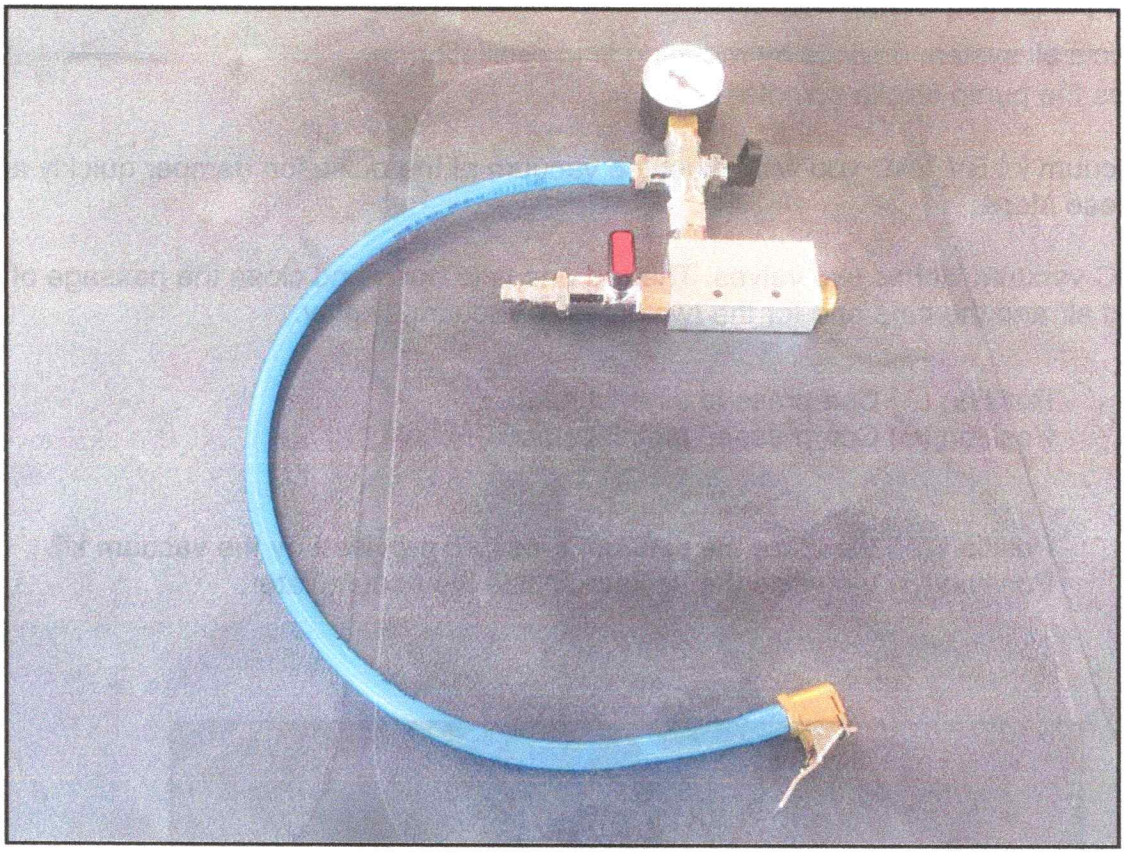
MANUAL OF USE OF THE HIDRACAR BV-VAC VACUUM KIT



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HIDRACAR S.A.

INTRODUCTION

HIDRACAR' BV-VAC vacuum kit is an essential tool for all pulsation dampeners installed in suction and negative pressure circuits.

The installation of a pulsation dampener on the suction has many advantages:

- Greater precision in measurement devices.
- Helps preventing cavitation.
- Protects all system devices by reducing fluid oscillations.
- Makes the pump stroke complete.

