

ABB BALDOR RELIANCE III

Customer information packet

EM7090T

100//75HP, 1780//1485RPM, 3PH, 60//50HZ, 405

Class - CLI GP C,D; CLII GP F,G

Division - Division I

Specifications

Enclosure	TEFC
Frame	405T
Frame Material	Iron
Frequency	50.00 Hz 60.00 Hz
Haz Area Class and Group	CLI GP C,D; CLII GP F,G
Haz Area Division	Division I
Motor Letter Type	Three Phase
Output @ Frequency	75.000 HP @ 50 HZ 100.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1800 RPM @ 60 HZ
Voltage @ Frequency	190.0 V @ 50 HZ 230.0 V @ 60 HZ 380.0 V @ 50 HZ 460.0 V @ 60 HZ
Agency Approvals	CSA EEV CCSA US CSA UL
Ambient Temperature	40 °C
Auxiliary Box	NO AUXILLARY BOX
Base Indicator	Rigid
Bearing Grease Type	Polyrex EM (-20F +300F)
Current @ Voltage	224.000 A @ 230.0 V 206.000 A @ 190.0 V 112.000 A @ 460.0 V 103.000 A @ 380.0 V
Design Code	B
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	95.4 %

Part Detail

Revision	J
Type	AC
Mech. spec.	
Base	
Status	INA/A
Elec. spec.	A40WG0494
Layout	617433-518
Eff. date	03-10-2021
CD Diagram	416820-002
Poles	04
Leads	3#2,6#4
Proprietary	False
Created date	05-18-2015

Feedback Device	NO FEEDBACK
Haz Area Temp Code	T4
Heater Indicator	No Heater
High Voltage Full Load Amps	103.0 a
Insulation Class	F
Inverter Code	Not Inverter
KVA Code	G
Lifting Lugs	Standard Lifting Lugs
Motor Lead Quantity/Wire Size	3 @ 2 AWG
Motor Standards	NEMA
Motor Type	A40072M
Mounting Arrangement	F1
Number of Poles	4
Overall Length	38.21 IN
Power Factor	88
Product Family	General Industrial
Pulley End Bearing Type	Ball
Pulley Face Code	Standard
Service Factor	1.00
Shaft Ground Indicator	No Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	Shaft Slinger
Speed	1485 rpm 1780 rpm
Speed Code	Single Speed
Starting Method	Direct on line
Thermal Device - Bearing	None
Thermal Device - Winding	Normally Closed Thermostat

Nameplate

NP2496L	
MOBIL POLYREX EM	

000613006PC		
CLASS I GROUP	C D X	NO.
CLASS II GROUP	F G X	
OPERATING TEMP CODE	T4	

NP2293L

CAT.NO.		SPEC NO.	A40-6624-0494				FRAME	405T
HP	100//75	PHASE	3	DESIGN	B	TYPE	P	
RPM	1780//1485	HZ	60//50	AMB	40	SF	1.00	
VOLTS	230/460//190/380	DUTY	CONT			INSUL.CLASS	F	
AMPS	224/112//206/103	ENCL	TEFC	CODE	G			
DRIVE END BEARING	80BC03J30X	NEMA-NOM-EFFICIENCY	95.4					
OPP D.E. BEARING	80BC03J30X							
SER.NO.								
						MOTOR WEIGHT		

