NOV.21.2008

| SPECIFICATION TABLE OF 3-PHASE SQUIRREL CAGE INDUCTION MOTOR | CUSTOMER | TWMI | USER | TWMI-I |
|---|---|---|---|---|
| | INQ. NO. | | EQUIPMENT | |
| | JOB NO. | FD093227T1 | MACHINE | |
| | TOTAL SETS | 1 | ITEM NO. | |

| Item | Terms | Description | | | |
|---|---|---|---|---|---|
| 1 | Model | ANCK-S2 | | | |
| 2 | Code or Standard | Dimensions | Frame Assignment | Performance | Test |
| | | IEC | TWMC | NEMA | NEMA |
| 3 | Rating | 1500 HP 6 Pole 4000 Volt 3 Phase 60 Hz | | | |
| 4 | Service Duty | Continuous Rating | | | |
| 5 | Starting Method | V.V.V.F. | | | |
| 6 | Rotation | Facing The Drive End : CCW, Available for Bi-Direction | | | |
| 7 | Drive Method | Direct Coupling | | | |
| 8 | Environment | Amb. Temp. : 5 ~ 40 ℃ | | | |
| | | Humidity : Less Than 90 %RH | | | |
| | | Altitude : Up to 3300 FT | | | |
| 9 | Enclosure & Protection | WPII : NEMA Weather Protected Type II Indoor | | | |
| 10 | Cooling | IC01 : Self Ventilated Interior Cooling | | | |
| 11 | Mounting | IM1001 : HS, Foot | | | |
| 12 | Dimensions | Dr# 3A040K874 (REV.00) Frame No ： 500C | | | |
| 13 | Frame & Bracket | Frame : Steel Plate Bracket : Steel Plate | | | |
| 14 | Fan & Fan Cover | Fan :-- Fan Cover :-- | | | |
| 15 | Terminal Box | Steel Plate | | | |
| 16 | Lead Terminals | TLK(50-10)X6 | | | |
| 17 | Lubrication | Oil Viscosity : ISO VG68 | | | |
| 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 ≦ 1200 Amp LRT/FLT 80 % | | | |
| 22 | Operating Performance | Hz/V | 60/4000 | | Break Down Torque |
| | | %Load | 100 | 75 | 50 | 200 %FLT |
| | | Amp. | 195 | 150 | 106 | |
| | | Eff.% | 96.0 | 95.8 | 95.4 | Temp. Rise Limit. (RTD) |
| | | P.F.% | 86.5 | 84.5 | 80.0 | Stator 75 ℃ |
| | | R.P.M. | 1185 | 1188 | 1192 | |
| 23 | Note | 1. With Space Heater : 1φ 120V 500W<br>2. With Winding RTD : PT 100Ω/0℃ 6pcs (DIN)<br>130℃ Alarm , 150℃ Trip<br>3. With Bearing RTD : PT 100Ω/0℃.Dual Elements 2pcs (DIN)<br>4. With Correction Capacitors 300KVAR to Achieve 95.0% Power factor<br>( Recommended )<br>5. Class I, Zone II, Group IIA , T2C<br>6. Corrosion Proof<br>7. Motor Approx weight : 5800Kgs<br>8. No-load Amp = 49.9Amp , No-load PF% = 4.0%<br>9. Pull-up Torque = 80%<br>10.Safe Stall Time (cold/hot) : 35/30sec | | | |