With the vacuum kit BV-VAC you will adjust the vacuum of the pulsation damper quickly and easily by following these steps:

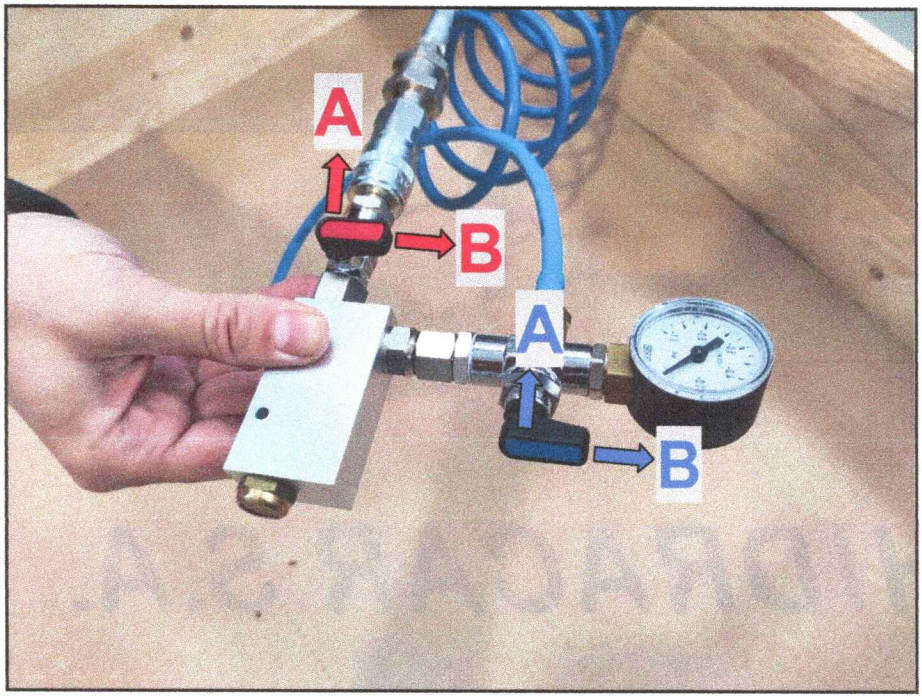
The BV-VAC vacuum kit has two valves. The red one is to open and close the passage of compressed air and the blue one for the two types of vacuum display.

Red valve:

- Position (A) Compressed air inlet open.
- Position (B) Compressed air inlet closed.

Blue valve:

- Position (A) Visualize the vacuum pressure provided by the vacuum kit.
- Position (B) Visualize the vacuum inside the accumulator.



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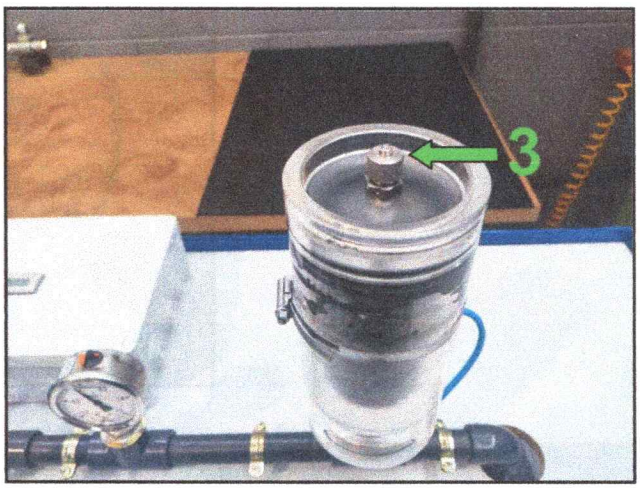
There are two ways to adjust the vacuum:

