

Air-elec. Inverter Unit

ZHS-AH-1551 USER MANUAL

ZhongYuan JingMi CO.,LTD

Catalogue

1. Introduce.....	1
1.1 Summarize.....	1
1.2 Pneumatic micrometer system.....	2
1.3 Type and performance.....	2
2. Component description.....	2
2.1 Air-elec. inverter unit.....	2
2.2 Voltage regulator group.....	3
2.3 Gas probe configuration example.....	4
3. Preparation for operation.....	4
3.1 First use.....	4
3.2 Daily check point before use.....	5
4. Zero adjustment.....	5
5. Operation example.....	7
6. Warranty description.....	9

NOTE: This product is a high-precision measuring instrument, need to be equipped with air filtration device to provide clean air source to normal use, air filtration device to reach the minimum filtration diameter of 0.3 μ m, oil removal rate of 0.1PPM, water separation rate of more than 85% requirements, due to the failure caused by the air source is not within the scope of product warranty.

1. Introduce

1.1 Summarize

The gas-electric converter converts the tiny size changes detected by the gas probe into electrical signals with a built-in bellows and LVDT.

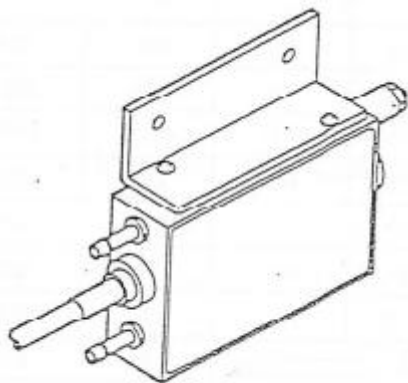
Characteristics of air-elec. unit:

【Gas probe】

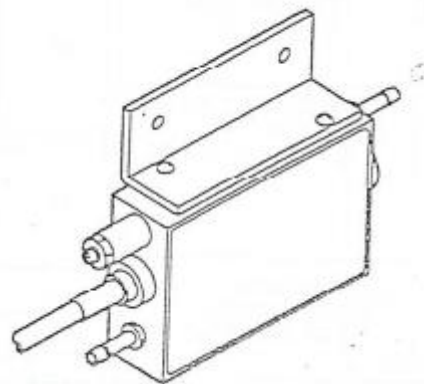
1. Small, simple, strong probe
2. Non-contact measurement

【Air-elec. unit】

1. Fast response
2. Unlimited signal processing

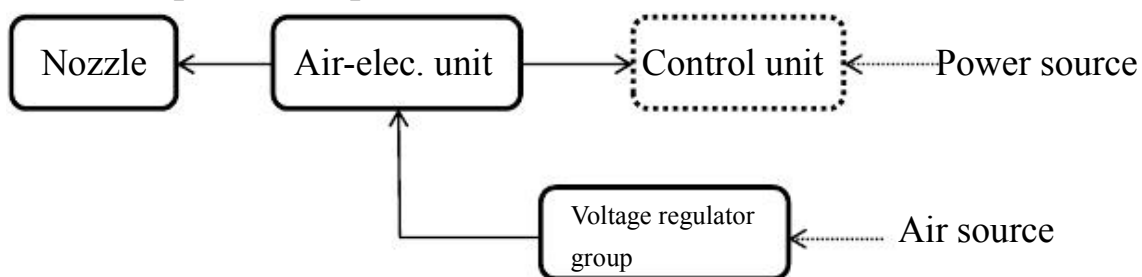


ZHS-AH-310



ZHS-AH-1551

1.2 Composition of pneumatic measurement

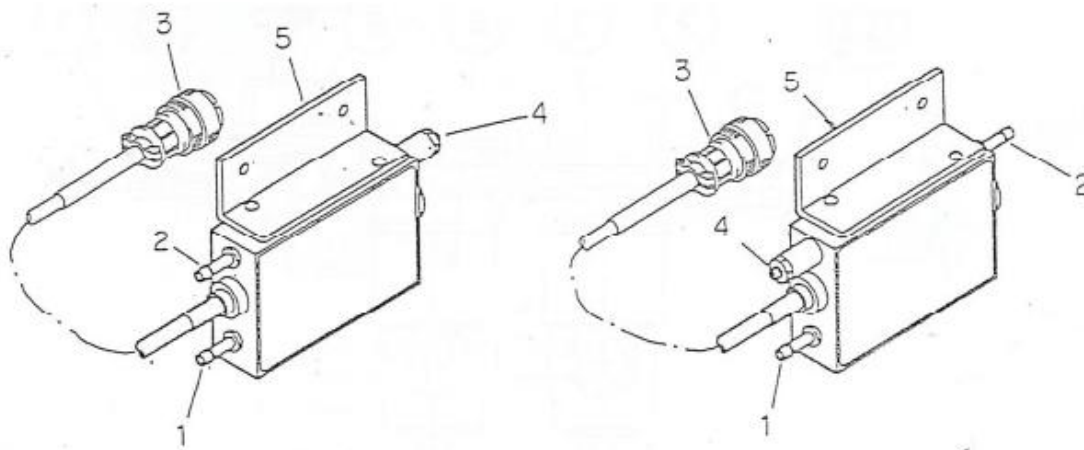


1.3 Type and performance

Type	Linear	Linear error	Stability	Repeatability
ZHS-AH-1551	100 μ m	± 0.7	1.0 μ m/4h	1.0 μ m
ZHS-AH-310	30 μ m	± 0.5	1.0 μ m/4h	1.0 μ m