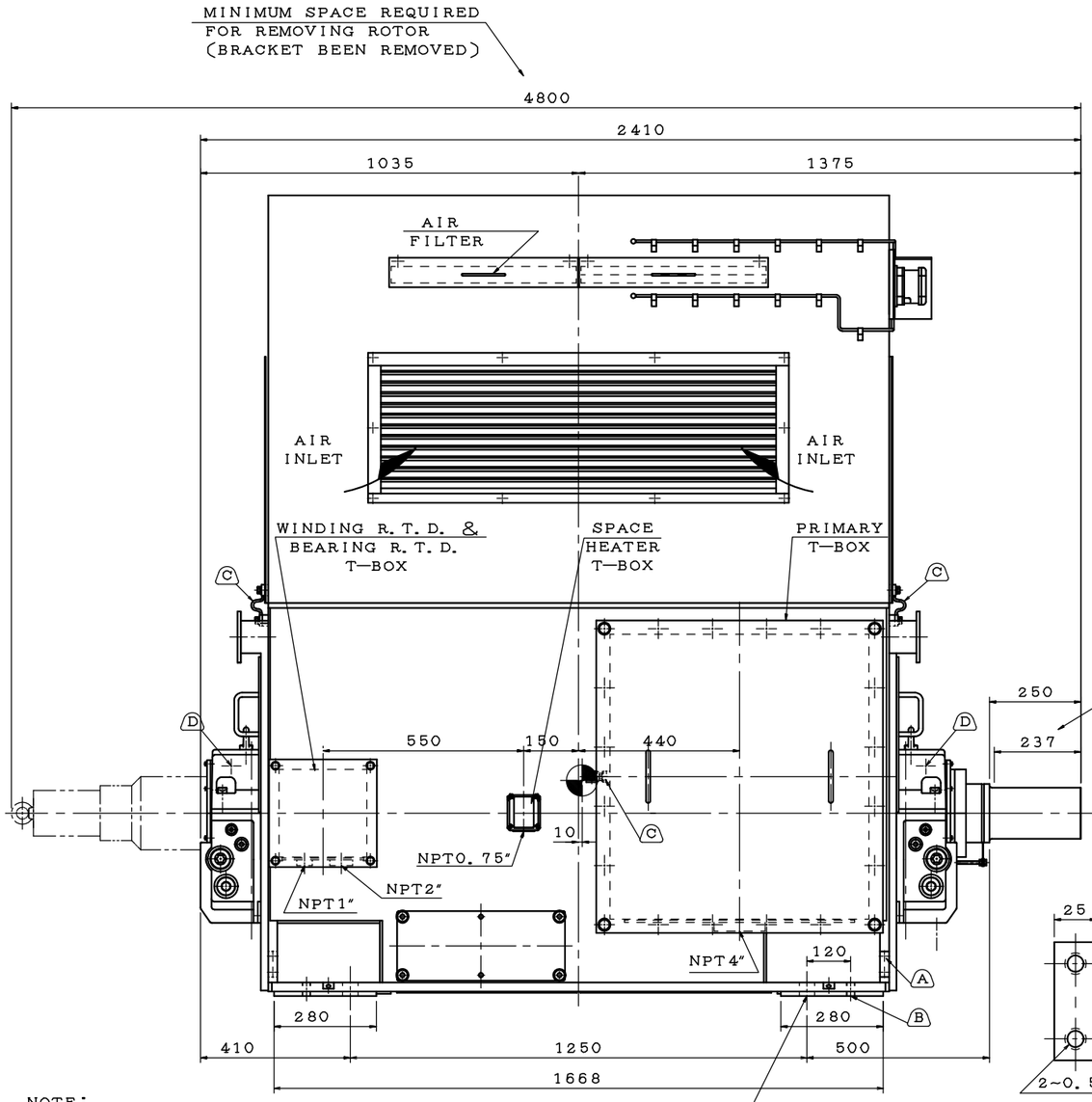
CERTIFIED
ORDER NO. FD093227T1

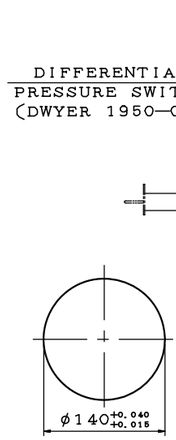
| | | | | |
|---|---|---|---|---|
| APPD. | Ming | NOV. 21 2008 | TECO Westinghouse | DWG NO. 3A057H186-37285 |
| CHKD. | Sandy | NOV. 21 2008 | | REV.00 1/2 |
| DWN. | S.HUANG | NOV. 06 2008 | | |

| Item | Terms | Description |
|---|---|---|
| 23 | Note | 11.Acceleration Time : 3 sec<br>12.Noise : Below 85dBA at 3 Feet Distance No Load<br>13.Vibration :<br>Below 2.5mm/s(O-P) On Bearing Housing No Load<br>Below 38μm(P-P) On Shaft No Load |

| TYPE | OUTPUT HP. | OUTPUT kW. | POLE | TIME RATING | VOLTAGE V | Hz | SYN. SPEED R. P. M. |
|---|---|---|---|---|---|---|---|
| ANCK-S2 | 1500 | | 6 | CONT | 4000 | 60 | 1200 |

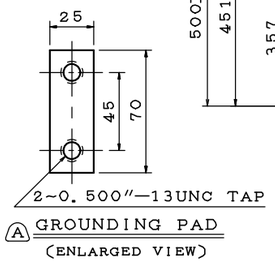
WEATHER PROTECTED TYPE II, SQUIRREL-CAGE ROTOR










NOTE:
1. DIMENSIONS IN MM.
2. FRAME NO. 500C.
3. F CLASS INSULATION.
4. FOR DIRECT FLEXIBLE COUPLING.
5. SLEEVE TYPE BEARING, AXIAL THRUST LOAD NOT ALLOWED.
6. THE MOTOR ENDPLAY IS ±7MM. A LIMITED END FLOAT TYPE COUPLING IS REQUIRED TO LIMIT ENDPLAY TO ±2.4MM.
7. BEARING SIZE: DRIVE END: 14-140 (INSULATED)
   NON-DRIVE END:14-140 (INSULATED)
8. BOTH 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 CONNETIONS MADE TO THE HOUSING DO NOT NEED TO BE INSULATED. A GROUND STRAP IS PROVIDED AT THE DRIVE END. BEARING INSULATION SHOULD BE CHECKED WITH AN OHMETER OR MEGGER BEFORE OPERATING MOTOR. DRIVE END BEARING MUST BE GROUNDED BY MEANS OF THE GROUND STRAP WHILE THE MOTOR IS OPERATING.
9. BEARING LUBRICATION:SELF-LUBRICATION
   A. OIL VISCOSITY:ISO VG68(275~325 SSU AT 100°F)
   B. OIL QUANTITY:6.3L FOR DRIVE END
      6.3L FOR NON-DRIVE END.
10. WITH SPACE HEATER: 1ϕ 120V, 500W.
11. WITH WINDING RTD: PT100Ω/0°C(DIN), 6PCS.
    SETTING:ALARM 130°C, TRIP 150°C.
12. WITH BEARING RTD: PT100Ω/0°C(DIN), DUAL ELEMENTS, 2PCS.
    SETTING:ALARM 95°C, TRIP 100°C.
13. WITH DIFFRENTIAL PRESSURE SWITCH:
    DWYER MODEL NO. 1950-00, 1PCS.
    SETTING: ALARM 0.1" W.C., TRIP 0.12" W.C.
14. WITH DIFFERENTIAL PRESSURE GAUGE:DWYER 2000-00, 1PCS.
15. NOISE:BELOW 85dBA AT 3 FEET DISTANCE NO LOAD.
16. VIBRATION:
    BELOW 2.5mm/s(0-P) ON BEARING HOUSING NO LOAD.
    BELOW 38 μm(P-P) ON SHAFT NO LOAD.
17. SUITABLE FOR CLASS I, ZONE 2, GROUPS IIA, T2C.
18. CORROSION PROOF.
19. MOTOR APPROX. WEIGHT: 5800kgs.
    ROTOR APPROX. WEIGHT: 1800kgs
20. TWMC IS NOT RESPONSIBLE FOR FOUNDATION DESIGN. THE SUPPORT REACTION 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 ± 454 kgs.
    MAXIMUM MOTOR TORQUE X = MOTOR WEIGHT/4 ± 2997 kgs.

(A) 2~0.500"-13UNC TAPPED GROUNDING PADS ON FRAME, DIAGONALLY OPPOSITE.

(B) M20 VERTICAL JACKING HOLE, ONE HOLE PER FOOT. WITH VERTICAL JACKING BOLTS:4PCS, MOUNTED ON MOTOR.

(C) BONDING STRAP.

(D) 2~1/4" NPT TAPPED HOLES FOR EACH BEARING, PROVISION FOR CUSTOMER'S METRIX VIBRATION TRANSMITTER.

| | | |
|---|---|---|
| DWN. | S. WANG | NOV.08.2008 |
| CHKD. | S. WANG | NOV.08.2008 |
| APPD. | C. WANG | NOV.10.2008 |

