



City of Iqaluit  
Nunavut  
Booster Station No. 2



TEMPERATURE TRANSMITTER				DESIGN BY	DRAWN BY	PROJECT No. 83700	DATE Jun-05
No.	DATE	REVISION	APPR	CHECKED BY	APPROVED BY	SHEET No. ISS-T2	REV. A
TRANSMITTER	1	MANUFACTURER		Rosemount			
	2	MODEL No.		644H			
	3	TAG No.		TIT-314			
	4	OUTPUT		4 - 20 mA			
	5	CALIBRATED RANGE		-10 to 40 °C			
	6	FAIL MODE		Low			
	7	POWER SUPPLY		24 VDC			
	8	ELECTRICAL CONNECTION	SIZE	Threaded Insert	1/2" - 14 NPT		
	9	MOUNTING		Integral w/ Sensor			
	10	ACCESSORIES		Integral LCD Display			
	11	REQUIRED APPROVALS		CSA			
	12	ENCLOSURE		NEMA 4X			
	SENSOR	14	TAG No.		TE-314		
15		SENSOR TYPE	LEADS	Pt 100 RTD	4-Wire		
16		SENSOR STYLE		Spring Loaded			
17		SENSOR LENGTH		6"			
18		TEMPERATURE RANGE		-196 to 600 °C			
19							
20							
21							
THERMOWELL	22	MOUNTING TYPE	SIZE	Welded	3/4" Pipe		
	23	MATERIAL		316 SST			
	24	STEM STYLE		Straight			
	25	IMMERSION LENGTH		4"			
	26						
	27						
	28						
	29						
	30						
	31						
	32						
	33						
NOTES	34	TAGGING		Transmitter and Sensor c/w SS Tag Number			
	35						
	36	PROCUREMENT		1 of 644H Transmitter and Sensor			
	37			1 of Thermowell			
	38						
	39	ACCESSORIES		Installation, Operation and Maintenance Manual			
	40						
	41	ALTERNATES		WIKA			
	42						
43							



City of Iqaluit  
Nunavut  
Booster Station No. 2



TEMPERATURE TRANSMITTER				DESIGN BY	DRAWN BY	PROJECT No.	DATE	
				CHECKED BY	APPROVED BY	SHEET No.	REV.	
No.	DATE	REVISION	APPR	ISS-T3				A
TRANSMITTER	1	MANUFACTURER		Rosemount				
	2	MODEL No.		644H				
	3	TAG No.		TIT-414				
	4	OUTPUT		4 - 20 mA				
	5	CALIBRATED RANGE		-10 to 40 °C				
	6	FAIL MODE		Low				
	7	POWER SUPPLY		24 VDC				
	8	ELECTRICAL CONNECTION	SIZE	Threaded Insert	1/2"	4 NPT		
	9	MOUNTING		Integral w/ Sensor				
	10	ACCESSORIES		Integral LCD Display				
	11	REQUIRED APPROVALS		CSA				
	12	ENCLOSURE		NEMA 4X				
	13							
SENSOR	14	TAG No.		TE-414				
	15	SENSOR TYPE	LEADS	Pt 100 FCB	4-Wire			
	16	SENSOR STYLE		Spring Loaded				
	17	SENSOR LENGTH		8"				
	18	TEMPERATURE RANGE		-196 to 300 °C				
	19							
	20							
	21							
THERMOWELL	22	MOUNTING TYPE	SIZE	Welded	3/4" Pipe			
	23	MATERIAL		316 SST				
	24	STEM STYLE		Straight				
	25	IMMERSION LENGTH		6"				
	26							
	27							
	28							
	29							
	30							
	31							
	32							
	33							
NOTES	34	TAG GLASS		Transmitter and Sensor c/w SS Tag Number				
	35							
	36	QUANTITY		3 of 644H Transmitter and Sensor				
	37			1 of Thermowell				
	38							
	39	ACCESSORIES		Installation, Operation and Maintenance Manual				
	40							
	41	ALTERNATES		WIKA				
	42							
	43							



