ABB BALDOR RELIANCE

Customer information packet

CFSWDM41906T-E

20HP, 3520RPM, 3PH, 60HZ, 256TC, 3960M, TEFC, F
Class - None
Division - Not Applicable

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Specifications

Enclosure	TEFC
Frame	256TC
Frame Material	Stainless Steel
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	3600 RPM @ 60 HZ
Voltage @ Frequency	230.0 V @ 60 HZ
	460.0 V @ 60 HZ
Agency Approvals	NEMA PREMIUM
	NEMA PREMIUM (OLD LOGO)
	WEEE
	CURUSEEV
Ambient Temperature	40 °C
Auxiliary Box	NO AUXILLARY BOX
Auxiliary Box Lead Termination	None
Base Indicator	Rigid
Bearing Grease Type	POLYREX SHC102 EM (-20F +356F)
Blower	None
Current @ Voltage	23.000 A @ 460.0 V
	46.000 A @ 230.0 V
Design Code	A
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	91.0 %
Electrically Isolated Bearing	Not Electrically Isolated
Feedback Device	NO FEEDBACK
Front Shaft Indicator	None
Heater Indicator	No Heater

Part Detail

Revision	E
Type	AC
Mech. spec.	39E646
Base	
Status	PRD/A
Elec. spec.	39WGY419
Layout	39LYE646
Eff. date	03-25-2026
CD Diagram	CD0005
Poles	02
Leads	9#10
Proprietary	False
Created date	08-03-2023

High Voltage Full Load Amps	23.0 a
Insulation Class	H
Inverter Code	Inverter Duty
KVA Code	K
Lifting Lugs	Standard Lifting Lugs
Locked Bearing Indicator	Locked Bearing
Max Speed	5400 rpm
Motor Lead Quantity/Wire Size	9 @ 10 AWG
Motor Lead Termination	Flying Leads
Motor Standards	NEMA
Motor Type	3960M
Mounting Arrangement	F1
Number of Poles	2
Overall Length	25.19 IN
Power Factor	90
Product Family	WD All SD Non-Encapsulated
Pulley End Bearing Type	Sealed Bearing
Pulley Face Code	C-Face
Pulley Shaft Indicator	Standard
Rodent Screen	None
Service Factor	1.00
Shaft Diameter	1.625 IN
Shaft Ground Indicator	No Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	No Slinger
Speed	3520 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

NP4427AAA01												
CAT #	CFSWDM41906T-E			**WT**	295	**LBS**						
SPEC	39E646Y419G1			**ENCL**	TEFC							
SER #				**CC**	010A	**IP**	69					
HP	20		**MAG CUR**	16.6/8.3								
VOLTS	230/460					**NEMA NOM. EFF**	91					
AMPS	46/23					**PF**	90					
RATING	40C AMB-CONT											
RPM	3520				**MAX RPM**	5400						
FRAME	256TC	**HZ**	60	**CODE**	K	**CLASS**	H					
SER.F.	1.00	**SF AMP**				**PH**	3	**DES**	A			
DE	6309		**ODE**	6309								
LUBRICATION	POLYREX_SHC_102_EM											
ID LOGO	**INVERTER TYPE**		**VPWM**		**CHP**	60	**TO**	90	1.5:1			
ID LOGO	**WK2**	1.53	**CT**	30	**TO**	60	2:1					
ID LOGO	**SL HZ**	1.3	**VT**	6	**TO**	60	10:1					
						QR						
YR												