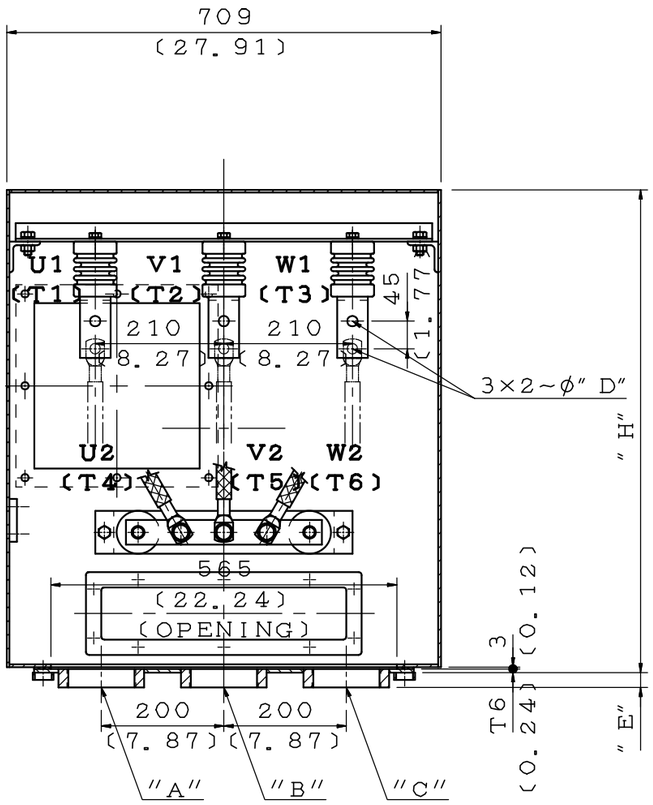
DATE

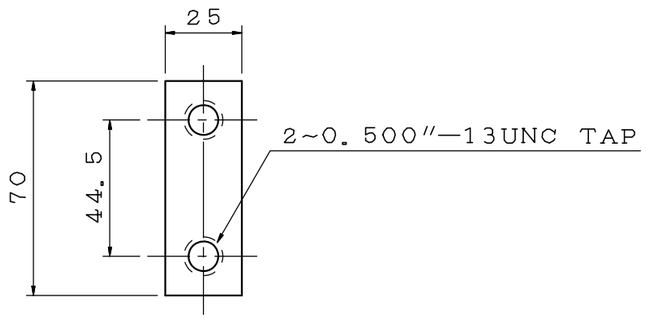
OUTLINE DIMENSIONS
3-PHASE INDUCTION MOTOR

TECO Westinghouse

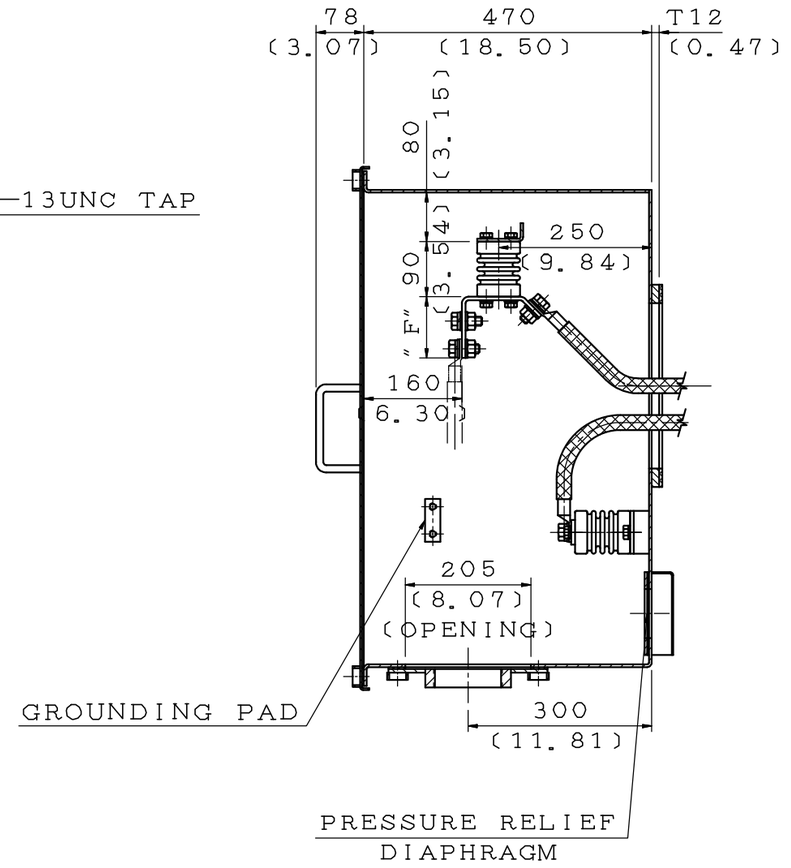
DWG NO. 3A040K874 REV:00

第三角法




GROUNDING PAD
(ENLARGED VIEW)




| ITEM | A | B | C | D | E | F | H |
|---|---|---|---|---|---|---|---|
| 01 | 0 | 0 | 0 | 11 (0.43) | 0 | 90 (3.54) | 938 (36.93) |
| 02 | 0 | 0 | 0 | 13 (0.51) | 0 | 90 (3.54) | 938 (36.93) |
| 03 | 0 | 0 | 0 | 17 (0.67) | 0 | 100 (3.94) | 938 (36.93) |
| 04 | 0 | 0 | 0 | 11 (0.43) | 0 | 90 (3.54) | 788 (31.02) |
| 05 | 0 | 0 | 0 | 13 (0.51) | 0 | 90 (3.54) | 788 (31.02) |
| 06 | 0 | 0 | 0 | 17 (0.67) | 0 | 100 (3.94) | 788 (31.02) |

| ITEM | A | B | C | D | E | F | H |
|---|---|---|---|---|---|---|---|
| 07 | 0 | NPT4" | 0 | 11 (0.43) | 30 (1.18) | 90 (3.54) | 788 (31.02) |
| 08 | | | | | | | |
| 09 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |

CERTIFIED
ORDER NO.

NOTE:
1. DIMENSIONS IN MM (INCHES).
2. PRIMARY T—BOX.
3. ORDER NO. FD093226T1, FD093227T1.

| | | |
|---|---|---|
| DWN. | C. LEONG | MAY•18•2007 |
| CHKD. | S. WANG | JUN•16•2007 |
| APPD. | C. WANG | JUN•16•2007 |