City of Iqaluit  
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Booster Station No. 2



		TEMPERATURE SWITCH		DESIGN BY	DRAWN BY	PROJECT No.	DATE
						83700	Jun-05
No.	DATE	REVISION	APPR	CHECKED BY	APPROVED BY	SHEET No.	REV.
						ISS-T4	A
	1	MANUFACTURER		ITT NEO-DYN			
	2	MODEL No.		SERIES 100T			
	3	TAG No.		TSL-101			
	4	OUTPUT		Form "C" Contacts (SPDT)			
	5	POWER SUPPLY		120 VAC			
	6	TEMPERATURE RANGE		-40 to 82 °C			
	7	CALIBRATION		+8 °C Falling			
	8						
	9						
	10	ELECTRICAL CONNECTION	SIZE	Threaded Insert	1/2" NPT		
	11	MOUNTING		Panel Mount			
	12	ACCESSORIES		N/A			
	13	REQUIRED APPROVALS		NEMA 4X			
	14						
	15						
	16						
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	32						
	33						
	34						
	35						
N O T E S	36	TAGGING		Sensor c/w SS Tag Number			
	37						
	38	PROCUREMENT		2 of Series 100T Switch			
	39						
	40	ACCESSORIES		Installation, Operation and Maintenance Manual			
	41						
	42	ALTERNATES					
	43						

## **INSTRUMENT STANDARD DETAILS**

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### **1. GENERAL**

#### **1.1 References - General**

- .1 Refer to Section 17010.

#### **1.2 Instrument Standard Details**

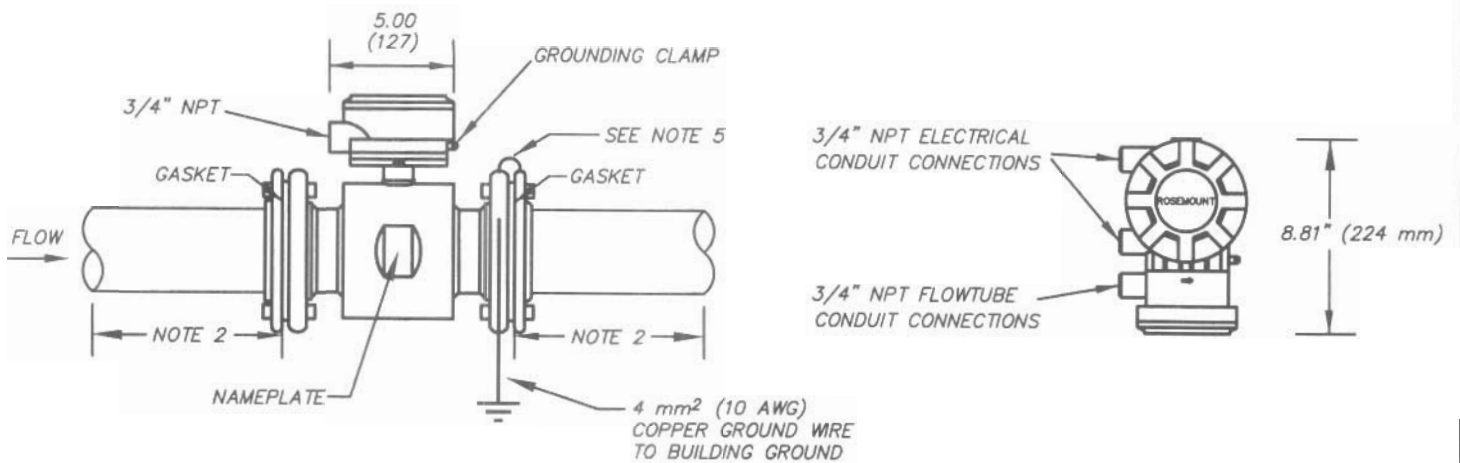
- .1 The following drawings show the standard instrumentation installation detail drawings.

