

ABB BALDOR RELIANCE III

Customer information packet

M244402TS-2341

400HP, 3565RPM, 3PH, 60HZ, 449TS, A44112M, DP

Class -

Division - Not Applicable

Specifications

Enclosure	DP
Frame	449TS
Frame Material	Iron
Frequency	60.00 Hz
Haz Area Division	Not Applicable
Motor Letter Type	Three Phase
Output @ Frequency	400.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	3600 RPM @ 60 HZ
Voltage @ Frequency	4160.0 V @ 60 HZ 2300.0 V @ 60 HZ
Agency Approvals	CCSA US
Ambient Temperature	40 °C
Auxiliary Box	NO AUXILLARY BOX
Bearing Grease Type	Polyrex EM (-20F +300F)
Current @ Voltage	48.900 A @ 4160.0 V 87.000 A @ 2300.0 V
Design Code	-
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	95.0 %
Feedback Device	NO FEEDBACK
Heater Indicator	No Heater
High Voltage Full Load Amps	48.9 a
Insulation Class	F
Inverter Code	Not Inverter
IP Rating	NONE
KVA Code	F
Lifting Lugs	Standard Lifting Lugs
Motor Lead Quantity/Wire Size	6 @ 8 AWG
Motor Standards	NEMA
Motor Type	A44112M

Part Detail

Revision	A
Type	AC
Mech. spec.	
Base	
Status	PRD/A
Elec. spec.	A44WG5198
Layout	604989-506
Eff. date	04-04-2018
CD Diagram	416820-004
Poles	02
Leads	6#8 482406008P
Proprietary	False
Created date	04-09-2015

Mounting Arrangement	F1
Number of Poles	2
Overall Length	44.38 IN
Power Factor	89
Product Family	Compressor - Screw
Pulley End Bearing Type	Ball
Pulley Face Code	Standard
Service Factor	1.15
Shaft Diameter	2.375 IN
Shaft Ground Indicator	No Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	No Slinger
Speed	3565 rpm
Speed Code	Single Speed
Starting Method	Direct on line
Thermal Device - Bearing	None
Thermal Device - Winding	None

