ABB BALDOR RELIANCE

Customer information packet

EM2543T-5BG

50HP, 1775RPM, 3PH, 60HZ, 326T, 4256M, OPSB, F1

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Specifications

Enclosure	OPSB
Frame	326T
Frame Material	Steel
Frequency	60.00 Hz
Motor Letter Type	Three Phase
Output @ Frequency	50.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1800 RPM @ 60 HZ
Voltage @ Frequency	575.0 V @ 60 HZ
Agency Approvals	CSA EEV
	UR
	CSA
Ambient Temperature	40 °C
Auxiliary Box	NO AUXILLARY BOX
Auxiliary Box Lead Termination	None
Base Indicator	Rigid
Bearing Grease Type	Polyrex EM (-20F +300F)
Blower	None
Current @ Voltage	46.000 A @ 575.0 V
Design Code	B
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	94.5 %
Electrically Isolated Bearing	Not Electrically Isolated
Feedback Device	NO FEEDBACK
Front Face Code	Standard
Front Shaft Indicator	None
Heater Indicator	No Heater
High Voltage Full Load Amps	46.0 a
Insulation Class	H
Inverter Code	Inverter Ready
KVA Code	G

Part Detail

Revision	M
Type	AC
Mech. spec.	42E307
Base	
Status	PRD/A
Elec. spec.	42WGW476
Layout	42LYE307
Eff. date	02-12-2024
CD Diagram	CD0006
Poles	04
Leads	3#8
Proprietary	False
Created date	09-22-2014

Lifting Lugs	Standard Lifting Lugs
Locked Bearing Indicator	No Locked Bearing
Motor Lead Exit	Ko Box
Motor Lead Quantity/Wire Size	3 @ 8 AWG
Motor Lead Termination	Flying Leads
Motor Standards	NEMA
Motor Type	4256M
Mounting Arrangement	F1
Number of Poles	4
Overall Length	27.69 IN
Power Factor	87
Product Family	General Purpose
Pulley End Bearing Type	Ball
Pulley Face Code	Standard
Pulley Shaft Indicator	Standard
Rodent Screen	None
Service Factor	1.15
Shaft Diameter	2.125 IN
Shaft Extension Location	Pulley End
Shaft Ground Indicator	Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	No Slinger
Speed	1775 rpm
Speed Code	Single Speed
Starting Method	Direct on line
Thermal Device - Bearing	None
Thermal Device - Winding	None
Vibration Sensor Indicator	No Vibration Sensor
Winding Thermal 1	None
Winding Thermal 2	None

Nameplate

NP2138L													
CAT.NO.	EM2543T-5BG		**P/N**			**ENCLOSURE**	OPSB						
SPEC.	42E307W476G1	**CC**	010A	**FRAME**	326T	**S/N**							
HP	50		**CLASS**	H	**HZ**	60							
RPM	1775		**PH**	3	**DES**	A							
VOLT	575				**KVA-CODE**	G	**ODE BRG**	6311	**DE BRG**	6312			
AMP	46												
RATING	40C AMB-CONT			**GREASE**	POLYREX EM								
NEMA-NOM-EFF	94.5	**PF**	87	**SER.F.**	1.15								
HTR-VOLTS		**HTR-AMPS**											

AC Induction Motor Performance Data
Record # 50233
Typical performance - not guaranteed values

Winding: 42WGW476-R003	**Type:** 4256M	**Enclosure:** OPSB

Nameplate Data				**575 V, 60 Hz: Single Voltage Motor**	
Rated Output (HP)			50	**Full Load Torque**	148 LB-FT
Volts			575	**Start Configuration**	direct on line
Full Load Amps			46	**Breakdown Torque**	423 LB-FT
R.P.M.			1775	**Pull-up Torque**	234 LB-FT
Hz	60	**Phase**	3	**Locked-rotor Torque**	282 LB-FT
NEMA Design Code	A	**KVA Code**	G	**Starting Current**	305 A
Service Factor (S.F.)			1.15	**No-load Current**	16.5 A
NEMA Nom. Eff.	94.5	**Power Factor**	87	**Line-line Res. @ 25ºC**	0.194 Ω
Rating - Duty			40C AMB-CONT	**Temp. Rise @ Rated Load**	36°C
S.F. Amps				**Temp. Rise @ S.F. Load**	42°C
				Locked-rotor Power Factor	27.1
				Rotor inertia	7.46 LB-FT2

