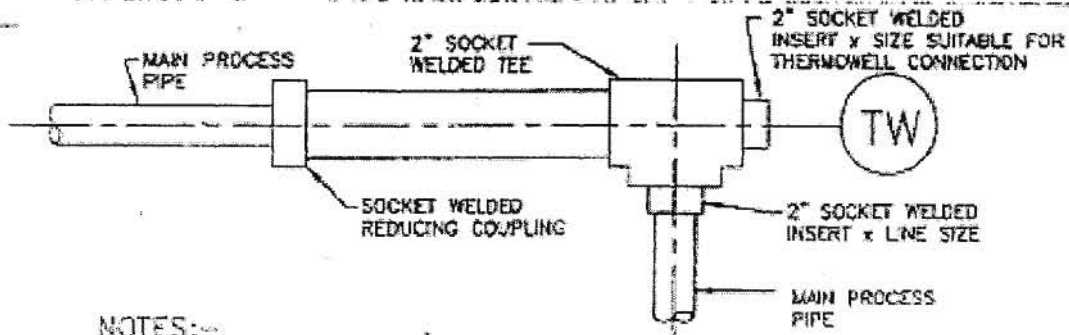


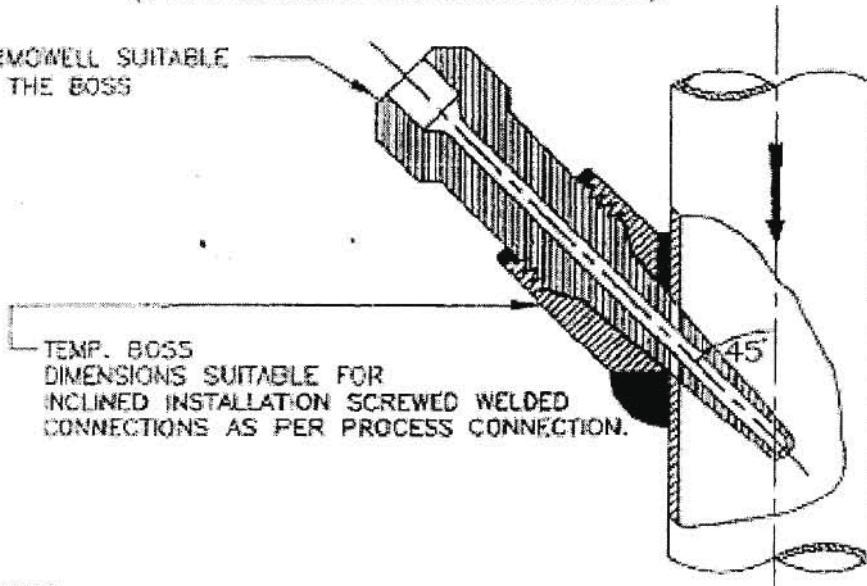
TEMP. MEASUREMENT



NOTES:-

1. THIS TYPE OF THERMOWELL INSTALLATION IS SUITABLE FOR THE PROCESS PIPE OF 2" NPS AND SMALLER.
2. FOR STEAM SERVICE THIS TYPE OF THERMOWELL INSTALLATION BY BEND MAY BE USED ONLY IN VERTICAL PLANE.
3. THE LENGTH OF THE LARGER PIPE SECTION SHALL BE MINIMUM 150mm. (IT MUST BE GREATER THAN THERMOWELL LENGTH).

THERMOWELL SUITABLE FOR THE BOSS



TEMP. BOSS DIMENSIONS SUITABLE FOR INCLINED INSTALLATION SCREWED WELDED CONNECTIONS AS PER PROCESS CONNECTION.

NOTES:-

1. INCLINED INSTALLATION OF THERMOWELL SHALL BE APPLICABLE FOR 4" AND SMALLER LINE SIZE BUT LIMITED TO MIN. 3" LINE SIZE.
2. FOR 2" AND SMALLER LINE SIZE NECESSARY EXPANDER OF MIN. 3" SIZE OF MAIN PIPING SPECIFICATION SHALL BE USED.
3. THIS TYPE OF INSTALLATION IS APPLICABLE FOR HORIZONTAL AND VERTICAL PIPE SECTION.
4. FOR STEAM SERVICES EXPANDER SECTION MAY BE USED ONLY IN VERTICAL RUN.
5. THE EXPANDER SECTION SHALL BE OF ADEQUATE LENGTH (ATLEAST 3-4 TIMES DIA. OF THE MAIN PROCESS PIPE AT BOTH SIDE OF THE INSTALLED THERMOWELL).

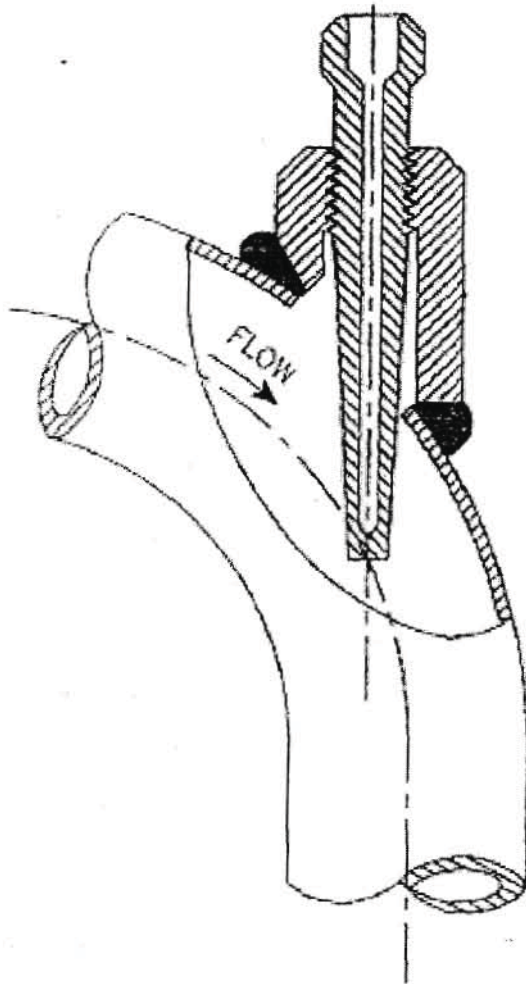
FOR TENDER PURPOSE ONLY

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| TYPICAL THERMAL POWER PROJECT (SG PACKAGE) | | | | | | | | | |
| INSTRUMENT SOURCE CONNECTION DETAILS | | | | | | | | | |
| PROJECT | TYPICAL THERMAL POWER PROJECT (SG PACKAGE) | | | | | | | | |
| FILE | INSTRUMENT SOURCE CONNECTION DETAILS | | | | | | | | |
| NO. | REV. | DATE | BY | CHECKED | SCALE | NO. | DATE | BY | REVISION |
| A | 001 | 05/12/14 | | | A4 | 0000-101-POI-A-035 | 21-01-14 | | A |

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TEMP. MEASUREMENT



NOTES:-

1. FLOW INSTALLATION OF THERMOWELL SHALL BE APPLICABLE FOR 4" AND SMALLER LINE SIZE BUT LIMITED TO MINIMUM 3" LINE SIZE.
2. FOR 2" AND SMALLER LINE SIZE NECESSARY EXPANDER OF ELBOW FORM (AS SHOWN) OF MINIMUM 3" SIZE SHALL BE USED.
3. ELBOW EXPANDER SECTION IN HORIZONTAL PLANE MAY BE USED FOR LIQUID SERVICES. ONLY STEAM SERVICES EXPANDER SECTION MAY BE USED IN VERTICAL PLAN.

