# Pluto Valve Guide

Water droplet collision photos need to be taken in a almost dark room. You will need a camera, a speedlite flash, a tripod, and a magic arm to hold the valve and the Pluto Valve Kit.

Fill the tube with water so that the water level covers the bottom of the small tube. Never let the water level go below the bottom of the small tube, or else the valve will not be able to keep constant pressure.

Insert and press the small tube. Make sure the air above the water and between the small tube and the big tube does not leak.
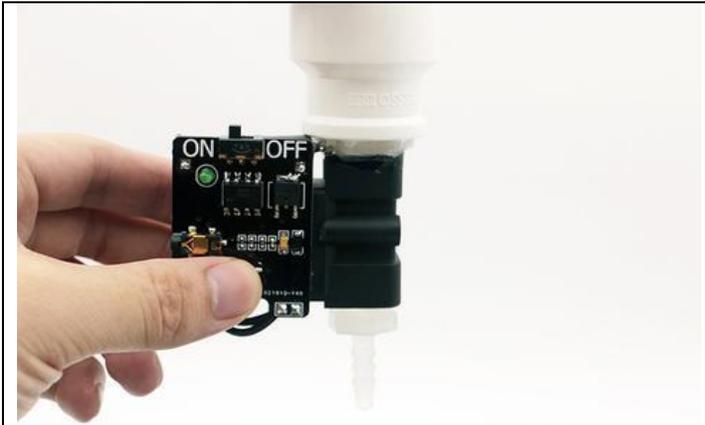
Turn on the valve. Click the button on the control board of the valve to purge water from the small tube and purge the air from the valve. <u>DO NOT</u> press and hold the button constantly as it will consume a lot of power and make the battery overheat. Try multiple, short clicks instead.

Turn on your camera. Frame and adjust focus. Put something at the position where the water-drop falls into the water to make focusing easier. Set the shutter speed to 1-2 seconds. Set the Drive Mode to IR Remote. If your camera does not support IR Remote, then you will need to set off your camera manually.

Connect the valve to the Aux port of your Pluto Trigger using the valve cable. Connect your flash to the camera port of the Pluto Trigger. Point the IR emitter on the Pluto Trigger to your camera.

Turn on your Pluto Trigger. Launch the Pluto Trigger app on your phone. Set the IR settings to match your camera model. Select Droplet mode from the menu. Press the start button to test. The Pluto Trigger should send IR commands to trigger your camera, release two droplets and then trigger your flash.

Next, we will calibrate the timings to capture droplet collisions. We will determine the Flash Delay first. Set "Drop1 Size" to 10ms and "Drop2 Size" to 0, so that only one drop will be released. The flash should be triggered when the first drop rebounds from the water and goes up to its highest position. Click the auto-calibrate button to the right of the Flash Delay setting. Set "Step" to 5ms and "Interval" to 5s, then click the Start Calibration button. Pluto Trigger will now take a photo every 5 seconds and increase the Flash Delay by 5ms each time. Monitor the screen of your camera. When the droplet reaches its highest point, stop the calibration.

Set the "Drop2 Size" to 10ms and calibrate the Drop2 Delay. The procedure is similar to that of the Flash Delay calibration.

Now you are ready to make aesthetic collisions with different water colours and lighting.