

SPECIFICATION TABLE OF 3-PHASE SQUIRREL CAGE INDUCTION MOTOR	CUSTOMER	TWMI	USER	TWMI-I
	INQ. NO.		EQUIPMENT	
	JOB NO.	FE087020T1	MACHINE	
	TOTAL SETS	2	ITEM NO.	

Item	Terms	Description							
1	Model	AECK-S2							
2	Code or Standard	Dimensions	Frame Assignment		Performance	Test			
		IEC	TWMI		NEMA	NEMA			
3	Rating	3500	kW	4	Pole	6000	Volt 3 Phase	50	Hz
4	Service Duty	Continuous Rating , S.F. 1.15							
5	Starting Method	Electronic Soft Starter							
6	Rotation	Facing The Drive End : CCW, Available for Bi-Direction							
7	Drive Method	Direct Coupling							
8	Environment	Amb. Temp.:		-20	~	40	°C		
		Humidity : Less Than		95			%RH		
		Altitude : Up to		1000			M		
9	Enclosure & Protection	IP54 : Totally Enclosure					Indoor		
10	Cooling	IC611 : Fan Cooled With Built-in Air Cooler							
11	Mounting	IM1001 : HS, Foot							
12	Dimensions	Dr# 3A040K450 (REV.00)		Frame No :		800A			
13	Frame & Bracket	Frame :		Steel Plate		Bracket :		Steel Plate	
14	Fan & Fan Cover	Fan :		Steel Plate		Fan Cover :		Steel Plate	
15	Terminal Box	Steel Plate							
16	Lead Terminals	TLK(50-16)X2X6							
17	Lubricant	OIL ISO VG 68							
18	Painting	Color : MUNSELL 7.5B 3.5/0.5							
19	Stator Winding	Ins. Class		F					
20	Rotor Conductor	Cu-Alloy							
21	Starting Performance	LRC $\leq$ 2310Amp		LRT/FLT		85			%
22	Operating Performance	% Load	100	75	50	Break Down Torque			
		Amp.	385	292	201	225 %FLT			
		Eff.%	96.1	96.0	95.6	Temp. Rise Limit. (Res.)			
		P.F.%	91.0	90.0	87.5	Stator 105 °C			
		R.P.M.	1485	1488	1492	at S.F.1.15			
23	Note	1. With Space Heater : 1 $\phi$ 220V 1500W 2. With Winding RTD : PT 100 $\Omega$ /0°C 6pcs 3. With Bearing RTD : PT 100 $\Omega$ /0°C 2pcs 4. With Current Transformers 5. With Surge Capacitor & Lightning Arrester 6. Corrosion Proof 7.Noise : Below 85dBA at 1 Meter Distance No Load 8.Vibration : Below 2.5mm/s (0-P) on Bearing Housing No Load Below 38 Microns (P-P) on Shaft No Load 9. Approx Weight : 20000kgs							

CERTIFIED

ORDER NO. FE087020T1

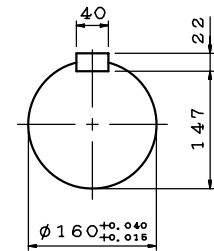
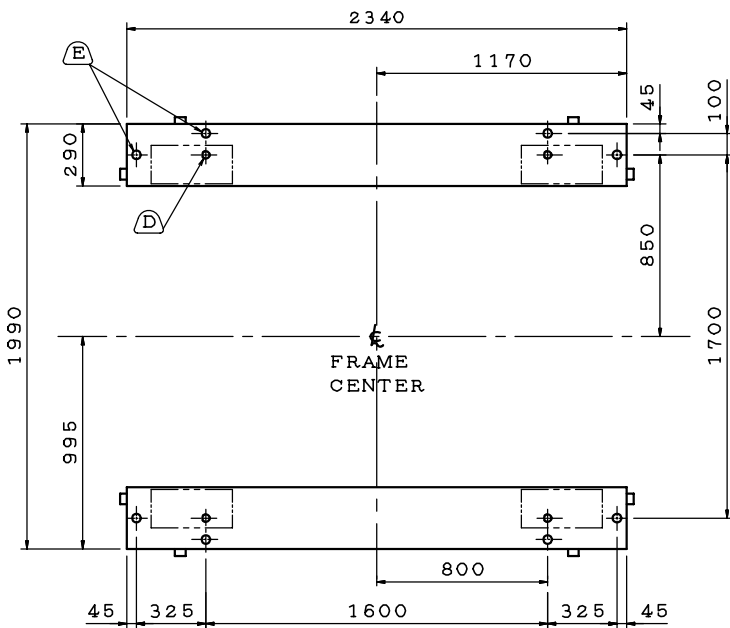
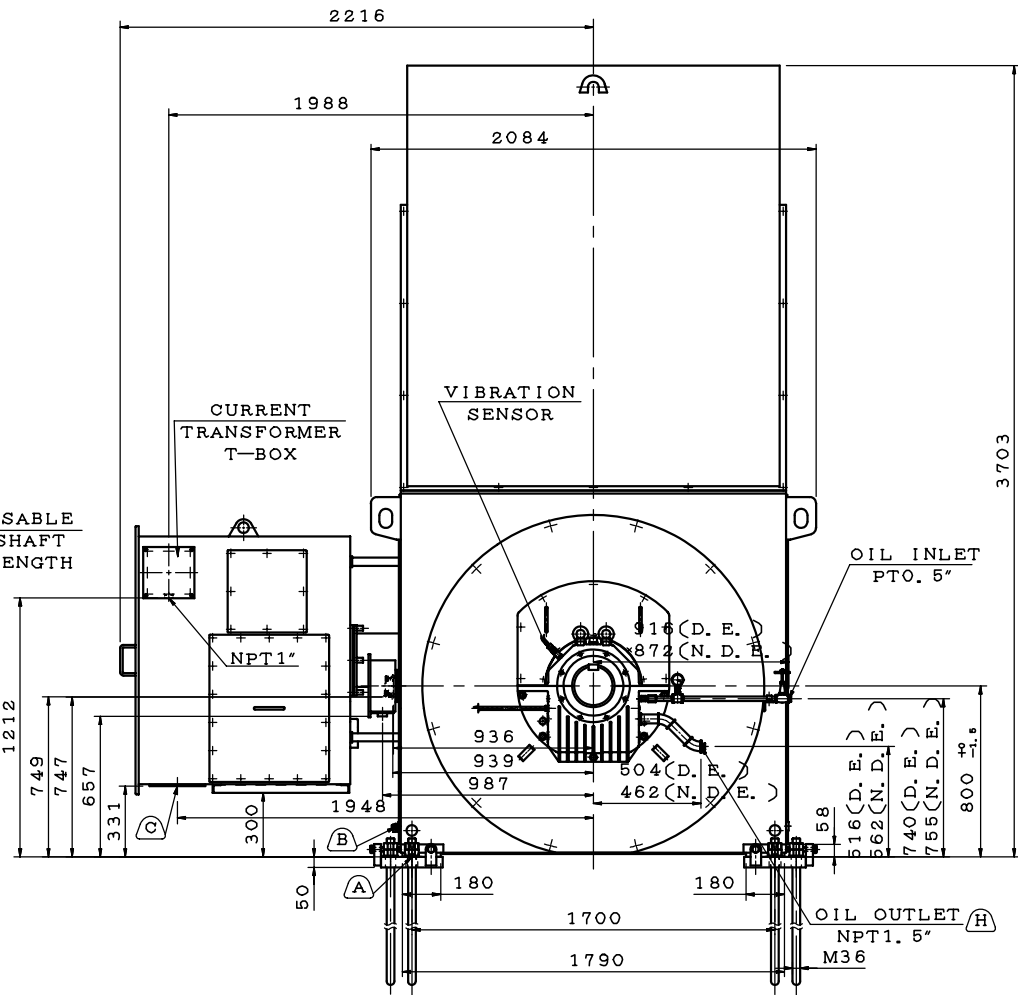
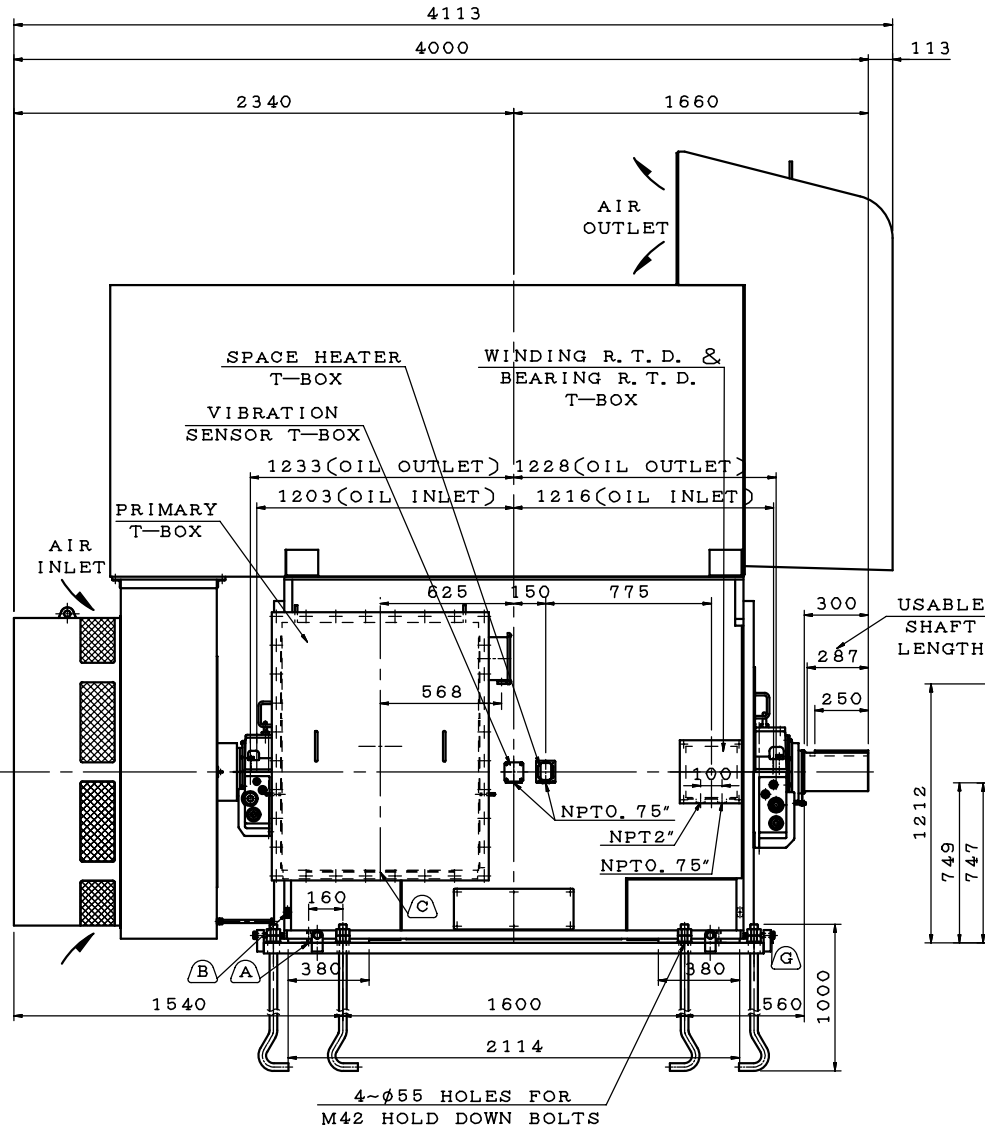
**CERTIFIED**  
ORDER NO. FE087020T1

