

User manual
Electric vacuum comparator
HS315



Claim

- The operating instructions are parts of the products and must be kept in the immediate vicinity of the instrument and readily accessible to skilled personnel at any time.
- Skilled personnel must have carefully read and understood the operating instructions prior to beginning any work.
- The manufacturer's liability is void in the case of any damage caused by using the product contrary to its intended use, non-compliance with these operating instructions, assignment of insufficiently qualified skilled personnel or unauthorized modifications to the instrument.
- HUAXIN reserve the rights to change the contents or form of these operating instructions at any time without prior notice having been given.

Safety information

Symbol



.....warns you against actions that can cause injury to people or damage to the instrument.



..... points out useful tips, recommendations and information for efficient and trouble-free operation.

Warning

In order to protect your products, your own and others safety, please read this manual carefully before your operation, otherwise it may cause trouble. Huaxin is not liable for any safety problems or damages caused by misuse or incorrect operation.

① Operate by professional



The system must only be operated by trained and authorised personnel who know the manual and can work according to them.

② Use the product only as specified



Any operation not included in the following instructions or outside the specifications must not be attempted.

③ Please use non-damage goods



Don't use the product if it is damaged.

④ No Disassembling

 Disassembling may cause physical injury or equipment damage. Only qualified technicians are allowed to fix the equipment. Please call our service staff for repair instruction and guidance if there would be anything wrong.

⑤ Don't calibrate oil(water) pressure gauge

 If you use the item to calibrate oil(water) pressure gauges, maybe oil(water) will enter into it and that couldn't generate pressure anymore, Meanwhile that may pollute the gauges under test. (We supply oil and gas separator which avoid oil/water).

⑥ No pressure in the system when remove gauge

 This action can cause damage to person if the system has pressure.

Labelling

| | | |
|------------------------------------|----------------------------|-----------------------|
| Huaxin Instrument(Beijing)Co.,Ltd. | • | Manufacturer |
| Model | HS315 | • Model |
| Product | Electric vacuum comparator | • Product name |
| Range | (-0.95-0)bar | • Pressure ranges |
| No. | 15011208 | • Serial number |
| Date | 2015.01 | • Date of manufacture |

Claim

Safety

| | |
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1. Summary

HS315 Electric vacuum comparator adopt Gas–Gas push principle,the extra vacuum pump can vacuum the system.This instrument is easy to operate and very rapidly generate the required testing pressure,providing precise pressure control,only needs less than 5s to stabilize the pressure.Following the points above mentioned,its main feature is in saving both effort and time,which is very suitable to do heavy & repeat calibration work in industries of oil & gas, metallurgy,power etc.

Functions

HS315 is an ideal solution in the laboratory for calibrating pressure transmitters, pressure gauge,pressure switches & other industrial pressure instruments.

Characteristics

- Fast stability,labor saving,simple operation
- Steady servo control
- Non-leaking,convenient clean

2. Technical Specification

Model:HS315 Electric vacuum comparator

Pressure range:(-0.95-0)bar

Media:Air

Stability speed:Within 5s each point

Output:M20×1.5(2pcs Female)

Package:Specialized cartons and foam wrap

Dimension:305mm×300mm×165mm

Net weight:4.9kg

3. Components



① Shut-off valve

Slowly open it anti-clockwise to increase vacuum,close it clockwise to cut off the connection between system and vacuum pump.

② F-adjust valve

To realize the fine adjustment of pressure value.(Turning in clockwise to decrease vacuum).

③ Relieve valve

Have to close before vacuumizing(clockwise).Slowly open it to decrease vacuum.

④ Output

There are tow outputs.One is designed for standard gauge,the others for gauge under test.

4. Operation

4.1.Calibration steps of vacuum pressure gauge

Take vacuum pressure gauge as example.

- A** Connect vacuum pump and HS315 with output hose. Close shut-off valve ① clockwise. Set F-adjust ② valve to the mid position,then open the relieve valve ③ .
- B** Remove the plugs of the output, install the standard and gauge under test.Record the zero data.
- C** Close relieve valve ③ ,then open vacuum pump.
- D** Slowly open shut off valve ① and close it quickly to increase vacuum,then adjust F-adjust value ② to get exact values.To calibrate standard points according to above steps until full scale. Record data.
- E** Loop calibration:Close the shut-off valve ① ,slowly open relieve valve ③ and close it quickly,that can decrease vacuum of system,then use F-adjust valve ② to get exact values.Repeat above steps to calibrate standard points you need.Then record data.
- F** Finish the loop process and open the relieve valve ③ compeletly.The system pressure is zero.

4.2.Operation steps of vacuum pump

- A** Please confirm if there is enough media in vacuum pump.The oil position should be at least 2/3 of the whole oil tank.
- B** The oil used in vacuum pump is different from conventional oil.Be careful not to mix them up.
- C** There must be no liquid or big dusts in tested vacuum gauge.That will effect its usage if they enter into vacuum pump.

i Remark:

1. Don't install the gauges with corrosive or other impurity, or it has an effect on lifespan and functions.
2. The air compressor must keep in a normal working condition.

NOTES:

1. There must be no pressure in the system when removing pressure gauge.
2. Replace the O-rings regularly.
3. The working media is air. Please don't mix with other liquid.
4. The item is non-oil instrument, don't mix with liquid.

5. Troubleshooting

There may be some faults of HS315 mentioned below after long term use, the maintainer can analyse and eliminate problems by these methods. Make sure to release all pressure of system. It is forbidden to disassemble and repair the product with pressure.

| Faults | Cause | Solution |
|--|--|-----------------------------|
| Leakage phenomenon/ it could not vacuumize | No enough medium in vacuum pump | Add medium |
| | The O-rings of outputs are damaged | Replace the O-rings |
| | Relieve valve is not closed completely | Re-close the relieve valve |
| | There is large damage on the sealing faces of gauge under test | Check the sealing |
| After closing the shut-off valve, the pressure is instable. It still increase vacuum | The shut-off valve is not closed completely | Re-close the shut-off valve |

6. Maintenance

6.1.If this equipment will be in idle for a long time, please put on the plugs,close relieve valve and shut-off valve.Cut off the power of vacuum pump and use dust sheets. It could prevent dust entering into system.

6.2.If HS315 needs to take a long distance transport,please close all plugs.It is necessary to pack with specialized cartons and foam wrap.

6.3.This is non-oil instrument.Don't calibrate oil(water) gauge.

7. Support

The product specifications and other information contained in this manual are subject to change without notice,if you have any questions,please call our services hotline:400 611 3558 or Tel:+86-10-62392087

HUAXIN Products series

Digital Pressure Gauge

HX601/HS108

Intelligent Pressure Calibrator

HS602

Pressure Comparator

HS700(-0.5-0.5)bar

HS701(-0.95-6)bar

HS702(-0.95-16/25)bar

HS703(-0.95-40/60)bar

HS720(0-140)bar

HS704 (0-160/250)bar

HS705/HS705A(0-600/700)bar

HS710/HS710A(0-600/700)bar

HS706(0-1600/2500)bar

Electrical Pressure Comparator

HS318L(0-600)bar 5pcs output

HS316L(0-25)bar 5pcs output

HS317L(0-60)bar 5pcs output

HS315(-0.95-0)bar 2pcs output

HS316(0-25)bar 3pcs output

HS318(0-600)bar 3pcs output

Automatic Pressure Calibrator

HS620(-0.1-1)bar,(-0.95-25)bar

Sphygomanometer Calibrator

ME01 & ME02

Temperature Calibrator

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