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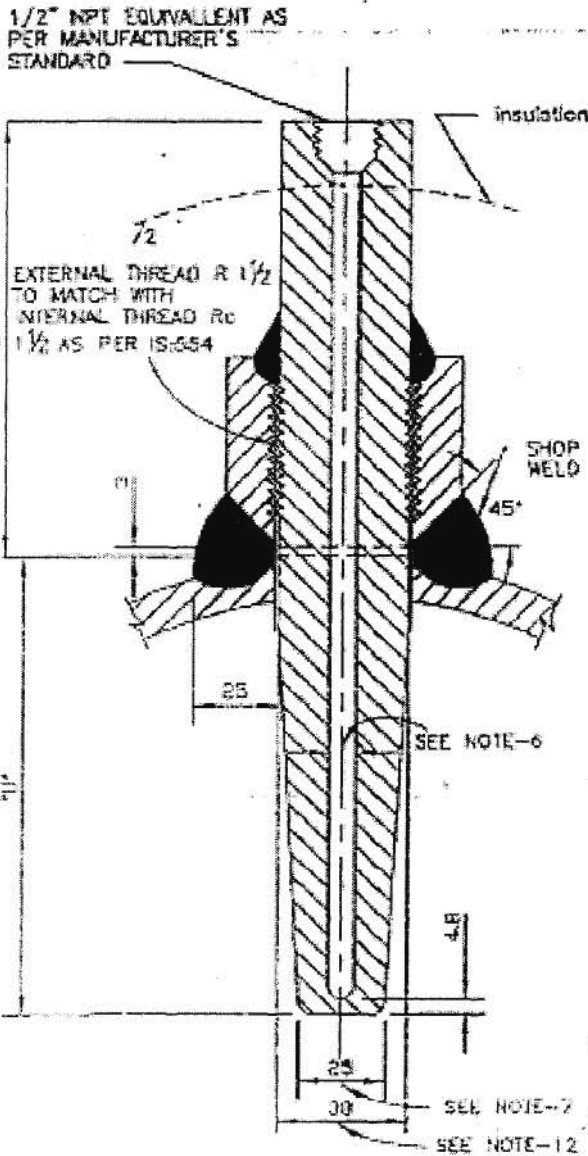
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TEMP. MEASUREMENT



NOTES:-

1. THIS TYPE OF TEMPERATURE BOSS SHALL BE USED FOR THE PROCESS PRESS EQUAL/ABOVE 40 Kg/Cm²(g).
2. THE MATERIAL OF THE BOSS SHOULD BE SIMILAR TO THAT OF PIPE MATERIAL OF SPECIFICATION.
3. ALL WELD TO BE TESTED IN ACCORDANCE WITH APPLICABLE CODES BY MANUFACTURER.
4. MATERIAL OF THE THERMOWELL SHALL BE OF 316SS.
5. THERMOWELL SHALL BE DRILLED BARSTOCK TYPE.
6. INTERNAL BORE OF THE THERMOWELL SHOULD BE SELECTED BASED ON THE NORMAL SIZE OF THE SENSING ELEMENT AS PER ASME,PTC-19.3.
7. THE BOTTOM DIAMETER OF THE THERMOWELL TYPICALLY SHOWN HERE SHALL BE SUBJECT TO VARIATION BASED ON THE INTERNAL BORE OF THERMOWELL AND THICKNESS OF THERMOWELL MATERIAL TO WITHSTAND THE PROCESS PRESS AND TEMP. AS PER ASME,PTC-19.3.
8. THE TYPE OF TAPERED THERMOWELL SHALL BE USED FOR LIQUID VELOCITIES UP TO 82M.P.S.(300F.T.P.S.).
9. THERMOWELL WITH THE INSULATION LAG EXTENSIONS SHALL BE USED WHEREVER APPLICABLE.
10. ACTIVITIES TO BE COMPLETED AT THE SHOP, WELD THE BOSS ON THE PIPE AND DRILL THE HOLE IN THE PIPE IN ALIGNMENT WITH HOLE IN THE BOSS. PROVIDE INTERNAL THREAD AS PER IS:554 TO MATCH WITH THE THERMOWELL EXTERNAL THREAD.
11. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
12. WILL BE SUITABLE TO MATCH THE STUB DIMENSIONS AS PER RC 1 1/2
13. THE "U" & "L" DIMENSIONS SHALL BE BE SELECTED BASED ON PARTICULAR APPLICATION AND THE SAME SHALL BE SUBJECT TO OWNER'S APPROVAL DURING DETAILED ENGINEERING.
14. ALL DIMENSIONS ARE INDICATIVE ONLY.

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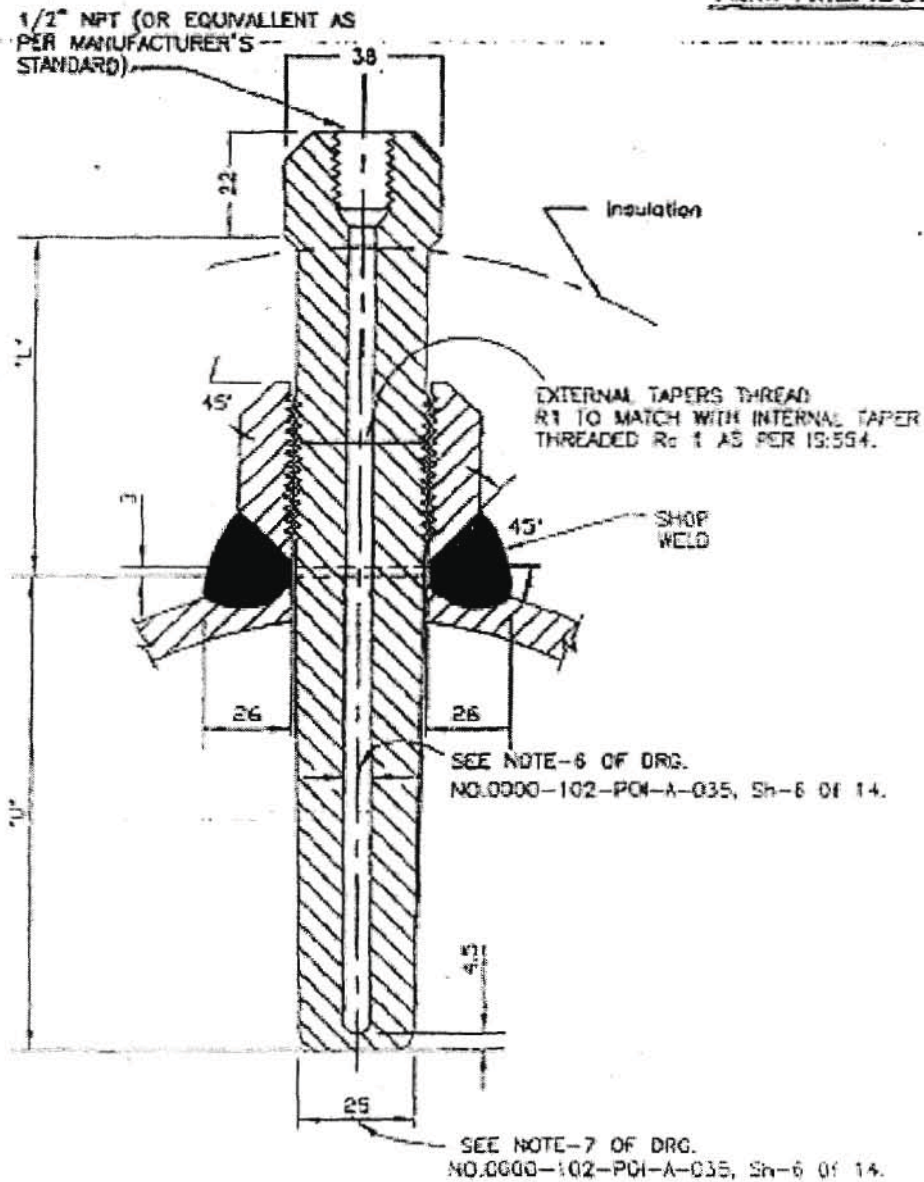


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| PROJECT | TYPICAL THERMAL POWER PROJECT (SG PACKAGE) | | |
| FILE | INSTRUMENT SOURCE CONNECTION DETAILS | | |
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| DATE | NO. | 0000-101-FOI-A-035 | REV. NO. A |
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TEMP. MEASUREMENT**NOTES:-**

1. THIS TYPE OF TEMPERATURE BOSS IS APPLICABLE FOR THE PROCESS PRESSURE BELOW 40 Kg/Cm²(g)
2. FOR PRESSURE TIGHT JOINTS THE BOSS SHOULD HAVE INTERNAL TAPERED PIPE THREAD R_c 1 AS PER IS:554. THE LENGTH OF THREAD ENGAGEMENT SHOULD BE AS PER ABOVE STANDARD.
3. PIPES HAVING PROBABILITY OF PROLONGED VIBRATION SEAL WELDING MAY BE DONE ALL AROUND AFTER TIGHTENING THERMOWELL WITHIN THE BOSS.
4. SEE NOTES-2 TO 14 OF DRG. NO. 0000-102-POI-A-035, Sh-6 OF 14

