

BALDOR® • RELIANCE

Product Information Packet

M50602S-4

600HP,3583RPM,3PH,60HZ,5010,A50184M,TEFC

Part Detail							
Revision:	D	Status:	PRD/A	Change #:		Proprietary:	No
Type:	AC	Prod. Type:	A50184M	Elec. Spec:	A50WG5690	CD Diagram:	416820-025
Enclosure:	TEFC	Mfg Plant:		Mech. Spec:		Layout:	617354-014
Frame:	5010	Mounting:	F1	Poles:	02	Created Date:	03-31-2014
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.	M50602S-4		SPEC NO.	A50-1474-5690	
HP	600	RPM	3583	FRAME	5010
VOLTS	460	F.L. AMPS	644	PHASE	3
F.L.EFF.	95.7	F.L.P.F.	91	MOTOR WEIGHT	5040
DESIGN	-	NEMA CODE	G	MAX AMBIENT	40
	115	C RISE/ RES	AT	DUTY	CONT
D.E. BRG.	65BC03J40X		HP	690	AMPS
WDG. THERMAL	100 OHM	QTY.	6	O.D.E. BRG.	65BC03J40X
LUBE	POLYREX EM			BRG. THERMAL	
VOLTS	120/240	AMPS	2.9/1.46	WATTS	350/350
CERTIFICATE OF COMP NO.	LR52580			QTY	2
			NEMA NOM EFF = 95.4%		

Parts List		
Part Number	Description	Quantity
SA281011	SA A50-1474-5690	1.000 EA
RA267511	RA A50-1474-5690	1.000 EA
482406100FB	1/0 AWG, UL3374,BLACK,600V,BELDEN #37190	84.000 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
424731025P	HEATER LAC	2.000 EA
419512012SG	LABELS, HEAT SHRINK SET	1.000 EA
034692001AB	HCSPP 1/8" PLATED	2.000 EA
034690004AB	PPLG 1/2" PLATED	4.000 EA
034691008AB	1 1/2 PIPE PLUG- BIN STOCK	2.000 EA
034690002AB	"unbulked" PPLG 1/4" PLTD.	4.000 EA
034000014AB	WSH ID.406 OD.812 TH.065	4.000 EA
807475027A	BRACKET FE GP G30 6313 VIB PROV, ENGLISH	1.000 EA
032018036CK	HHCS 3/8-16X4-1/2 PLTD.	4.000 EA
035000001AB	ALFTG CAT.NO.1627-B PLTD	1.000 EA
032018004AK	HHCS 1/4-20X1/2 PLATED	4.000 EA
710607004WPA	THRM BARRIER BRKT, LAC	1.000 EA
034530058EB	PP NIPP ODE GRS DR	1.000 EA
034630002AJ	PP CPLG ODE	1.000 EA
034630005AJ	PP CPLG ODE GRS DR	1.000 EA
034017014AB	LCKW 3/8 STD. PLATED	4.000 EA
032018008CK	HHCS 3/8-16X1L PLATED	4.000 EA
034000012AB	WSHR 1/4 STD. PLATED	4.000 EA

Parts List (continued)		
Part Number	Description	Quantity
415915007B	GASK, 46" LAC	1.000 EA
034000016AB	WSHR .531ID 1.062OD .095	4.000 EA
034000012AB	WSHR 1/4 STD. PLATED	12.000 EA
406673001E	CAP PLUG	2.000 EA
032130022HB	HXSCHCS BE BRKT- b/s 4/11/14	4.000 EA
032130012HB	HXSCHCS BE BRKT	1.000 EA
034530082BB	PP NIP ODE GRS FL	1.000 EA
035000001F	RELIEF FTG. G/DRN	1.000 EA
034017012AB	LCKW 1/4 STD. PLATED	4.000 EA
415045002L	SLGR	1.000 EA
034600007AB	RED.BSHG.GRS/DRN	1.000 EA
415916013L	T/BLK S/HTR LAC	2.000 EA
807470006A	AIR DEFL B/E BRKT	1.000 EA
034017014AB	LCKW 3/8 STD. PLATED	4.000 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
034530058EB	PP NIPP ODE GRS DR	1.000 EA
034630002AJ	PP CPLG ODE	1.000 EA
034630005AJ	PP CPLG ODE GRS DR	1.000 EA
034017014AB	LCKW 3/8 STD. PLATED	4.000 EA
406673001E	CAP PLUG	2.000 EA
034690004AB	PPLG 1/2" PLATED	2.000 EA
032130022HB	HXSCHCS BE BRKT- b/s 4/11/14	4.000 EA