Parts List

Part number	Description	Quantity
SA417284	SA 39E646Y419G1	1.000 ea
RA409155	RA 39E646Y419G1	1.000 ea
37FN3002C02	EXFN, PLASTIC, 6.00 OD, 1.503 ID	1.000 ea
39CB1001A01	39 MID-SECTION, - 3PC. BOX W/5.75-12 THD	1.000 ea
RM1070A79	O-RING, -051 VITON/FKM .070CS X 5.489ID	1.000 ea
10XN2520S10	1/4-20X 5/8 HEX HD CAP SS	4.000 ea
HW1001S25	WASHER, 1/4 SPLT LK, STAINLESS STEEL	4.000 ea
WD1000B16	T&B CX70TN OR L70P TERMINAL LUG	1.000 ea
10XN2520S08	SCREW, 1/4-20 X 1/2 HHCS SS	1.000 ea
39EP1904A02	FREP ENCL 309 BRG (STAINLESS) POLISHED	1.000 ea
RM1070A80	O-RING, VITON/FKM .070CS X 10.800ID	1.000 ea
HW4600F81	45 X 68 X 10 LIP SEAL, GRAPHITE INFUSED	1.000 ea
HW4600F80	45 X 62 X 4.5 AFS SEAL, GRAPHITE INFUSED	1.000 ea
HW4500S33	1/8 NPT STAINLESS #304 SS PLUG	4.000 ea
HW4500S33	1/8 NPT STAINLESS #304 SS PLUG	4.000 ea
HW5100A11	W3917-042 WVY WSHR (WB)	1.000 ea
39EP1905A01	PUEP ENCL 309 BRG (STAINLESS) POLISHED	1.000 ea
RM1070A80	O-RING, VITON/FKM .070CS X 10.800ID	1.000 ea
HW4600F81	45 X 68 X 10 LIP SEAL, GRAPHITE INFUSED	1.000 ea
HW4600F80	45 X 62 X 4.5 AFS SEAL, GRAPHITE INFUSED	1.000 ea
RM1070A78	O-RING, -012 VITON/FKM .070CS X .364ID	4.000 ea
39FH4004A01	304 SS FANCOVER SPUN W/SLOTS & MTG(POLIS	1.000 ea
10XN2520FS08	HEX HD CAP SCREW 1/4-20 X 1/2 SS FOOD SA	3.000 ea
HW1001S25	WASHER, 1/4 SPLT LK, STAINLESS STEEL	3.000 ea
39CB1500A01	39 LID, 3 PC. BOX STAINLESS (POLISHED)	1.000 ea
RM1070A79	O-RING, -051 VITON/FKM .070CS X 5.489ID	1.000 ea
HW2502G25	#303 SS,SQ KEY 3/8 X 2.880	1.000 ea
MJ5001A27	32220KN GRAY SEALER *MIN BUY 4 QTS=1GAL	0.005 qt
MJ5004A93	FOOD GRADE (H1 RATED) ANTISEIZE THRD COM	0.005 ea
HA5027A09	DRAIN KIT,(2)HA4002A03 BAGGED W/LABEL	1.000 ea
MJ1000A107	GREASE, MOBIL SHC POLYREX 102 EM	0.030 lb

HA3105FS14	THRUBOLT, 3/8-16 X 17.250 SS FOOD SAFE	4.000 ea
HW2502F08	KEY, 5/16 SQ X .875 303 SS	1.000 ea
51XB1214S20	12-14X1.25 HXWSSLD SERTYB, SS	1.000 ea
WD5603A01	KIT, CLOSED-END LEAD SPLICE (18-14GA)	1.000 ea
40PA1000	PACKAGING GROUP	1.000 ea
MN416A01	TAG-INSTAL-MAINT no wire (2500 bx)11/25	1.000 ea
MJ5000A09	EFI KIT #1578 (400 ML CARTRIDGE OF EFI	0.200 ea
FE-0000013	ZRTG FE ASSEMBLY	1.000 ea
PE-0000003	ZRTG PE ASSEMBLY	1.000 ea

AC Induction Motor Performance Data
Record # 80272
Typical performance - not guaranteed values

Winding: 39WGY419-R001	**Type:** 3960M	**Enclosure:** TEFC

Nameplate Data				**460 V, 60 Hz: High Voltage Connection**	
Rated Output (HP)			20	**Full Load Torque**	29.8 LB-FT
Volts			230/460	**Start Configuration**	direct on line
Full Load Amps			46/23	**Breakdown Torque**	161 LB-FT
R.P.M.			3540	**Pull-up Torque**	64.7 LB-FT
Hz	60	**Phase**	3	**Locked-rotor Torque**	78.2 LB-FT
NEMA Design Code	A	**KVA Code**	K	**Starting Current**	221 A
Service Factor (S.F.)			1	**No-load Current**	6.9 A
NEMA Nom. Eff.	91	**Power Factor**	90	**Line-line Res. @ 25ºC**	0.30935 Ω
Rating - Duty			40C AMB-CONT	**Temp. Rise @ Rated Load**	85°C
				Locked-rotor Power Factor	26.5