Load Characteristics 575 V, 60 Hz, 50 HP

% of Rated Load	**25**	**50**	**75**	**100**	**125**	**150**	**S.F.**
Power Factor	47	69	79	86	86	85	86
Efficiency	90	93.5	94.4	94.5	94.3	94	94.4
Speed	1795	1790	1785	1780	1774	1768	1776
Line amperes	22.5	29.2	37.7	46	58	70	53.2

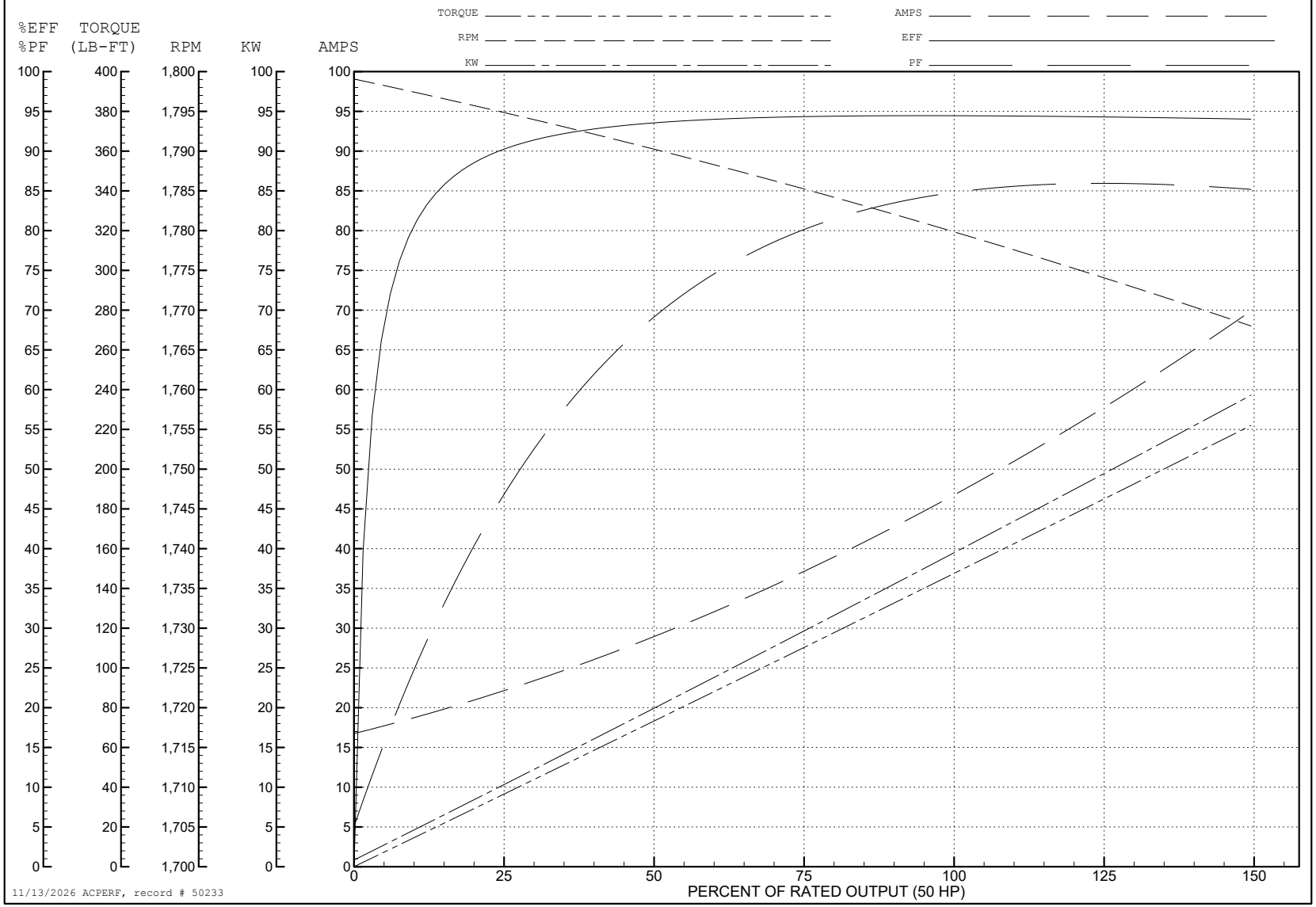
ABB Motors and Mechanical Inc.

