Overview

Mortar consistency meter is used to determine the fluidity of mortar (general fluidity is also known as consistency). The consistency of mortar is expressed by the number of centimeters of depth to which a standard cone of a certain geometry and weight freely sinks under its own weight into the mortar mixture.

Technical performance

1. Measuring range:
   Sinking depth: 0-14.5 cm
   Sinking volume: 0-229.3 cm
2. Minimum scale value (sinking depth)：1 mm
3. Cone geometry parameters:
   Cone Angle: 30.
   Height: 145 mm
   Cone base diameter: 76 mm
4. Cone and scale weight: 300±2 grams
5. Dimensions: 360×300×920 mm
6. Weight: about 20 kg

The structure and use of the instrument

1. Instrument structure:

The instrument is mainly composed of a base, a support, a value indicating system, a standard test cone and a material container.

Chassis 1 and column 15 are connected with sliding and fastening with top wire, and the dial is raised and lowered 9 and test cone frame 14 are fixed on column 15 with nut 17 and handle 13 respectively. Loosen the handle 13 Screw the nut 17 Two pieces can be moved up and down along the column, and then fixed .The test cone frame 14 is provided with screws to fix the cone to the desired position.

The indicator system is installed on the lifting frame 9, and by means of a rack slide 12 and a gear pointer 10 and a dial 11, the vertical sinking depth (straight distance) of the standard test cone is changed to 10. The motion is reflected in the scale value of the circular dial, the minimum scale value (sinking depth) of the dial is 0.10 cm, that is, 1 mm. The screw 16 can be used to adjust the instrument level.

2. Usage:

① Put the mixed test mortar into the conical container 7.

② Adjust the cone frame 14 so that the tip of the standard test cone is in contact with the surface of the mortar mixture and is forbidden to be fixed.

③ Move the indicator lifting frame 9 so that the lower end of the slide rod 12 gently contacts the upper end of the test cone slide rod 4. Then reset the value on the screen to zero.

④ Adjust the pin female 3 so that the dial is aligned to zero, and move the dial up and down 9 so that the lower end of the rack slide bar 12 is gently in contact with the upper end of the test cone slide bar 4.

⑤ Loosen the screws 5 Standard cones sink under their own weight into the mortar mixture.

⑥ Tighten the screw when the standard cone is no longer sinking into the mortar 5

Turn the pin 3 so that the rack slide bar 12 slides down until the test cone 4 contacts, at which time the measured sinking depth can be read on the dial, and the corresponding sinking volume can be looked up in the table.

Maintenance

1. When the standard test cone is stored or used, it should be carefully protected, and the outer cone and the tip of the standard cone should not be damaged.
2. After the test, the instrument should be washed and coated with anti-rust grease. Cover the instrument when not in use.
3. Cover the instrument when not in use.

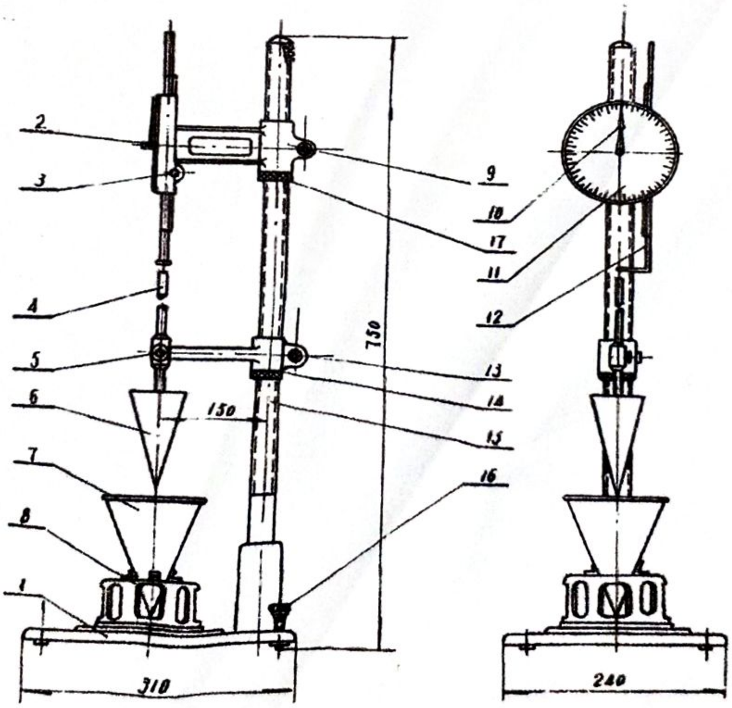
Cone sinking depth and volume comparison table

Calculation formula V=3/1nhr2

Profundity h(cm)	Volume v(cm³)	Profundity h(cm)	Volume v(cm³)
7.5	31.773	11.3	108.530
7.6	33.027	11.4	111.430
7.7	34.337	11.5	114.390
7.8	35.693	11.6	117.400
7.9	37.084	11.7	120.460
8.0	38.581	11.8	123.580
8.1	39.972	11.9	126.750
8.2	41.471	12.0	129.970
8.3	43.007	12.2	136.850
8.4	44.580	12.4	143.410
8.5	46.190	12.6	155.270
8.6	47.839	12.8	177.700
8.7	49.525	13.0	165.250
8.8	51.256	13.5	185.060
8.9	53.024	14.0	206.390
9.0	54.831	14.5	229.300
9.1	56.679		

Test cone sinking depth and volume comparison table
Calculation formula V=3/1nhr

Profundity h(cm)	Volume v(cm^3)	Profundity h(cm)	Volume v(cm^3)
0.5	0.009	9.2	58.568
1.0	0.075	9.3	60.499
1.5	0.245	9.4	62.477
2.0	0.602	9.5	64.487
2.5	1.175.	9.6	66.545
3.0	2.031	9.7	68.646
3.5	3.225	9.8	70.790
4.0	4.814	9.9	72.930
4.5	6.854	10.0	75.210
5.0	9.402	10.1	77.493
5.5	12.514	10.2	79.825
6.0	16.246	10.3	82.189
6.2	17.993	10.4	84.650
6.4	19.717	10.5	87.069
6.6	21.629	10.6	89.581
6.8	23.650	10.7	92.141
7.0	25.793	10.8	94.748
7.1	26.920	10.9	97.404
7.2	28.073	11.0	100.110
7.3	29.260	11.1	102.870
7.4	30.419	11.2	105.670



1. Chassis; 2. Screws; 3. Pin mother; 4. Test cone slide rod; 5. Test taper screws;6. Test cone; 7. Container, 8. Container holder; 9. Dial lifting frame; 10. Pointer; 11. Dial; 12. Rack slide, 13. Handle; 14. Test cone frame; 15. Pillar, 16. Horizontal screws;17. Lock mother.