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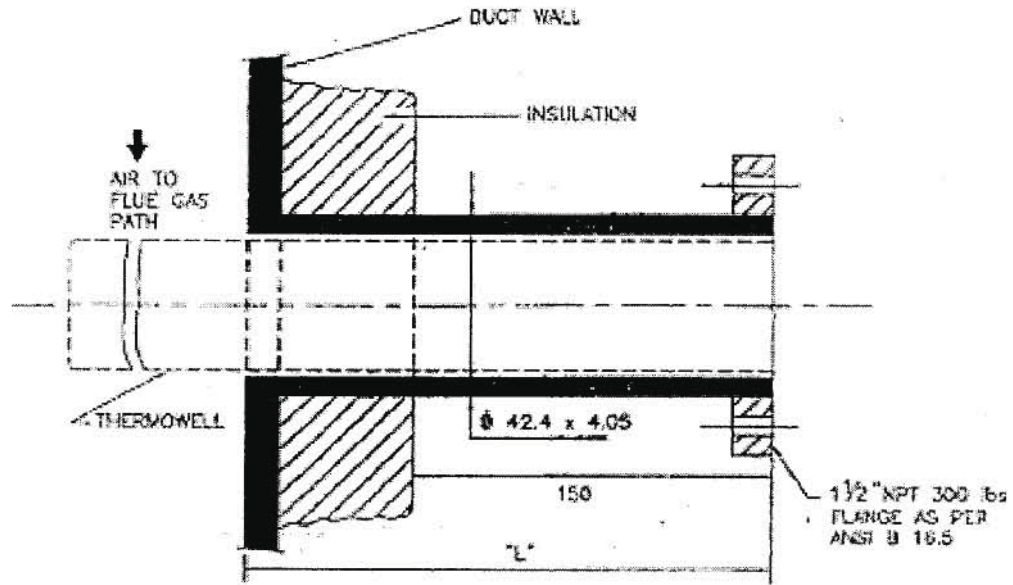
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PROJECT **TYPICAL THERMAL POWER PROJECT (5G PACKAGE)**

DRG. NO. **INSTRUMENT SOURCE CONNECTION DETAILS**

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
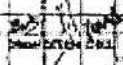
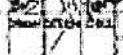
TEMP. MEASUREMENT



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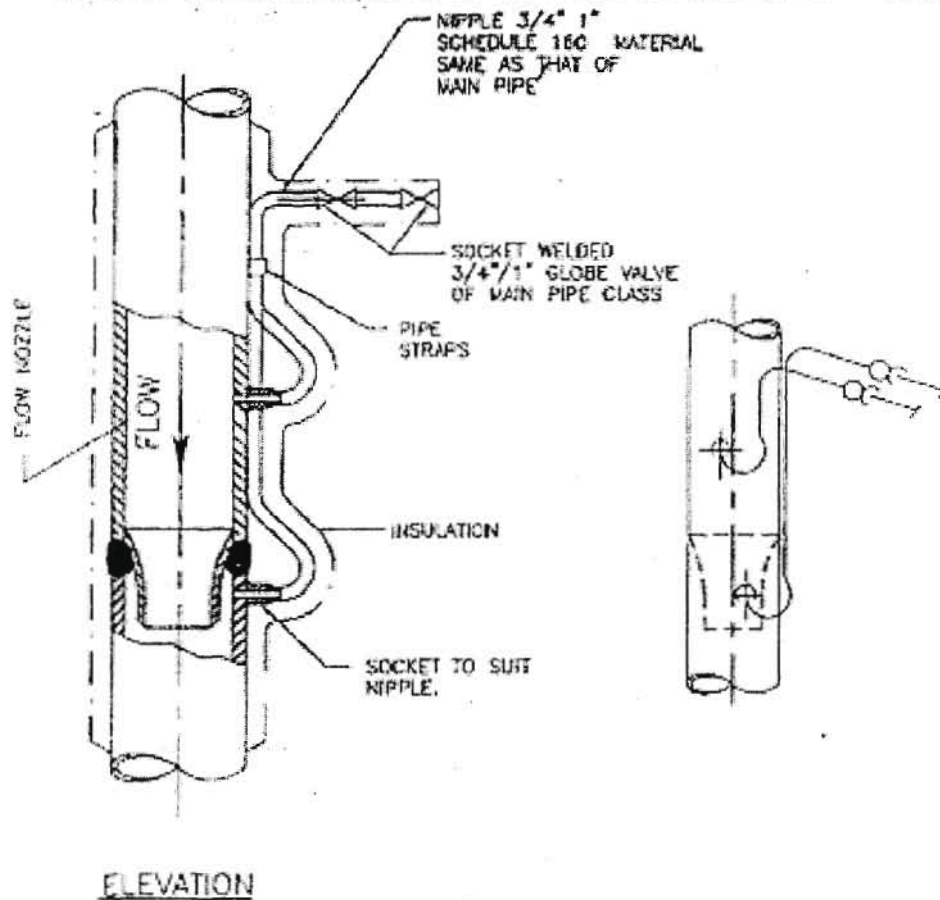
1. THIS TYPE OF TEMPERATURE CONNECTIONS SHALL BE PROVIDED FOR TEMPERATURE MEASUREMENT IN AIR AND FLUE GAS DUCT.
2. MATERIAL OF THERMOWELL SHALL BE OF 316SS.
3. EXTERNAL CONNECTION SHALL BE OF SLIP ON FLANGED TYPE AND THERMOWELL DESIGN SHALL BE AS PER ASME PTC-19.3 (REFER NOTES 8&10 OF Dwg NO. 0000-101-POI-A-035, SH-6 OF 14).
4. BIDDER TO SUPPLY AND INSTALL THE COUNTER FLANGED AND THERMOWELL (ALONG WITH TEMP. ELEMENT).
5. ALL DIMENSIONS ARE INDICATIVE ONLY.

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
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FLOW MEASUREMENT

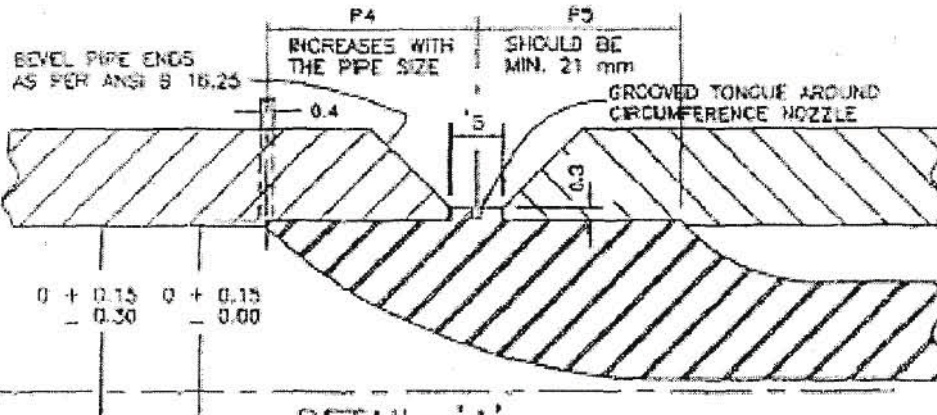
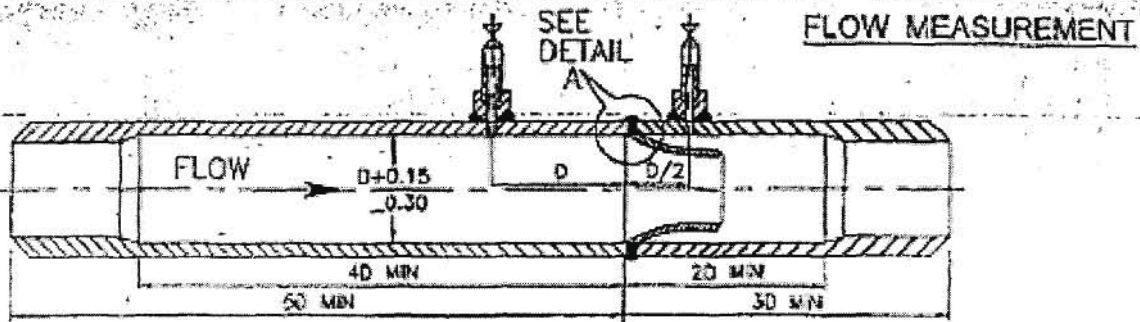
**NOTES:-**

1. THIS METHOD OF CONNECTING NIPPLES AND VALVES ON THE VERTICAL STEAM PIPE IS APPLICABLE FOR MEASUREMENT OF STEAM AT TEMP. ABOVE 155°C
2. THE ENTIRE LENGTH OF THESE NIPPLES AS WELL AS SHUT OFF VALVES SHOULD BE LAGGED IN WITH STEAM LINE AS SHOWN IN THE DRAWING.
3. ON VERTICAL STEAM PIPE BOTH HIGH TEMPERATURE (SPECIAL VENTS) NIPPLES WILL BE LONG ENOUGH SO THAT HIGH AND LOW PRESSURE CONNECTION NIPPLES WILL BE AT SAME LEVEL.
4. UP STREAM AND DOWN STREAM PRESSURE CONNECTIONS MUST BE INSTALLED IN DIFFERENT PLANES PASSING THROUGH THE CENTRE OF THE PIPE.
5. FLOW ELEMENTS SHALL BE PROVIDED WITH 3 PAIRS OF TAPPING POINTS.

