

## Main Induction Motor Outline

Recycle Gas Compressor  
T-Req: MJ2-0003

**KBR**

**ACCEPTANCE  
FOR ENGINEERING USE**

THIS DOCUMENT IS:

ACCEPTED	(Code 1) <u> X </u>
ACCEPTED WITH COMMENTS	(Code 2) <u>    </u>
NOT ACCEPTED	(Code 3) <u>    </u>
NOT REVIEWED	(Code 4) <u>    </u>

ACCEPTANCE DOES NOT RELIEVE SUPPLIER  
FROM FURNISHING MATERIAL IN CONFORMANCE  
WITH ORDER. REFER TO SDR-1 FOR FULL  
DEFINITION OF ACCEPTANCE CONDITIONS.

DISCIPLINE  MJ  BY  TST   
DATE  13 DEC 12

**CERTIFIED FOR CONSTRUCTION**

Purchaser:  Mississippi Power Company

Purchaser's Order No.:  H10-606-043

User:  Mississippi Power Company

Shop Order No.:  F128251 / F128252

Serial No.:  C01008 / C02008

General Order No.:  H11005

**FOR APPROVAL**

Avoid delay - to:  
 establish  maintain  
shipping promise. One approved  
print must be returned by:  
\_\_\_\_\_

By: \_\_\_\_\_

Date: \_\_\_\_\_

**FOR RECORD**

Any requested change of this  
equipment will result in:  
1. Contract price adjustment.  
2. Extended shipping promise as this  
contract is in manufacturing process.

By:  Ivan Donahey

Date:  11/12/2012

**VDSS CODE**

A1.5

**Southern Company Doc No.**

MM81326

**Elliott Document No.** | **Rev.**

DOC000000058645 | 5

Sheet **1** of **3**

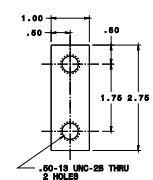
Form 1157 (04/01/05)

**Southern Company Generation    Kemper County**  
MM81326    E    Unit 1

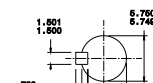
ELLIOTT COMPANY    PO: MPC18137-0001  
DOC000000058645    Rev: 5  
IGCC - GASIFIER - MULTIPAGE - RECYCLE GAS COMPRESSOR - MAIN INDUC

APPROVED

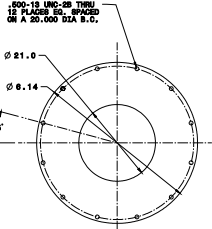
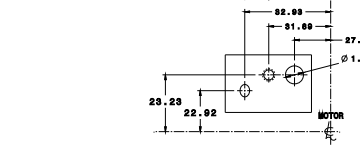
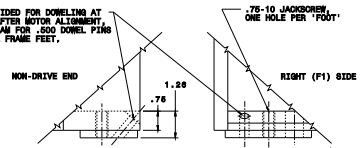
SPECIAL DETAILS



PILOT HOLE PROVIDED FOR DOWELING AT INSTALLATION. AFTER MOTOR ALIGNMENT, INSTALLER TO REAM FOR .600 DOWEL PINS IN HOLES IN ALL FRAME FEET.



