

This device is misnamed and misunderstood. It is an elegant, Artsy wave, not a Physics wave. It is not a proper mechanical wave machine, and it has no wave property, producing merely a wave representation, a symbolic, dummy mock-up of a transverse traveling wave disturbance. It is important to make this point, it is not a wave. It looks like one.

Otherwise students and Faculty get the wrong idea, thinking that a mechanical motion which rhythmically moves up and down like a wave is indeed a Physics wave. Artificially mimicking a transverse wave pattern of motion is a mistaken wave demo. It does not and cannot demonstrate the superposition principle. Or the principle of interference. Or show constructive or destructive interference.

This machine is not alone in being misunderstood as a wave demo. The stadium wave is misunderstood. <https://instructional-resources.physics.uiowa.edu/demos/3b1085-non-recurrent-wave-fronts>. It is not a proper, true wave. It mimics a wave motion, without being a wave itself. The Pendulum wave machine is also not a wave machine, but people are told that it is. <https://instructional-resources.physics.uiowa.edu/demos/3b1075-pendulum-waves>

To be a Physics wave device, it must show the Physics of classical mechanical waves, which starts with the coupled SHM of oscillators with identical periods, and then relates the velocity, displacement, wavelength, frequency, superposition and interference. A ripple tank or a Shive wave machine shows these wave properties.

A mechanical device or motion that simply goes up and down is not necessarily a wave demo.