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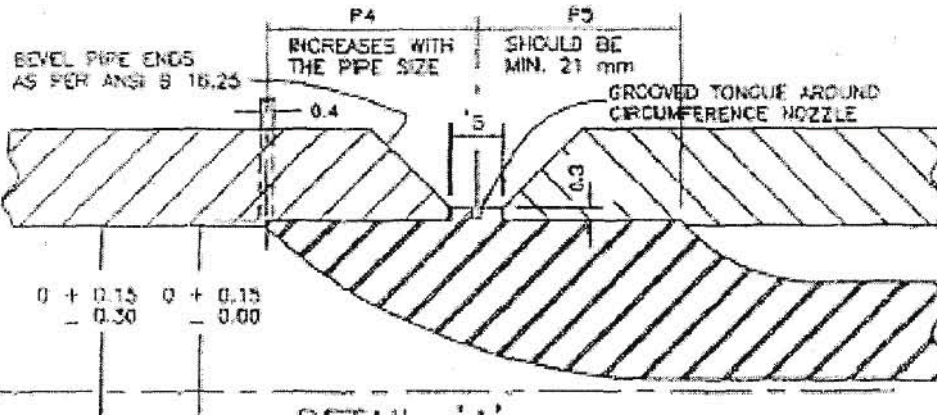
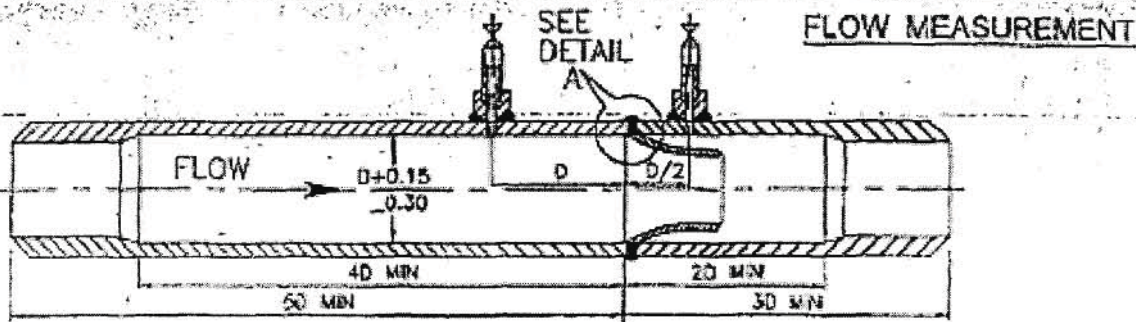
NOTES:-

1. COMPLETE FLOW NOZZLE BRANCH ASSEMBLY ALONG WITH NIPPLES AND SOURCE ISOLATION VALVES SHALL BE SUPPLIED BY THE BIDDER. THE BIDDER ALSO TO INSTALL FLOW NOZZLE WITHIN THE MACHINED BRANCH, -PRESSURE STUBS ON THE BRANCH PIPE (FOR ORIENTATION OF PRESSURE TAP REF. NOTE-3) ALONG WITH NIPPLE AND SOURCE ISOLATION VALVES.
2. THE MACHINING OF BRANCH PIPE SHOULD BE DONE AFTER PRESSURE CONNECTIONS HAVE BEEN WELDED TO PIPE AND ALSO EXTEND FOR ATLEAST 40 IN THE INLET SECTION, 20 IN THE OUTLET SECTION, MEASURED FROM THE INLET FACE OF FLOW NOZZLE. TOTAL BRANCH PIPE ASSEMBLY SHOULD BE ATLEAST A LENGTH OF $8D/30$ IN THE INLET SECTION AND 30 IN THE OUTLET SECTION, MEASURED FROM THE INLET FACE OF THE FLOW NOZZLE AS SHOWN ABOVE.
3. ON HORIZONTAL PIPE RUN PRESSURE CONNECTIONS ARE TO BE LOCATED ON SIDES OF THE PIPE FOR LIQUID AND STEAM SERVICE AND ON THE TOP FOR DRY GAS SERVICE FOR PROCESS LIQUIDS, INSTALLATION OF PRESS. TAPGS MAY BE ALLOWED WITHIN AN ANGLE OF 45° ELBOW HORIZONTAL FOR SPECIAL CASES BUT NO BOTTOM CONNECTIONS ARE ALLOWED.
4. THE LOCATION OF PRESSURE TAPS MUST BE WITHIN 1.5 mm (1/16") OF DISTANCE SPECIFIED AND NUMBER OF PAIRS OF PRESSURE TAPS TO BE PROVIDED WILL BE AS PER FLOW MEASUREMENT DATA SHEET.
5. PRESSURE TAPS SHOULD BE DRILLED RADICALLY WITH RESPECT TO PIPE AND THIS DRILLING SHOULD BE DONE AFTER ANY COUPLING FOR ATTACHING THE PRESSURE TUBING HAS BEEN WELDED TO THE PIPE. THE HOLE WHERE IT BREAKS THROUGH THE INNER SURFACE OF THE PIPE MUST BE FREE OF BURRS OR WIRE EDGE AND CORNER OF EDGE HOLE LEFT ROUNDED VERY SLIGHTLY (1/54" RADIUS).
6. RECOMMENDED MAXIMUM DIAMETERS OF PRESSURE TAP HOLES IN THE BRANCH PIPES WILL BE AS PER ASME PTC 19.5. THE DIAMETER FOR HOLE SHOULD REMAIN SAME FOR DISTANCE NOT LESS THAN 2.5 TIME OF DIA FROM THE INNER SURFACE OF THE PIPE.
7. FLOW NOZZLE SHALL BE CENTRED IN THE PIPE WITHIN 0.8 mm (1/32") OF THE PIPE AXIS. INSIDE DIAMETER MEASURED AT FOUR POINTS AT ANY CROSS SECTION SHALL NOT DIFFER BY MORE THAN 1%.
8. BRANCH PIPE SHALL BE AS PER MAIN PIPING MATERIAL SPECIFICATION. INTERNAL SURFACE OF BORED SECTIONS MUST BE SMOOTH AND STRAIGHT, FREE FROM SCALES, PITS, BURRS OR ANY IRREGULARITIES.
9. FLOW NOZZLE MATERIAL SHALL BE 316 SS AND THE DESIGN AS PER ASME.
10. MAXIMUM UPSTREAM AND DOWN STREAM STRAIGHT LENGTH REQUIRED FROM INLET FACE OF FLOW NOZZLE SHALL BE AS PER ASME, PTC-19.5.

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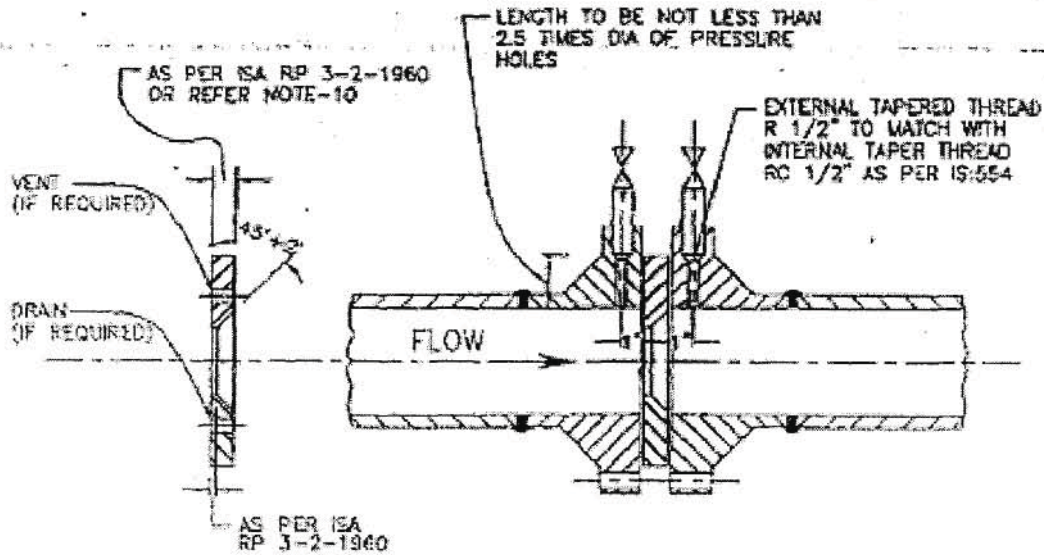
NOTES:—

