

# PRODUCT INFORMATION PACKET

Model No: LM28213

Catalog No: LM28213

Elevator Duty Motor, 20 HP, 3 Ph, 60 Hz, 200 V, 1200 RPM, 286TC Frame, DP



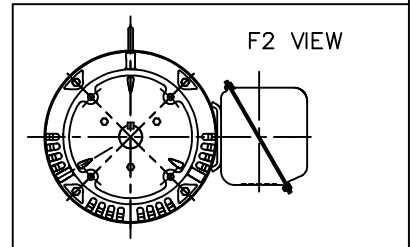
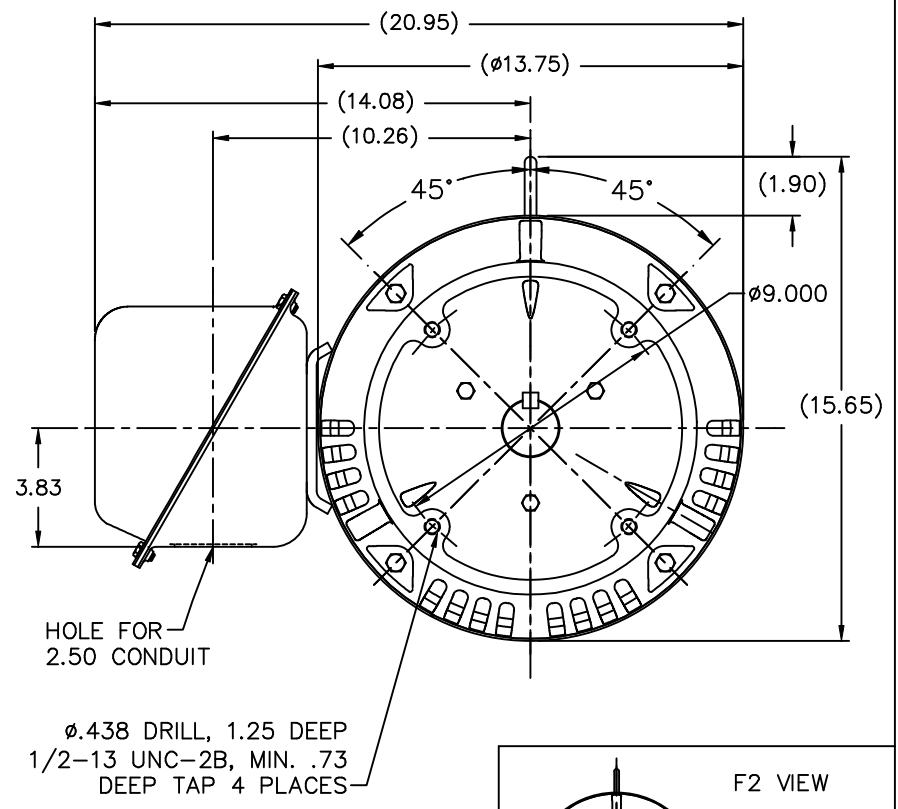
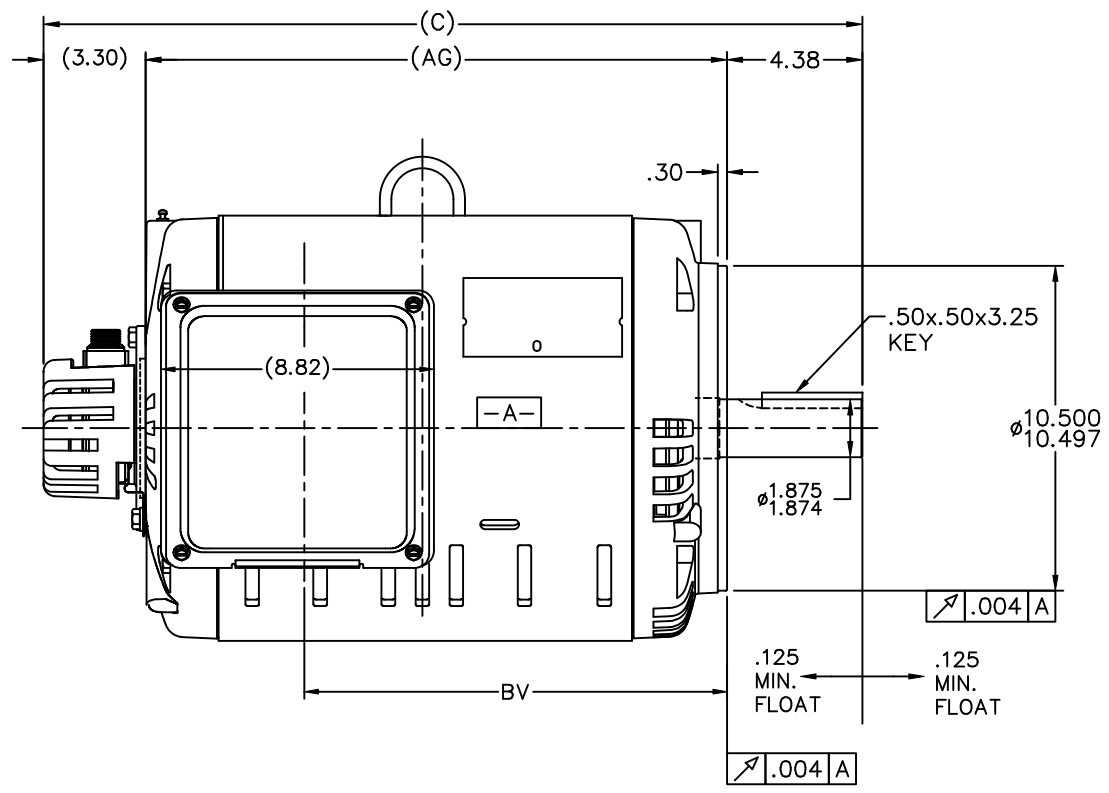
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### Nameplate Specifications

