

Bubble Counter Operation Procedures

1. Important Precautions

- 1) DANGER! High Voltage. Do not plug in or plug off the connector or open the electric box when power on.
- 2) CAUTION! Air Pressure. Do not plug in or plug off the quick connector when power on.
- 3) Do not operate for exceeding the rated work pressure.
- 4) Change water and clean the water cup regularly.
- 5) Non-professional personnel is not allowed to operate or maintain the device.

2. General Application

Development and design with the optical digital technology.

It's mainly applied to the safety valve test bench, valve test bench and other valve leakage test, as well as laboratory scientific research.


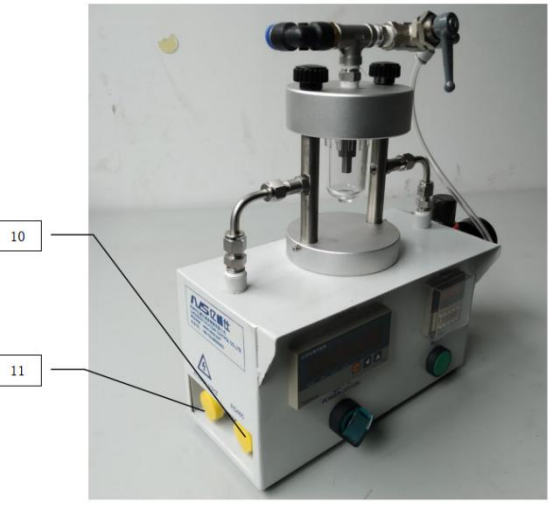
In compliance with the Standard API-527.

Overall modular design, high accuracy, simple design and convenient operation.

3. Technical Parameters

- 1) Test medium: Gas
- 2) Work pressure: Max.8 bar
- 3) Power supply: AC220V,50Hz
- 4) Sampling frequency: Max.3 nos/sec.
- 5) Sampling accuracy: $\pm 1\%$
- 6) Counting range: 99999
- 7) Communication function: RS485
- 8) Time range: 99.99 sec.; 99.99 min.; 99.99 hrs.
- 9) Time mode: positive timing or countdown
- 10) Environment: indoor working condition
- 11) Dimension: 400x160x350mm, 5kgs.

4. Production Introduction

		NO.	Type	Description
		1	Gas leakage port	Connect to tested specimen outlet port with 8mm air hose
		2	Bubble Viewer	Visible cup for the bubbles with water inside
		3	Counter	Record the bubble quantity
		4	Power Switch	Turn right for on,turn left for off
		5	Ball Valve	The switch for Air supply
		6	Throttle Valve	Calibration and adjustment of bubble speed
		7	Regulating Valve	Calibration and adjustment of air supply pressure with 10mmair hose
		8	Timer	To set the time for recording bubbles
		9	Timing start or reset	To delete the data and reset for timing
		10	Communication port	RS485 (provided 3 m line with vendor)
		11	Power port	AC220V (provided 3 m line with vendor)

5. Operation Procedures

- 1) Add water to the water cup: the liquid level shall be over the small diameter (i.e. the depth of the liquid level is 12.5mm)
- 2) Connect power: Power on
- 3) Connect 485 communication: if necessary
- 4) Connect the specimen
- 5) Connect the calibration air source: adjust the pressure to 1Bar, adjust the throttle valve to slowly and continuously discharge the bubbles.
- 6) Functions of the calibration gas:
 - A) To calibrate whether the counter is accurated.
 - B) To prefill the tested pipeline and valve with gas.
 - C) To verify whether there is leakage in the tested pipeline and valve.

7) After above process are completed, then start the counting:

- A) To Set the time
- B) Push to reset
- C) Start timing and start counting
- D) Time to the end of the counting
- E) Keep displaying the current quantity

8) Operation completion

9) Operation for changing water and adding water of the cup