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034530082BB	PP NIP ODE GRS FL	1.000 EA
035000001F	RELIEF FTG. G/DRN	1.000 EA
034600007AB	RED.BSHG.GRS/DRN	1.000 EA
616156033A	INNER CAP ODE	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
616156032A	INNER CAP DE	1.000 EA
034017013AB	LCKW 5/16 STD. PLATED	4.000 EA
035051013AA	BBLCW W-13 BLACK OXIDE	2.000 EA
616145011A	THERMAL BARRIER, LAC	1.000 EA
T-0346-8	HALF KEY BALANCE 004600044H	1.000 EA
415826011A	INSUL WSHR ODE CAP	1.000 EA
415915007C	GASK, LAC	1.000 EA
036150030NA	SKHD SSCR;STAT;BT-G508	2.000 EA
419512002A	ID TAG, ROLL LAC	0.002 RL
041009000FD	T-LUG(ALTERNATE -7D)	12.000 EA
041009038L	TERMINAL LUG	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
034690001AB	SQHDPLG, COND	2.000 EA
410700000DD	WAVY WASHER FAN-	1.000 EA
034141162AB	RETAINER RING,FAN	1.000 EA
419512012S	SHRINK MKR,	1.000 EA
807475026A	BRACKET FE GP	1.000 EA

807473022XC	FAN COVER FE	1.000 EA
034530080BB	1/4 X 10 PP NIPPLE	1.000 EA
034000016AB	WSHR .531ID 1.062OD .095	4.000 EA
032375004HB	SLRHMS 8-32X1/2 PLATED	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
034530040HB	P/NIP 1-1/2X5L PLATED-b/s	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
034530040HB	P/NIP 1-1/2X5L PLATED-b/s	1.000 EA
403938055A	GASK, TBOX MTG, LAC	1.000 EA
403938056A	GASK, LAC	1.000 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

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041009003D	T & B LUG (A116)	18.000 EA
803076018A	L/THROAT 803076016WCB	1.000 EA
032018016DK	HHCS 1/2-13X2L PLTD.	4.000 EA
034690004AB	PPLG 1/2" PLATED	2.000 EA
004793040A	BUTT SPLICE SPHTR	2.000 EA
419512012SG	LABELS, HEAT SHRINK SET	1.000 EA
033102016AB	NUT 1/2-13 PLATED - 360	4.000 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
705500119X	T/BOX FRAME	1.000 EA
705500162XBB	BACKPLATE,T/BOX	1.000 EA
705500006CJ	GASK, TERM BOX, LAC, FRONT COVER	1.000 EA
705500006CJ	GASK, TERM BOX, LAC, FRONT COVER	1.000 EA
705500006CK	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
419306099B	N/P - MAKE IN ASSEMBLY	1.000 EA
419306099A	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
412027034A	SUPPORT(T.B.) - G512	1.000 EA
415917001A	RTD TAG	4.000 EA

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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
MP1011A01	4 MIL X 12FT X 100 FT POLYETHYLENE	0.100 RL
PK5006A09	WOOD BASE SHIPPING BASE	1.000 EA
PK5006A09	WOOD BASE SHIPPING BASE	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
MG1200G96	POLANE S PLUS – MED. CHARCOAL METALLIC	1.000 GA
PK4110A11	SHAFT BLOCKING	1.000 EA
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

