Pilotloo

Land only on purpose — not in an emergency.

PILOTLOO.COM

USER AND INSTALLATION MANUAL

Thank You for purchasing Pilotloo!

This product was designed for recreational pilots to install it on non-commercial aircraft, especially for gliders, for pilots undertaking long-duration flights. The Pilotloo is an electric vacuum system, which can safely transfer human urine outside of the aircraft fuselage during flights.

WARNING!

The use of Pilotloo could decrease the focus of the pilot during flights!

Do not use it when you need increased focus on your task!

Do not use it airborne when other aircrafts fly nearby!

Do not use it when you need to make special flight maneuvers!

Use Pilotloo only in smooth horizontal flight at safe distance from other aircraft!

Do not use the Pilotloo in freeze temperature conditions. The use below freezing point could damage the vacuum pump and ice could build up dangerously at the outlet on the fuselage!

Do not install the outlet pipe close to flight instrument measurement point on the aircraft fuselage. Be aware that discharged liquid may enter the airflow and reach sensitive pressure inlets.

PRODUCT DESCRIPTION:

1. Vacuum pump:

Rated voltage: DC 12 V
Working voltage: DC 9-14 V
Power: 9 W
Operational current: 0.5-0.7 A (max. 1 A)
Flow rate (air or liquid): max. 12 Lit. / min.
Total weight including all parts: < 700 gr
Fuse type: max. 2 A

WARNING!

It is prohibited and dangerous to use the system with a higher-rated fuse! An electrical short circuit or system fault could cause dangerous fire on board!

2. Connection cables for switch and power supply: 2 x 2.5mm2, cable length: 2 x 3 meters supplied to the set.

3. Pipes: 3 x 10 mm silicone pipes, uncut 5 meters supplied to the set.

4. Suction rubber part: food grade rubber, 1 set supplied to the set.

Currently, only the male version is available. A female version is under development.

(Could be easily exchanged for each pilot, as it is hygienic part. Check out our website to order it separately.)

USAGE:

WARNING!

Before the first usage airborne always give trial use on the ground!

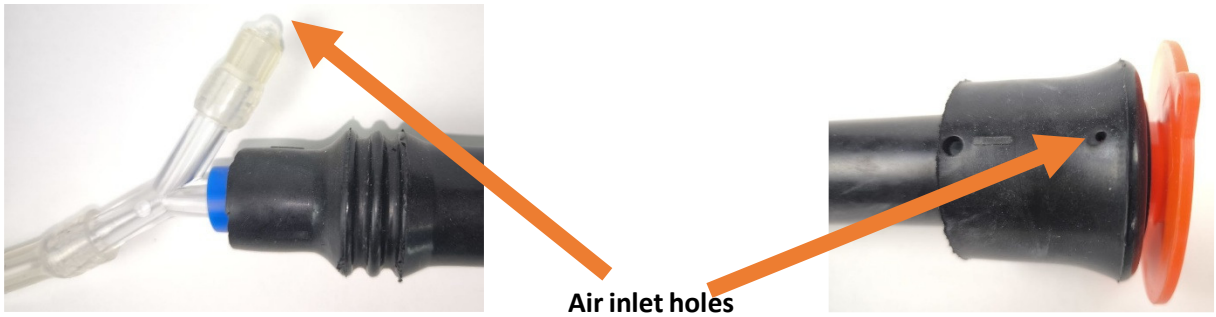
Do not use it if you do not hear the normal operation of the vacuum pump!

Do not block the air inlets during operation, because it will stop the liquid normal flow in the system!

Do not twist or bend sharply silicone pipes otherwise it could stop normal air and liquid flow!

Turn ON the Pilotloo vacuum pump with operating switch installed on the instrument board. After pump starts operating, attach the rubber suction part to your penis. Wait a second! When you feel that the vacuum already built up in the system, then you may begin urinating. The vacuum build up is visible on the sides of the suction rubber part, in case of good attachment and normal operational vacuum the wall of the suction rubber part collapses.

On the suction rubber part there is marked round hole (marked with a bigger diameter hole below), during the operation this hole should be positioned upward. On the Y connector there is an operational suction air inlet as well, this should be upward during the urinating process. When you attach the rubber part to the Y connector, then the hole should be aligned with the air inlet. **Do not block the air inlets during operation, because it will stop the liquid normal flow in the system!**



Remark: During the urinating process you need less muscular effort as usually, the vacuum level keeps the normal liquid flow by itself.

After use turn OFF the vacuum pump and remove the suction part. Turn ON again the vacuum pump while you turn the suction rubber with its inlet upward, so the vacuum airflow could remove all residues from the system. Put back the orange closing plug in the suction rubber and you can remove it from the Y connector and put it away until the next use.

After landing rinse the system with clean water! Turn ON the vacuum pump and pour water into the suction rubber, after the rinse water is finished, run for a few seconds to remove all the remaining liquid from the system.

INSTALLATION:

WARNING!

Before the first usage airborne always give trial use on the ground!

After installation pour water into the suction rubber part and monitor all parts for any abnormal leakage!

The vacuum pump unit should be fixed and placed safely with the approval of certified aircraft mechanic staff!

Poor mounting or placement of the vacuum pump unit could result in dangerous blockage of moving aircraft control components!

We recommend to place and fix vacuum pump unit in the baggage room designed by the aircraft manufacturer!