Nameplate

NP2496L	
MOBIL POLYREX EM	

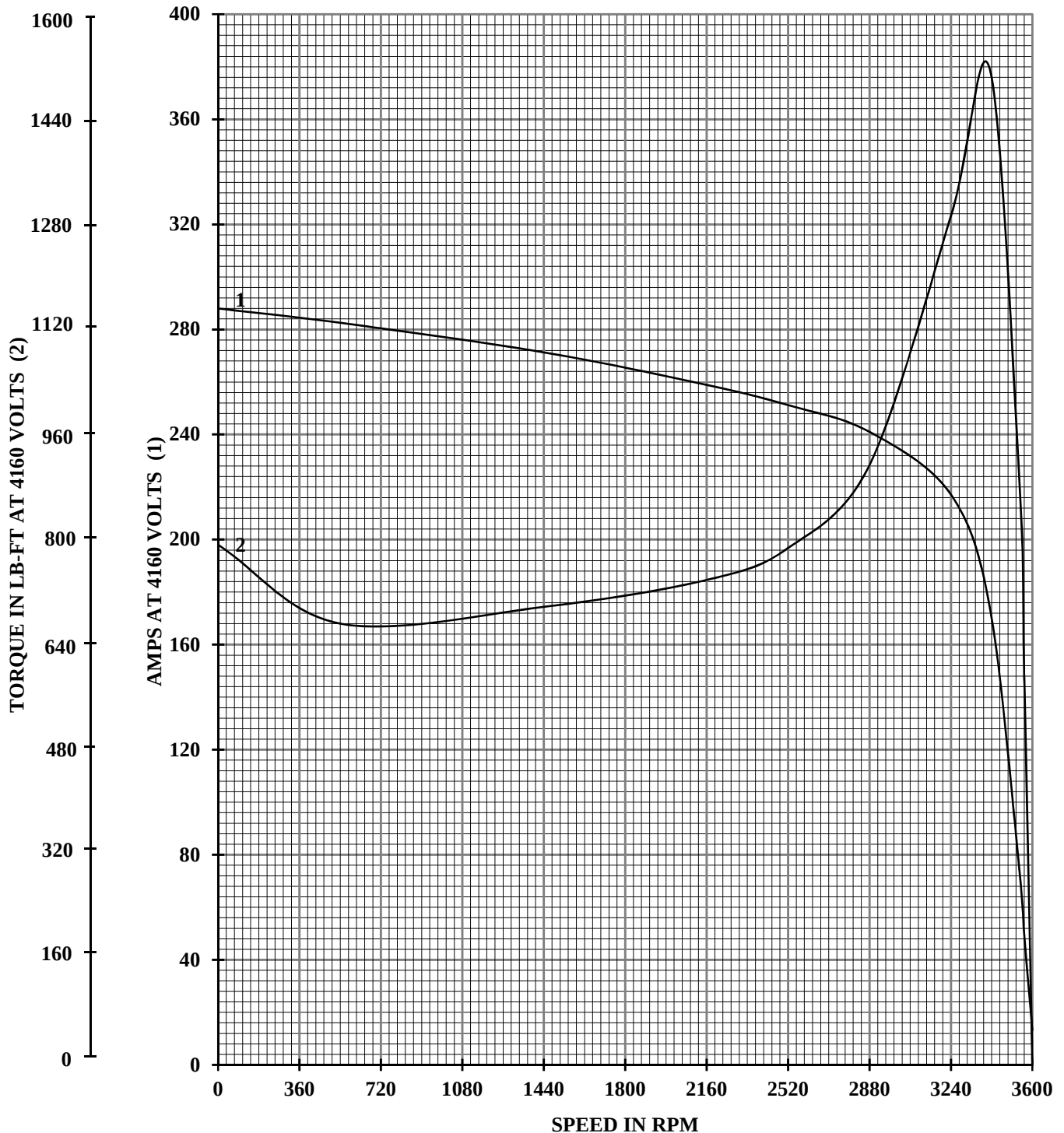
NP3132L

SPEC NO.	A44-7116-5198			CAT.NO.	M244402TS-2341				FRAME	449TS
HP	400	VOLTS	2300/4160		PHASE	3	DESIGN	-	TYPE	P
RPM	3565	AMPS	87/48.9		HZ	60	AMB	40	SF	1.15
DRIVE END BEARING	65BC03J30X		DUTY	CONT	INSUL.CLASS		F			
OPP D.E. BEARING	65BC03J30X		ENCL	DP	CODE	F				
NEMA NOM/CSA QUOTED EFF	NEMA-NOM-EFFICIENCY			95						
SER.NO.										
	MOTOR WEIGHT									2178

BALDOR -RELIANCE SALES ORDER	FRAME	HP	TYPE	PHASE	HERTZ	RPM
	449	400	P	3	60	3564
VOLTS	AMPS	DUTY	AMB°C	INSUL	S.F.	NEMA DESIGN
4160	48.9	CONT	40	F	1.15	---
CODE LETTER	ENCL.	ROTOR WK ² (lb-ft ²)	STATOR RES.@25°C OHMS (BETWEEN LINES)		TYPICAL DATA	
F	ODP	29	0.95932			
PERFORMANCE						
LOAD	HP	AMPERES	RPM	% POWER FACTOR	% EFFICIENCY	
NO LOAD	0	13.2	3600	5.8	0.0	
1/4	100	17.8	3592	62.9	92.5	
2/4	200	26.8	3583	81.3	95.0	
3/4	300	37.4	3574	87.0	95.4	
4/4	400	48.9	3564	88.9	95.2	
5/4	500	61.2	3554	89.2	94.7	
6/4	600	74.5	3543	88.7	94.1	
SPEED TORQUE						
		RPM	TORQUE % FULL LOAD	TORQUE LB-FT	AMPERES	
LOCKED ROTOR		0	134	792	288.0	
PULL UP		540	114	672	282.5	
BREAKDOWN		3413	260	1530	173.4	
FULL LOAD		3564	100	589	48.9	
AMPERES SHOWN FOR 4160 VOLT CONNECTION(S). IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE VOLTAGE.						
REVISION 0						
 A MEMBER OF THE ABB GROUP			DR. BY <u>CD</u> CK. BY <u>T. Kelati</u> APP. BY <u>T. Kelati</u> DATE <u>4/28/2015</u>		A-C MOTOR PERFORMANCE A44WG5198-R001 ISSUE DATE <u>4/28/2015</u>	

REVISION 0

B-R S.O.		HERTZ	60	AMB°C	40	CODE LETTER	F
FRAME	449	RPM	3564	INSUL	F	ENCLOSURE	ODP
HP	400	VOLTS	4160	S.F.	1.15	STATOR RES.@25°C	0.95932
TYPE	P	AMPS	48.9	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	29	TYPICAL DATA	