Output HP	<b>20 Hp</b>	Output KW	<b>14.9 kW</b>
Frequency	<b>60 Hz</b>	Voltage	<b>200 V</b>
Current	<b>70.0 A</b>	Speed	<b>1182 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>85.5 %</b>	Power Factor	<b>71</b>
Duty	<b>Elevator</b>	Insulation Class	<b>F</b>
Design Code	<b>INV</b>	KVA Code	<b>L</b>
Frame	<b>286TC</b>	Enclosure	<b>Drip Proof</b>
Thermal Protection	<b>No Protection</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>310</b>	Opp Drive End Bearing Size	<b>209</b>
UL	<b>Recognized</b>	CSA	<b>Y</b>
CE	<b>Y</b>	IP Code	<b>22</b>
Number of Speeds	<b>1</b>		

### Technical Specifications

Electrical Type	<b>Squirrel Cage Inverter Duty</b>	Starting Method	<b>Wye Start Delta Run Or Inverter</b>
Poles	<b>6</b>	Rotation	<b>Reversible</b>
Resistance Main	<b>.29 Ohms</b>	Mounting	<b>Round</b>
Motor Orientation	<b>Horizontal</b>	Drive End Bearing	<b>Ball</b>
Opp Drive End Bearing	<b>Ball</b>	Frame Material	<b>Rolled Steel</b>
Shaft Type	<b>T</b>	Overall Length	<b>27.97 in</b>
Frame Length	<b>14.48 in</b>	Shaft Diameter	<b>1.875 in</b>
Shaft Extension	<b>4.62 in</b>	Assembly/Box Mounting	<b>F1/F2 CAPABLE</b>
Inverter Load	<b>CONSTANT 1000:1</b>		
Connection Drawing	<b>A-EE7340AA-LN</b>	Outline Drawing	<b>XF3D1EC33B-1448</b>



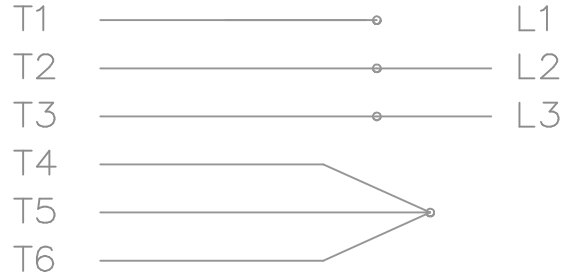
- NOTES:
1. CONDUIT BOX CAN BE ROTATED IN 90° STEPS.
  2. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