1. COMPLETE FLOW NOZZLE BRANCH ASSEMBLY ALONG WITH NIPPLES AND SOURCE ISOLATION VALVES SHALL BE SUPPLIED BY THE BIDDER. THE BIDDER ALSO TO INSTALL FLOW NOZZLE WITHIN THE MACHINED BRANCH. PRESSURE STUBS ON THE BRANCH PIPE (FOR ORIENTATION OF PRESSURE TAP REF. NOTE-3) ALONG WITH NIPPLE AND SOURCE ISOLATION VALVES.
2. THE MACHINING OF BRANCH PIPE SHOULD BE DONE AFTER PRESSURE CONNECTIONS HAVE BEEN WELDED TO PIPE AND ALSO EXTEND FOR ATLEAST 40 IN THE INLET SECTION, 20 IN THE OUTLET SECTION, MEASURED FROM THE INLET FACE OF FLOW NOZZLE. TOTAL BRANCH PIPE ASSEMBLY SHOULD BE ATLEAST A LENGTH OF $8D/30$ IN THE INLET SECTION AND 30 IN THE OUTLET SECTION, MEASURED FROM THE INLET FACE OF THE FLOW NOZZLE AS SHOWN ABOVE.
3. ON HORIZONTAL PIPE RUN PRESSURE CONNECTIONS ARE TO BE LOCATED ON SIDES OF THE PIPE FOR LIQUID AND STEAM SERVICE AND ON THE TOP FOR DRY GAS SERVICE FOR PROCESS LIQUIDS, INSTALLATION OF PRESS. TAPGS MAY BE ALLOWED WITHIN AN ANGLE OF 45° ELBOW HORIZONTAL FOR SPECIAL CASES BUT NO BOTTOM CONNECTIONS ARE ALLOWED.
4. THE LOCATION OF PRESSURE TAPS MUST BE WITHIN 1.5 mm (1/16") OF DISTANCE SPECIFIED AND NUMBER OF PAIRS OF PRESSURE TAPS TO BE PROVIDED WILL BE AS PER FLOW MEASUREMENT DATA SHEET.
5. PRESSURE TAPS SHOULD BE DRILLED RADICALLY WITH RESPECT TO PIPE AND THIS DRILLING SHOULD BE DONE AFTER ANY COUPLING FOR ATTACHING THE PRESSURE TUBING HAS BEEN WELDED TO THE PIPE. THE HOLE WHERE IT BREAKS THROUGH THE INNER SURFACE OF THE PIPE MUST BE FREE OF BURRS OR WIRE EDGE AND CORNER OF EDGE HOLE LEFT ROUNDED VERY SLIGHTLY (1/54" RADIUS).
6. RECOMMENDED MAXIMUM DIAMETERS OF PRESSURE TAP HOLES IN THE BRANCH PIPES WILL BE AS PER ASME PTC 19.5. THE DIAMETER FOR HOLE SHOULD REMAIN SAME FOR DISTANCE NOT LESS THAN 2.5 TIME OF DIA FROM THE INNER SURFACE OF THE PIPE.
7. FLOW NOZZLE SHALL BE CENTRED IN THE PIPE WITHIN 0.8 mm (1/32") OF THE PIPE AXIS. INSIDE DIAMETER MEASURED AT FOUR POINTS AT ANY CROSS SECTION SHALL NOT DIFFER BY MORE THAN 1%.
8. BRANCH PIPE SHALL BE AS PER MAIN PIPING MATERIAL SPECIFICATION. INTERNAL SURFACE OF BORED SECTIONS MUST BE SMOOTH AND STRAIGHT, FREE FROM SCALES, PITS, BURRS OR ANY IRREGULARITIES.
9. FLOW NOZZLE MATERIAL SHALL BE 316 SS AND THE DESIGN AS PER ASME.
10. MAXIMUM UPSTREAM AND DOWN STREAM STRAIGHT LENGTH REQUIRED FROM INLET FACE OF FLOW NOZZLE SHALL BE AS PER ASME, PTC-19.5.

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| | | PROJECT | |
| | | TYPICAL THERMAL POWER PROJECT (SG PACKAGE) | |
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
FLOW MEASUREMENT



NOTES:-

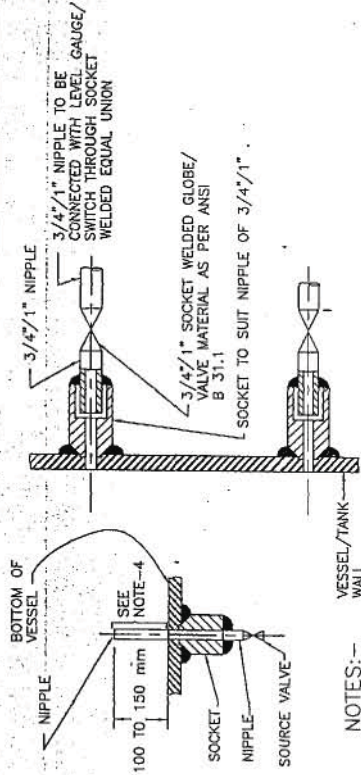
1. ORIFICE PLATE MOUNTED BETWEEN FLANGES WITH FLANGE TAPPING (AS SHOWN ABOVE) SHOULD BE LIMITED TO PIPE SIZES OF 2" OR LARGER.
2. ORIFICE PLATE SHALL BE MOUNTED BETWEEN PIPING FLANGES WITH THE SHARP EDGE FACING UPSTREAM SUCH THAT CENTRE OF THE CONCENTRIC ORIFICE SHOULD BE WITHIN 0.75 mm (1/32") OF THE AXIS OF THE PIPE.
3. TWO GASKETS SHALL BE INSERTED BETWEEN THE PLATE AND THE FLANGES AND INSIDE DIAMETER OF THE GASKETS SHOULD BE ATLEAST 1.5 mm (1/16") GREATER THAN THE INSIDE DIAMETER OF THE PIPE SO THAT THEY DO NOT PROTRUDE INTO THE PIPE.
4. PIPING FLANGES SHALL BE ANSI WELD NECK, RAISED FACE TYPE. THE FLANGE IS TO BE ALIGNED WITH THE FACE PERPENDICULAR TO THE FLOW AXIS.
5. BUDDER TO SUPPLY ORIFICE PLATE SPECIAL TYPE (HAVING PRESS. CONNECTIONS) OF FLANGES ALONG WITH GASKETS, NIPPLES AND SOURCE VALVES.
6. ON HORIZONTAL PIPE RUN PRESSURE CONNECTIONS ARE TO BE TAKEN FROM SIDES FOR LIQUID AND STEAM SERVICE AND FROM TOP FOR DRY GAS SERVICE. FOR PROCESS LIQUIDS INSTALLATION OF PRESSURE TAPS MAY BE ALLOWED WITHIN AN ANGLE OF 45° ELBOW THE HORIZONTAL IN SPECIAL CASES BUT NO BOTTOM CONNECTIONS ARE ALLOWED.
7. THE LOCATION OF PRESSURE TAPS MUST BE WITHIN 1.5 mm (1/16") OF THE DISTANCE SPECIFIED.
8. MAXIMUM DIAMETER OF PRESS. CONNECTION HOLES SHALL BE AS PER RECOMMENDATIONS OF ASME PTC 19.5. THE DIAMETER OF THE HOLE SHOULD REMAIN THE SAME FOR A DISTANCE NOT LESS THAN 2.5 TIMES OF THE DIAMETER BEFORE EXPANDING INTO THE PRESSURE PIPE.
9. THERE MUST BE NO BURRS WIRE-EDGES OR OTHER IRREGULARITIES ALONG THE EDGE OF THE HOLE AND IT MUST BE SQUARE AND ROUNDED SLIGHTLY (1/64" RADIUS).
10. ORIFICE PLATE SHOULD BE FLAT WITHIN 0.02 mm (0.001") AND THE SURFACE ROUGHNESS SHOULD NOT EXCEED 20 MICRO INCH. THE THICKNESS OF THE ORIFICE PLATE SHOULD BE AS PER ASME PTC-19.5.
11. FOR HORIZONTAL PIPE RUN DRAIN HOLES IN ORIFICE PLATES ARE AT THE BOTTOM (APPROX. TANGENT TO INSIDE DIA OF PIPE) FOR STEAM OR GAS SERVICE. VENT HOLES SHOULD BE LOCATED ON UPPER SIDE FOR INCOMPRESSIBLE FLUID.
12. ORIFICE PLATE SHOULD BE OF 316 SS (ASTM A167-54 GRADE-1).
13. RECOMMENDED MINIMUM LENGTHS OF STRAIGHT PIPE PRECEDING AND FOLLOWING ORIFICES SHALL BE AS PER ASME PTC-19.5.
14. THREE PAIRS OF PRESSURE TAPS SHALL BE PROVIDED WITH NIPPLES OF REQUIRED LENGTH AND SOURCE VALVES AND THE UN-USED TAPS ARE PLUGGED.
15. THE INTERNAL TAPERED CONNECTION WITHIN THE FLANGE FOR PRESSURE TAPS SHOULD BE RC 1/2" AND THE NIPPLE SHOULD ALSO OF EXTERNAL THREADED R 1/2" AS PER IS:554. THE LENGTH OF THREADED ENGAGEMENT SHALL BE AS PER ABOVE STANDARD.

