

Metso:Outotec

MARCY®

PULP DENSITY AND SPECIFIC GRAVITY SCALE OPERATING INSTRUCTIONS

CAUTION: THE SCALES ARE ACCURATELY SET AT THE FACTORY. DO NOT REMOVE THE BACK COVER PLATE TO MAKE ADJUSTMENTS. THE SCALES ARE CONSTRUCTED TO PROVIDE TROUBLE-FREE OPERATION AND WILL PROVIDE ACCURATE MEASUREMENTS IF THE MECHANISM IS NOT ALTERED OR ABUSED.



MOUNTING:

Allow the scale to hang freely from its support ring.

CALIBRATION:

Fill the container with exactly 1000cc of clear water. The slotted holes located near the top of each container are designed to initially retain slightly more than 1000 cc. Using a file, carefully enlarge the bottom of the slotted holes until water begins to leak out. Now the container will retain exactly 1000 cc.

Hang the container full of water on the scale hook. Turn the zero adjustment screw located directly above the scale hook until the scale pointer is vertical, reading 1.000 on the dial outer ring.

The scale is calibrated.

DETERMINING THE SPECIFIC GRAVITY OF DRY SOLIDS:

The desired sample should be dry and between -10 mesh and + 100 mesh (Tyler). Hang the dry, empty container on the scale and pour in the sample of dry material until the pointer indicates 1.000 kilogram on the outer ring of the dial. (The container now has 1.000kg of material in it.)

Remove the sample carefully. Fill the container one-third full with clear water and gradually stir in the dry sample. Insure that the sample is thoroughly wet and that air bubbles are eliminated. Hang the container on the scale and add clear water up to the overflow holes. Read the dry solids specific gravity on the innermost ring of the dial.

TAKING A SAMPLE:

Fill the container with the desired pulp or liquid. The liquid level should reach the container spill holes. Wipe off any spilled material on the outside of the container. Hang the filled container on the scale and determine the pulp specific gravity or percent solids in the pulp.

DETERMINING PULP SPECIFIC GRAVITY:

Hang the filled container on the scale and read the pulp specific gravity on the outer ring of the dial face.

DETERMINING PERCENT SOLIDS:

If you know the specific gravity of dry solids in the pulp (see Determining the Specific Gravity of Dry Solids), you can directly read the percentage in the pulp on the dial. Select the correct dial face for the particular dry solid specific gravity in the pulp. Hang the filled container on the scale. The percent solids in the pulp reads clockwise from the specific gravity number on the red, white and yellow rings of the dial face. Example: A reading of 44% solids at 2.2 specific gravity also reads 39% solids at 2.6 specific gravity and 35% solids at 3.2 specific gravity.

CHANGING DIAL FACES:

Attached to each scale is a dial face which has the following specific gravity range of dry solids: #1, 2.2. 2.6 2.8 3.2 3.6 4.0 4.4.

Interchangeable dial faces are furnished as follows:

# 2,	1.2	1.3	1.4	1.5	1.6	1.7	1.8
# 3,	1.7	1.8	1.9	2.0	2.1	2.2	2.3
# 4,	2.2	2.3	2.4	2.5	2.6	2.7	2.8
# 5,	2.6	2.7	2.8	2.9	3.0	3.1	3.2
# 6,	3.0	3.1	3.2	3.3	3.4	3.5	3.6
# 7,	3.4	3.5	3.6	3.7	3.8	3.9	4.0
# 8,	3.8	3.9	4.0	4.1	4.2	4.3	4.4
# 9,	4.2	4.3	4.4	4.5	4.6	4.7	4.8
#10,	4.6	4.8	5.0	5.2	5.4	5.6	5.8
#11,	5.6	5.8	6.0	6.2	6.4	6.6	6.8
#12,	6.6	6.8	7.0	7.2	7.4	7.6	7.8