Ball Harp

Product Information

Viscosity

The ball harp is designed to measure the effective yield point of supporting slurries.

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Description

The ball harp is used to determine the effective yield point of supporting slurries according to DIN 4126.

10 glass or steel balls from different diameters are dipped simultaneously into the slurry. At given density of the slurry, each ball is assigned to another critical effective yield point, at which it would be in suspense in the slurry.

Balls, whose critical yield point is smaller than the yield point of the slurry, swim on the slurry, those whose which is higher, immerse.

The balls are marked with continuous numbers from 1 to 10 in the sequence of their growing critical effective yield point. Thus, the effective yield point of the slurry lies between the critical yield point of the ball with the largest number which is still swimming and the critical yield point of the ball with the smallest number which is immersing in the slurry.

The critical effective yield points of a standard set of balls are declared in a table for densities between τ_F = 1.02 and 1.70 g/cm³.

Technical Specifications

Length	:	280 mm | 11,02”.
Width	:	185 mm | 7.28”
Height	:	505 mm | 19.88”
Weight	:	5 kg | 11.02 lbs

Preparation

Check the equipment for completeness. Ensure to have a mixer for stirring the slurry and a fan for drying the balls after usage.

Screw in the support fork on top of the guiding axle and secure it with the counter nut.

Mounting the harps:
- Remove the rubber ring from the harp discs and connect the balls no. 1 to 10.
- Remount the rubber ring and connect the harp discs to the ball harp.

Operation

1. Fill the crystal-clear 1L cup with slurry up to the red marking. To disintegrate the thixotropic solidifications stir the slurry with the mixer for approx. 1 minute.

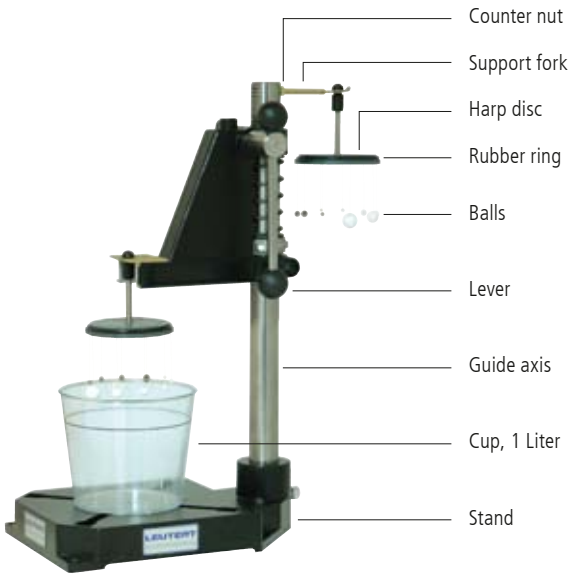
2. Put the cup on the ground-plate of the stand and slowly press down the lever to the limit. Thereby the balls which are hanging in the harp disc immerse into the slurry or swim on it.

3. The strings of the immersed balls are tautly stretched, the strings of the swimming balls are bent. The balls are numbered from 1 to 10. Note the smallest number of the immersed ball (tautly stretched).

4. Return the lever to it's starting position and clean the balls in a water filled cup by rotating back and forth around the guide axis.

5. Mount the cleaned harp disc in the support fork at the backside of the stand and dry it in a cold air stream using the fan.

6. The ball harp can be used again once the balls are dry. The drying time in the cold air stream corresponds approx. to the measuring time, so that you can work continuously by using two harp discs.



Interpretation

To determine the yield point you need the provided chart. The ball noted during step 3 indicates the yield point at a given specific gravity of the slurry.

Note: Please pay attention to the serial number of the set of balls. The provided chart is only valid for this specific set of balls.

Maintenance

The ball harp is maintenance free. Clean and dry the ball harp after each use and ensure proper storage when not in use.

Order Information

Stand with two harp discs, two ball sets 1 to 10 and two cups	9000.0.00.84502
Ball set „S“ for yield point between τ_F = 1.15 g/cm³ to 1.70 g/cm³	9000.0.00.84518
Standard ball set 1 to 10	9000.0.00.84503
Replacement ball set E56	9000.0.00.84519
Crystal-clear cup, 1 Liter	9000.0.00.84505