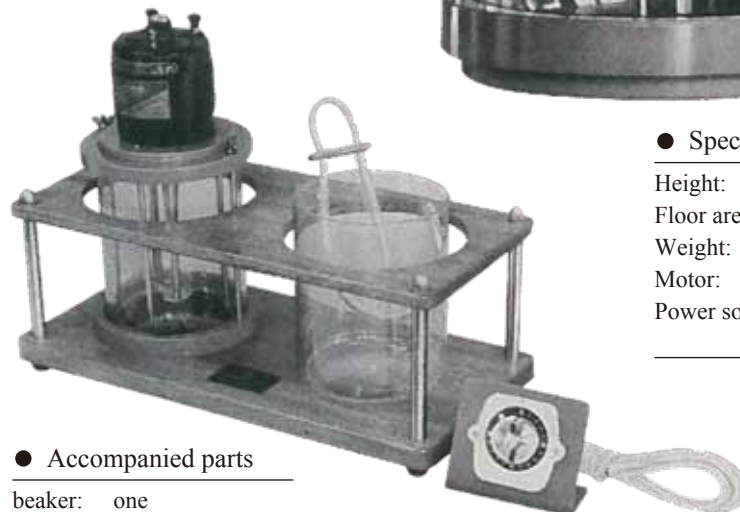




Sand Testing Washer NKW

This is an instrument for washing molding sand as a preparation for measurement of clay and sand content. It is designed in accordance to the NIK system and consists of a 1/20 HP single phase motor (600 to 3000 RPM by a variable continuous transmission, VCT), a blade shaft, a beaker, a siphon, and a timer.



● Specification

| | |
|---------------|--------------------------|
| Height: | 50 mm |
| Floor area: | 450 mm x 225 mm |
| Weight: | 6.5 kg |
| Motor: | 1/20 HP (single phase) |
| Power source: | 100 to 110 V 50 to 60 Hz |

● Accompanied parts

| | |
|---------|-----|
| beaker: | one |
| siphon: | one |
| timer: | one |
| cable: | 3 m |

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● How to use

Dry the sand to be tested by keeping at $105 \text{ deg.C} \pm 5 \text{ deg.}$ for 1 to 2 hours, or by using a quick moisture tester. After drying, keep the sand in a desiccator for until cooling. Take a sample of 50 g by weighing with a balance of sensitivity of 1/100 g. Put it in a beaker and add 475 ml of distilled water at 20 to 25 deg.C and 25 ml of caustic soda solution (30 g of caustic soda diluted in 970 ml of water). Place the motor carefully above the beaker and stir well the solution for approximately 10 minutes. Pour water into the beaker to wash down all the sand adhering to the wall and adjust the volume of the total solution to be about 15 cm deep. After stirring well, keep still the solution for 10 minutes. Then pump out the top layer of solution until the level becomes 2.5 cm above the bottom.

Again add water of 20 to 25 deg.C up to the depth of 15 cm, stir well, hold for 10 minutes, and pump out the top water to the depth of 2.5 cm. Repeat the same process, whereas now pumping may be done after 5 minutes of holding, until the top water becomes clear. Then the sand remained on the bottom is filtered using a Buchner funnel and a filtering paper of about 9 cm in diameter. Transfer the filtered sand in a dish together with the filtering paper for thorough drying at $105 \text{ deg.C} \pm 5 \text{ deg.}$ and cooling in a desiccator. After cooling to room temperature, weigh the sand. The difference of weight before and after washing is doubled to obtain the percentage of clay content in the sand.

Note

1. For sand sample of about 100 g, drying time may be 1 to 2 hours.
2. Clay content as determined by this method is a total of the pure clay content plus some other materials possibly separated in the process. Sand content is defined as the difference between 100 and the clay content as determined by this method.
3. Binders of molding sand may contain clay as well as other inorganic and organic materials. This method is applied to sands having clay as binder.
4. Because of the variable continuous transmission, the rotational speed can be controlled between 600 to 3000 RPM in order to attain desired degree of stirring or time for stirring. The standard value is 50 to 1500 RPM or 60 to 1800 RPM.
5. In case distilled water is not available, it may be replaced with ordinary water.
6. It is recommended to make two or more tests on the same sand, and take an average from data with a standard deviation within $\pm 5\%$.



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