APPD.	Ming	JAN. 30 2008	<b>TECO</b>  <b>Westinghouse</b>	DWG NO.
CHKD.	Sandy	JAN. 30 2008		3A057H186-31730
DWN.	S.HUANG	JAN. 22 2008		REV.00 1/1

TYPE	OUTPUT		POLE	TIME RATING	VOLTAGE V	Hz	SYN. SPEED R. P. M.
	HP.	kW.					
AECK-S2		3500	4	CONT	6000	50	1500

TOTALLY ENCLOSED AIR-TO-AIR COOLED TYPE, SQUIRREL CAGE ROTOR.

- NOTE:
1. DIMENSIONS IN MM.
  2. FRAME NO. 800A.
  3. F CLASS INSULATION, S.F. : 1.15.
  4. FOR DIRECT FLEXIBLE COUPLING.
  5. SLEEVE TYPE BEARING, AXIAL THRUST LOAD NOT ALLOWED.
  6. THE MOTOR ENDPLAY IS  $\pm 7\text{MM}$ . A LIMITED END FLOAT TYPE COUPLING IS REQUIRED TO LIMIT ENDPLAY TO  $\pm 2.4\text{MM}$ .
  7. BEARING SIZE: DRIVE END: 18-160 (UNINSULATED) NON-DRIVE END: 14-140 (INSULATED)
  8. THE NON-DRIVE END BEARING LINER (SHELL) IS INSULATED FROM THE HOUSING. METAL CONNECTIONS MADE TO THE BEARING SHELL MUST BE INSULATED TO PREVENT AN INSULATION SHORT CIRCUIT. METAL CONNECTIONS MADE TO THE HOUSING DO NOT NEED TO BE INSULATED.
  9. BEARING LUBRICATION: FORCED OIL LUBRICATION  
A. OIL VISCOSITY: ISO VG46 (180-220SSU AT 100°F)  
B. OIL FLOW RATE: 3.8 L/MIN FOR DRIVE END. 2.8 L/MIN FOR NON-DRIVE END.  
C. OIL INLET PRESSURE: 1.0 kg/cm<sup>2</sup>.  
D. OIL INLET ORIFICE DIAMETER: 2.8mm FOR DRIVE END 2.4mm FOR NON-DRIVE END.  
E. OIL INLET TEMPERATURE: 25°C~48°C.  
F. EXTERNAL OIL SUPPLY UNIT TO BE PREPARED BY THE CUSTOMER.
  10. WITH SPACE HEATER: 1 $\phi$ , 220V, 1500W.
  11. WITH WINDING R.T.D. : PT 100 $\Omega$ /0°C, 6PCS.  
SETTING: ALARM 145°C, TRIP 155°C AT S.F. : 1.0.  
ALARM 155°C, TRIP 165°C AT S.F. : 1.15.
  12. WITH BEARING R.T.D. : PT 100 $\Omega$ /0°C, 2PCS.  
SETTING: ALARM 90°C, TRIP 95°C.
  13. WITH SURGE CAPACITOR: 3 $\phi$  6.0kV 0.5 $\mu$ F 1PCS, LIGHTNING ARRESTERS: 1 $\phi$ , 9kV 3PCS, CURRENT TRANSFORMER 50:5 3PCS IN PRIMARY T-BOX.
  14. WITH VIBRATION SENSOR: STI CMCP420VT-02, 2PCS.
  15. NOISE: BELOW 85dBA AT 1 METER DISTANCE NO LOAD.
  16. VIBRATION:  
BELOW 2.5mm/sec (O-P) ON BEARING HOUSING NO LOAD.  
BELOW 38 MICRONS (P-P) ON SHAFT NO LOAD.
  17. ENCLOSURE: IP54.
  18. CORROSION PROOF.
  19. MOTOR APPROX. WEIGHT: 20000 kgs.
  20. TWMC IS NOT RESPONSIBLE FOR FOUNDATION DESIGN. THE SUPPORT REACTIONS NECESSARY FOR FOUNDATION DESIGN ARE AS FOLLOWS -kgs PER BOLT AT CENTERLINE OF HOLD DOWN BOLT HOLES:  
STATIC X = MOTOR WEIGHT/4  
RATED MOTOR TORQUE X = MOTOR WEIGHT/4  $\pm$  769kgs.  
MAXIMUM MOTOR TORQUE X = MOTOR WEIGHT/4  $\pm$  5921kgs.
- (A) M20 VERTICAL JACKING HOLE, ONE HOLE PER FOOT. WITH VERTICAL JACKING SCREWS 4PCS, MOUNTED ON FOOT.
- (B) TWO M12 TAPPED GROUNDING PADS ON FRAME, DIAGONALLY OPPOSITE, WITH ONLY ONE GROUNDING STUD & (TLK120-12) TERMINAL LOCATED AS SHOWN.
- (C) REMOVABLE COVER FOR CABLE ENTRY TO BE DRILLED BY THE CUSTOMER.
- (D)  $\phi 55$  HOLE THRU FRAME FOOT, M42 TAPPED HOLE THRU SOLEPLATE FOR M42 HOLD DOWN BOLTS. (1 HOLE PER FOOT, 4 HOLES TOTAL.) ADJUSTING SHIMS, HOLD DOWN BOLTS, FOUNDATION BOLTS AND OTHER MOUNTING ACCESSORIES ARE PREPARED BY THE TWMC.
- (E)  $\phi 42$  HOLE THRU SOLEPLATE FOR M36 FOUNDATION BOLTS (8 PLACES).
- (F) SOLEPLATES AND FOUNDATION BOLTS TO BE SHIPPED LOOSE WITH MOTOR.
- (G) M20 ADJUSTMENT STUDS, 8 PLACES.
- (H) OIL DRAIN LINES SHOULD BE SLOPED A MINIMUM OF 45MM PER METER. FOR PROPER DRAINING, A VENT MUST BE PLACED IN THE DRAIN LINES AS CLOSE TO THE MOTOR BEARINGS AS POSSIBLE.