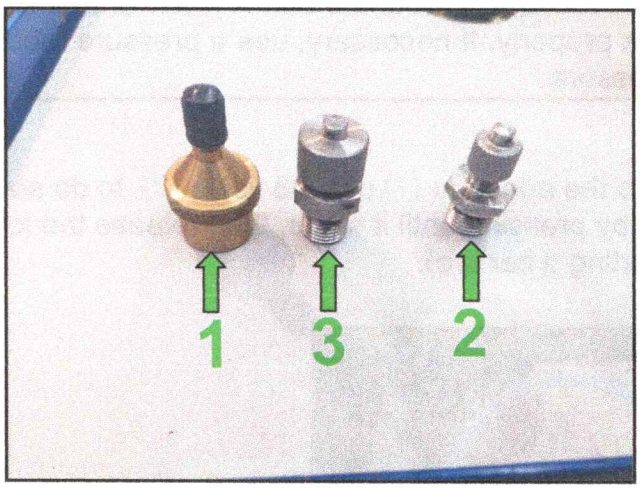
- With the accumulator installed in the suction line.
- With the accumulator not installed on the line.

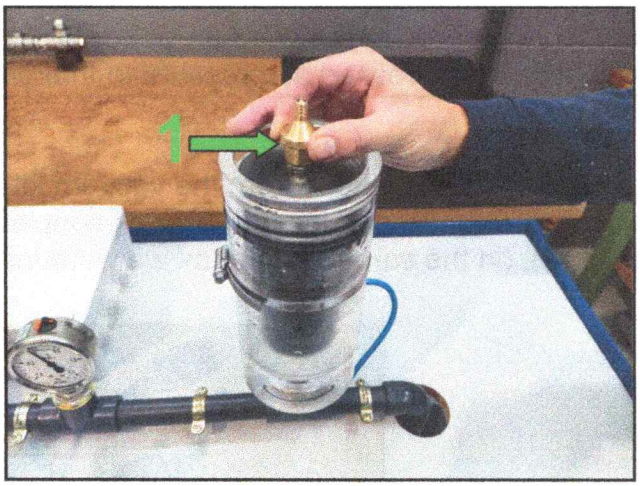
Pre-setting the vacuum with accumulator installed in suction line

1- Once the accumulator is installed in the suction line (as close as possible to pump inlet port) and with the installation stopped, connect the BV-VAC vacuum kit.

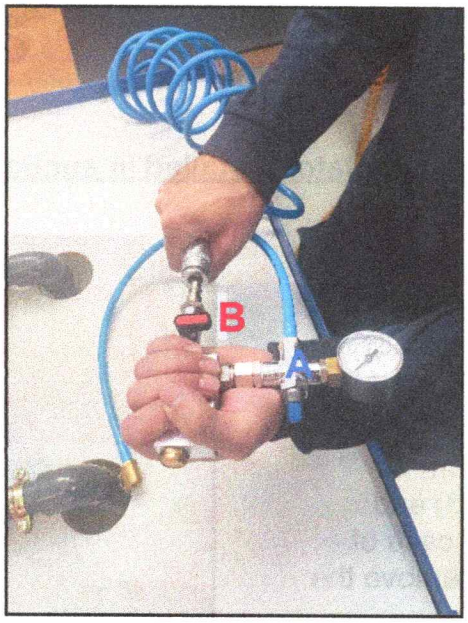
To do this, remove the cap from the accumulator charging valve (3) and insert the adacneu (1) (in the case of having a VG8 valve (2), just remove the safety cap).