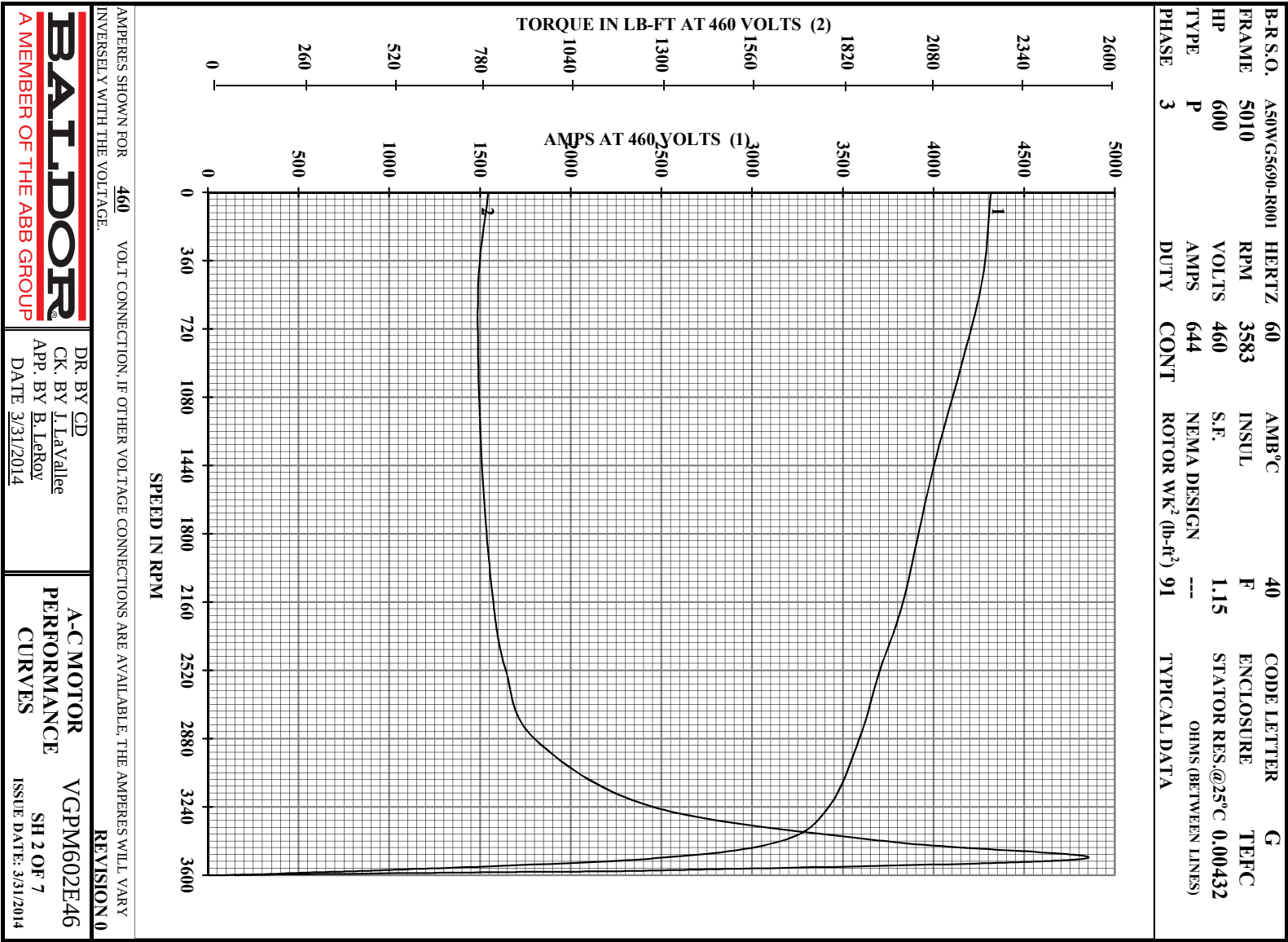
BALDOR-RELIANCE	FRAME	HP	TYPE	PHASE	HERTZ	RPM
SALES ORDER						
A50WGS690-R001	5010	600	P	3	60	3583
VOLTS	AMPS	DUTY	AMB°C	INSUL	S.F.	NEMA DESIGN
460	644	CONT	40	F	1.15	---
CODE LETTER	ENCL.	ROTOR WK ² (lb-ft ²)	STATOR RES.@25°C OHMS (BETWEEN LINES)	TYPICAL DATA		
G	TEFC	91	0.00432			
PERFORMANCE						
LOAD	HP	AMPERES	RPM	%	POWER FACTOR	EFFICIENCY
NO LOAD	0	146.3	3600	9.1		0.0
1/4	150	220.8	3596	69.8		90.9
2/4	300	347.8	3592	85.5		94.5
3/4	450	491.2	3588	89.9		95.5
4/4	600	643.8	3583	91.2		95.7
5/4	750	804.3	3579	91.3		95.7
6/4	900	973.7	3574	90.7		95.4
SPEED TORQUE						
	RPM	TORQUE % FULL LOAD	TORQUE LB-FT	AMPERES		
LOCKED ROTOR	0	91	804	4316.8		
PULL UP	540	88	774	4252.5		
BREAKDOWN	3513	288	2536	2435.8		
FULL LOAD	3583	100	879	643.8		
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 VGPMM602E46			
A MEMBER OF THE ABB GROUP		CK. BY J.LaVallee APP. BY B. LeRoy DATE 3/31/2014	SH 1 OF 7 ISSUE DATE: 3/31/2014			