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REVISION 0

BALDOR
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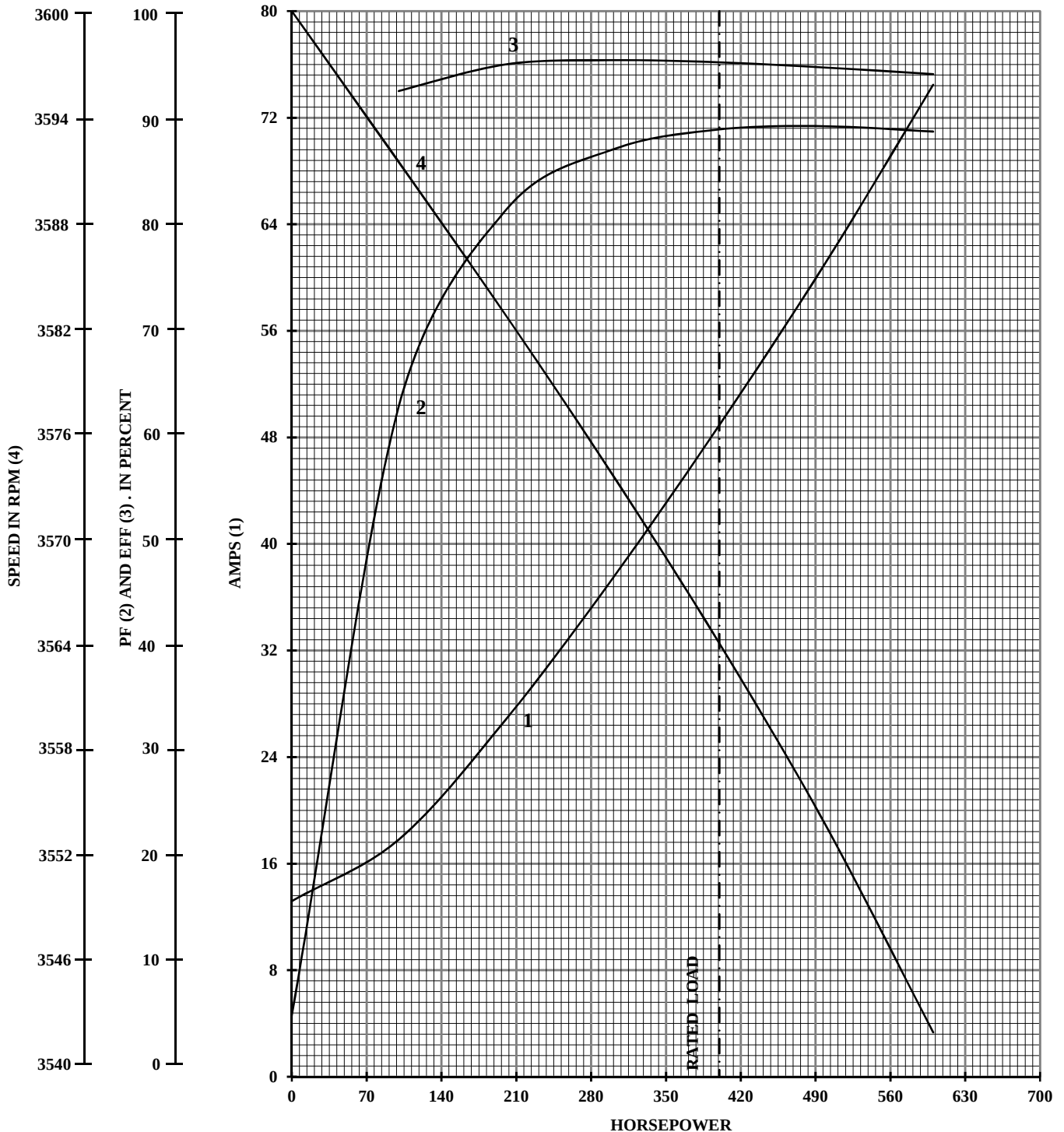
DR. BY CD
CK. BY T. Kelati
APP. BY T. Kelati
DATE 4/28/2015