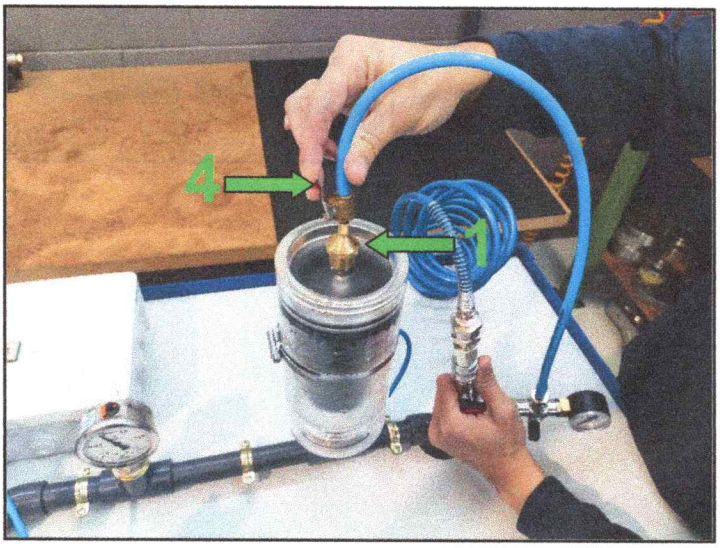


2- Red valve must be in position B and the blue hand in position A. Then, connect the compressed air hose to the vacuum kit. To do this, join the female quick coupling of the hose with the male connection that incorporates the vacuum kit (UNI ISO 6150 B-12).

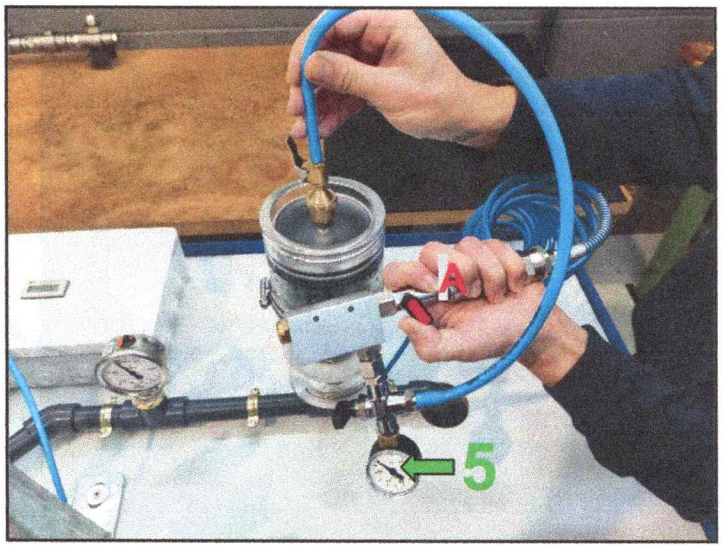


NOTE:
The optimum air pressure to achieve maximum vacuum is around 5 bar. A lower or higher pressure can cause the vacuum kit not to work properly. If necessary, use a pressure reducer to adjust the compressed air pressure to that pressure.

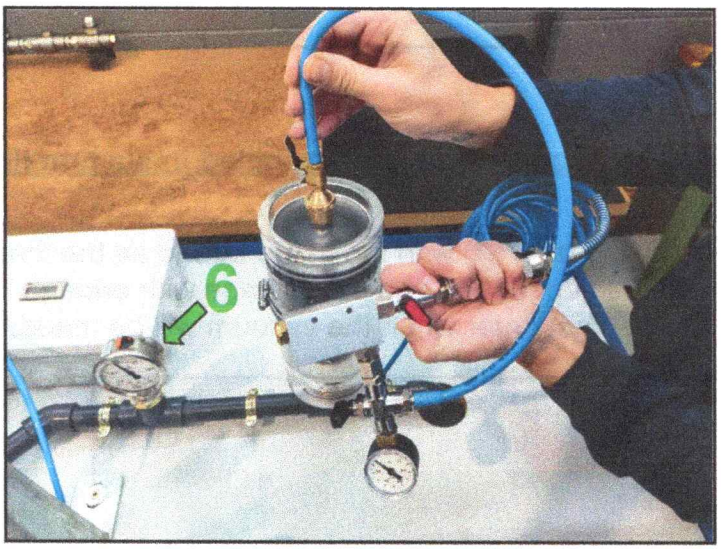
3- Connect the hose from the vacuum kit to the adacneu (1) or VG8 valve (2), to do so press the lever (4) and insert the quick coupler by pressing until it stops, then release the lever (4). (in the same manner as we were inflating a car tire).