DRIVE END

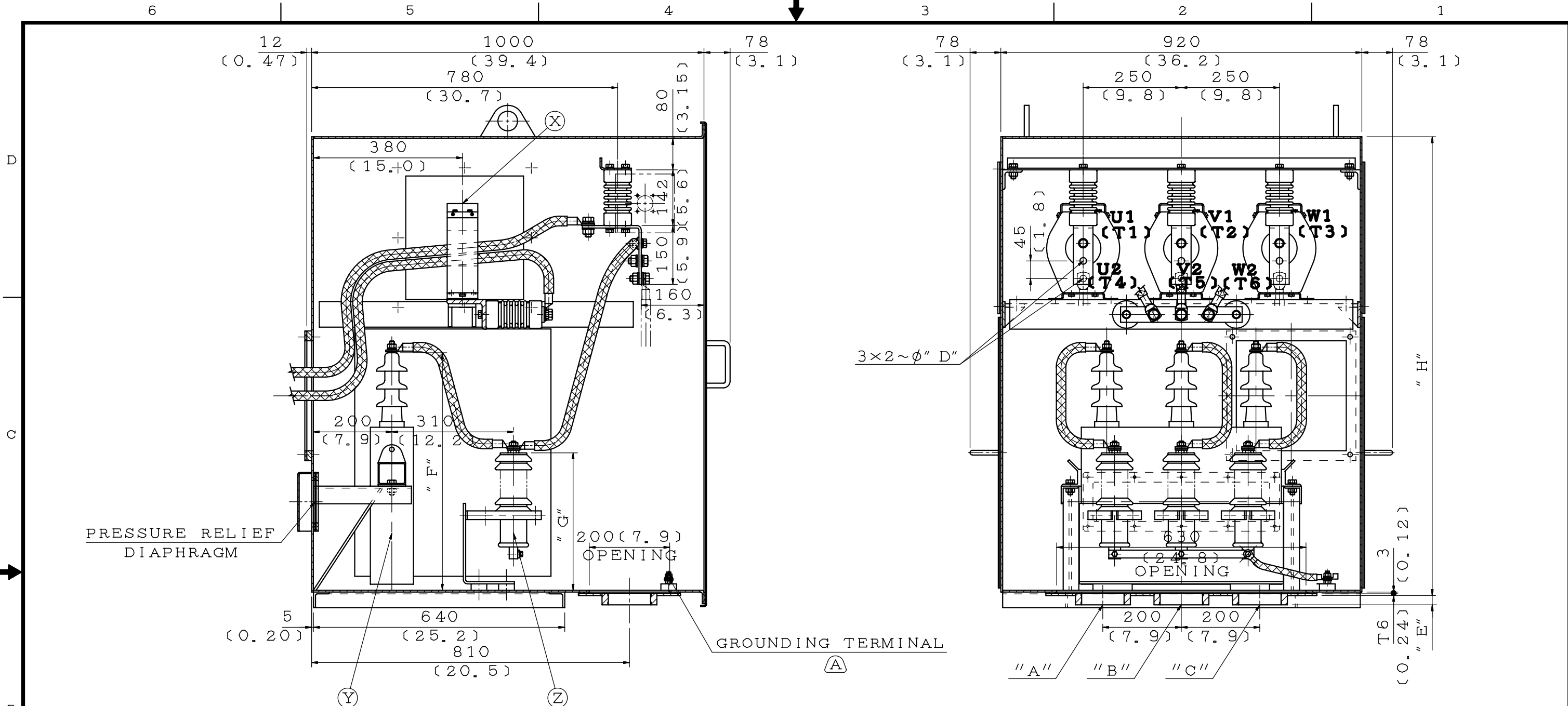
SHAFT END  
(ENLARGED VIEW)

DATE		OUTLINE DIMENSIONS	
		3-PHASE INDUCTION MOTOR	

DWN.	S. WANG	JAN. 29. 2008
CHKD.	S. WANG	JAN. 29. 2008
APPD.	C. WANG	JAN. 29. 2008

**TECO** Westinghouse

DWG NO. 3A040K450  
REV: 00



ITEM	A	B	C	D	E	F	G	H
01	0	0	0	11 (0.43)	0	605 (23.8)	350 (13.8)	1169 (46.0)
02	0	0	0	13 (0.51)	0	605 (23.8)	350 (13.8)	1169 (46.0)
03	0	0	0	17 (0.67)	0	605 (23.8)	350 (13.8)	1169 (46.0)
04								
05								
06								
07								
08								
09								

**CERTIFIED**  
ORDER NO.

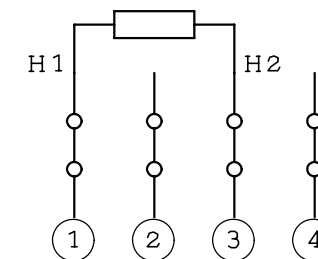
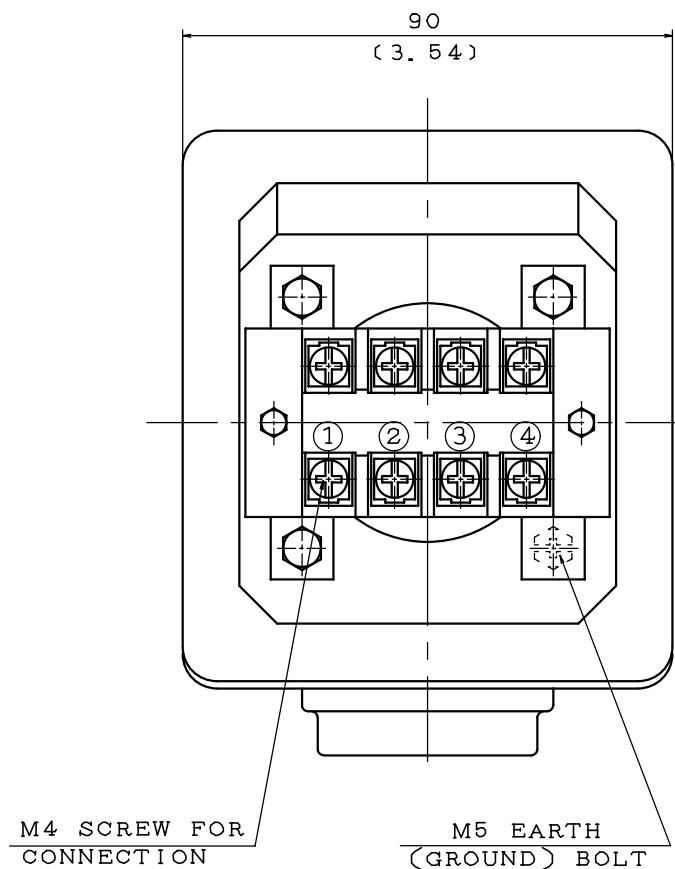
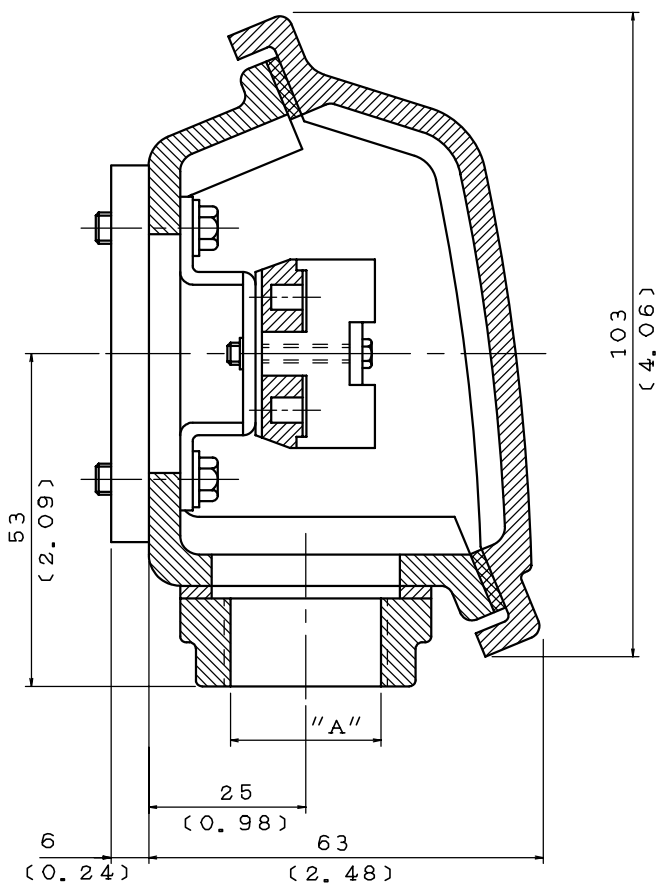
NOTE:  
1. DIMENSIONS IN MM(INCHES).  
2. PRIMARY T-BOX.  
3. ORDER NO. FE087020T1 & FE087021T1.

