NIDEC MOTOR CORPORATION
8050 WEST FLORISSANT AVE.
ST. LOUIS, MO 63136

DATE: 9/14/2012

P.O. NO.: CW50
Order/Line NO.: 20482 MN 100

TO:

Model Number: CW50
Catalog Number:
Horiz. XP Premium Eff. Config.
CONF,MOTOR,HORIZ XP PRE EFF

REVISIONS:
(NONE)

ALL DOCUMENTS HEREIN ARE CONSIDERED CERTIFIED BY NIDEC MOTOR CORPORATION.
THANK YOU FOR YOUR ORDER AND THE OPPORTUNITY TO SERVE YOU.

Features:

```
Horsepower ..............  00002.00 ~ KW: 1.492
Enclosure ...............  TEFC
Poles ...................  04 ~ RPM: 1800
Frame Size ..............  145~T
Phase/Frequency/Voltage..  3~060~230/460 ~ Random Wound
Service Factor ..........  1.15
Insulation Class ........  Class "F" ~ Insulife 2000
Altitude In Feet (Max) ..  3300 Ft.(1000 M)
Ambient In Degree C (Max)  +40 C
Assembly Position .......  "F-1" Assembly Position
Efficiency Class ........  Premium Efficiency
Application .............  Unknown
Customer Part Number ....
Hazardous Location Info:
Division 1 ~ Class I ~ Group D
Class II N/A ~ Group N/A ~ T2B Temp Code
"AK" Dimension (Inches).. NA
Temperature Rise (Sine Wave): "B" Rise @ 1.0 SF (Resist)
NEMA Design .............  B
KVA Code Letter .........  "L"
Starting Method .........  Direct-On-Line Start
Duty Cycle ..............  Continuous Duty
Efficiency Value ........  86.5 % ~ NEMA Nominal
Load Inertia (lb-ft2): NEMA ~ NEMA Inertia: 11.20 ~ 1.00
Number Of Starts Per Hour: NEMA
Motor Type Code .........  LCE
Rotor Inertia (LB-FT²)        .108 LB-FT²
Qty. of Bearings PE (Shaft)   1
Qty. of Bearings SE (OPP)     1
Bearing Number PE (Shaft)     6205-2Z-J/C3
Bearing Number SE (OPP)       6203-2Z-J/C3
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Accessories:
Corro-Duty
Clockwise Rotation FODE
Standard Leadtime: REFER TO OFFICE
Est. Weight (lbs ea): 65 ~ F.O.B.: St. Louis, MO

USE THE DATA PROVIDED BELOW TO SELECT THE APPROPRIATE DIMENSION PRINT

Horsepower	2
Pole(s)	04
Voltage(s)	460-230
Frame Size	145T
Shaft U Diameter	0.875
Outlet Box AF	1.75
Outlet Box AA	0.75

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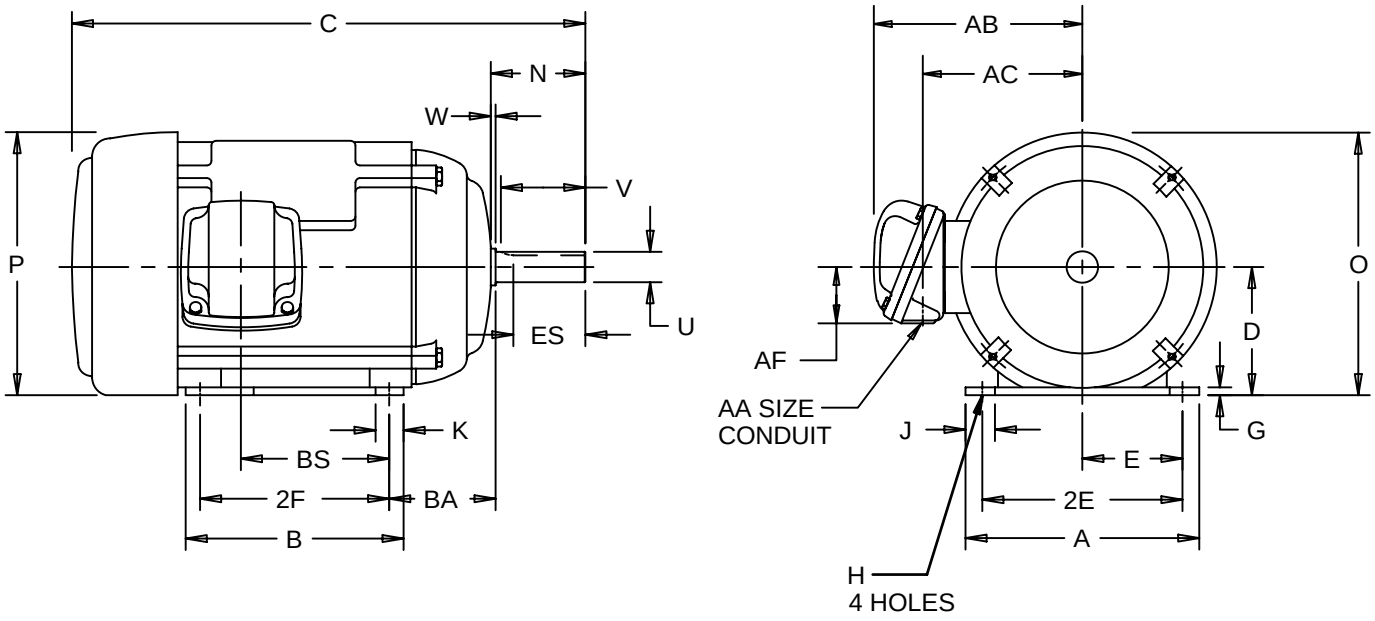
EFFECTIVE: 02-MAR-11	HORIZONTAL MOTORS CAST IRON FRAME FRAME: 140T BASIC TYPE: LC	PRINT: 07-2105