DATE NOV.21.2008

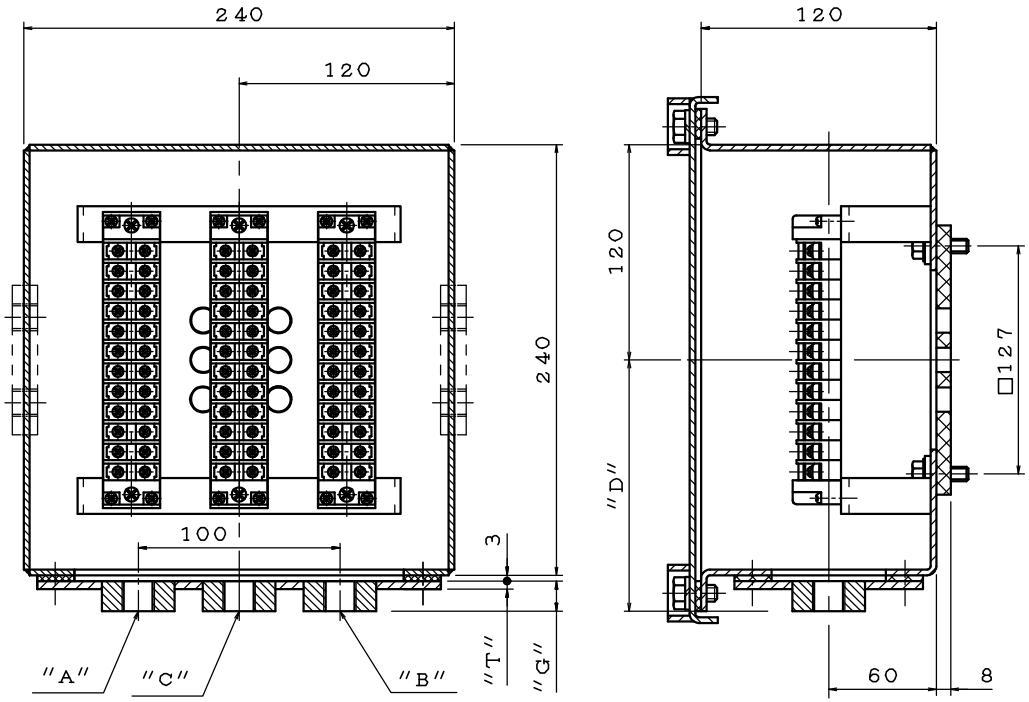
SCHEMATIC DRAWING

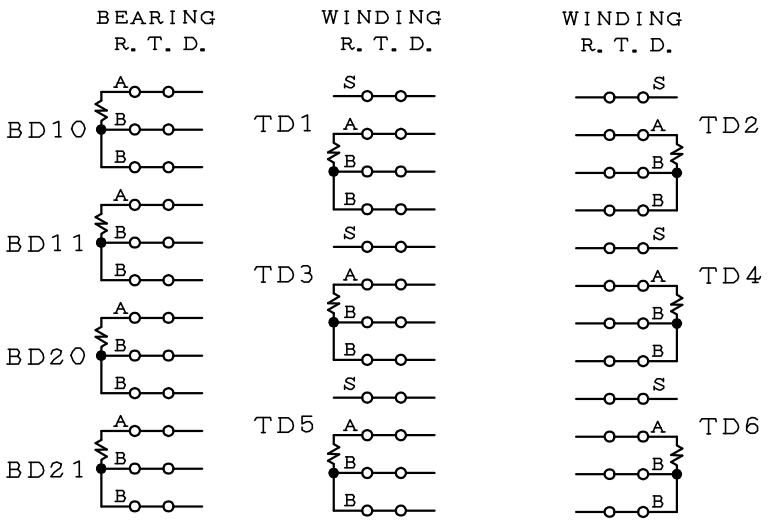
TERMINAL BOX

TECO Westinghouse

DWG NO. 3B040L383

REV:02




| ITEM | A | B | C | D | G | T |
|---|---|---|---|---|---|---|
| 01 | 0 | 0 | 0 | 127.5 (5.02) | 4.5 (0.18) | 4.5 (0.18) |
| 02 | NPT0.75" | 0 | NPT2" | 143 (5.63) | 20 (0.79) | 4.5 (0.18) |
| 03 | NPT1" | NPT2" | 0 | 143 (5.63) | 20 (0.79) | 4.5 (0.18) |
| 04 | 0 | 0 | NPT1" | 143 (5.63) | 20 (0.79) | 4.5 (0.18) |
| 05 | | | | | | |
| 06 | | | | | | |
| 07 | | | | | | |
| 08 | | | | | | |
| 09 | | | | | | |
| 10 | | | | | | |

**CERTIFIED**

**ORDER NO.**

NOTE:
1. DIMENSIONS IN MM.
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
   BD10 & BD11 FOR DRIVE END BEARING
   BD20 & BD21 FOR NON—DRIVE END BEARING.
4. ORDER NO. FD093226T1, FD093227T1.

| | | |
|---|---|---|
| DWN. | S. WANG | AUG•15•2005 |
| CHKD. | S. WANG | AUG•15•2005 |
| APPD. | C. WANG | AUG•16•2005 |

