

BALDOR® • RELIANCE

Product Information Packet

M58702S-4

700HP,3583RPM,3PH,60HZ,5810,A58256M,TEFC

Part Detail							
Revision:	E	Status:	PRD/A	Change #:		Proprietary:	No
Type:	AC	Prod. Type:	A58256M	Elec. Spec:	A58WG4270	CD Diagram:	416820-025
Enclosure:	TEFC	Mfg Plant:		Mech. Spec:		Layout:	617354-015
Frame:	5810	Mounting:	F1	Poles:	02	Created Date:	04-03-2014
Base:		Rotation:	R	Insulation:	F	Eff. Date:	07-08-2016
Leads:	3#2/0 (04 per group) 4824-6-FB					Replaced By:	
Literature:		Elec. Diagram:					

ENERGY EFFICIENT						SERIAL NO.						
CATALOG NO.	M58702S-4					SPEC NO.	A58-0721-4270					
HP	700	RPM	3583			FRAME	5810		HZ	60	SERVICE FACTOR	1.15
VOLTS	460		F.L. AMPS	767		PHASE	3	TYPE		ENCL.	TEFC	
F.L.EFF.	95.8		F.L.P.F.	89		MOTOR WEIGHT	8045			INSUL.CLASS	F	
DESIGN	-	NEMA CODE	G		MAX AMBIENT	40		DUTY	CONT			
	115	C RISE/RES		AT		HP	805		AMPS	878		
D.E. BRG.	65BC03J40X					O.D.E. BRG.	65BC03J40X					
WDG. THERMAL	100 OHM			QTY.	6	BRG. THERMAL						
LUBE	POLYREX EM											
VOLTS	120/240		AMPS	4.08/2.04		WATTS	490/490		QTY	2		
CERTIFICATE OF COMP NO.	LR52580					NEMA NOM EFF = 95.8%						

Parts List		
Part Number	Description	Quantity
SA281013	SA A58-0721-4270	1.000 EA
RA267513	RA A58-0721-4270	1.000 EA
482406200FB	2/0 AWG,UL3374,BLACK,600V,BELDEN # 37100	103.000 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
034692001AB	HCSPP 1/8" PLATED	2.000 EA
034691008AB	1 1/2 PIPE PLUG- BIN STOCK	2.000 EA
034690002AB	"unbulked" PPLG 1/4" PLTD.	4.000 EA
034690004AB	PPLG 1/2" PLATED	4.000 EA
807454010A	BRACKET 6313 ENGLISH V-RING	1.000 EA
032018036CK	HHCS 3/8-16X4-1/2 PLTD.	4.000 EA
035000001AB	ALFTG CAT.NO.1627-B PLTD	1.000 EA
032018008AK	HHCS 1/4-20X1 PLATED	4.000 EA
710607001WPA	THRM BARRIER BRKT, LAC	1.000 EA
034530074CB	PP NIPP ODE GRS DR	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
034530098BB	PP NIP ODE GRS FL	1.000 EA

Parts List (continued)		
Part Number	Description	Quantity
035000001F	RELIEF FTG. G/DRN	1.000 EA
034017012AB	LCKW 1/4 STD. PLATED	4.000 EA
415045002L	SLGR	1.000 EA
034600002AB	BUSH,DE BRKT	1.000 EA
415916013L	T/BLK S/HTR LAC	2.000 EA
803077013B	AIR DEFL B/E BRKT	1.000 EA
032018008CK	HHCS 3/8-16X1L PLATED	4.000 EA
034000012AB	WSHR 1/4 STD. PLATED	4.000 EA
415915007B	GASK, 46" LAC	1.000 EA
415915007A	GASKET, LAC	1.000 EA
034000016AB	WSHR .531ID 1.062OD .095	4.000 EA
034000012AB	WSHR 1/4 STD. PLATED	12.000 EA
033102016AB	NUT 1/2-13 PLATED - 360	4.000 EA
034017012AB	LCKW 1/4 STD. PLATED	2.000 EA
034692001AB	HCSPP 1/8" PLATED	2.000 EA
032018036CK	HHCS 3/8-16X4-1/2 PLTD.	4.000 EA
035000001AB	ALFTG CAT.NO.1627-B PLTD	1.000 EA
034530074CB	PP NIPP ODE GRS DR	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
032130024HB	HSHCS 1-8X3" PLATED	5.000 EA
034530098BB	PP NIP ODE GRS FL	1.000 EA
035000001F	RELIEF FTG. G/DRN	1.000 EA

