

BALDOR® • RELIANCE

Product Information Packet

EM58508LR-4

500HP,896RPM,3PH,60HZ,5810,A58260M,TEFC

Part Detail							
Revision:	F	Status:	PRD/A	Change #:		Proprietary:	No
Type:	AC	Prod. Type:	A58260M	Elec. Spec:	A58WG4272	CD Diagram:	416820-025
Enclosure:	TEFC	Mfg Plant:		Mech. Spec:		Layout:	616151-157
Frame:	5810	Mounting:	F1	Poles:	08	Created Date:	04-14-2015
Base:		Rotation:	R	Insulation:	F	Eff. Date:	07-08-2016
Leads:	3#1/0 (04 per group) 4824-6-FB					Replaced By:	
Literature:		Elec. Diagram:					

Nameplate NP3131

ENERGY EFFICIENT			SERIAL NO.		
CATALOG NO.	EM58508LR-4		SPEC NO.	KGPM58508LR-4	
HP	500	RPM	896	FRAME	5810
VOLTS	460	F.L. AMPS	637	PHASE	3
F.L.EFF.	95.6	F.L.P.F.	76	MOTOR WEIGHT	5200
DESIGN	-	NEMA CODE	H	MAX AMBIENT	40
	115	C RISE/ RES	AT	HP	575
D.E. BRG.	130RU03M30X26		O.D.E. BRG.	120BC02J30X	
WDG. THERMAL	100 OHM	QTY.	6	BRG. THERMAL	
LUBE	POLYREX EM				
VOLTS	120/240	AMPS	2.9/1.46	WATTS	350/350
CERTIFICATE OF COMP NO.	LR52580, CC010A				
	NEMA NOM EFF = 95.4%				

Parts List		
Part Number	Description	Quantity
SA299859	SA KGPM58508LR-4	1.000 EA
RA286893	RA KGPM58508LR-4	1.000 EA
482406100FB	1/0 AWG, UL3374,BLACK,600V,BELDEN #37190	93.000 FT
419512002A	ID TAG, ROLL LAC	0.002 RL
041009000FD	T-LUG(ALTERNATE -7D)	12.000 EA
041009038K	TERM LUG- WESCO K3/0-PS-L	12.000 EA
001575000BA	N/P LAC	1.000 EA
000692000SC	N/P	5.000 EA
482406100FB	1/0 AWG, UL3374,BLACK,600V,BELDEN #37190	24.000 FT
606800016D	RTD LAC	7.000 EA
069306003B	CABLE TIE 14 T&B L14509C	9.000 EA
482413004Y	#4 SLEEVING (GREEN) PER FT	12.000 FT
424731025AA	HEATER LAC	2.000 EA
419512012SG	LABELS, HEAT SHRINK SET	1.000 EA
616144042R	INNER CAP BE INSUL ENGLISH	1.000 EA
032018004BK	HHCS 5/16-18X1/2 PLATED	4.000 EA
035051024AA	W-24 LOCKWASHER	1.000 EA
035050024AA	AN 24 LOCKNUT	1.000 EA
616144052R	INNER CAP BE	1.000 EA
034017013AB	LCKW 5/16 STD. PLATED	8.000 EA
616145006X	THERM.BARR.B/ECAP	1.000 EA
T-0346-51	HALF KEY BALANCE 004600044CJ	1.000 EA
415915007D	GASKET	1.000 EA
036150030NA	SKHD SSCR;STAT;BT-G508	4.000 EA

Parts List (continued)		
Part Number	Description	Quantity
034692001AB	HCSPP 1/8" PLATED	2.000 EA
419512012RC	Lead Markers H1, H2, H3 & ZH4.	1.000 EA
034017013AB	LCKW 5/16 STD. PLATED	4.000 EA
807460054XA	ENDPLATE	1.000 EA
807452033A	BRACKET INS. ENGLISH	1.000 EA
033102013AB	NUT 5/16-18 PLATED	4.000 EA
034630002AJ	PP CPLG ODE	1.000 EA
032018036CK	HHCS 3/8-16X4-1/2 PLTD.	4.000 EA
035000001AB	ALFTG CAT.NO.1627-B PLTD	1.000 EA
807461004B	FAN COVER FE	1.000 EA
034530063CB	PP NIPP ODE GRS DR	1.000 EA
034530087BB	PP NIP ODE GRS FL	1.000 EA
034630003AJ	PP CPLG DE GRS DR	1.000 EA
034000016AB	WSHR .531ID 1.062OD .095	5.000 EA
032130024HB	HSHCS 1-8X3" PLATED	5.000 EA
035000001F	RELIEF FTG. G/DRN	1.000 EA
417526003A	BRG SPACER NU224	1.000 EA
034600002AB	BUSH,DE BRKT	1.000 EA
032375004HB	SLRHMS 8-32X1/2 PLATED	2.000 EA
415915001A	GASK, LAC	7.000 FT
033050001F	IBOLT	2.000 EA
034017028AC	1.25 STD LK WASHER	2.000 EA
482413004Y	#4 SLEEVING (GREEN) PER FT	30.000 FT
482415000A	GREASE (MOBIL POLYREX EM)	3.025 LB

