

INSTALLATION

NOTES:

1. LOCATE THE METER IN A STRAIGHT RUN OF PIPE FREE OF VALVES OR FITTINGS WITH MINIMUM OF FIVE PIPE DIAMETERS UPSTREAM AND DOWNSTREAM LENGTH.
2. IN A VERTICAL PIPE RUN, MOUNT THE METER WITH THE FLOW DIRECTION UPWARD.
3. THE PROCESS PIPE MUST FLOW FULL OF LIQUID.
4. AVOID LOCATING MAGNETIC FLOWMETERS NEAR HEAVY INDUCTION EQUIPMENT (100 hp AND LARGER, NO CLOSER THAN 6 m).
5. INSTALL BONDING CABLES (SUPPLIED WITH MAGNETIC FLOWMETERS) ON METALLIC PIPES ONLY.

CITY OF IQALUIT
Wastewater Treatment Plant

MAGNETIC FLOWMETER



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT. 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.
ISD-01

DATE REVISIONS APP

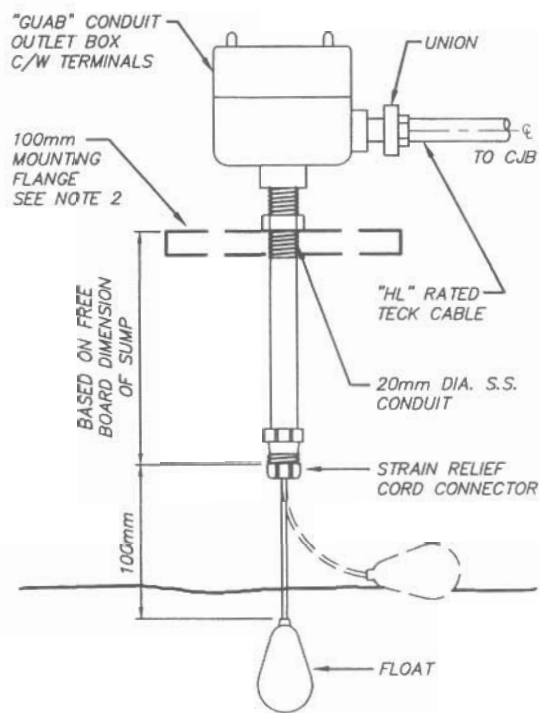


FIG. 1 FLOAT-TYPE LEVEL SWITCH
NON-HAZARDOUS AREA

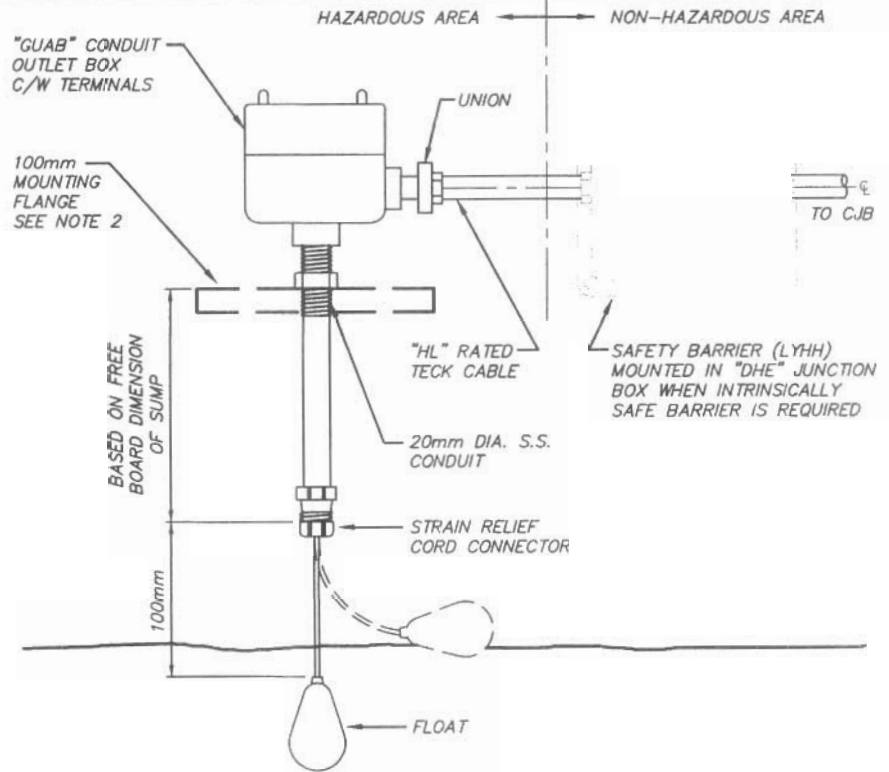


FIG. 2A FLOAT-TYPE LEVEL SWITCH
HAZARDOUS AREA

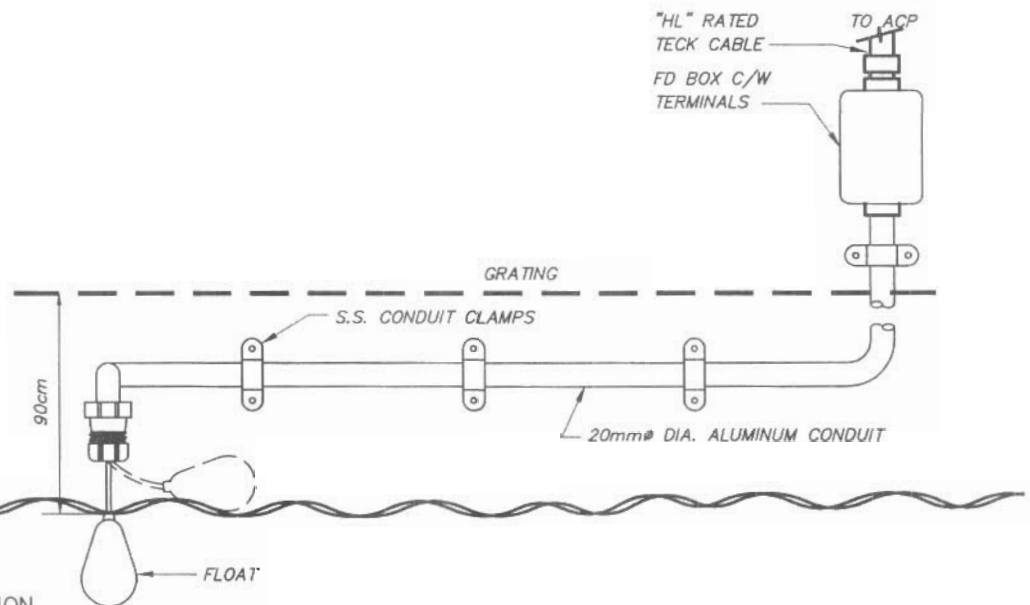


FIG. 2B TANK OR SUMP APPLICATION
LEVEL SWITCH-HAZARDOUS AREA

NOTE

1. REFER TO DWG'S A10 10031 AND A10 10032 FOR HAZARDOUS AREA INSTALLATION.
2. REFER TO DWG. A10 10040 FOR SUMP OR TANK INSTALLATION DETAILS.

