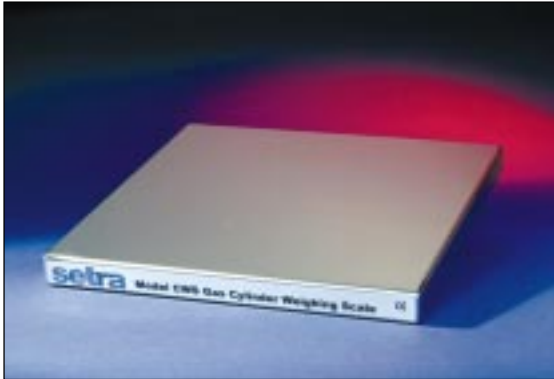


# Installation Guide

Model CWS 321  
Gas Cylinder Weighing Scale



**setra**  
*Pressure Transducers  
and Weighing Systems*



1-800-257-3872 **Toll Free**  
1-978-264-0292 **Fax**  
[www.setra.com](http://www.setra.com) **Web Site**

# Setra Model CWS 321 Gas Cylinder Weighing Scale

## 1.0 GENERAL INFORMATION

Every Model CWS 321 has been tested and calibrated before shipment. Specific performance specifications are listed on Page 3 of this Guide.

Setra Systems CWS 321 Gas Cylinder Scale is specifically designed to weigh gas cylinders in gas cabinets and gas distribution systems. No mechanical adjustments should be required providing the Model CWS 321 is installed on a flat surface. The CWS 321 converts the weight of the gas cylinder to a proportional high level analog 4 to 20 mA output.

## 2.0 ELECTRICAL INSTALLATION

### 2.1 Current Output Units

The Model CWS 321 is a two-wire loop-powered 4 to 20mA current output unit and delivers rated current into any external load of 0-800 ohms. The Model CWS 321 is available with multiconductor cable, or end of cable Bayonet style connector. Diagram 1 shows the electrical connection wiring for the current output CWS 321.

#### CONNECTOR PIN WIRING FOR CURRENT TRANSMITTERS

	CABLE	BAYONET
CONNECTION	WIRE	PIN
+ EXC	RED	A
- EXC	WHITE	D & B
CASE GND	BLACK	SHELL

Minimum Supply Voltage =  $15 + 0.02 \times \text{Loop Resistance}$

Maximum Supply Voltage =  $30 + 0.004 \times \text{Loop Resistance}$

#### Diagram 1

The power supply must be a DC voltage source with a voltage range between 15 and 30 measured between the + and - terminals. The unit is calibrated at the factory with a 24 VDC loop supply voltage and a 250 ohm load.

A regulated power supply or a power supply with low ripple noise is recommended for best performance.

Current must flow in one direction only - **Please observe polarity**. The cable shield drain wire should be connected to the system's loop circuit ground for optimum electrical noise rejection.

Zero and span adjustments can be made by adjusting the zero and span potentiometers on the back of the unit.

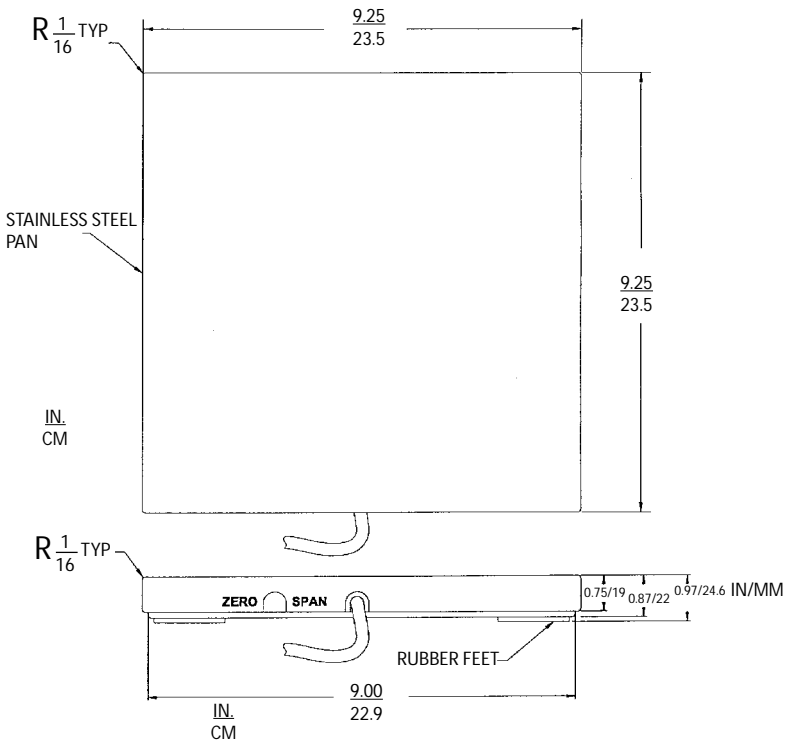
### 3.0 MODEL CWS PERFORMANCE SPECIFICATIONS