SUPERSEDES: 16-JAN-01		SHEET: 1 OF 1



ALL DIMENSIONS ARE IN INCHES & MILLIMETERS

	UNITS	A	B	C	E	G	J	K	K2	N	O	P [2]
	IN	6.50	6.00	13.06	2.75	.16	.94	.94	1.94	2.38	7.50	8.00
	MM	165	152	332	70	4	24	24	49	60	191	203

	UNITS	V MIN	W	AA	AB	AC	AF	BA	BS	ES MIN	SQ KEY
	IN	2.06	.13	3/4 NPT	6.78	5.34	1.75	2.25	3.94	1.41	.188
	MM	52	3		172	136	44	57	100	36	4.78

	UNITS	D -.06	2E ±.03	H +.05	U -.0005
	IN	3.50	5.50	.34	.8750
	MM	88.9	140	9	22.225

	FRAME	UNITS	2F ±.03
	143T	IN	4.00
		MM	101.6
	145T	IN	5.00
		MM	127.0

1: ALL ROUGH CASTING DIMENSIONS MAY VARY BY .25" DUE TO CASTING AND/OR FABRICATIONVARIATIONS.
2: LARGEST MOTOR WIDTH.

3: CONDUIT BOX MAY BE LOCATED ON EITHER SIDE OF MOTOR. CONDUIT OPENINGS MAY BE LOCATED IN STEPS OF 90 DEGREES REGARDLESS OF LOCATION. STANDARD AS SHOWN WITH CONDUIT OPENING DOWN.
4: TOLERANCE UNITS ARE IN INCHES ONLY.

Nidec Motor Corporation
St. Louis, Missouri

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ISSUED BY	R. KING
APPROVED BY	M. GALVAN

IHP_DP_NMCA (MAR-2011) SOLIDEDGE

NAMEPLATE DATA

CATALOG NUMBER:				NAMEPLATE PART #:	431158-000		
MODEL	CW50	FR	145T	TYPE	LCE	ENCL	TE
SHAFT END BRG	6205-2Z-J/C3 - QTY 1			OPP END BRG	6203-2Z-J/C3 - QTY 1		
PH	3	MAX AMB	40 C	ID#			
INSUL CLASS	F	Asm. Pos.	F1	DUTY	CONT		

HP	2		RPM	1745		HP		RPM	
VOLTS	460	230				VOLTS			
FL AMPS	2.8	5.6				FL AMPS			
SF AMPS	3.1	6.2				SF AMPS			
SF	1.15	DESIGN	B	CODE	L	SF		DESIGN	CODE
NEMA NOM EFFICIENCY	86.5	NOM PF	77.6	KiloWatt	1.492	NEMA NOM EFFICIENCY		NOM PF	
GUARANTEED EFFICIENCY	84.0	MAX KVAR	1.2	HZ	60	GUARANTEED EFFICIENCY		MAX KVAR	HZ

UL DATA (IF APPLICABLE):

DIVISION	1	CLASS I	I	GROUP I	D
TEMP CODE	T2B	CLASS II		GROUP II	

VFD DATA (IF APPLICABLE):

VOLTS			
AMPS			
TORQUE 1		TORQUE 2	
VFD LOAD TYPE 1		VFD LOAD TYPE 2	
VFD HERTZ RANGE 1		VFD HERTZ RANGE 2	
VFD SPEED RANGE 1		VFD SPEED RANGE 2	
SERVICE FACTOR		FL SLIP	
NO. POLES	4	MAGNETIZING AMPS	1.7
VECTOR MAX RPM		Encoder PPR	
Radians / Seconds	1	Encoder Volts	

TEAO DATA (IF APPLICABLE):

HP (AIR OVER)		HP (AIR OVER M/S)		RPM (AIR OVER)		RPM (AIR OVER M/S)	
FPM AIR VELOCITY		FPM AIR VELOCITY M/S		FPM AIR VELOCITY SEC			

