



**MODEL 6290**  
**FACTORY ACCEPTANCE**  
**TEST PROCEDURE**

RECORD OF REVISIONS				
REV.	DESCRIPTION	AFFECTED PAGES	APPROVED BY	DATE
A	RFEA 0694 (S.H. 07/15/2002)	ALL	DS	7/15/02
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 SCIENTIFIC <b>SI</b> INSTRUMENTS INC. West Palm Beach Florida 33407 	Material	Finish	Scale	Dwn: DS	04/02/01	
				Appr: DS	04/02/01	
	Tolerance		Title			
			<b>Factory Acceptance Test Procedure, Model 6290</b>			
	FSCM NO. 53547	SIZE A	Dwg. No. 010-207	Rev. B	Sheet 1 of 4	

## 1.0 PURPOSE

To provide standardized instructions for performing final Factory Acceptance Tests on Model 6290 LTD Tank Gauging System.

## 2.0 EQUIPMENT REQUIRED

- 2.1 Glass cylindrical dewar with bottom cushion.
- 2.2 Test Liquid:
  - 2.2.1 HFC-134a for butane and propane systems
  - 2.2.2 Liquid nitrogen for LNG system

## 3.0 DOCUMENTATION REQUIRED

- 3.1 Site Specific Wiring Diagram: 050-235-XX
- 3.2 Configuration Worksheet: 020-110-XX
- 3.3 System Specifications: 020-111

## 4.0 SYSTEM TEST SET-UP

- 4.1 Electrically interconnect the Tank Gauge Interface Module (TGIM) and Control Unit per System Wiring Diagram.
- 4.2 Apply system power.
- 4.3 Place the system into its manual/stop mode.

## 5.0 TEST PROCEDURE

### 5.1 Preparation

- 5.1.1 Load the dewar with test liquid.
- 5.1.2 Lift the probe up, position the dewar directly below the probe assembly, and lower the probe into the liquid. Drive the probe to near the bottom of the dewar and let the medium stabilize.

### 5.2 Drive System

- 5.2.1 By means of the manual mode, drive the probe assembly up several inches and then down in the fast mode. Note that the probe stops when contacting the bottom. Check data record for "Reference Switch."
- 5.2.2 Drive the probe assembly up. While driving, manually stop the take-up reel from turning. Hold the reel steady in position where the magnetic switch is either between two magnets or above one of the magnets. The motor will stop driving when the stopped reel has been detected. Check data record for "Reel Feedback Switch."

### 5.3 Temperature

- 5.3.1 With the probe near the bottom of the dewar, record the temperature on the data sheet.
- 5.3.2 Verify that temperature is within system specifications.

### 5.4 Density

- 5.4.1 With the probe near the bottom of the dewar, record the density and frequency (or period) on the data sheet.
- 5.4.2 Verify that the density value is reasonable:  
NOTE: The test medium is not normally pure enough to use for calibration purposes. This test is only verifying the function of the density meter.

## **5.5 Level**

- 5.5.1** By means of the manual mode, drive the probe assembly up about four inches above the bottom.
- 5.5.2** Using the proper function on the Hand Held PC, calibrate the level sensors.
- 5.5.3** Using the Hand Held PC, enter the Calibrate Mode of operation.
- 5.5.4** When the liquid/vapor interface is acquired, record the displayed liquid level on the data record.
- 5.5.5** Repeat the previous two steps, recording the liquid level data, until five (5) test runs have been completed. Calculate and record the Delta L for runs 2 through 5.  
NOTE: Due to the temperature of the test medium (especially LN2), there may be a steady decrease in level due to evaporation).
- 5.5.6** Verify that the level data meets the system specifications.

## **5.6 Communications**

- 5.6.1** Using the Hand Held PC, configure the two host communication links to be compatible with Hand Held PC operation.
- 5.6.2** Connect the Hand Held PC to each communication link and verify that communication is established and system information is displayed.
- 5.6.3** Re-configure the communication links to match the configuration worksheet.

## **5.7 Completion**

- 5.7.1** Remove the probe from the dewar of liquid and allow to warm-up and dry.
- 5.7.2** Check data record for completeness and obtain indicated signatures.
- 5.7.3** De-energize the system.

## FACTORY ACCEPTANCE TEST DATA RECORD

Customer: \_\_\_\_\_ SI Job #: \_\_\_\_\_

P. O. #: \_\_\_\_\_ System Serial #: \_\_\_\_\_

1. Test Medium: HFC-134a \_\_\_\_\_ Liquid Nitrogen \_\_\_\_\_
2. Drive System: Reference Switch \_\_\_\_\_ Reel Feedback Switch \_\_\_\_\_
3. Temperature: \_\_\_\_\_
4. Density: \_\_\_\_\_ Frequency (or Period): \_\_\_\_\_

TEST	LEVEL	DELTA L
1		XXXXXX
2		
3		
4		
5		

5. Communications Check: \_\_\_\_\_
6. Verify that all data above meets system specifications: \_\_\_\_\_

Tests Performed By \_\_\_\_\_ Date \_\_\_\_\_

Tests Witnessed By \_\_\_\_\_ Date \_\_\_\_\_