

ABB BALDOR RELIANCE III

Customer information packet

CEM4400T-5

100HP, 1785RPM, 3PH, 60HZ, 405TC, TEFC, F1

Class - None

Division - Not Applicable

Specifications

Enclosure	TEFC
Frame	405TC
Frame Material	Iron
Frequency	60.00 Hz
Haz Area Class and Group	None
Haz Area Division	Not Applicable
Motor Letter Type	Three Phase
Output @ Frequency	100.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1800 RPM @ 60 HZ
Voltage @ Frequency	575.0 V @ 60 HZ
Agency Approvals	CCSAUSEEV
Ambient Temperature	40 °C
Auxiliary Box	NO AUXILLARY BOX
Base Indicator	Rigid
Bearing Grease Type	Polyrex EM (-20F +300F)
Current @ Voltage	89.600 A @ 575.0 V
Design Code	B
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	95.4 %
Feedback Device	NO FEEDBACK
Heater Indicator	No Heater
High Voltage Full Load Amps	89.6 a
Insulation Class	F
Inverter Code	Inverter Ready
IP Rating	NONE
KVA Code	G
Lifting Lugs	Standard Lifting Lugs
Motor Lead Quantity/Wire Size	3 @ 2 AWG
Motor Standards	NEMA
Motor Type	A40064M

Part Detail

Revision	G
Type	AC
Mech. spec.	
Base	
Status	PRD/A
Elec. spec.	A40WG0665
Layout	611740-003-SH1
Eff. date	09-04-2024
CD Diagram	416820-036
Poles	04
Leads	3#2
Proprietary	False
Created date	08-08-2014

Mounting Arrangement	F1
Number of Poles	4
Overall Length	38.31 IN
Power Factor	87
Product Family	General Industrial
Pulley End Bearing Type	Ball
Pulley Face Code	C-Face
Service Factor	1.15
Shaft Diameter	2.875 IN
Shaft Ground Indicator	No Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	No Slinger
Speed	1785 rpm
Speed Code	Single Speed
Starting Method	Direct on line
Thermal Device - Bearing	None
Thermal Device - Winding	None

Nameplate

NP2496L	
MOBIL POLYREX EM	

NP2349L

SPEC NO.	A40-6213-0665			CAT.NO.	CEM4400T-5				FRAME	405TC	
HP	100	VOLTS	575	PHASE	3	DESIGN	B	TYPE	P		
RPM	1785	AMPS	89.6	HZ	60	AMB	40	SF	1.15		
DRIVE END BEARING	80BC03J30X		DUTY	CONT	INSUL.CLASS		F				
OPP D.E. BEARING	80BC03J30X		ENCL	TEFC	CODE	G					
SER.NO.				POWER FACTOR	87	NEMA-NOM-EFFICIENCY			95.4		
					MAX CORR KVAR	18	GUARANTEED EFFICIENCY			94.5	
					NEMA NOM/CSA QUOTED EFF						
					MOTOR WEIGHT						

REL. S.O.	FRAME	HP	TYPE	PHASE/ HERTZ	RPM	VOLTS
	405T	100	P	3/60	1785	575
AMPS	DUTY	AMB °C/ INSUL.	S.F.	NEMA DESIGN	CODE LETTER	ENCL.
89.6	CONT	40/F	1.15	B	G	TEFC
E/S	ROTOR	TEST S.O.	TEST DATE	STATOR RES. @25 °C OHMS (BETWEEN LINES)		
496079	418142-33-RE	---	---	.0770		
PERFORMANCE						
LOAD	HP	AMPERES	RPM	% POWER FACTOR	% EFFICIENCY	
NO LOAD	0	22.9	1800	5.49	0	
1/4	25.0	31.3	1796	64.3	93.0	
2/4	50.0	47.6	1792	82.5	95.4	
3/4	75.0	67.7	1788	86.7	95.7	
4/4	100	89.8	1783	87.4	95.4	
5/4	125	113	1778	87.3	94.9	
SPEED TORQUE						
		RPM	TORQUE % FULL LOAD	TORQUE LB.-FT.	AMPERES	
LOCKED ROTOR		0	151	445	580	
PULL UP		360	136	400	565	
BREAKDOWN		1721	250	735	306	
FULL LOAD		1783	100	295	89.8	
AMPERES SHOWN FOR 575. VOLT CONNECTION. IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE REMARKS: TYPICAL DATA XE MOTOR-DATA-NEMA NOM. EFF. 95.4 PCT GUARANTEED MIN EFF. 94.5 PCT						
		DR. BY	J. P. TSAO	A-C MOTOR PERFORMANCE DATA		
		CK. BY	W. L. SMITH			
		APP. BY	W. L. SMITH			
		DATE	08/07/08			
				A40WG0665-R004 ISSUE DATE 06/21/19		

REL S.O.