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034186032GA	1/2 SQ X 4.0 KEY	1.000 EA
034017014AB	LCKW 3/8 STD. PLATED	5.000 EA
049843019E	PLTE NNN 049843049WCA	1.000 EA
065774015A	TBRD 180-280	1.000 EA
075458000AF	CONDUIT BOX	1.000 EA
PK4110A11	SHAFT BLOCKING	1.000 EA
PK5006A10	WOOD BASE SHIPPING BASE G5012	1.000 EA
415917004A	N/P	1.000 EA
482413003Y	#3 SLEEVING (GREEN)	3.000 FT
032018006AK	HHCS 1/4-20X3/4L PLATED	4.000 EA
034530022HB	1-1/2 X 2.75 PPNIP	1.000 EA
049843019G	PLTE 320 049843048WCA	1.000 EA
071421043G	C/BOX WDG RTD	1.000 EA
032375005HB	RHMS 8-32X5/8L PLATED	4.000 EA
032018007CK	HHCS 3/8-16X7/8L PLATED	4.000 EA
034530022HB	1-1/2 X 2.75 PPNIP	1.000 EA
403938055A	GASK, TBOX MTG, LAC	2.000 EA
032018016DK	HHCS 1/2-13X2L PLTD.	4.000 EA
032018016DK	HHCS 1/2-13X2L PLTD.	4.000 EA
041009003F	TERMINAL LUG	4.000 EA
032018005CK	HHCS; 3/8X5/8	5.000 EA
705547082R	FAN, LAC	1.000 EA
403938027E	GASK, LAC	1.000 EA
041009003D	T & B LUG (A116)	18.000 EA
803076014A	SPCR TERM.BOX,G40/G5810,.56 THRU HOLE	1.000 EA
709239014A	INLET BAFFLE	1.000 EA

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412043012A	PLUG	2.000 EA
034690004AB	PPLG 1/2" PLATED	2.000 EA
034690004AB	PPLG 1/2" PLATED	2.000 EA
004793040A	BUTT SPLICE SPHTR	2.000 EA
419512012SG	LABELS, HEAT SHRINK SET	1.000 EA
034692001AB	HCSPP 1/8" PLATED	2.000 EA
034690002AB	"unbulked" PPLG 1/4" PLTD.	4.000 EA
034691008AB	1 1/2 PIPE PLUG- BIN STOCK	2.000 EA
034690004AB	PPLG 1/2" PLATED	4.000 EA
807453029A	BRACKET BE G40/5810 NU326	1.000 EA
032018034CK	3/8-16 X 4.25 HHCS	4.000 EA
035000001AB	ALFTG CAT.NO.1627-B PLTD	1.000 EA
032018008AK	HHCS 1/4-20X1 PLATED	4.000 EA
710607002A	THRM BARER,BRKT	1.000 EA
034530051CB	3/8 X 6.38 P NIPPLE 52CB	1.000 EA
034630002AJ	PP CPLG ODE	1.000 EA
034630003AJ	PP CPLG DE GRS DR	1.000 EA
034017014AB	LCKW 3/8 STD. PLATED	4.000 EA
412043012C	PLUG - 210	2.000 EA
032130024HB	HSHCS 1-8X3" PLATED	5.000 EA
MP1011A01	4 MIL X 12FT X 100 FT POLYETHYLENE	0.100 RL
034530076BB	1/4 X 9.5 PIPE NIPPLES	1.000 EA
035000001F	RELIEF FTG. G/DRN	1.000 EA
034017012AB	LCKW 1/4 STD. PLATED	4.000 EA
415045002W	SLGR V-RING 4.53-4.92	1.000 EA
034600002AB	BUSH,DE BRKT	1.000 EA

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415916013L	T/BLK S/HTR LAC	2.000 EA
803077012B	AIR DEFL B/E BRKT W/VIB PROV	1.000 EA
032018008CK	HHCS 3/8-16X1L PLATED	4.000 EA
034000012AB	WSHR 1/4 STD. PLATED	4.000 EA
415915007A	GASKET, LAC	1.000 EA
415915007E	GASKET	1.000 EA
034017012AB	LCKW 1/4 STD. PLATED	2.000 EA
033512004LB	HHTTS 1/4-20X1/2 PLTD.	2.000 EA
032018005AK	HHCS 1/4-20X5/8 PLATED	2.000 EA
615368005A	BRACE,TERM. BOX	1.000 EA
417247001A	THRD STUD,	13.000 EA
033102012AB	NUT 1/4-20 PLATED	12.000 EA
033105012AD	HXNUT T/BOX GRD - 449	2.000 EA
705500266R	T/BOX FRAME	1.000 EA
705500162XB	BACKPLATE,T/BOX	1.000 EA
705500006CM	GASK, TERM BOX, LAC, FRONT COVER	1.000 EA
705500006CM	GASK, TERM BOX, LAC, FRONT COVER	1.000 EA
705500006CL	GASK, TERM BOX, LAC, BTM. COVER	1.000 EA
418199008A	N/P GRD I/D	1.000 EA
402558004A	BRDRN- added to b/s 5/31	1.000 EA
419306099A	N/P - MAKE IN ASSEMBLY	1.000 EA
419306099B	N/P - MAKE IN ASSEMBLY	1.000 EA
419306099AG	N/P - MAKE IN ASSEMBLY	1.000 EA
034691004AB	1/2 PIPE PLUG	2.000 EA
406673000F	PPLG	1.000 EA
406673000B	PPLG	1.000 EA

