

Accurate calibration, Perfect service!



SPMK 990S/990Y Water/Oil Pressure Comparator User's Manua



Beijing Spake Technology Co., Ltd.

Main Feature

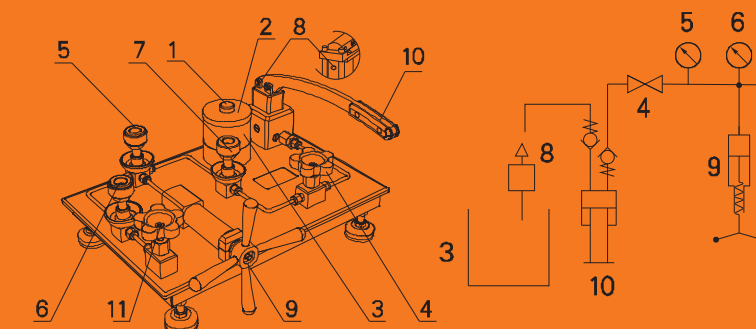
- > Pressure increase/decrease stable: It solved the problem of the traditional stop valve cannot be precisely controlled;
- > Portable design, suitable for laboratory and industrial field;
- > Three quick connectors, which can calibrate two instruments at one time and improve work efficiency;
- > Medium exhaust out, which has no pollution to the system;
- > We use imported stainless steel parts, after a variety of processing, which quality are stable and reliable;
- > Open structure, easy maintenance, create pressure safe and reliable;
- > The original exhaust design, no phenomenon of no pressure created.

Technical Indicator

- > Pressure range: (0~60)MPa
- > Adjustment resolution: 0.1kPa
- > Service environment: Fiel/Lab
- > Medium: Pure Water/Mineral Oil
- > Dimension:(410×310×120)mm
- > Interface size: M20×1.5
- > Weight: 11kg
- > Tank capacity: 0.38L

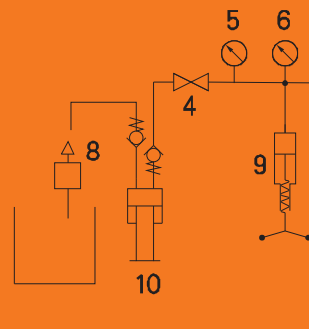
Structure and Principle

■ Structure



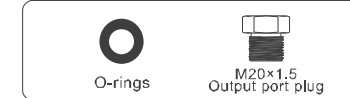
1. Air port 2. Oil cup cover 3. Oil cup 4. Pressure maintain valve
5, 6, 7. Output port 8. Exhaust screw (behind pre-pressure source)
9. Pressure increase/decrease handwheel
10. Pre-pressure handle
11. Drain valve

■ Principle



Accessories Included

- > O rings 10pcs:Ø14×3.1;
- > output port plug 3 pcs:M20×1.5 .