FOUR GROUNDING PADS LOCATED AS SHOWN



COUPLING GUARD ADAPTER



OIL INLET



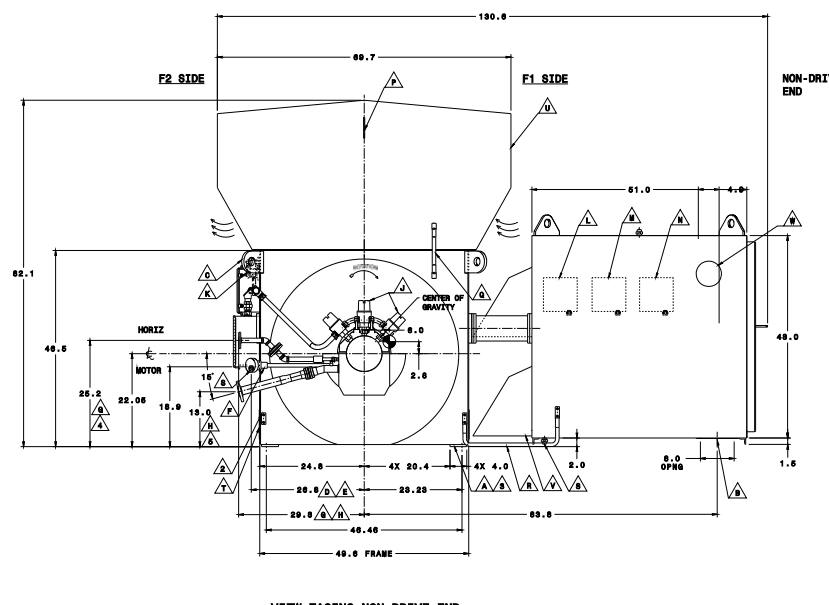
OIL OUTLET

COMPONENT NOTES

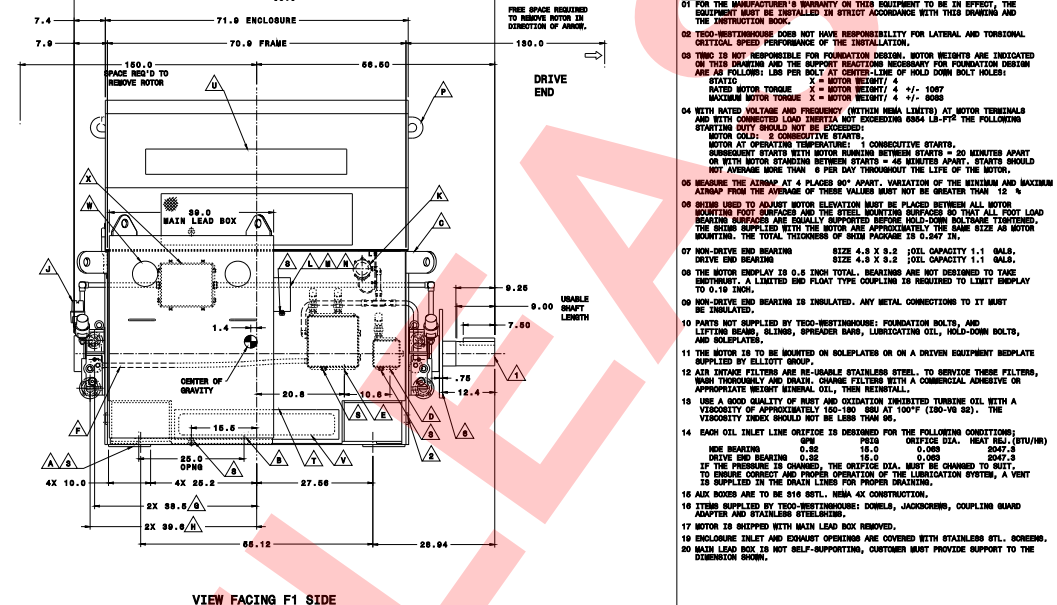
- 1.80 DIA THRU FRAME FOOT FOR 1.00 DIA HOLD DOWN BOLTS (1 HOLE PER FOOT, 4 HOLES TOTAL).
- REMOVABLE COVER FOR MAIN LEAD ENTRY TO BE DRILLED BY THE CUSTOMER.
- FOR LIFTING LUGS FOR LIFTING ENTIRE MOTOR, A SPREADER BAR IS REQUIRED WHEN LIFTING MOTOR WITH AIR CABINET ATTACHED.
- SPACE HEATER CONDUIT ENTRY IN AUX CONDUIT BOX TO BE DRILLED BY THE CUSTOMER.
- STATOR (TD), BEARING TO AND DIFFERENTIAL PRESSURE SWITCH CONDUIT ENTRY IN AUX CONDUIT BOX TO BE DRILLED BY THE CUSTOMER.
- BEARING TO PROVIDED EACH BEARING WITH LEADS TERMINATING IN THE AUX CONDUIT BOX.
- OIL INLET SUPPLIED WITH .75IN 180L8 316 STAINLESS STEEL RF FLANGE EACH BEARING.
- OIL OUTLET SUPPLIED WITH 1.50IN 180L8 316 STAINLESS STEEL RF FLANGE EACH BEARING.
- BENTLEY NEVADA VIBRATION PROBES PROVIDED, 2 PER BEARING, WITH KEYPHASOR PROVIDED ON NON-DRIVE END.
- DIFFERENTIAL PRESSURE SWITCH MOUNTED ON FRAME WIRED TO RTD MODULE.
- AUX CONDUIT BOX PROVIDED ON MAIN BOX FOR MAIN BOX SPACE HEATERS, ENTRY IN AUX CONDUIT BOX FOR DIFF. P. C.T. LEADS.
- INSTALLING C.T. LEADS AND INCLUDING CURRENT TRANSFORMER THAT PROVIDES 4-50MA SIGNAL (LEADS INCLUDED).
- AUX CONDUIT BOX PROVIDED ON MAIN BOX FOR TERMINATION OF EPOXY MEGA CAPACITORS.
- TWO LIFTING LUGS FOR LIFTING AIR CABINET ONLY. DO NOT USE FOR LIFTING MOTOR.
- BONDING STRAP PROVIDED FOR GROUNDING ENCLOSURE TO FRAME.
- BONDING STRAP PROVIDED FOR GROUNDING FRAME AND MAIN LEAD BOX.
- BREATHER DRAINS PROVIDED ON AUX BOXES AND MAIN LEAD BOX.
- ACCESS TO MOTOR SPACE HEATERS WITH REMOVABLE COVER (BOTH SIDES).
- FILTER ACCESS F1 SIDE OF AIR CABINET.
- MAIN CONDUIT BOX SUPPLIED WITH VENTURE PANELS SEE MAIN BOX DRAWING FOR SIZE AND LOCATION. LIFTING PANEL ON MAIN LEAD BOX. SEE DIMENSIONS AND THE CUSTOMER PROVIDED APPARE PAULS WITHSTAND.
- MAIN CONDUIT BOX SUPPLIED WITH HAWK IN WINDOWS.
- AUX BOX OF VIBRATION PROBES/PROXIMATOR TERMINALS.