REL. S.O.	FRAME	HP	TYPE	PHASE/ HERTZ	RPM	VOLTS
	405T	100	P	3/60	1780	230/460
AMPS	DUTY	AMB °C/ INSUL.	S.F.	NEMA DESIGN	CODE LETTER	ENCL.
224/112	CONT	40/F	1.00	B	G	TEFC
E/S	ROTOR	TEST S.O.	TEST DATE	STATOR RES. @25 °C OHMS (BETWEEN LINES)		
596181	418142037AE	---	---	.0141/.0564		
PERFORMANCE						
LOAD	HP	AMPERES	RPM	% POWER FACTOR	% EFFICIENCY	
NO LOAD	0	34.2	1800	4.25	0	
1/4	25.0	43.3	1796	57.9	93.5	
2/4	50.0	62.9	1792	77.9	95.5	
3/4	74.9	86.4	1787	84.9	95.7	
4/4	100	112	1782	87.5	95.4	
5/4	125	140	1777	88.1	94.8	
SPEED TORQUE						
		RPM	TORQUE % FULL LOAD	TORQUE LB.-FT.	AMPERES	
LOCKED ROTOR		0	169	498	708	
PULL UP		270	148	437	665	
BREAKDOWN		1712	242	714	409	
FULL LOAD		1782	100	295	112	
AMPERES SHOWN FOR 460. VOLT CONNECTION. IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE						
REMARKS: TYPICAL DATA NEMA PREMIUM - 95.4 PCT NOMINAL EFFICIENCY						
		DR. BY W. L. SMITH		A-C MOTOR PERFORMANCE DATA A40WG0494-R002 ISSUE DATE 11/01/17		
		CK. BY J. J. HARRISON				
		APP. BY W. L. SMITH				
		DATE 09/01/10				
Page 7 of 7						

REL S.O.