DASH	FRAME	C	AG	BV
1298	284TC	26.47	18.79	13.66
1448	286TC	27.97	20.29	15.16

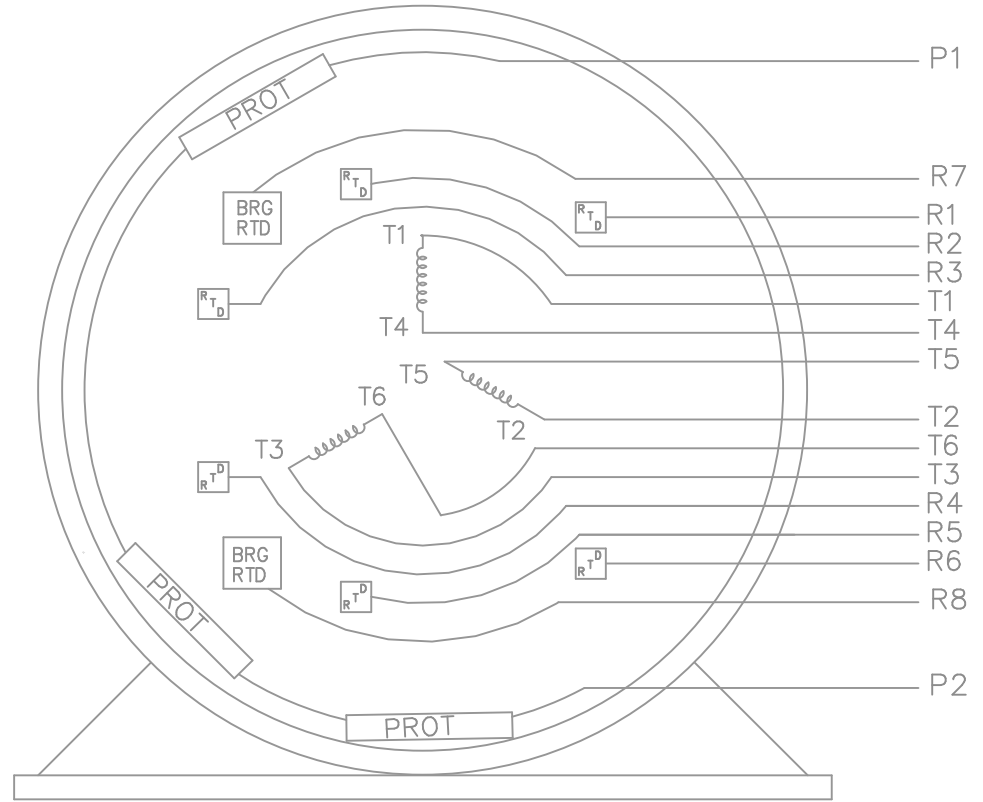
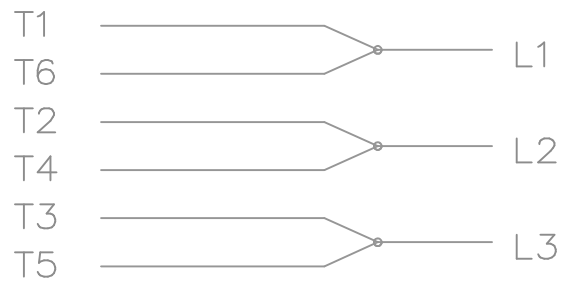
				TOLERANCES UNLESS SPECIFIED		Lincoln MOTOR		DRAWN CTO 11-20-2002	
				DEC.	INCHES			CHK	DRS 12-03-2002
				.X	±.1			APPD	HNH 12-03-2002
				.XX	±.02	TITLE OUTLINE - IH950 ENCODER		SCALE 1=4	
				.XXX	±.005	VVVF ELEVATOR HOIST MOTOR 280TC ODP		REF	
1	NEW DRAWING	MU43624	CTO 12-03-2002	HNH	.XXXX	±.0005	MATL	FMF	
NO.	REVISION		BY & DATE	CHK	ANG	±7'30"	FINISH	PREV	
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED THIS IS AN ELECTRONICALLY GENERATED DOCUMENT - DO NOT SCALE THIS PRINT				RFP	CAD FILE xf3d1ec33b			SIZE	DRAWING NO. PAGE OF REV.
				DIST	BY			B	XF3D1EC33B 1

