8. Maintenance

Attention

Attention

Observe all hazard warnings in chapter 1.3

8.1. Overview of maintenance work

For the safe operation of the charging station, regular maintenance or control of the safety equipment is required. All the points listed below are considered mandatory and must be carried out by the operator at the intervals described.
Table 25 gives an overview of the required maintenance work. Depending on the individual operating conditions of the hypercharger, further maintenance work may still be necessary so the list below cannot be considered complete.

Maintenance work	Execution	Interval
Charging cable set	Replacement of the complete charging cable set	After 10000 charging cycles
Residual current devices	Function test of residual current circuit breaker	Yearly
Main switch, voltage release switch	Verify the correct function	Yearly
Verification of protective measures	With the charging station switched off, check the resistance between the ground of the supply and all externally accessible, non-insulated cabinet parts (housing, add-on parts, screws)	Yearly
Check for cleanliness and condensation	Check if the interior of the control cabinet is clean and without any traces of condensation. Check the water run-off on cable plug holder and AC-socket. Check the seal for damage and correct positioning.	Yearly
Screw	Random or complete testing of tightening torques at terminals and mechanical screw connections.	Yearly
Overvoltage protection	Check the surge arrester for full function	Yearly
Ventilation filters	Replacement of filters	Yearly
Level of cooling liquid	Check the cooling liquid level (fill level indicator)	Yearly
Concentration of cooling liquid	Check the concentration (test with refractometer) of the coolant liquid. If the concentration is below 50 %, this can be remedied by adding coolant concentrate.	Yearly
pH of cooling liquid	Check the pH (optimal value - pH between 8 and 9) of the coolant liquid. If the pH is below pH 7.7, replace the coolant liquid. Replacement of the majority of cooling liquid is sufficient to ensure protection.	Yearly

Table 25: Periodic maintenance work

8.2. Function test of circuit breaker

Turn to the **service door** and press the indicated button of the circuit breaker (label FB2) at the bottom of the charging station.