(A) EXCEPT CUSTOMER SPECIFIED, STANDARD GROUNDING TERMINAL(R38-10) PROVIDED.

- (X) CURRENT TRANSFORMER
- (Y) SURGE CAPACITOR
- (Z) LIGHTING ARRESTER

DWN.	C. LEONG	NOV.28.2007
CHKD.	C. SHIH	DEC.12.2007
APPD.	C. WANG	DEC.12.2007

DATE	JAN.30.2008	SCHEMATIC DRAWING	
		TERMINAL BOX	
<b>TECO</b> ®Westinghouse		DWG NO.	REV:00
		3B040L948	



ITEM	A
01	M20×1.5
02	PF—0.5"
03	PF—0.75"
04	PT—0.5"
05	PT—0.75"
06	NPT—0.5"
07	NPT—0.75"
08	M25×1.5
09	PF1"
10	NPT1"

NOTE:

1. DIMENSIONS IN MM (INCHES).
2. TW-06
3. SPACE HEATER T-BOX.
4. ENCLOSURE: IP65 (NEMA 4X).
5. ORDER NO. FE087020T1 & FE087021T1.

**CERTIFIED**

ORDER NO.

DATE JAN.30.2008

SCHEMATIC DRAWING

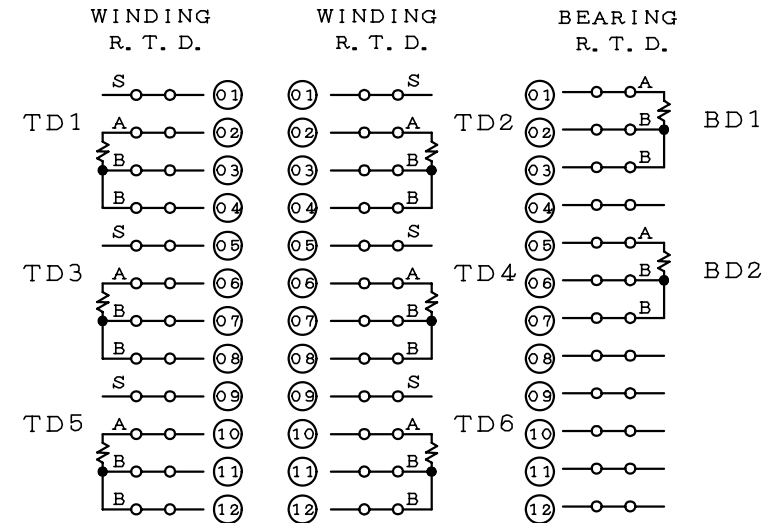
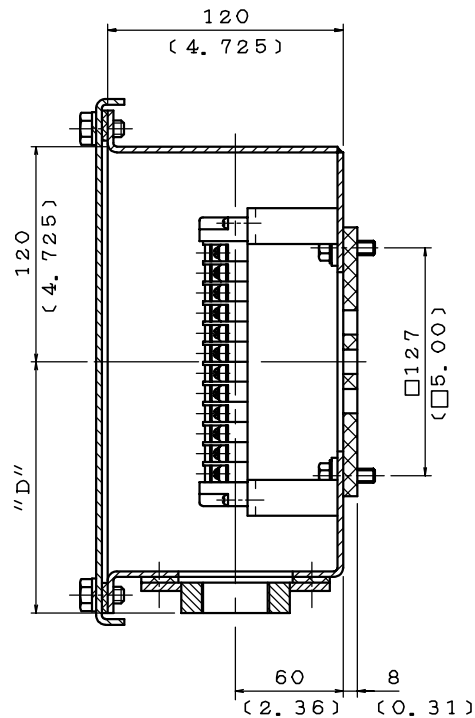
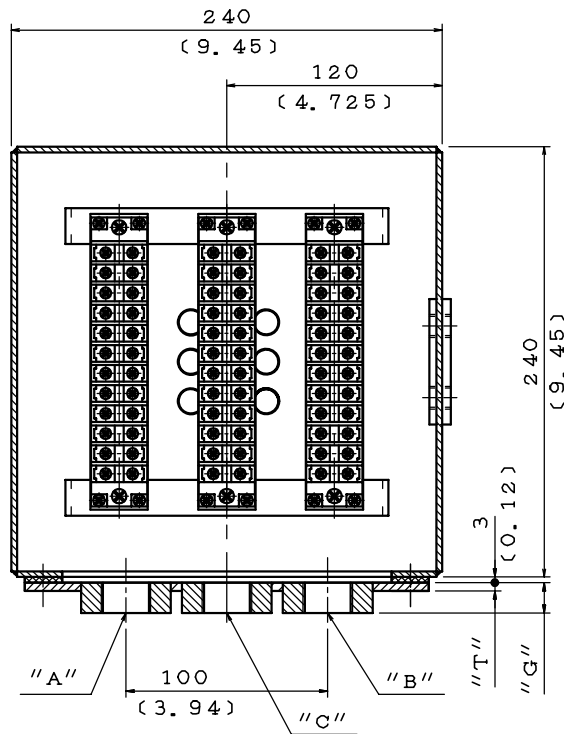
TERMINAL BOX

DWN.	S. WANG	MAR 18 1999
CHKD.	J. PENG	MAR 22 1999
APPD.	A. WU	MAR 22 1999

**TECO®Westinghouse**

DWG NO. REV:09

3A040D416



**CERTIFIED**  
ORDER NO.

ITEM	A	B	C	D	G	T
01	0	0	0	127.5 (5.02)	4.5 (0.18)	4.5 (0.18)
02	M50×1.5	M20×1.5	0	143 (5.63)	20 (0.79)	4.5 (0.18)
03	NPT2"	NPT1"	0	143 (5.63)	20 (0.79)	4.5 (0.18)
04	PF2"	PF1"	0	143 (5.63)	20 (0.79)	4.5 (0.18)
05	PT2"	PT1"	0	143 (5.63)	20 (0.79)	4.5 (0.18)
06	0	0	NPT2"	143 (5.63)	20 (0.79)	4.5 (0.18)
07	NPT1.5"	NPT0.75"	0	143 (5.63)	20 (0.79)	4.5 (0.18)
08	0	0	NPT1"	143 (5.63)	20 (0.79)	4.5 (0.18)
09	NPT0.75"	NPT0.75"	NPT0.75"	143 (5.63)	20 (0.79)	4.5 (0.18)
10						

NOTE:

1. DIMENSIONS IN MM (INCHES).

2. WINDING R. T. D. &  
BEARING R. T. D. T-BOX.

3. TD1 & TD2 FOR U PHASE  
TD3 & TD4 FOR V PHASE  
TD5 & TD6 FOR W PHASE  
BD1 FOR DRIVE END BEARING  
BD2 FOR NON-DRIVE END BEARING.