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034600002AB	BUSH,DE BRKT	1.000 EA
034000016AB	WSHR .531ID 1.062OD .095	4.000 EA
616144049A	INNER CAP ODE G5810 6313 ENGLISH	1.000 EA
032018004BK	HHCS 5/16-18X1/2 PLATED	4.000 EA
424231001A	SLT FLAT C'T'S'K' HDMS	1.000 EA
410700002J	WAVY WSHR,ODE CAP	1.000 EA
616144050A	INNER CAP DE G5810 6313 ENGLISH	1.000 EA
034017013AB	LCKW 5/16 STD. PLATED	4.000 EA
035051013AA	BBLCW W-13 BLACK OXIDE	2.000 EA
616145009A	THERMAL BARRIER, LAC	1.000 EA
T-0346-8	HALF KEY BALANCE 004600044H	1.000 EA
415826011C	INSUL WSHR ODE CAP	1.000 EA
415915007C	GASK, LAC	1.000 EA
036150030NA	SKHD SSCR;STAT;BT-G508	4.000 EA
419512002A	ID TAG, ROLL LAC	0.002 RL
041009000FE	EXT LUG- TYCO 321871-T&B K973 or K30-38	12.000 EA
041009029J	# 2/0 LUG-AMP 36958	12.000 EA
001575000BA	N/P LAC	1.000 EA
000692000SC	N/P	5.000 EA
482406200FB	2/0 AWG,UL3374,BLACK,600V,BELDEN # 37100	24.000 FT
034690001AB	SQHDPLG, COND	2.000 EA
410700000DD	WAVY WASHER FAN-	1.000 EA
034141162AB	RETAINER RING,FAN	1.000 EA
419512012RC	Lead Markers H1, H2, H3 & ZH4.	1.000 EA
807454011B	BRACKET FE INSUL 6313 GP	1.000 EA
807461018X	FAN COVER LOW NOISE INCH HARDWARE	1.000 EA

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032375004HB	SLRHMS 8-32X1/2 PLATED	2.000 EA
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)	1.461 LB
034186023FA	KEY ODE FAN	1.000 EA
049843019E	PLTE NNN 049843049WCA	1.000 EA
065774015A	TBRD 180-280	1.000 EA
075458000AF	CONDUIT BOX	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	8.000 EA
032018007CK	HHCS 3/8-16X7/8L PLATED	4.000 EA
034530022HB	1-1/2 X 2.75 PPNIP	1.000 EA
403938056A	GASK, LAC	1.000 EA
403938055A	GASK, TBOX MTG, LAC	2.000 EA
032018016DK	HHCS 1/2-13X2L PLTD.	4.000 EA
041009003F	TERMINAL LUG	4.000 EA
032018014CG	HHCS 3/8-16X1-3/4 316S.S	4.000 EA
705547086R	FAN, LAC	1.000 EA
403938027E	GASK, LAC	1.000 EA
041009003D	T & B LUG (A116)	18.000 EA

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803076026A	SPACER TERM. BOX, ENGLISH	1.000 EA
032018016DK	HHCS 1/2-13X2L PLTD.	4.000 EA
406673001E	CAP 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
032018005AK	HHCS 1/4-20X5/8 PLATED	2.000 EA
033512004LB	HHTTS 1/4-20X1/2 PLTD.	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
032080006LB	1/4 -20 X 3/4 HWHMS	22.000 EA
402558004A	BRDRN- added to b/s 5/31	1.000 EA
419306099AG	N/P - MAKE IN ASSEMBLY	1.000 EA
419306099B	N/P - MAKE IN ASSEMBLY	1.000 EA
419306099A	N/P - MAKE IN ASSEMBLY	1.000 EA
034691004AB	1/2 PIPE PLUG	2.000 EA
406673000F	PPLG	1.000 EA

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406673000B	PPLG	1.000 EA
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
PK5006A10	WOOD BASE SHIPPING BASE G5012	1.000 EA
034180032HA	KEY 5/8X5/8X4 L bin stocked	1.000 EA
LB1532	BALDOR LABEL, 12.00 LONG X 2.00 HIGH	2.000 EA
NP3131	"BALDOR ONLY" INDUSTRIAL MOTOR, SS,	1.000 EA
PK4110A11	SHAFT BLOCKING	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.	10.000 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