 RPM **1785**

 S.F. **1.15**

 ROTOR **418142-33-RE**

 FRAME **405T**

 VOLTS **575**

 NEMA DESIGN **B**

 TEST S.O. **TYPICAL DATA**

 HP **100**

 AMPS **89.6**

 CODE LETTER **G**

 TEST DATE **---**

 TYPE **P**

 DUTY **CONT**

 ENCLOSURE **TEFC**

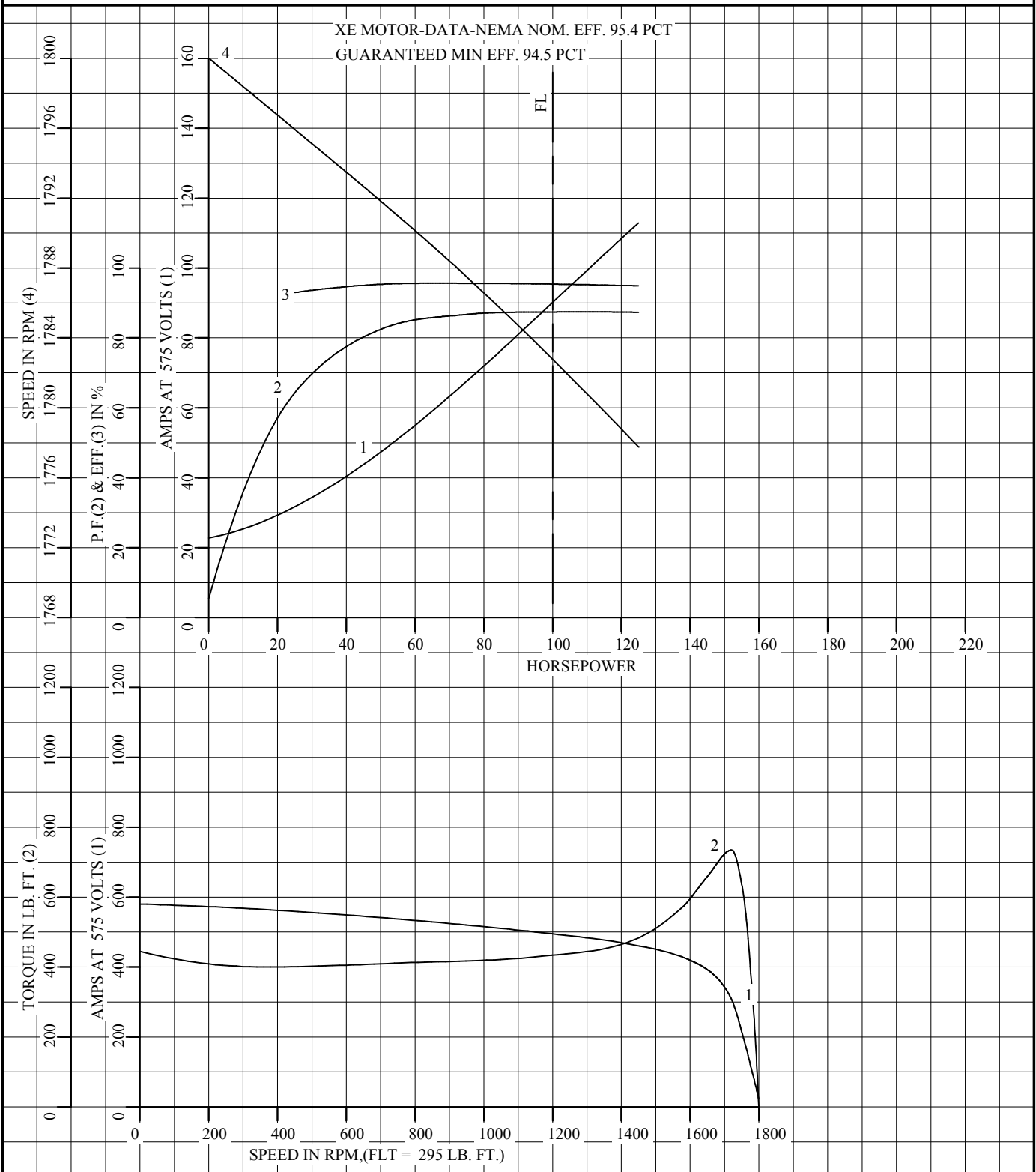
 STATOR RES. @ 25 °C **.0770**

 PHASE/HERTZ **3/60**

 AMB °C/INSUL **40/F**

 E/S **496079**

OHMS (BETWEEN LINES)



AMPERES SHOWN FOR 575 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 J. P. TSAO
 CK. BY W. L. SMITH
 APP. BY W. L. SMITH
 DATE 08/07/08

**A-C MOTOR
PERFORMANCE
CURVES**

A40WG0665-R004

ISSUE DATE 06/21/19

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REL. S.O.