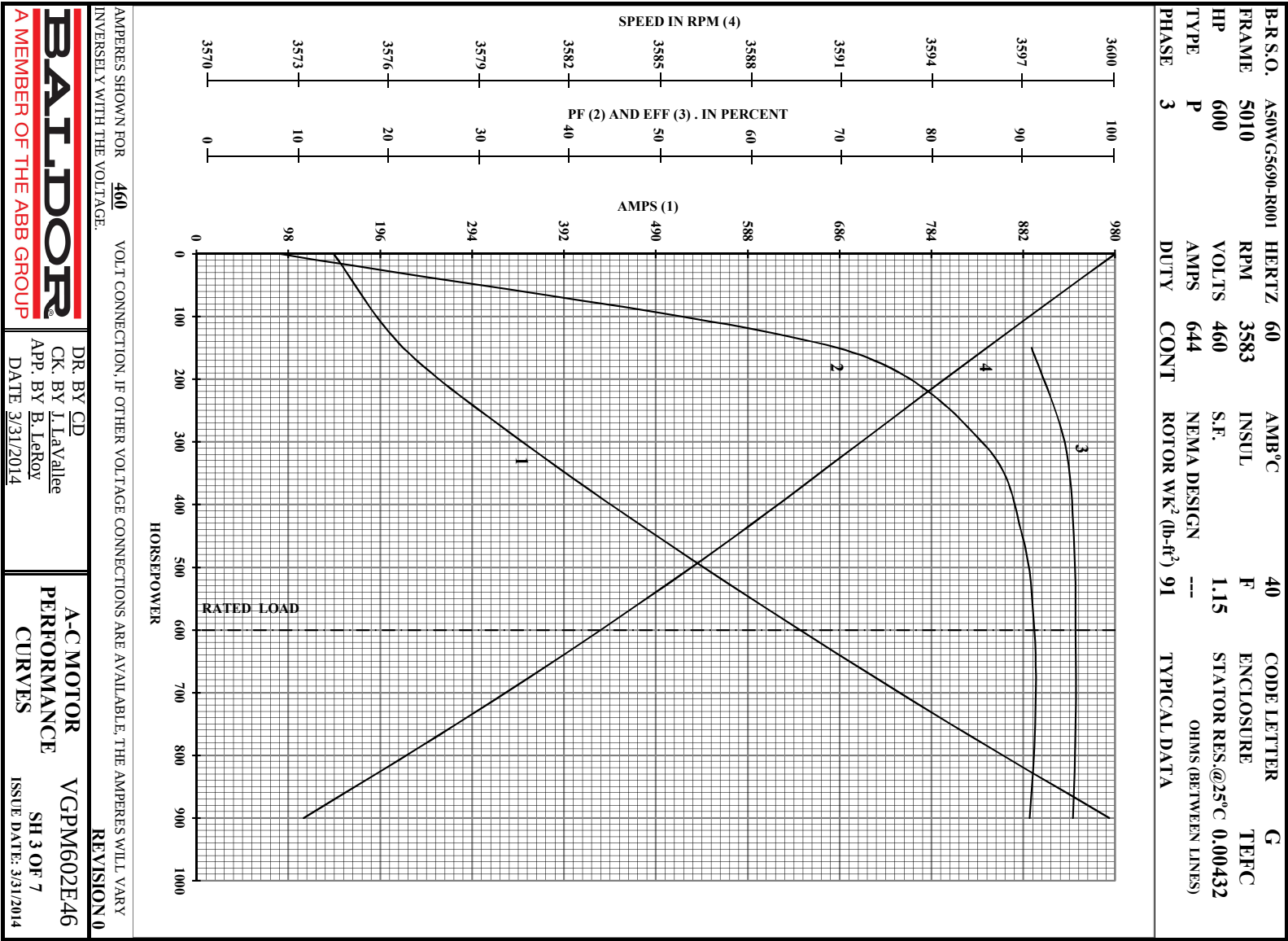
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