RPM 1780

S.F. 1.00

ROTOR 418142037AE

FRAME 405T

VOLTS 230/460

NEMA DESIGN B

TEST S.O. TYPICAL DATA

HP 100

AMPS 224/112

CODE LETTER G

TEST DATE ---

TYPE P

DUTY CONT

ENCLOSURE TEFC

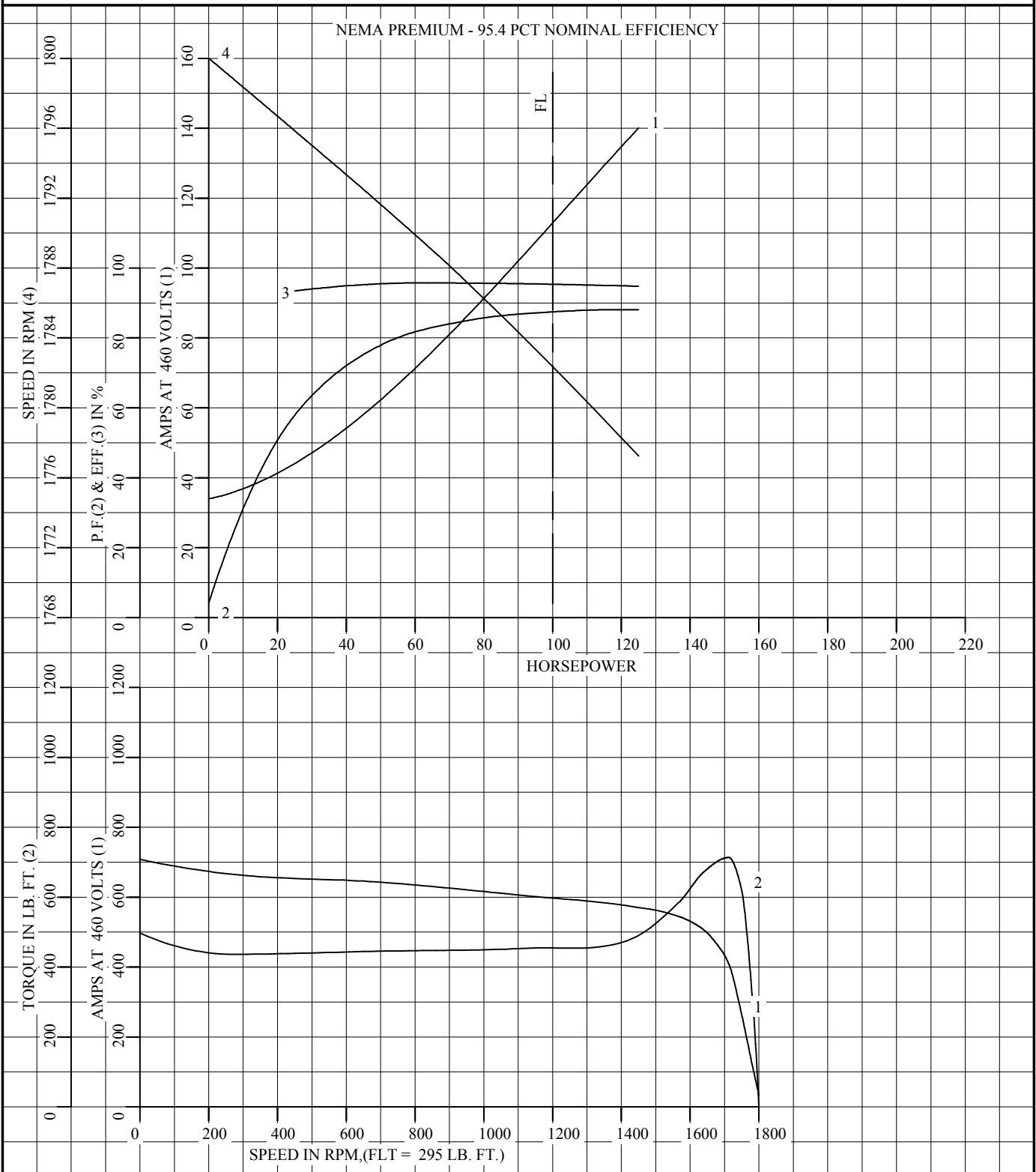
STATOR RES. @ 25 °C .0141/.0564

PHASE/HERTZ 3/60

AMB °C/INSUL 40/F

E/S 596181

OHMS (BETWEEN LINES)



AMPERES SHOWN FOR 460 VOLT CONNECTION, IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE.

BALDOR
A MEMBER OF THE ABB GROUP

DR. BY W. L. SMITH
CK. BY J. J. HARRISON
APP. BY W. L. SMITH
DATE 09/01/10

**A-C MOTOR
PERFORMANCE
CURVES**

A40WG0494-R002
ISSUE DATE 11/01/17

REL. S.O.