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| | | PROJECT: TYPICAL THERMAL POWER PROJECT (SG PACKAGE) | |
| | | BILL: INSTRUMENT SOURCE CONNECTION DETAILS | |
| REV | DESCRIPTION | DATE: 0000-101-POI-A-035 SHEET NO: 14 OF 14 | REV: A4 SCALE: N.T.S. DATE: |

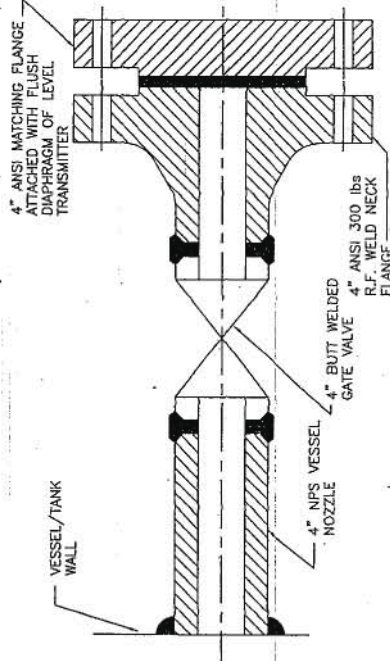
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LEVEL MEASUREMENT



NOTES:-

1. THIS TYPE OF PROCESS CONNECTION SHALL BE USED FOR LEVEL GAUGE AND EXTERNAL CAGE TYPE FLOAT OR DISPLACER OPERATED LEVEL SWITCH.
2. FOR GAUGES 3/4" NIPPLE ALONG WITH 3/4" SW SOURCE VALVE AND FOR SWITCHES 1" NIPPLE ALONG WITH 1" SW SOURCE VALVE SHALL BE PROVIDED AS PROCESS CONNECTION.
3. SOURCE CONNECTION ON VESSEL SHOULD NOT BE LOCATED AT PLACES SUBJECTED TO INTERFERENCE AND TURBULENCE FROM INLETS AND OUTLETS.
4. IF LOWER CONNECTION IS TAKEN FROM BOTTOM OF THE VESSEL THEN THE NIPPLE MUST BE 100 mm TO 150 mm ABOVE THE BOTTOM OF THE VESSEL.



NOTES:-

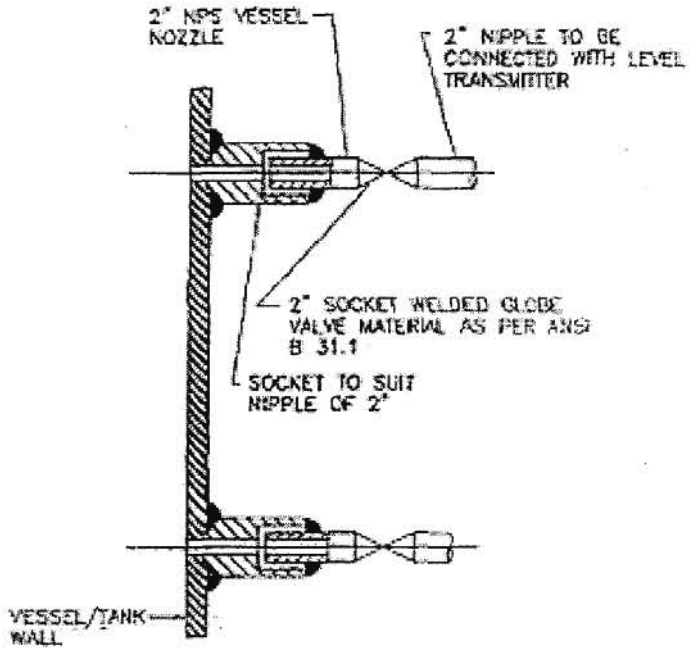
1. THIS TYPE OF PROCESS CONNECTION SHALL BE PROVIDED FOR TANK LEVEL MEASUREMENT OF VISCOUS OR CORROSIVE LIQUID USING FLUSH DIAPHRAGM/WAFER TYPE LEVEL TRANSMITTER.
2. WELDING OF MATCHING FLANGE TO GATE VALVE SHALL BE DONE BY BIDDER.

FOR TENDER PURPOSE ONLY

| | | | |
|--|--------|--------------------|------------|
| | | | |
| PROJECT: TYPICAL THERMAL POWER PROJECT (SG PACKAGE) | | | |
| TITLE: INSTRUMENT SOURCE CONNECTION DETAILS | | | |
| REV. NO. | SCALE | Dwg. No. | REV. No. |
| A | N.T.S. | 0000-101-POI-A-035 | 01/23/2014 |
| CAD FILE NAME: D:\NORTH_KARANPURA\0000-102-POI-A-035SST3RA.DWG | | | |

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LEVEL MEASUREMENT



NOTES:-

1. THIS TYPE OF PROCESS CONNECTION SHALL BE USED FOR DISPLACER TYPE LEVEL TRANSMITTER.
2. SOURCE CONNECTION ON VESSEL SHOULD NOT BE LOCATED AT PLACES SUBJECTED TO INTERFACE AND TURBULENCE FROM INLETS AND OUTLETS.
3. IF LOWER CONNECTION IS TAKEN FROM BOTTOM OF THE VESSEL THEN THE NIPPLE MUST BE 100 mm TO 150 mm ABOVE THE BOTTOM OF THE VESSEL.