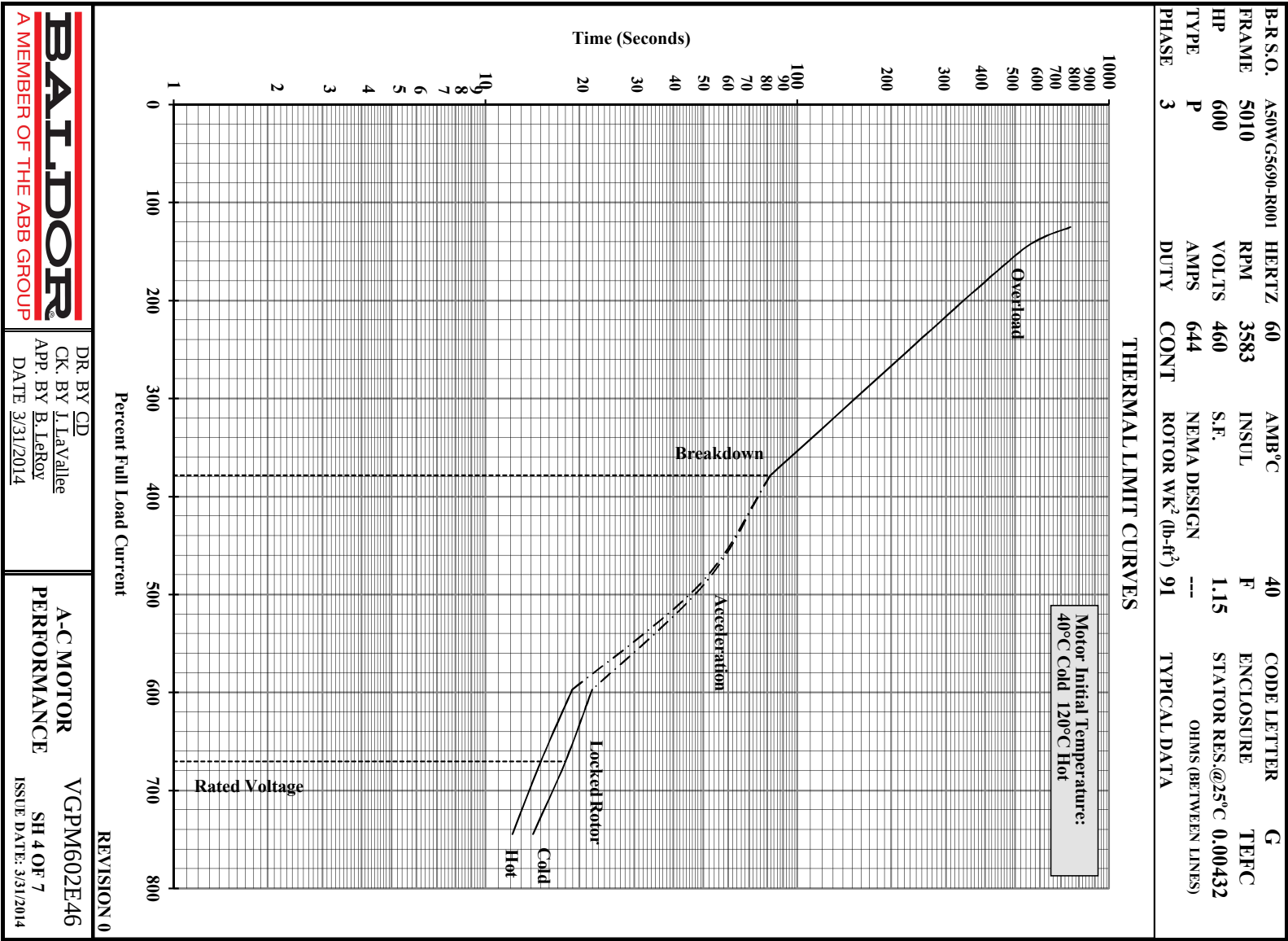
BALDOR
A MEMBER OF THE ABB GROUP

