

ABB BALDOR RELIANCE III

Customer information packet

ZDM4102T

54M 6P TEBC HOR 286T TSTATS VECTOR

Class - None

Division - Not Applicable

Specifications

Enclosure	TEBC
Frame	286T
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	20.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1200 RPM @ 60 HZ
Voltage @ Frequency	230.0 V @ 60 HZ 460.0 V @ 60 HZ
Agency Approvals	CSA UR
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	BLOWER
Current @ Voltage	27.000 A @ 460.0 V 54.000 A @ 230.0 V 56.000 A @ 208.0 V
Design Code	A
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	91.7 %
Electrically Isolated Bearing	Not Electrically Isolated
Feedback Device	ENCODER
Front Shaft Indicator	None
Heater Indicator	No Heater
High Voltage Full Load Amps	27.0 a

Part Detail

Revision	F
Type	AC
Mech. spec.	10T004
Base	
Status	PRD/A
Elec. spec.	10WGY730
Layout	10LYT004
Eff. date	08-18-2025
CD Diagram	CD0180
Poles	06
Leads	9#10
Proprietary	False
Created date	03-14-2019

Insulation Class	H
Inverter Code	Inverter Duty
KVA Code	H
Lifting Lugs	Standard Lifting Lugs
Locked Bearing Indicator	Locked Bearing
Max Speed	1800 rpm
Motor Lead Quantity/Wire Size	9 @ 10 AWG
Motor Lead Termination	Flying Leads
Motor Standards	NEMA
Motor Type	1054M
Mounting Arrangement	F1
Number of Poles	6
Overall Length	34.48 IN
Power Factor	77
Product Family	General Purpose
Pulley End Bearing Type	Ball
Pulley Face Code	Standard
Pulley Shaft Indicator	Standard
Rodent Screen	None
RoHS Status	ROHS COMPLIANT
Service Factor	1.00
Shaft Diameter	1.875 IN
Shaft Ground Indicator	No Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	Shaft Slinger
Speed	1180 rpm
Speed Code	Single Speed
Starting Method	Direct on line
Thermal Device - Bearing	None
Thermal Device - Winding	Normally Closed Thermostat
Vibration Sensor Indicator	No Vibration Sensor
Winding Thermal 1	None
Winding Thermal 2	None

Nameplate

NP1168L									
CAT NO	ZDM4102T								
SPEC.	10T004Y730Z1								
FRAME	286T			HP	20 TE				
VOLTS	230/460								
MAG CUR	26.2/13.1			FLA	54/27				
RPM	1180		RPM MAX			1800			
HZ	60	PH	3	CLASS			H		
SER.F.	1.00	DES	A	SL HZ			1		
NEMA-NOM-EFF	91.7	WK2		6.61					
BLWR V		PH		HZ		A			
RATING	40C AMB-CONT								
DE BRG	6311	ODE BRG			6309				
CC	010A	SER.NO							
	1000:1 CT, 1000:1 VT								

NP VOLTS	230/460					WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)
NP AMPS	54/27	Base Volt	460	R1	0.225	X1 0.891
HP	20	NL AMPS	13.10	R2	0.140	X2 1.090
BASE SPEED	1178	Slip (HZ)	1.08			XM 17.900
PHASE/HZ	3/60	WK ² (lb-ft ²)	6.610			

Rated Full Load Data

	RPM	HP	Torque	Volts	Freq-Hz	Amps
Base Speed	1178.3	20.2	90.1	460	60	26.9
Max Speed	1767	20.2	60.0	460	90	24.2
CT Min Speed	1.1783	0.020	90.1	0.46	0.06	26.9

Load Performance at Base Speed

	RPM	HP	Torque	Volts	Freq-Hz	Amps
No Load	1198.8	0.0	0.0	460	60	13.1
1/4	1194.6	5.1	22.2	460	60	14.3
1/2	1189.5	10.1	44.6	460	60	17.5
3/4	1184.1	15.1	66.8	460	60	21.9
Full Load	1178.3	20.2	90.1	460	60	26.9
O/L	1159	40.4	183.0	460	60	51.5