DATE NOV.21.2008

SCHEMATIC DRAWING

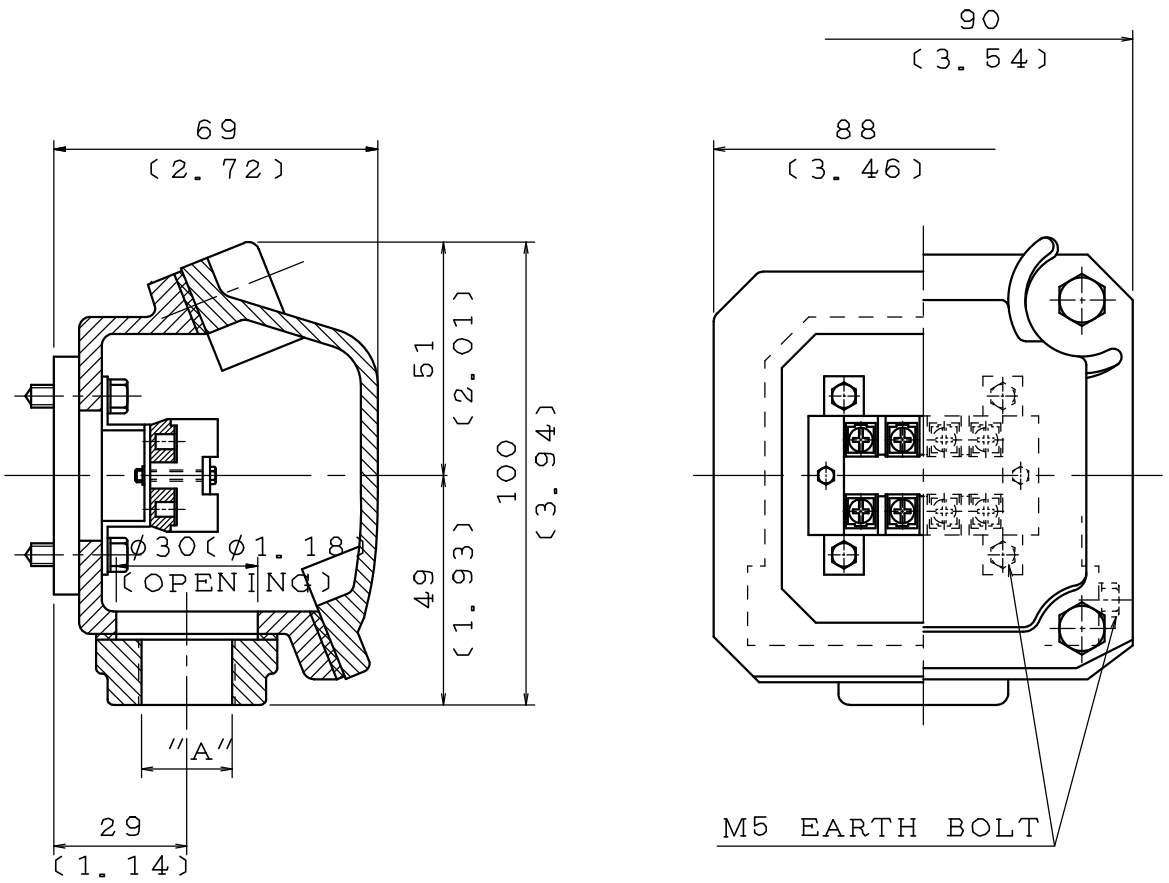
TERMINAL BOX

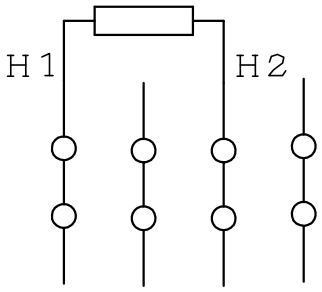
TECO Westinghouse

DWG NO. 3B040H187

REV:03

| DATE | SCHEMATIC DRAWING | MODEL |
|---|---|---|
| NOV.21.2008 | TERMINAL BOX | |




| ITEM | A |
|---|---|
| 01 | M20×1.5 |
| 02 | M25×1.5 |
| 03 | PF-0.5" |
| 04 | PF-0.75" |
| 05 | PT-0.5" |
| 06 | PT-0.75" |
| 07 | NPT-0.5" |
| 08 | NPT-0.75" |
| 09 | NPT-1" |
| 10 | 0 |

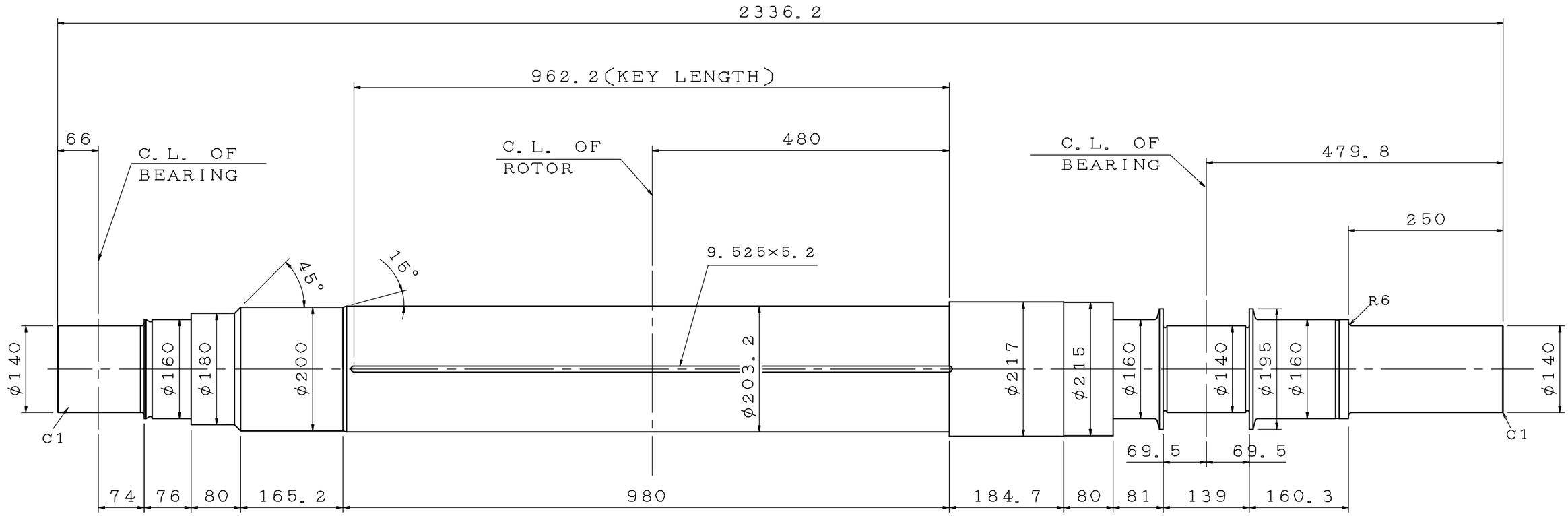
CERTIFIED
ORDER NO.

NOTE:
1. DIMENSIONS IN MM (INCHES).
2. TX-05A
3. SPACE HEATER T-BOX.
4. ORDER NO. FD093226T1
   FD093227T1.

| | | | | |
|---|---|---|---|---|
| DWN. | C. LEONG | JUL•06•2000 | TECO Westinghouse | DWG NO. REV:03 |
| CHKD. | B. YANG | JUL•10•2000 | | 3A040D602 |
| APPD. | T. CHEN | JUL•10•2000 | | |

NON—DRIVE END

DRIVE END




CERTIFIED

ORDER NO.

NOTE:

1. DIMENSIONS IN MM.
2. ORDER NO. FD093226T1, FD093227T1.

## TORSIONAL ANALYSIS DATA

MOTOR WR²: 58.04 KG—M²

SHAFT TORSIONAL STIFFNESS: 5.32E08 KG—MM/RADIAN (FOR REFERENCE ONLY)
(FROM ROTOR CENTERLINE TO COUPLING END OF SHAFT)

SHAFT MATERIAL: JIS G 4105 SCM440 (AISI 4140 EQUIV.)

SHAFT ULTIMATE TENSILE STRENGTH: 100 KG/MM² MIN

SHAFT YIELD STRENGTH IN TENSION: 85 KG/MM² MIN

SHAFT SHEAR MODULUS OF RIGIDITY: 8300 KG/MM²

| | | |
|---|---|---|
| DWN. | S. WANG | NOV•08•2008 |
| CHKD. | S. WANG | NOV•08•2008 |
| APPD. | C. WANG | NOV•10•2008 |

DATE NOV.21.2008

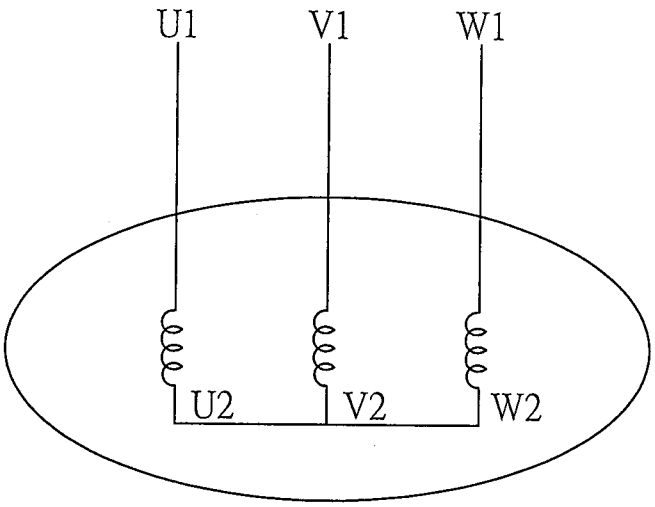
SCHEMATIC DRAWING

SHAFT

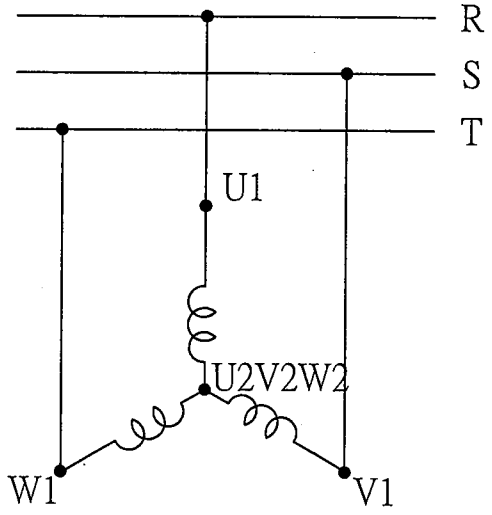
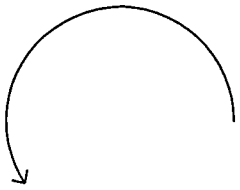
TECO Westinghouse