**A-C MOTOR
PERFORMANCE
CURVES**

A44WG5198-R001

ISSUE DATE 4/28/2015

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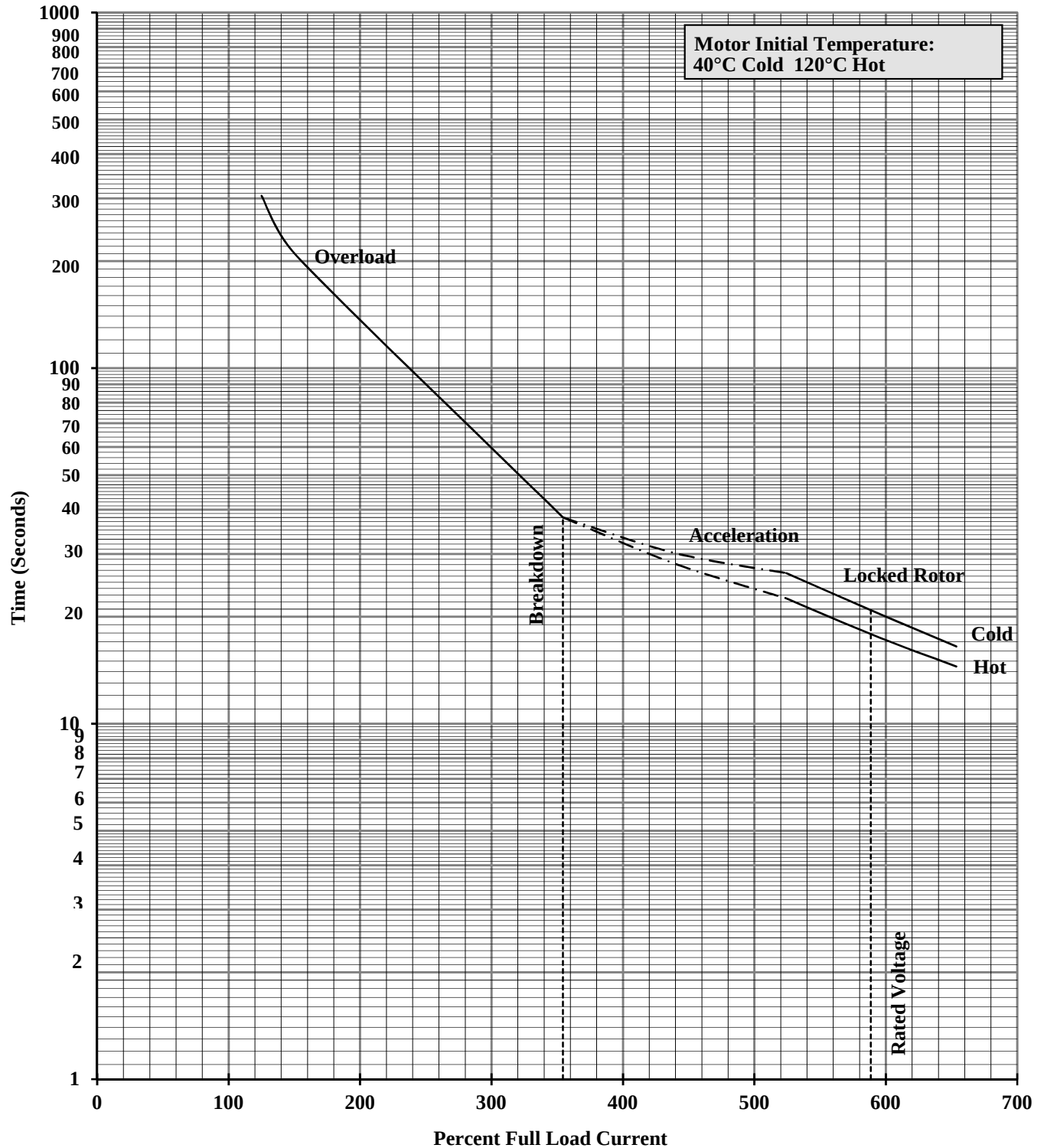
**A-C MOTOR
PERFORMANCE
CURVES**

