

HHydrOdrive USER MANUAL

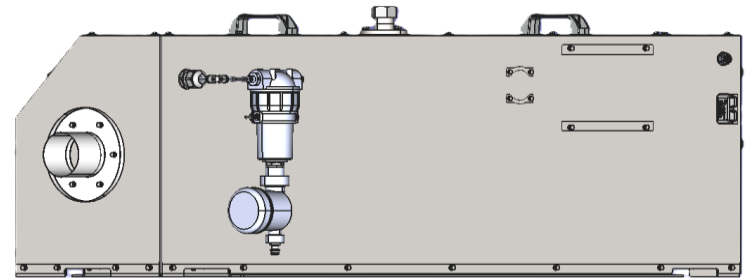
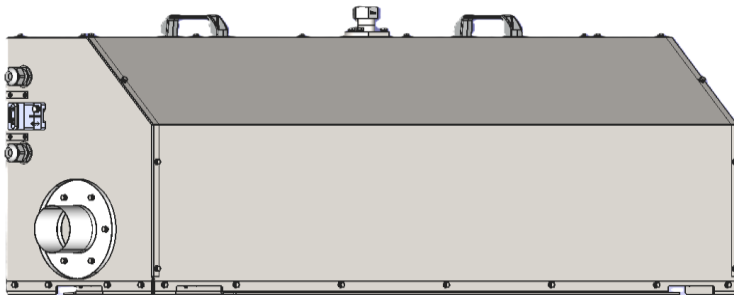
1. General

1.1. HHydrOdrive is a patented hydrogen-hybrid system generating hydrogen and oxygen gas onboard your vehicle. HHydrOdrive is fully automated and it is designed to operate without the need of driver's or other personnel assistance and intervention.

1.2. A sophisticated Electronic control unit (ECU) ensures seamless operation and complete safety at all times.

1.3. The driver is only required to monitor HHydrOdrive operation via the display conveniently located on the vehicle's dashboard.

1.4. For clarity, front-left and rear-left views of HHydrOdrive are shown in the figures below:



2. Display readings

2.1.HHydrOdrive is automatically ON once you start the engine and OFF once you stop it.

2.2.While the engine and HHydrOdrive are ON you will see on the display screen the following readings:

U=..V indicating system voltage (electric tension).

I=..A indicating system amperage (electrical supply).

RUN indicating that HHydrOdrive is ON.

T=.. °C indicating the temperature inside HHydrOdrive system.

These readings are for information purposes only.

2.3.In the unlikely event of the indication “RUN” changes to “OFF” please contact the dedicated support telephone line at your earliest convenience.

There is no cause for concern—HHydrOdrive will simply stop operating, and your vehicle will continue to run normally on diesel fuel only.

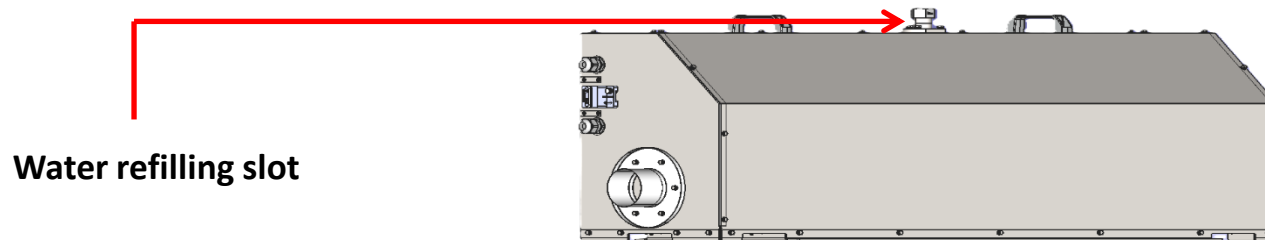
2.4.The only consumable HHydrOdrive needs is tap water. Once the water level reaches the pre-defined low level you will see on the display “ADD 9 LITRES TAP WATER” wording and you will hear a repeating alarm beep.