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412027034A	SUPPORT(T.B.) - G512	1.000 EA
415917001A	RTD TAG	4.000 EA
415916013C	T/BLK S/HTR LAC	1.000 EA
075459000A	C/BOX CVR W75459	1.000 EA
032130006AB	HSHCS 1/4-20X3/4L PLTD.	2.000 EA
065564000A	GASKET	1.000 EA
071422000A	C/BOX W 071422000	1.000 EA
047993000B	GASKET LAC	1.000 EA
032130007AB	HXSCHCS C/B CVR-449	10.000 EA
034180064LA	KEY DRV END EXT	1.000 EA
NP3131	"BALDOR ONLY" INDUSTRIAL MOTOR, SS,	1.000 EA
406255394A	N/P	1.000 EA
000692000EF	CAUTION LABEL	1.000 EA
482403000BVZ	WILCO NO. 789.201 Per Eng use MG1200G96-	1.000 GA
609911003A	NAMEPLATE SUPPORT	1.000 EA
033775004EA	DRSCR #6-1/4 304 S.S.	8.000 EA
000692000CL	N/P	1.000 EA
000692000FR	WARNING, HIGH VOLTAGE LABEL	1.000 EA
406255121B	N/P	1.000 EA
406991001SL	INSTRUCTION MANUAL	1.000 EA
412043012C	PLUG - 210	1.000 EA
LB1532	BALDOR LABEL, 12.00 LONG X 2.00 HIGH	2.000 EA
034000016AB	WSHR .531ID 1.062OD .095	4.000 EA
034000012AB	WSHR 1/4 STD. PLATED	12.000 EA
032080006LB	1/4 -20 X 3/4 HWHMS	22.000 EA
033102016AB	NUT 1/2-13 PLATED - 360	4.000 EA

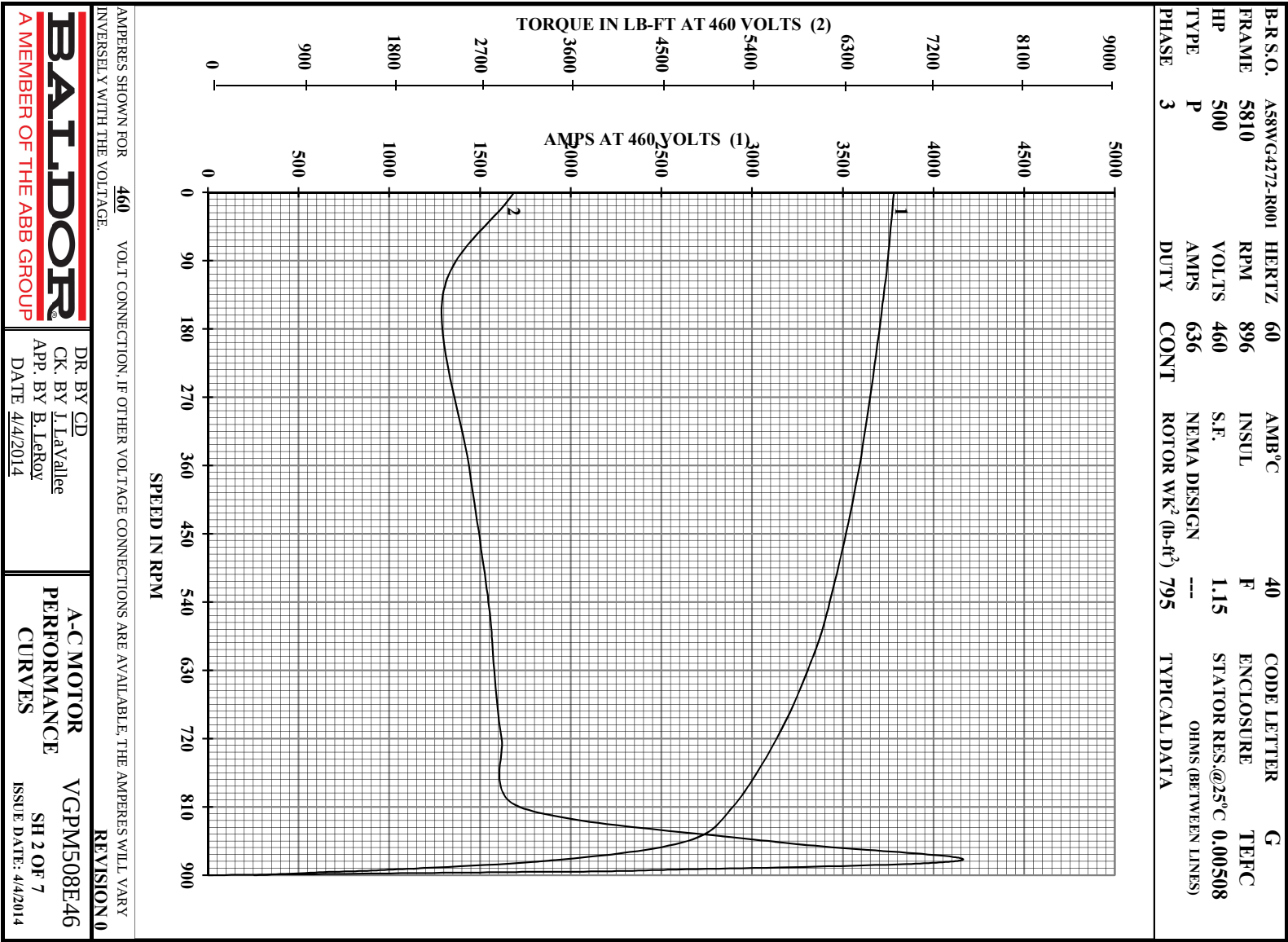
BALDOR-RELIANCE	FRAME	HP	TYPE	PHASE	HERTZ	RPM
SALES ORDER						
A58WG4272-R001	5810	500	P	3	60	896
VOLTS	AMPS	DUTY	AMB°C	INSUL	S.F.	NEMA DESIGN
460	636	CONT	40	F	1.15	---
CODE LETTER	ENCL.	ROTOR WK ² (lb-ft ²)	STATOR RES.@25°C OHMS (BETWEEN LINES)	TYPICAL DATA		
G	TEFC	795	0.00508			
PERFORMANCE						
LOAD	HP	AMPERES	RPM	% POWER FACTOR	% EFFICIENCY	
NO LOAD	0	256.0	900	3.9	0.0	
1/4	125	322.9	899	39.7	91.5	
2/4	250	404.4	898	61.1	94.7	
3/4	375	511.6	897	71.8	95.5	
4/4	500	636.5	896	76.9	95.6	
5/4	625	775.5	895	79.1	95.3	
6/4	750	929.4	894	79.5	94.9	
SPEED TORQUE						
	RPM	TORQUE % FULL LOAD	TORQUE LB-FT	AMPERES		
LOCKED ROTOR	0	104	3041	3782.1		
PULL UP	135	80	2333	3725.9		
BREAKDOWN	880	258	7552	1910.3		
FULL LOAD	896	100	2930	636.5		
AMPERES SHOWN FOR 460 VOLT CONNECTION(S). IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE VOLTAGE.						
REVISION 0						
BALDOR		DR. BY CD	A-C MOTOR		VGPM508E46	
A MEMBER OF THE ABB GROUP		CK. BY J.LaVallee	PERFORMANCE		SH 1 OF 7	
		APP. BY B. LeRoy			ISSUE DATE: 4/4/2014	
		DATE 4/4/2014				