CITY OF IQALUIT
Wastewater Treatment Plant

LEVEL TRANSMITER



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN _____
CKD _____ APP _____
REV. No. A

DWG. No.

ISD-07

DATE REVISIONS APP

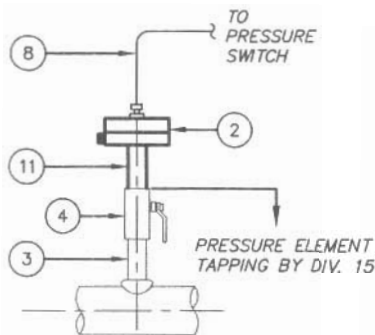


FIG. (a) DIRTY SERVICE
DIAPHRAGM SEAL

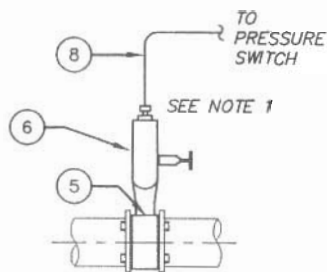


FIG. (b) DIRTY SERVICE
IN-LINE SERVICE

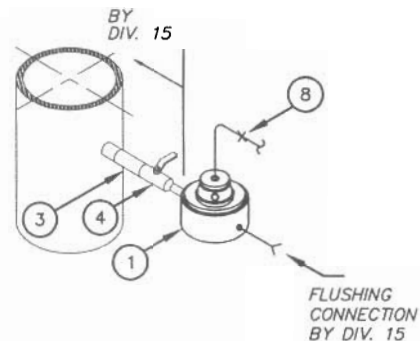


FIG. (c) DIRTY SERVICE - DIAPHRAGM
SERVICE WITH CONTINUOUS FLUSH

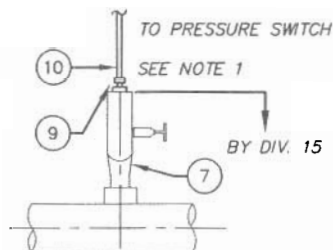


FIG. (d) CLEAN SERVICE

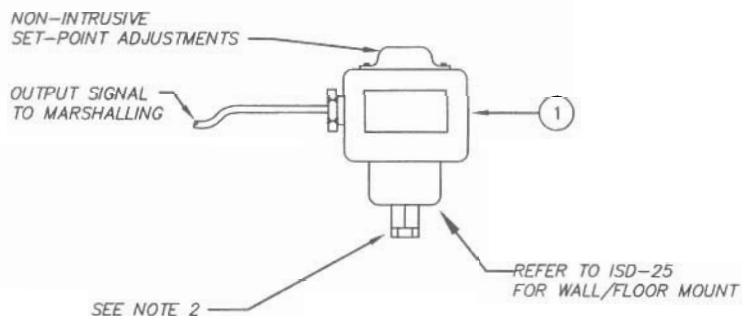


FIG. 1 PRESSURE SWITCH
REMOTE MOUNT

NOTES

1. WHEN BOTH PRESSURE GAUGE AND PRESSURE SWITCH REQUIRED BY APPLICATION - SEE DWG. ISD-09.
2. PROVIDE REQUIRED CONNECTOR TO ACCOMMODATE PROCESS CONNECTION TO PRESSURE SWITCH.
3. SUPPLIED AND INSTALLED BY DIVISION 15.

ITEM	DESCRIPTION
1	PRESSURE SWITCH, 12mm (NPT) PROCESS CONNECTION
2	DIAPHRAGM SEAL, ASHCROFT TYPE 101, C/W FLUSHING AND FILL CONN.
3	LONG NIPPLE, 20mm DIA x 50 mm, SEE NOTE 3
4	BALL VALVE - BV02, 20mm DIA, REFER TO SECTION 15105, SEE NOTE 3
5	THRU IN-LINE PRESSURE SENSOR, 12mm (NPT) CONN., BY SECTION 17210
6	MULTI-PORT GAUGE VALVE, STRAIGHT THROUGH TYPE, 12mm x 12mm (NPT)
7	MULTI-PORT GAUGE VALVE, STRAIGHT THROUGH TYPE, 12mm x 20mm (NPT), SEE NOTE 3
8	CAPILLARY TUBING, C/W 316SST ARMoured SHEATH
9	MALE CONNECTOR, 12mm x 10mm (NPT)
10	TUBING, 10mm DIA, 316SST
11	LONG NIPPLE, 20mm DIA X 50mm LONG

CITY OF IQALUIT
Wastewater Treatment Plant

TEMPERATURE GAUGE



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.