MOTOR OUTLINE DATA AND NOTES

PROPERTY	VALUE	PROPERTY	VALUE
ORDER NO.	7800	SHAFFRA	SHAFFRA
CUSTOMER ORDER NO.	ELLITTY GROUP	SHOP ORDER NO.	OUTLINE NO.
CUSTOMER	ELLITTY GROUP	ULTIMATE USER	SOUTHERN COMPANY
APPROVAL BY:		APPROVAL BY:	
FOR APPROVAL, TO MAXIMIZE SHIPPING SCHEDULE APPROVED DRAWINGS MUST BE RECEIVED BY:		FOR CONSTRUCTION OF THE EQUIPMENT DRAWING OF THESE DRAWINGS HAS BEEN RELEASED FOR MANUFACTURE. ANY MODIFICATIONS MUST RESULT IN A PRICE CHANGE AND/OR DELIVERY DELAY.	
TECO-RESTIMHOUSE OR DIMENSIONS WITH YOUR SPECIFIED REQUIREMENTS. DRAWINGS APPROVED OR APPROVED WITH MODIFICATIONS APPROVED BY TECO-RESTIMHOUSE TO PROCEED WITH MANUFACTURING. MODIFICATIONS TO THE CONTRACT OR MODIFICATIONS MADE BEFORE OR AFTER DRAWING APPROVAL MAY RESULT IN A PRICE CHANGE AND/OR DELIVERY DELAY.		SEND APPROVALS OR INQUIRIES TO THE TECO-RESTIMHOUSE OFFICE WITH THE ORDER IS PLACED. THESE PRINTS SUPPERSSE PRINTS PREVIOUSLY PROVIDED.	
DATE	06/14	MOIST LEVEL	800MA AT 3.0 FEET
FRAME SIZE	4000	WIND SPEED	(NO LOAD)
ENCLOSURE	4000	MAIN CONDUIT BOX	LEADERS/ARMSTRONG & BURNS CAPACITORS
INSULATION	4000	CLASSIFIED LOCATION	CLASS 1, DIV 2
VOLTAGE	4000	WEAP. C.D., Y CODE TO	VIBRATION EQUIPMENT
BEARING	4000	PHASE	WITH KEYPHASOR USE 100 OHM PLATFORM
FULL LOAD AMPS	4000	SERVICE FACTOR	1.00
LOAD TORQUE CURVE	4000	CONTROL COMPRESSOR	PISSISS
LOAD NO. LB-FT	4000	PISSISS	8004
MOTOR IEC LB-FT	4000	PISSISS	1754
PHASE	4000	PHASE	3
LOCKED MOTOR AMPS	4000	LOCKED MOTOR AMPS	2001
STARTING TORQUE %	4000	STARTING TORQUE %	2001
RESTARTING TORQUE %	4000	RESTARTING TORQUE %	2001
ACCEL. TIME 100% Y-8000	4000	ACCEL. TIME 100% Y-8000	2001
DIFF. C.T. RATIO	4000	DIFF. C.T. RATIO	2001
METER IEC LB-FT	4000	METER IEC LB-FT	2001
MOTOR HEATER WATTS	4000	MOTOR HEATER WATTS	2001
DIFF. PRESSURE SWITCH	4000	DIFF. PRESSURE SWITCH	2001



