

*Accurate calibration, Perfect service!*



## SPMK 214L Pressure Comparator User's Manual



Beijing Spake Technology Co., Ltd.

### Product Characteristics

SPMK214L portable hydraulic pressure comparator can be used in laboratory or on-site environment. The device is with open, transparent design, simple structure. It is with features of simple operation, pressure rise and fall steadily, small adjustment resolution, easy maintenance, no leakage and so on. SPMK214L portable pressure comparator is made of special hard aluminum material, the weight is light and easy to carry.

### Technical Indicator

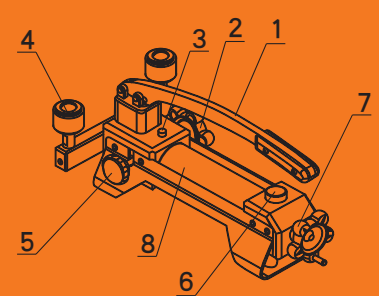
- > Pressure range: (0~70)MPa
- > Adjustment resolution: 0.1kPa
- > Service environment: On-site environment/lab
- > Media: Mineral Oil/Pure Water
- > Dimension: (384×198×180)mm
- > Weight: 4.7kg
- > Size of connector: M20×1.5

### Executive Standard

- > JB/T 599-2005 Calibration Instrument of Pressure Gauge

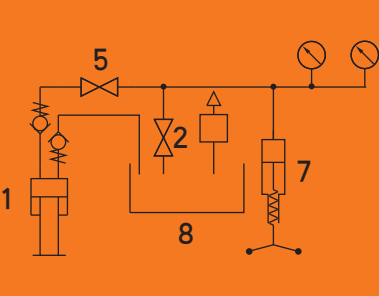
### Structure and Principle

#### Structure



1. Pressure handle
3. Exhaust screw
5. Pressure release valve
7. Fine adjustment handwheel

#### Principle



2. Pressure maintaining valve
4. Output port
6. Injection screw
8. Medium cylinder

### Accessories Included

- > O-rings 10pcs.
- > Output port plug 2pcs.
- > <SPMK214L Pressure Comparator User's Manual> 1pcs.



### Precautions

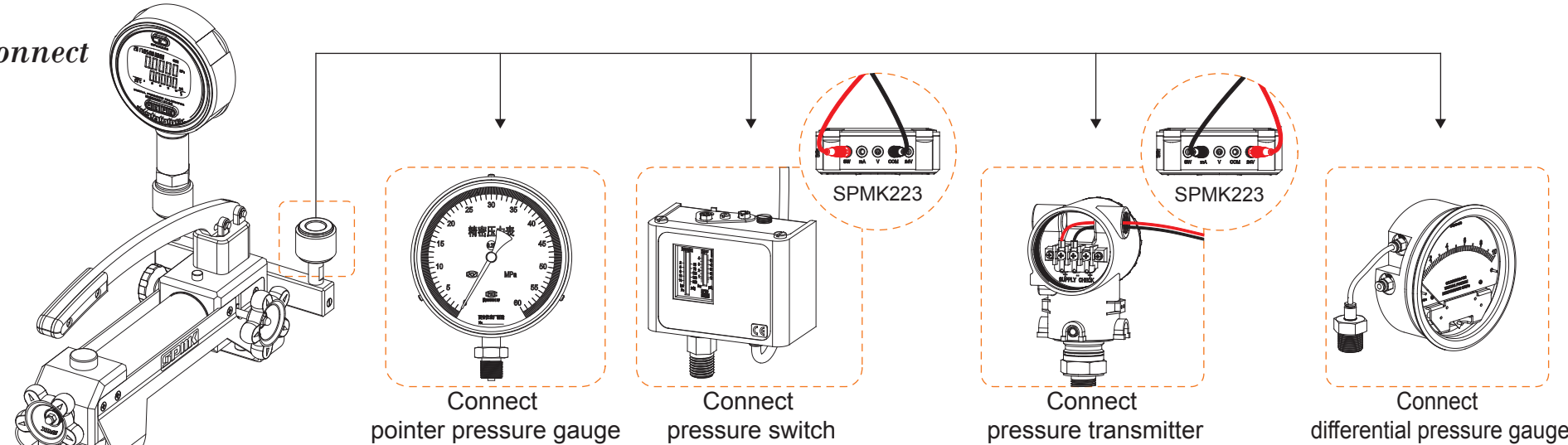
- > Instruments with impurity must be cleaned before calibration.
- > Instruments with strong corrosive media must be cleaned when connected to this comparator.
- > In the explosion-, corrosion and other environments, users should consider the harm caused by media compression.
- > For long-term preservation, please close the output ports, store the comparator in a clean / dry and non-corrosive environment.
- > It is forbidden to use over range of the rated pressure of this comparator.
- > Regular maintenance (recommended half a year) update the media in time.
- > The exhaust screw is always open when the system is in use.
- > Our company will not be responsible for any personal safety problem or equipment damage caused by wrong operation.

