

## **SPLASH! Water Droplet Controller V2**

### **You will need these tools:**

Screwdrivers  
Jigsaw  
Cordless drill  
Soldering iron with a fine tip  
Solder (preferably lead-free)  
Cutting pliers  
Utility knife  
Hacksaw  
Glue clamps  
Wood drills  
Sandpaper  
Wood glue  
Pattex universal adhesive  
Double-sided tape  
PC

### **You will need these parts for the the stand and the valve holder:**

1 water valve (Cognisys 2P025)  
1 Mariotte siphon (Cognisys)  
. MDF board in thicknesses of 3,6 and 12 mm. Dimensions: see description.  
4 m. 18x18 mm. pinewood slat.  
2 M4x25mm. bolts for the valve connection.  
6 Chipboard screws 15 mm. for the stand base connection.  
2 Chipboard screws 40 mm. for the siphon fixation.  
2 M6x40 mm. bolts and nuts for the valve holder.  
2 fixation knobs for the valve holder.  
. Background paper in various colors.  
1 water tray

### **You will need these parts for the the controller:**

1 Black plastic box 120x120x60 mm.  
. glossy photo paper to print the GUIs.  
. adhesive plastic to cover the GUIs.  
. flexible mounting wire in various colors AWG28.  
. small tiewraps.  
1 m. heat shrink tubing 1mm.  
1 Arduino UNO R3 (original or a clone).  
1 LCD LCM1602 IIC display.  
1 female built-in power plug for 5.5x2.1 mm. round plug.  
1 power supply 15 Volt DC 1 amp. with 5.5x2.1 mm. round plug.  
3 RCA tulip female connectors (red, white and blue).  
4 mini push buttons color blue.  
1 mini push buttons color red.  
1 toggle switch.

3 built-in LED holders for 5 mm. leds.  
3 LEDs 5 mm. (red, blue and white).  
1 row of connection pins for the Arduino UNO.  
1 PCB 5x7 cm. with 24x18 holes at 0.1 inch.  
. M3 bolts and nuts incl. 5 mm. Standoffs to mount the Arduino, the PCB and the display.  
1 MDF mounting plate 6mm. 110x110 mm.  
9 resistors 2.2 kOhm 1/8 Watt.  
3 resistors 1 kOhm 1/8 Watt.  
1 resistor 10 kOhm 1/8 Watt.  
1 resistor 22 kOhm 1/8 Watt.  
1 resistor 4k7 Ohm 1/8 Watt.  
2 capacitors 10 uF.  
1 capacitor 100 nF.  
1 voltage stabilizer 7812.  
1 diode 1N4001.  
3 optoisolators 4N37.  
3 6-pin IC sockets.  
1 Mosfet IRF520.

**You will need this to make the pictures:**

1 DSLR camera with bulb mode.  
1 Cactus V5 set for remote flash.  
1 slave flash (optional).  
. Connection cable for the flash remote.  
. Connection cable for the valve.  
. Connection cable for the camera shutter.