DWG NO. 3B040T463 REV:00

| DATE | SCHEMATIC | MODEL |
|---|---|---|
| NOV.21.2008 | WYE CONN 6 LEADS | |



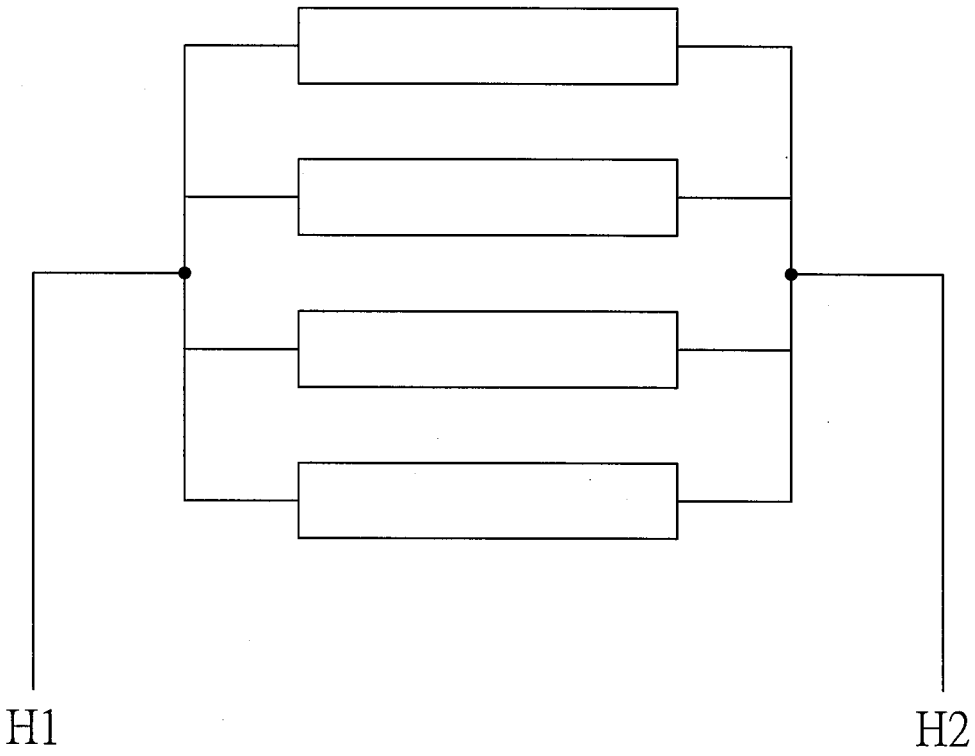

SCHEMATIC - WYE CONN - 6 LEADS

| CONNECTION | ROTATION ( VIEWED FROM DRIVE END ) |
|---|---|
|  |  |



| | | | | |
|---|---|---|---|---|
| DWN. | S.HUANG | MAR • 03 • 2003 | TECO Westinghouse | DWG NO. REV: 00 |
| CHKD. | T.HSIAO | MAR • 03 • 2003 | | 3A061H469 |
| APPD. | T.HSIAO | MAR • 03 • 2003 | | |

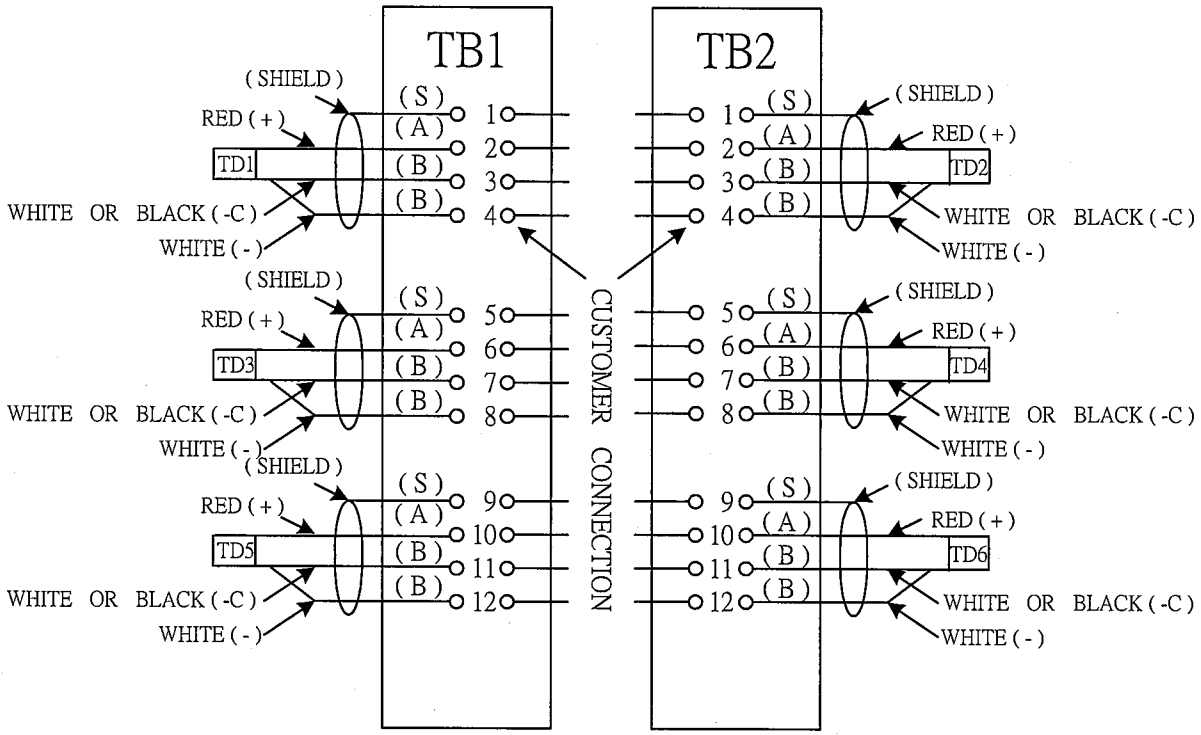
| DATE | SCHEMATIC | MODEL |
|---|---|---|
| NOV.21.2008 | SPACE HEATER | |