ISD-08

DATE REVISIONS APP

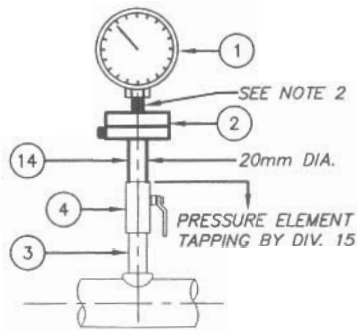


FIG. 1 DIRTY SERVICE DIAPHRAGM SEAL

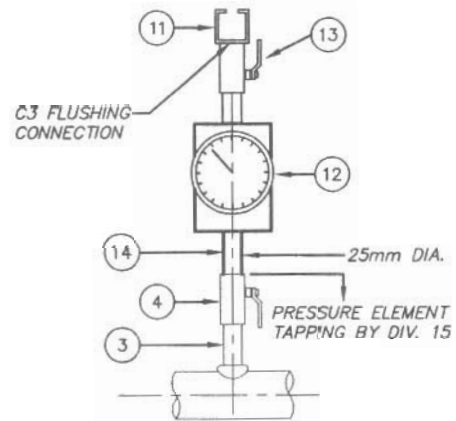


FIG. 2 DIRTY SERVICE IN-LINE SENSOR

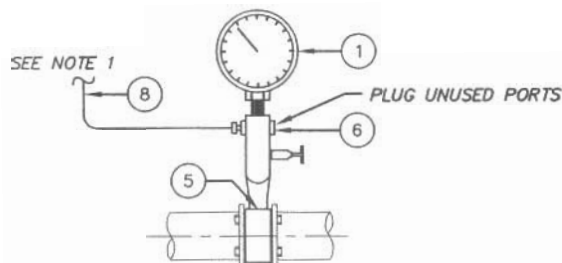


FIG. 3 DIRTY SERVICE IN-LINE SENSOR

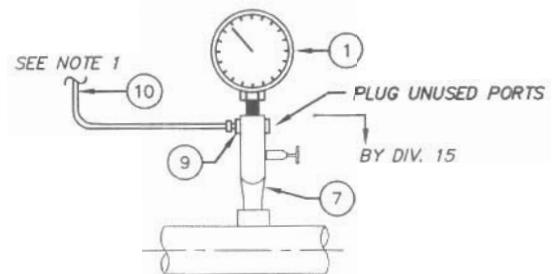


FIG. 4 CLEAN SERVICE

NOTES:

1. TO REMOTE MOUNT PRESSURE SWITCH OR OTHER GAUGE VALVES (FIG. 4 ONLY) WHEN REQUIRED BY APPLICATION. SEE DWG. ISD-08.
2. REFER TO INSTRUMENT SPECIFICATION SHEET TO DETERMINE WHETHER A SNUBBER IS REQUIRED.
3. SUPPLIED AND INSTALLED BY DIVISION 15. PROVIDE A BUSHING OR REDUCER TO MEET SIZE REQUIREMENTS.

ITEM	DESCRIPTION
1	PRESSURE GAUGE, 12mm (NPT), BY SECTION 17210
2	DIAPHRAGM SEAL, ASHCROFT TYPE 101, C/W FLUSHING AND FILL CONN.
3	LONG NIPPLE, 50 mm LONG, SEE NOTE 3
4	BALL VALVE - BV02, 20mm DIA, REFER TO SECTION 15105, SEE NOTE 3
5	THRU IN-LINE PRESSURE SENSOR, 12mm (NPT) CONN., BY SECTION 17210
6	MULTI-PORT GAUGE VALVE, STRAIGHT THROUGH TYPE, 12mm x 12mm (NPT)
7	MULTI-PORT GAUGE VALVE, STRAIGHT THROUGH TYPE, 12mm x 20mm (NPT), SEE NOTE 3
8	CAPILLARY TUBING, C/W 316SST ARMoured SHEATH
9	MALE CONNECTOR, 12mm x 10mm (NPT)
10	TUBING, 10mm DIA, 316SST
11	QUICK DISCONNECT, 25mm, REFER TO SECTION 15050
12	IN-LINE PRESSURE SENSOR, RED VALVE TYPE 42S, C/W SENSING LIQUID & GAUGE
13	BALL VALVE - BV01, 25mm DIA, REFER TO SECTION 15105
14	LONG NIPPLE, 50mm LONG

CITY OF IQALUIT
Wastewater Treatment Plant

PRESSURE GAUGES

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.
ISD-09

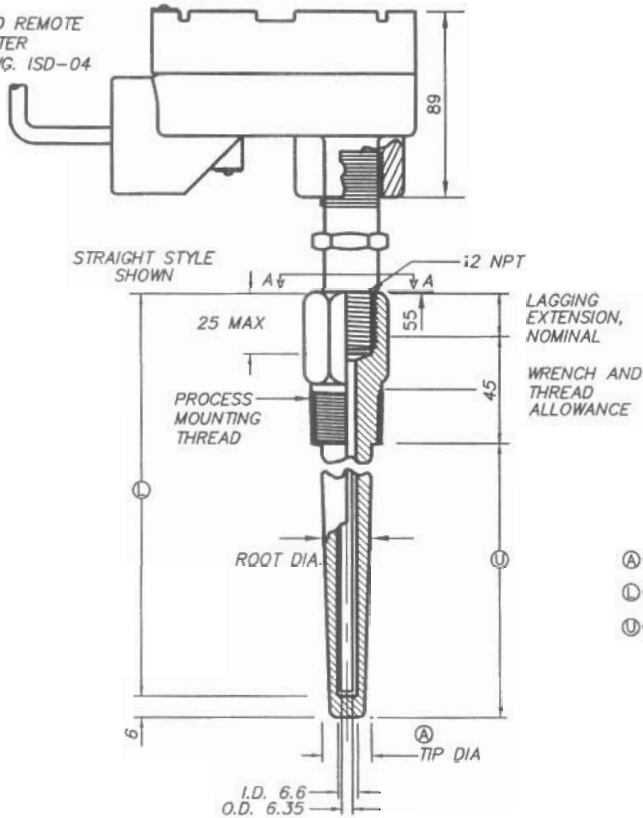


Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

DATE REVISIONS APP

SIGNAL TO REMOTE
TRANSMITTER
REFER DWG. ISD-04



NOTES:

1. THERMOWELL TAPPING DETAILS BY DIV. 15.
2. REFER TO DWG. ISD-11 FOR THERMAL RIBBON RTD.
3. REFER TO DWG. ISD-42 FOR HVAC APPLICATION RTDS.

CITY OF IQALUIT
Wastewater Treatment Plant

TEMPERATURE GAUGE



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.

