

• Description

The SemeaTech Hydrogen Fluoride Diffusion Tube is specifically engineered to generate controlled quantities of Hydrogen Fluoride gas. It finds extensive application across various industrial and laboratory settings, particularly for the calibration of gas sensors and detectors, scientific research, and the testing of leak detection systems. Thanks to its advanced diffusion technology, the tube releases Hydrogen Fluoride gas at a stable and precise rate, thereby enabling users to achieve highly accurate measurement outcomes.

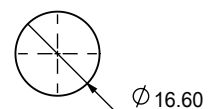
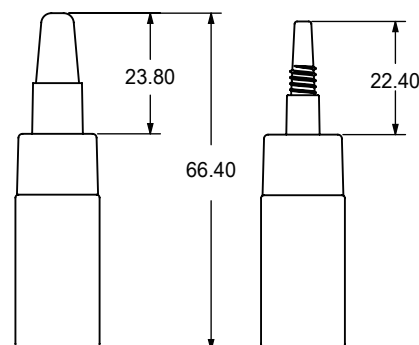
• Specifications

Gas Type:	Hydrogen Fluoride
Release Method:	Narrow tube diffusion
Release Rate:	Dependent on temperature and environmental conditions
Compatibility:	Can be used with standard gas calibration systems
Tube Material:	Resistant to Hydrogen Fluoride chemical reactions
Operating Temperature:	Optimal within certain temperature ranges according to manufacturer's specifications
Size:	Length ≈66mm
	Diameter ≈16mm
Weight:	≈6.0g
Shelf life:	12 months
Storage conditions:	Store in the refrigerator, protected from light, and positioned it vertically

• Features

High Precision:	Delivers Hydrogen Fluoride gas at a controlled release rate, ensuring precise calibration
Optimal Stability:	Maintains consistent gas release throughout the tube's lifespan
Compatibility:	Works seamlessly with a wide range of gas calibrators and analyzers
Ease of Use:	Its straightforward design makes it suitable for diverse laboratory and industrial settings

• Product Dimensions



All dimensions in mm.

• Safety Notes

This product must be operated in a ventilated hood to comply with safety regulations.



• Operating Instructions

Step 1 Install the dehumidifier (shipped with the gas generator) at the air inlet of the Sensor Gas Calibrator.

Step 2 Disconnect one end of the Tygon tube, take out the dilution chamber upward from the main unit; remove the tube at the bottom of the dilution chamber, and place the dilution chamber with its opening facing upward.

Step 3 Carefully loosen the cap of the vial that houses the chemical standards. Exercise caution to prevent any accidental spills. Once done, securely attach the diffusion tube to the vial.

Step 4 Use a tweezer (shipped with the calibrator) to hold the neck of the diffusion tube, slowly insert it into the bottom of the dilution chamber, and make sure the diffusion tube is positioned correctly without tilting.

Step 5 Screw the tube at the bottom of the dilution chamber back in place. Once the tube mouth is flush, the unit is tightened into place if the scale mark at the bottom of the dilution chamber aligns within the grey arc zone on the top acrylic plate. Do not overtighten, as this may damage the sealing structure or housing of the dilution chamber.

Step 6 Reinsert the dilution chamber into the calibrator and make certain the tubing is securely and correctly attached to the chamber ports.

Step 7 Connect the gas outlet using a separate gas tubing (less than 1.5m PTFE tube is suggested), to your HF device that needs to be calibrated or tested.

Caution: Maintaining a non-zero flow rate contributes to extending the lifespan of the pump.

Step 8 Power up the calibrator according to the operation instructions of the Sensor Gas Calibrator.

Step 9 Refer to the Certificate of Calibration for the diffusion tube to set the operating temperature (via the up(▲)/down(▼) keys) and flow rate (by adjusting the gas flow adjustment knob). To read the flow rate, use the top of the float in the glass tube and reference it against the scale on the side of the rotameter.

Caution: Maintaining a non-zero flow rate contributes to extending the lifespan of the pump.

Step 10 Allow the calibrator to operate freely for 30 minutes or longer before its initial use. After this period, the output gas concentration will stabilize, making it suitable for the calibration or bump test of HF monitors or sensors.

Step 11 Start the calibration or test process.

Step 12 After calibration is completed, use a tweezer to take out the diffusion tube from the dilution chamber.

Step 13 Screw the cap securely back onto the diffusion tube.

Step 14 Properly store the diffusion tube for future use.

Step 15 Allow the flow control system to operate for approximately 10 minutes to clear any remaining trapped gas before power off.

Step 16 Set the operating temperature by adjusting the two up/down keys to 0°C.

Step 17 Power off.

Note 1: Leaving the diffusion tube inside the dilution chamber after each use will result in the buildup of gas concentration within the diffusion chamber, prolonging the time it takes for the calibrator to stabilize the output gas concentration for the next use.

Note 2: When the color of the desiccant inside the dehumidifier changes to light red, it is advised to replace the desiccant.

Note 3: This chemical vial is designed for single-use applications and intended to provide a stable gas concentration output consistently for 8 hours. However, it may be reused under specific conditions as outlined below:

1. If the initial use lasts less than 4 hours, the vial can be hermetically sealed and reused within 2 days of the initial use.
2. Regardless of usage intervals, the total cumulative usage duration of the vial must not exceed 8 hours.
3. Additionally, the total number of times the vial is used, including both the initial use and any subsequent reuse, must not exceed 2 times



- **Certification Disclaimer**

This Diffusion Tube-Hydrogen Fluoride was individually calibrated in SemeaTech Lab with qualified Hydrogen Fluoride cylinder gas as the standard. This Certificate of Calibration certifies that the Diffusion Tube-Hydrogen Fluoride is traceable to the GBW by an unbroken chain of standards for the duration specified. SemeaTech adheres rigorously to ISO 9001 procedures during the entire manufacturing process.

- **Application**

Gas Detector/Sensor Calibration – Used to test and confirm the accuracy of HF sensors in industrial gas detectors.
Laboratory Research – Enables experimentation and testing that requires controlled amounts of Hydrogen Fluoride gas.