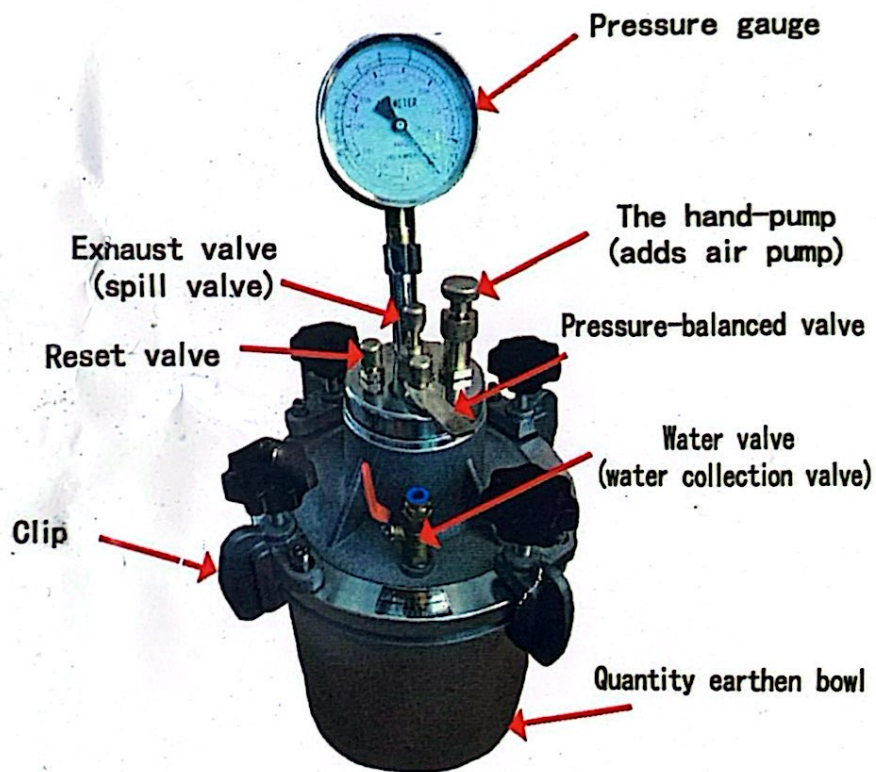


# CA-3

## Reads the type concrete air content cryoscope straight (Instructions for Use)



Beijing Zhongbei Luda Instruments and Equipment Co., Ltd

First, this instrument is the new generation of product which our company develops, uses the international advanced processing technology manufacture. The product has provided the reliable data by its stable precise test result to the scientific research examination, has played the vital role in the concrete essential air content control, the simple operating procedure and the succinct safety equipment, brought to the operator have been most greatly convenient, specially reduced operator's labor intensity under the climate bad environment, enhanced the working efficiency, the construction quality had the reliable guarantee.

Second, widely uses in the construction work, the road, the railroad, the water conservation water and electricity, the airport construction as well as the project quality sensorship, but also may use in the scientific research teaching experiment, it is suitable the regulations to conform to "Plain concrete To mix Testing method" completely

GB/T50080-2016, GJ55-2011

Third, technical parameter

1st, quantity earthen bowl volume: 7000ml  
2nd, air content measuring range: 1%-10%  
3rd, aggregate particle size size  $\leq 40\text{mm}$   
Fourth, air content determination method

1st, newly will mix the concrete to mix the thing evenly to load in the quantity earthen bowl, will really inspire really (shake table frequency with the shake table will be the 50Hz oscillation amplitude  $0.5 \pm 0.1\text{mm}$ ) vibrates in the process like to mix to congeal the earth to be lower than quantity earthen bowl boring, the side should increase the concrete as necessary.

2nd, the instrument level laying aside, scrapes off with Darby the unnecessary concrete, causes its surface not to have smoothly the air bubble, with the clean cloth mop clean quantity earthen bowl edge, covers the top head.



3rd, turns on the note water valve, pours water with the syringe from the tender filling hole, to water from air vent

Smooth outflow, off and on pours water at the same time, at the same time closes the discharge valve and the reset valve.