### **2. PRODUCTS – (NOT USED)**

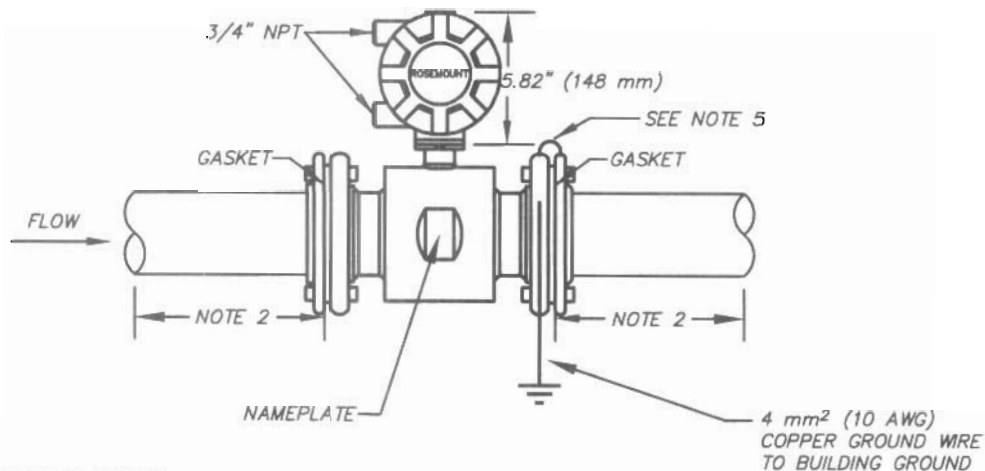
### **3. EXECUTION – (NOT USED)**

**END OF SECTION**

# TER INSTALLATIONS




REMOTE MOUNTED TRANSM



INTEGRAL MOUNTED TRANSMITTER

## 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 BOOSTER STATION No. 2		SCALE <u>N.T.S.</u>	
			MAGNETIC FLOWMETER INSTALLATIONS		DATE <u>JUNE 05</u>	
			 <b>EarthTech</b> A Tyco International Ltd. Company		DES <u>TDC</u> <u>DWN</u>	
					CKD <u>APP</u>	
					REV. No. <u>1</u>	
DATE	REVISIONS	APP				DWG. No. <b>ISD-01</b>

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17205-105 Avenue  
Edmonton, Alberta T6S 1J4  
Phone: 780.488.8800  
Fax: 780.488.8181