A44WG5198-R001

ISSUE DATE: 4/28/2015

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THERMAL LIMIT CURVES

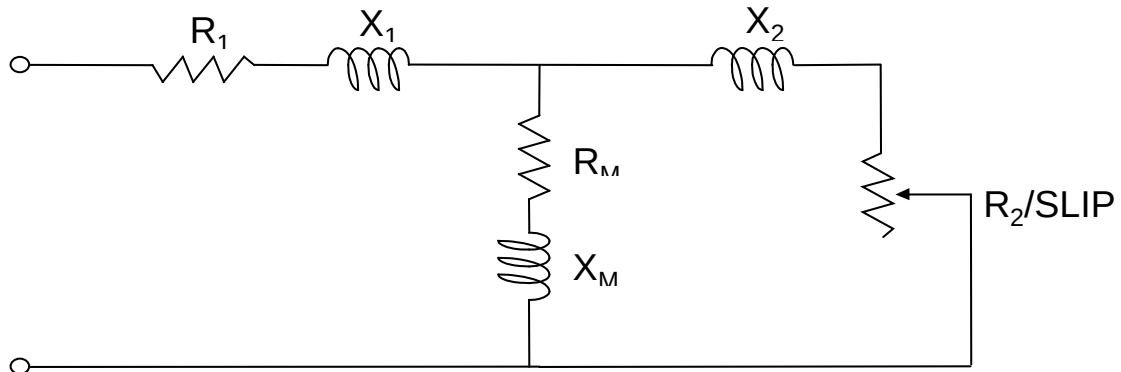

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EQUIVALENT CIRCUIT DATA

(Per Unit, Per Phase)

FULL LOAD				LOCKED ROTOR			
R ₁	0.01050	X ₁	0.09121	R ₁	0.00939	X ₁	0.09387
R ₂	0.00854	X ₂	0.08619	R ₂	0.03261	X ₂	0.04366
R _M	0.09334	X _M	3.11105	R _M	0.41054	X _M	2.76961
BASE OHMS		57.99500		BASE VOLTS		2402	
SC Time Constant		0.043 Sec		X" = X _S		0.13753	
OC Time Constant		0.993 Sec		X/R Ratio		10.92	



Parallel Equivalent			
FL R _M ' pu	103.7855	LR R _M ' pu	19.09505
FL X _M ' pu	3.11385	LR X _M ' pu	2.83046

R₁ = Stator dc resistance
 R₂ = Rotor resistance
 R_M = Core loss resistance
 SC = Short circuit
 OC = Open circuit

X₁ = Stator leakage reactance
 X₂ = Rotor leakage reactance
 X_M = Magnetizing reactance
 FL = Full load
 LR = Locked rotor

X" = X_S = Subtransient reactance

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DUTY MASTER ALTERNATING CURRENT MOTORS
SQUIRREL-CAGE INDUCTION

ENCLOSURE: PROTECTED

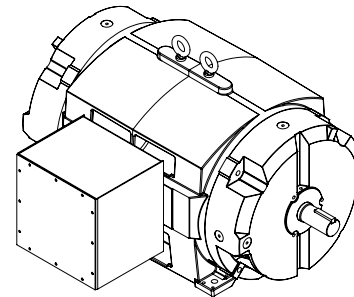
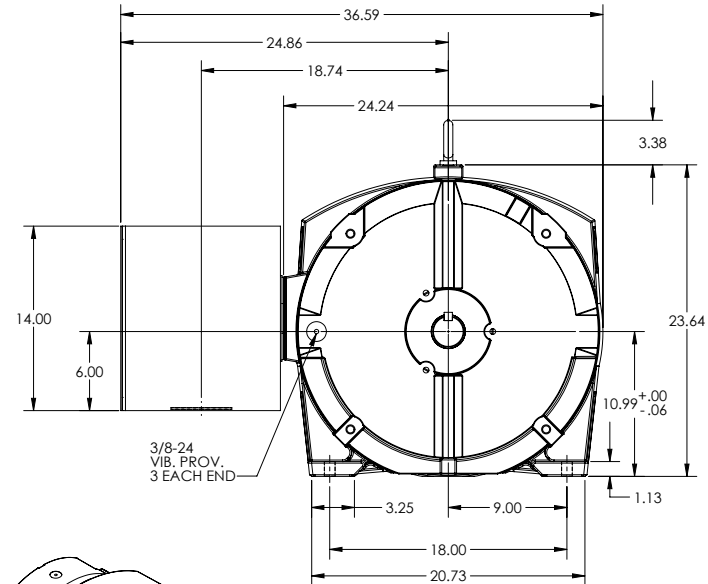
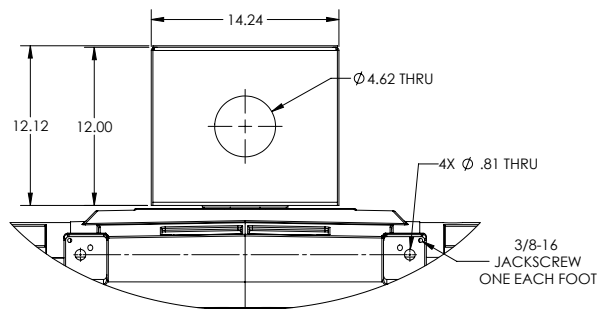
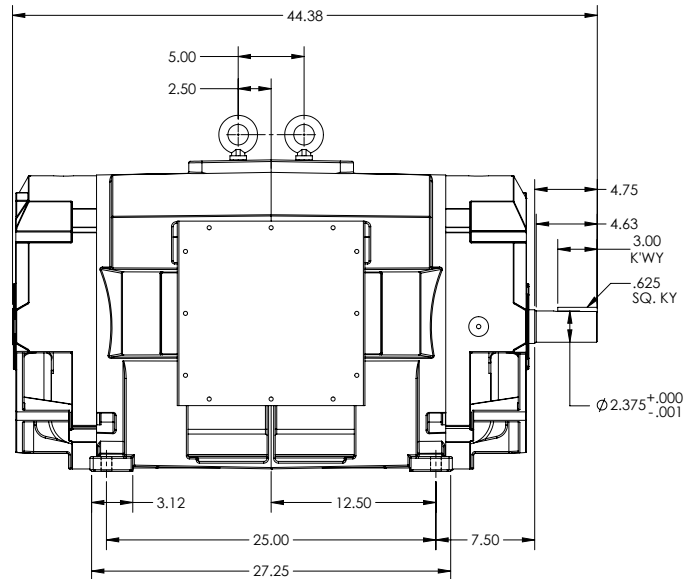
FRAME E449T