ISD-12

DATE REVISIONS APP

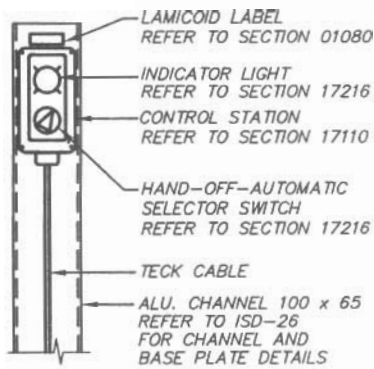


FIG. 1

MOTOR WITH INDICATOR

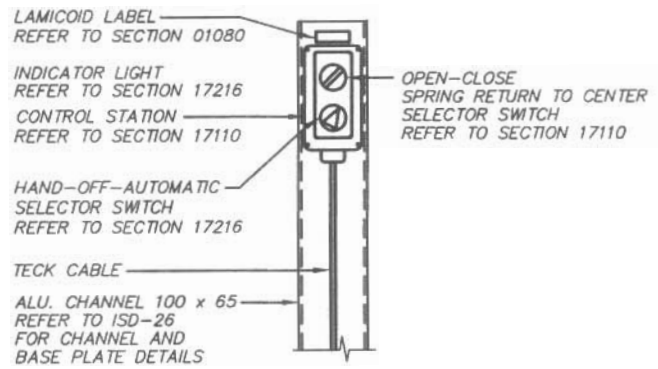


FIG. 2

FOR CRITICAL VALVES

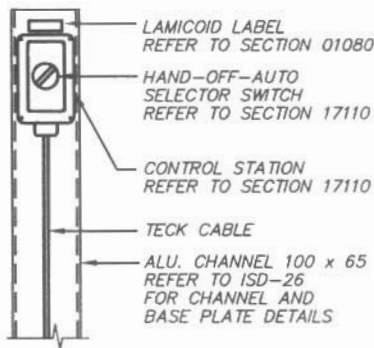


FIG. 3

FOR MOTOR

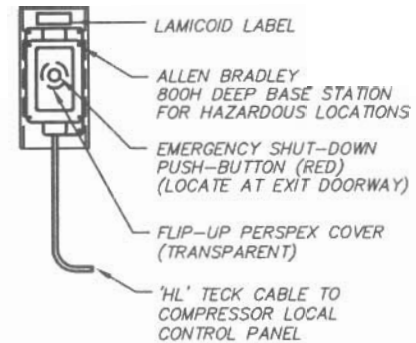


FIG. 4

GAS EQUIPMENT ROOM
ESD HAND SWITCH

NOTES

1. REFER TO DRAWINGS ISD-31 AND ISD-32 FOR HAZARDOUS AREA INSTALLATION.

CITY OF IQALUIT
Wastewater Treatment Plant

HAND SWITCH INSTALLATION



Earth Tech (Canada) Inc.

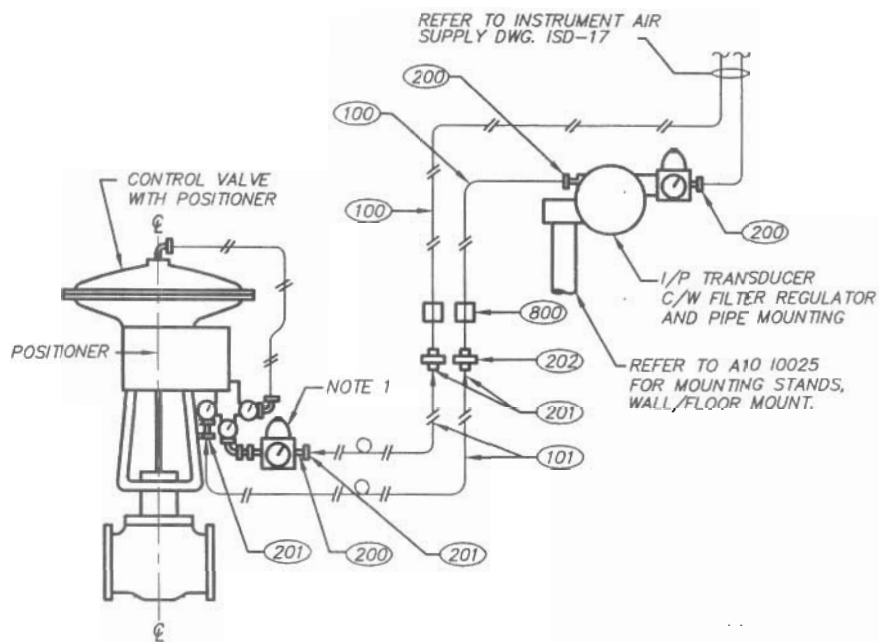
Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.

ISD-14

DATE REVISIONS APP



NOTES

1. FILTER/REGULATOR, SUPPLIED MOUNTED AND PREPIPED BY CONTROL VALVE VENDOR.
2. MOUNT TRANSDUCER CLOSE TO, BUT NOT ONTO CONTROL VALVE.
3. REFER TO SECTION 17140 - INSTRUMENT AIR TRANSMISSION SYSTEMS.
4. REFER TO SECTION 17213 FOR CONTROL VALVES, ACTUATORS & ACCESSORIES.
5. REFER TO DWG. NO. ISD-45 FOR MOUNTING ARRANGEMENTS WHEN ELECTRIC ACTUATOR IS REQUIRED.

ITEM	SIZE	QTY	DESCRIPTION
100	10 O.D.	A/R	TUBING, 10mm O.D., 316SS
101	16 O.D.	A/R	TUBING, 16mm O.D., 10mm I.D., NEOPRENE TUBE, NOM, 300mm LENGTH
200	10mm	6	MALE CONNECTOR, 10mm MNPT, 316SS
201	10mm	4	TUBE ADAPTOR, 10mm O.D., 316SS
202	10mm	2	UNION, 10 X 10mm, TUBE TO TUBE FITTING, 316SS
800		A/R	SUPPORT RACEWAY, ALUMINIUM

CITY OF IQALUIT
Wastewater Treatment Plant

TYPICAL PNEUMATIC CONNECTIONS FOR
MODULATING ACTUATORS

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

DWG. No.

ISD-15

DATE REVISIONS APP

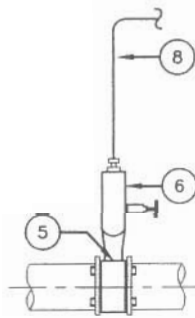


FIG. (a)

DIRTY SERVICE
IN-LINE SENSOR

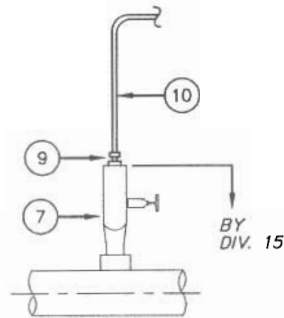


FIG. (b)

CLEAN SERVICE

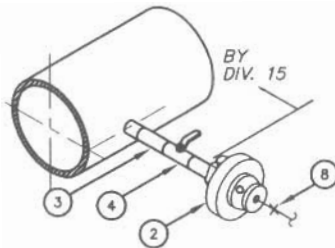


FIG. (c)

DIRTY SERVICE
DIAPHRAGM SEAL

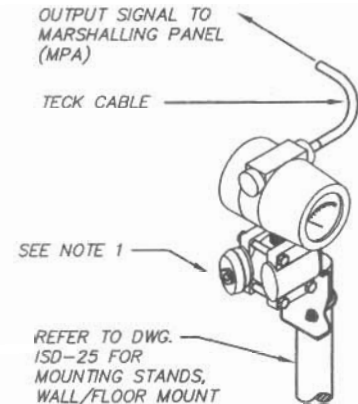


FIG. 1

PRESSURE TRANSMITTER

NOTES

1. PROVIDE REQUIRED CONNECTOR.
2. REFER TO DWG. ISD-21 FOR ADDITIONAL IN-LINE PRESSURE SENSOR APPLICATIONS.
3. DUPLICATE SENSOR CONNECTION LINES FOR DIFFERENTIAL PRESSURE APPLICATIONS.