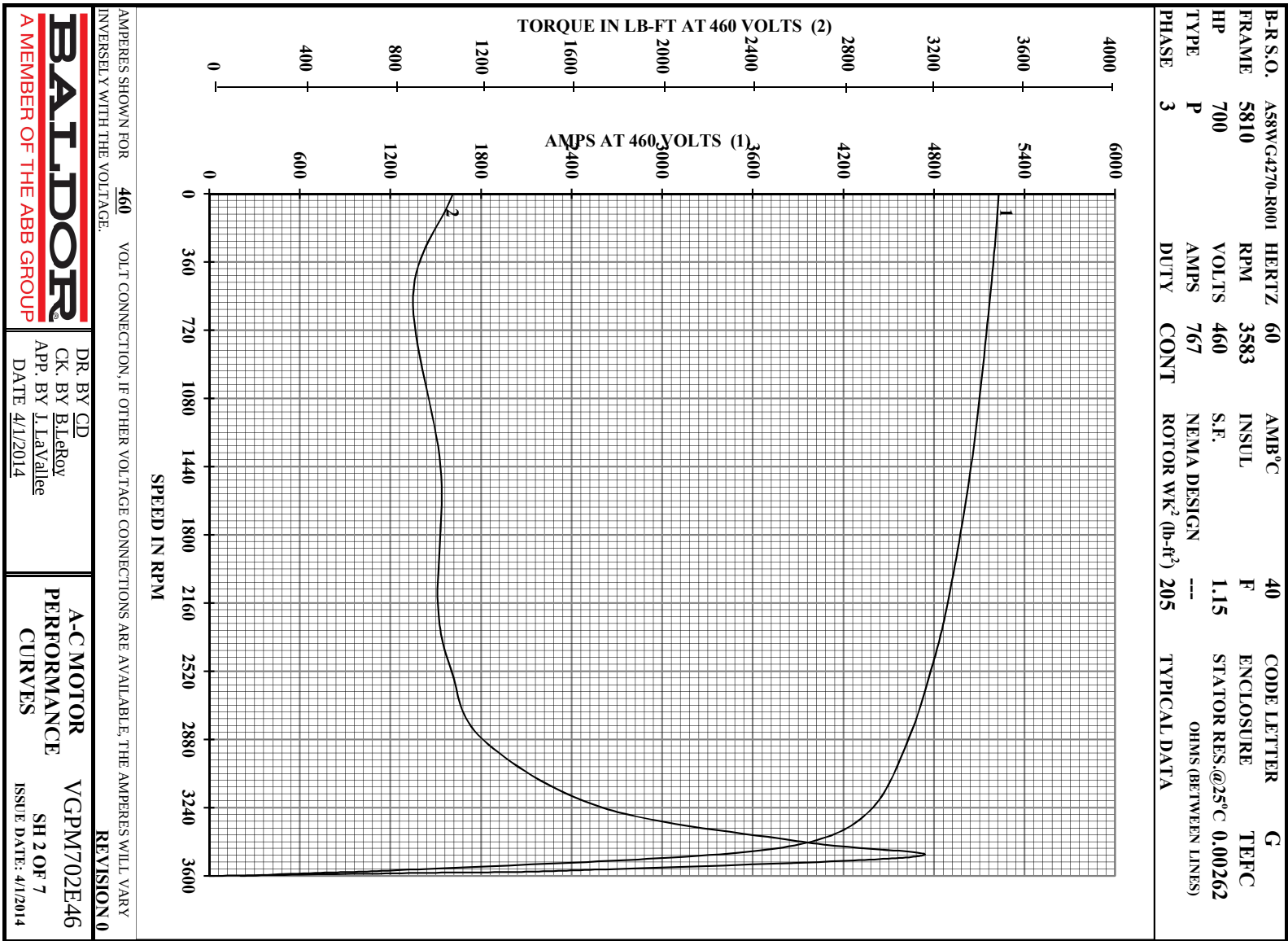
BALDOR-RELIANCE	FRAME	HP	TYPE	PHASE	HERTZ	RPM
SALES ORDER						
A58WG4270-R001	5810	700	P	3	60	3583
VOLTS	AMPS	DUTY	AMB°C	INSUL.	S.F.	NEMA DESIGN
460	767	CONT	40	F	1.15	---
CODE LETTER	ENCL.	ROTOR WK ² (lb-ft ²)	STATOR RES.@25°C OHMS (BETWEEN LINES)	TYPICAL DATA		
G	TEFC	205	0.00262			
PERFORMANCE						
LOAD	HP	AMPERES	RPM	% POWER FACTOR	% EFFICIENCY	
NO LOAD	0	207.6	3600	6.9	0.0	
1/4	175	284.9	3596	62.9	91.5	
2/4	350	429.0	3592	80.6	94.8	
3/4	525	591.2	3587	87.0	95.6	
4/4	700	767.4	3583	89.2	95.8	
5/4	875	952.1	3578	89.9	95.7	
6/4	1050	1145.6	3573	89.9	95.4	
SPEED TORQUE						
	RPM	TORQUE % FULL LOAD	TORQUE LB-FT	AMPERES		
LOCKED ROTOR	0	105	1077	5230.3		
PULL UP	540	88	900	5172.2		
BREAKDOWN	3498	307	3150	3169.6		
FULL LOAD	3583	100	1026	767.4		
AMPERES SHOWN FOR 460 VOLT CONNECTION(S). IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE VOLTAGE.						
REVISION 0						
BALDOR® A MEMBER OF THE ABB GROUP			DR. BY <u>CD</u> CK. BY <u>J.LaRoy</u> APP. BY <u>J.LaVallee</u> DATE <u>4/1/2014</u>		A-C MOTOR VGPMT702E46 PERFORMANCE SH 1 OF 7 ISSUE DATE: 4/1/2014	