120V 1PH 500W

| | | | | |
|---|---|---|---|---|
| DWN. | S.HUANG | MAR・03・2003 | TECO Westinghouse | DWG NO. REV: 00 |
| CHKD. | T.HSIAO | MAR・03・2003 | | 3A061H239 |
| APPD. | T.HSIAO | MAR・03・2003 | | |

| DATE | | MODEL |
|---|---|---|
| NOV.21.2008 | WIRING DIAGRAM | |




| | | | | |
|---|---|---|---|---|
| DWN. | S.HUANG | MAR・03・2003 | TECO Westinghouse | DWG NO. REV: 00 |
| CHKD. | T.HSIAO | MAR・03・2003 | | 3A061H512 |
| APPD. | C.Y.HUANG | MAR・03・2003 | | |

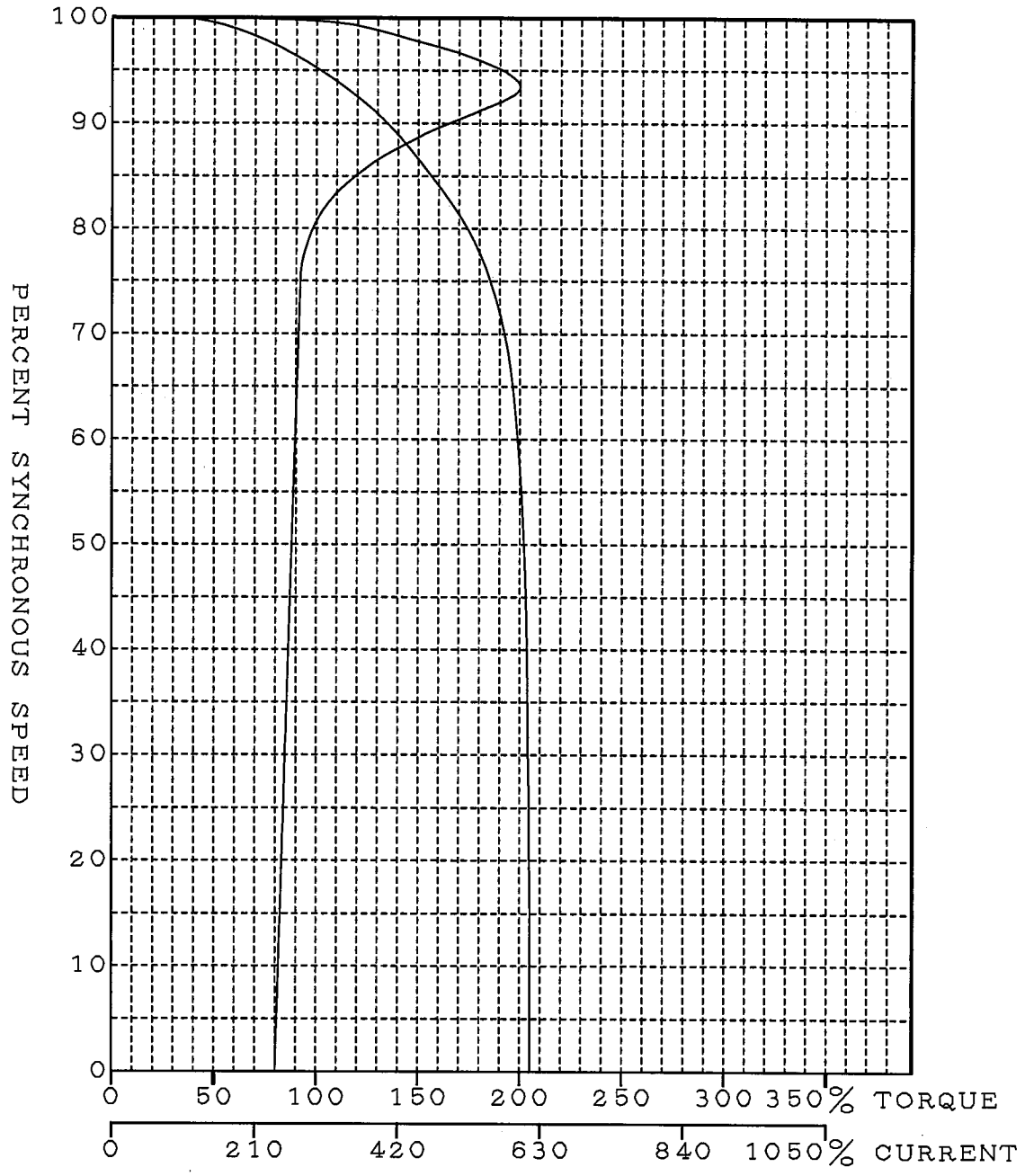
# INDUCTION MOTOR STARTING CHARACTERISTICS