ADDITIONAL NAMEPLATE DATA:

Decal / Plate	WD=158802	Customer PN	
Notes		Non Rev Ratchet	
Max Temp Rise	80C RISE/RES@1.00SF	OPP/Upper Oil Cap	GREASE
Thermal (WDG)		SHAFT/Lower Oil Cap	GREASE
Altitude			
Regulatory Notes		Regulatory Compliance	
COS		Marine Duty	
Balance		Arctic Duty	
3/4 Load Eff.	86.8	Inrush Limit	
Motor Weight (LBS)	65	Direction of Rotation	
Sound Level		Special Note 1	
Vertical Thrust (LBS)		Special Note 2	
Thrust Percentage		Special Note 3	
Bearing Life		Special Note 4	
Starting Method		Special Note 5	
Number of Starts		Special Note 6	
200/208V 60Hz Max Amps		SH Max. Temp.	
190V 50 hz Max Amps		SH Voltage	
380V 50 Hz Max Amps		SH Watts	
NEMA Inertia		Load Inertia	
Sumpheater Voltage		Sumpheater Wattage	
Special Accessory Note 1		Special Accessory Note 16	
Special Accessory Note 2		Special Accessory Note 17	
Special Accessory Note 3		Special Accessory Note 18	
Special Accessory Note 4		Special Accessory Note 19	
Special Accessory Note 5		Special Accessory Note 20	
Special Accessory Note 6		Special Accessory Note 21	
Special Accessory Note 7		Special Accessory Note 22	
Special Accessory Note 8		Special Accessory Note 23	
Special Accessory Note 9		Special Accessory Note 24	
Special Accessory Note 10		Special Accessory Note 25	
Special Accessory Note 11		Special Accessory Note 26	
Special Accessory Note 12		Special Accessory Note 27	
Special Accessory Note 13		Special Accessory Note 28	
Special Accessory Note 14		Special Accessory Note 29	
Special Accessory Note 15		Special Accessory Note 30	

NIDEC MOTOR CORPORATION

ST. LOUIS, MO

TYPICAL NAMEPLATE DATA
ACTUAL MOTOR NAMEPLATE LAYOUT MAY VARY
SOME FIELDS MAY BE OMITTED

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MOTOR PERFORMANCE

MODEL NO.	CATALOG NO.	PHASE	TYPE	FRAME
CW50	NA	3	LCE	145T

ORDER NO.	20482	LINE NO.	

MPI:	118246	118247
HP:	2	2
POLES:	4	4
VOLTS:	460	230
HZ:	60	60
SERVICE FACTOR:	1	1
EFFICIENCY (%):		
S.F.		
FULL	86.5	86.5
3/4	86.5	86.5
1/2	84.4	84.4
1/4	76.1	76.1
POWER FACTOR (%):		
S.F.		
FULL	77.2	77.2
3/4	68.7	68.7
1/2	55.1	55.1
1/4	34.7	34.7
NO LOAD	7.5	7.5
LOCKED ROTOR	66.9	66.9
AMPS:		
S.F.		