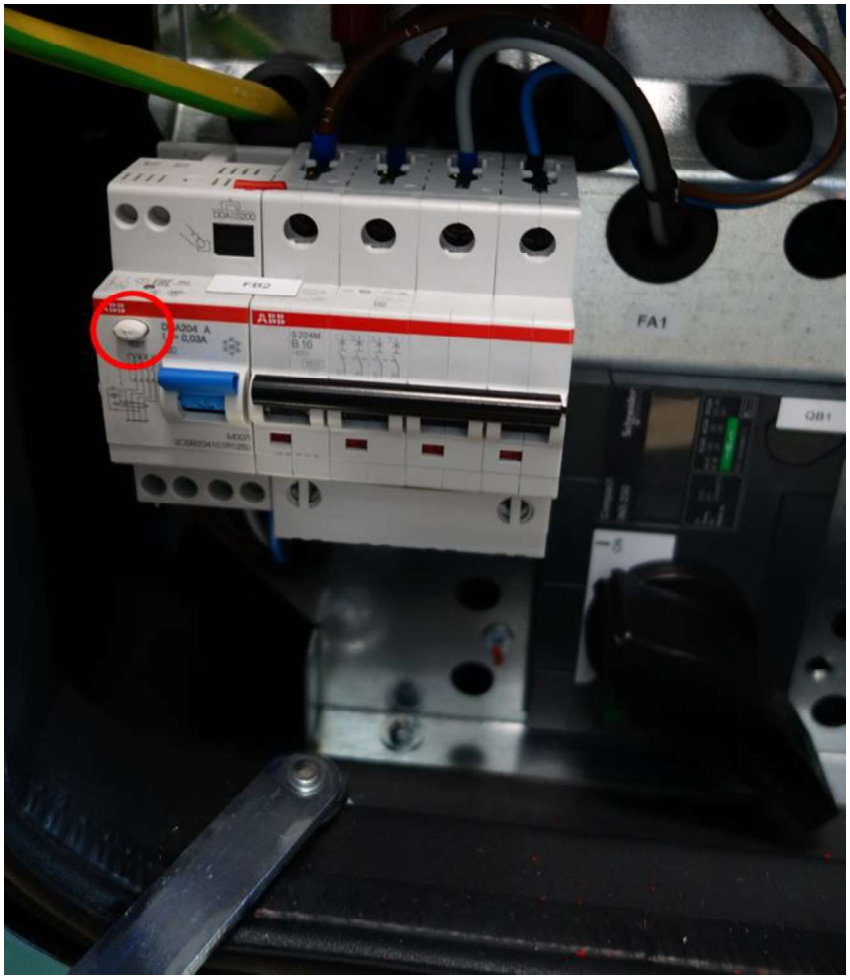

Figure 77: Function test of the circuit breaker

Attention

If there is a second circuit breaker (FB1), execute the same function test!

8.3. Function test of main switch

Please turn the main switch (label QB1) off. Wait until all LEDs of the stacks are turned off. Then turn the switch again on.

Figure 78: Function test of main switch

8.4. Verification of protective measures

In order to execute this check, turn off the main switch (label QB1, see figure above) and keep a digital multimeter at hand.

Attention

Please turn off the main switch!

Figure 79: Digital multimeter

Please check the resistance between the ground of the supply plug and all externally accessible, non-insulated cabinet parts like the housing, add-on parts and screws.

8.5. Check for cleanliness and condensation

Check if the interior of the control cabinet is clean and has no traces of condensation.

8.6. Check charging cable

Check if all charging cables are in perfect condition. Make sure that all cable parts (cable, connector, pins, cable sleeve, locking mechanism) are free from dirt, crushing, cracks, wear, burns or other damages. Also check that the insulation is intact and that all screws are tight.

8.7. Check screws

Execute a random or complete testing of tightening torques at terminals and mechanical screw connections.

Cables connected to the busbars of the input switchgear (L1, L2, L3, N, PE): **Torque of 35 Nm**

Input and output cable connections on the Stacks and their connections on the output switchgear: **Torque of 15 Nm**

Cables on cable screw joint in upper compartment of the cable door: **Torque of 15 Nm**

Remark

If you have doubts respective torques you can ask the support team for the manual “overview torques”.
support@hypercharger.it or +39 0471 096 333

8.8. Check overvoltage protection

Check the function display marked in the following figure. Green indicates proper function, red indicates a defect.

Figure 80: Check of overvoltage protection

8.9. Connectivity of sim cards

With the charging station switched off, remove the sim cards from the respective slot and press the sim slot slightly together so that the contacts are better in contact later and connectivity is thus ensured.

Attention

Make sure to insert the sim cards back into the correct slots!

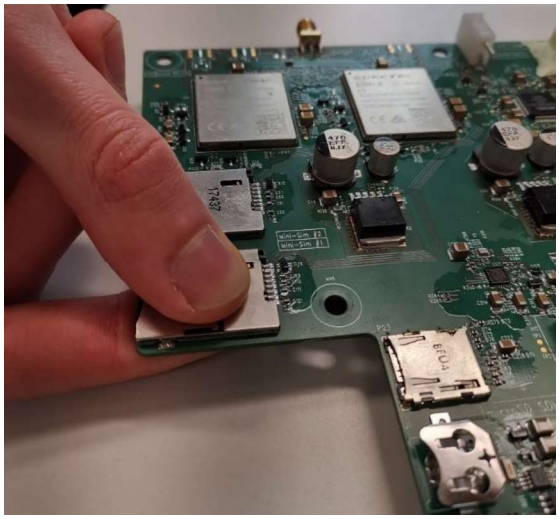

Figure 81: Compress the sim slot

8.10. Change filter mats

Please change the filter mats regularly.

Remark

Due to the increased pollen count in spring, the mats are particularly stressed during this time. Therefor it is recommended to change the filter mats afterwards.