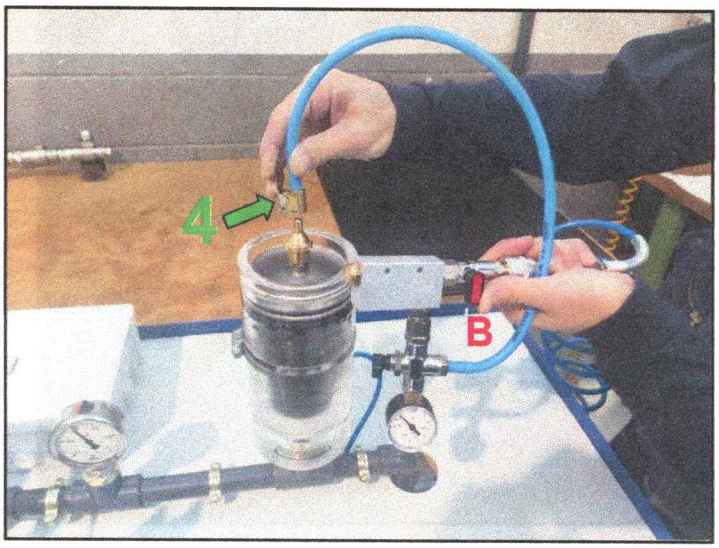
4- Start the pump and open the Red valve little by little towards the position A. At this moment, compressed air will enter and will begin to create a vacuum.



5- Next, check how the pulsations are decreasing in the system's vacuum gauge (6) while the red valve continues to open little by little towards the position A until the desired residual pulsation is reached



6- Next, disconnect the hose from the accumulator vacuum kit by pressing the lever (4) and pulling it out and then close the red valve in position B.

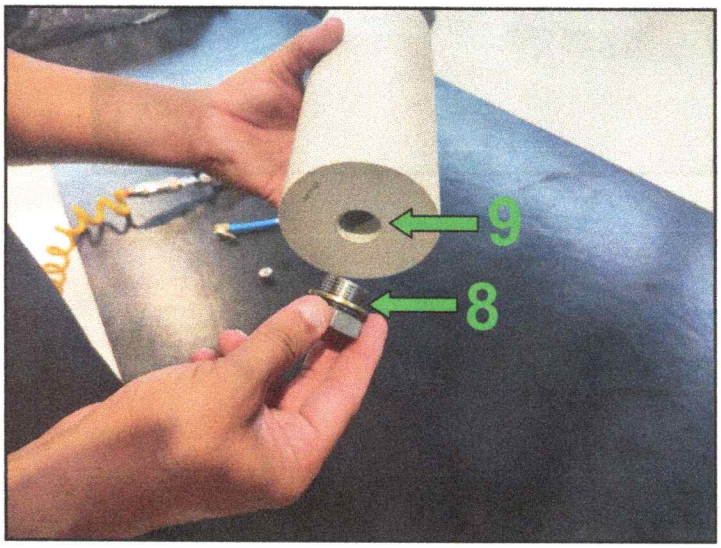


7- At this moment the vacuum adjustment can be considered finished.

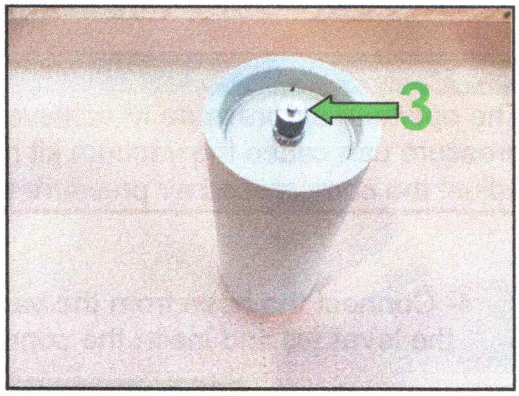
NOTE:
If an excessive vacuum is made and the pulsations are too high, repeat the process from point 3.