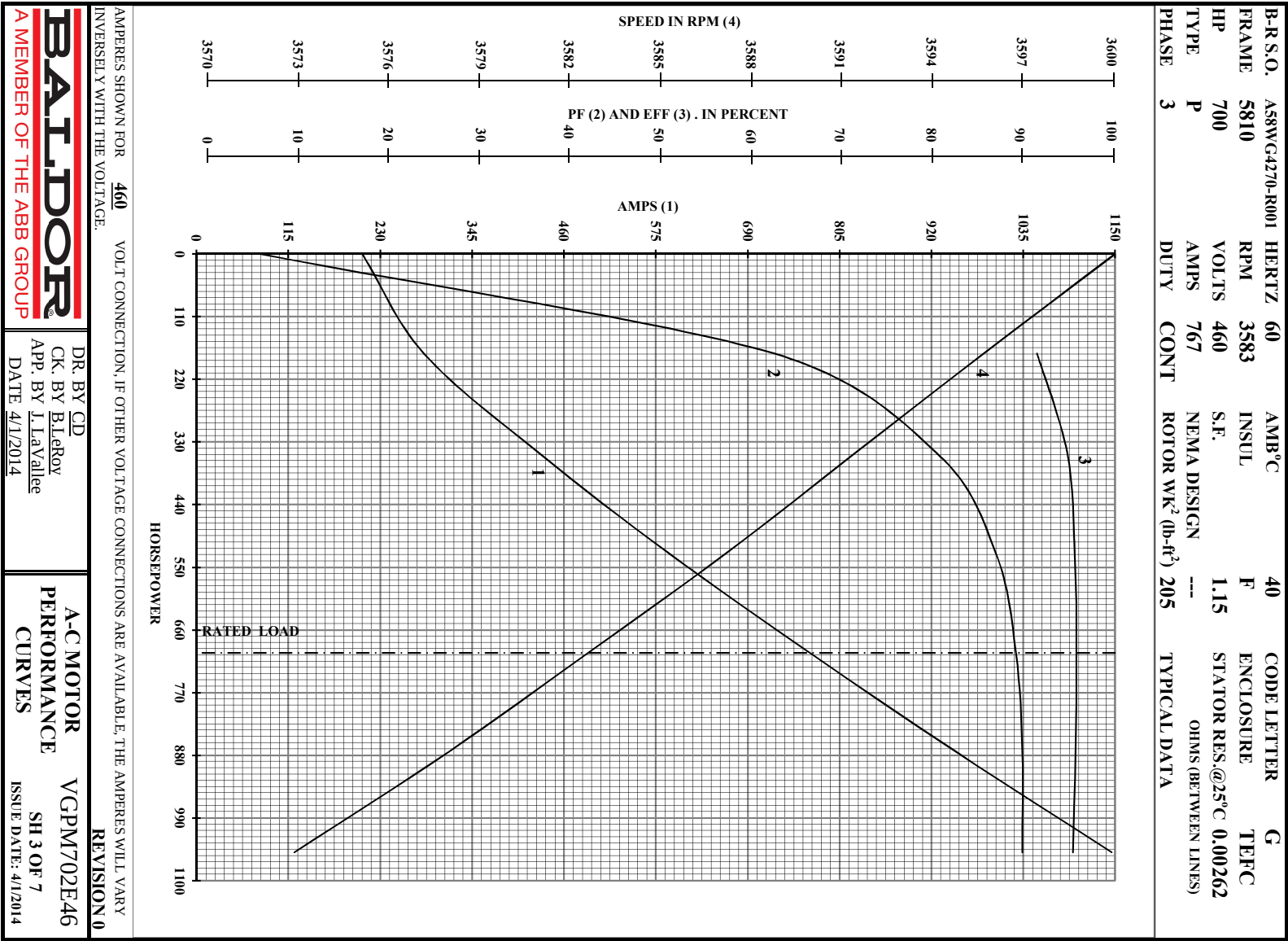
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