 RPM **1780**

 S.F. **1.00**

 ROTOR **418142037AE**

 FRAME **405T**

 VOLTS **230/460**

 NEMA DESIGN **B**

 TEST S.O. **TYPICAL DATA**

 HP **100**

 AMPS **224/112**

 CODE LETTER **G**

 TEST DATE **---**

 TYPE **P**

 DUTY **CONT**

 ENCLOSURE **TEFC**

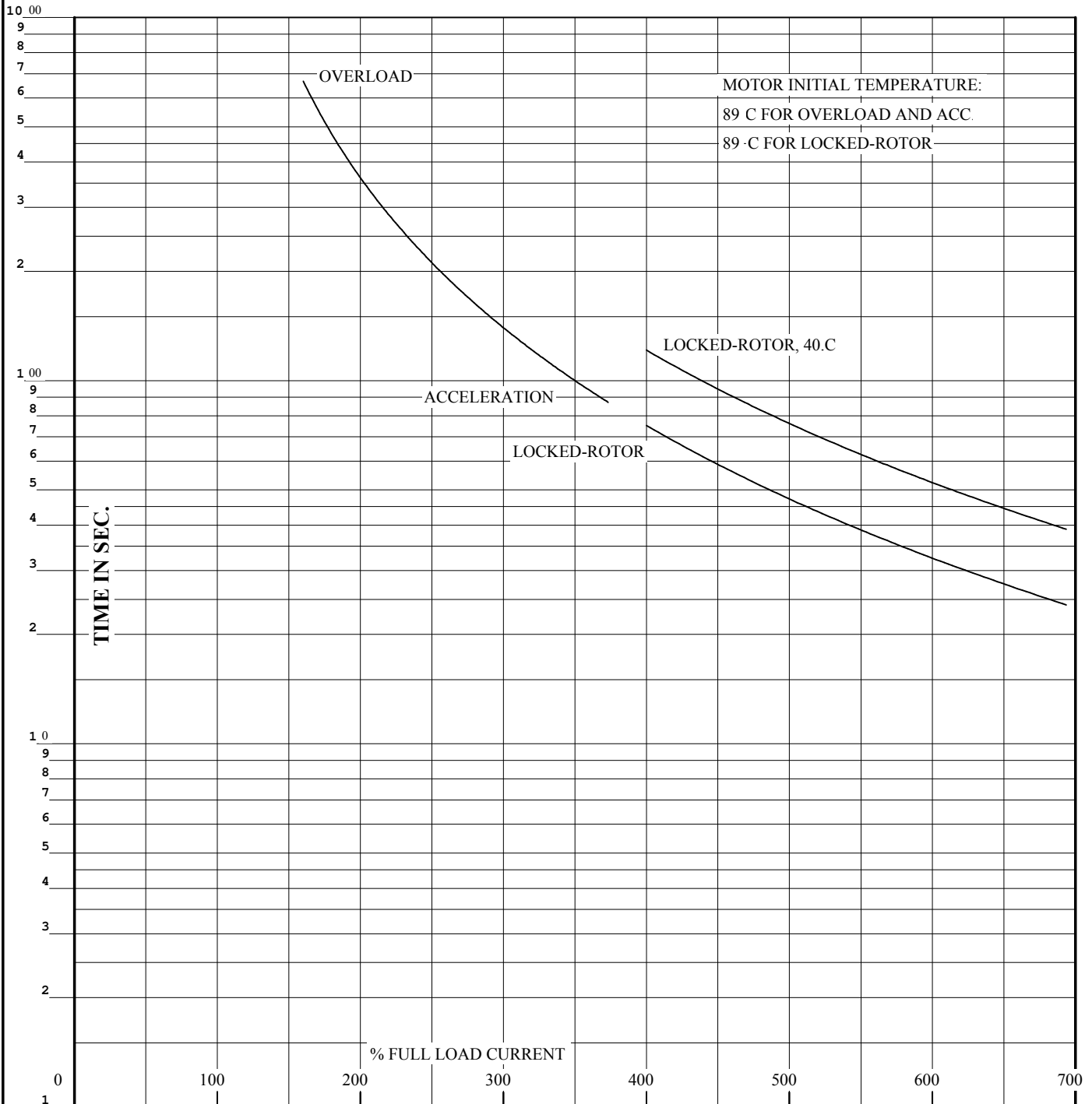
 STATOR RES. @ 25 °C **.0141/.0564**

 PHASE/HERTZ **3/60**

 AMB °C/INSUL **40/F**

 E/S **596181**

OHMS (BETWEEN LINES)



THERMAL LIMIT CURVE

REMARKS: NEMA PREMIUM - 95.4 PCT NOMINAL EFFICIENCY

 AMPERES SHOWN FOR 460 VOLT CONNECTION, IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE.

BALDOR
 A MEMBER OF THE ABB GROUP

 DR. BY W.L. SMITH
 CK. BY J.J. HARRISON
 APP. BY W.L. SMITH
 DATE 09/01/10
**A-C MOTOR
PERFORMANCE
CURVES**
A40WG0494-R002

