Pneumatic gripper and vacuum pickup valve cicuit
THIS ITEM IS MOUNTED ON A BASE WITH TEMPORARY CONNECTIONS FOR TESTING ONLY
Re-house in your industrial cabinet if this is an industrial application. Note that the actual layout may differ from the picture below.

The pneumatics circuit comprises 3 valves and a Venturi to produce vacuum.

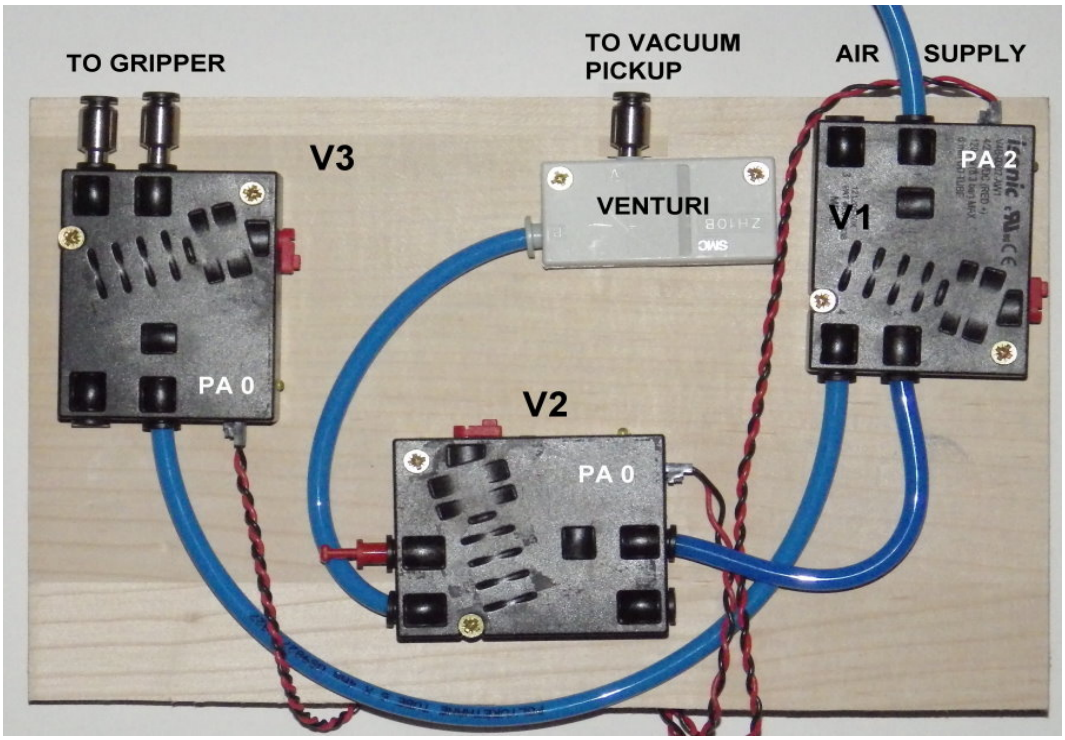

Diagram 1

Port 2 of valve V2 is blocked off. When all valves are off there is no air flow.

Check the calibration value
`LIMITS 8 + ?`
answer should be 2250. If not then enter
`2250 LIMITS 8 + !`
To make this value permanent use USAVE
Then use CALIBRATE

Pneumatic gripper
Mount the gripper using screws provided.
Connect the 2 tubes from V3 to the two connectors on the back of the robot.
Connect the 2 tubes from the fore-arm to the gripper.
Connect the air supply.
Select pneumatics
`0 GTYPE !`
Select gripper
`PA 2 ON`
Now use `GRIP and UNGRIP`
If the GRIP and UNGRIP are reversed simply swap the 2 tubes (switch off air supply first).

Vacuum pickup
Mount the VC unit using screws provided.
Connect 1 tube from the Venturi to the upper connector on the back of the robot.
Connect the upper tube from the fore-arm to the pickup.
Connect the air supply.
Select pneumatics
```
0 GTYPE !
```
Select vacuum
`PA 2 OFF` (already off if you just switched on)
Now use `GRIP and UNGRIP`

Optional vacuum sensor
It connects to PB 5.
PB 5 goes low when there is a vacuum.
Hence if you try to pick something up and the pick is unsuccessful PB 5 will remain high.
You could add a word:
```
: VACCHECK
PB 5 BIT? IF CR ." VACUUM FAIL" 101 ABORT THEN
;
```
In this example the system aborts if the vacuum fails leaving 101 in the variable ERR
See manuals for how to create your own error codes.
It is often best to use this check after getting away from the pickup area since you do not want the robot to stop when in the pickup position.

E1 and E2 electric grippers
Check the calibration value
```
LIMITS 8 + ?
```
answer should be 2810. If not then enter
```
2810 LIMITS 8 + !
```
To make this value permanent use USAVE

Mount the gripper using screws provided.
Select electric gripper mode
```
1 GTYPE !
```
Now use `GRIP and UNGRIP`