Precautions

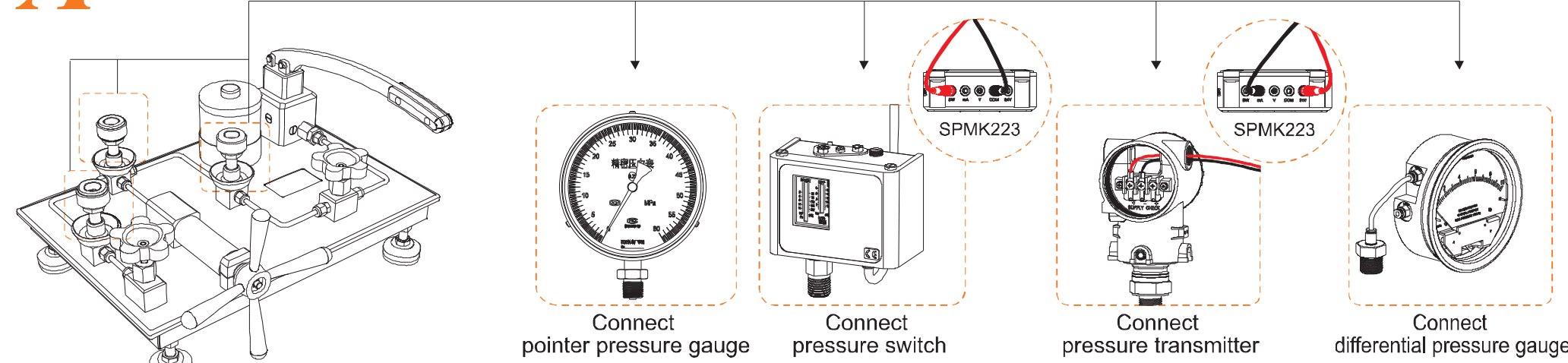
- > Instruments with strong corrosive media must be cleaned when connected to this comparator;
- > When the under tested instrument thread interface is damaged, the output port may be leaking. Please use adaptor and sealing aluminum pad of our company;
- > For long-term preservation, please close the output ports and air port, please store the comparator in a clean and dry environment;
- > Because of impurities and oxides in the under tested gauge, we recommend to purchase our company SPMK-6 liquid filter;
- > It is forbidden to mix this instrument with other instrument, it is forbidden to use over range of the rated pressure of this comparator;
- > This comparator is special designed for oil-free instrument. It is forbidden to connect with Oil media instrument;
- > If the pre-pressure source cannot make pressure after not used for a long time, please anticlockwisely rotate the exhaust screw (8) behind pre-pressure source for twice and then press the pressure handle several times until there is water flow out from the exhaust screw, then clockwise tighten the exhaust screw.

FAQ and Solutions

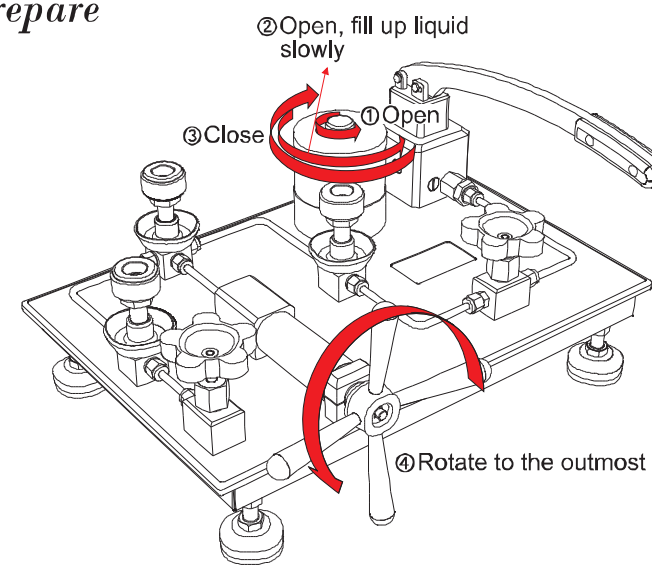
| Problem | Reason | Solution |
|---------------------------------|---|---|
| Difficult in producing pressure | Oil cup is lack of water(oil) | Fill purified water(Mineral oil) |
| | Pressure maintain valve is open or not | Anti-clockwise open pressure maintain valve |
| | Drain valve is closed or not | Clockwise close drain valve |
| | Under tested gauge(standard gauge) is tightened or not | Under tested gauge(standard gauge) should be tightened, output port not in used should be tightened by plugs |
| | System is with air | Loosen the exhaust screw, make pressure by pre-pressure handle continuously until there is water flow out from output port, then tighten the exhaust screw |
| | Medium pollution, one way valve is not sealed | Cleaning, maintenance, use our liquid filter |
| Leakage of pressure comparator | Under tested gauge thread face is not smooth | Use adaptor of our company or use Aluminum/cooper sealed pad. Use tools to tighten if necessary |
| | The seal ring in the output port is worn or aged | Replace O rings(Ø14×3.1) |
| | Pressure maintain valve is closed or not | Close pressure maintain valve |
| | Under tested gauge is leaking | Change other gauges and check if there is still leaking |
| | The comparator is leaking | Connect pressure sensor or high accuracy pressure gauge with output port, other ports block by plugs, produce pressure to the highest pressure of its pressure range to check the sealability |
| Other notes | Exhaust screw should be used when all the parts are under normal circumstances but the system still cannot generate pressure. It should be closed if generate pressure in normal | |
| | If the pressure becoming stable slowly, there may be air in the system. Open one output port at the end until liquid medium flow out, and then connect gauges; you can also make pressure and repeat for many times, at the same time open the drain valve to release the air in the system | |

