

uArm Vacuum System User Guide

The uArm vacuum system is the custom designed modules for the uArm. With it you can grab the things in a different way. Also maybe you want to use it separately in the other project. This guide will show you how to use it properly.

From the picture we can see the driver board in the left side.



Take a closer look, and we can see a line of words under the 4pin connector. It represent the function of each pin.

Pump : High level = pump work, Low level = pump stop

Valve : High level = Valve work, Low level = Valve stop

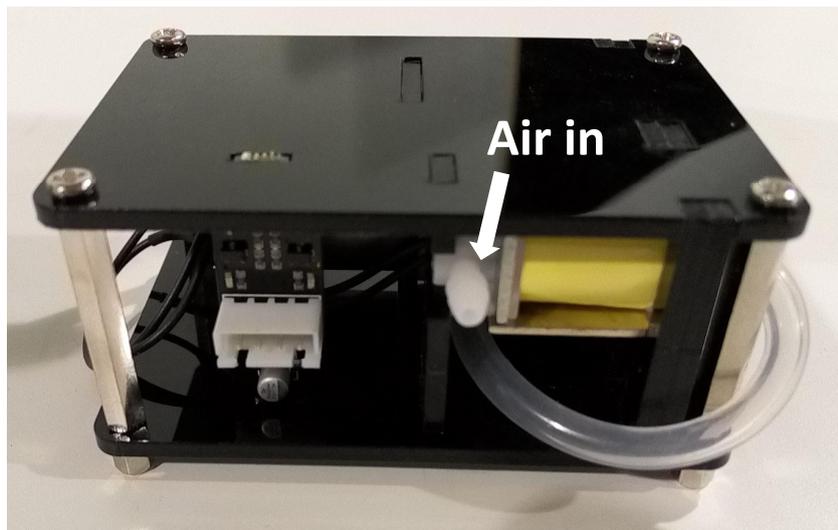
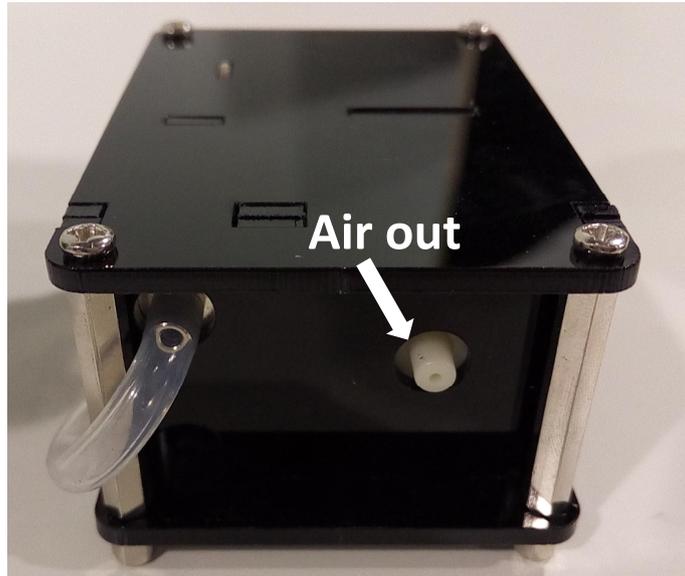
Vcc : 5v supply

Gnd : Connect to the ground

There are also two blue LEDs which can show the signal level of the pump and valve pins. If the control signal is high the LED will turn on else turn off.



As it's a vacuum system, the flow of the air is also necessary to know. The pictures below shows the air flow when the pump is working while the valve is off. There will be negative pressure in the port of air in, while there will be positive pressure in the port of air out.



The form shows the result of different input status.

valve	pump	Air in	Air out
Work(H)	Stop(L)	Ordinary pressure	Ordinary pressure
stop(L)	work(H)	Negative pressure	Positive pressure
stop(L)	stop(L)	Ordinary pressure	Ordinary pressure
work(H)	work(H)	Ordinary pressure	Positive pressure

Note: The max weight the vacuum system can lift with the bigger suction cup is 1kg.

Example base on uArm shield:

```
void setup() {  
  // put your setup code here, to run once:  
  pinMode(5, OUTPUT); //valve  
  pinMode(6, OUTPUT); //pump  
}  
  
void loop() {  
  // put your main code here, to run repeatedly:  
  digitalWrite(5, LOW); //valve stop  
  digitalWrite(6, HIGH); //pump work  
  delay(1000);  
  
  digitalWrite(5, HIGH); //valve work  
  digitalWrite(6, LOW); //pump stop  
  delay(1000);  
}
```