Blower Data

Volts	Ph/Hz	FL Amps	LR Amps	Frame	CFM

Remarks: Calculated Data

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DR BY USBRRAN1
CK BY CD
APP BY USBRRAN1
DATE 11/1/2024
**A-C MOTOR
PERFORMANCE
CURVES**
10WGY730

Record: 66239

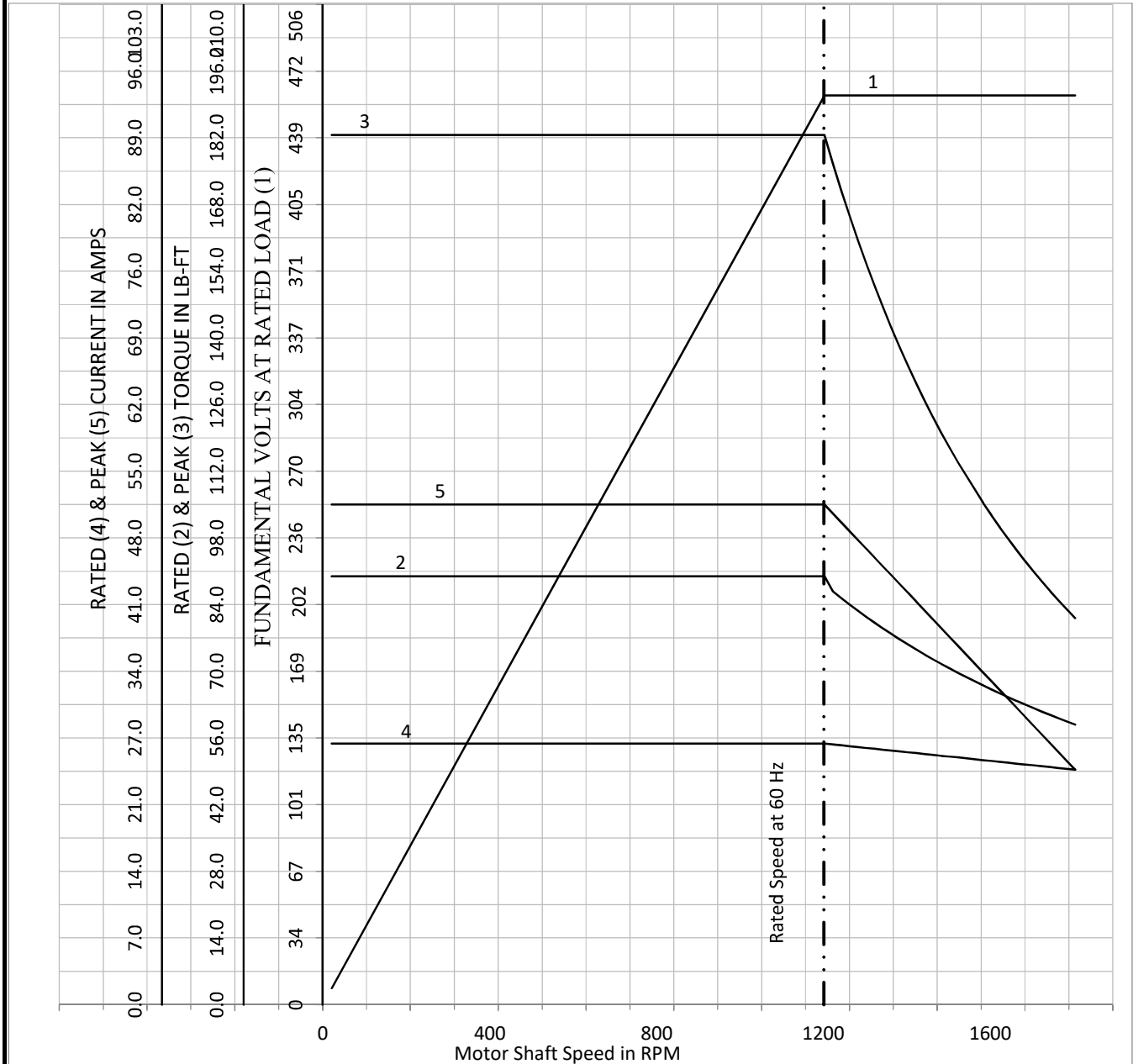
NP VOLTS 230/460
NP AMPS 54/27
HP 20
BASE SPEED 1178.30005
PHASE/HZ 3/60

