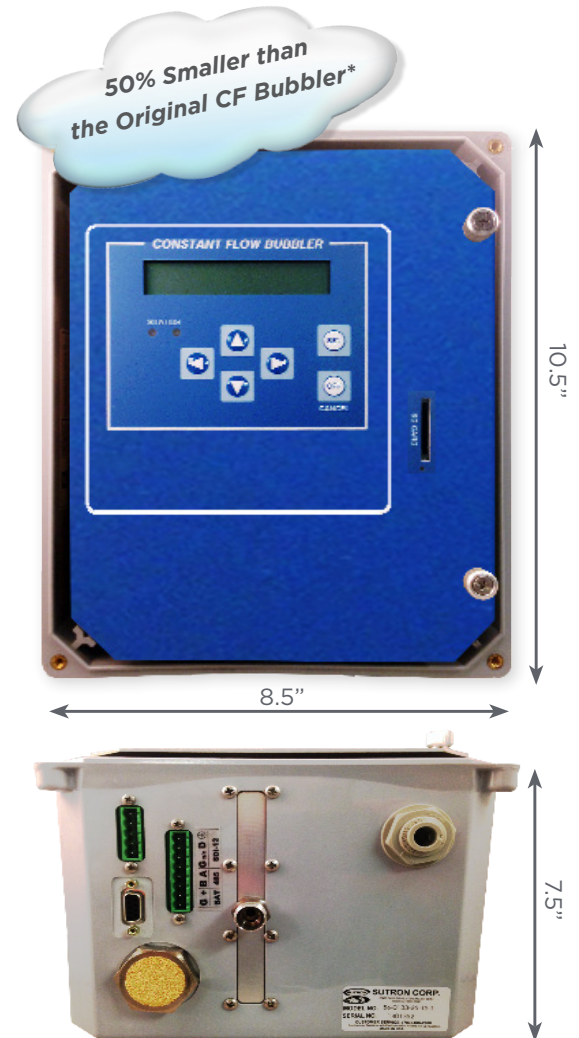# Compact Constant Flow (CF) Bubbler

Overview

The Compact Constant Flow Bubbler (Part #56-0133-25-1ST), 50% smaller than Sutron's original Constant Flow Bubbler, is a self-contained, precision device to measure water levels & temperature. It consists of a pump, tank, manifold, control board, display/keypad & enclosure. The new Compact CF Bubbler houses all components within a 10.5"x 8.5"x 7.5" polycarbonate NEMA-4X enclosure.

The Compact Constant Flow Bubbler's built-in precision Accubar® Pressure Sensor meets the high accuracy requirements for stream gaging & monitoring of tidal/coastal areas, estuaries, groundwater & reservoirs.

The Bubbler includes a built-in datalogger for stand-alone operation and/or backup (redundant) data recording, RS232 and SDI-12 ports for communications and maintenance, and a desiccant kit. The front panel includes a display and keypad. It also supports MODBUS.

Features

▶ 50% smaller than the original Constant Flow Bubbler (by volume)
▶ Optional water temperature measurements
▶ Fast-track mode
▶ Self-contained system needing only external power & outlet tubing/orifice
▶ Long desiccant life (up to 1 year)
▶ Adjustable bubble rate
▶ Auto-zero function
▶ Supports MODBUS protocol
▶ Configurable averaging
▶ User-variable auto purge & user-forced purge option
▶ Flexible auto blockage detection
▶ Modifiable auto measurement & logging
▶ Built-in flash log for over 300,000 readings
▶ Stand-alone or operation with other loggers/communication devices
▶ Precision Accubar® Pressure Sensor
▶ Front panel setup & maintenance.
▶ SDI-12/RS232 interfaces compatible with loggers, cell modems, SatLink2 Transmitter/Logger
▶ Swing-out front panel for easy maintenance.
▶ Easier re-calibration
▶ 3 Levels of filtration
▶ Single orifice

50% Smaller than the Original CF Bubbler

10.5"

8.5"

7.5"