4. ENCLOSURE: IP65 (NEMA 4X).

5. ORDER NO. FE087020T1 & FE087021T1.

DATE	JAN.30.2008	SCHMATIC DRAWING
		TERMINAL BOX
DWG NO.	3A040D779	REV:07

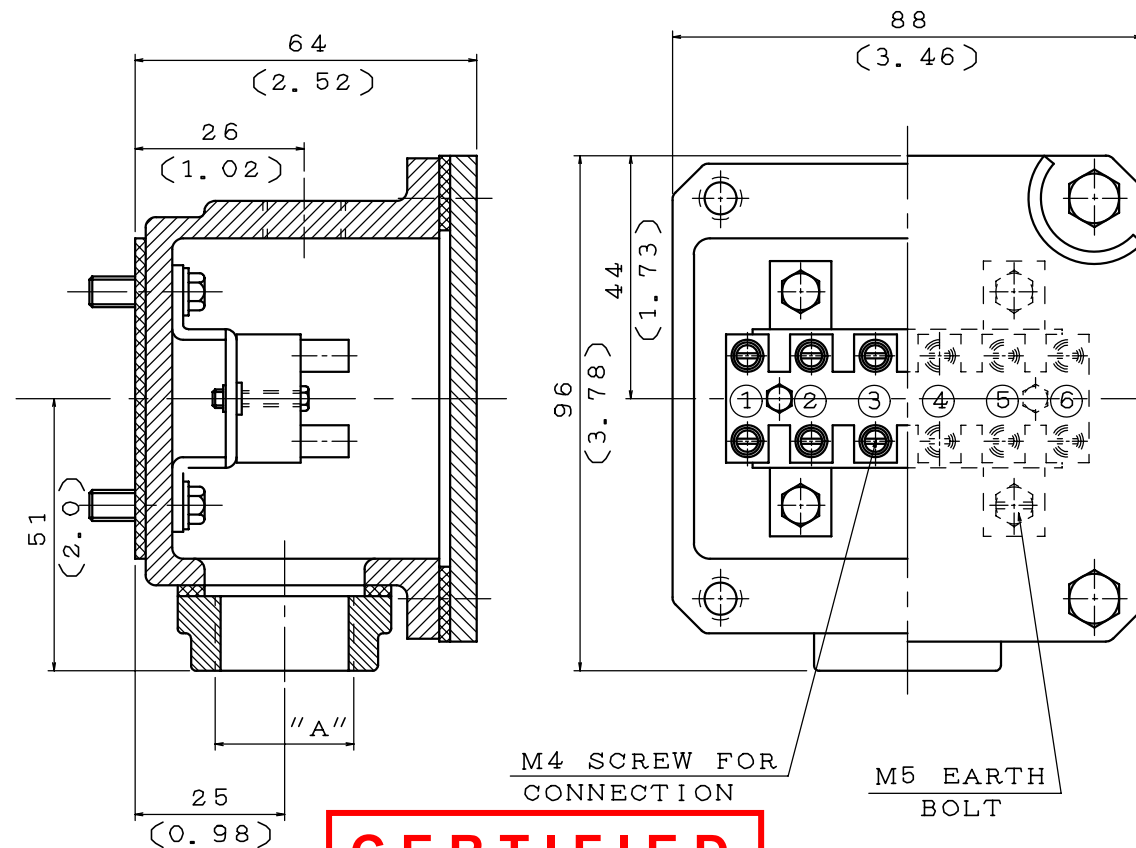
DWN.	C. LEONG	AUG.03.2001
CHKD.	C. WANG	AUG.03.2001
APPD.	T. CHEN	AUG.03.2001

**TECO®Westinghouse**

ITEM	A	VT1	VT2
01	PF-0.5"	DRIVE END	NON-DRIVE END
02	PF-0.75"		
03	PT-0.5"		
04	PT-0.75"		
05	NPT-0.5"		
06	NPT-0.75"		
07	M20×1.5		
08	NPT-1"		
09	PT-1"		
10	PF-1"		
11	M25×1.5		
12	PF-0.5"	NON-DRIVE END	DRIVE END
13	PF-0.75"		
14	PT-0.5"		
15	PT-0.75"		
16	NPT-0.5"		
17	NPT-0.75"		
18	M20×1.5		
19	NPT-1"		
20	PT-1"		
21	PF-1"		
22	M25×1.5		

NOTE:

1. DIMENSION IN MM (INCHES).
2. TX-05B.
3. VIBRATION VELOCITY SENSOR T-BOX.
4. ORDER NO. FE087020T1 & FE087021T1.
5. ENCLOSURE: IP65.



**CERTIFIED**  
ORDER NO.

DATE JAN.30.2008

SCHEMATIC DRAWING

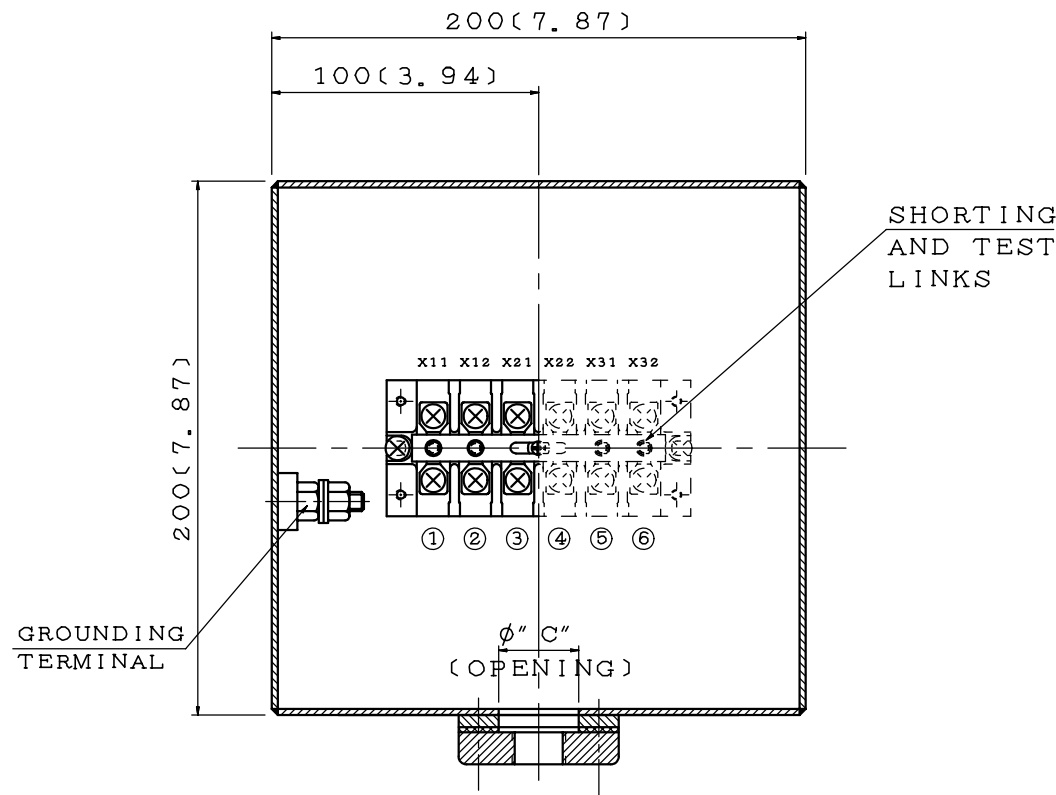
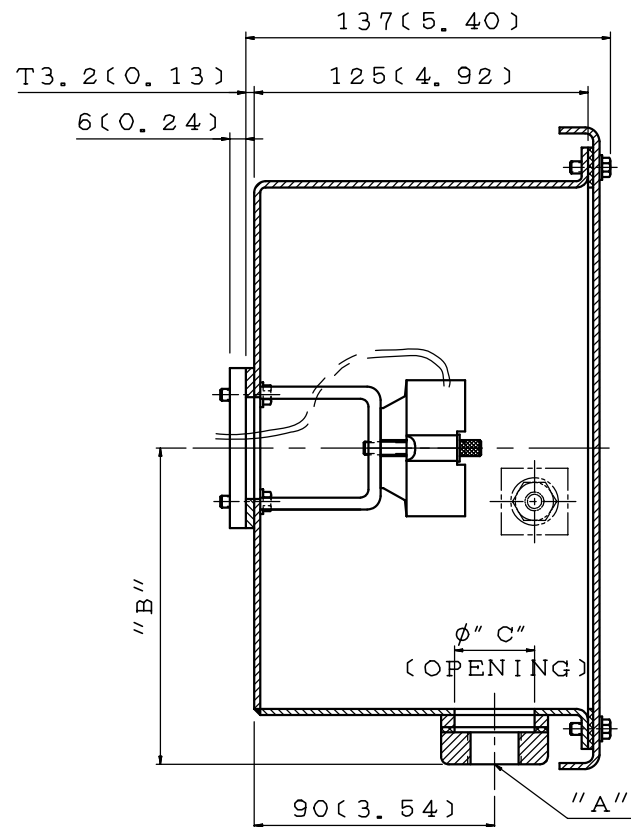
TERMINAL BOX

DWN.	S. WANG	MAR.24.2006
CHKD.	S. WANG	MAR.24.2006
APPD.	C. WANG	MAR.24.2006

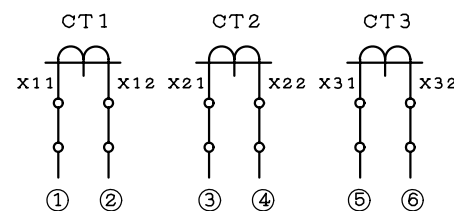
**TECO®Westinghouse**

DWG NO. REV:00  
3B040M034

6 5 4 3 2 1



### CURRENT TRANSFORMER



### NOTE:

1. DIMENSIONS IN MM(INCHES).
2. CURRENT TRANSFORMER T-BOX.
3. ENCLOSURE: IP65(NEMA 4X).
4. ORDER NO. FE087020T1  
FE087021T1.