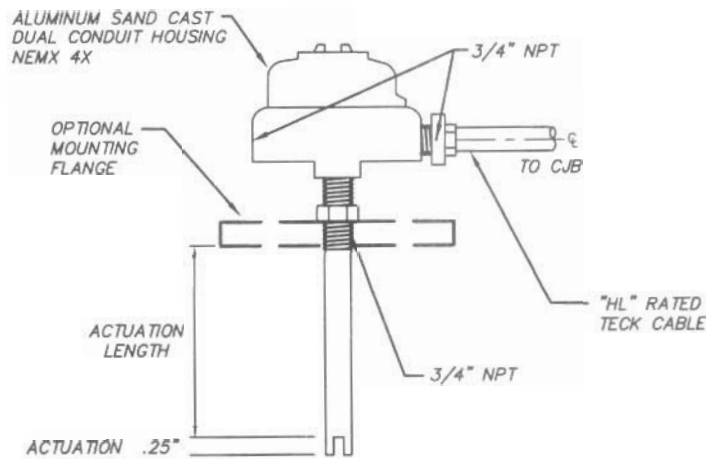


FIG. 1

ULTRASONIC LEVEL SWITCH  
NON-HAZARDOUS AREA

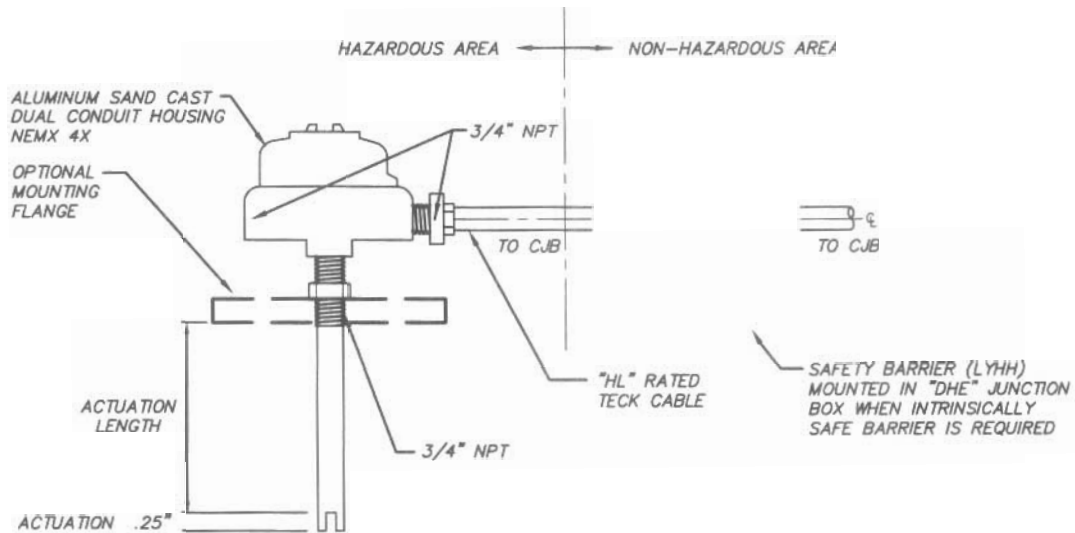


FIG. 2A

ULTRASONIC LEVEL SWITCH  
HAZARDOUS AREA

NOTES:

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.

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			LEVEL SWITCH INSTALLATIONS		
			 <b>EarthTech</b> A Tyco International Ltd. Company		
DATE	REVISIONS	APP	Earth Tech (Canada) Inc. 17805-105 Avenue Edmonton, Alberta T6S 1J4 Phone: 780.488.8800 Fax: 780.488.8181		DWG. No. <u>ISD-07</u>

