

CLAIMS:

1. System configured to analyze an air conditioning device, the system comprising a detection unit configured to detect detection signals indicative of a contamination with a contaminant of an evaporator and an air filter of the air conditioning device, wherein the detection unit comprises a contamination sensor adapted to measure a concentration of volatile organic compounds in the exhausted air of the air conditioning device, wherein the concentration of volatile organic compounds is indicative of the level of the contaminant, wherein the detection unit is further configured to detect operating conditions of the air conditioning device,  
an analyzing unit configured to analyze of a level of contamination of the evaporator and the air filter based on the detection signals and by conducting a comparison with the detected operating conditions and with predefined operating data of the air conditioning device, and further comprising an output unit configured to output to a user the analyzed level of contamination of the evaporator and the air filter with the contaminant.
2. System according to claim 1,  
wherein the analyzing unit is configured to generate a decontamination signal if the analyzed level of the contaminant exceeds a predetermined level of the contaminant, wherein in particular the output unit is configured to output the decontamination signal.
3. System according to claim 2, further comprising  
a decontamination unit,  
wherein the decontamination unit is coupleable to the evaporator and configured to decontaminate the evaporator and/or the air filter based on the decontamination signal.
4. System according to claim 3,  
wherein the decontamination unit comprises a chemical exhaust nozzle configured to eject chemical decontamination fluid to the evaporator and/or the air filter.
5. System according to claim 3 or 4,

wherein the decontamination unit comprises a heating element coupleable to the evaporator and/or the air filter and configured to heat up the evaporator and/or the air filter in order to reduce the level of contaminant.

6. System according to one of the claims 1 to 5, wherein the detection unit is coupleable to an exhaust air channel of the air conditioning device and configured to measure the level of contaminant.

7. System according to one of the claims 1 to 6, wherein the concentration of volatile organic compounds, in particular isopropanol and/or odor former, such as carbonic acids, is indicative of the level of the contaminant of the evaporator and/or the air filter.

8. System according to one of the claims 1 to 7, wherein the detection unit comprises an air flow sensor configured to detect a flow of exhaust air of the air conditioning device.

9. System according to one of the claims 1 to 8, wherein the detection unit, the analyzing unit and/or the output unit are coupled wire connected or wireless connected and configured to transmit data.

10. System according to one of the claims 1 to 9, wherein the output unit is a handheld device, in particular a smartphone or a tablet computer.

11. System according to one of the claims 1 to 10, wherein the air conditioning device is an air conditioning device of a vehicle, in particular a car, wherein the analyzing unit is a control unit of the vehicle.

12. Use of a system according to one of the claims 1 to 11 for detecting, analyzing and outputting a level of the contaminant of an evaporator and an air filter of an air conditioning device, in particular an air conditioning device of a vehicle.

13. Method of analyzing an air conditioning device, the method comprising detecting, with a detection unit, of detection signals indicative of a contamination with a contaminant of an evaporator and an air filter of the air conditioning device, wherein the detection unit comprises a contamination sensor for measuring a concentration of volatile organic compounds in the exhausted air of the air conditioning device, wherein the concentration of volatile organic compounds is indicative of the level of the contaminant, wherein the detection unit is further configured to detect operating conditions of the air condition device,

analyzing of a level of the contamination with the contaminant of the evaporator and the air filter based on the detection signals and by conducting a comparison with the detected operating conditions and predefined operating data of the air conditioning device, and

outputting the analyzed level of contamination with the contaminant of the evaporator and the air filter to a user, wherein the detection unit comprises a contamination sensor for measuring a concentration of volatile organic compounds in the exhausted air of the air conditioning device.

14. Method according to claim 13,

generating a decontamination signal if the analyzed level of the contaminant exceeds a predetermined level of the contamination,

decontaminating the evaporator and/or the air filter based on the decontamination signal,

analyzing the level of contamination with the contaminant after decontaminating the evaporator and/or the air filter if the analyzed level of the contamination with the contaminant falls below a predetermined level of the contamination with the contaminant.