ABB BALDOR RELIANCE

Customer information packet

EM4102T-BG

20HP, 1180RPM, 3PH, 60HZ, 286T, 1054M, TEFC, F1
Class - None
Division - Not Applicable

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Specifications

Enclosure	TEFC
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	460.0 V @ 60 HZ
	230.0 V @ 60 HZ
Agency Approvals	CSA
	CSA EEV
	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	None
Current @ Voltage	54.000 A @ 230.0 V
	56.000 A @ 208.0 V
	27.000 A @ 460.0 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	NO FEEDBACK
Front Face Code	Standard
Front Shaft Indicator	None

Part Detail

Revision	Y
Type	AC
Mech. spec.	10J470
Base	
Status	PRD/A
Elec. spec.	10WGY730
Layout	10LYJ470
Eff. date	08-07-2026
CD Diagram	CD0180
Poles	06
Leads	9#10
Proprietary	False
Created date	10-08-2013

Heater Indicator	No Heater
High Voltage Full Load Amps	27.0 a
Insulation Class	H
Inverter Code	Inverter Ready
KVA Code	H
Lifting Lugs	Standard Lifting Lugs
Locked Bearing Indicator	Locked Bearing
Motor Lead Exit	Ko Box
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	27.76 IN
Power Factor	77
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	1.875 IN
Shaft Extension Location	Pulley End
Shaft Ground Indicator	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 (OLD)
Thermal Device - Winding	None
Vibration Sensor Indicator	No Vibration Sensor
Winding Thermal 1	None

Winding Thermal 2	None

Nameplate

NP3443LUA											
CAT.NO.	EM4102T-BG			**CUST. P/N**						**ENCL**	TEFC
SPEC.	10J470Y730G1	**CC**	010A	**FRAME**	286T		**SER.NO.**				
HP	20	**CLASS**	H	**HZ**	60						
R.P.M.	1180	**PH.**	3	**DES.**	A						
VOLTS	230/460	**CODE**	H	**ODE BRG**	6309	**DE BRG**	6311				
AMPS	54/27										
RATING	40C AMB-CONT	**NEMA NOM. EFF.**	91.7	**GREASE**	POLYREX EM						
P.F.	77	**SER.F.**	1.15	**CT6-60H(10:1)VT3-60H(20:1**							
USABLE AT	50HZ 20HP 190/380V 62/31A		SF1.0								
VOLTS	**AMPS**	**MAX. SPACE HEATER TEMP.**									

Parts List

Part number	Description	Quantity
SA270535	SA 10J470Y730G1	1.000 ea
RA257169	RA 10J470Y730G1	1.000 ea
09FN3001C02	EXTERNAL FAN, PLASTIC (COMES W/SCREW FRO	1.000 ea
10CB3000SP	KOBX, CAST W/2.00 LEAD HOLE	1.000 ea
09GS1000	GASKET-CONDUIT BOX, 1/16 THICK LEXIDE	1.000 ea
10XN3118K12	5/16-18 X .75 GRADE 5, ZINC PLATED	4.000 ea
HW1001A31	LOCKWASHER 5/16, ZINC PLT.591 OD, .319 I	4.000 ea
WD1000B25	GND LUG, BURNDY L125HP OR T&B L125HP-BB	1.000 ea
19XW3118G08	.31-18X.50,HEX WSHR HD,TAPTITE 2,GREEN	1.000 ea
10EP1106A53	FR ENDPLATE, MACH	1.000 ea
10XN3816K32	BOLT, 3/8-16X2 HH YZ(5)	4.000 ea
HW1001A38	LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I	4.000 ea
HW4600B40	V-RING SLINGER 2.000 X 2.680 X .28 VITON	1.000 ea
BP5338A05	SHAFT GRD ASSY, RB3002A29 RETAINER RING	1.000 ea
HA4017A01	1/8 X 4 GREASE EXT (F/S)	1.000 ea
HW5100A11	W3917-042 WVY WSHR (WB)	1.000 ea
10XN2520K36	1/4-20 X 2.00 HX HD SCRW GRADE 5, ZINC P	2.000 ea
HW1001A25	LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I	2.000 ea
10EP1105A113	PU ENDPLATE, MACH	1.000 ea
10XN3816K28	3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5	4.000 ea
HW1001A38	LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I	4.000 ea
10XN3118K40	5/16-18 X 2.50" HEX HD, GRADE 5	4.000 ea
HW1001A31	LOCKWASHER 5/16, ZINC PLT.591 OD, .319 I	4.000 ea
10FH4000	310 FAN HOUSING STAMPED, PRIMED W/O P SU	1.000 ea
51XF2520A08	SCREW, HEX SER SLT HD, ZN 1/4-20 X .50 L	4.000 ea
10CB3500	CONDUIT BOX LID, CAST	1.000 ea
10GS1000	GASKET, CONDUIT BOX LID	1.000 ea
51XW2520A12	.25-20 X .75, TAPTITE II, HEX WSHR SLTD	4.000 ea
HW2501H28	KEY, 1/2 SQ X 3.250	1.000 ea
MN416A01	TAG-INSTAL-MAINT no wire (2500 bx)11/25	1.000 ea
LB1508	LABEL "SHAFT GROUNDING BRUSH" 1.50 X .81	1.000 ea