Applications

▶ Water Level Monitoring
▶ Dam Safety
▶ Tidal Monitoring
▶ Stream gauging
▶ Ideal for streams with high amounts of sediment

by volume

SPECIFICATIONS

Specifications subject to change without notice

Measurements	Stage/Level Internal Temperature Battery Pressure	*Optional*: Water Temperature
Automeasure Interval	1 second to 24 hours	
Accuracy Stage/Level/Pressure	0-20 ft.: ±0.01 ft. 20-57.5 ft: ±0.05% reading Reference to ft. based on USGS conversion factor 2.3073 ft. water per psi.	
Measurement Technique	Constant Flow Bubbler with user-programmed bubble rate Pressure measured by Sutron Accubar® Sensor.	
Stage/Level/Pressure Range	25 psi, 57 ft (17 meters)	
Measurement Technique	Platinum RTD (385 or 392) or Precision thermistor.	
Maximum Purge Pressure	50 psi	
Desiccant	Silica gel, lasts up to a year	
Outlet	6 mm O.D. tube or 3/8" O.D. tube	
Enclosure	Polycarbonate NEMA-4X	
Communication Ports	SDI-12, RS232, RS485	
Operating Temperature Range	-25°C to +60°C standard, -40°C to +60°C optional	
Operating Humidity Range	0 to 95% noncondensing	
Display Operating Temperature	LCD operates to -20°C	
Display Type	2x20 character sunlight-readable backlit LCD	
Keypad Type	6 button	
Memory		
Built-in flash	>300,000 readings	
SD card	included	
USB	no	
Ethernet	no	
Power Requirements	10 to 16 VDC	
Max Current	4 amps for 25 psi unit	
Communication Protocols Supported	MODBUS (via RS232 only), SDI-12, command line	
Setup	Via front panel, command line or SDI-12	
Device Dimensions		
Height	10.5" (26.7cm)	
Length	7.5" (19.1cm)	
Width	8.5" (21.6cm)	
Weight (including enclosure)	12.2 lbs without dessicant (5.6 Kg)	
NIST Traceable Calibration		
Water Temperature Sensor Specifications		
Types Supported	Platinum 385, Platinum 392, Thermistor, Custom	
Sensor Operational Range	-40°C to +60°C	
The following specifications apply to specific Sutron-supplied Water Temperature Sensor 5600-0030-1-050		
Accuracy	0.1°C (-5°C to +45°C)	
Resolution	0.01°C	

ORDERING

COMPACT CONSTANT FLOW BUBBLER WITH DISPLAY**	
56-0133-25-1S*	Compact Constant Flow Bubbler with 3/8" fitting (Desiccant Kit Included)
56-0133-25-1ST*	Compact Constant Flow Bubbler w/3/8" fitting & water temperature option (Desiccant Kit Included. Order water temp sensor separately.)
56-0133-25-1SC*	Compact Constant Flow Bubbler with 6mm fitting (Desiccant Kit Included)
56-0133-25-1SCT*	Compact Constant Flow Bubbler w/6mm fitting & water temperature option (Order sensor separately. Desiccant Kit Included.)
56-0133-25-1SP*	Compact Constant Flow Bubbler w/3/8" fitting & no enclosure (Desiccant Kit Included.)
BBL-ET	Bubbler -40°C Extended Temperature Test
WATER TEMPERATURE SENSOR	
5600-0030-1-050	Thermistor Water Temperature Sensor w/50ft cable
ACCESSORIES	
6661-1320-1*	Desiccant Kit (tubing, adapter, clamps, full desiccant canister)
2911-1183	Tubing, Orifice Line Black Polyurethane up to 2000 feet (609.6 m.)
2911-1279-1	Replacement Desiccant, full canister
6661-1314-1	Orifice Termination, fits on a 2" rigid pipe
6661-1293	Replacement SD Cards

*Desiccant **MUST BE USED** with the Compact Bubbler. Desiccant Kit Included.

**All Bubblers include an SD Card and attachable mounting feet.