
Needle Flame Tester

Manual



Needle flame Tester (AUTO-ZY)

1. Introduction:

Our Needle Flame Tester is strictly designed and manufactured according to IEC60695, GB5169 standards and satisfy with similar international standard about comprehensive test device. It is the professional test device mainly used for simulation evaluation equipment due to fault condition caused a small flame fire hazard. It is applicable to electronic and electrical equipment and its parts and components of the fire hazard dangerous determination, it is also applicable to the solid electrical insulating materials or other combustible materials fire hazard determination.

In order to improve the Needle Flame Tester accuracy and stable performance, we use single chip microcomputer + touch screen control, high precision thermometer, independent type electronic control system. These help to settle the PLC system model actual conversion accuracy problem and improves the anti-interference capability.

In order to improve the practicability of the Needle Flame Tester, we use the actual test program, test control process to realize one-touch operation. It is convenient for the testing process and also achieve test efficiency. This test device also upgrade the mechanical fixture, help to convenient sample fast installation and adjustment, and test process of one-key operation. the maximum extent possible to save the test time.

To promote energy saving and environmental protection requirements, the pump body give up the old stainless steel process, adopting the frame structure. The panel consists of three layers of sheet metal, fire prevention electricity wood boards, and decorative plate. This machine adopts the switch power supply, high, efficient electromagnetic valve, low power 5 inch bright color touch screen, reducing the energy consumption and not only improve fire prevention and anti-corrosion performance but also the aesthetic level of equipment.

2. Technical parameter:

Burner angle	0°、20°、45°
Flame Height	12±1mm
Needle burner	length≥35mm,stainless steel,Φ0.9mm-Φ0.5mm
Measuring copper block	0.58±0.01g
Calibration time	23.5±1S
Temperature test	MAX 1050℃ ±0.1%
Thermocouple	RS (UK) K type Φ0.5 accuracy±0.05%
Gas type	Propane or greater than 95% purity Butane

Needle Flame Tester Installation Steps

Non go in door installation customer, please read carefully.

After get rid of the package, you can see there is a box enclosed with related accessories, please check the packing list.

- Demolition package of parts of the box machine .



- Exhaust Pipe Connection.



- Cylinder Connection.

Connecting pipe, one is connected with a cylinder for air inlet, another is connected with the above to gas supply to the burner .



3. Equipment installation and adjustment:

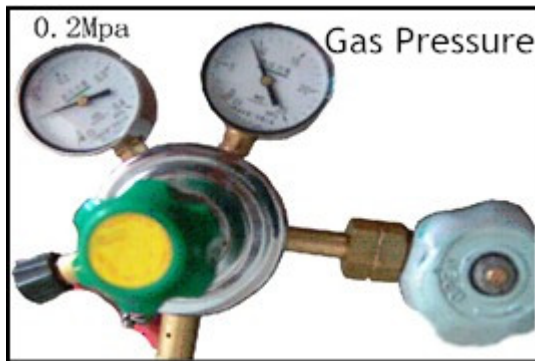
1. Equipment installation conditions:

- Equipment need to be installed on the table and the ventilation cabinet;
- Table Minimum size: length 1400 X width 800X (600-800) (unit: mm);
- Equipment outer-look dimensions: length 1100X width 700X high 1300 (unit:mm);
- Installation distance from the wall: >200mm is appropriate;
- Exhaust pipe diameter: 100mm;
- Recommended height remained at between 600-800mm convenient operation;
- Test indoor need quite independent, and there is a need of exhaust system and fire fighting equipment;
- Gas supplied by customers themselves (propane or greater than 95% purity butane), hydrogen gas reducing valve.