### FAQ and Solutions

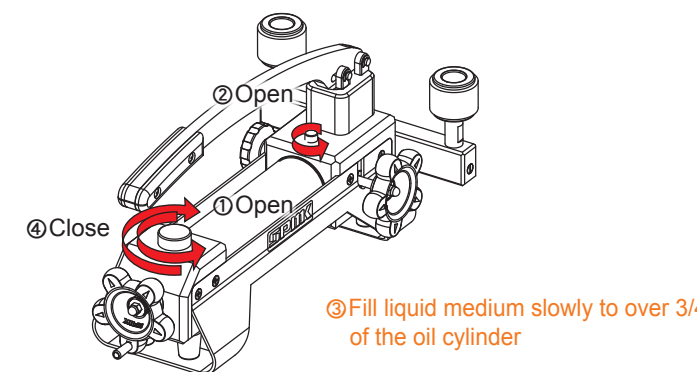
Problems	Reason	Solution
It is hard to press down the pressure handle	Pressure maintaining valve is not open	Open the Pressure maintaining valve while using pressure handle
	Less medium	Fill in medium
Difficulty in producing pressure	The tested or standard gauge is not tightened	Tighten the gauges both the standard and under tested
	Pressure release valve is not tightened	Tighten the Pressure release valve
	System is with air	Open pressure release valve, press/lift pressure handle and repeat for a few times to make the air out of the system
	The seal ring in the quick connector is worn or aged	replace seal rings by new one
Leakage of pressure comparator	Under tested gauge connector is not matched	Using adaptor (suggest using adaptors from our company)
	Under tested gauge face is not smooth	Add polytetrafluoroethylene pad and tighten with tool
	Pipeline inhalation of impurity, affecting the valve sealability	Produce pressure for more times, release pressure quickly to make the comparator medium flow out of the comparator and take the impurity out
	impurity in medium affect the sealability	Replace the medium
	Over force of the last time use	Please do not use big force when closing each valve
Rotating parts are not flexible	Thread without grease	After long time use, please add some grease on thread parts
	There is a difference in the rotating parts of the new equipment	It is common and need running in