4th, inflates the compression with the hand-pump to cause to refer to the needlework to surpass an initial pressure slightly position, Afterwards raps the dial plate flank gently with the finger, causes the indicator to refer stably to the initial pressure lights,

Underneath the initial pressure faces right the black (0) underneath position for the table.

5th, makes an effort to press down the pressure-balanced valve, causes in the air chamber the compressed air toward the quantity earthen bowl

In flows, after 4-5 second, then presses down the by-pass valve handle, attacks gently with the finger the table

The plate edge causes the indicator to stabilize down, what this watch needle instructed is must determine

The concrete gas bearing size, reads the addendum circle black scale division.

Example: Survey watch needle instruction when O calibrated dial "4", namely expression air content

For 4%.

6th, twists in the loose discharge valve displacement earthen bowl the pressure, loosens the set bolt to pour the quantity

In the earthen bowl concrete, is again clean the vessel with the clean cloth mop, pays attention finished in the test latter one

Will decide must twist off the discharge valve to measure in the earthen bowl first the gas to discharge twists off the reset valve to discharge in again the air chamber

The pressure, avoids the mud flowing in the air chamber to create the instrument damage.

Fifth, air content demarcation method

1st, will measure the earthen bowl to place on the level, again inside note full water, with thin cotton and kapok

The stick will measure the earthen bowl endophragm the air bubble to expel, twists off the top head the discharge valve and takes the water valve, will demarcate

The tube inserts is taking the water valve inside, covers the top head to screw tight the bolt.

2nd, pours water with the syringe toward the note water valve on the other hand, to the water from discharge valve smooth outflow, on the one hand pours water closes the discharge valve, then closure all valves.

3rd, causes with the hand-pump compression to refer to the needlework to light to the initial pressure. Underneath namely the table faces right 0 below (1-4) position, presses down the pressure-balanced valve. The indicator should refer "0". If deviates "0" oversized, should close the pressure-balanced valve, again loosens the discharge valve, duplicates the 2nd item, until the indicator stabilizes "0" the spot.

4th, opens takes the water valve, takes the water with the graduated cylinder from the U mouth, takes out the quantity earthen bowl volume 1% water to be equal to the 70ml water, the closure note water valve.

5th, twists the loose discharge valve, after causes the quantity earthen bowl internal pressure and the atmospheric balance closes again, causes the indicator with the hand-pump compression to light to the initial pressure, then steady presses down the pressure-balanced valve, uses the finger to attack gently the dial plate flank to cause the indicator to stabilize down, again presses



down the pressure-balanced valve. By now the indicator referred the value and took out the water accounted for the volume the percentage value to be same, the reading was accurate.

6th, the air content 1%-10% standard, according to above 4, 5 items takes out 1% water in turn.

The repetition operation, the indicator refers the value is 1%, 2%, 3% .....10%, like

The average error is bigger than 0.3% to be supposed to discover the reason to demarcate.

1、 Sixth, instrument maintenance

1st, when use must pay attention to first in the withdrawal earthen bowl pressure, in discharges in the air chamber

The pressure do not have to create the cement mortar to flow backwards the intake chamber to cause the instrument damage.

2nd, when use do not have to damage the quantity earthen bowl edge, in order to avoid creates the air leakage.

After each time uses up, certainly must measure cleanly the concrete flushing which inside and outside the earthen bowl sticks especially

Do not clean the tender filling hole, then scratches with the cotton yarn the instrument the clean laying aside.

Appendix:

1st, instruction booklet

2nd, certificate

3rd, Darby

4th, the demarcation uses the tube

5th, syringe

6th, graduated cylinder



# CERTIFICATE

Reads the type concrete air

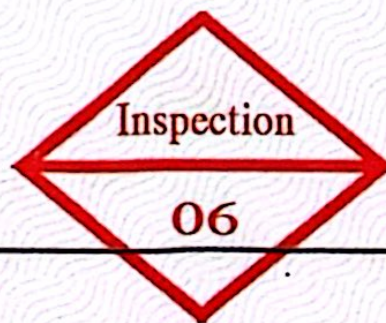
Name: content cryoscope straight

Model: CA-3

Number: 210319

Qualified permission to leave the factory

Inspector: \_\_\_\_\_



Date: \_\_\_\_\_

2021.03

Beijing Zhongbei Luda Instruments and Equipment Co., Ltd