**CERTIFIED**

ORDER NO.

ITEM	A	B	C
01	M20×1.5	118.5(4.67)	30(1.18)
02	NPT0.75"	118.5(4.67)	30(1.18)
03	PFO.75"	118.5(4.67)	30(1.18)
04	NPT1"	118.5(4.67)	30(1.18)
05	0	112.5(4.43)	30(1.18)
06	15(0.59)	112.5(4.43)	30(1.18)

DATE JAN.30.2008

SCHEMATIC DRAWING

TERMINAL BOX

DWN.	A. HUNG	FEB 08 200
CHKD.	A. CHAO	FEB 09 200
APPD.	T. CHEN	FEB 12 200

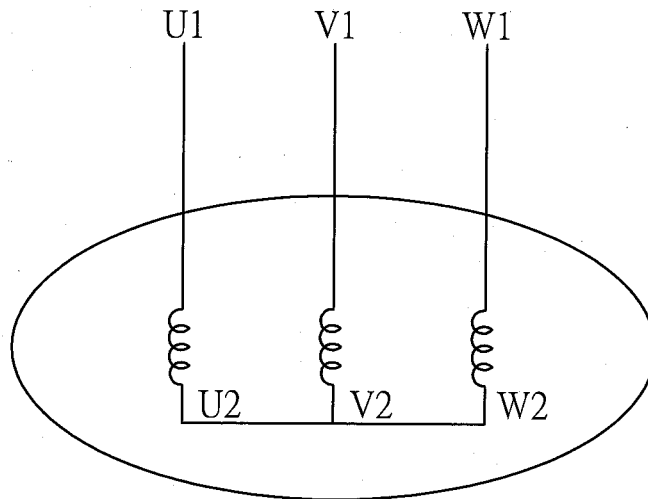
**TECO®Westinghouse**

DWG NO. REV:08

3A040D744

6 5 4 3 2 1

DATE JAN.30.2008	SCHEMATIC WYE CONN 6 LEADS	MODEL



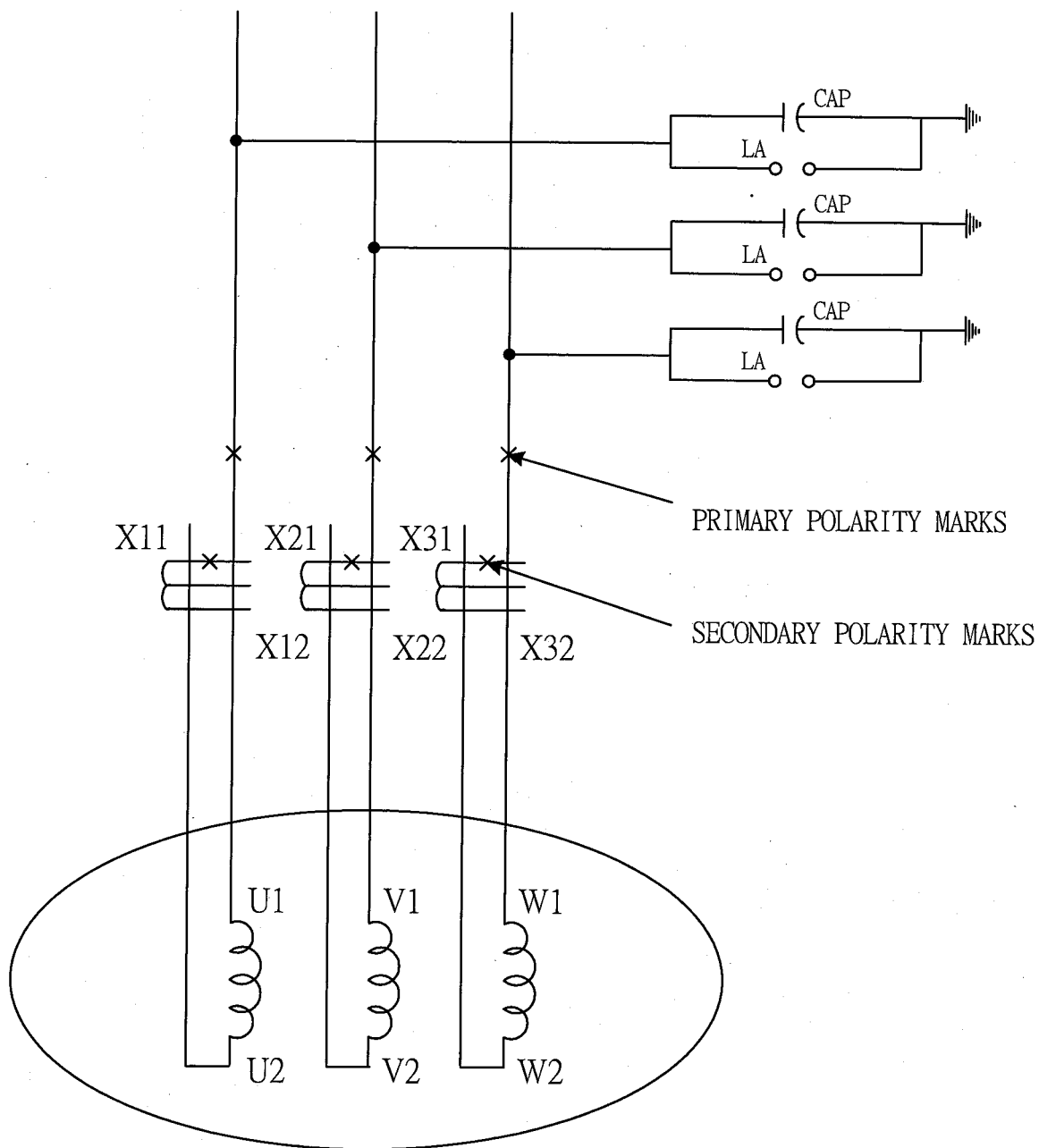
SCHEMATIC - WYE CONN - 6 LEADS


CONNECTION	ROTATION ( VIEWED FROM DRIVE END )

DWN.	S.HUANG	MAR • 03 • 2003	<b>TECO</b>  <b>Westinghouse</b>	DWG NO.	REV: 00
CHKD.	T.HSIAO	MAR • 03 • 2003		3 A 0 6 1 H 4 6 9	
APPD.	T.HSIAO	MAR • 03 • 2003			

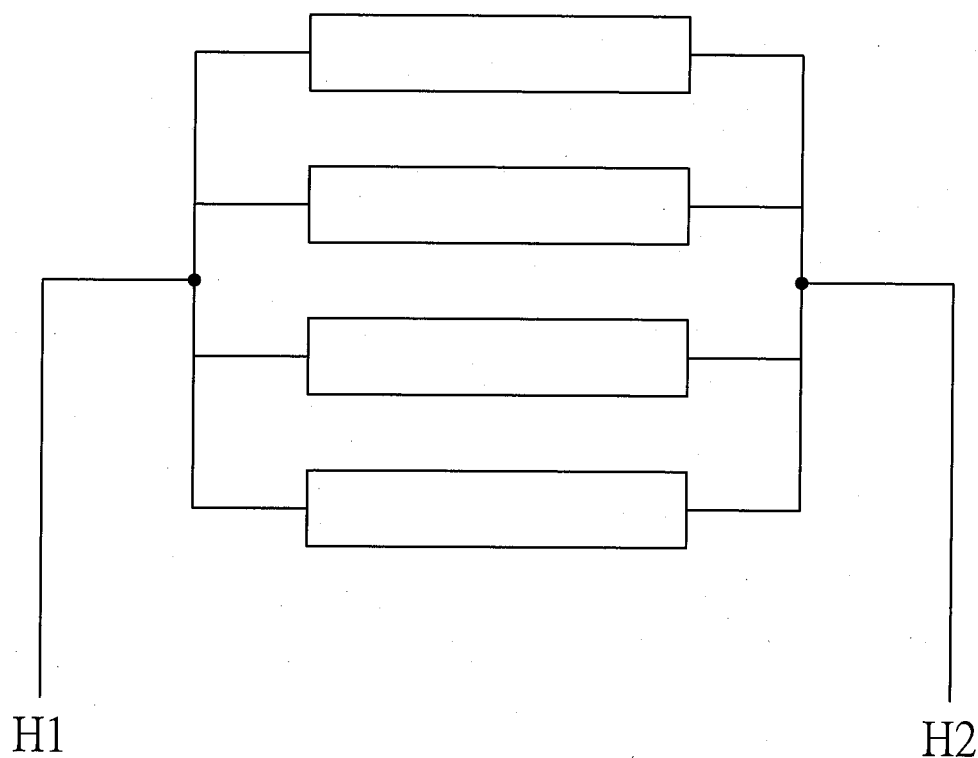


DATE JAN.30.2008	6 LEADS SC&LA&CT	MODEL
	CONNECTION DIAGRAM	



DWN.	S.HUANG	MAR • 03 • 2003	<b>TECO</b>  <b>Westinghouse</b>	DWG NO.	REV: 00
CHKD.	T.HSIAO	MAR • 03 • 2003		3 A 0 6 1 H 4 7 9	
APPD.	T.HSIAO	MAR • 03 • 2003			