VIEW FACING NON-DRIVE END



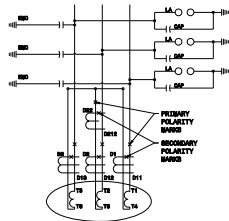
VIEW FACING F1 SIDE

- DATA CONTINUED
- NOTES
- FOR THE MANUFACTURER'S WARRANTY ON THIS EQUIPMENT TO BE IN EFFECT, THE EQUIPMENT MUST BE INSTALLED IN STRICT ACCORDANCE WITH THESE DRAWINGS AND THE INSTRUCTION BOOK.
  - TECO-RESTIMHOUSE DOES NOT HAVE RESPONSIBILITY FOR LATERAL AND TORSIONAL CRITICAL SPEED PERFORMANCE OF THE INSTALLATION.
  - TECO IS NOT RESPONSIBLE FOR FOUNDATION DESIGN. MOTOR WEIGHTS ARE INDICATED IN THESE DRAWINGS AND THE SUPPORT REACTIONS NECESSARY FOR FOUNDATION DESIGN ARE AS FOLLOWS: LBS FOR CENTER LINE OF HOLD DOWN BOLT HOLES.  
STATIC X = MOTOR WEIGHT / 4  
STARTER MOTOR TORQUE X = MOTOR WEIGHT / 4 +/- 100%  
MAXIMUM MOTOR TORQUE X = MOTOR WEIGHT / 4 +/- 500%
  - WITH RATED VOLTAGE AND FREQUENCY (DEFLECT AND DEFLECT) MOTOR TERMINALS AND WITH CONNECTED LOAD INERTIA NOT EXCEEDING 6584 LB-FT<sup>2</sup> THE FOLLOWING STARTING TQ SHOULD NOT BE EXCEEDED:  
MOTOR COL.: 5 CONSECUTIVE STARTS.  
MOTOR AT OPERATING TEMPERATURE: 1 CONSECUTIVE STARTS.  
RESTARTING STARTS WITH MOTOR BEARING BETWEEN STARTS = 20 MINUTES APART OR WITH MOTOR STANDING BETWEEN STARTS = 40 MINUTES APART. STARTS SHOULD NOT AVERAGE MORE THAN 9 FOR ANY THROUGHOUT THE LIFE OF THE MOTOR.
  - BEARING THE AIR GAP AT 4 PLACES 90° APART. VARIATION OF THE MINIMUM AND MAXIMUM AIR GAP FROM THE AVERAGE OF THESE VALUES MUST NOT BE GREATER THAN 12%.
  - SHIMS FROM THE MANUFACTURER TO ADJUST MOTOR ELEVATION MUST BE PLACED BETWEEN ALL MOTOR MOUNTING FOOT SURFACES AND THE STEEL MOUNTING SURFACES SO THAT ALL FOOT LOAD BEARING SURFACES EQUALLY SUPPORT THE MOTOR. THE TOTAL THICKNESS OF ALL SHIMS SUPPLIED WITH THE MOTOR ARE APPROXIMATELY THE SAME SIZE AS MOTOR WEIGHTS. THE TOTAL THICKNESS OF SHIM PACKAGE IS 0.247 IN.
  - NON-DRIVE END BEARING SIZE 4.8 X 3.2 :OIL CAPACITY 1.1 GALS.  
DRIVE END BEARING SIZE 4.8 X 3.2 :OIL CAPACITY 1.1 GALS.  
THE MOTOR DISPLAY IS 0.6 INCH TOTAL. BEARINGS ARE NOT DESIGNED TO TAKE SHOCKLOAD. A LIMITED DRY PLANT TYPE COUPLER IS REQUIRED TO LIMIT DISPLAY TO 0.10 INCH.
  - NON-DRIVE END BEARING IS INSULATED. ANY METAL CONNECTIONS TO IT MUST BE INSULATED.
  - PARTS NOT SUPPLIED BY TECO-RESTIMHOUSE: FOUNDATION BOLTS, AND LIFTING BEAMS, SLINGS, SPREADER BARS, LUBRICATING OIL, HOLD-DOWN BOLTS, AND SOLEPLATES.
  - THE MOTOR IS TO BE MOUNTED ON SOLEPLATES OR ON A DRIVEN EQUIPMENT BEDPLATE SUPPLIED BY ELLITTY GROUP.
  - AIR INTAKE FILTERS ARE RE-USABLE STAINLESS STEEL. TO SERVICE THESE FILTERS, WASH THOROUGHLY AND DRAIN. CHANGE FILTERS WITH A COMMERCIAL ADHESIVE OR APPROPRIATE WEIGHT GENERAL OIL, THEN REINSTALL.
  - USE A GOOD QUALITY OF RUST AND OXIDATION INHIBITED TURBINE OIL WITH A VISCOSITY OF APPROXIMATELY 100-100 CSU AT 100°F (30-38 °C). THE VISCOSITY INDEX SHOULD NOT BE LESS THAN 86.
  - EACH OIL INLET LINE ORifice IS DESIGNED FOR THE FOLLOWING CONDITIONS:  
W6 BEARING: ORifice DIA. HEAT REL. (BTU/H)  
DRIVE END BEARING: ORifice DIA. HEAT REL. (BTU/H)  
IF THE PRESSURE IS CHANGED, THE ORifice DIA. MUST BE CHANGED TO SUIT TO ENSURE CORRECT AND PROPER OPERATION OF THE LUBRICATION SYSTEM. A VENT IS SUPPLIED IN THE DRAIN LINES FOR PROPER DRAINING.
  - AUX BOXES ARE TO BE 816 SSTL. HEAT EX. CONSTRUCTION.
  - ITEMS SUPPLIED BY TECO-RESTIMHOUSE: DOWELS, JACKSCREWS, COUPLING GUARD ADAPTER AND STAINLESS STEELBEARING.
  - MOTOR IS SHIPPED WITH MAIN LEAD BOX REMOVED.
  - ENCLOSURE INLET AND EXHAUST OPENINGS ARE COVERED WITH STAINLESS STL. SCREENS.
  - MAIN LEAD BOX IS NOT SELF-SUPPORTING, CUSTOMER MUST PROVIDE SUPPORT TO THE DIMENSION SHOWN.