RPM **1785**

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VOLTS **575**

NEMA DESIGN **B**

TEST S.O. **TYPICAL DATA**

HP **100**

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DUTY **CONT**

ENCLOSURE **TEFC**

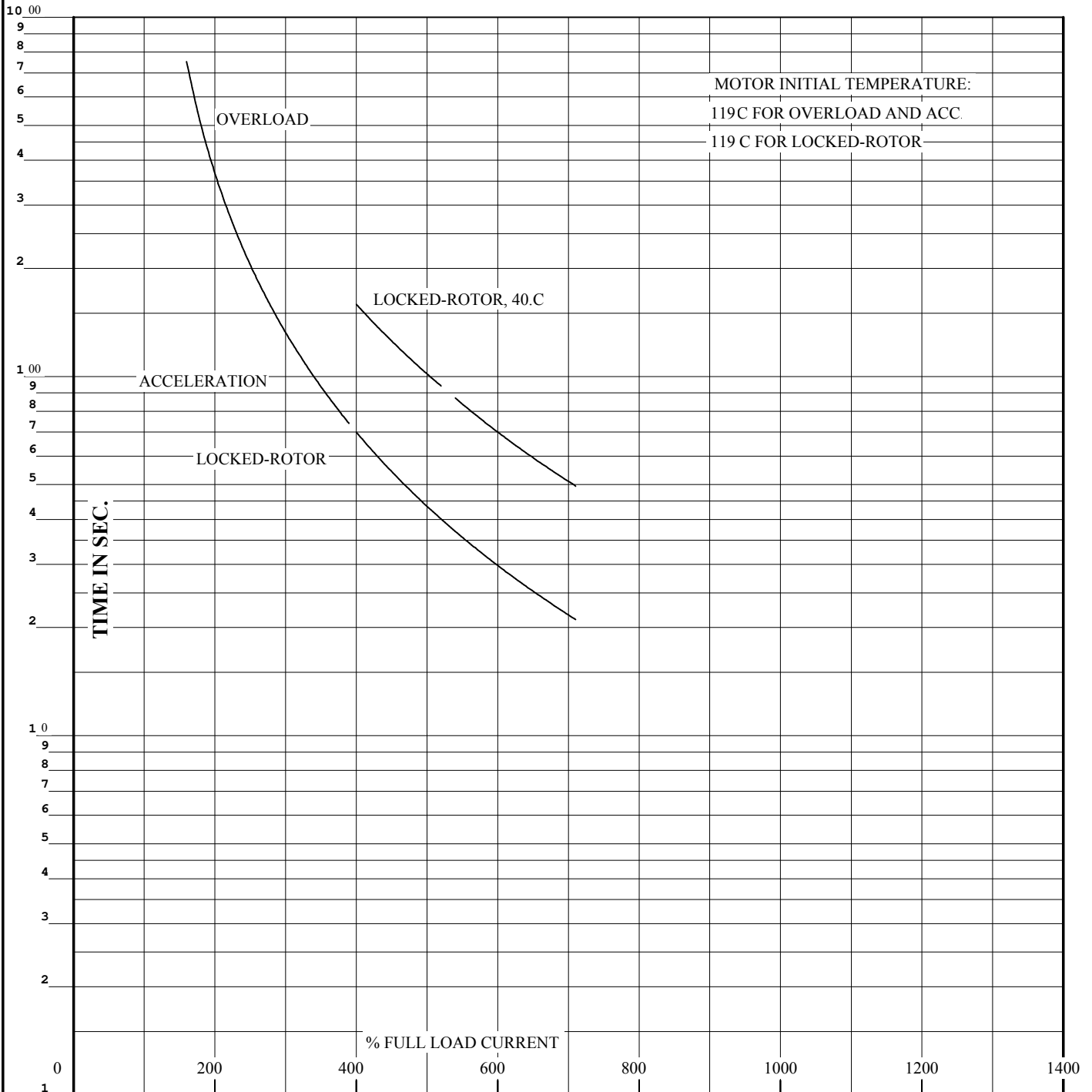
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PHASE/HERTZ **3/60**

AMB °C/INSUL **40/F**

E/S **496079**

OHMS (BETWEEN LINES)



THERMAL LIMIT CURVE

REMARKS:

XE MOTOR-DATA-NEMA NOM. EFF. 95.4 PCT

GUARANTEED MIN EFF. 94.5 PCT

AMPERES SHOWN FOR 575 VOLT CONNECTION, IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE.