2. Component description

2.1 Air-elec. unit



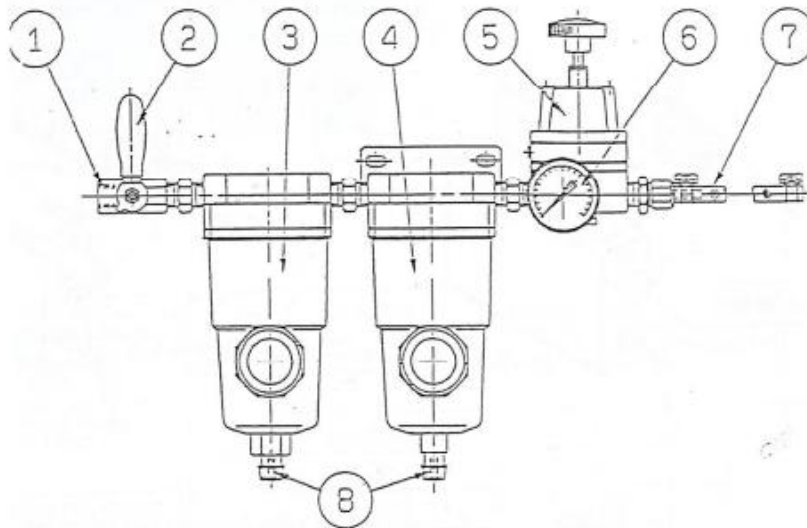
ZHS-AH-310

ZHS-AH-1551

- | | | |
|---|--------------|---|
| 1 | Splice | Connect the air pipe from the regulator group |
| 2 | Splice | Connect the air pipe to the nozzle |
| 3 | Coupler | Connect to the control unit |
| 4 | Exhaust port | Usually locked, see page 8 for adjustments |

- 5 Support Install the bracket near the measuring head where it is least susceptible to vibration

2.2 Voltage regulator group

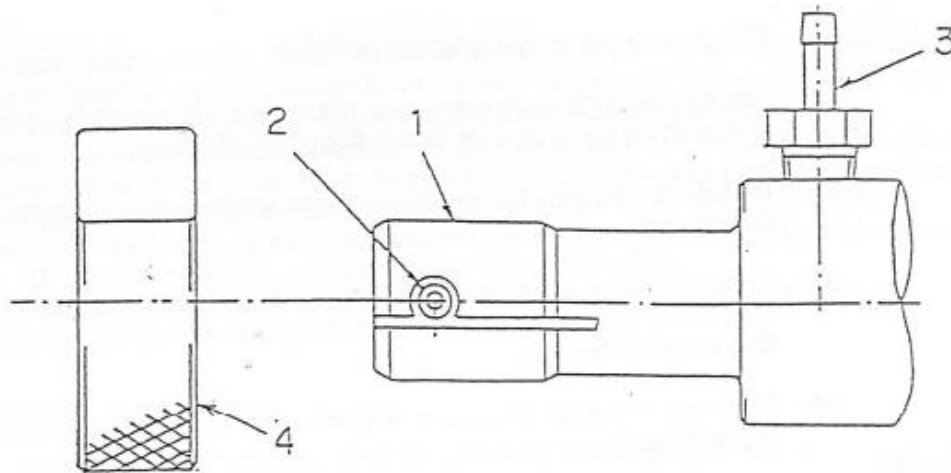


- 1 Air supply joint Provides 0.35-0.7MPa of compressed air(PT1/4).
- 2 Spiracle Start or stop the air supply to the gas-electric converter.
- 3 Filter pressure reducing valve Moisture in the compressed air is eliminated, and the element is made of a special resin that forms a large grid, making the element non-clogging, so there is no need to replace the element.
- 4 Oil mist separator Remove the oil mist from the compressed air and replace the filter at appropriate intervals.
- 5 Pressure regulator Adjust the air pressure of the gas-electric converter. Set appropriately according to gauge green range or

limit indicator.

- 6 Manometer Indicates the adjusted air pressure.
- 7 Trachea Connect to gas-electric converter.
- 8 Outfall Remove leached water from the air.