FOR TENDER PURPOSE ONLY

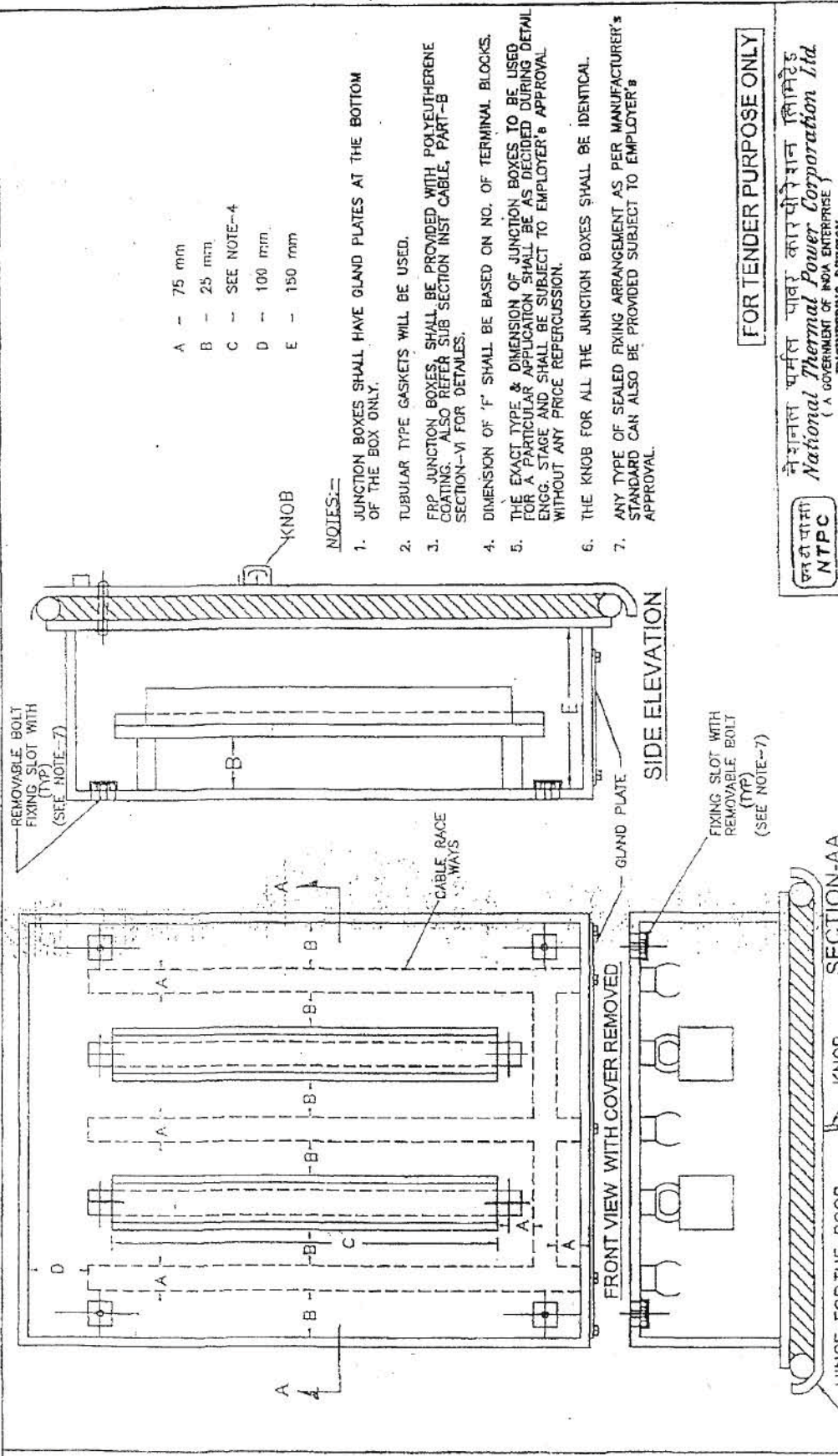


नॉर्थ थर्मल पावर लिमिटेड
NTPC LIMITED
 (A WHOLLY OWNED COMPANY OF THE GOVERNMENT OF INDIA)
 (एक पूर्णतः सरकारी कंपनी)

| | | | |
|----------|--|-------|------------|
| PROJECT | TYPICAL THERMAL POWER PROJECT (SG PACKAGE) | | |
| TITLE | INSTRUMENT SOURCE CONNECTION DETAILS | | |
| SCALE | A4 | SCALE | N.T.S. |
| DWG. NO. | 0000-101-POI-A-035 | | REV. NO. A |

| NO. | DESCRIPTION | DATE | BY | CHKD | APPD | DATE |
|-----|-------------|------|----|------|------|------|
| 1 | ISSUE | | | | | |

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- A - 75 mm
- B - 25 mm
- C - SEE NOTE-4
- D - 100 mm
- E - 150 mm

NOTES:-

1. JUNCTION BOXES SHALL HAVE GLAND PLATES AT THE BOTTOM OF THE BOX ONLY.
2. TUBULAR TYPE GASKETS WILL BE USED.
3. FRP JUNCTION BOXES SHALL BE PROVIDED WITH POLYETHYLENE COATING. ALSO REFER SUB SECTION INST CABLE, PART-B SECTION-VI FOR DETAILS.
4. DIMENSION OF 'F' SHALL BE BASED ON NO. OF TERMINAL BLOCKS.
5. THE EXACT TYPE & DIMENSION OF JUNCTION BOXES TO BE USED FOR A PARTICULAR APPLICATION SHALL BE AS DECIDED DURING DETAIL ENGG. STAGE AND SHALL BE SUBJECT TO EMPLOYER'S APPROVAL WITHOUT ANY PRICE REPERCUSSION.
6. THE KNOB FOR ALL THE JUNCTION BOXES SHALL BE IDENTICAL.
7. ANY TYPE OF SEALED FIXING ARRANGEMENT AS PER MANUFACTURER'S STANDARD CAN ALSO BE PROVIDED SUBJECT TO EMPLOYER'S APPROVAL.

FOR TENDER PURPOSE ONLY

भारतीय थर्मल पावर कॉर्पोरेशन लिमिटेड
NTPC
 National Thermal Power Corporation Ltd
 (A GOVERNMENT OF INDIA ENTERPRISE)
 ENGINEERING DIVISION

| | | | |
|-------------------|--------------------|---------------------------------------|--------------------|
| PROJECT | | TYPICAL THERMAL POWER PLANT | |
| TITLE | | LOCAL JUNCTION BOX CONNECTION DETAILS | |
| NO. ISSUE | DATE | SCALE | DRG. NO. |
| 1/1 | 10/10/00 | A3 | 0000-999-POI-A-017 |
| APPRO. DATE | DATE | SIZE | REV. NO. |
| APPRO. DATE | DATE | A3 | D |
| C L E A R E D B Y | | | |
| U | V | E | G |
| DESCRIPTION | | | |
| D | GENERALLY REVISED | | |
| C | GENERALLY REVISED | | |
| B | GENERALLY REVISED | | |
| A | FIRST ISSUE | | |
| REVISION | S.K. | A.R. | PS |
| | DRAWN/DESIGN/CHKD. | | |

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SECTION C3, SUB-SECTION II

| LIE TYPE | MAX. NO. OF TRANSMITTERS | DIMENSION 'X' (mm) |
|----------|--------------------------|--------------------|
| A | 8 | 1300 |
| B | 4 | 980 |
| C | 2 | 680 |

NOTES:-

1. TO BE PROVIDED FOR USES USED IN STEAM & WATER APPLICATION.
2. MATERIAL OF JOB FOR USE SHALL BE FINALISED DURING DETAILED ENGINEERING.