ITEM	DESCRIPTION
1	DIAPH. SEAL, ASHCROFT TYPE 104, C/W 12mm PROC. & FLUSHING CONN.
2	DIAPHRAGM SEAL, ASHCROFT TYPE 101, C/W FLUSHING AND FILL CONN.
3	LONG NIPPLE, 20mm DIA x 50 mm
4	BALL VALVE, 20mm DIA, BY SECTION 15050
5	THRU IN-LINE PRESSURE SENSOR, 12mm (NPT) CONN., BY SECTION 17210
6	MULTI-PORT GAUGE VALVE, STRAIGHT THROUGH TYPE, 12mm x 12mmmm (NPT)
7	MULTI-PORT GAUGE VALVE, STRAIGHT THROUGH TYPE, 12mm x 20mm (NPT)
8	CAPILLARY TUBING, C/W 316SST ARMoured SHEATH
9	MALE CONNECTOR, 12mm x 10mm (NPT)
10	TUBING, 10mm DIA, 316SST

CITY OF IQALUIT
Wastewater Treatment Plant
PRESSURE TRANSMITTER
PROCESS CONNECTION AND ADAPTORS



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES IDC DWN _____
CKD _____ APP _____
REV. No. _____

DWG. No.
ISD-19

DATE REVISIONS APP

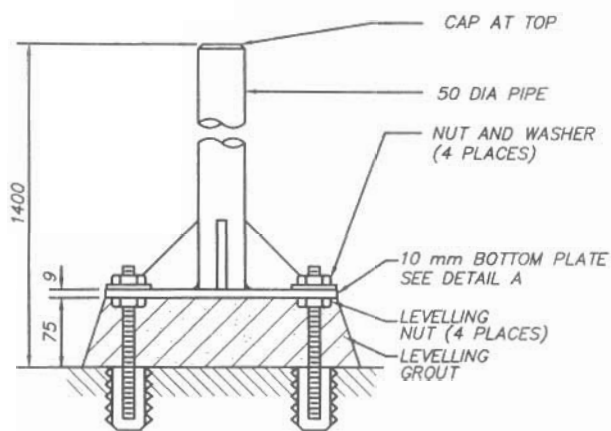


FIG. 1

FLOOR MOUNT

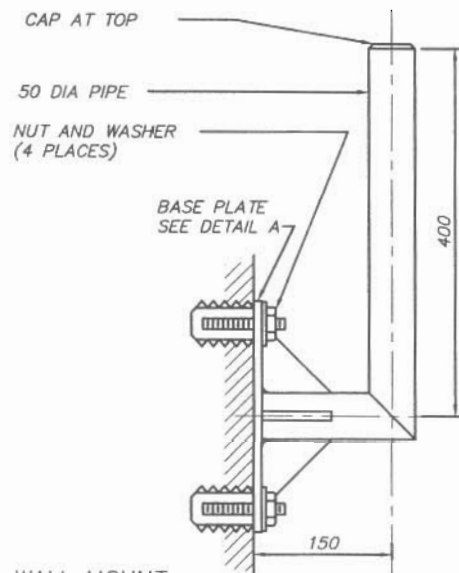


FIG. 2

WALL MOUNT

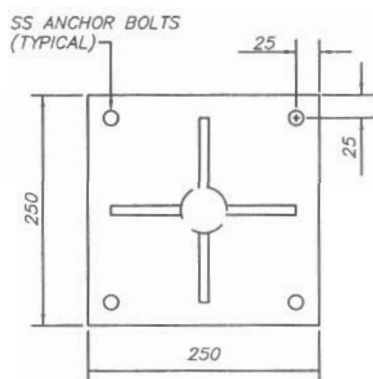


FIG. (a)

DETAIL 'A'
MOUNTING PLATE



FIG. (b)

WALL MOUNT
EXTERNAL VIEW



FIG. (c)

FLOOR MOUNT
EXTERNAL VIEW

NOTES:

1. PIPE AND MOUNTING PLATE COPPER FREE ALUMINUM.
2. TOP OF PIPE TO BE 1400 (NOMINAL) ABOVE SERVICE FLOOR.
3. GROUTING TO BE POURED ONCE FLOOR MOUNT STAND PLUMBED FASTENED IN PLACE.
4. ANCHOR BOLTS TO SECTION 05501.

CITY OF IQALUIT
Wastewater Treatment Plant
INSTRUMENT MOUNTING STANDS
FOR WALL/FLOOR MOUNTING



Earth Tech (Canada) Inc.

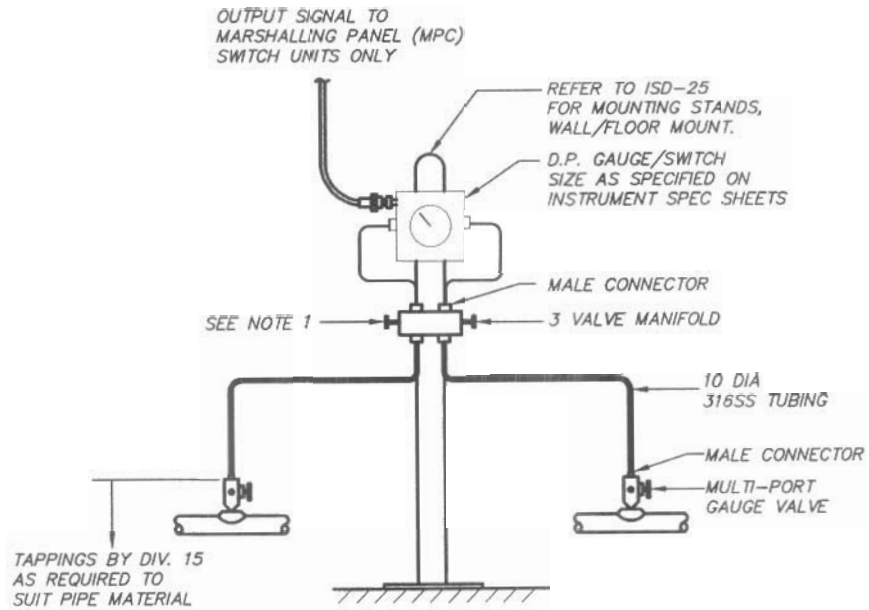
Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.