Base Volt 460
NL AMPS 13.10
Slip (HZ) 1.08
WK² (lb-ft²) 6.610

WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)

R1 0.225 X1 0.891
R2 0.140 X2 1.090
XM 17.900

Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only

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DR BY USBRRAN1
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APP BY USBRRAN1
DATE 11/1/2024

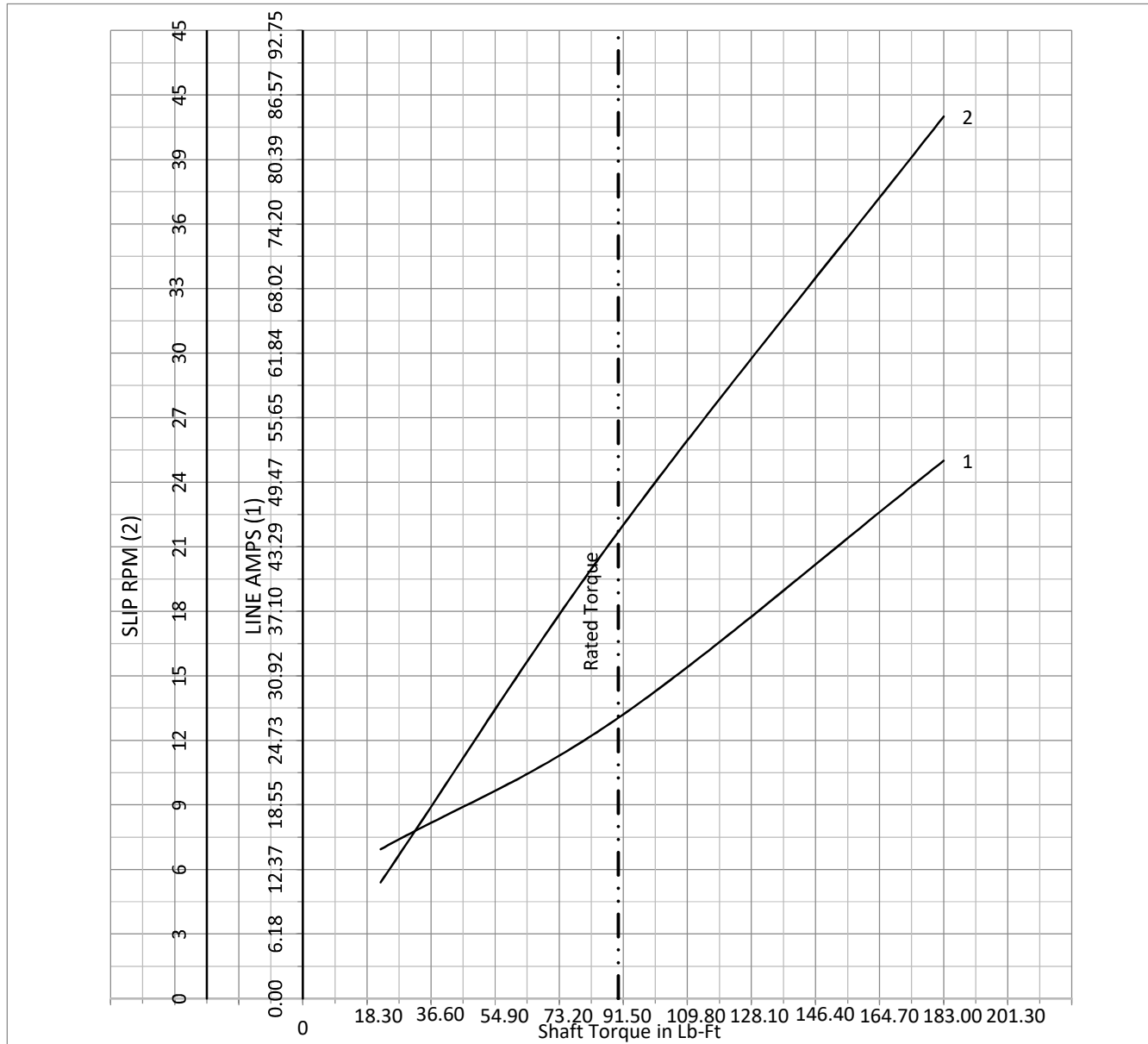
**A-C MOTOR
PERFORMANCE
CURVES**

10WGY730

Record: 66239

NP VOLTS	230/460	0	0	WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)			
NP AMPS	54/27	Base Volt	460	R1	0.225	X1	0.891
HP	20	NL AMPS	13.10	R2	0.140	X2	1.090
BASE SPEED	1178.300049	Slip (HZ)	1.08			XM	17.900
PHASE/HZ	3/60	WK2 (lb-ft2)	6.610				

Vector PWM Inverter Duty
Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only