Load Characteristics 460 V, 60 Hz, 20 HP

% of Rated Load	**25**	**50**	**75**	**100**	**125**	**150**
Power Factor	61	80	87	90	92	92
Efficiency	86.5	91.3	92.5	92.6	92.2	91.5
Speed	3585.8	3572.3	3557.6	3541.8	3525.6	3508.1
Line amperes	8.97	12.8	17.5	22.5	27.8	33.4

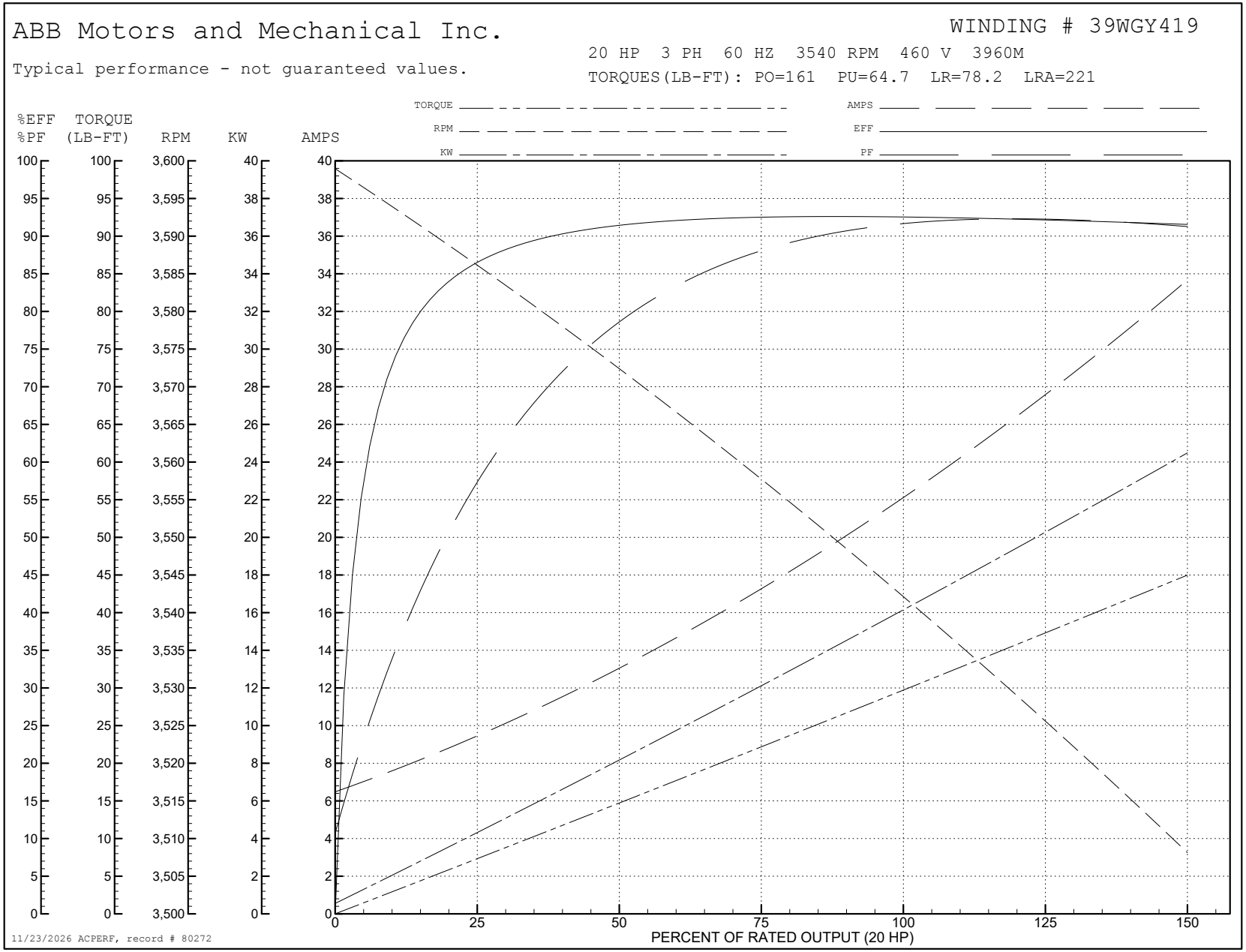
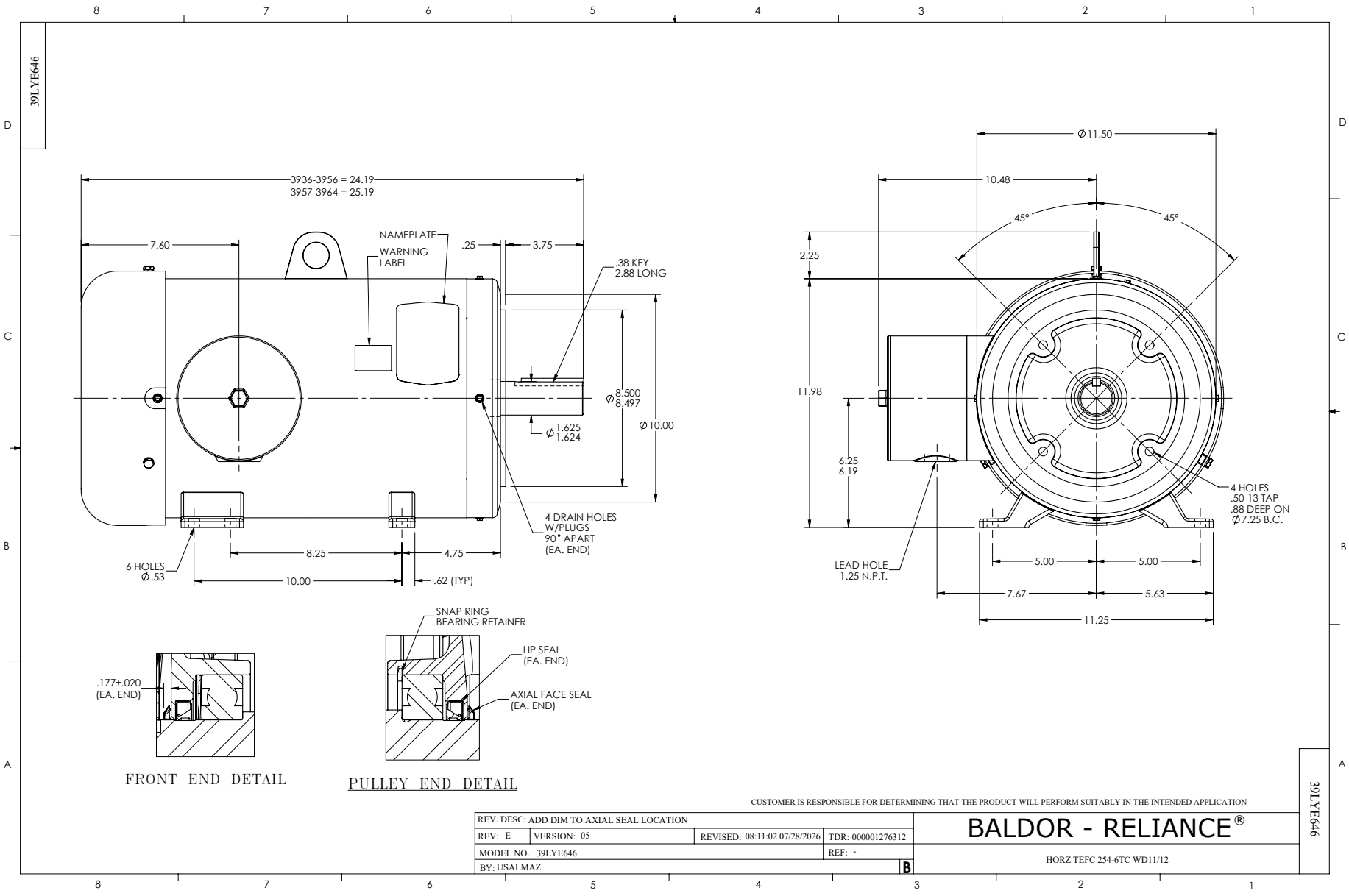
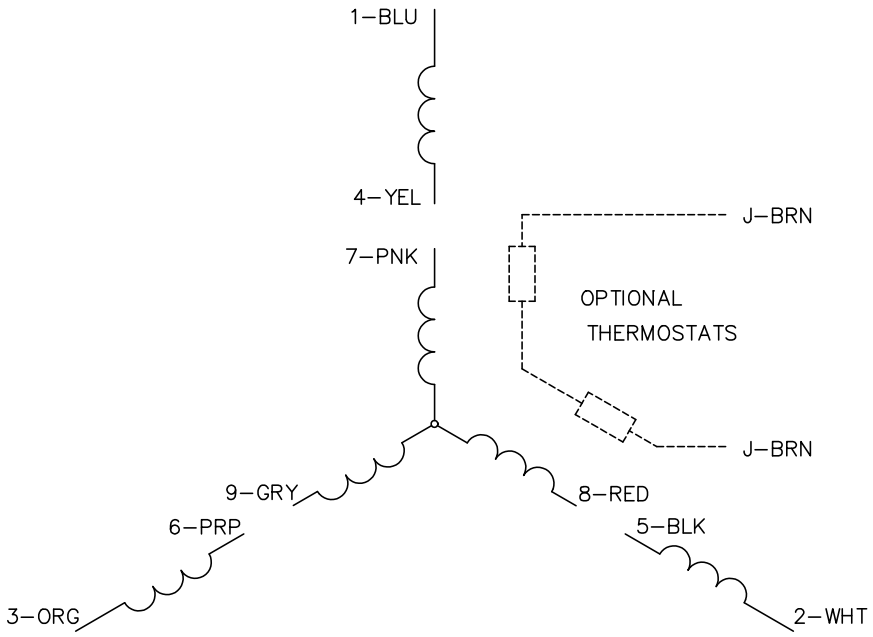
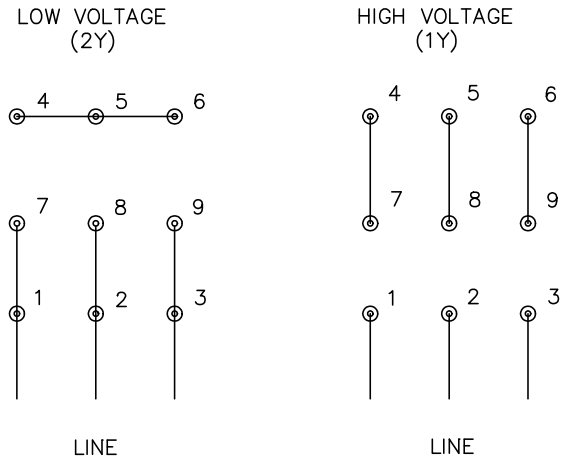