DR. BY CD
CK. BY J LaVallee
APP. BY B. LeRoy
DATE 3/31/2014

A-C MOTOR VGP602E46
PERFORMANCE SH 1 OF 7
ISSUE DATE: 3/31/2014





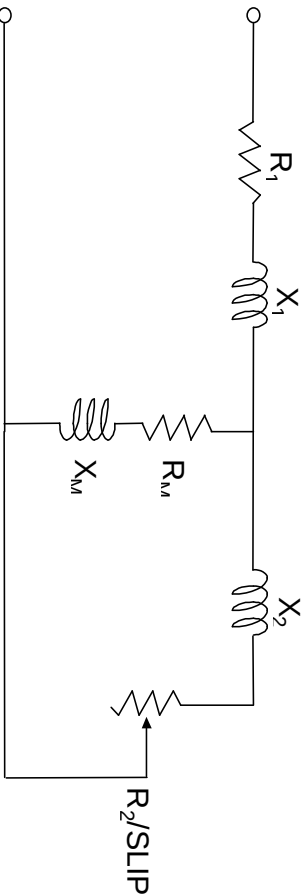


B-R-S.O.	A50WG5690-R001	HERTZ	60	AMB°C	40	CODE LETTER	G
FRAME	5010	RPM	3583	INSUL	F	ENCLOSURE	TEFC
HP	600	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00432
TYPE	P	AMPS	644	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	91	TYPICAL DATA	

EQUIVALENT CIRCUIT DATA

(Per Unit, Per Phase)

FULL LOAD				LOCKED ROTOR			
R_1	0.00597	X_1	0.08380	R_1	0.00483	X_1	0.08022
R_2	0.00416	X_2	0.07421	R_2	0.01819	X_2	0.04779
R_m	0.10160	X_m	3.78503	R_m	0.54730	X_m	3.46410
BASE OHMS				BASE VOLTS			
				266			
SC Time Constant				$X'' = X_s$			
				0.12801			
OC Time Constant				X/R Ratio			
				17.87			



Parallel Equivalent			
FL R_m ' pu	141.1099	LR R_m ' pu	22.47310
FL X_m ' pu	3.78776	LR X_m ' pu	3.55057

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 J. LaVallee
 APP. BY B. LeRoy
 DATE 3/31/2014

A-C MOTOR PERFORMANCE CURVES
 VCPM602E46
 SH 5 OF 7
 ISSUE DATE: 3/31/2014

B-R.S.O.	A50WG5690-R001	HERTZ	60	AMB °C	40	CODE LETTER	G
FRAME	5010	RPM	3583	INSUL	F	ENCLOSURE	TEFC
HP	600	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00432
TYPE	P	AMPS	644	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	91	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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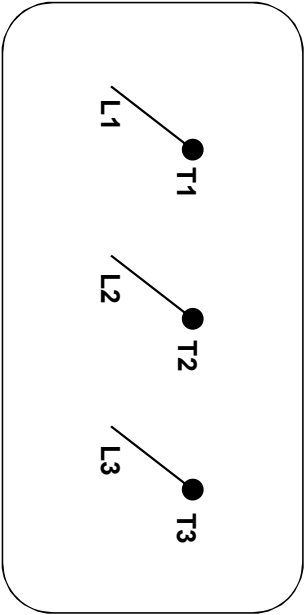
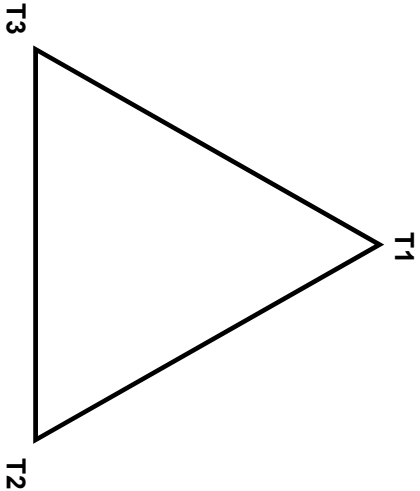
 DR. BY CD
 CK. BY J. LaVallee
 APP. BY B. LeRoy
 DATE 3/31/2014

 A-C MOTOR
 PERFORMANCE
 CURVES
 VGPM602E46
 SH 6 OF 7
 ISSUE DATE: 3/31/2014

B-R.S.O.	A50WG5690-R001	HERTZ	60	AMB°C	40	CODE LETTER	G
FRAME	5010	RPM	3583	INSUL	F	ENCLOSURE	TEFC
HP	600	VOLTS	460	S.F.	1.15	STATOR RES.@25°C	0.00432
TYPE	P	AMPS	644	NEMA DESIGN	---	OHMS (BETWEEN LINES)	
PHASE	3	DUTY	CONT	ROTOR WK ² (lb-ft ²)	91	TYPICAL DATA	