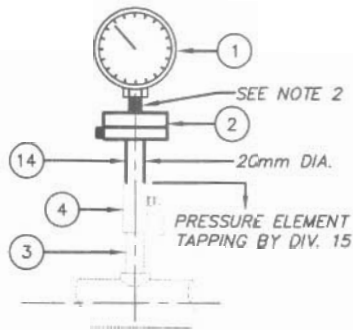


FIG. 1 DIRTY SERVICE  
DIAPHRAGM SEAL

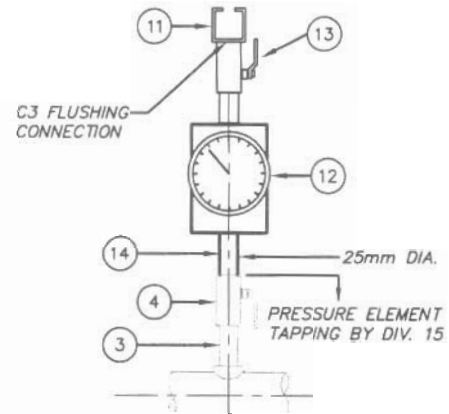


FIG. 2 DIRTY SERVICE  
IN-LINE SENSOR

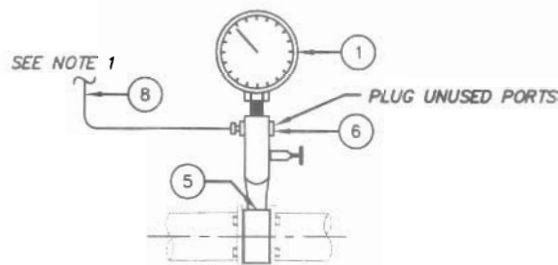


FIG. 3 DIRTY SERVICE  
IN-LINE SENSOR

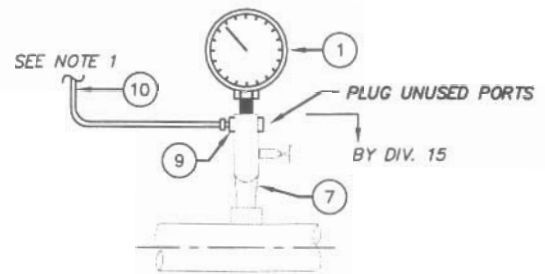


FIG. 4 CLEAN SERVICE

#### 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  
BOOSTER STATION No. 2

PRESSURE GAUGE INSTALLATIONS

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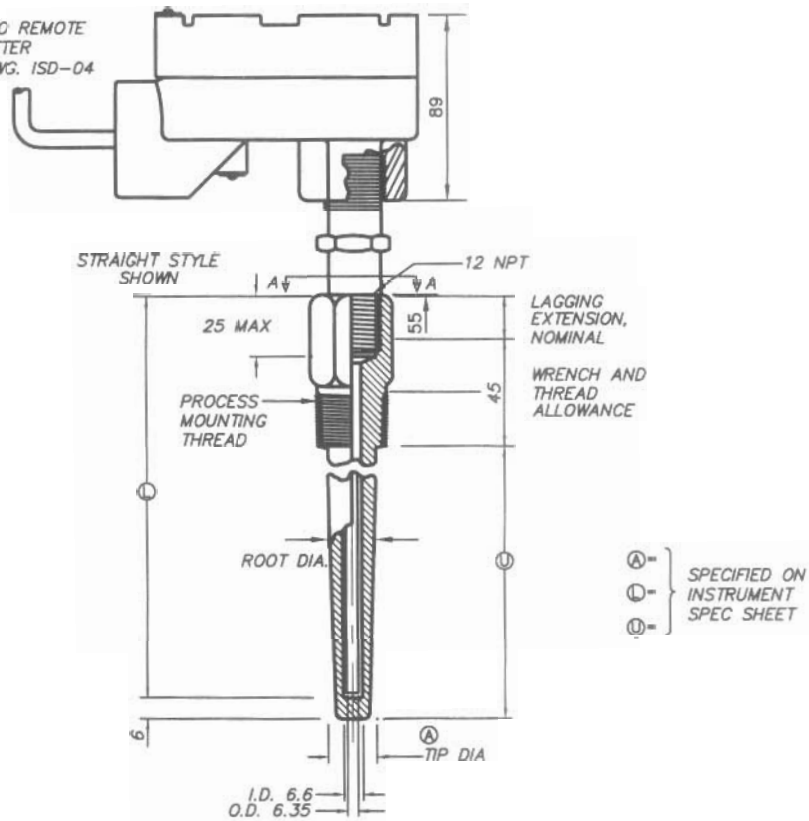
Earth Tech (Canada) Inc.  
17800-105 Avenue  
Edmonton, Alberta T6S 1J4  
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SCALE N.T.S.  
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REV. No. 1

DWG. No.  
ISD-09


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.

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					CKD <u>APP</u>
					REV. No. <u>1</u>
					DWG. No. <u>ISD-12</u>
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			Earth Tech (Canada) Inc. 17803-103 Avenue Edmonton, Alberta T6S 1T4 Phone: 780.488.8800 Fax: 780.488.8181		





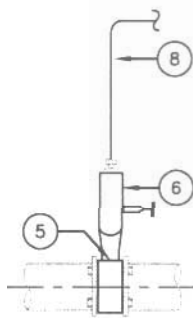


FIG. (a)

DIRTY SERVICE  
IN-LINE SENSOR

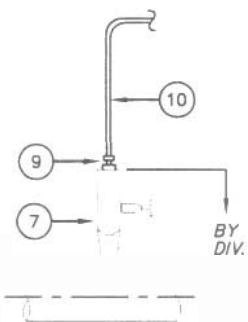


FIG. (b)

CLEAN SERVICE

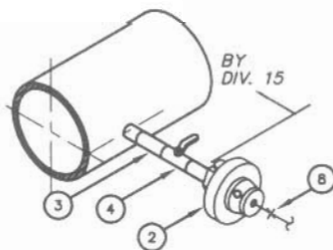


FIG. (c)