3. HHydrOdrive refilling

3.1. Once you notice the repeating alarm beep and/or “ADD 9 LITERS TAP WATER” wording you must refill HHydrOdrive with tap water. It is highly recommended that you do so at your earliest convenience.

3.2. You can refill the system upon returning to your depot; however delaying the refilling may slightly impact HHydrOdrive optimal performance.

3.3. The refill is done using the dedicated slot located on the top of HHydrOdrive. You should unscrew the cap, pour 9 litres of tap water in, and screw the cap back tightly.



3.4. For your convenience there is a second alarm beeper located inside the ECU of HHydrOdrive that you are able to hear during refilling. Once the water reaches the pre-defined top level the alarm beep will stop and the ADD 9 LITERS TAP WATER wording will disappear from the display.

3.5. Make sure to never pour more than 9 liters of water. Pour the water slowly and carefully as it must be distributed equally between several reservoirs inside HHydrOdrive. Refilling won't take more than 3-4 minutes.

4. Safety

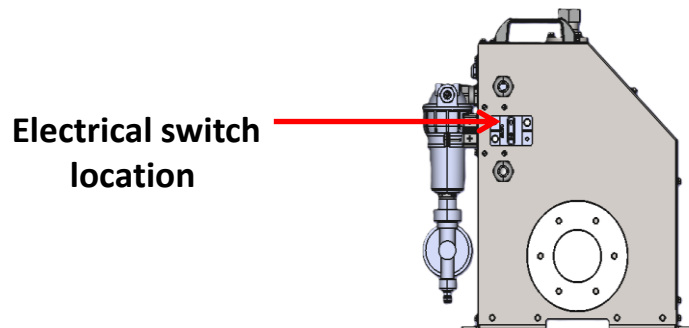
4.1.HHydrOdrive is certified for safety, compliance and EMC as per EU/UK standards in force.

4.2. HHydrOdrive operates on low voltage only (not exceeding 29V).

4.3.HHydrOdrive does not include gas storage tanks, it operates under very low pressure not exceeding 90 millibars. It is equipped with a gas safety valve which is designed to automatically release any pressure exceeding 350 millibars.

4.4.The gas produced is much lighter than the air so in the very unlikely event of leakage no gas accumulation can occur. The gas is completely harmless even when inhaled.

4.5.HHydrOdrive is equipped with an electrical switch combining automatic safety fuse and manual circuit breaker. The switch is conveniently located on the side of HHydrOdrive and can be easily accessed if needed.



Electrical switch
OFF button

Electrical switch
ON lever



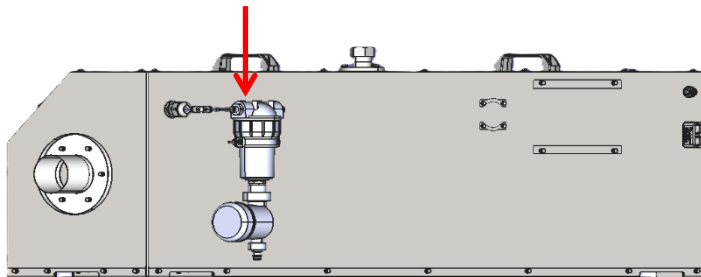
4.6.Electrical switch automatic safety fuse is designed to prevent HHydrOdrive from drawing more than pre-defined power from vehicle's alternator. In the very unlikely event of increased power draw, it cuts the electric circuit powering the HHydrOdrive providing an extra layer of protection.

4.7.If for some reason you need to manually switch off HHydrOdrive you can do so by pushing the electrical switch "OFF" button. You can easily restore the power to HHydrOdrive by simply pushing the electrical switch "ON" lever.

4.8.HHydrOdrive is equipped with gas filter and condense draining system designed to prevent any water condense and impurities from penetrating vehicle's engine.

4.9.The timer is set to drain the system each 24 hours and is powered independently by two 1.5 V standard batteries located in a push-on compartment below timer's control panel. There's also a LED indicator marking that the timer is on.