HW4500A21	1618BALEMITE FITTING 825 UNIVERSAL	1.000 ea
HW4500A17	317400 ALEMITE GREASE RELIEF	1.000 ea
HA4066A01	PUSH IN T-DRAIN FITTING (BLACK)	1.000 ea
MJ1000A02	GREASE, POLYREX EM EXXON	0.130 lb
HW4500A03	GREASE FITTING, .125 NPT 1610(ALEMITE) 8	1.000 ea
HW4500A17	317400 ALEMITE GREASE RELIEF	1.000 ea
HA4066A01	PUSH IN T-DRAIN FITTING (BLACK)	1.000 ea
HW2500A25	WOODRUFF KEY USA #1008 #BLOW CARBON STEE	1.000 ea
MG1050Y01	CELEROL BALDOR GOLD *5 GALLON BUCKET*	0.070 ga
85XU0407S04	4X1/4 U DRIVE PIN STAINLESS	4.000 ea
LB1624	COMBINED WARNING LABEL, ISO/ANSI PICTOGR	1.000 ea
LC0181	CONNECTION LABEL	1.000 ea
NP3443LUA	SS SUPER-E,CURUS-EEV,NEMA PREM, CC	1.000 ea
10PA1000	PACKAGING GROUP COMBINED PRINT PK1023A07	1.000 ea

AC Induction Motor Performance Data
Record # 53030
Typical performance - not guaranteed values

Winding: 10WGY730-R018	**Type:** 1054M	**Enclosure:** TEFC

Nameplate Data				**460 V, 60 Hz: High Voltage Connection**	
Rated Output (HP)			20	**Full Load Torque**	90.1 LB-FT
Volts			230/460	**Start Configuration**	direct on line
Full Load Amps			54/27	**Breakdown Torque**	276 LB-FT
R.P.M.			1180	**Pull-up Torque**	115 LB-FT
Hz	60	**Phase**	3	**Locked-rotor Torque**	166 LB-FT
NEMA Design Code	A	**KVA Code**	H	**Starting Current**	165 A
Service Factor (S.F.)			1.15	**No-load Current**	13.1 A
NEMA Nom. Eff.	91.7	**Power Factor**	77	**Line-line Res. @ 25ºC**	0.425 Ω
Rating - Duty			40C AMB-CONT	**Temp. Rise @ Rated Load**	65°C
S.F. Amps				**Temp. Rise @ S.F. Load**	79°C
				Locked-rotor Power Factor	32
				Rotor inertia	6.61 LB-FT2

Load Characteristics 460 V, 60 Hz, 20 HP

% of Rated Load	**25**	**50**	**75**	**100**	**125**	**150**	**S.F.**
Power Factor	39	60	71	77	79	80	78
Efficiency	86.6	91.1	91.9	91.7	90.9	89.8	91.2
Speed	1194.6	1189.5	1184.1	1178.3	1171.4	1163.8	1174
Line amperes	14.3	17.5	21.9	26.9	32.7	39.3	30.4