A-C MOTOR
CONNECTION DIAGRAM

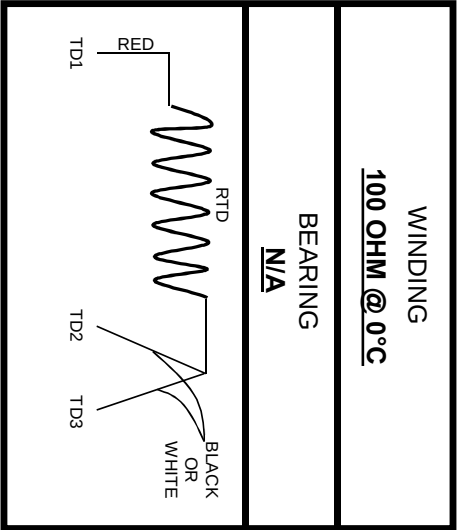
STANDARD 3 LEAD DELTA CONNECTED



(N.P. 1575-BA)

BALDOR A MEMBER OF THE ABB GROUP	DR. BY CD	A-C MOTOR	VGPM602E46	REVISION 0
	CK. BY J.LaVallee	PERFORMANCE		
	APP. BY B.LeRoy	CURVES	SH 7 OF 7	
	DATE 3/31/2014		ISSUE DATE: 3/31/2014	

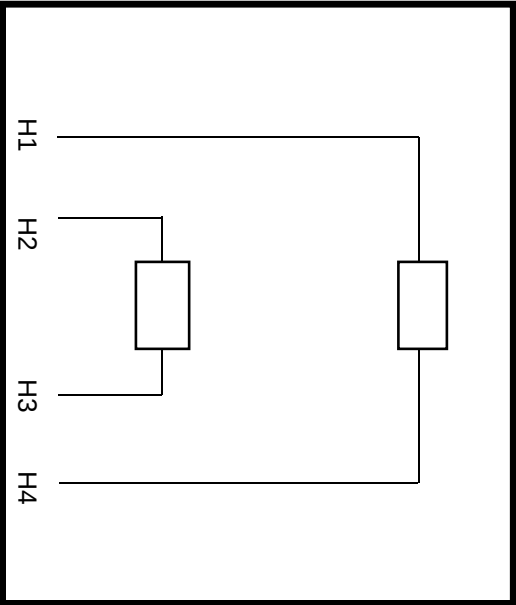
RESISTANCE TEMPERATURE
CONNECTION DIAGRAM



BALDOR BALDOR • DOUG • RELIANCE	DR. BY	Chris Stockton	A-C MOTOR AUXILIARY CONNECTIONS	G30_GP SHEET 1 OF 2
	CK. BY	Chris Stockton		
	APP. BY	Joe Hillhouse		
	DATE	3/5/2014		

SPACE HEATER CONNECTION

VOLTS 120/240 AMPS 2.9/1.46 WATTS 350/350
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 Chris Stockton
CK. BY Chris Stockton
APP. BY Joe Hillhouse
DATE 3/5/2014