2.3 Gas probe configuration example



- 1 Guide
- 2 Nozzle
- 3 Connector Connect the gas pipe from the gas-electric converter
- 4 Standard parts

3. Preparation for operation

3.1 First use

- (1) Install the gas probe in the measuring position.
- (2) Install the gas-electric converter in the closest place to the nozzle, without coolant and chips, and vibration should be as small as possible.

(3) Install the regulator group in the appropriate position, and its discharge port is downward.

(4) Connect them with the intake pipe and fix the gas pipe with a cable tie. Keep the gas pipe between the gas probe and the gas-electric converter as short as possible and cut off excess length.

(5) Connect the gas-electric converter signal cable to the measuring head connector of the control unit.

(6) Connect the 0.35-0.7MPa air source to the voltage regulator group, and adjust the secondary pressure regulator to 0.15mpa (special models are 0.25MPa, see the specification table).

(7) For control units where the total compensation limit can be set, set it to $\pm 30\mu\text{m}$. (Refer to the operating manual for each control unit for Settings).

3.2 Daily check point before use

(1) Check whether the air source is normal, and the secondary

(2) pressure is set to 0.15MPa (special models are 0.25MPa).

(3) Check whether the gas pipe leaks.

(4) Check the water displacement in the water filter and mist eliminator, and if the displacement is too large, discharge it.

(5) Check whether there is dust and chips on the nozzle and nozzle guide device and the main nozzle.

4. Zero adjustment

At zero setting, if the measurement value of the zero gauge has exceeded the automatic zero limit, or if the value cannot be offset by the zero regulator of the control unit, the following adjustment steps are used.

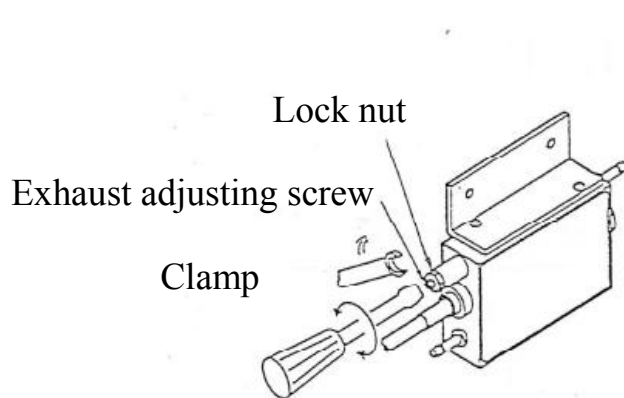
This condition can be caused by significant changes in air supply pressure, air leakage from the air pipe, dust or chips adhering to the nozzle or main nozzle, or wear of the nozzle and main nozzle.

The wear of the gas probe or zero gauge reduces the accuracy and repeatability of the indication. If it is worn, it should be replaced with a new one.

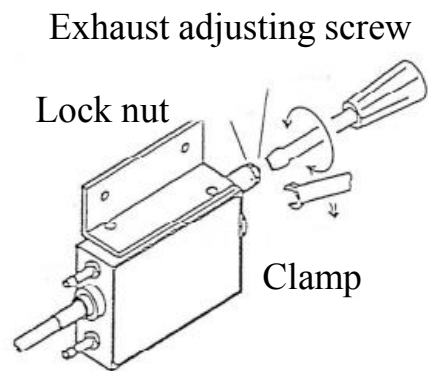
Analyze the cause and restore the fault state. If the same situation still occurs, follow these steps.

Procedure

- (1) Prepare the zero gauge and install it in the measuring position.
- (2) Let the control unit indicate the measurement value of the probe (gas-electric converter) to adjust the zero point, and select the non-correction value for the control unit that can indicate various measurement values.
- (3) Adjust the measuring head to the measuring state.
- (4) Loosen the lock nut of the exhaust adjustment screw of the gas-electric converter, turn the adjustment screw to make the indicating value reach the correct value, and then clamp it.



ZHS-AH-1551



ZHS-AH-310

(5) The deviation after clamping is eliminated through the operation of the control unit.

(6) After zero, be sure to carry out magnification calibration (see the operation manual of each control unit).

5. Operation example

5.1 Gas path connection

a) Connect the air source, pressure regulator filter, gas path element, A/E converter, honing head and Z400 controller as shown in Figure.

b) the air source should be clean and dry (no impurities such as water and oil), and the gas path should not have gas leakage. The compressed air pressure entering the A/E converter after pressure regulation filtration is 0.15 ~ 0.2MPa.

c) A/E converter should be placed close to the honing head as far as possible, away from the vibration source.