DATE JAN.30.2008	SCHEMATIC SPACE HEATER	MODEL



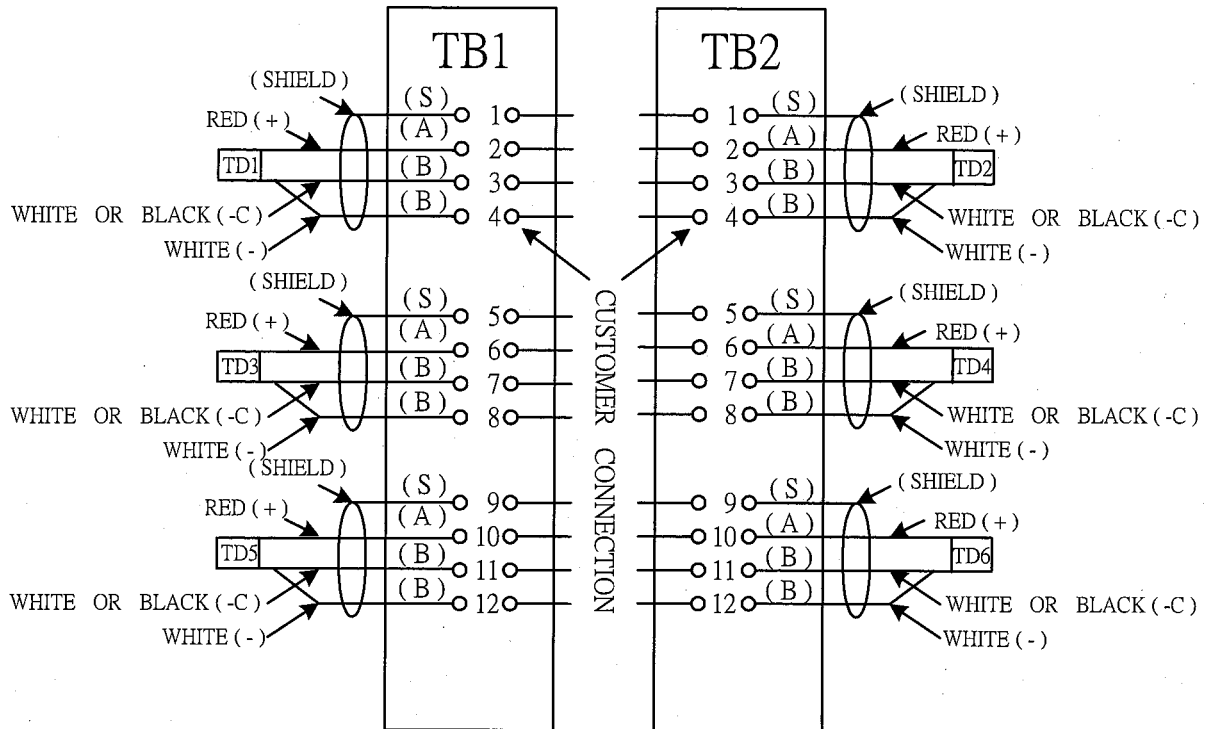
220V 1PH 1500W

DWN.	S.HUANG	MAR • 03 • 2003	<b>TECO</b>  <b>Westinghouse</b>	DWG NO.	REV: 00
CHKD.	T.HSIAO	MAR • 03 • 2003		3 A 0 6 1 H 2 6 0	
APPD.	T.HSIAO	MAR • 03 • 2003			