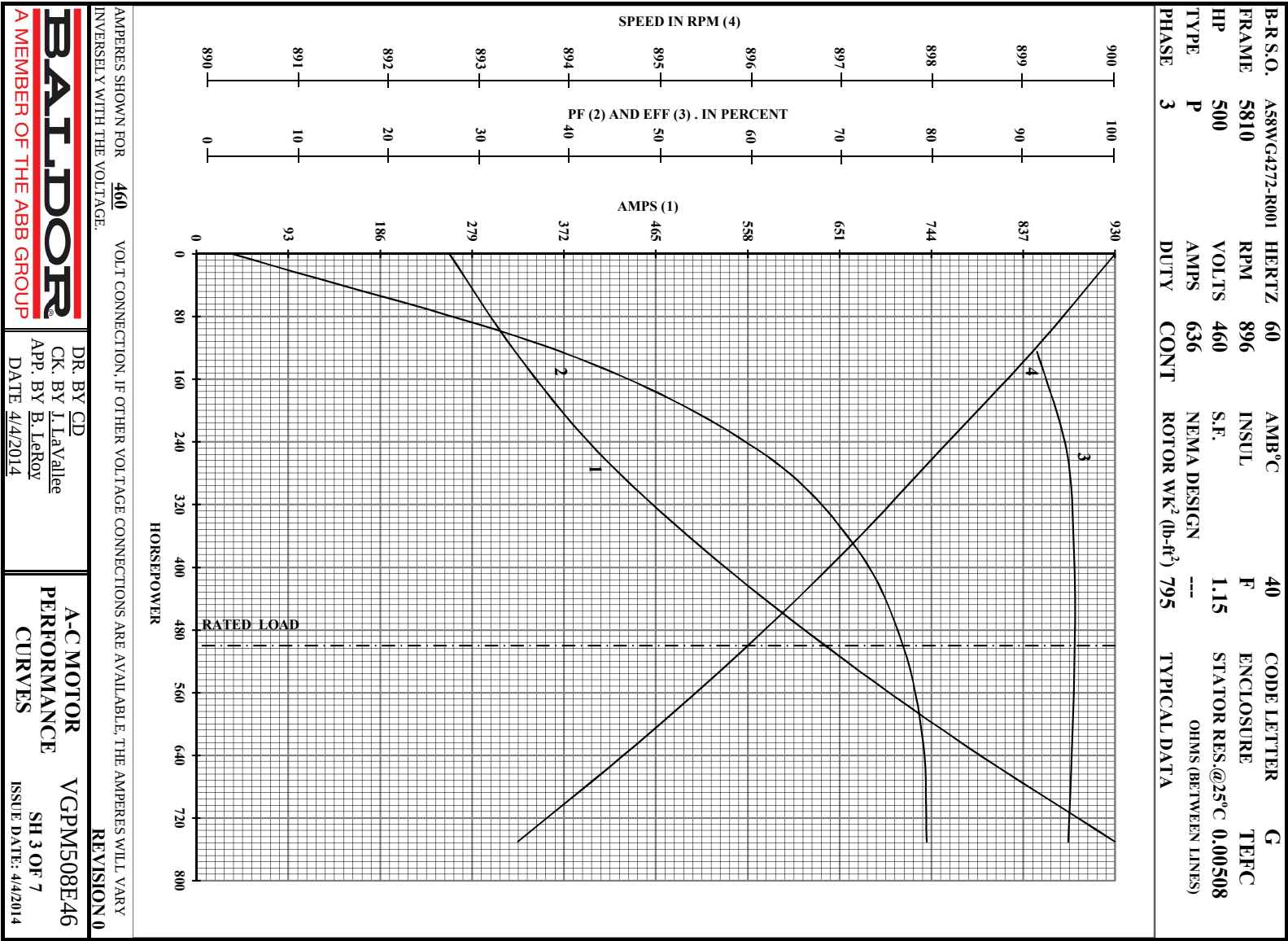
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