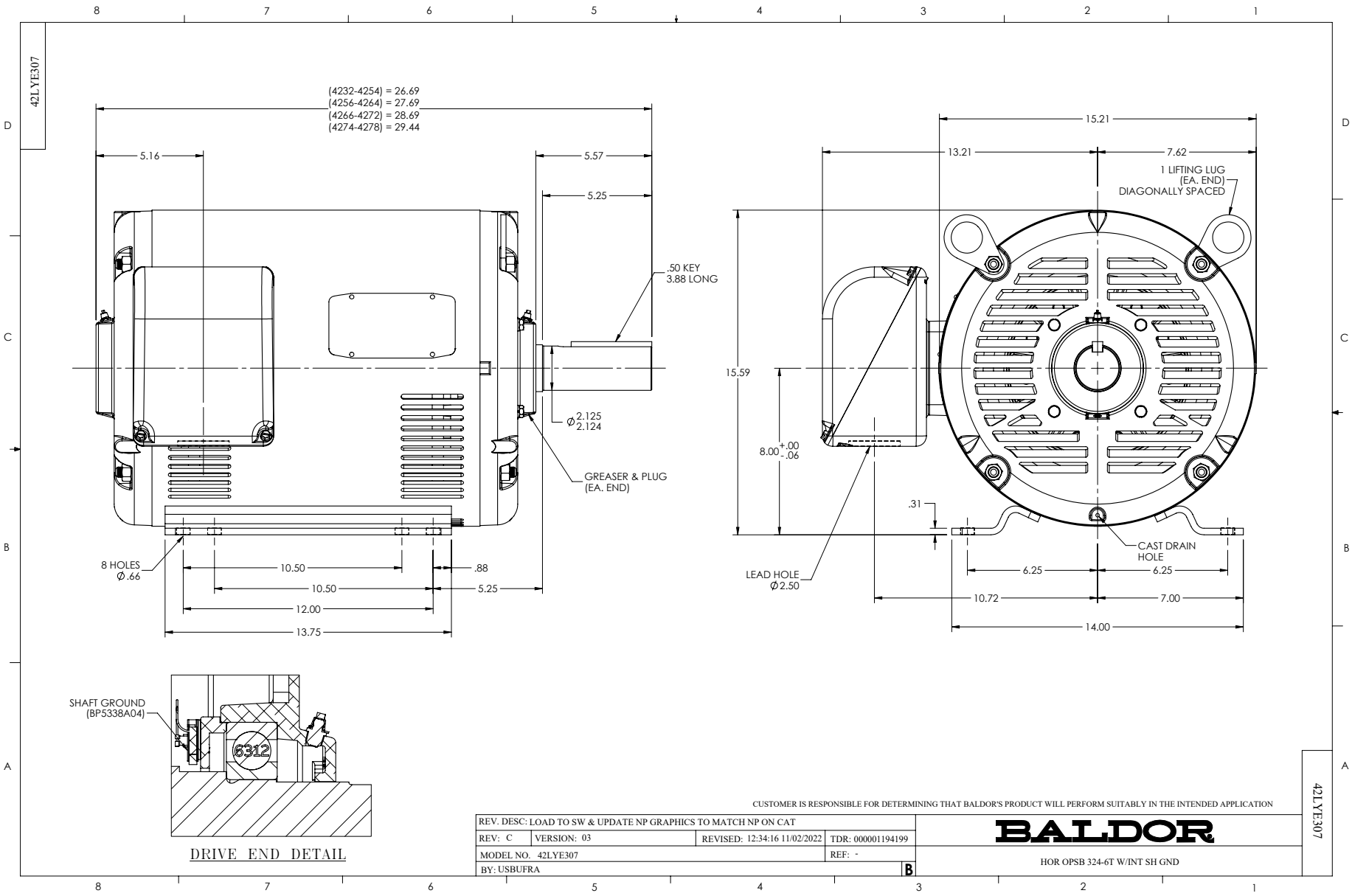
WINDING # 42WGW476

Typical performance - not guaranteed values.