I—N/T—N CURVE

D093227

ORDER NO: D093226 TYPE:ANCK

HP:1500 VOLTS:4000 HZ:60 POLES:6 RPM(FLS):1185




TECO Westinghouse

CURVE NO. D093226/00 I —T

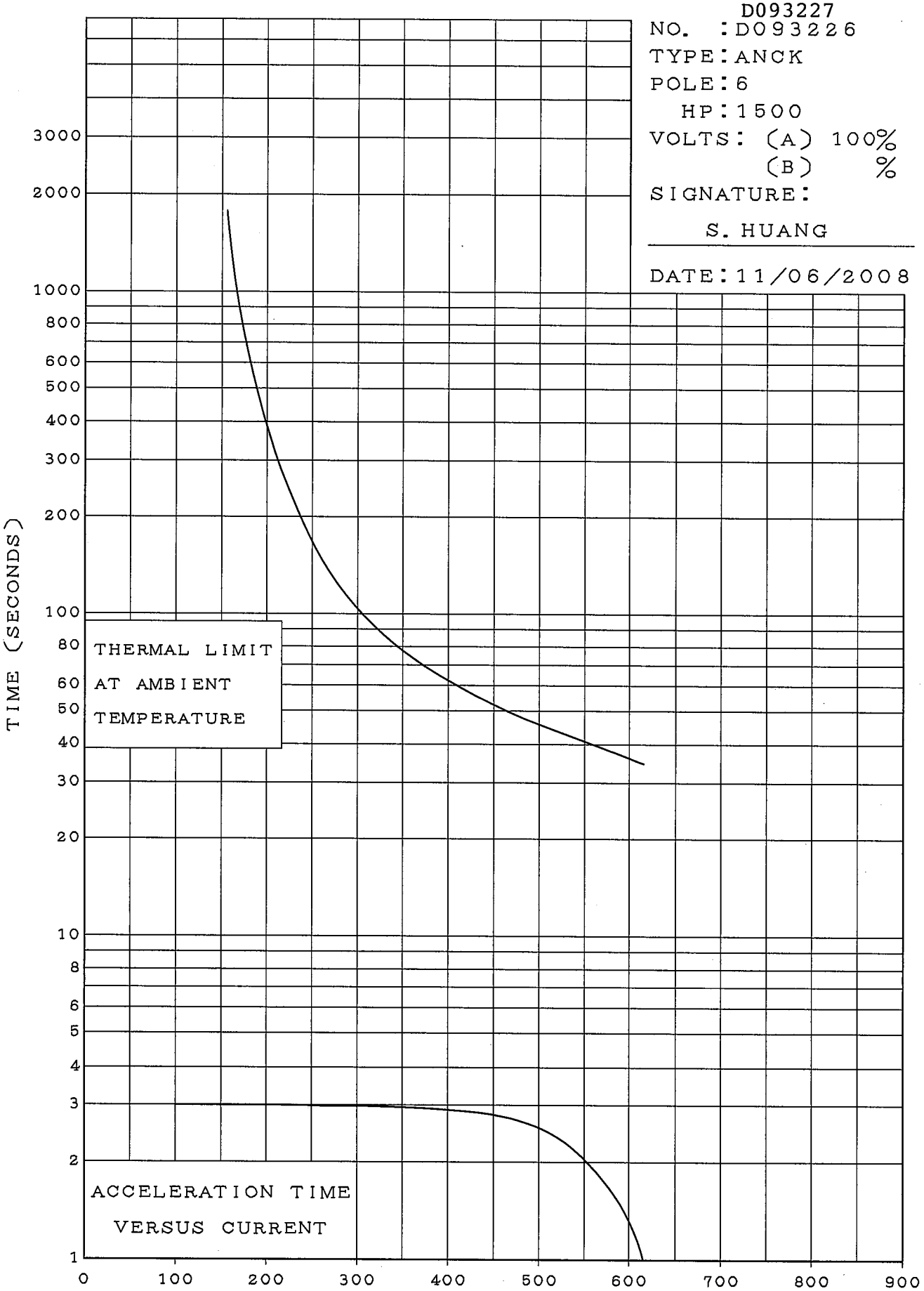
SIGNATURE: S. HUANG DATE: 11/06/2008

# TIME — CURRENT AND THERMAL LIMIT CURVES

LOAD WK² (LB—FT²):132  MOTOR WK² (LB—FT²):1376

D093227

NO. :D093226
TYPE:ANCK
POLE:6
HP:1500
VOLTS: (A) 100%
(B) %
SIGNATURE:
S. HUANG
DATE:11/06/2008




TECO Westinghouse

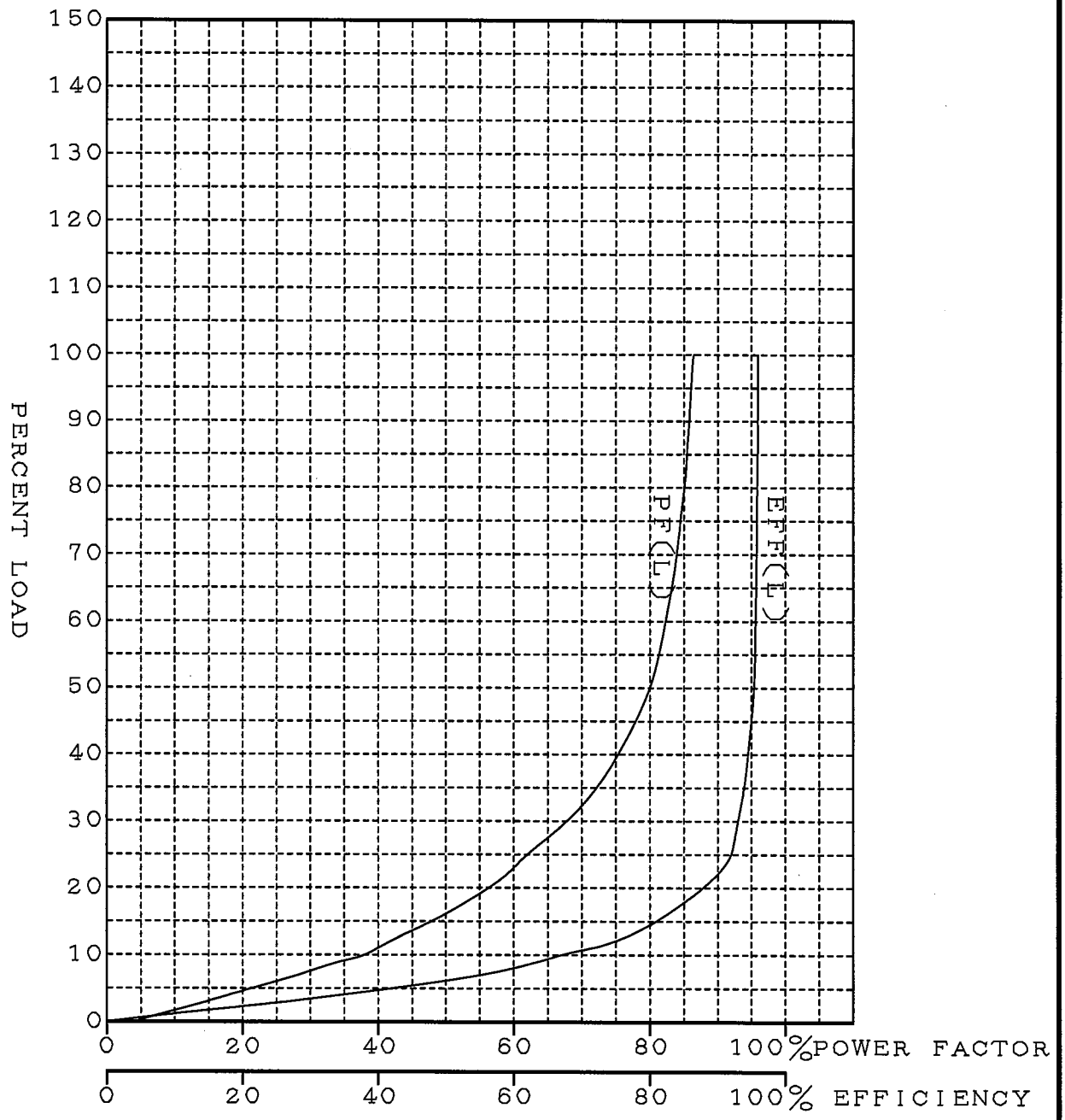
DWG NO. REV:00
D093226/01 TIME

# INDUCTION MOTOR STARTING CHARACTERISTICS

Efficiency & Power Factor Vs Load Curve

ORDER NO: D093226 D093227 TYPE: ANCK

HP: 1500 VOLTS: 4000 HZ: 60 POLES: 6 RPM(FLS): 1185




TECO Westinghouse

CURVE NO.
D093226/01 P

SIGNATURE: S. HUANG DATE: 11/06/2008