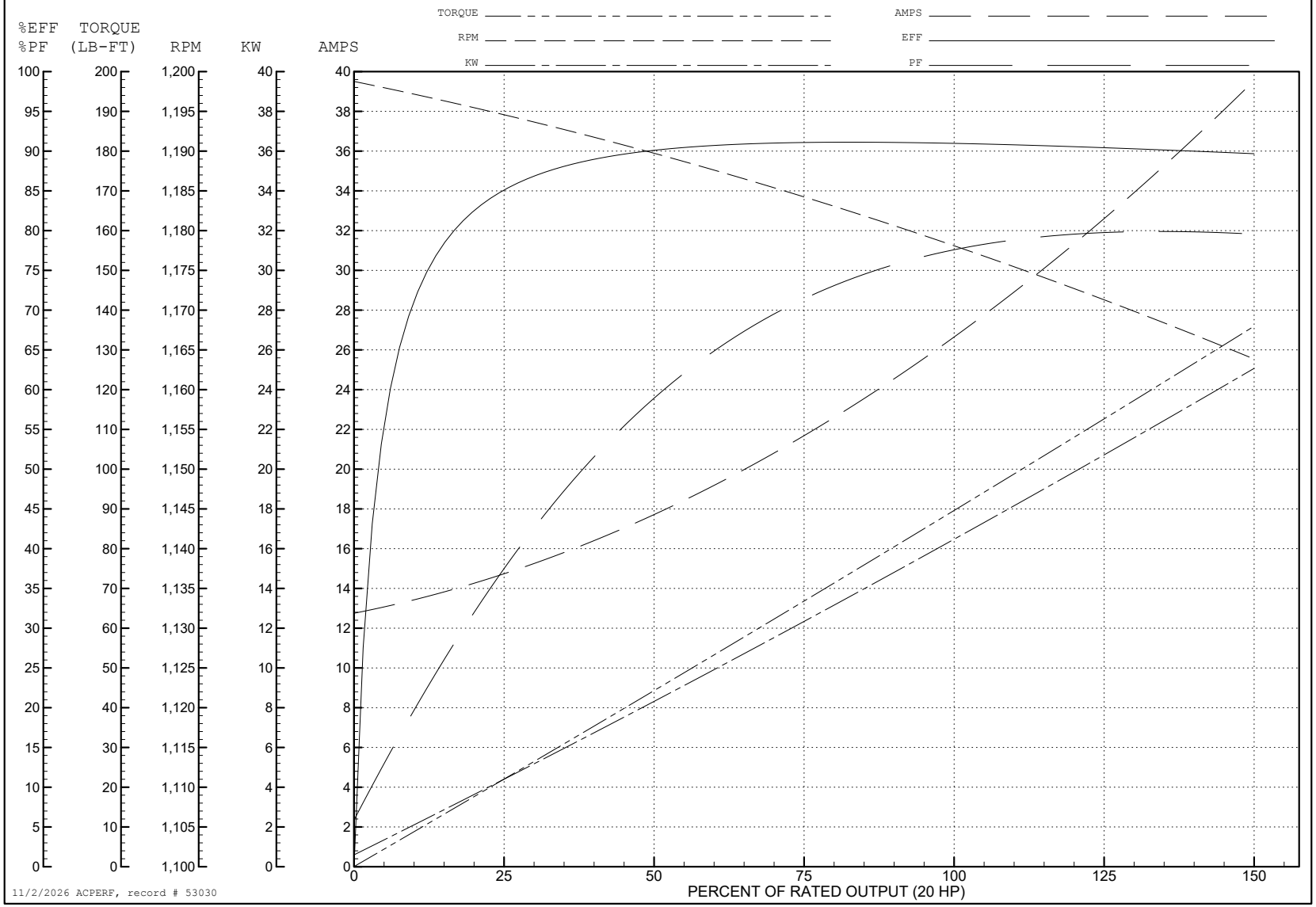
ABB Motors and Mechanical Inc.