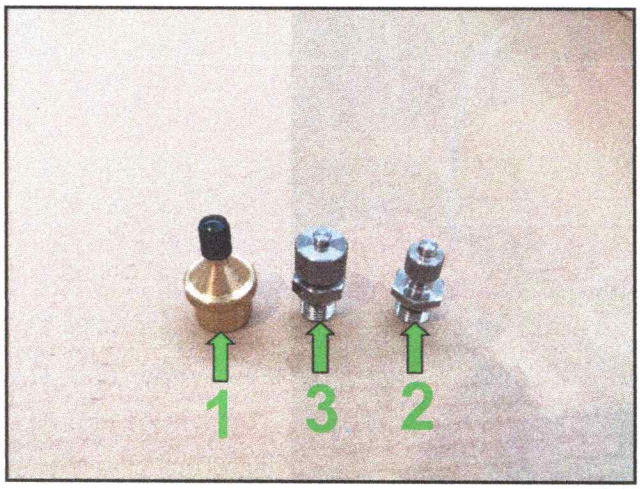
Pre-setting the vacuum with accumulator NOT installed in suction line

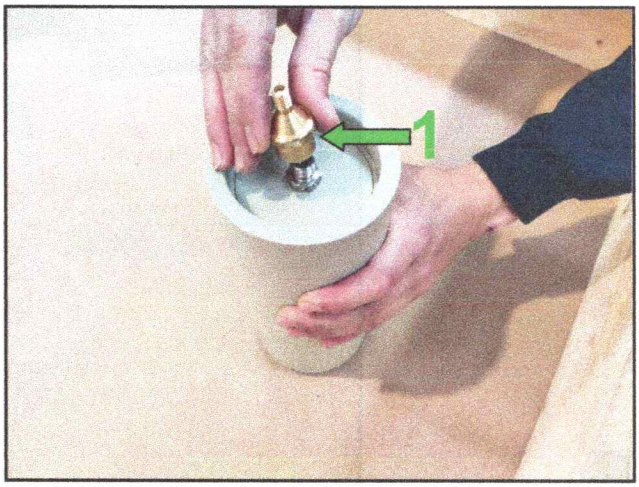
1- Insert a plug with a sealing gasket (8) with the same thread as the threaded connection (9), if the accumulator has a flange, mount a blind flange with enough tightening torque so that atmospheric air does not enter when the vacuum will be made.



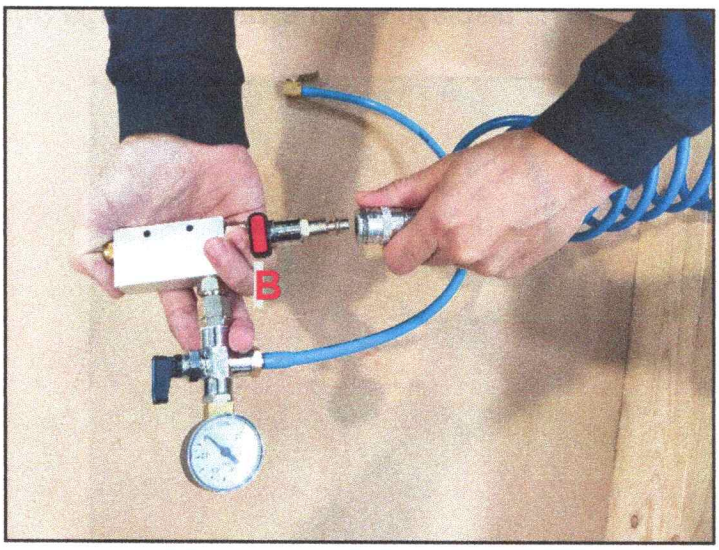
2- Once the plug is installed, connect the Vacuum kit BV-VAC. To do this, remove the cap from the accumulator charging valve (3) and insert the adacneu (1) (in the case of having a VG8 valve (2), only remove the safety cap)







3-Red valve must be in position B. Connect the compressed air hose to the vacuum kit. To do this, join the female quick connection of the hose with the male connection included in the vacuum kit (UNI ISO 6150 B-12).



