

Claims

1. System for extracting the air flowing across a motor vehicle radiator comprising:
 - at least one radiator (2);
 - at least one exhaust pipe (3) for the exhaust fumes coming from an engine;
 - at least one extractor (4) in fluid communication with the radiator (2) for conveying and discharging to the environment the air flowing across the radiator (2);
 - said extractor (4) comprising at least one discharge portion (5) with a predetermined extension L in which the exhaust fumes coming from the engine (7) are set in contact with the air coming from the radiator (2).
2. System for extracting the air flowing across a motor vehicle radiator according to claim 1, characterized in that said discharge portion (5) comprises an inlet (8) for the air flowing across the radiator (2), having a predetermined section S1.
3. System for extracting the air flowing across a motor vehicle radiator (2) according to claim 1 or 2, characterized in that said discharge portion (5) comprises an inlet (9) for the exhaust fumes carried by said exhaust pipe (3), having a predetermined section S2.
4. System for extracting the air flowing across a motor vehicle radiator according to claim 3, characterized in that the ratio $S2/S1$ is comprised in the range between 0,1 and 10.
5. System for extracting the air flowing across a motor vehicle radiator according to any one of the previous claims, characterized in that said at least one discharge portion (5) is airtight insulated .
6. System for extracting the air flowing across a motor vehicle radiator according to any one of the previous claims, characterized in that said

extractor (4) has a shape converging towards the inlet (9) for the exhaust fumes carried by the said exhaust pipe (3).

7. System for extracting the air flowing across a motor vehicle radiator (2) according to any one of the previous claims, characterized in that said discharge portion (5) comprises at least one outlet (10) common to the exhaust fumes carried by the said exhaust pipe (3) and the air flowing across the radiator (2).

8. System for extracting the air flowing across a motor vehicle radiator (2) according to claim 7, characterized in that said outlet (10) is located at a predetermined distance from the inlet (9) for the exhaust fumes.

9. System for extracting the air flowing across a motor vehicle radiator (2) according to any one of the previous claims, characterized in that said radiator (2) is located in the rear part of a motor vehicle.

10. System for extracting the air flowing across a motor vehicle radiator (2) according to any one of the previous claims, characterized by comprising:

- at least one diffuser (11) at an inlet side of the said radiator (2);
- at least one air intake duct (12) in fluid communication with the said

diffuser (11);

and at least one air inlet (13) located at an end of the said air intake duct (12).

11. Process for extracting the air flowing across a motor vehicle radiator by means of a system comprising:

- at least one radiator (2);
- at least one exhaust pipe (3) for the exhaust fumes coming from an engine;
- at least one extractor (4) in fluid communication with the radiator (2)

for conveying and discharging to the environment the air flowing across the radiator (2);

characterized by:

- providing at least one air flow M flowing across the radiator (2);
- providing at least one flow of exhaust fumes F coming from the engine
- setting the air flow M flowing across the radiator (2) and the flow of exhaust fumes F coming from the engine in contact in the said extractor (4);
- discharging the air flow M coming from the radiator (2) together with the flow of exhaust fumes F coming from the engine.

12. Process for extracting the air flowing across a motor vehicle radiator according to claim 11, characterized in that:

- said at least one air flow M coming from the radiator (2) has a speed v_1 ;
- said at least one flow of exhaust fumes F coming from the engine has a speed v_2 , with $v_2 > v_1$.

13. Process for extracting the air flowing across a motor vehicle radiator according to claim 11 or 12, characterized by jointly discharging the air flow M coming from the radiator (2) and the flow of exhaust fumes F coming from the engine.

14. Process for extracting the air flowing across a motor vehicle radiator according to any one of the claims 11 to 13, characterized by lowering the speed of the first air flow entering the radiator and by increasing the pressure of the same.

15. Process for extracting the air flowing across a motor vehicle radiator according to any one of the claims 11 to 14, characterized by increasing the speed v_1 of the air flow M flowed across the radiator and entering the extractor (4) by means of the suction pressure caused by the flow of exhaust fumes F in the discharge portion (5).