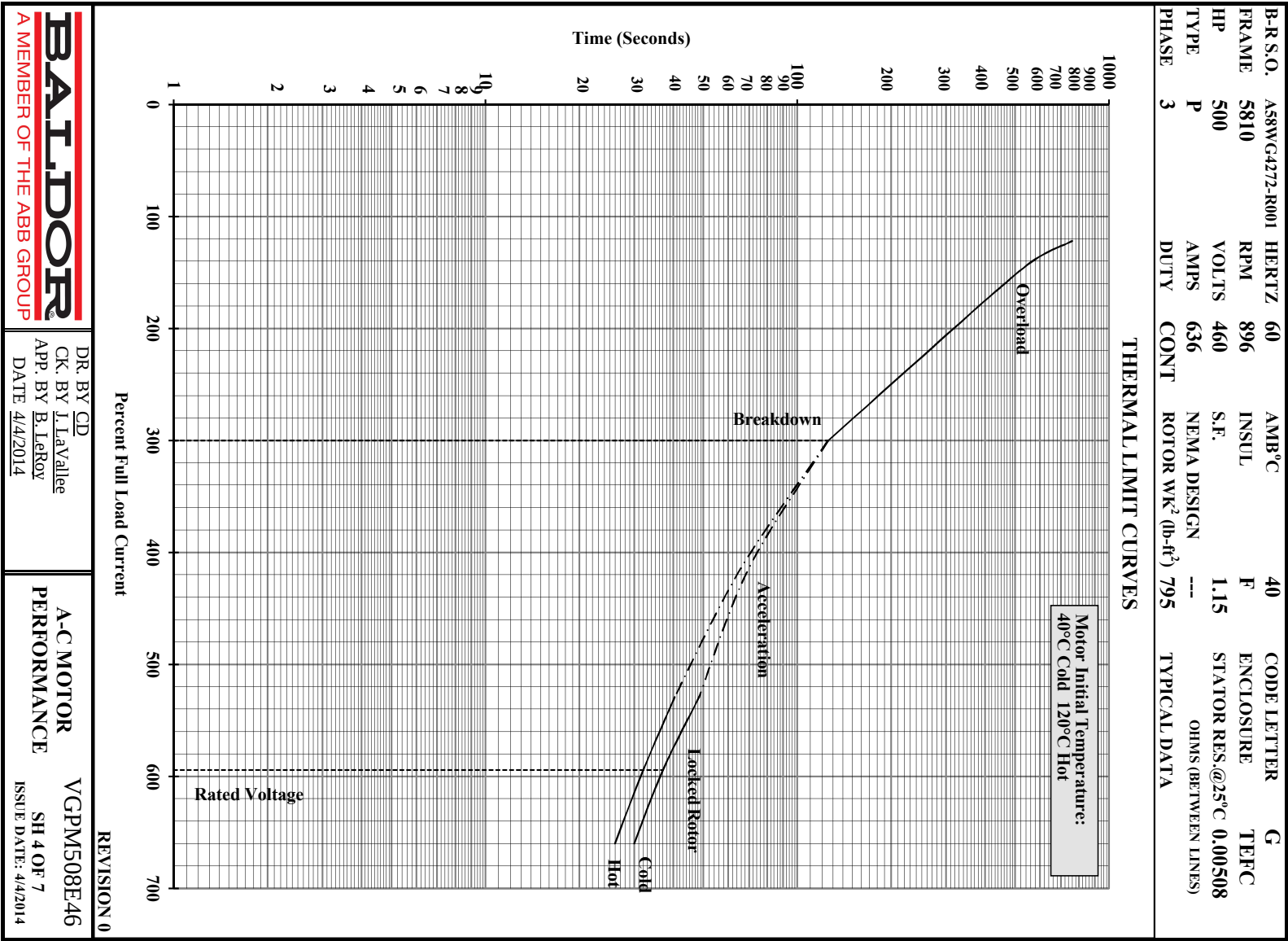
BALDOR
A MEMBER OF THE ABB GROUP