2. Equipment adjustment conditions:

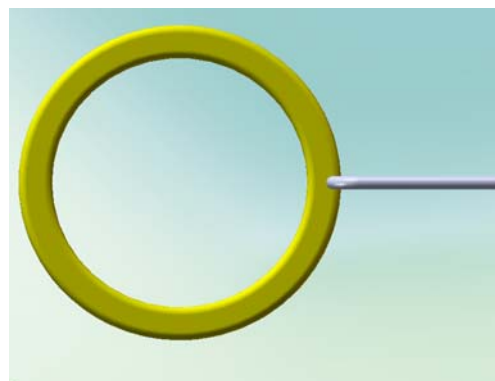
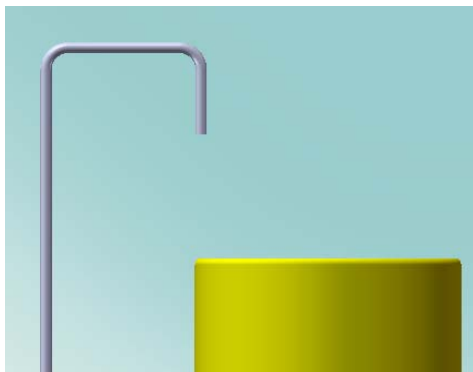
- Leakage test: Check the gas path, including gas source, pressure reducing valve, whether the related adapter whether is tightened or not;
 - ✓ Closing pressure regulating valve, open cylinder.
 - ✓ Slowly adjust hydrogen pressure reducing valve and set the output pressure to about 0.2Mpa.

- ✓ Adjust Control panel "regulator" and control the pressure gauge (not more than 0.1MPa/1kg.)
- ✓ Closed cylinders, wait 5 minutes, check the pressure maintaining.



- Ignition test:

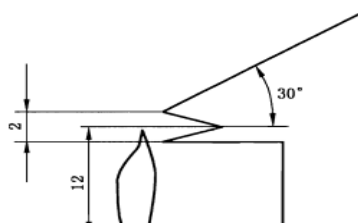
- ✓ Adjust ignition needle position to ensure it keep a certain distance from the combustion tube and could not get close to the burning pipe position. As shown in the figure.

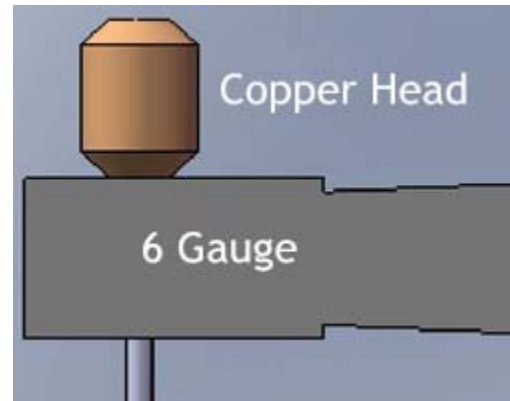


- ✓ Select the appropriate procedures in accordance to the test requirement, open the corresponding flow meter, and set the ignition procedure.
- Attention: The first ignition need more a few since the gas path is too long.
thank you for your cooperation.

3.About Flame adjustment and calibration :

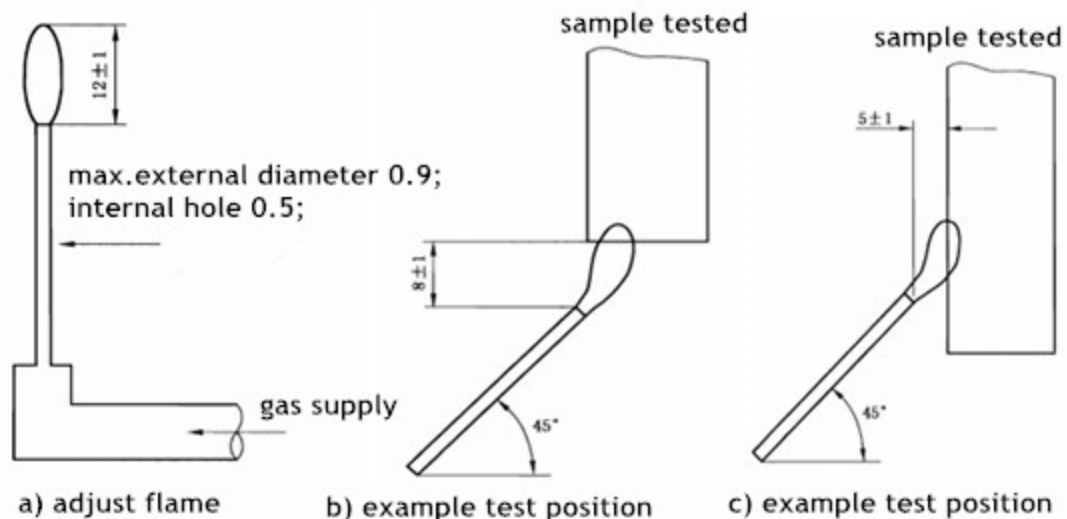
- Adjust the flow meter slowly for the flame adjustment since the pipeline is too long, and pay attention to flame observation angle.
- Please use the corresponding distance gauge, while the flame calibration, and pay attention to gauge in combustion tube top.