Basic Operation

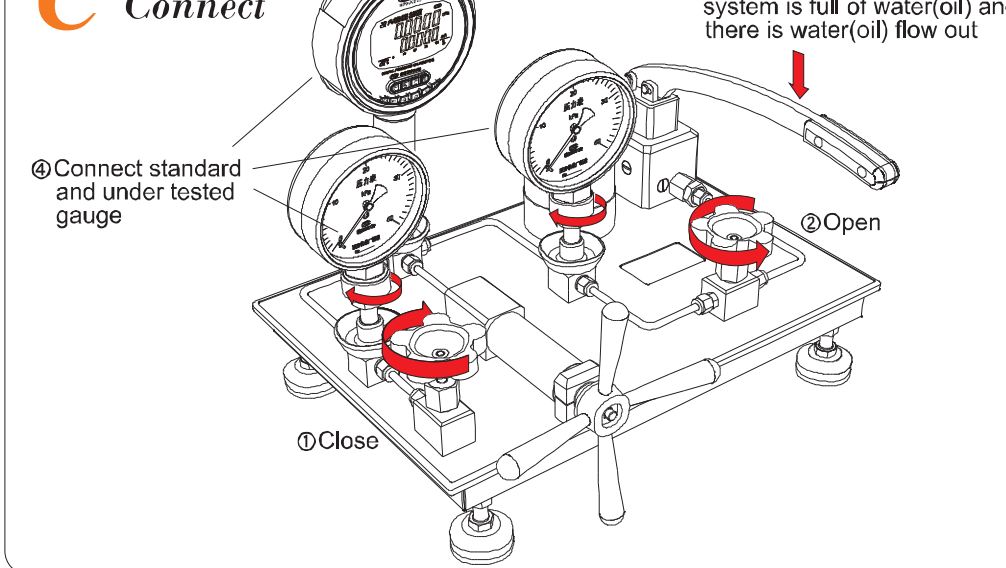
A Installation method



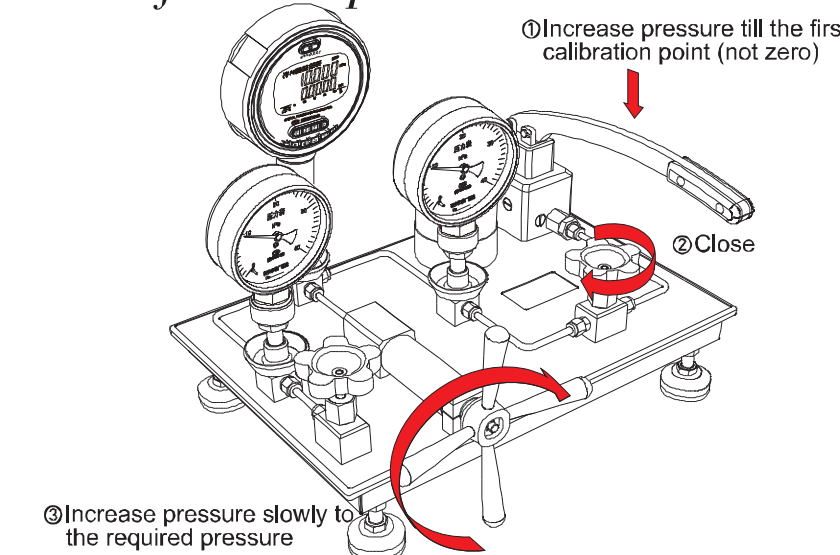
B Prepare



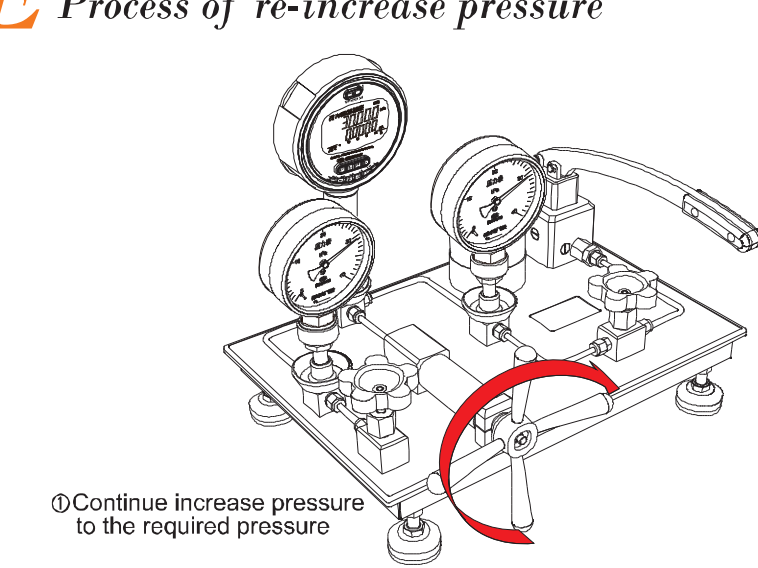
C Connect



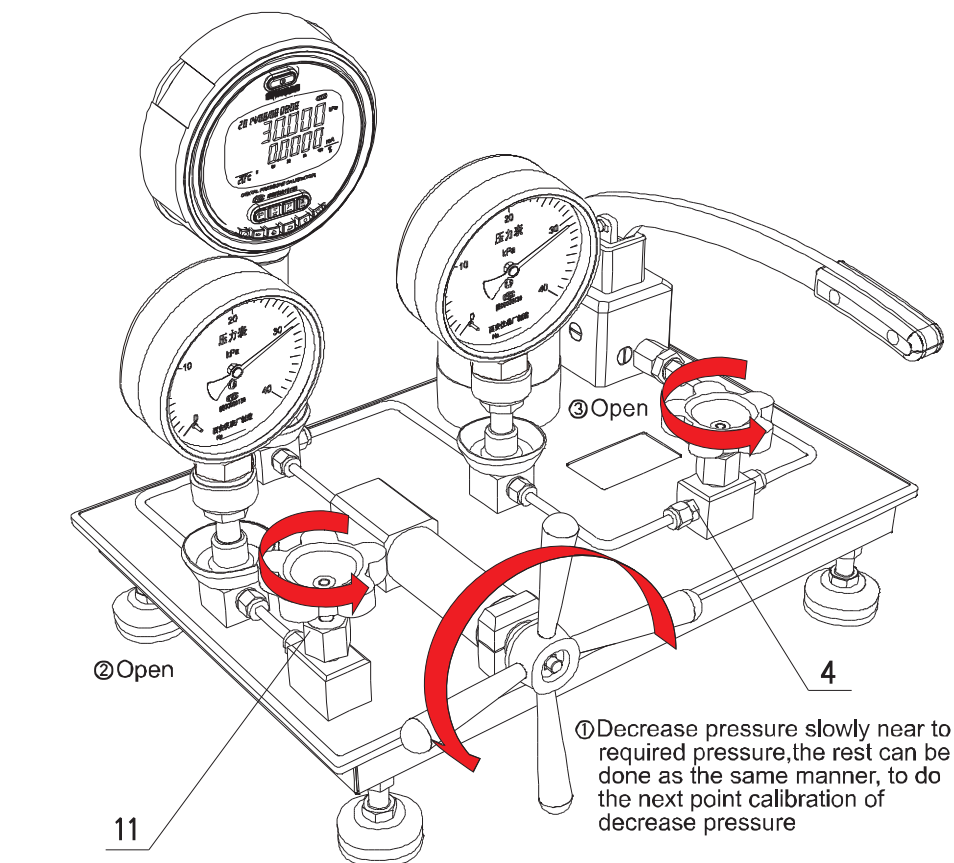
D Process of increase pressure



E Process of re-increase pressure



F Process of decrease pressure



Note: Decrease pressure near to zero, anticlockwise open drain valve(11) and pressure maintain valve(4) for zero point calibration.

Note: 1. Beijing Spake Technology Co., Ltd. has made every effort to ensure the accuracy of the contents of this manual, but due to the different calibration object, the content may not be comprehensive, please refer to the relevant calibration procedures for using.
2. All photos here are for reference only, please take the actual product as the standard.

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