DR. BY CD
CK. BY J LaVallee
APP. BY B. LeRoy
DATE 4/4/2014

A-C MOTOR VCPM508E46
PERFORMANCE SH 1 OF 7
ISSUE DATE: 4/4/2014





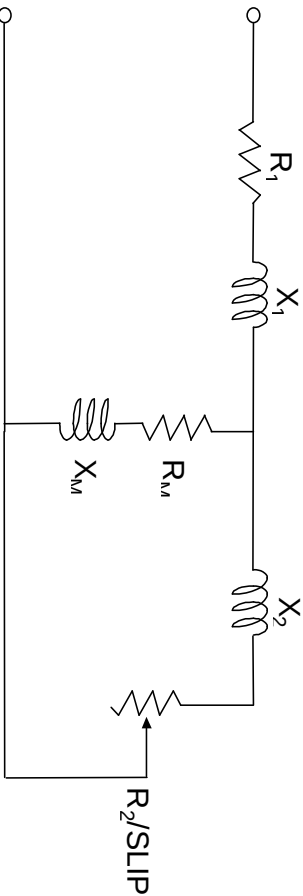


B-R-S.O.	A58WG4272-R001	HERTZ	60	AMB°C	40	CODE LETTER	G
FRAME	5810	RPM	896	INSUL	F	ENCLOSURE	TEFC
HP	500	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00508
TYPE	P	AMPS	636	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	795	TYPICAL DATA	

EQUIVALENT CIRCUIT DATA

(Per Unit, Per Phase)

FULL LOAD				LOCKED ROTOR			
R_1	0.00586	X_1	0.07854	R_1	0.00474	X_1	0.06698
R_2	0.00365	X_2	0.13328	R_2	0.01669	X_2	0.05500
R_m	0.05337	X_m	1.78860	R_m	0.16735	X_m	1.59609
BASE OHMS				BASE VOLTS			
				266			
SC Time Constant				$X'' = X_s$			
				0.12198			
OC Time Constant				X/R Ratio			
				17.35			



Parallel Equivalent			
FL R_m ' pu	59.99510	LR R_m ' pu	15.38996
FL X_m ' pu	1.79019	LR X_m ' pu	1.61364

R_1 = Stator dc resistance
 R_2 = Rotor resistance
 R_m = Core loss resistance
 SC = Short circuit
 OC = Open circuit
 X_1 = Stator leakage reactance
 X_2 = Rotor leakage reactance
 X_m = Magnetizing reactance
 FL = Full load
 LR = Locked rotor

$X'' = X_s$ = Subtransient reactance

REVISION 0

BALDOR
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DR. BY CD
 CK. BY J. LaVallee
 APP. BY B. LeRoy
 DATE 4/4/2014

A-C MOTOR PERFORMANCE CURVES
 VCPM508E46
 SH 5 OF 7
 ISSUE DATE: 4/4/2014

B-R.S.O.	A58WG4272-R001	HERTZ	60	AMB °C	40	CODE LETTER	G
FRAME	5810	RPM	896	INSUL	F	ENCLOSURE	TEFC
HP	500	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00508
TYPE	P	AMPS	636	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	795	TYPICAL DATA	

Recommended Winding and Bearing Temperatures

Stator Winding	Class B	Class F
Maximum Running Total Temperature	130 °C	155 °C
Alarm Total Temperature	135 °C	160 °C
Trip Total Temperature	145 °C	170 °C

Sleeve Bearings - Oil Lubricated	Bearing	Oil
Typical Running Total Temperature		
Alarm Total Temperature	93 °C	60 °C
Trip Total Temperature	96 °C	70 °C
	98 °C	75 °C

Anti-Friction Bearings - Grease Lubricated	Bearing	Grease
Typical Running Total Temperature		
Alarm Total Temperature	90 °C	80 °C
Trip Total Temperature	110 °C	100 °C
	120 °C	110 °C

Recommended Vibration Settings for Standard Motors

Speed (rpm)	Shaft Vibration (mils)		Bracket Vibration (mils)	
	Alarm	Shutdown	Alarm	Shutdown
3600	2.50	3.00	1.00	1.50
1800	3.00	3.50	2.00	2.50
1200	3.00	3.50	2.00	2.50
900 & Lower	3.00	3.50	2.00	2.50
	Bracket Vibration (in/sec pk)			
	Alarm		Shutdown	
All Speeds	0.20*		0.30*	