ABB Motors and Mechanical Inc.
WINDING # 39WGY419
20 HP 3 PH 60 HZ 3540 RPM 460 V 3960M
Typical performance - not guaranteed values.
TORQUES(LB-FT): PO=161 PU=64.7 LR=78.2 LRA=221
TORQUE
RPM
KW
AMPS
EFF
PF
%EFF
%PF
TORQUE (LB-FT)
RPM
KW
AMPS
PERCENT OF RATED OUTPUT (20 HP)
11/23/2026 ACPERF, record # 80272


39LYE646
3936-3956 = 24.19
3957-3964 = 25.19
7.60
NAMEPLATE
WARNING LABEL
.25
3.75
.38 KEY
2.88 LONG
Ø 8.500
8.497
Ø 1.625
1.624
Ø 10.00
4 DRAIN HOLES
W/PLUGS
90° APART
(EA. END)
6 HOLES
Ø .53
8.25
4.75
10.00
.62 (TYP)
Ø 11.50
10.48
45°
45°
2.25
11.98
6.25
6.19
4 HOLES
.50-13 TAP
.88 DEEP ON
Ø 7.25 B.C.
LEAD HOLE
1.25 N.P.T.
5.00
5.00
7.67
5.63
11.25
SNAP RING
BEARING RETAINER
LIP SEAL
(EA. END)
AXIAL FACE SEAL
(EA. END)
.177±.020
(EA. END)
FRONT END DETAIL
PULLEY END DETAIL
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: ADD DIM TO AXIAL SEAL LOCATION
REV: E
VERSION: 05
REVISED: 08:11:02 07/28/2026
TDR: 000001276312
MODEL NO. 39LYE646
REF: -
BY: USALMAZ
B
BALDOR - RELIANCE®
HORZ TEFC 254-6TC WD11/12
39LYE646

CD0005





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.

CD0005

REV. DESC: REVISE TO SHOW OPTIONAL COLORS			BALDOR ELECTRIC Co.
REV. LTR: E	BY: JLP	REVISED: 01/19/99 10:15	TDR: 0171435
CD0005		FILE: AAA00005140	MDL: –
		MTL: –	3PH, DV, 9 LEADS