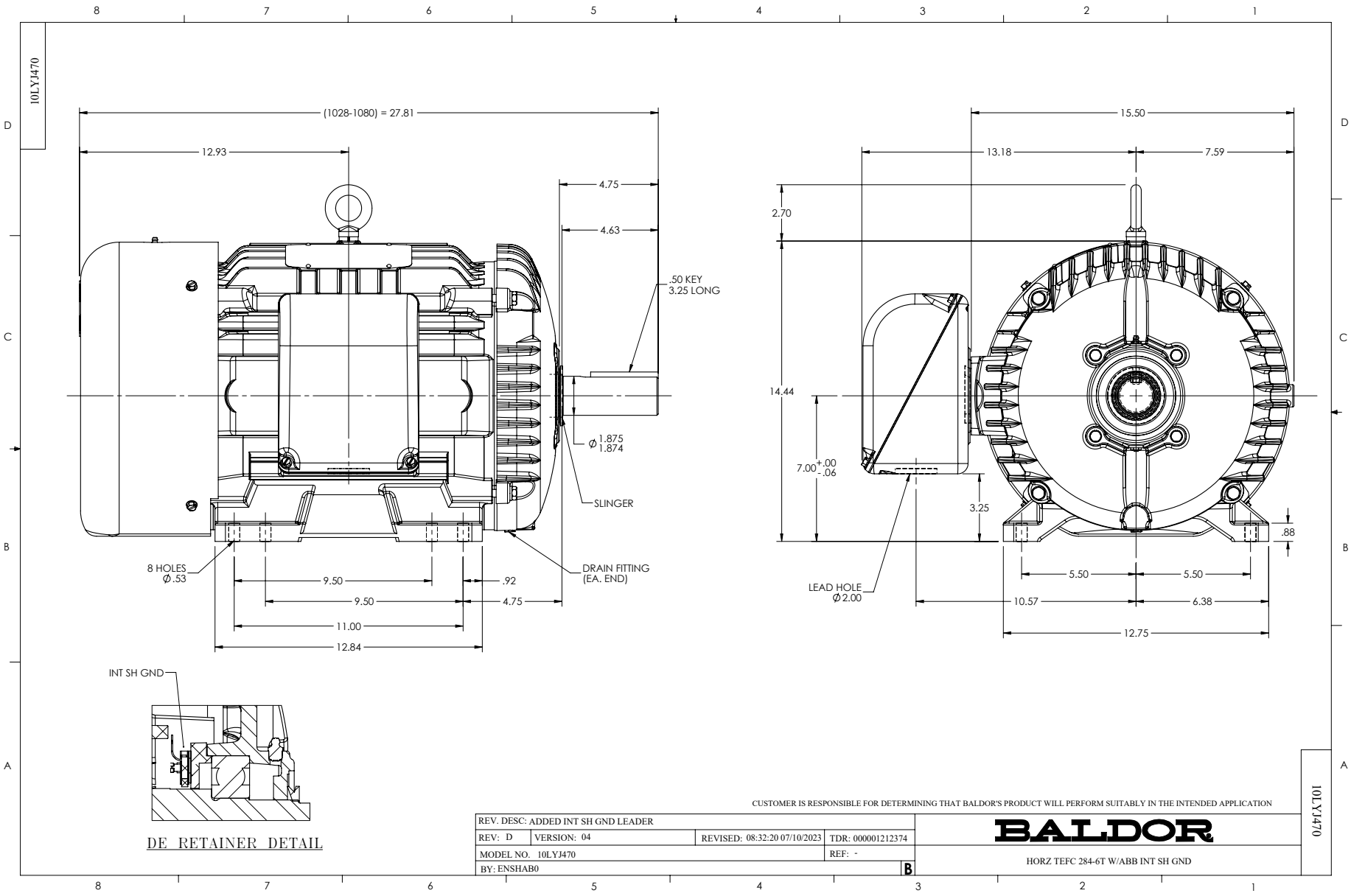
WINDING # 10WGY730

20 HP 3 PH 60 HZ 1180 RPM 460 V 1054M

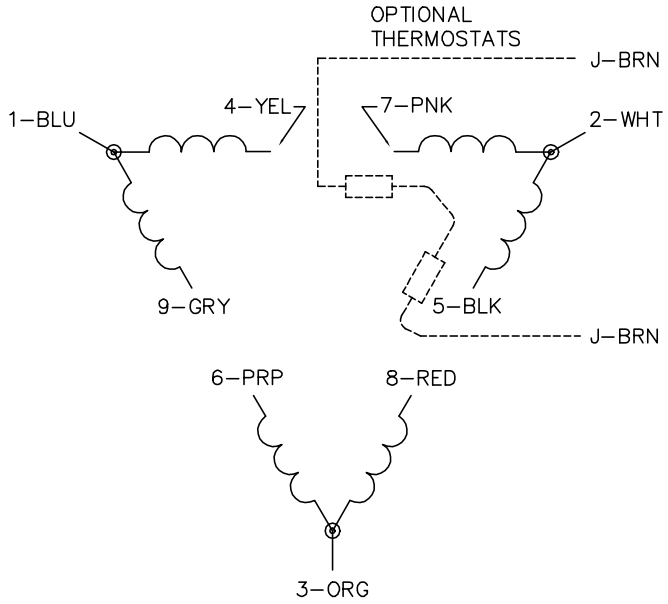
Typical performance - not guaranteed values.

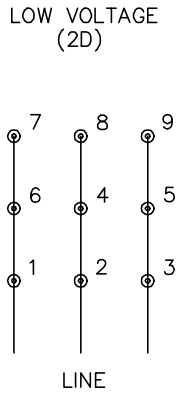
TORQUES(LB-FT): PO=276 PU=115 LR=166 LRA=165

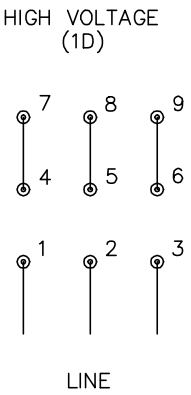



10LYJ470
(1028-1080) = 27.81
12.93
4.75
4.63
.50 KEY
3.25 LONG
Ø 1.875
1.874
SLINGER
8 HOLES
Ø .53
9.50
.92
9.50
4.75
11.00
12.84
DRAIN FITTING
(EA. END)
15.50
13.18
7.59
2.70
14.44
7.00 +.00 -.06
3.25
.88
LEAD HOLE
Ø 2.00
5.50
5.50
10.57
6.38
12.75
INT SH GND
DE RETAINER DETAIL
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: ADDED INT SH GND LEADER
REV: D
VERSION: 04
REVISED: 08:32:20 07/10/2023
TDR: 000001212374
MODEL NO. 10LYJ470
REF: -
BY: ENSHAB0
B
BALDOR
HORZ TEFC 284-6T W/ABB INT SH GND
10LYJ470

CD0180







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: ENBRIR0
MTL: –		

BALDOR - RELIANCE®

3PH, DV, 9 LEADS, DELTA CONNECTION

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