FULL	2.8	5.6
3/4	2.4	4.7
1/2	2	4
1/4	1.8	3.5
NO LOAD	1.7	3.5
LOCKED ROTOR	24.5	49
NEMA CODE LETTER	L	L
NEMA DESIGN LETTER	B	B
FULL LOAD RPM	1745	1745
NEMA NOMINAL EFFICIENCY (%)	86.5	86.5
GUARANTEED EFFICIENCY (%)	84	84
MAX KVAR	1.2	1.2
AMBIENT (°C)	40	40
ALTITUDE (FASL)	3300	3300
SAFE STALL TIME-HOT (SEC)	10	10
SOUND PRESSURE (DBA @ 1M)	54	54
TORQUES:		
BREAKDOWN{% F.L.}	470	470
LOCKED ROTOR{% F.L.}	364	364
FULL LOAD{LB-FT}	6	6

The Above Data Is Typical, Sinewave Power Unless Noted Otherwise

NIDEC MOTOR CORPORATION

ST. LOUIS, MO

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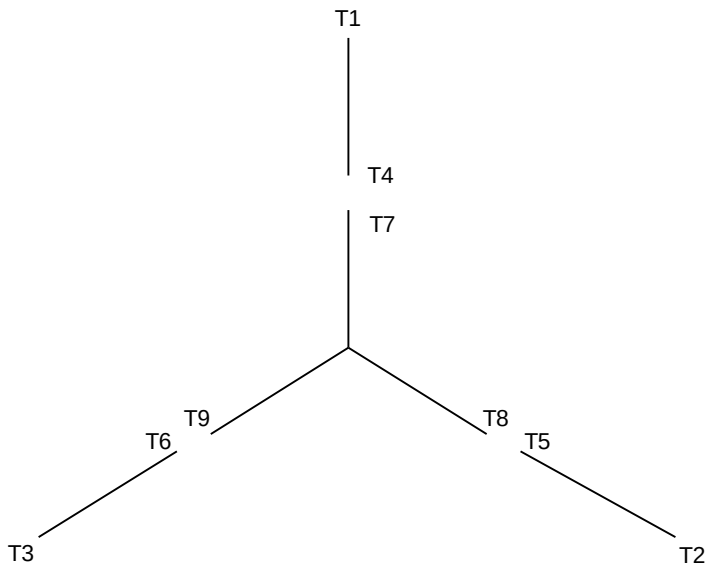
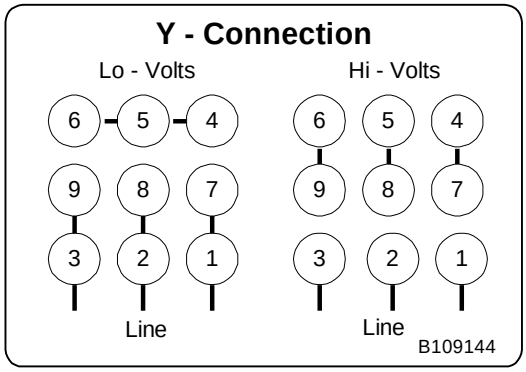
B109144

Motor Wiring Diagram

9 Lead, Dual Voltage (WYE Conn.)





To reverse direction of rotation interchange connections L1 and L2.

Each lead may have one or more cables comprising that lead.
In such case each cable will be marked with the appropriate lead number.

Connection Plate: B109144
Connection Decal: 344136

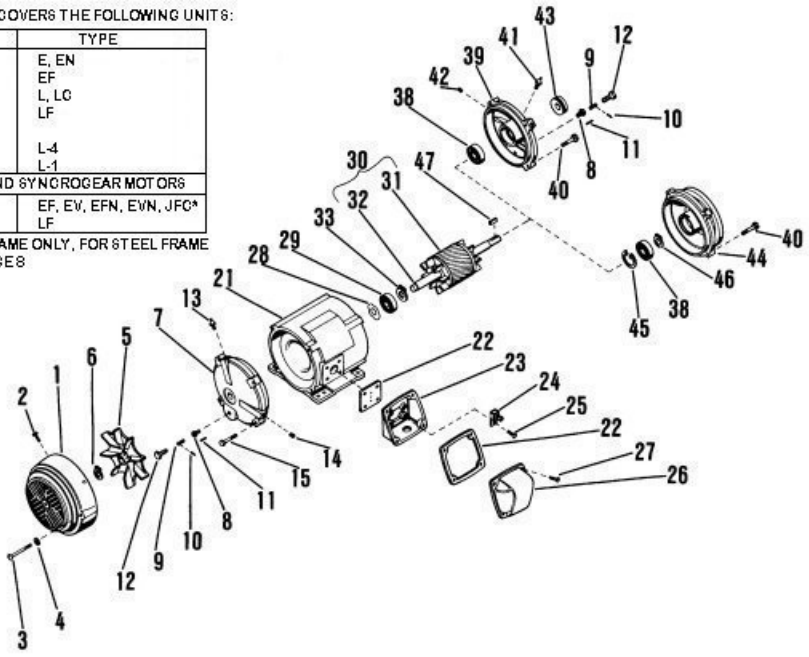
RENEWAL PARTS

FRAMES 56 THRU 145 - TOTALLY ENCLOSED AND EXPLOSION PROOF MOTORS
TYPES: E, ECA, ECF, EF, EFN, EN, EV, FL, FLC, FLCA, FLCF, FLF, FLFN, JFC, L, LC, LCAI, LCE, LCEF, LCEI, LCF, LCI, LE, LEF, LF, LF1, LFCE, LFI, LI, L1, L4, LC1, LCA, LCFI, LCI4, LE1, LF4, LFN, NC, NCA, NCE, NCEF, NCF

THIS PARTS LIST COVERS THE FOLLOWING UNITS:

FRAME	TYPE
56	E, EN
56C	EF
143T, 145T	L, LC
143TC, 145TC	LF
143JM, 145JM	L-4
143JP, 145JP	L-1
VARIDRIVE AND SYNCROGEAR MOTORS	
56	EF, EV, EFN, EVN, JFC*
143T, 145T	LF

* CAST IRON FRAME ONLY, FOR STEEL FRAME UNITS, SEE PAGE 8



ITEM NO.	QTY	NAME OF PART
1	1	Fan Cover Guard (Not used on EN, EFN, EVN)
2	4	Screw (Not used on EN, EFN, EVN)
3	2	Round Head Screw (Type EV only)
4	2	Lockwasher (Type EV only)
5	1	Fan (Not used on EN, EFN, EVN)
6	1	Retaining Snap Ring (Not used on EN, EV, EFN, EVN)
7	1	Bracket
8	2	Reducer Fitting (Type LC)
9	2	Special Plug (Type LC)

ITEM NO.	QTY	NAME OF PART
10	2	Spring Pin (Type LC)
11	2	Spring Pin (Type LC)