DATE  
JAN.30.2008

# WIRING DIAGRAM

MODEL



DWN.	S.HUANG	MAR • 03 • 2003
CHKD.	T.HSIAO	MAR • 03 • 2003
APPD.	C.Y.HUANG	MAR • 03 • 2003

**TECO**  **Westinghouse**

DWG NO. REV: 00

3 A 0 6 1 H 5 1 2

**INDUCTION MOTOR STARTING CHARACTERISTICS**

E087021

I-N/T-N CURVE

ORDER NO: E087020

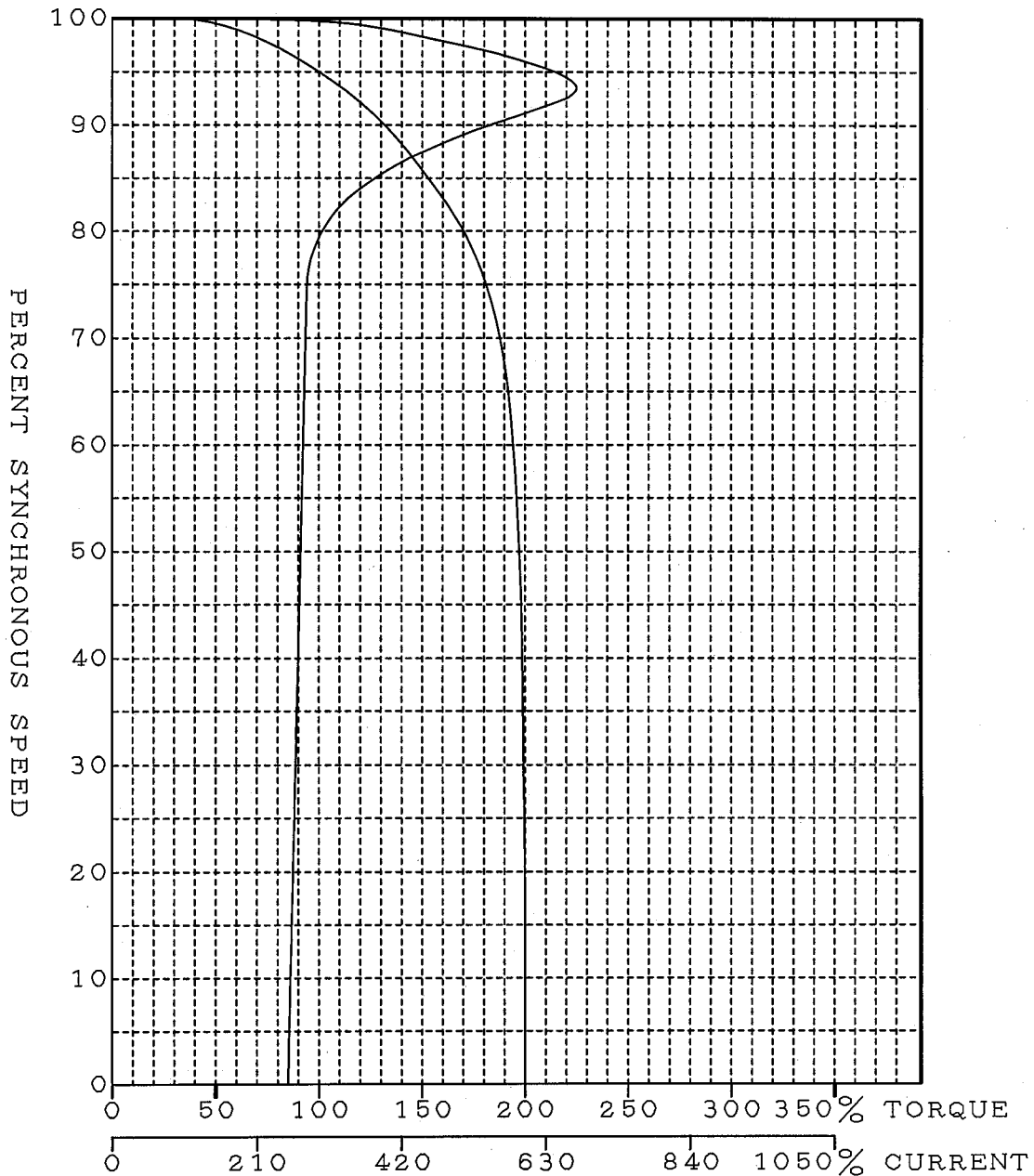
TYPE: AECK

KW: 3500 VOLTS: 6000

HZ: 50

POLES: 4

RPM(FLS): 1485

**TECO**  **Westinghouse**CURVE NO.  
E087020/00 I  
-T

SIGNATURE: S. HUANG

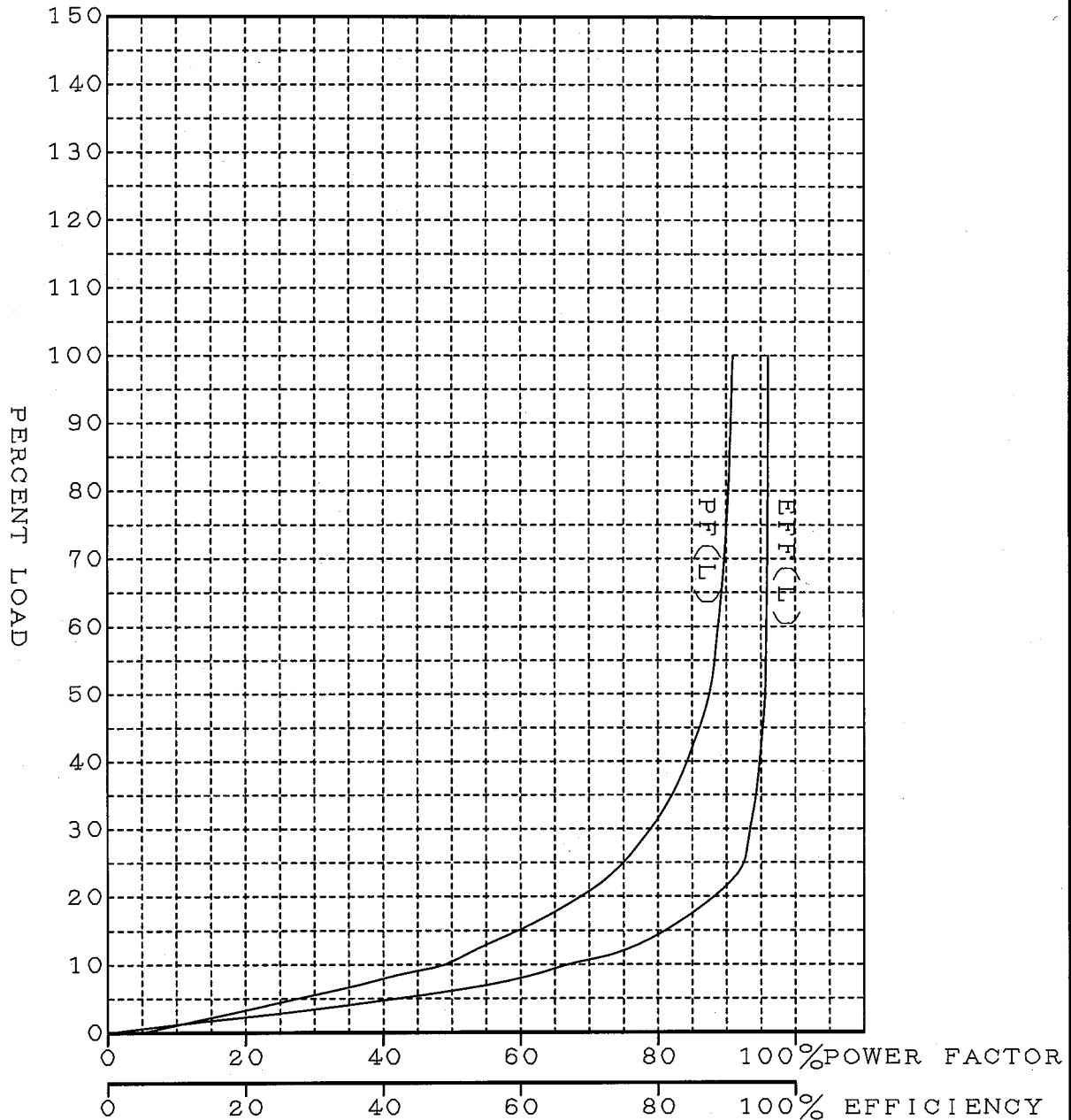
DATE: 01/22/2008

# INDUCTION MOTOR STARTING CHARACTERISTICS

Efficiency & Power Factor Vs Load Curve

ORDER NO: E087020 E087021 TYPE:AECK

KW:3500 VOLTS:6000 HZ:50 POLES:4 RPM(FLS):1485



**TECO**  **Westinghouse**

CURVE NO.  
E087020/00 P

SIGNATURE: S. HUANG

DATE: 01/22/2008

# TIME — CURRENT AND THERMAL LIMIT CURVES

E087021

NO. : E087020

TYPE: AECK

POLE: 4

KW: 3500

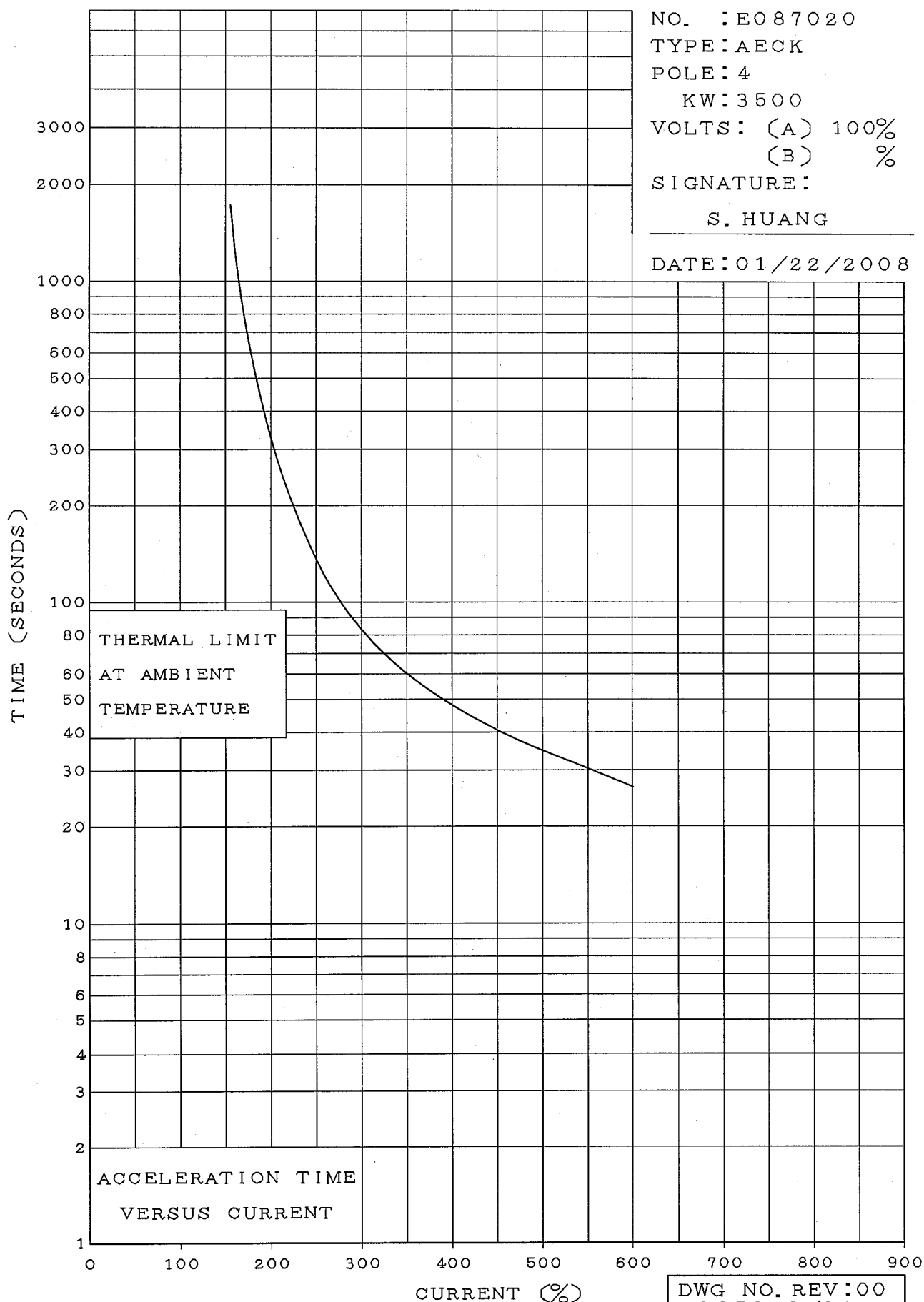
VOLTS: (A) 100%

(B) %

SIGNATURE:

S. HUANG

DATE: 01/22/2008



TECO  Westinghouse

DWG NO. REV:00  
E087020/01 T  
IME