Accuracy	±0.10% FS
Non-Repeatability	0.05% FS
Hysteresis	0.10% FS
Off Center Loading	0.10% FS (at 1 inch)
Overload Protection	150% FS

Thermal Effects

Compensated Range °F(°C)	+14 to +122 (-10 to +50)
Zero Shift %FS/100°F (50°C)	1.0 (0.9)
Span Shift %FS/100°F (50°C)	1.0 (0.9)
Long Term Stability	0.5% FS/1 YR

### 4.0 DIMENSIONAL DIAGRAM



## 5.0 RETURNING PRODUCTS FOR REPAIR

Please contact a Setra application engineer (800-257-3872, 978-263-1400) before returning unit for repair to review information relative to your application. Many times only minor field adjustments may be necessary. When returning a product to Setra, the material should be carefully packaged and shipped prepaid to:

Setra Systems, Inc.  
159 Swanson Road  
Boxborough, MA 01719-1304  
Attn: Repair Department

To assure prompt handling, please supply the following information and include it inside the package or returned material:

1. Name and phone number of person to contact.
2. Shipping and billing instructions.
3. Full description of the malfunction.
4. Identify any hazardous material used with product.

Notes: Please remove any pressure fittings and plumbing that you have installed and enclose any required mating electrical connectors and wiring diagrams.

Allow approximately 3 weeks after receipt at Setra for the repair and return of the unit. Non-warranty repairs will not be made without customer approval and a purchase order to cover repair charges.

### Calibration Services

Setra maintains a complete calibration facility that is traceable to the National Institute of Standards & Technology (NIST). If you would like to recalibrate or recertify your Setra pressure transducers or transmitters, please call our Repair Department at 800-257-3872 (978-263-1400) for scheduling.

## 6.0 WARRANTY AND LIMITATION OF LIABILITY

SETRA warrants its products to be free from defects in materials and workmanship, subject to the following terms and conditions: Without charge, SETRA will repair or replace products found to be defective in materials or workmanship within the warranty period; provided that:

- a) the product has not been subjected to abuse, neglect, accident, incorrect wiring not our own, improper installation or servicing, or use in violation of instructions furnished by SETRA;
- b) the product has not been repaired or altered by anyone except SETRA or its authorized service agencies;
- c) the serial number or date code has not been removed, defaced, or otherwise changed; and
- d) examination discloses, in the judgment of SETRA, the defect in materials or workmanship developed under normal installation, use and service;
- e) SETRA is notified in advance of and the product is returned to SETRA transportation prepaid.

Unless otherwise specified in a manual or warranty card, or agreed to in writing and signed by a SETRA officer, SETRA pressure and acceleration products shall be warranted for one year from date of sale.

The foregoing warranty is in lieu of all warranties, express, implied or statutory, including but not limited to, any implied warranty of merchantability for a particular purpose.

SETRA's liability for breach of warranty is limited to repair or replacement, or if the goods cannot be repaired or replaced, to a refund of the purchase price. SETRA's liability for all other breaches is limited to a refund of the purchase price. In no instance shall SETRA be liable for incidental or consequential damages arising from a breach of warranty, or from the use or installation of its products.

No representative or person is authorized to give any warranty other than as set out above or to assume for SETRA any other liability in connection with the sale of its products.

159 Swanson Road, Boxborough, MA 01719-1304  
Tel: 800-257-3872/978-263-1400

The logo for Setra, featuring the word "setra" in a bold, lowercase, sans-serif font. The letters are filled with a horizontal line pattern, giving it a textured appearance.