THREE PHASE – Y START  
 Δ RUN MOTOR


START



RUN



VIEW OF TERMINAL END

				TOLERANCES UNLESS SPECIFIED			DRAWN LC 8-9-2005		
				DEC.	INCHES		CHK ML 8-9-2005		
				.X	± -		APPD LC 8-9-2005		
				.XX	± -		SCALE 1=1		
				.XXX	± -		REF		
				.XXXX	± -	TITLE CONNECTION DIAGRAM THREE PHASE – SINGLE VOLTAGE			
				ANG	± -	MAT'L.			
				FINISH		FMF			
NO.	REVISION	BY & DATE	CHK			PREV			
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED THIS IS AN ELECTRONICALLY GENERATED DOCUMENT – DO NOT SCALE THIS PRINT				RFP	CAD FILE ee7340aa_in		SIZE	DRAWING NO. PAGE OF	REV.
				DIST	WA-LB		A	EE7340AA-LN	



CERTIFICATION DATA SHEET

2100 WASHINGTON ST.  
GRAFTON, WI  
PH. 262-277-8810

CONN. DIAGRAM: A-EE7340AA-LN

CATALOG #: LM28213

OUTLINE: XF3D1EC33B-1448

WINDING #: 6D286003 2

MOUNTING: F1/F2 CAPABLE

TYPICAL MOTOR PERFORMANCE DATA

HP	kW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
20	14.9	1200	1182	286TC	DP	L	INV

PH	Hz	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB°C
3	60	200	70	Y START D RUN OR INV	VERIFY	F4	1.0	40

FULL LOAD EFF:	85.5	3/4 LOAD EFF:	84	1/2 LOAD EFF:	80	GTD. EFF		ELEC. TYPE	
FULL LOAD PF:	71	3/4 LOAD PF:	64	1/2 LOAD PF:	52	82.5		SQ CAGE INV DUTY	

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
88.9 LB-FT	575	300 LB-FT 337 %	325 LB-FT 366 %	100

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS / HOUR	APPROX. MOTOR WGT
66 dBA	76 dBA	6.5 LB-FT^2	- LB-FT^2	- SEC.	-	- LBS.

\*\*\* SUPPLEMENTAL INFORMATION \*\*\*

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
ENCODER	ENCODER	ROUND	HORIZONTAL	FALSE	NONE	FALSE	NONE	GRAY - LINCOLN

BEARINGS		GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE	ODE						
BALL	BALL	POLYREX EM	T	NONE	NONE	1045 HOT ROLLED (C-204)	ROLLED STEEL
310	209						

THERMO-PROTECTORS				THERMISTORS	CONTROL	SPACE HEATERS
THERMOSTATS	PROTECTORS	WDG RTDs	BRG RTDs			
TSTATS (N/C)	NOT	NONE	NONE	NONE	FALSE	NONE VOLTS

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<b>INVERTER TORQUE:</b> CONSTANT 1000:1
<b>INV. HP SPEED RANGE:</b> NONE
<b>ENCODER:</b> REGAL SUPPLIED - REGAL MOUNT
DYNAPAR HS35 LINCOLN
MS CONNECTOR 1024 PPR
<b>BRAKE:</b> NONE NONE
NONE P/N NONE
NONE NONE
FT-LB NONE V NONE Hz