4.10.The system is located on HHydrOdrive's rear side but the automated drainer faces sideways to enable battery replacement. It is advisable to check the LED indicator from time to time and change batteries each six months.



Gas filter



Drain system timer

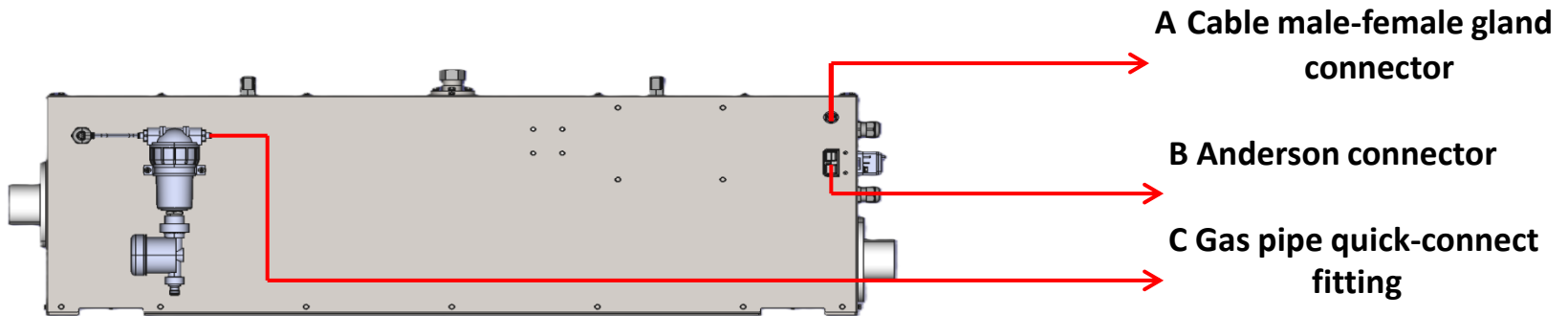
Battery compartment



5. HHydrOdrive de-installation

5.1. HHydrOdrive is installed on the catwalk behind the tractor's cabin. In case you need to remove the catwalk deck plate for certain repair/maintenance works you will need to de-install the HHydrOdrive first.

5.2. You can do so by following few simple steps.



5.3. Carefully disconnect display communication cable by unscrewing the cable gland (A) and pulling the male head out of the female base.

5.4. Disconnect the HHydrOdrive power line from the Anderson connector (B).

5.5. Carefully disconnect the gas pipe from the quick-connect fitting located on the gas filter's head side. Plug in an 8mm plastic cap into the quick-connect fitting to prevent electrolyte leakage while removing HHydrOdrive.

5.6. After steps 3, 4 and 5 are completed, you can remove the HHydrOdrive together with the catwalk's deck plate.

5.7. If for some reason you are unable to remove it together with the deck plate, you have to unscrew the four bolts HHydrOdrive is attached to the deck plate with and remove it separately.

6. HHydrOdrive re-installation

6.1. Once the repair/maintenance works which required de-installation are finished, you have to re-install HHydrOdrive.

6.2. First you have to mount HHydrOdrive together with catwalk plate deck on the chassis and fix it on its dedicated position.

6.3. In case that you have removed HHydrOdrive separately from the deck plate you have to fix the HHydrOdrive back to the initial position by screwing the four bolts back in place.

6.4. Carefully connect display communication cable by pushing the male head back into the female base and screw the cable gland(A) back.

6.5. Connect the HHydrOdrive power line back into the Anderson connector (B).

6.6. Remove the plastic cap and carefully connect the gas pipe back into the quick-connect fitting located on the side of the head of gas filter. Make sure that the gas pipe is tightly fitted into the quick-connect fitting and no gas leakage is possible.

6.7. After completing re-installation, start your engine and make sure that HHydrOdrive operates properly by checking the readings on the display.

6.8. In case some readings are not correct or the display is not functioning (the screen remains black) call the dedicated support telephone line.

Caution: Please take care when washing your vehicle around the HHydrOdrive unit, especially when using a pressure washer. Excessive water ingress may cause electrical malfunction.