A-C MOTOR
AUXILIARY
CONNECTIONS

G30_GP
SHEET 2 OF 2

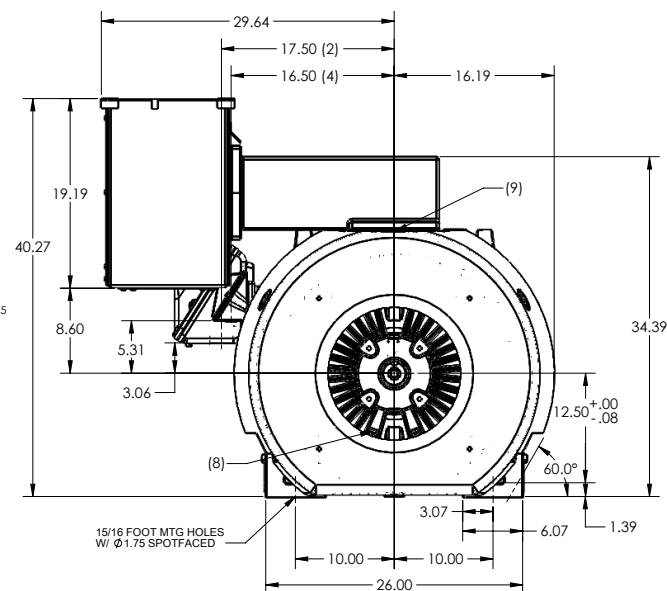
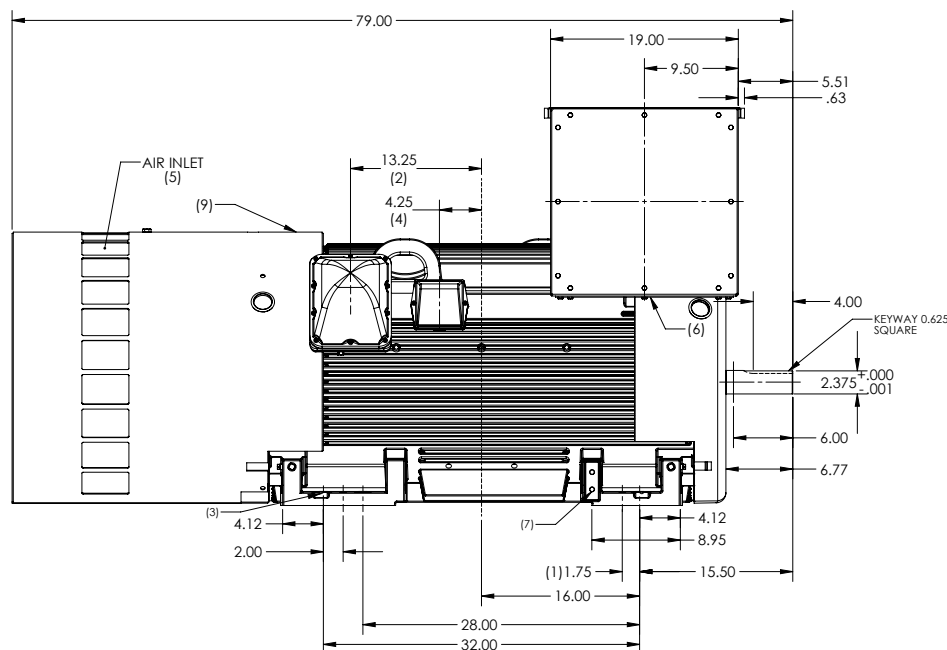
GENERAL PURPOSE PRE-CONFIGURED ALTERNATING CURRENT MOTORS

ENCLOSURE: TOTALLY ENCLOSED

MOUNTING: FOOT

SQUIRREL-CAGE INDUCTION
3600 RPM MAX
FRAME G5010S
(COUPLED DUTY)
INCLUDES G5009 FRAME MOUNTING HOLES

COOLING: FAN COOLED
ANTI-FRICTION BEARINGS
ENGLISH HARDWARE
OVERSIZE MAIN CONDUIT BOX

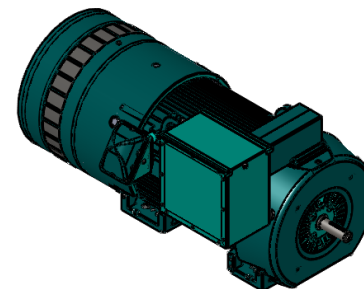


NOTES:

1. (4) 3/4-10 JACKSCREW HOLES
2. 2.0 NPT FOR WINDING TEMPERATURE DETECTOR LEADS
3. 11/32 DOWEL PIN PILOT HOLES, 1 HOLE EACH FOOT
4. 3/4 NPT 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 NPT PROVISIONS FOR BEARING TEMPERATURE DETECTOR LEADS.
9. GREASE POINT

WEIGHT (LBS): 5650 (MAXIMUM)

DIMENSIONS ARE IN INCHES



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.

F10-T52L19

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

REV. DESC: OMITTED TO 5 INCH DIAMETER FROM SHAFT EXT. NOTE

REV: A VERSION: 01 REVISED: 01-30-50 11/25/2015 TDR: 000000951349

MODEL NO. 617354-014

BY: RSNCKW

Material:

REF:

BALDOR

G5010S, TEFC, L/N, CPLD, 3600, A/F F1, 19X19X12, U-2.375, XBA-15.50