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DR BY USBRRAN1

CK BY CD

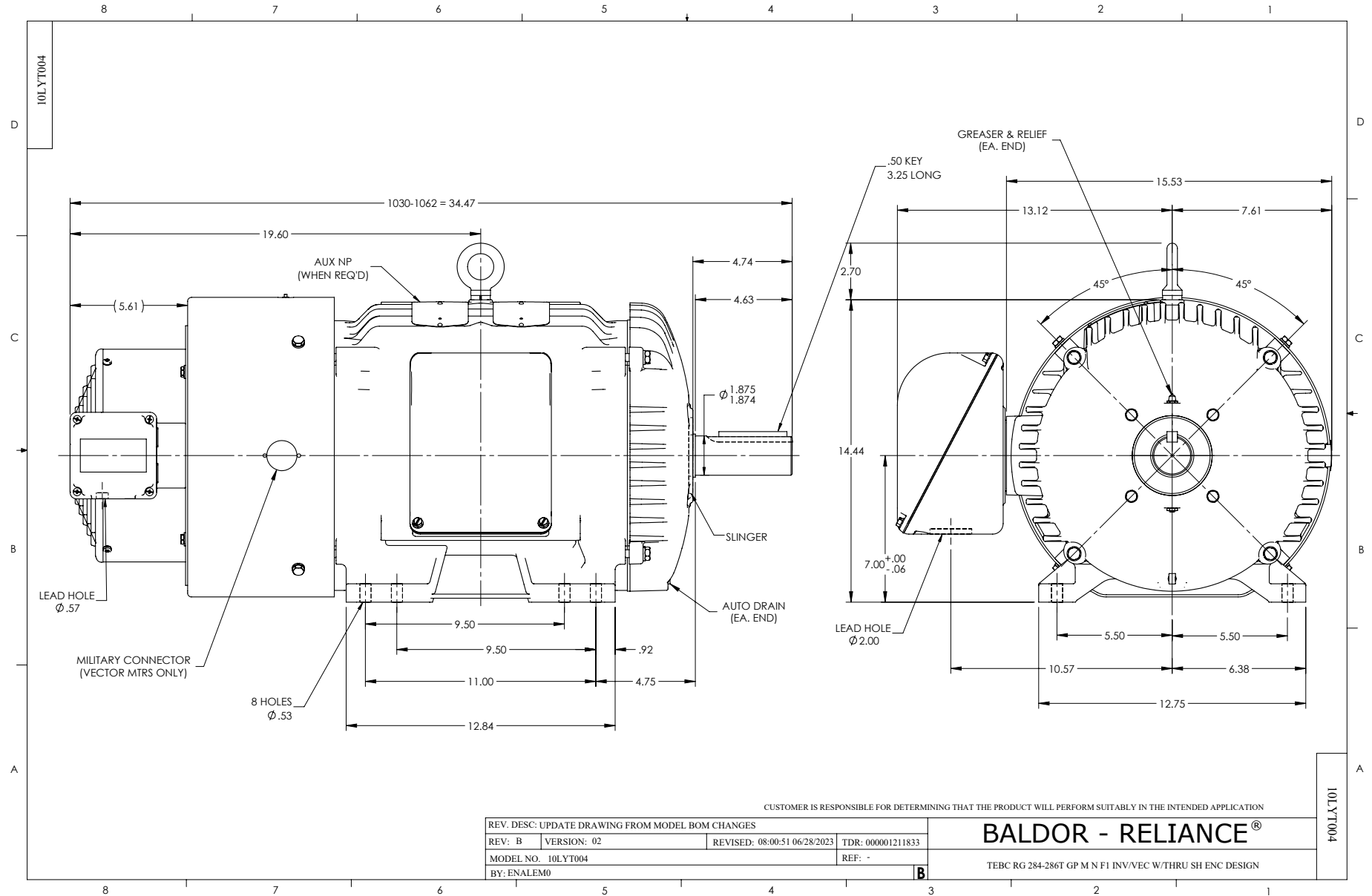
APP BY USBRRAN1

DATE 11/1/2024

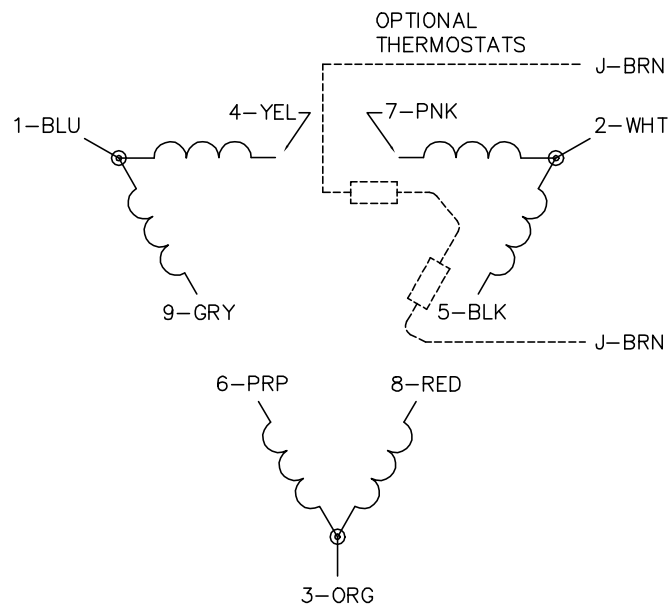
**A-C MOTOR
PERFORMANCE
CURVES**

10WGY730

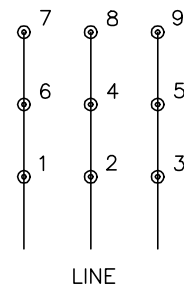
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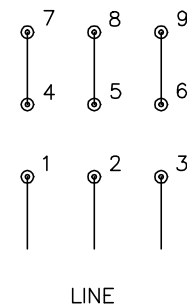
CD0180



LOW VOLTAGE
(2D)



HIGH VOLTAGE
(1D)



NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

CD0180

REV. DESC: ADD CLASS CONN00000007

REV. LTR: D

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\148

REVISED: 10: 25: 29 02/19/2019

BY: ENBRIRO

MTL: —



BALDOR - RELIANCE®

3PH, DV, 9 LEADS, DELTA CONNECTION

SH 1 of 1