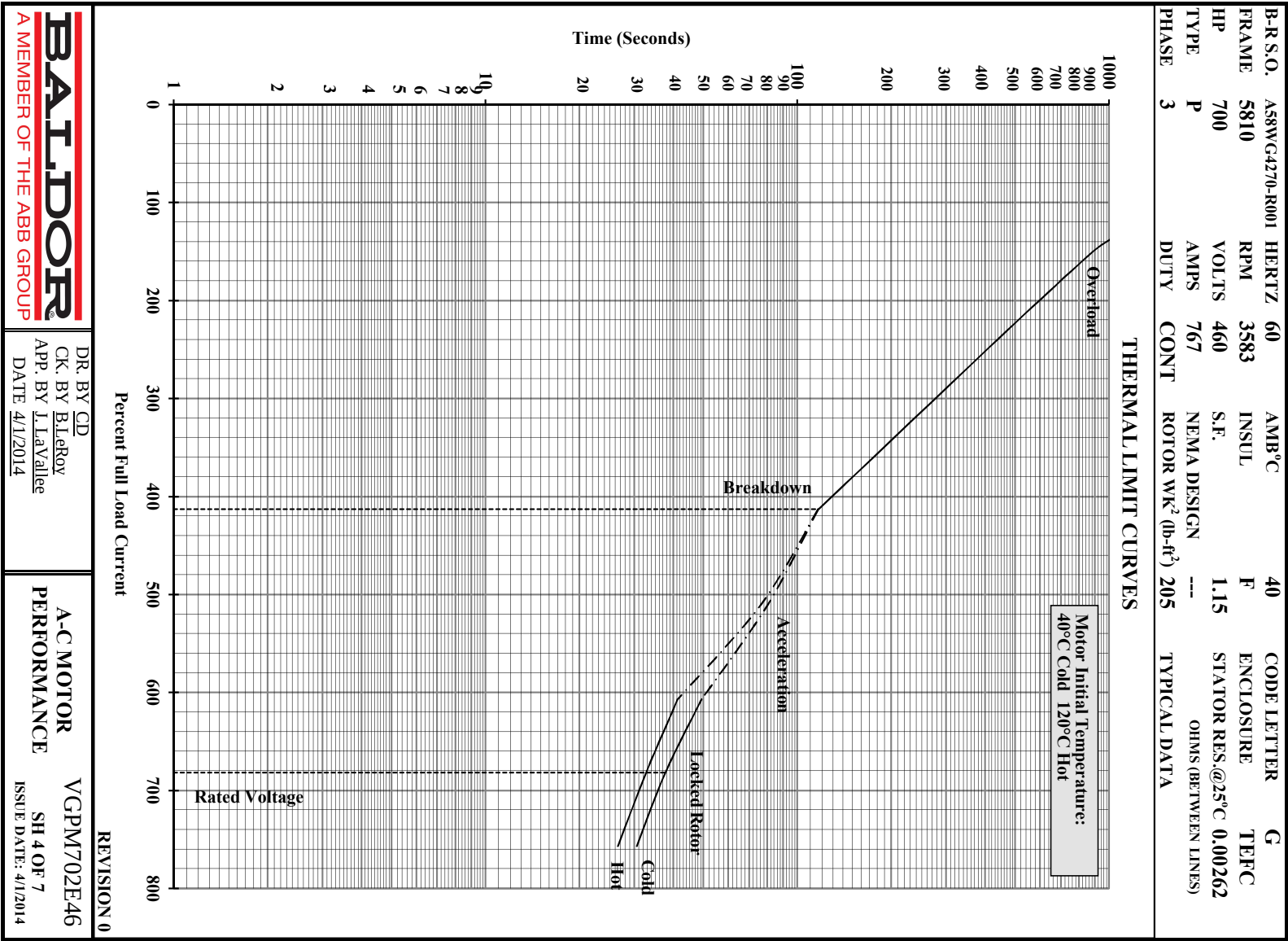
BALDOR
 A MEMBER OF THE ABB GROUP