### Basic Operation

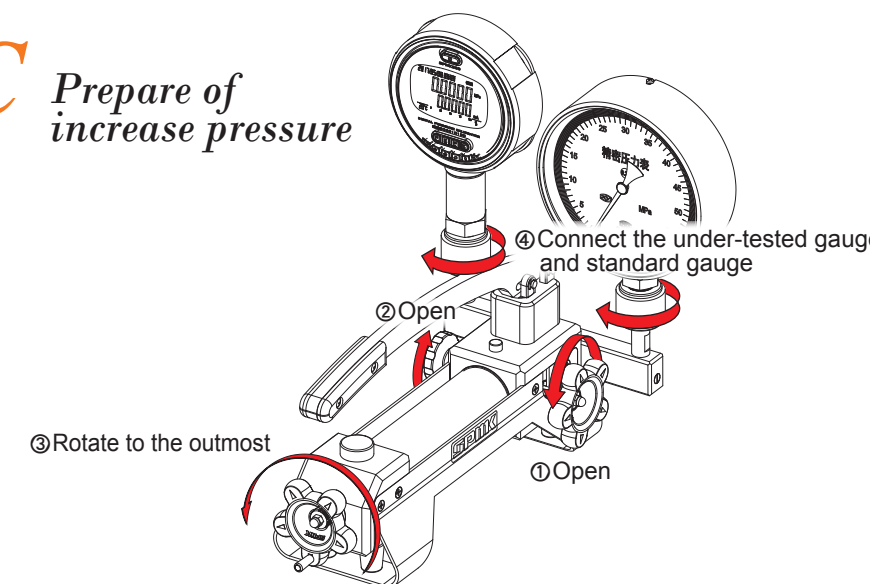
#### A Connect



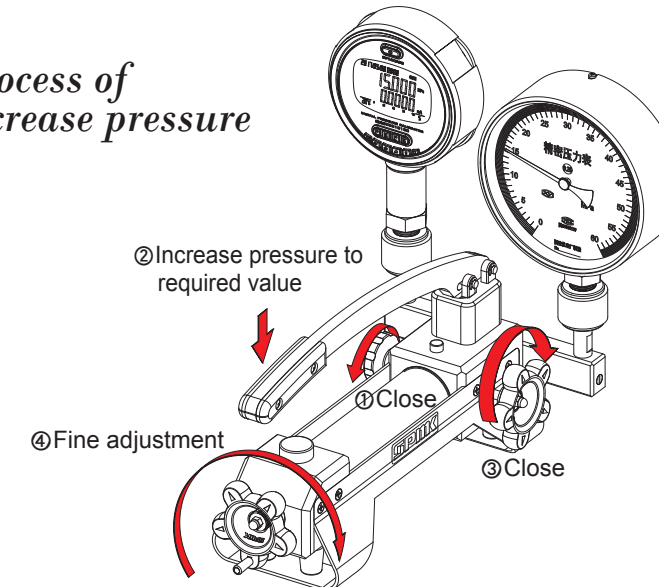
#### B Fill the liquid



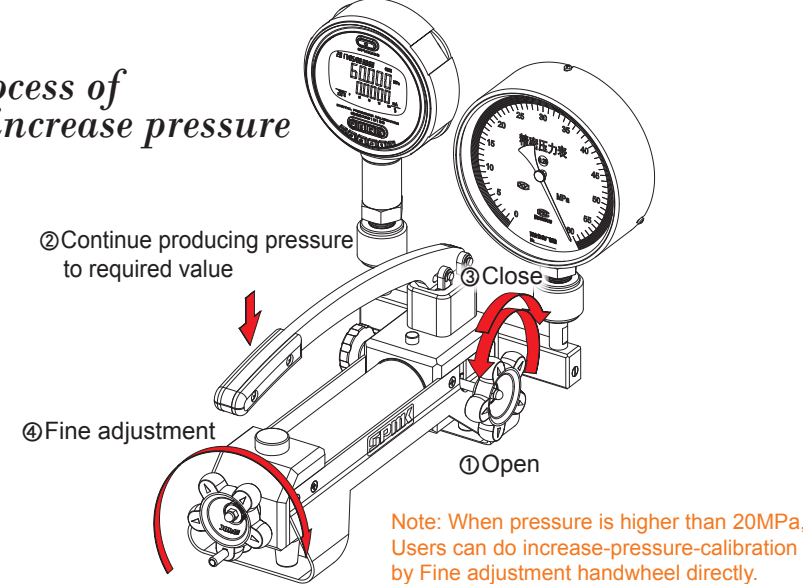
#### C Prepare of increase pressure



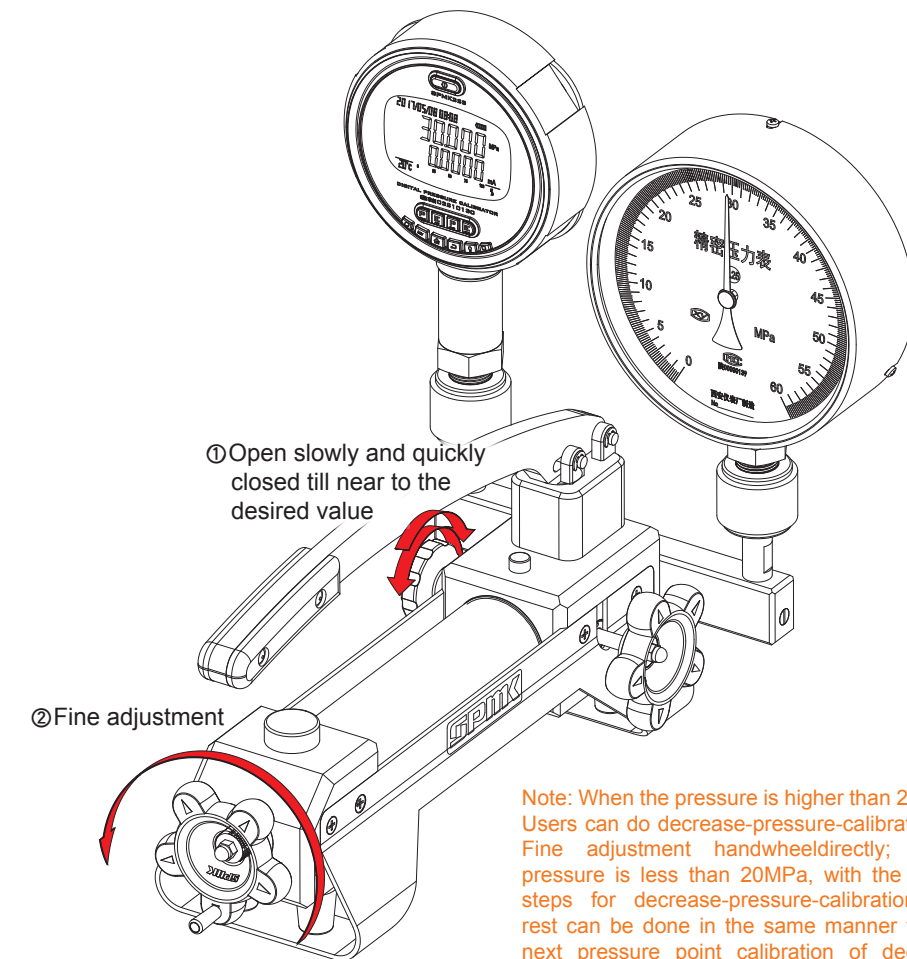
#### D Process of increase pressure



#### E Process of re-increase pressure



#### F Process of reduce pressure



Note: When the pressure is higher than 20MPa, Users can do decrease-pressure-calibration by Fine adjustment handwheel directly; When pressure is less than 20MPa, with the above steps for decrease-pressure-calibration, the rest can be done in the same manner for the next pressure point calibration of decrease pressure until to zero pressure which means step C state of prepare of increase pressure, and then disassemble the under tested gauge and the standard gauge.

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 photoes here are for reference only, please take the actual product as the standard.

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