50 HP 3 PH 60 HZ 1775 RPM 575 V 4256M

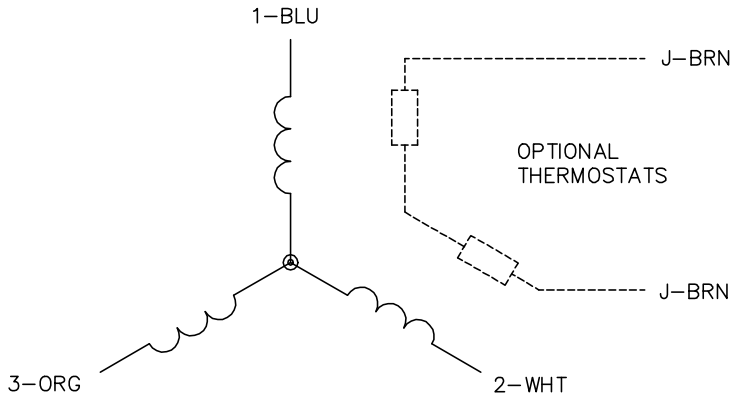
TORQUES(LB-FT): PO=423 PU=234 LR=282 LRA=305

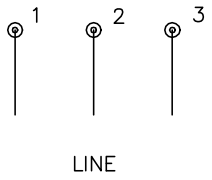



42LYE307
(4232-4254) = 26.69
(4256-4264) = 27.69
(4266-4272) = 28.69
(4274-4278) = 29.44
5.16
5.57
5.25
.50 KEY
3.88 LONG
Ø2.125
2.124
GREASER & PLUG
(EA. END)
8 HOLES
Ø.66
10.50
.88
10.50
5.25
12.00
13.75
15.21
13.21
7.62
1 LIFTING LUG
(EA. END)
DIAGONALLY SPACED
15.59
8.00 +.00 -.06
.31
CAST DRAIN
HOLE
LEAD HOLE
Ø2.50
6.25
6.25
10.72
7.00
14.00
SHAFT GROUND
(BP5338A04)
6312
DRIVE END DETAIL
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: LOAD TO SW & UPDATE NP GRAPHICS TO MATCH NP ON CAT
REV: C
VERSION: 03
REVISED: 12:34:16 11/02/2022
TDR: 000001194199
MODEL NO. 42LYE307
REF: -
BY: USBUFRA
B
BALDOR
HOR OPSB 324-6T W/INT SH GND
42LYE307

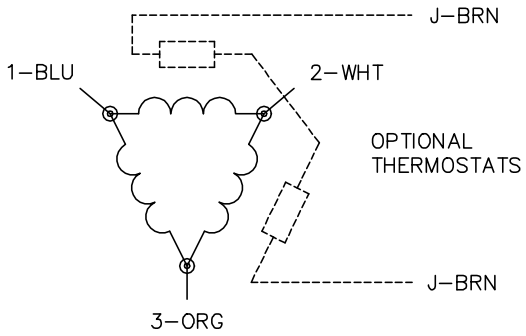
CD0006

TYPICAL WYE–CONNECTED MOTOR





TYPICAL DELTA–CONNECTED MOTOR



NOTES:

1. THREE LEAD MOTOR MAY BE EITHER WYE CONNECTED OR DELTA CONNECTED.
2. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
3. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
4. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY VARY.
5. LEAD COLORS ARE OPTIONAL. LEADS MUST BE NUMBERED AS SHOWN.

CD0006

REV. DESC: ADD CLASS CONN00000007		
REV. LTR: E	VERSION: 01	TDR: 000001099922
FILE: \AAA\00005\141	REVISED: 10:24:49 02/19/2019	BY: ENBRIR0
MTL: –		

BALDOR - RELIANCE®

3PH, SV, 3 LEADS, WYE OR DELTA CONNECTED

SH 1 of 1