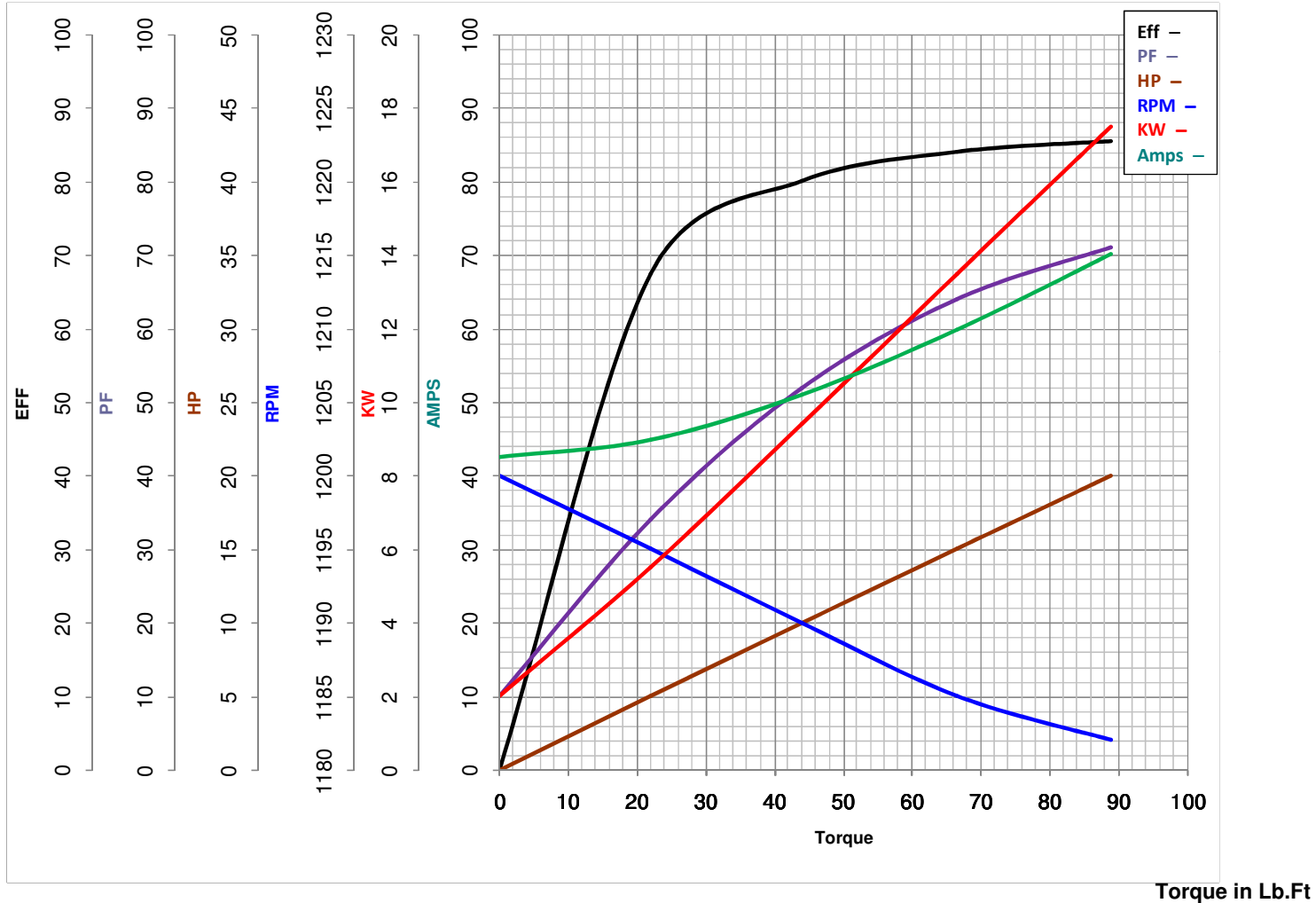


**LEESON ELECTRIC CORPORATION**  
TYPICAL PERFORMANCE CURVE for AC MOTOR

Model No LM28213

Catalog No LM28213AA

Curve at 200 Volts      HP 20.00      PHASE 3  
60 HZ  
20 HP      VOLTS 200  
HZ 60      RPM 1182



FL TORQUE	<u>88.9</u>	Lb.Ft	FL AMPS	<u>70</u>	
BD TORQUE	<u>325.0</u>	Lb.Ft	PU TORQUE	<u>250.0</u>	Lb.Ft
LR TORQUE	<u>300</u>	Lb.Ft	LR AMPS	<u>575</u>	
WINDING	6D286003-2		Date	5/28/2018	