NOTE:
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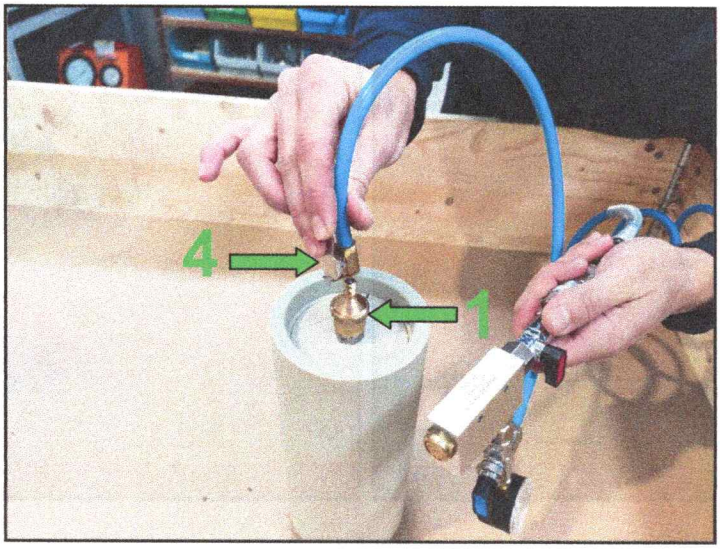
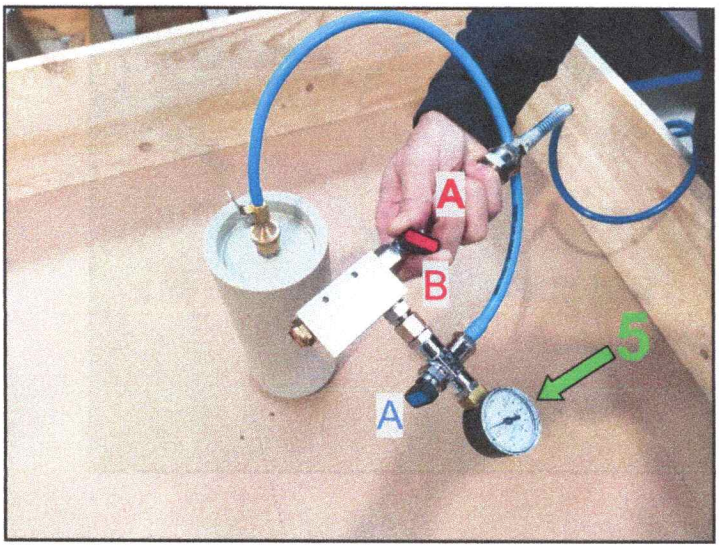
4- Connect the hose from the vacuum kit to the adacneu (1) or VG8 valve (2), to do so press the lever (4) and insert the connector by pressing until it stops, then release the lever (4).

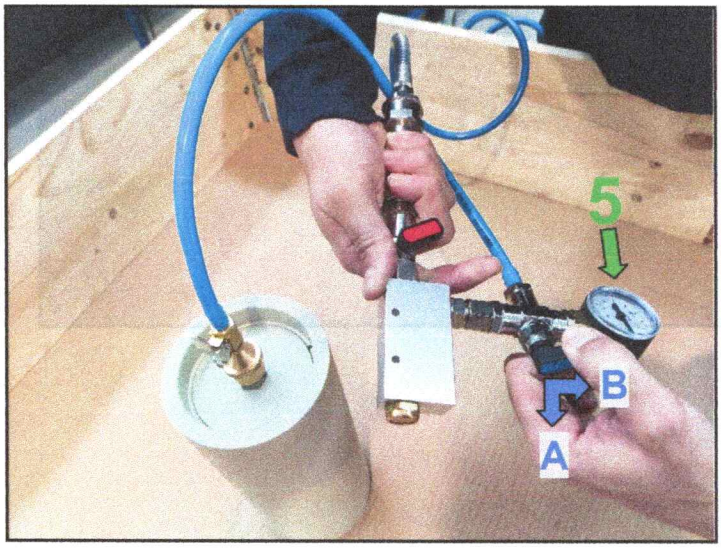


5- Blue valve must be in position A. Open the red valve to position A until -0.4 barg (-0.2 in bellows and membrane type) is displayed on the vacuum gauge (5).