The filter mats are in both **display and charging cable door.** There are ten filter mats in the HYC_300 and five in the HYC_150. The filters can be removed by pulling out the brackets (Figure 82: Replacement filter matsFigure 82, left). Replace the old mats with new ones and reattach the brackets (Figure 82, right).

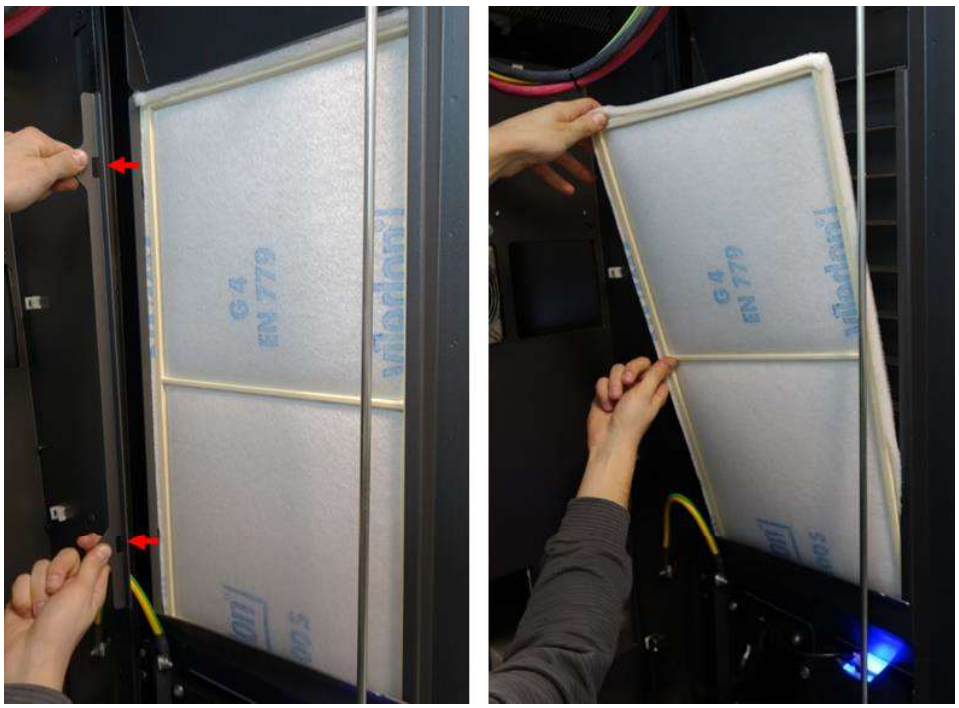

Figure 82: Replacement filter mats

8.11. Check coolant

Turn to the cooling unit at the bottom of the **charging cable door.**

8.11.1. Check coolant level

Please check the level of the cooling liquid.

Remark

If you open the lid or use a flashlight it is easier to check the current level of the cooling liquid.

Figure 83: Checking the cooling liquid level

Remark

If the serial number of the cooler starts with 18B or 19B, please inform the hypercharger support team in case you refill the liquid:
support@hypercharger.it or +39 0471 096 333

8.11.2. Check coolant concentration

Please check the concentration of the cooling liquid using a refractometer. If the concentration is below 50%, this can be remedied by adding coolant concentrate.

Figure 84: Check the coolant concentration using a refractometer

8.11.3. Check coolant pH

Check the pH of the cooling liquid using standard test stripes. The optimal pH value is between 8 and 9. If the pH is below pH 7.7, replace the coolant.

Remark

Usually you don't need to replace the coolant completely, the change of the majority is sufficient to ensure protection again.

If the serial number of the cooler starts with 18B or 19B, please inform the hypercharger support team if you refill the liquid:
support@hypercharger.it or +39 0471 096 333

8.12. Close the hypercharger

After completing the maintenance work, make sure to close all doors properly again.