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INSTRUCTION MANUAL

RIPPLE TANK (PH36044)

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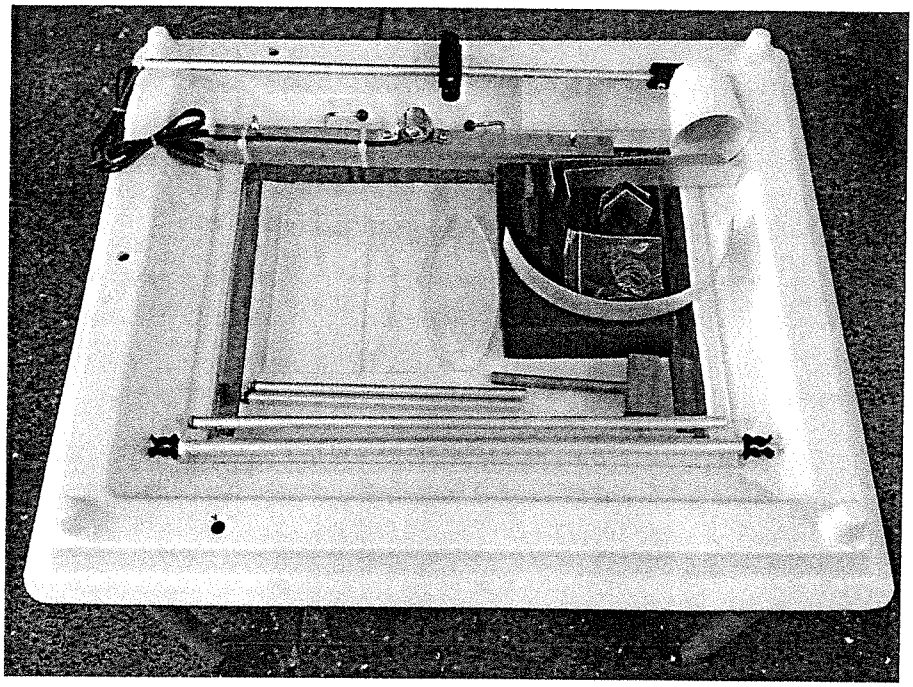

PARTS INCLUDED:

The following parts are included with the ripple tank.

1 Tank with frame	4 Legs
2 Support Rods, 8"	1 Cross bar (Rod with Clamps on each side)
1 Ripple assembly beam with motor (Wooden)	2 Dippers with plastic bobs
2 Long Obstacles	2 Short Obstacles
1 Curved reflector	1 Rubber Water Stopper
1 Support Rod, 15"	1 Boss Head
1 Support Rod with lamp	1 Foam
1 Dropper	1 Wooden hammer
1 Set of 3 Acrylic Shapes	10 Elastic Rubber Bands

Note:

The tank must the free from dust and grease since these are both detrimental to performance. Use weak detergent solution and a piece of clean cloth to wash the inside of the tank, giving particular attention to the beaches. Then with clean water and another cloth, thoroughly rinse the tank to remove all traces of detergent.

The same procedure should be applied to all items to be used in the tank.

ASSEMBLY:

1. Attach the four legs to the frame of the tank. Push the rubber-covered ends of the legs into the hole at the rear end of the frame. Make sure the frame stands firmly on the ground.
2. Attach the screwed end of support rod (15") through the hole on the shorter side of the frame. Screw it firmly on the underside by a nut & washer. Similarly position the two support rods (8") on the longer sides of the frame.
3. Mount the cross bar between the two support rods (8") by means of clamps.
4. Suspend the ripple assembly beam from the cross bar using two hooks. Adjust the height of beam by sliding the cross bar on its vertical supports. Also place the two dippers on the beam assembly at suitable positions.
5. Using a boss head, mount the support rod with lamp on the support rod (15") at a suitable height.
6. Put the water stopper in the drainage hole and pour in clean water to a depth of 5 to 10mm, i.e. until the water level reaches a short distance up to beaches.
7. Connect the lamp (12V, 24W) and motor (0 to 6V DC) to electrical supply. The Ripple Tank power supply is recommended, as this power both lamp and motor. A speed control for the motor in incorporated.
8. Position sheet of white paper at floor below the tank so that the patterns may easily be observed.

The ripple tank is now ready for use.

OPERATION:

WAVE GENERATION:

Single Pulses

These are short wave trains more effective for illustration than period wave since the pattern is less confused by stray reflection.

To obtain a circular wave pulse, allow a single dipper to fall on the water surface from the water dropper. Alternatively, touch the surface with the clean finger, but note that a second pulse will be formed when the finger is removed.

Periodic Waves

These are continues waves produced using the ripple beam assembly set up as detailed previously.

(a) To generate circular waves adjust the height so that the plastic bobs on the dippers touch the water surface. Switch on the motor and adjust the speed to get the right wave frequency. One or both spheres can be used and their separation varied by using the other holes in the ripple beam assembly.

(b) To generate continuous straight waves, turn the plastic bobs up and lower the ripple beam assemble until the wooden surface touches the water surface along the whole of its length.

Now observe the properties of waves by placing the various obstacles in water.