ISD-25


DATE REVISIONS APP



PROCESS INSTA

NOTE:

1. SECURE TO PIPE MOUNT OR MOUNTING PLATE.
2. USE THIS STANDARD FOR CLEAN WATER COMMODITIES.
3. REFER TO DWG. A10 I0029 FOR DUCT SENSOR CONNECTIONS.

			CITY OF IQALUIT Wastewater Treatment Plant		SCALE <u>N.T.S.</u>
			PROCESS – LOW RANGE DIFFERENTIAL PRESSURE GAUGE/SWITCH		DATE <u>15 OCT 04</u>
					DES <u>TDC</u> <u>DWN</u>
					CKD <u>APP</u>
					REV. No. <u>A</u>
DATE	REVISIONS	APP	Earth Tech (Canada) Inc. Calgary, Alberta, (403) 254-3301		DWG. No. ISD-28

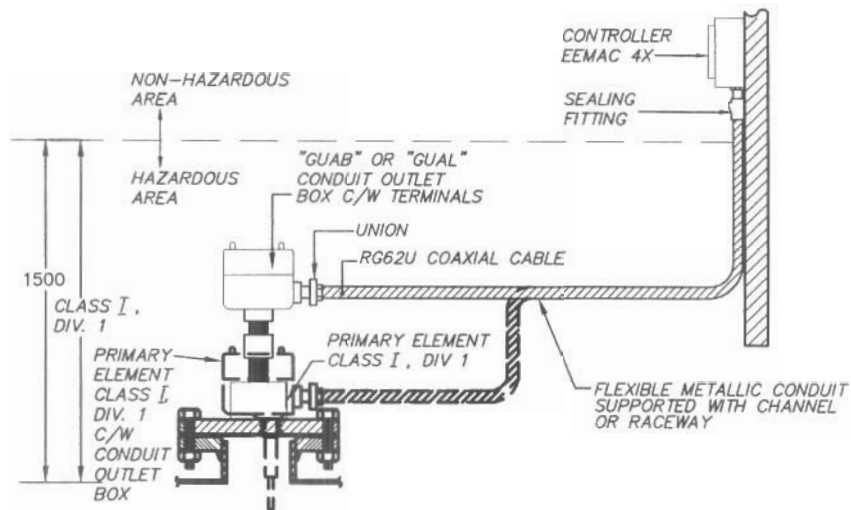


FIG. 1

SUMP LEVEL SENSOR AND CONTROLLER

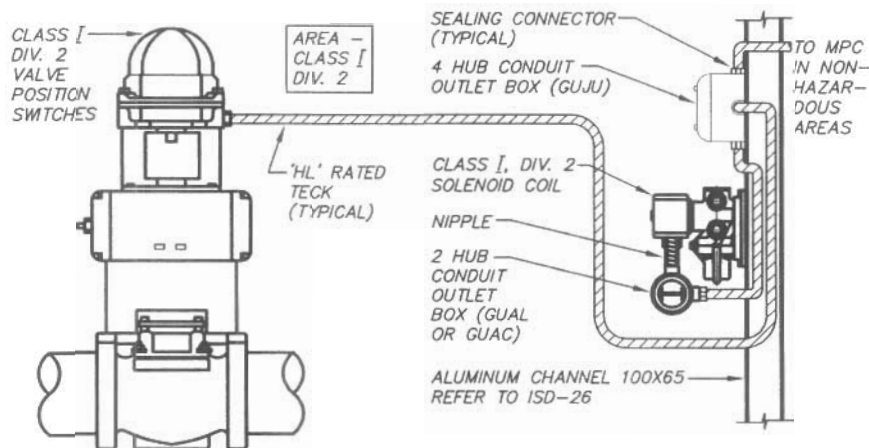


FIG. 2

VALVE POSITION SWITCHES & SOLENOID

NOTES

1. REFER TO SECTION 16010 FOR HAZARDOUS AREA CLASSIFICATIONS.

CITY OF IQALUIT
Wastewater Treatment Plant
HAZARDOUS AREA INSTRUMENT
INSTALLATION DETAILS SH.1 OF 2



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.