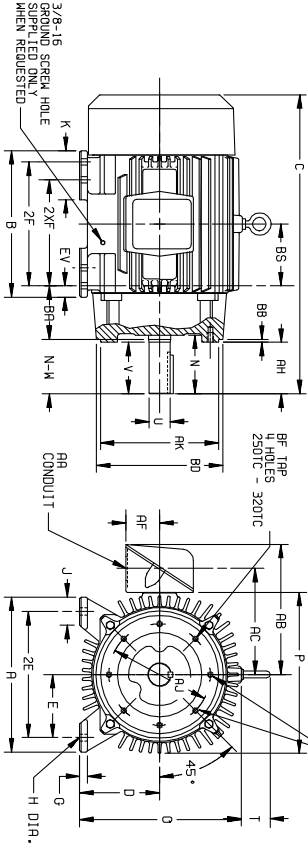
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ISSUE DATE 06/21/19 Page 8 of 10

DUTY MASTER ALTERNATING CURRENT MOTORS

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT, NEMA "C" FACE
SQUIRREL-CAGE INDUCTION COOLING: FAN COOLED
FRAMES 250TC THRU 440TC



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

FRAME	A	D(2)	E	G	H	J	K	EV	O	P	T	AA	AB	AC	AF	BA	BB	BD	BF	MIN TAP DEPTH	AL	AK
254TC-250TC	12.50	6.25	5.00	.75	.56	2.50	---	1.00	13.25	13.25	2.44	1-1/4	10.75	8.75	2.50	4.75	25	9.00	1/2-13	.75	7.25	8.500
254TC-280TC	13.75	7.00	5.50	.75	.56	2.50	---	1.00	14.75	14.88	2.44	1-1/4	12.75	10.00	3.19	4.75	25	11.25	1/2-13	.75	9.00	10.500
284TC-280TC	15.50	8.00	6.25	.88	.69	2.75	4.50	1.38	16.69	17.00	2.44	2	13.19	11.44	4.25	5.25	25	13.12	5/8-11	.94	11.00	12.500
324TC-320TC	17.00	9.00	7.00	.88	.69	2.75	3.88	1.38	18.50	19.50	2.94	3	16.06	14.00	5.38	5.88	25	13.00	5/8-11	.94	11.00	12.500
404TC-405TC	19.00	10.00	8.00	1.12	.81	3.25	4.62	1.13	21.31	22.50	2.94	3	19.31	15.25	5.38	6.62	25	13.12	5/8-11	.94	11.00	12.500
444TC-445TC	21.00	11.00	9.00	1.12	.81	3.25	5.25	1.25	23.38	25.25	3.25	3	23.38	18.12	6.50	7.50	25	16.75	5/8-11	.94	14.00	16.000