1. Install and fix the vacuum pump unit inside the cockpit. Be aware that vacuum pump unit should be away from any moving parts of control mechanics. Poor mounting of the unit could result in dangerous blockage of moving aircraft control components, which could be extremely dangerous!

2. The vacuum pump unit has to be connected to the DV 12 V power supply, and the power switch should be installed on the instrument panel. The cables are labeled: POWER (RED – positive,
BLACK – negative) and SWITCH.

3. Attach the silicon pipes (supplied totally 5 meters in the kit) to pump fittings:

SUCTION (INLET) fitting = upper one in the vacuum pump unit

PUSH (OUTLET) fitting = lower one in the vacuum pump unit

Fix the OUTLET pipe with a cable tie on the pump to avoid the accidental removal.

See on the picture the cable tie on the push fitting.

Remark: On the top of the vacuum pump, the arrows show the flow direction.

4. The outlet silicon pipe transfer the liquid to the outside of the fuselage. Its correct placing varies in different type of glider. Some example for it:

- Many gliders have a water ballast drop pipe in the fuselage, in this case it is a good practice to attach the outlet pipe to this main drop pipe.

- Some gliders have a factory installed urine pipe, then use this with suitable connector.

- Many gliders have no outlet on the fuselage. In this case we advise to prepare an outlet with the delivered L-connector. Consult with an aircraft mechanic about the good placement of a 6 mm drilled hole on the fuselage. **Do not use the existing holes, which are usually factory made for abnormal water drainage!** Place the L-connector in the 6 mm drilled hole, and fix it with a glue or resin. After fixing the L-connector, cut the outer extra part in level, and attach the outlet silicon pipe inside with cable tie fixing.

Be careful when fixing the outlet pipe with cable tie in the fuselage, because the silicon pipe could be fixed too tight which will block the liquid flow.

5. The suction silicon pipe should be led around the control stick under the seat or beside the pilot seat. **Be careful when fixing the suction (inlet) pipe with cable tie in the fuselage, because the silicon pipe could be fixed to tight which will block the liquid flow.**

At the suction pipe end attach the Y-connector, but check the comfortable length of the suction pipe for handling. Seat in the glider and attach the suction rubber to the Y-connector blue fitting, and make a trial, to be able to move the suction rubber without twisting or pulling the suction pipe, which could block the internal liquid flow.

TROUBLESHOOTING

Problem	Solution
Not enough vacuum level or or no liquid flow, when pump is turned on.	Check the system for leakage or blockage. Check vacuum pump operation directly on the pump inlet and outlet. Check voltage drop at the pump and electric cables.
Vacuum level is not enough tested on normal running vacuum pump.	Remove the pump valve set with the 4 screws on the pump top. Check the valves integrity, and replace them if broken. Check valve blockage by any dirt, eg. hair, sediments, etc.
Airflow and vacuum is normal, but no liquid flow when urinating.	Check the air inlets for any blockage, eg. clean with a needle or wash the rubber suction part.
Vacuum level is too high and uncomfortable.	Check the air inlets for any blockage, eg. clean with a needle or wash the rubber suction part.

MAINTENANCE

Rinse the system with clean water after landing. Run the pump after rinsing to remove all the liquid from the system. Do not use strong chemicals to rinse the system. If you see any sediments in the pipe then rinse it with vinegar water solution. Suction rubber part could be removed and washed properly or disinfected in hot water.

PERSONAL HYGIENE

Keep the system clean as described in the Maintenance chapter above.

Use only your personal own suction rubber part to avoid any health risk.

Disinfect the rubber suction part regularly in chlorinated water or with hot water temperature.

Rubber suction part could be washed in standard dishwasher.

Use the rubber suction part as a personal hygienic item if the Pilotloo was installed not in your private glider especially in club used glider.

DISCLAIMER AND LIMITATION OF LIABILITY

Pilotloo is intended solely as an auxiliary comfort product for use in non-commercial aviation environments and must be installed, inspected, and operated strictly in accordance with this manual and all applicable laws, regulations, and aircraft-specific requirements.

The manufacturer, distributor, and seller make no representation or warranty, express or implied, regarding the suitability of this product for any particular aircraft, mission, operating environment, or regulatory framework. The installer and operator are solely responsible for verifying compatibility with the aircraft, ensuring proper installation, and confirming that the use of the product does not interfere with flight safety, aircraft systems, controls, visibility, pilot performance, or compliance with applicable aviation rules.

This product is not a flight-critical system and must not be relied upon for safe operation of the aircraft. The pilot in command remains fully responsible for the safe operation of the aircraft at all times.

To the maximum extent permitted by applicable law, the manufacturer, distributor, and seller shall not be liable for any direct, indirect, incidental, consequential, special, or punitive damages, including but not limited to personal injury, property damage, aircraft damage, operational disruption, loss of use, loss of income, or any other loss arising out of or related to the installation, use, misuse, improper maintenance, modification, or inability to use this product.

Any installation, modification, or use of the product that deviates from this manual, applicable aviation practices, or aircraft manufacturer requirements shall be at the sole risk of the installer and operator and may void any applicable warranty.

The user accepts full responsibility for all risks associated with the installation and use of this product. If there is any doubt regarding installation, compatibility, or safe operation, consult a qualified aviation maintenance professional before use.

* * *

WE WISH YOU HAPPY LANDINGS!