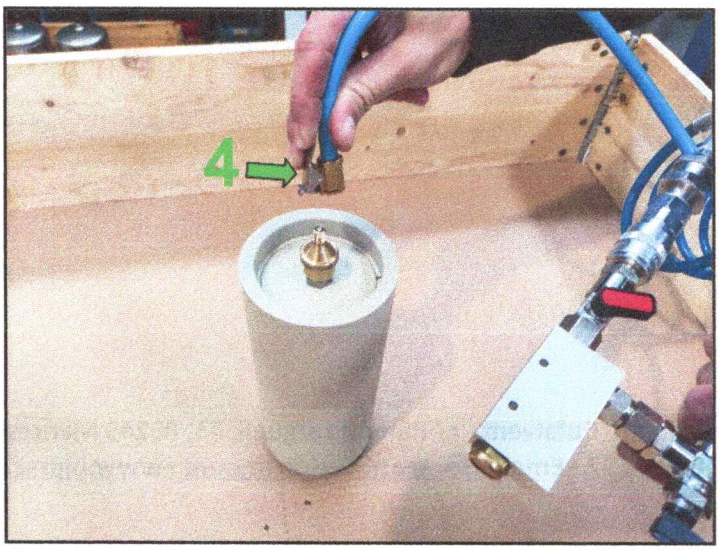
6- Next, check the vacuum inside the accumulator by visualizing the vacuum gauge (5) while the position of the blue valve alternates cyclically every second from position A to position B.

- When Blue valve is in position B, the gauge (5) will display the internal vacuum of the accumulator.
- When Blue valve is in position A, the gauge (5) will display the vacuum exerted by the vacuum kit at that moment.

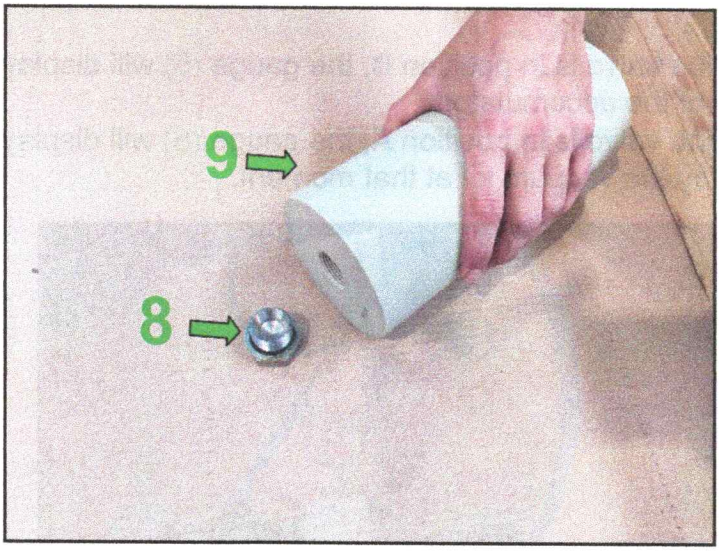


7- Once we see -0.4bar (-0.2 in bellows and membrane type) in the gauge (5) (with position B of the blue valve), leave the valve in position B position.

8- Disconnect the hose from the accumulator vacuum kit by pressing the lever (4) and pulling it out.



9- Lastly, remove the cap (8) from the threaded connection of the accumulator (9). The vacuum setting is now terminated. The accumulator is ready to work on the suction.



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