4. About Sample installation and adjustment:

- Please move away the calibration copper head and the thermocouple before sample installation, to prevent them damage.
- Please use the distance the gauge to adjust fixture at proper position.



5. Some Instructions about Operation and Procedure

- Application of inspection time; a sample needle flame test time.
- Start: the start of the test, open the electromagnetic valve and then switch on the ignition, timing after
- ignition open 0.2 seconds (the needle flame gas flow is very small, the igniter of high voltage pulse with 0.2 seconds delay, program design for as much as possible to reduce the actual application of the experimental time error.)



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Test Apparatus with automatic protection program

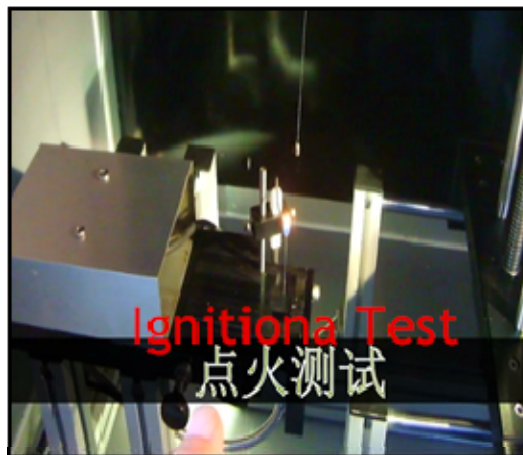
- If the non check mode temperature exceeds 700 °C, automatic reset.
- The residual flame time over 200 seconds, automatically end test.

6. Test procedure specification

Adjust the flame - installation fixture - Test - record data

Notes should be pay attention to during the test:

- Please confirm no gas leakage before ignition;
- Please do not adjust the flame when ignited and away from the high voltage pulse ignition to avoid the electric shock.
- After ignition, you need to wait for a few minutes until the gas supply stabilization and then adjust the flame.
- When use the flame gauge to measure the flame, we suggest you close light temporarily since the light will seriously impact the test result.
- Ensure to close the device doors and windows before ignition test.
- In order to prevent the harmful gas inhalation, please wait near two minutes to open the doors and windows after the test.
- After the test, please turn off the gas supply, burn the residual gas in the pipeline, and then turn off the power.



7. Equipment care and maintenance:

Periodic test leak check to ensure the life safety.

Please clean combustion products of the test after the test.

Regularly add lubricating oil on the mechanical moving part.

Periodic Flame calibration.

Carefully keep Thermocouple and copper head, these are wearing parts, not covered in warranty service.

Packing list (Needle Flame Tester)	
Name	Quantity
Needle Flame Tester	1 set
Flame gauge	1 piece
Distance gauge5mm	1 piece
Distance gauge6mm	1 piece
Distance gauge8mm	1 piece
Thermocouple + copper head	1piece
Board	1 piece
Paper	1 piece
Pony Bottle	2 piece
Pony Bottle Connector	1 piece
Exhaust pipe	1 piece
Exhaust pipe buckle	2 piece
Gas pipe	1 piece
Gas pipe buckle	2 piece
Power line	1 piece
Remote control box	1 piece
Connect line	1 piece