* 0 to 1000 Hz Spectrum

REVISION 0

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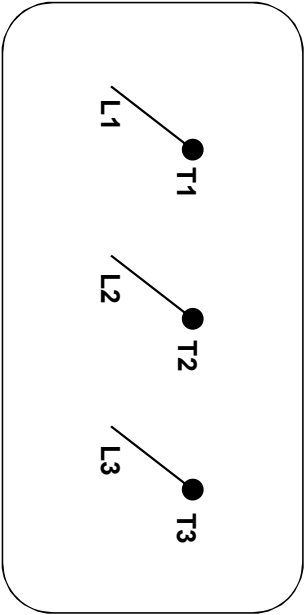
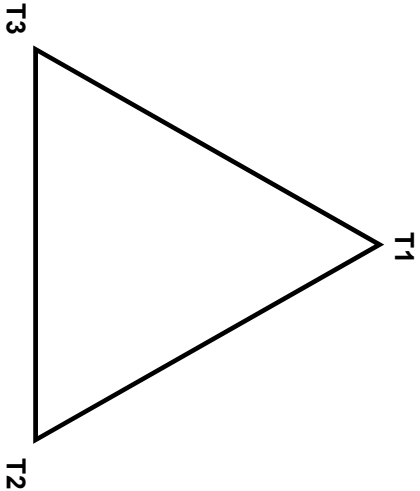
DR. BY CD
CK. BY J. LaVallee
APP. BY B. LeRoy
DATE 4/4/2014

A-C MOTOR PERFORMANCE CURVES
VGPM508E46
SH 6 OF 7
ISSUE DATE: 4/4/2014

B-R.S.O.	A58WG4272-R001	HERTZ	60	AMB°C	40	CODE LETTER	G
FRAME	5810	RPM	896	INSUL	F	ENCLOSURE	TEFC
HP	500	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00508
TYPE	P	AMPS	636	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	795	TYPICAL DATA	

A-C MOTOR
CONNECTION DIAGRAM

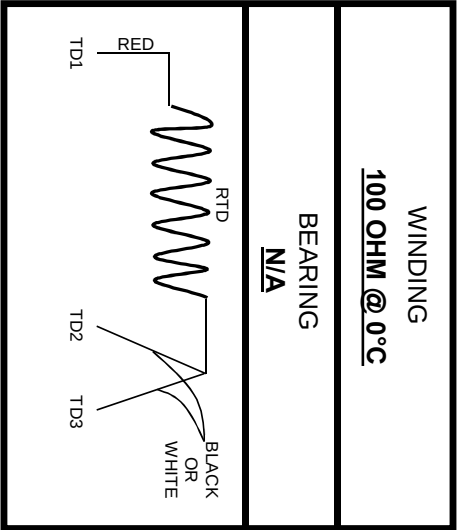
STANDARD 3 LEAD DELTA CONNECTED



(N.P. 1575-BA)

BALDOR A MEMBER OF THE ABB GROUP	DR. BY CD	A-C MOTOR	VGPM508E46	REVISION 0
	CK. BY J.LaVallee	PERFORMANCE		
	APP. BY B.LeRoy	CURVES	SH 7 OF 7	
	DATE 4/4/2014		ISSUE DATE: 4/4/2014	

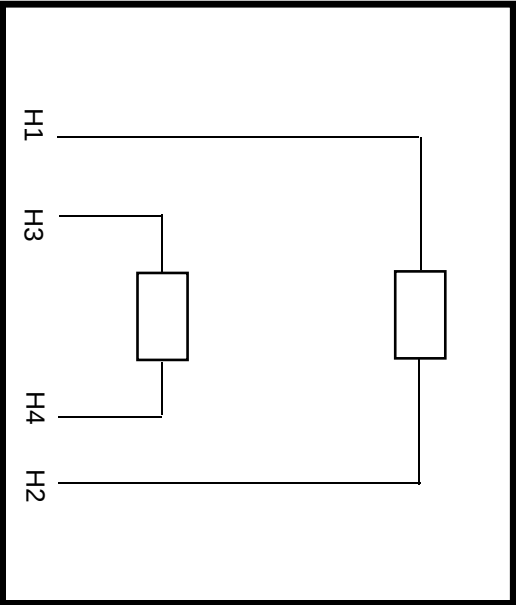
RESISTANCE TEMPERATURE
CONNECTION DIAGRAM



BALDOR BALDOR • DOUG • RELIANCE	DR. BY C. STOCKTON	A-C MOTOR AUXILIARY CONNECTIONS	G58_GP SHEET 1 OF 2
	CK. BY D. PETROFF		
	APP. BY C. STOCKTON		
	DATE 11/20/2013		

SPACE HEATER CONNECTION

VOLTS 120/240 AMPS 4.08/2.04 WATTS 490/490
PHASE 1 HZ. 60



HEATER CONNECTIONS

LOW VOLTAGE - PARALLEL

- L1 - H1 & H2
- L2 - H3 & H4

HIGH VOLTAGE - SERIES

- L1 - H1
- L2 - H2
- CONNECT H3 TO H4



DR. BY C. STOCKTON
CK. BY D. PETROFF
APP. BY C. STOCKTON
DATE 11/20/2013

A-C MOTOR
AUXILIARY
CONNECTIONS

G58_GP
SHEET 2 OF 2

GENERAL PURPOSE STOCK ALTERNATING CURRENT MOTORS

ENCLOSURE: TOTALLY ENCLOSED

SQUIRREL-CAGE INDUCTION

COOLING: FAN COOLED

MOUNTING: HORIZ.(FOOT) MOUNT

900 RPM(MAX)

FRAME G5810L/LR

(FIELD CONVERTIBLE BELT/COUPLES)