 ISSUE DATE 11/01/17 Page 9 of 13

DUTY MASTER ALTERNATING CURRENT MOTORS

SQUIRREL-CAGE INDUCTION

ENCLOSURE: X/P, UNDERWRITERS LISTED

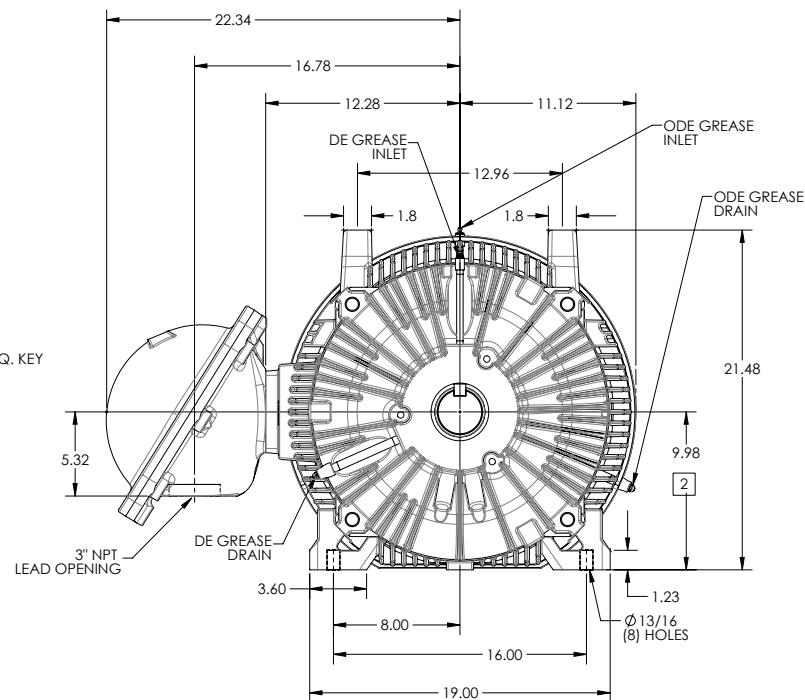
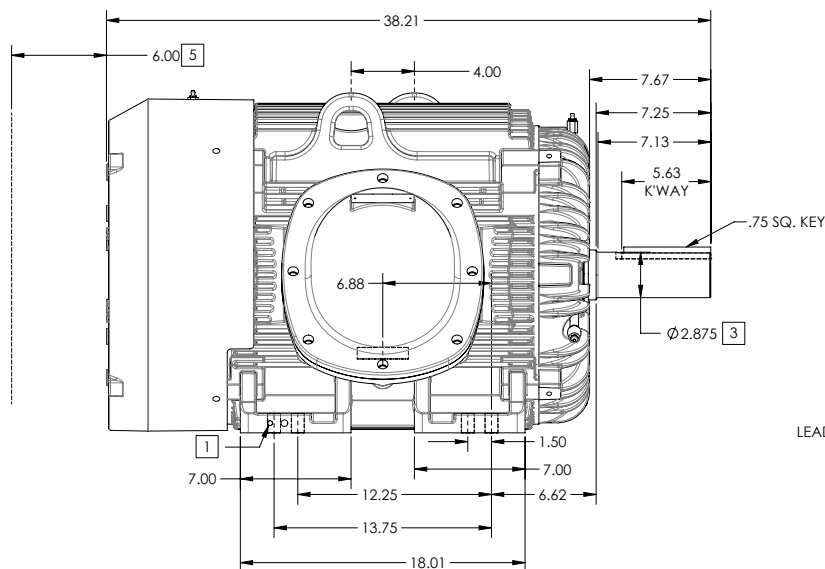
FRAME G405T

COOLING: FAN COOLED

MOUNTING: FOOT

INCLUDES 404T FRAME MOUNTING HOLES

XT/ECP SEVERE DUTY ENCLOSURE



1. GROUND HOLES QTY 1 1/2-13 TAP; QTY 1 3/8-16 TAP
2. VARIES +.00-.06
3. VARIES +.000-.001
4. MOTOR WEIGHTS MAY VARY BY 15% DEPENDING ON RATING.
5. OBSTRUCTION MUST NOT ENCROACH ON AIR INLET

[4] WEIGHT (LBS): 1400

CONDUIT BOX LOCATED ON OPPOSITE SIDE WHEN F-2.
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. TO 5 INCH DIA.

DIMENSIONS ARE IN INCHES; SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS

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

SHEET NUMBER
1 OF 2

815-337219

REV. DESC: NEW	VERSION: 00	REVISED: 04-08-12 05/18/2015	TDR: 000000686389
MODEL NO. 617433-518	REF:	BY: RAGTBM	Material:

BALDOR

G405T-404T XP TEFC, FOOT, GP DUTY, 16CB1001A01 BOX

617433-518

DUTY MASTER ALTERNATING CURRENT MOTORS

SQUIRREL-CAGE INDUCTION

ENCLOSURE: X/P, UNDERWRITERS LISTED

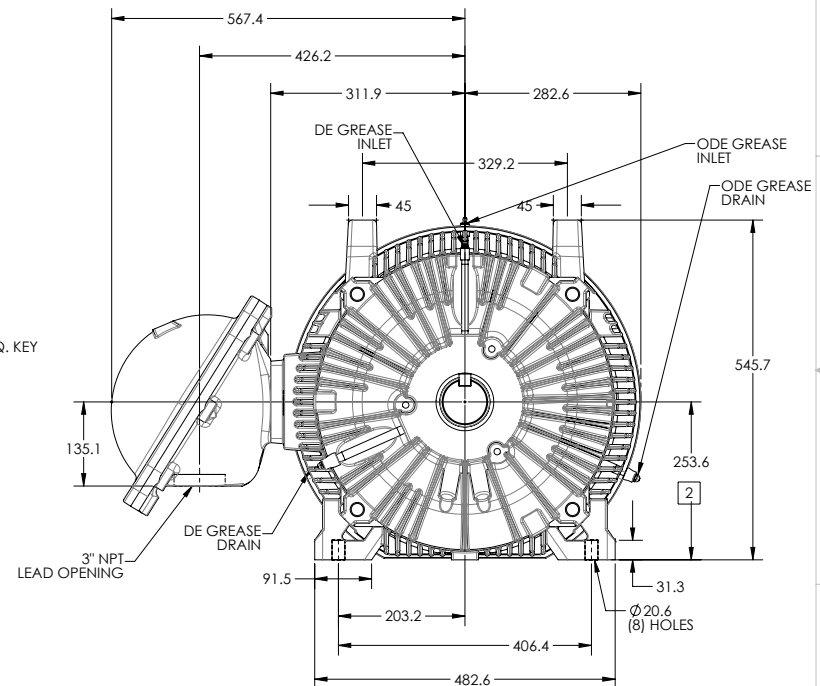
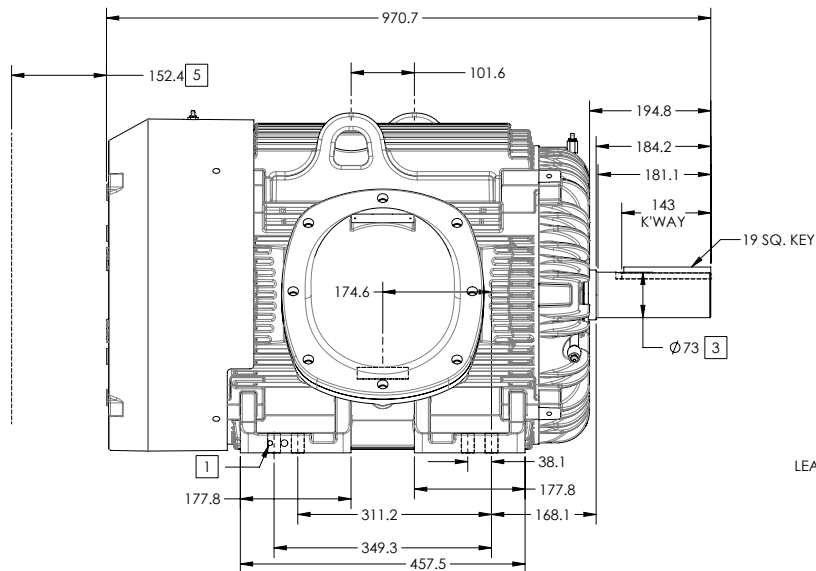
FRAME G405T

COOLING: FAN COOLED

MOUNTING: FOOT

INCLUDES 404T FRAME MOUNTING HOLES

XT/ECP SEVERE DUTY ENCLOSURE



1. GROUND HOLES QTY 1 1/2-13 TAP; QTY 1 3/8-16 TAP
2. VARIES +.00-.15MM
3. VARIES +.000-.025MM
4. MOTOR WEIGHTS MAY VARY BY 15% DEPENDING ON RATING.
5. OBSTRUCTION MUST NOT ENCROACH ON AIR INLET

[6] MASS (KGS): 635

CONDUIT BOX LOCATED ON OPPOSITE SIDE WHEN F-2.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.
MAXIMUM PERMISSIBLE SHAFT RUNOUT WHEN MEASURED AT END OF
STANDARD SHAFT EXTENSION IS .076MM T.I.R. TO 130MM DIA.