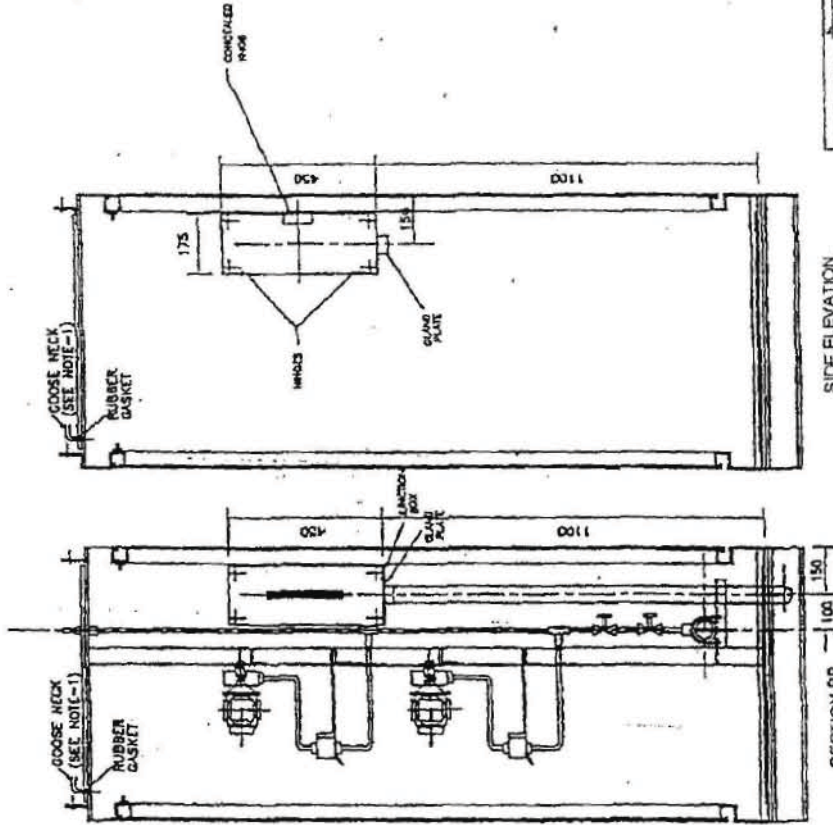
FOR TENDER PURPOSE ONLY

DESIGNED BY: **NTPC**
 NATIONAL THERMAL POWER CORPORATION LTD.
 (A CORPORATION OF INDIA)
 ENGINEERING DIVISION

PROJECT: TYPICAL THERMAL POWER PROJECT
 SG, TG, BOP PACKAGE

TITLE: TYPICAL GA OF LOCAL INSTRUMENT ENCLOSURE / RACK

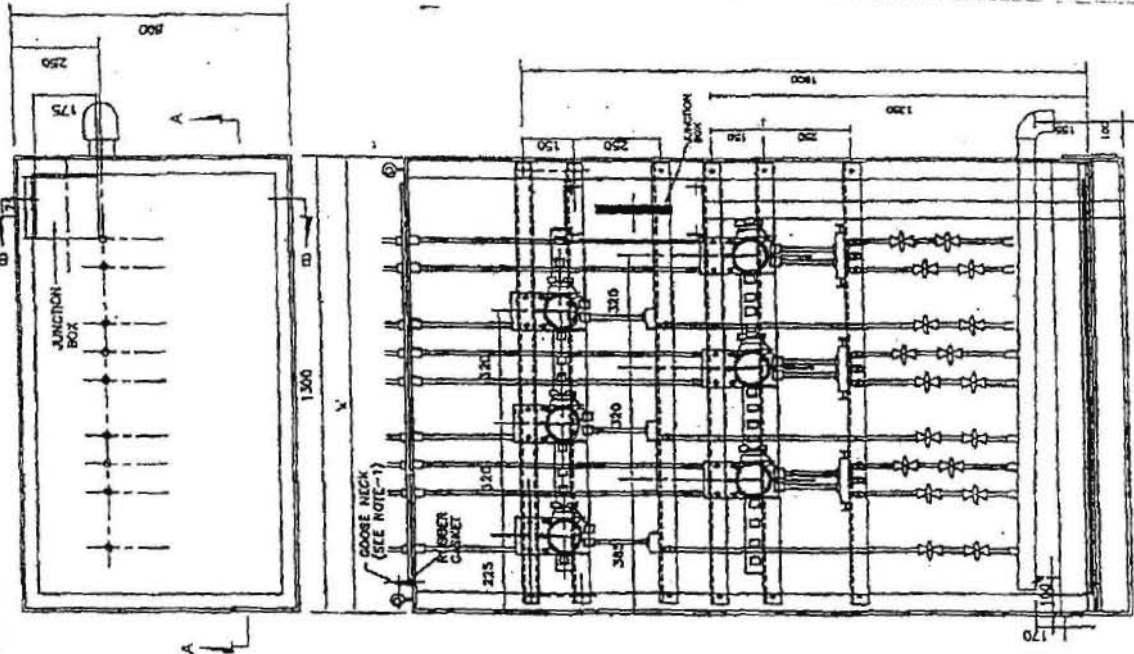
| | |
|----------|--------------------|
| REV. NO. | D |
| DATE | 0000-999-POI-A-064 |
| SCALE | AS IS |
| DWG. NO. | 0000-999-POI-A-064 |
| REV. NO. | 01 OF 03 |



SIDE ELEVATION

SECTION-BB-BB

LIE WITHOUT PURGING.



| REV. NO. | DATE | BY | CHKD. | DESCRIPTION |
|----------|------|-------------|-------------|----------------------------------|
| D | | AM | AM | ISSUED FOR TENDER PURPOSE |
| C | | AM | AM | TYPE-C JOCKED 1 MINOR CORRECTION |
| B | | AM | AM | SECOND ISSUE |
| A | | DESIGN CHD. | DESIGN CHD. | FIRST ISSUE |


DESCRIPTION

SECTION C3: SUB-SECTION II

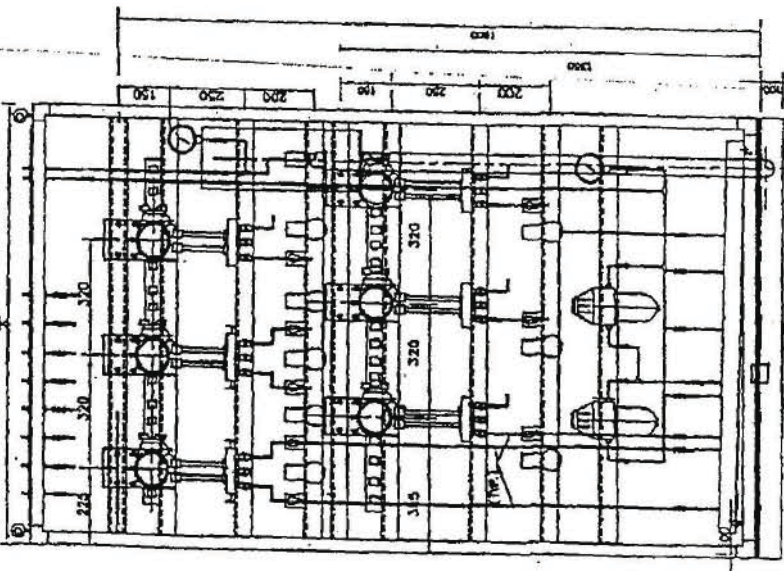
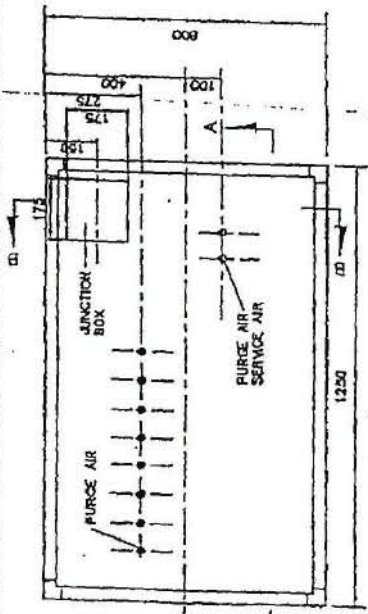
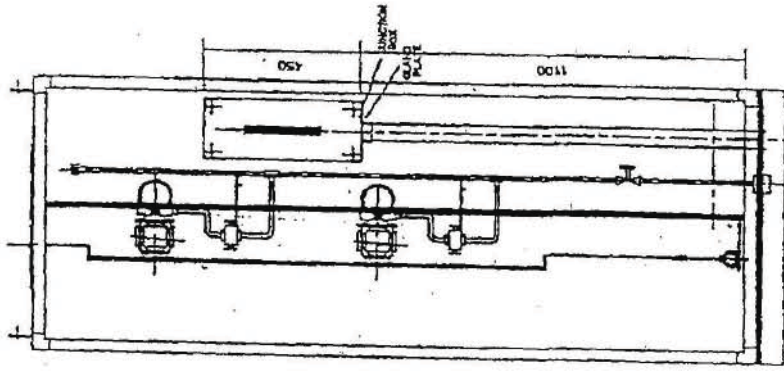
| LIE TYPE | MAX. NO. OF TRANSMITTERS | DIMENSION 'X' (mm) |
|----------|--------------------------|--------------------|
| A | 6 | 1250 |
| B | 4 | 930 |
| C | 2 | 630 |

NOTES:
1. MATERIAL OF BR FOR LIE'S SHALL BE FINISHED DURING DETAIL ENGINEERING.

FOR TENDER PURPOSE ONLY


PROJECT TYPICAL THERMAL POWER PROJECT
CLIENT National Thermal Power Corporation Ltd
ENGINEERING DIVISION

TITLE TYPICAL GA OF LOCAL INSTRUMENT ENCLOSURE / RACK
SCALE AS
DATE 01-02-03
DRW. NO. 0000-999-POI-A-084
REV. NO. D



SECTION-BB

LIE WITH PURGING

| NO. | REV. | DATE | BY | CHKD BY | DESCRIPTION |
|-----|------|------|----|---------|---|
| 0 | | | | | B. LOCAL W/ AIR TO D. OVERALL DIMENSION REDUCED |
| 1 | | | | | C. TYPE-G AND D. W/ MINOR CORRECTION |
| 2 | | | | | B. REMOVE BULK |
| 3 | | | | | A. FIRST ISSUE |

| LR TYPE | MAX. NO. OF TRANSMITTERS | DIMENSION 'X' (mm) |
|---------|--------------------------|--------------------|
| A | 8 | 1850 |
| B | 6 | 1330 |
| C | 4 | 1010 |

NOTE:-

- MATERIAL OF LR'S FOR LR'S SHALL BE FINISHED DURING DETAIL ENGINEERING.

FOR TENDER PURPOSE ONLY

PROJECT: TYPICAL THERMAL POWER PROJECT
 TITLE: TYPICAL GA OF LOCAL INSTRUMENT ENCLOSURE / RACK

| REV. NO. | DATE | BY | CHKD BY | DESCRIPTION |
|----------|-------|-----|---------|-------------|
| 1 | 12/05 | ... | ... | ... |
| 2 | ... | ... | ... | ... |
| 3 | ... | ... | ... | ... |
| 4 | ... | ... | ... | ... |
| 5 | ... | ... | ... | ... |
| 6 | ... | ... | ... | ... |
| 7 | ... | ... | ... | ... |
| 8 | ... | ... | ... | ... |
| 9 | ... | ... | ... | ... |
| 10 | ... | ... | ... | ... |

SECTION-AA
 LIE WITHOUT PURGING.