ISD-30

DATE REVISIONS APP

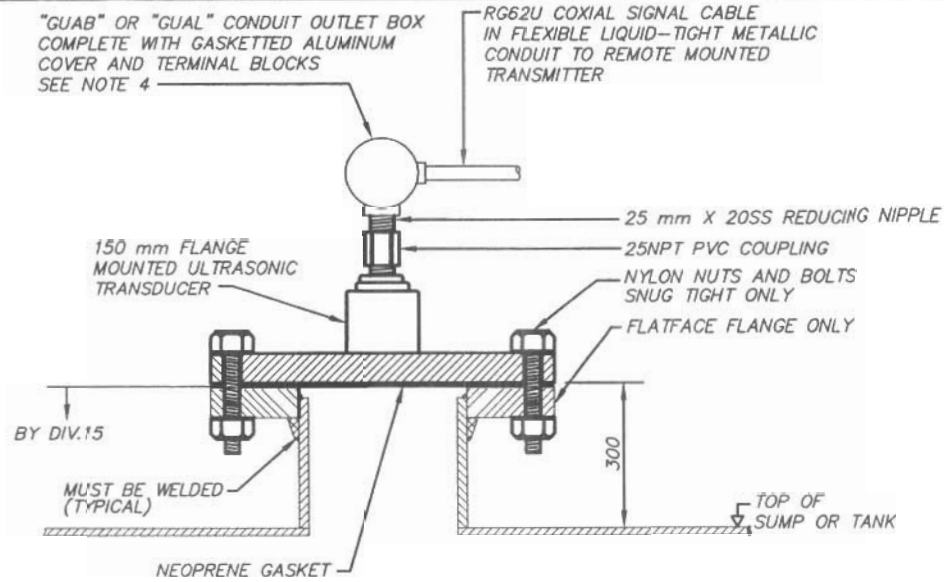


FIG. 1 FLANGE-MOUNTED
ULTRASONIC LEVEL TRANSDUCER

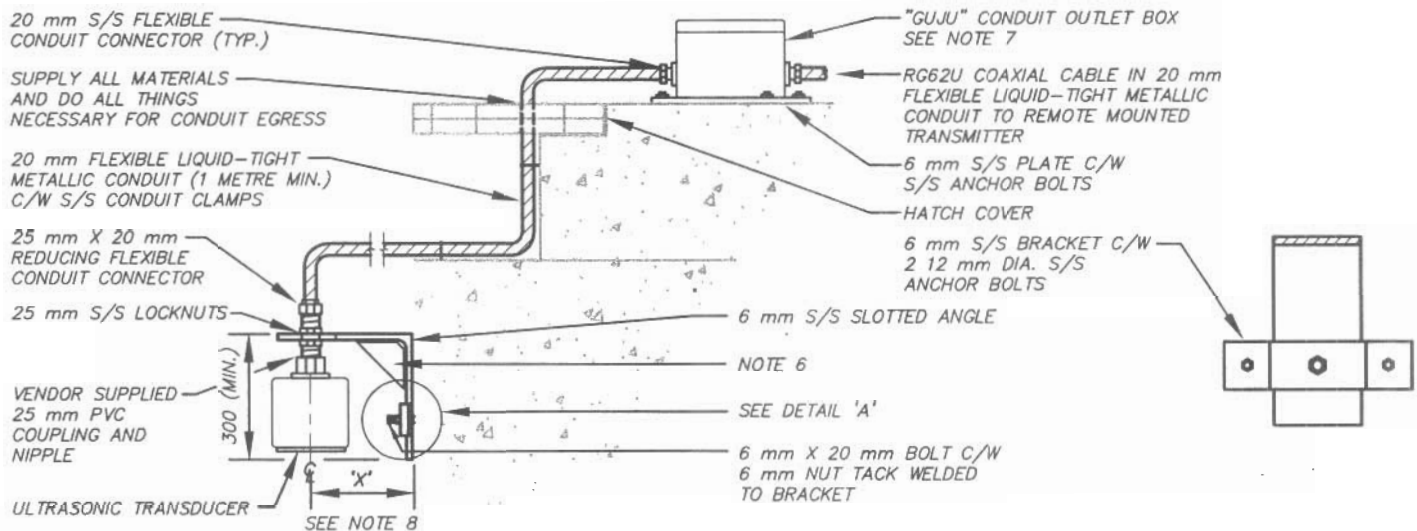


FIG. 2 BRACKET-MOUNTED
ULTRASONIC LEVEL TRANSDUCER

NOTES:

1. REFER TO DRAWINGS ISD-31 AND ISD-32 FOR HAZARDOUS AREA DETAILS.
2. REFER TO SECTION 16010 FOR HAZARDOUS AREA CLASSIFICATIONS.
3. MOUNT TRANSDUCER AT LEAST 300mm AWAY FROM WALL OF SUMP.
4. PROVIDE COPPER-FREE ALUMINIUM CONDUIT OUTLET BOX.
5. FINAL DIMENSION TO BE DETERMINED IN FIELD.
6. WELD GUSSET TO REINFORCE AS REQUIRED.
7. LOCATE TO FACILITATE DISCONNECTION OF TRANSDUCER. REFER TO SECTION 17010.
8. 'X' DIMENSION = 300 mm (MIN.) FOR EVERY 3 m OF LEVEL MEASURED.

CITY OF IQALUIT
Wastewater Treatment Plant
ULTRASONIC LEVEL TRANSDUCERS
SHEET 1 OF 2



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES IDC DWN
CKD APP
REV. No. A

DWG. No.

ISD-32

DATE REVISIONS APP



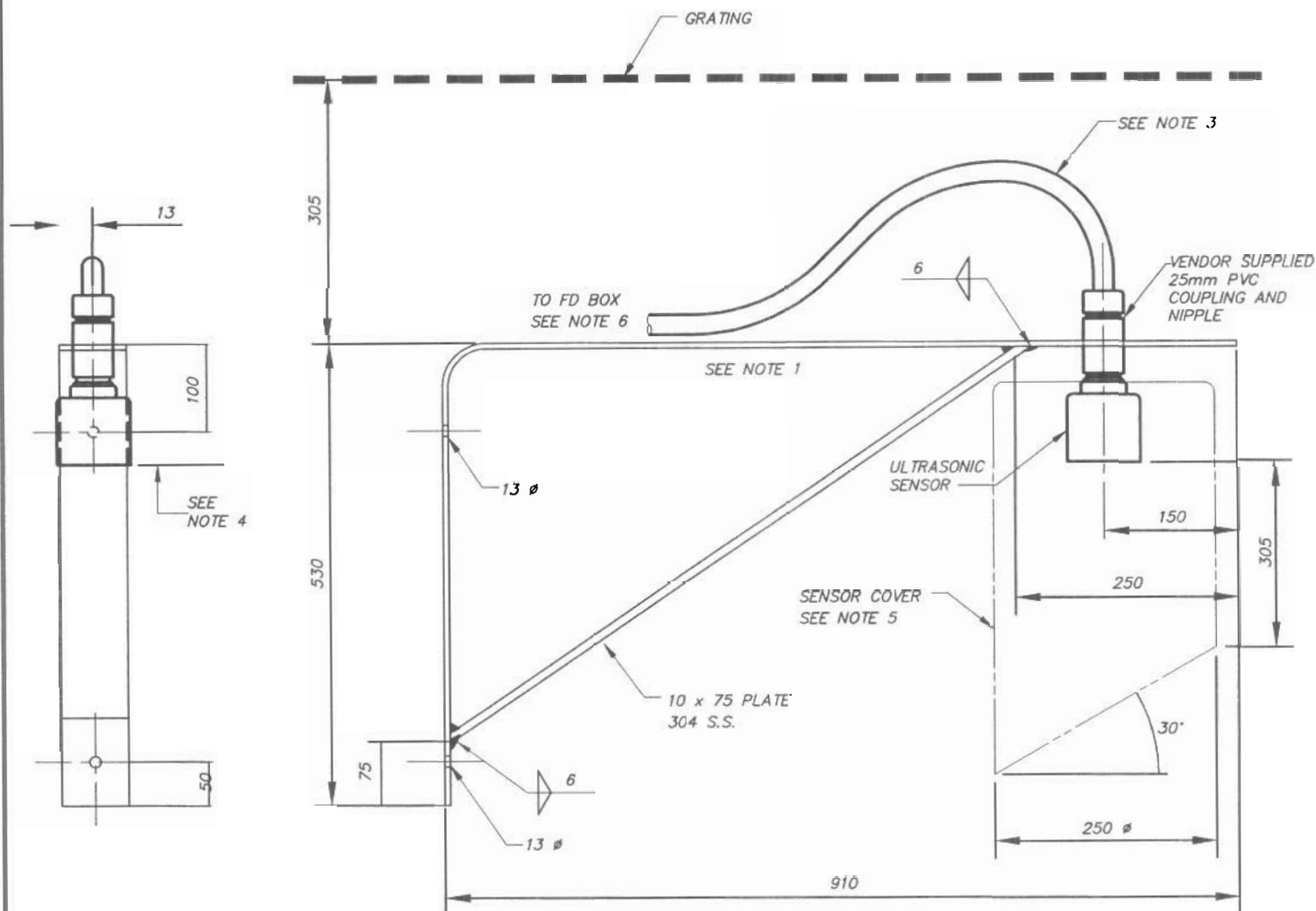
1. REFER TO SECTION 16010 FOR HAZARDOUS AREA CLASSIFICATIONS.