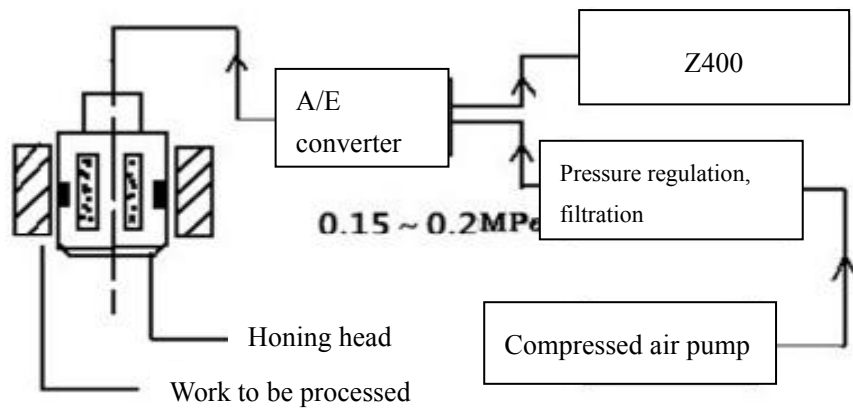


Figure 1 Gas circuit connection diagram

5.2 Adjustment Methods

Enter the boot screen and press the button below the screen **+** or **-** set the display value after compensation to 0. Click **调整**, the system enters the adjustment window, the interface displays G1, records the size of the display value, adjusts the throttle valve of the sensor, makes the display value change to about 0 (the value is within ± 30), and locks. At this point, click **清零**, the display value changes to 0, the probe compensation value enters the resetting value, and the sensor adjustment ends. Click **返回**, enter the measurement interface.



Figure 2 Measurement interface

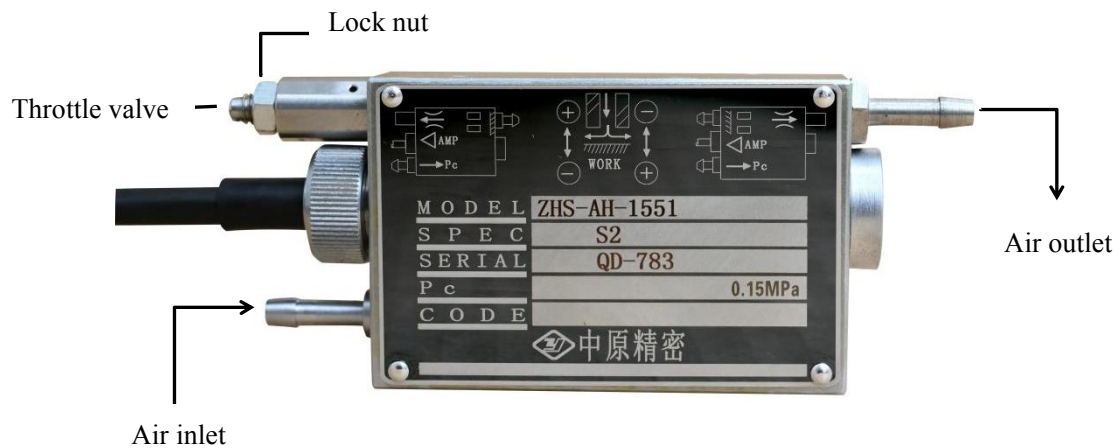


Figure 3 A/E converter

5.3 Setting the complement value

When the workpiece processed is too large or too small, it can be made up by directly pressing the "+" or "-" button on the panel of the controller. Each time you press "+" or "-" on the panel, "+1 μ m" and "-1 μ m" are adjusted.

5.4 Signal point setting

a) The user can set the value of each signal point according to the process requirements of the product.

b) When measuring the inner diameter, the signal point requires $P1 < P2 < P3 < P4$ (e.g. $P1 = -40\mu\text{m}$, $P2 = -20\mu\text{m}$, $P3 = -10\mu\text{m}$, $P4 = 0$)

6. Warranty description

6.1 The warranty service of this product is valid only under normal use.

6.2 Failure caused by non-product quality problems and abnormal use will not be guaranteed for example: including but not

Limited to the following circumstances caused by the failure, no

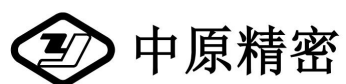
warranty:

(1) The device is affected by external forces resulting in deformation, bending, etc., which cannot be measured;

(2) The user disassembles the device without authorization, resulting in loose parts, air leakage, liquid intake, etc.;

(3) failure to use as required, and failure caused by the device working beyond its normal scope of application.

V1.1 202408



Sanmenxia ZhongyuanJingmi Co.,Ltd

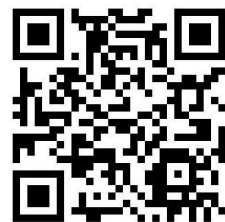
Address: east ection of weiliu road, sanmenxia industrial park,

henan, China

Tel: 0398-2751818 Fax: 0398-2751819

Postcode: 472000

<http://www.zyjm.com>



Scan QR code→Support Service
→Download Center→ Manual