12	2	Vent Plug
13	1	Grease Fitting
14	1	Hex Countersunk Pipe Plug
15	4	Hex Head Cap Screw
16-20	-	Not Used
21	1	Wound Stator Assembly
22	1	Combination Gasket (Type JFC)

WARNING:
Any disassembly or repair work on explosionproof motors will void the Underwriters Laboratories, Inc. label unless done by the manufacturer, or a facility approved by the Underwriters Laboratories, Inc. Refer to your nearest sales office for assistance.

BEARINGS:
Refer to motor nameplate for the bearing numbers.

PRICES:
Parts stocking distributors: refer to renewal parts numerical index. All Others: refer to your nearest parts distributor.

reference: Renewal Parts Section 700, Pages 16 & 17

RENEWAL PARTS

FRAMES 56 THRU 145 - TOTALLY ENCLOSED AND EXPLOSION PROOF MOTORS
TYPES: E, ECA, ECF, EF, EFN, EN, EV, FL, FLC, FLCA, FLCF, FLF, FLFN, JFC, L, LC, LCAI, LCE, LCEF, LCEI, LCF, LCI, LE, LEF, LF, LF1, LFCE, LFI, LI, L1, L4, LC1, LCA, LCFI, LCI4, LE1, LF4, LFN, NC, NCA, NCE, NCEF, NCF

ITEM NO.	QTY	NAME OF PART
23	1	Outlet Box Base
24	1	Terminal Lig (Not used on EN, EV, EVN)
25	4	Hex Head Machine Screw (Round Head Screw on Types EN, EV, EVN)
26	1	Outlet Box Cover
27	4	Screw
28	1	Wave Spring Washer (Use on Types "D"Base, E, L, LC, EF)
29	1	Ball Bearing (Refer to Section 775)
30	1	Rotor Assembly (Includes Items 31 and 32)
31	1	Rotor Core
32	1	Rotor Shaft
33	1	Retaining Snap Ring (Used on EV & EVN)
34-37	-	Not Used

ITEM NO.	QTY	NAME OF PART
Items 38 thru 47 are for types EF & LF with "C" brackets, E, L, EN, LC, L-1, L-4		
38	1	Ball Bearing (Refer to Section 775)
39	1	Bracket (Not usd with "C" or "D' Bracket)
40	4	Screw
41	1	Grease Fitting
42	1	Hex Countersunk Pipe Plug
43	1	Water Deflector (Types I-1, L-4, LF)
44	1	"C" or "D' Bracket
45	1	Retaining Snap Ring (Types L-1, L-4, LF)
46	1	Retaining Snap Ring (Types L-1, L-4, LF)
47	1	Square Key

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reference: Renewal Parts Section 700, Pages 16 & 17

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