CITY OF IQALUIT
Wastewater Treatment Plant

HARADOUS AREA INSTRUMENT
INSTALLATION DETAILS SH. 2 OF 2

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN _____
CKD _____ APP _____
REV. No. A

DWG. No.
ISD-31



LEVEL SENSOR BPA

NOTES:

- 1) SENSOR MUST BE MOUNTED IN HORIZONTAL PLANE WITH RESPECT TO INFLUENT SEWAGE LEVEL/FLOW.
- 2) ALL BRACKET COMPONENTS TO BE 304 S.S.. BRACKET TO BE MOUNTED WHERE ONLY ONE SECTION OF GRATING IS REQUIRED TO BE REMOVED FOR SENSOR ACCESS.
- 3) RG62U COAXIAL SIGNAL CABLE TO BE RUN INSIDE FLEXIBLE LIQUID TIGHT METALLIC CONDUIT AND FASTENED TO BRACKET WITH "P" CLAMPS. CONDUIT CONNECTORS AT JUNCTION BOX ('FD' BOX) TO BE HL RATED (WATER TIGHT). REFER TO CONDUIT INSTALLATION DETAILS FOR CONTINUATION.
- 4) SENSOR ELEVATION TO BE AS PER INSTRUMENTATION INDEX.
- 5) SENSOR COVER TO BE AIR TIGHT. PROVIDE SENSOR COVER WHEN SPECIFIED IN INSTRUMENT INDEX.
- 6) LOCATE 'FD' BOX TO FACILITATE DISCONNECTION OF SENSOR.

CITY OF IQALUIT
Wastewater Treatment Plant
ULTRASONIC LEVEL TRANSDUCERS
SHEET 2 OF 2



Earth Tech (Canada) Inc.

Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.

ISD-33

DATE REVISIONS APP

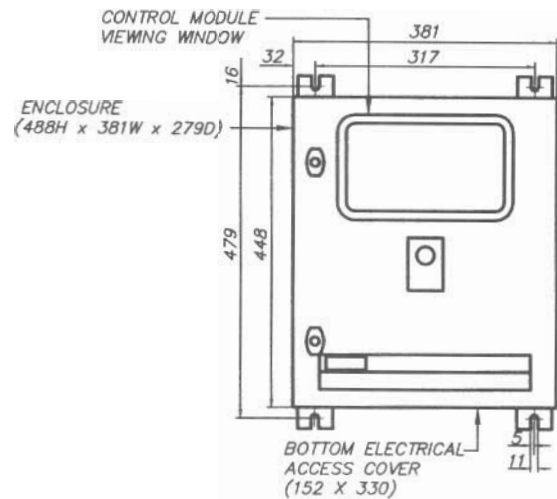
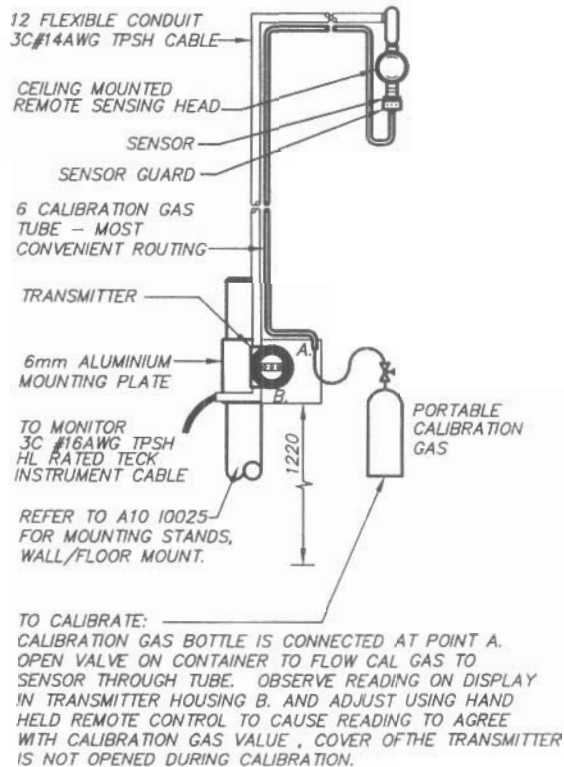


FIG. 1 MONITOR

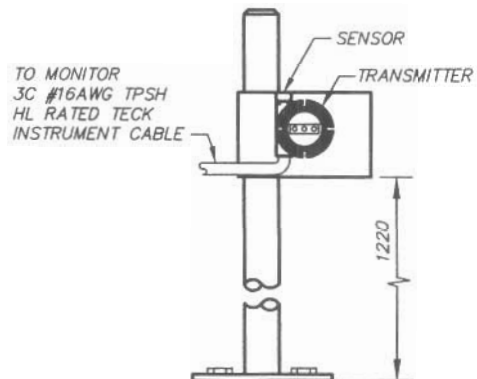
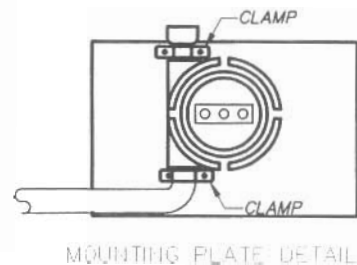


FIG. 2 H₂S AND O₂ GAS SENSOR

FIG. 1 COMBUSTIBLE GAS SENSOR

CITY OF IQALUIT
Wastewater Treatment Plant

GAS DETECTION SENSORS
AND MONITOR



Earth Tech (Canada) Inc. Calgary, Alberta, (403) 254-3301

SCALE N.T.S.
DATE 15 OCT 04
DES TDC DWN
CKD APP
REV. No. A

DWG. No.
ISD-34

DATE REVISIONS APP



1. REFER TO DWG. ISD-35 FOR SIDE SCATTER TURBIDIMETER.

DWG. No.
ISD-43

CONTROL VALVE INDEX

1. GENERAL

1.1 References - General

- .1 Refer To Section 17010.

1.2 Control Valve Index

- .1 The following data sheets provide information for control valves included as part of this work.

2. PRODUCTS (NOT USED)

3. EXECUTION (NOT USED)

END OF SECTION

Rev No. 0 Date 10/17/2004