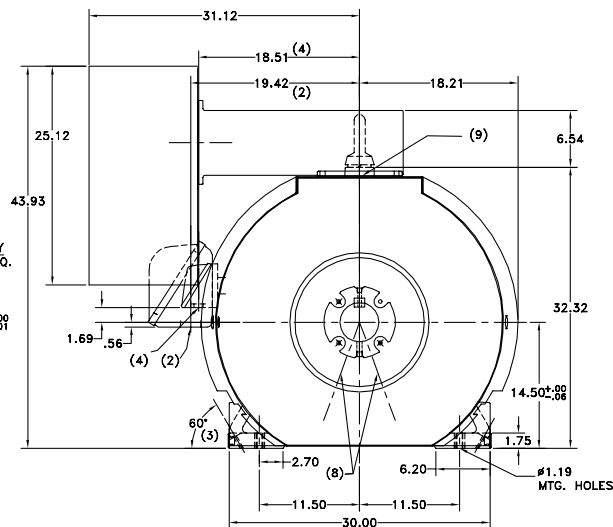
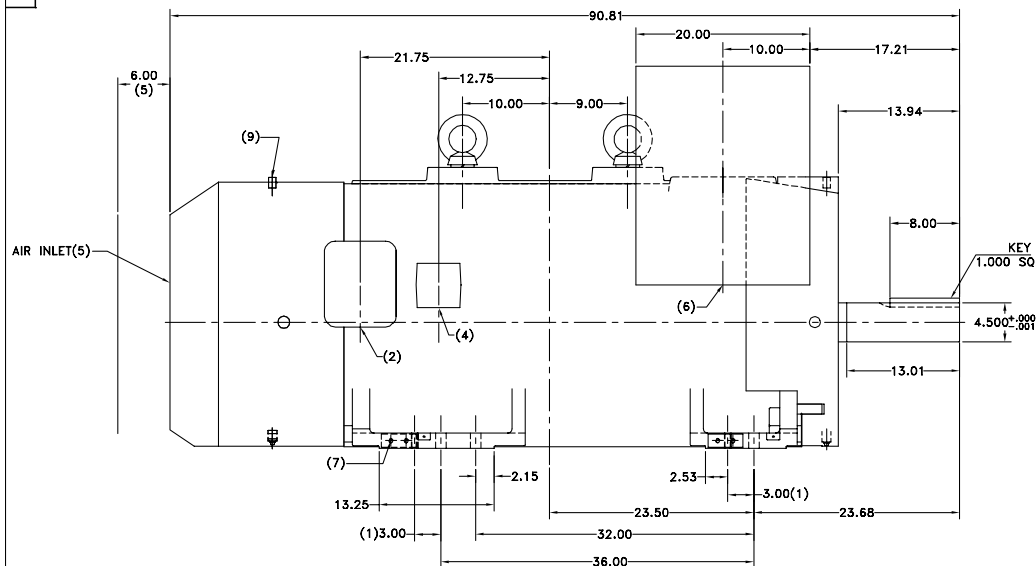
INCLUDES 5809 FRAME MOUNTING HOLES

ANTI-FRICTION BEARINGS

ENGLISH HARDWARE

OVERSIZED MAIN CONDUIT BOX

616151-157



- 1) FOUR 3/4-10 JACKSCREW HOLES.
- 2) 2.0" N.P.T. FOR WINDING TEMPERATURE DETECTOR LEADS.
- 3) 1/4" HOLE FOR DOWEL PINS. ONE EACH FOOT.
- 4) 3/4" N.P.T. FOR MOTOR SPACE HEATER LEADS.
- 5) WALL OR OBSTRUCTION MUST NOT ENCR OACH ON AIR INLET SPACE
- 6) CUSTOMER TO PROVIDE HOLE FOR MOTOR POWER LEADS
- 7) TWO GROUND PADS DIAGONALLY OPPOSITE EACH OTHER, TAPPED 1/2-13
- 8) 1/8 N.P.T. PROVISIONS FOR BEARING TEMPERATURE DETECTOR.
- 9) GREASE POINT

CATALOG #'S

EM58508LR-4
 EM58608LR-4
 EM58458LR-2340
 EM58508LR-2340
 EM58608LR-2340

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 SHAFT IS .003 TIR.

WEIGHT (LBS)= 10,000 (MAXIMUM)

DIMENSIONS ARE IN INCHES.

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

REV. DESC: INITIAL RELEASE

REV. LTR: -

VERSION: 00

TDR: 000000969322

FILE: \RSN\00032\290

REVISED: 01:41:41 03/04/2016

BY: RSNB

MTL: -

BALDOR

G5810L/LR,TEFC,S/N,900,A/F,F1,20X25X12,U=4.500,XBA=23.68

SH 1 of 1

616151-157