COOLING: SELF-VENTILATED

MOUNTING: FOOT, F-1 SIDE

14X14X12 FABRICATED STEEL C/BOX

NON-VENTILATED



IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

MAXIMUM PERMISSIBLE SHAFT RUNOUT WHEN MEASURED AT END OF STANDARD SHAFT EXTENSION IS .003" T.I.R.

DIMENSIONS ARE IN INCHES

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT MOTOR PERFORMANCE IS SUITABLE IN THE APPLICATION.

SHEET NUMBER
1 OF 1

905-686109

REV. DESC: NEW
REV: - VERSION: 00
MODEL NO. 604989-506
BY: RAGBCS

REVISED: 09-23-55 04/09/2015

TDR: 000000893222

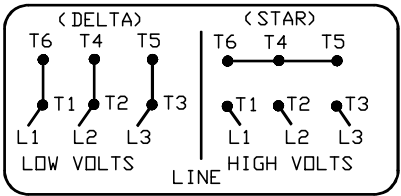
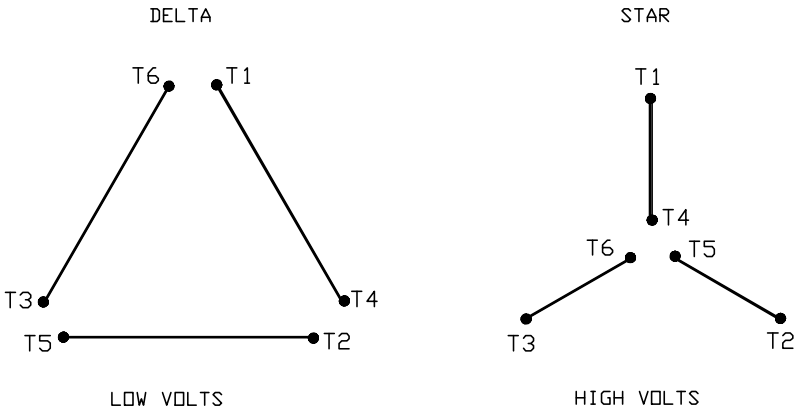
BALDOR

449TS PROT F-1 FT - 14X14X12 FAB STL C/BOX JACKSCREW DOWEL

905-686109

416820-004

A-C MOTOR
CONNECTION DIAGRAM
STANDARD 6 LEAD < DELTA/STAR CONNECTED >
DUAL VOLTAGE < LOW VOLTS/HIGH VOLTS >



< N. P. 1767-CC >

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BALDOR

A-C MOTOR CONNECTION DIAGRAM
SH 1 of 1

416820-004