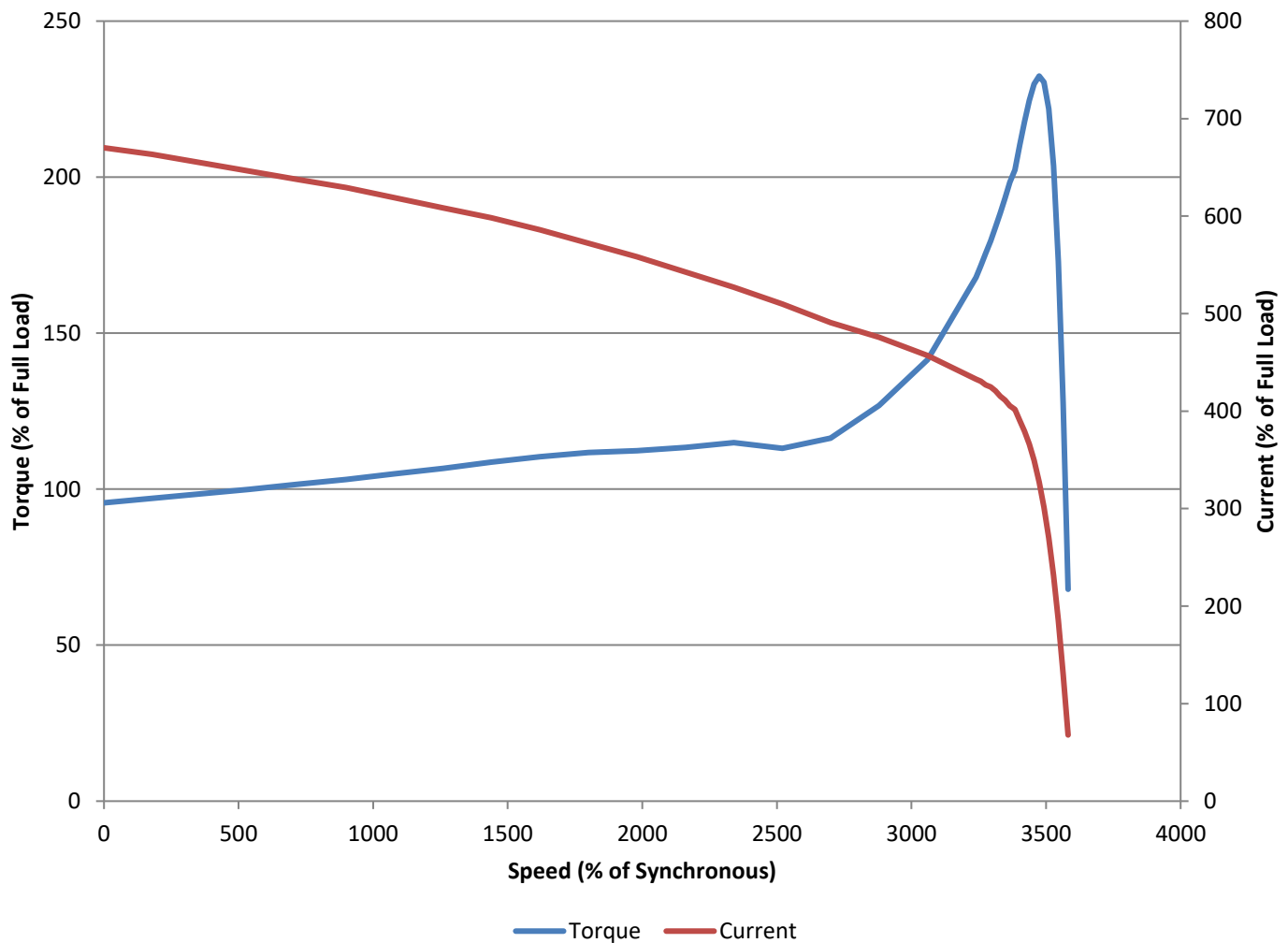
Issued Date		Transmit #	
Issued By		Issued Rev	

SPEED TORQUE/CURRENT CURVE

Model: 4503XPAL11F-C

HP	kW	Pole	FL RPM	Frame	Voltage	Hz	Phase	FL Amps
450	335.5605	2	3574	5810S	4000	60	3	54.52
Enclosure	IP	Ins. Class	S.F.	Duty	NEMA Nom. Eff.	NEMA Design	kVA Code	Ambient (°C)
TEXP	55	F	1.15	Cont.	94.5	B	F	40
Locked Rotor Amps	Rotor wk ² Inertia (lb-ft ²)	Torque				Break Down (%)		
		Full Load (lb-ft)	Locked Rotor (%)	Pull Up (%)				
338.27	130	664.12	95.63331928	95.63331928	232.3962537			

Design Values



Customer		wk ² Load Inertia (lb-ft ²)		
Customer PO			Load Type	
Sales Order			Voltage (%)	100
Project #			Accel. Time	

Tag:

All characteristics are average expected values.

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

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

SPARE PARTS LIST*

Model: 4503XPAL11F-C

HP	kW	Pole	FL RPM	Frame	Voltage	Hz	Phase	FL Amps
450	335.5605	2	3574	5810S	4000	60	3	54.52
Enclosure	IP	Ins. Class	S.F.	Duty	NEMA Nom. Eff.	NEMA Design	kVA Code	Ambient (°C)
TEXP	55	F	1.15	Cont.	94.5	B	F	40

Bearings DE Sleeve

Bearings NDE Sleeve

*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