FRAME	SIZE	C	BS	B	ZF	(4) ZF										SHAFT AND KEY		WEIGHT LBS. (5)
						N	AH	N-W(7)	U(3)	V	SO	LGTH	ES.					
254TC	25.06	5.00	12.00	---	---	8.25	4.06	3.75	4.00	1.625	3.75	3.75	2.88	315				
256TC	25.06	5.00	12.00	10.00	---	---	4.06	3.75	4.00	1.625	3.75	3.75	2.88	325				
284TC	27.44	5.50	13.00	---	---	9.50	5.00	4.38	4.62	1.875	4.38	5.00	3.25	445				
284TC	26.06	5.50	13.00	---	---	9.50	3.62	3.00	3.25	1.625	3.00	3.75	1.88	445				
286TC	27.44	5.50	13.00	11.00	---	---	5.00	4.38	4.62	1.875	4.38	5.00	3.25	460				
286TC	26.06	5.50	13.00	11.00	---	---	3.62	3.00	3.25	1.625	3.00	3.75	1.88	460				
324TC	30.44	6.00	14.75	---	---	10.50	6.02	5.00	5.25	2.125	5.00	5.00	3.88	555				
324TC	28.94	6.00	14.75	12.00	---	10.50	4.12	3.50	3.75	1.875	3.50	5.00	2.00	555				
326TC	30.44	6.00	14.75	12.00	---	---	5.62	3.50	3.75	2.125	3.50	5.00	3.88	595				
326TC	28.94	6.00	14.75	12.00	---	---	4.12	3.50	3.75	1.875	3.50	5.00	2.00	595				
364TC	33.44	6.12	15.00	---	---	11.25	6.25	5.62	5.88	2.375	5.62	6.25	4.25	815				
364TC	31.31	6.12	15.00	---	---	11.25	4.12	3.50	3.75	1.875	3.50	5.00	2.00	809				
366TC	33.44	6.12	15.00	12.25	---	---	6.25	5.62	5.88	2.375	5.62	6.25	4.25	855				
366TC	31.31	6.12	15.00	12.25	---	---	4.12	3.50	3.75	1.875	3.50	5.00	2.00	849				
368TC	31.31	6.12	15.00	---	12.25	---	7.50	7.00	7.25	2.875	7.00	7.50	2.75	1165				
404TC	38.31	6.88	16.00	---	---	12.25	4.50	4.00	4.25	2.125	4.00	5.00	2.75	1205				
404TC	35.31	6.88	16.00	---	---	12.25	7.50	7.00	7.25	2.875	7.00	7.50	2.75	1165				
406TC	38.31	6.88	16.00	13.75	---	---	7.50	7.00	7.25	2.875	7.00	7.50	2.75	1205				
406TC	35.31	6.88	16.00	13.75	---	---	4.50	4.00	4.25	2.125	4.00	5.00	2.75	1196				
444TC	44.62	8.25	19.00	---	---	14.50	8.94	8.25	8.50	3.375	8.25	8.75	6.88	1608				
444TC	40.88	8.25	19.00	---	---	14.50	5.19	4.50	4.75	2.375	4.50	6.25	3.00	1592				
445TC	44.62	8.25	19.00	---	---	14.50	8.94	8.25	8.50	3.375	8.25	8.75	6.88	1782				
445TC	40.88	8.25	19.00	---	---	14.50	5.19	4.50	4.75	2.375	4.50	6.25	3.00	1782				

- (1) SPECIAL DIMENSIONS APPLYING TO THIS ORDER ON THIS LINE. CONDUIT BOX LOCATED ON OPPOSITE SIDE WHEN F-2-W-1, W-4-W, S-W-7, OR C-1 MOUNTING IS SPECIFIED.
- (2) "D" VARIES --- 250TC - 320TC + .00, - .03
360TC - 440TC + .00, - .06.
HP TO 1.625 DIA. + .000, - .0005
- (3) "V" VARIES --- 1.625 AND LARGER + .000, - .001.
ALL FRAMES HAVE EIGHT MOUNTING HOLES FOR DUAL MOUNTING.
- (5) MOTOR WEIGHTS MAY VARY BY 15% DEPENDING UPON RATING. FACE RUNOUT AND --- 250TC - 280TC INCL. .004 MAX. T.I.R. ECCENTRICITY --- 320TC - 440TC INCL. .007 MAX. T.I.R.
- (6) "A" VARIES --- 250TC - 280TC + .000, - .003
320TC - 440TC + .000, - .005
- (7) "N-W" VARIES + .00, - .25
- FRAME --- TYPE --- CERTIFIED FOR ---
ORDER --- ITEM --- HP --- RPM --- PH --- HZ --- VOLTS ---
RELANCE SALES ORDER --- APPROVED BY --- DATE ---

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

REV. DESC: REMOVING TITLE BLOCK		
REV. LTR: A	VERSION: 01	TDR: 000000441900
FILE: \RAG\00003\380	REVISED: 09:15:38 08/28/2007	BY: RAGRKH
MTL: -		

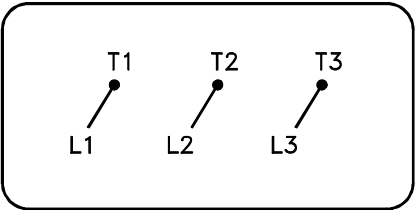
Baldor • Dodge • Reliance

DIM SHEET 250TC THRU 440TC

611740-003-SH1

416820-036

A-C MOTOR
CONNECTION DIAGRAM
STANDARD 3 LEAD CONNECTED



(N.P. 1575-BA)

416820-036

REV. DESC: LOADED TO BUS, C/R 335225		
REV. LTR: -	VERSION: 00	TDR: 000000538207
FILE: \MGA\00000\682		REVISED: 11: 54: 06 04/30/2010
MTL: -		BY: RAGRA

BALDOR

CONN DIAG - STANDARD 3 LEAD
SH 1 of 1