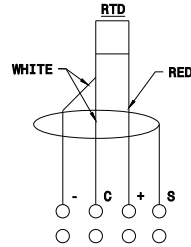
ITEM	DESCRIPTION	QTY	UNIT
1	TECO-RESTIMHOUSE MOTOR COMPANY		
2	TECO-RESTIMHOUSE MOTOR COMPANY		
3	TECO-RESTIMHOUSE MOTOR COMPANY		
4	TECO-RESTIMHOUSE MOTOR COMPANY		
5	TECO-RESTIMHOUSE MOTOR COMPANY		
6	TECO-RESTIMHOUSE MOTOR COMPANY		
7	TECO-RESTIMHOUSE MOTOR COMPANY		
8	TECO-RESTIMHOUSE MOTOR COMPANY		
9	TECO-RESTIMHOUSE MOTOR COMPANY		
10	TECO-RESTIMHOUSE MOTOR COMPANY		
11	TECO-RESTIMHOUSE MOTOR COMPANY		
12	TECO-RESTIMHOUSE MOTOR COMPANY		
13	TECO-RESTIMHOUSE MOTOR COMPANY		
14	TECO-RESTIMHOUSE MOTOR COMPANY		
15	TECO-RESTIMHOUSE MOTOR COMPANY		
16	TECO-RESTIMHOUSE MOTOR COMPANY		
17	TECO-RESTIMHOUSE MOTOR COMPANY		
18	TECO-RESTIMHOUSE MOTOR COMPANY		
19	TECO-RESTIMHOUSE MOTOR COMPANY		
20	TECO-RESTIMHOUSE MOTOR COMPANY		

CENTER OF GRAVITY, MAIN BOX INCLUDED.

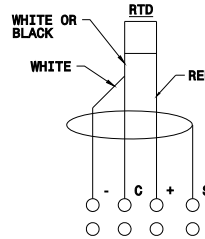
APPROVED



**WYE SURGE PAK SCHEMATIC WITH 3 DIFFERENTIAL CT'S, 1 METERING CT, AND EPOXY MICA CAPACITORS.**



**TYPICAL STATOR TEMPERATURE DETECTOR**



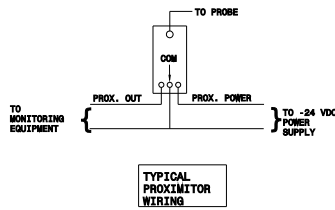
**TYPICAL BEARING TEMPERATURE DETECTOR**