DIMENSIONS ARE IN MILLIMETERS; SEE SHEET 1 FOR DIMENSIONS IN INCHES

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

SHEET NUMBER
2 OF 2

815-332119

REV. DESC: NEW
REV: - VERSION: 00 REVISED: 04-08-12 05/18/2015 TDR: 000000686389
MODEL NO. 617433-518 REF:
BY: RAGTBM Material:

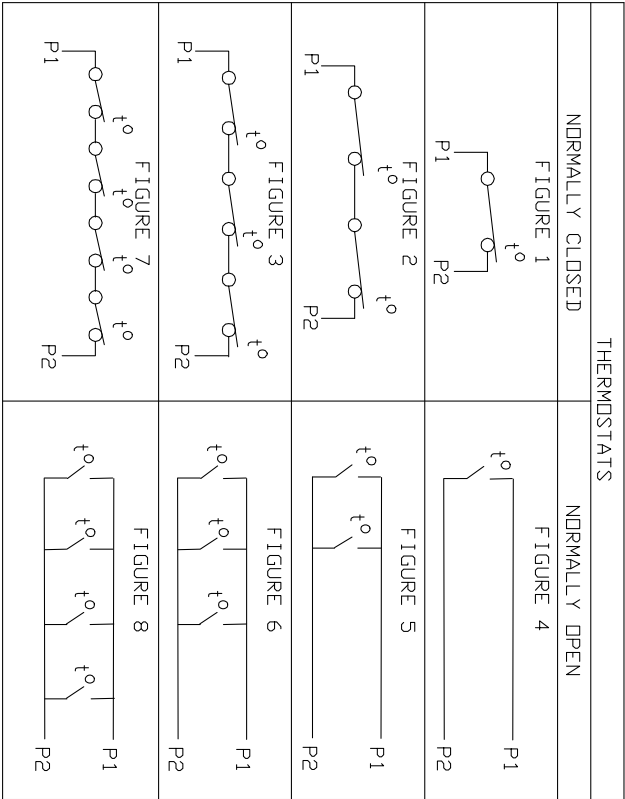
BALDOR

G405T-404T XP TEFC, FOOT, GP DUTY, 16CB1001A01 BOX

617433-518

CONNECTION DIAGRAM
ACCESSORIES

MOTOR WINDING THERMOSTATS		
CONTACTS _____ @ _____ °C		
FIGURE NUMBER _____		
CONTACT RATING		
VOLTS	CONTINUOUS AMPERES	INRUSH AMPERES
110-120	3.0	30
220-240	1.5	15
440-480	0.75	7.5
550-600	0.60	6.0



CUSTOMER _____ CUSTOMER ORDER NO. _____ S.O. NO. _____

418174-006

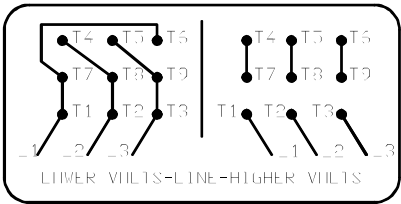
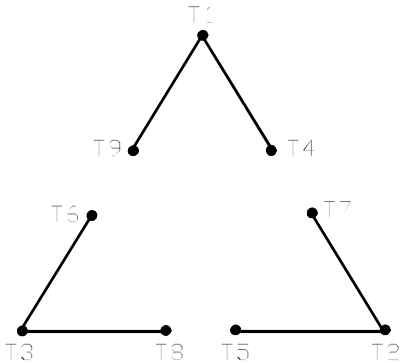
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MTL: -		

BALDOR
A-C MOTOR CONNECTION ACCESSORIES
SH 1 of 1

416820-002

A-C MOTOR
CONNECTION DIAGRAM
STANDARD 9 LEAD DELTA-CONNECTED



(N.P. 1575-B)

REV. DESC: FONT CHANGE FOR PDF SEARCHABLE		
REV. LTR: A	VERSION: 01	TDR: 000001009382
FILE: \MGA\00000\661	REVISED: 02:46:19 02/13/2020	BY: MGHMTT
MTL: —		

BALDOR - RELIANCE®

CONN DIAG — STANDARD 9 LEAD, DELTA-CONNECTED
SH 1 of 1

416820-002