DIRTY SERVICE  
DIAPHRAGM SEAL

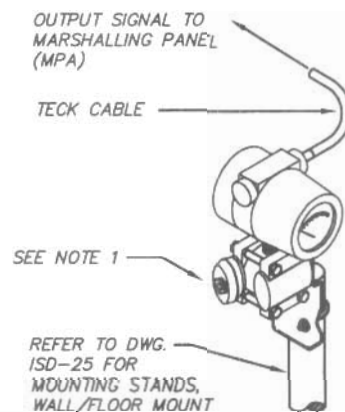


FIG. 1

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 CONNECTIONS AND ADAPTORS

SCALE N.T.S.

DATE JUNE 05

DES TDC DWN \_\_\_\_\_

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A Tyco International Ltd. Company

Earth Tech (Canada) Inc.  
17808-103 Avenue  
Edmonton, Alberta T6B 1E4  
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ISD-19

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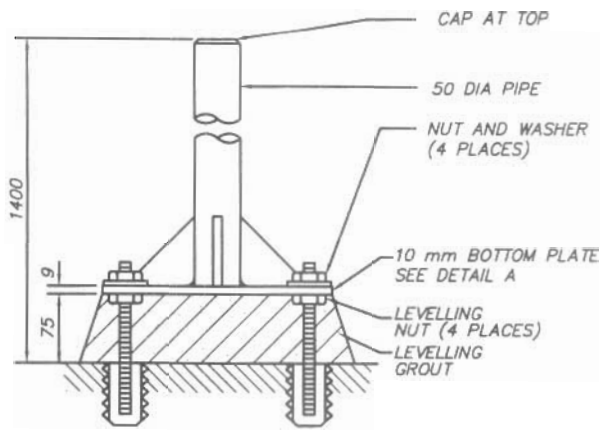


FIG. 1

FLOOR MOUNT

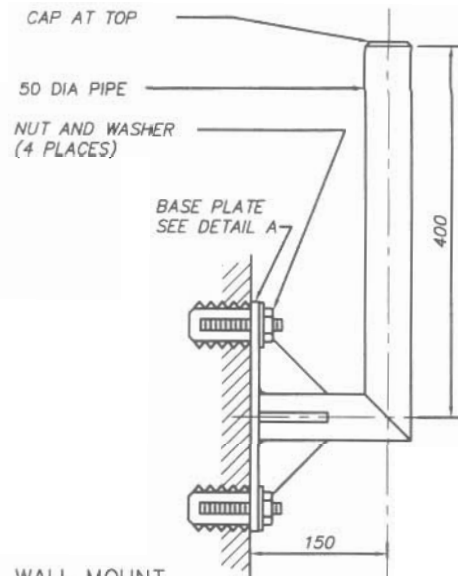


FIG. 2

WALL MOUNT

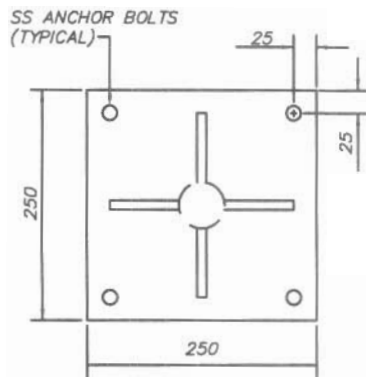


FIG. (a)

DETAIL 'A'  
MOUNTING PLATE



FIG. (b)

WALL MOUNT  
EXTERNAL VIEW

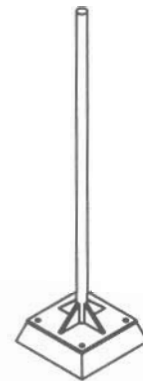


FIG. (c)

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  
BOOSTER STATION No. 2

INSTRUMENT MOUNTING STANDS  
FOR WALL/FLOOR MOUNTING

**EarthTech**  
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Earth Tech (Canada) Inc.  
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DWG. No.  
**ISD-25**

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