**RECOMMENDED INSTRUMENT SETTINGS**

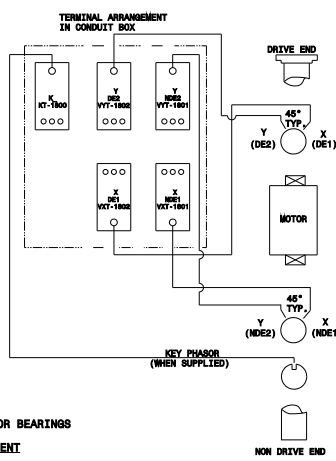
SENSOR	ALARM	TRIP
STATOR TEMPERATURE (°C)	160-180 (300-350)	180-190 (350-380)
BEARING TEMPERATURE (°C)	80-90 (170-190)	90-100 (200-210)
VIBRATION RMS (GPK)	0.34	0.40
VIBRATION PEAK (PK)	0.4	0.4
DIFF AIR PRESSURE (PSI)	0.4	N/A

BEARING	SPR	OIL PRESSURE	ORIFICE DIA.	HEAT REL. (BTU/HR)
NON-DRIVE END	0.50	10 PSI	0.008	3047.5
DRIVE END	0.50	10 PSI	0.008	3047.5

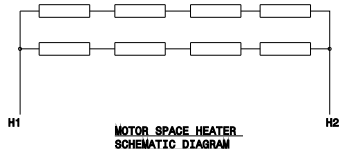
THE ORIFICE DIAMETER HAS BEEN BASED ON A SUPPLY PRESSURE OF 10 PSIG. IF THE ACTUAL PRESSURE IS DIFFERENT THAN 10 PSIG, THE ORIFICE DIAMETER WILL NEED TO BE ADJUSTED TO MAINTAIN CORRECT OIL FLOW.



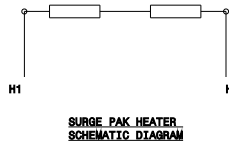
-NOMINAL PROBE GAP IS -10 VDC.  
 - (REF. .000" AWAY FROM SHAFT SURFACE).  
 -USE PLASTIC FEELER GAUGE TO SET GAP IF VOLT METER IS NOT AVAILABLE.  
 -WARNING: DO NOT CONTACT SHAFT WITH PROBE TIP. DAMAGE TO PROBE TIP COULD OCCUR.



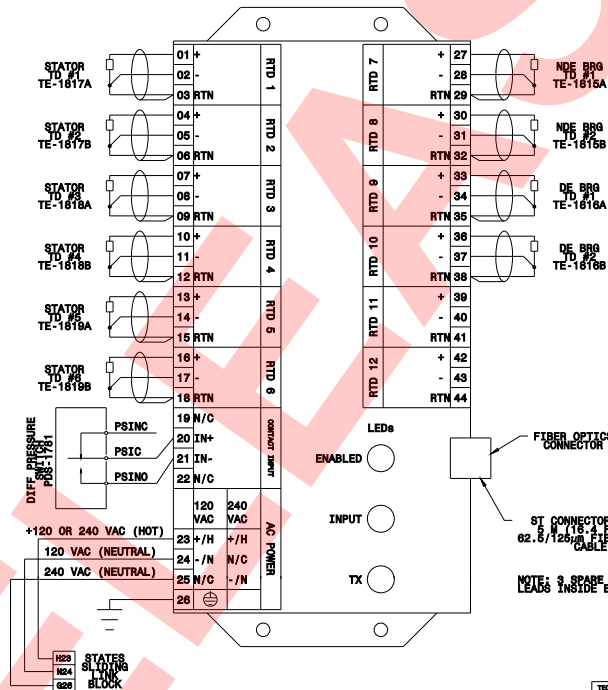
**PROBE LOCATION NEAR MOTOR BEARINGS VIBRATION EQUIPMENT**



**MOTOR SPACE HEATER SCHEMATIC DIAGRAM**



**SURGE PAK HEATER SCHEMATIC DIAGRAM**



**SCHWEITZER SEL-2600A01 RTD MODULE CONNECTION, RTN=RETURN**

FIBER OPTICS CONNECTOR  
 ST CONNECTORS WITH 62.5/125µm FIBER-OPTIC CABLE  
 NOTE: 3 SPARE RTD'S PROVIDED WITH LEADS INSIDE BOX NOT TERMINATED.

TECO-RESTORHOUSE MOTOR COMPANY

TITLE	DATE	REV
DESIGNED BY	DATE	REV
CHECKED BY	DATE	REV
APPROVED BY	DATE	REV

100-26000000 Series motor