 DR. BY CD
 CK. BY B.LeRoy
 APP. BY J.LaVallee
 DATE 4/1/2014

 A-C MOTOR VGPM702E46
 PERFORMANCE
 SH 1 OF 7
 ISSUE DATE: 4/1/2014





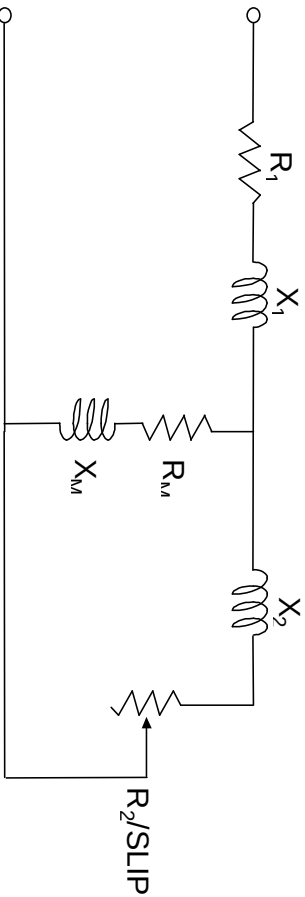


B-R-S.O.	A58WG4270-R001	HERTZ	60	AMB°C	40	CODE LETTER	G
FRAME	5810	RPM	3583	INSUL	F	ENCLOSURE	TEFC
HP	700	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00262
TYPE	P	AMPS	767	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	205	TYPICAL DATA	

EQUIVALENT CIRCUIT DATA

(Per Unit, Per Phase)

FULL LOAD				LOCKED ROTOR			
R_1	0.00434	X_1	0.07282	R_1	0.00341	X_1	0.07902
R_2	0.00426	X_2	0.09135	R_2	0.01655	X_2	0.04475
R_m	0.07112	X_m	3.09564	R_m	0.37726	X_m	2.85999
BASE OHMS				BASE VOLTS			
				266			
SC Time Constant				$X'' = X_s$			
				0.12377			
OC Time Constant				X/R Ratio			
				23.77			



Parallel Equivalent			
FL R_m' pu	134.8150	LR R_m' pu	22.05871
FL X_m' pu	3.09727	LR X_m' pu	2.90975

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

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DR. BY CD
 CK. BY BlueRoy
 APP. BY J.LaVallee
 DATE 4/1/2014

A-C MOTOR PERFORMANCE CURVES
 VCPM702E46
 SH 5 OF 7
 ISSUE DATE: 4/1/2014

B-R-S.O.	A58WG4270-R001	HERTZ	60	AMB °C	40	CODE LETTER	G
FRAME	5810	RPM	3583	INSUL	F	ENCLOSURE	TEFC
HP	700	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00262
TYPE	P	AMPS	767	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	205	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 (40 °C Ambient)	Bearing	Oil
Typical Running Total Temperature	93 °C	60 °C
Alarm Total Temperature	96 °C	70 °C
Trip Total Temperature	98 °C	75 °C

Anti-Friction Bearings - Grease Lubricated (40 °C Ambient)	Bearing	Grease
Typical Running Total Temperature	90 °C	80 °C
Alarm Total Temperature	110 °C	100 °C
Trip Total Temperature	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



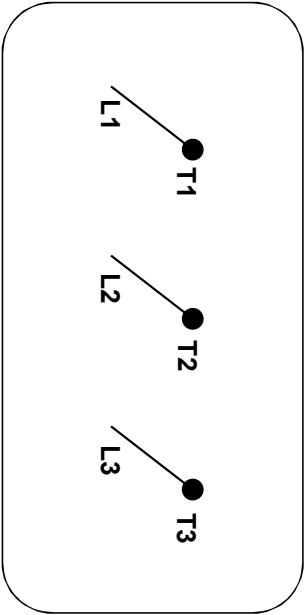
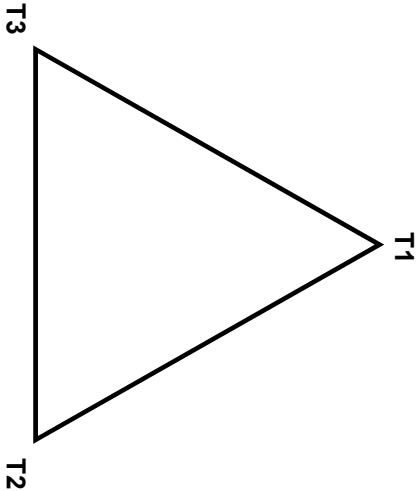
DR. BY CD
CK. BY BLeRoy
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DATE 4/1/2014

A-C MOTOR VCPM702E46
PERFORMANCE
CURVES SH 6 OF 7
ISSUE DATE: 4/1/2014

B-R.S.O.	A58WG4270-R001	HERTZ	60	AMB°C	40	CODE LETTER	G
FRAME	5810	RPM	3583	INSUL	F	ENCLOSURE	TEFC
HP	700	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00262
TYPE	P	AMPS	767	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	205	TYPICAL DATA	

A-C MOTOR
CONNECTION DIAGRAM

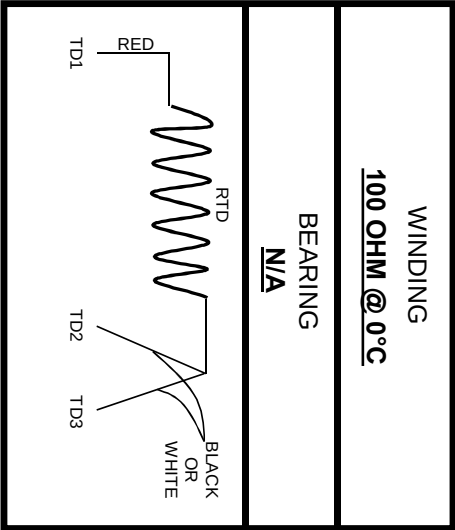
STANDARD 3 LEAD DELTA CONNECTED



(N.P. 1575-BA)

BALDOR A MEMBER OF THE ABB GROUP	DR. BY CD	A-C MOTOR	VGPM702E46
	CK. BY BLeRoy	PERFORMANCE	SH 7 OF 7
	APP. BY J.LaVallee	CURVES	ISSUE DATE: 4/1/2014
REVISION 0			

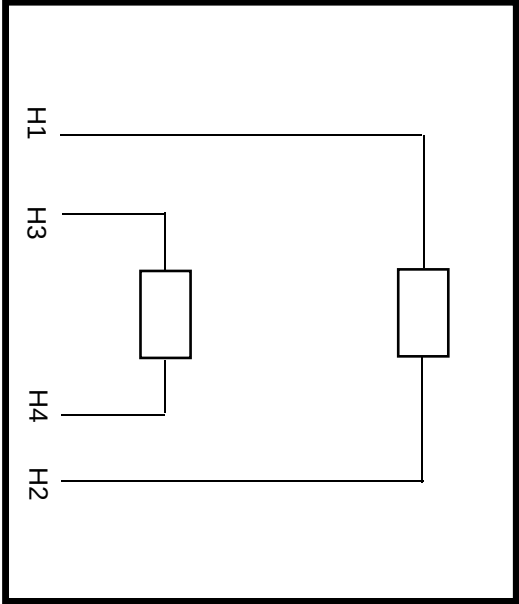
RESISTANCE TEMPERATURE
CONNECTION DIAGRAM



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

BALDOR BALDOR • DOUG • RELIANCE	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
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617354-015

GENERAL PURPOSE PRE-CONFIGURED ALTERNATING CURRENT MOTORS

ENCLOSURE: TOTALLY ENCLOSED

SQUIRREL-CAGE INDUCTION

COOLING: FAN COOLED

MOUNTING: HORIZ.(FOOT) MOUNT

3600 RPM(MAX)

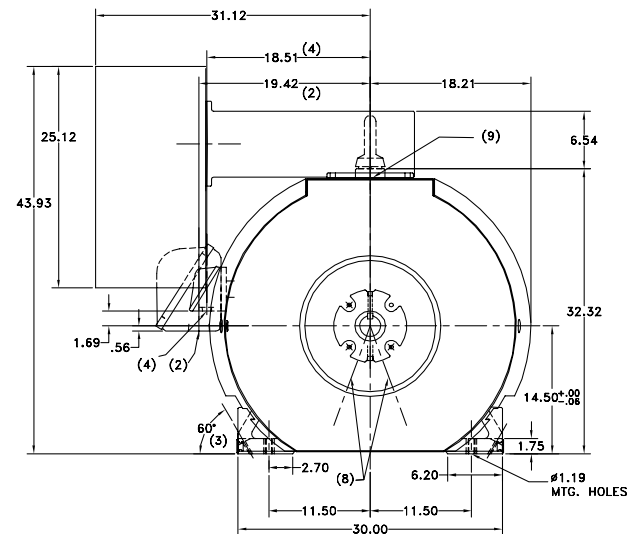
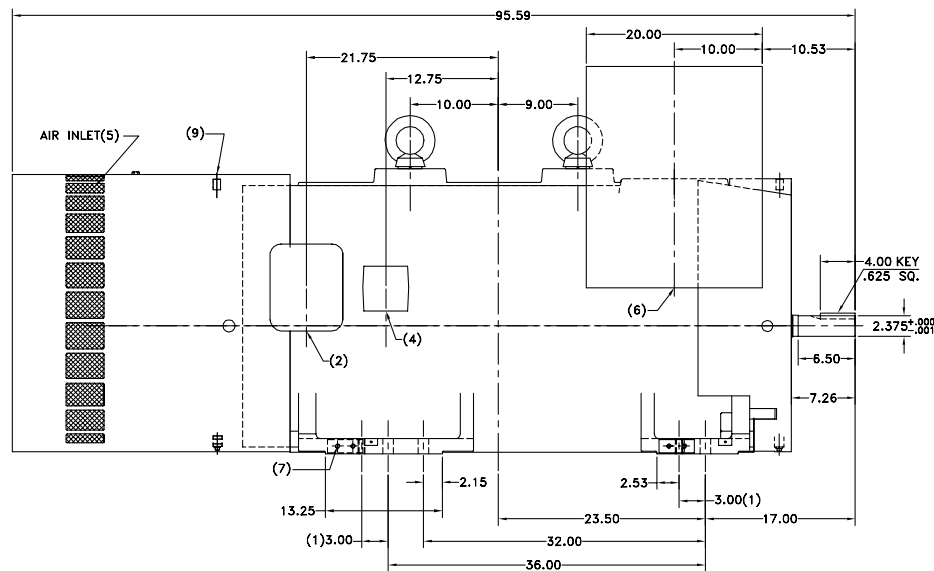
ANTI-FRICTION BEARINGS

FRAME G5810S

ENGLISH HARDWARE

COUPLE DUTY
INCLUDES 5809 FRAME MOUNTING HOLES

OVERSIZED MAIN CONDUIT BOX



- 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 ENCROACH 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

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.

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.

REV. DESC: FOOT MOUNTING THRU HOLES WERE 1.875; NOW, 1.19.	VERSION: 01	TDR: 000000871380
REV. LTR: A	REvised: 11:20:09 09/12/2014	BY: RSNKWK
FILE: \RSN\00028\875		
MTL: -		

BALDOR

G5810,TEFC,L/N,CPLD,3600,A/F,F1,20X25X12,U=2.3750,XBA=17.00

SH 1 of 1

617354-015

