

## Title (en)

LIQUID COOLING CIRCUIT FOR MACHINES ESPECIALLY FOR INTERNAL COMBUSTION ENGINES

## Publication

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## Application

**EP 88107940 A 19880518**

## Priority

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## Abstract (en)

[origin: WO8809429A1] A liquid cooling circuit for driving and working engines, in particular for internal combustion engines, contains, in an ancillary flow vent pipe (14), an air extraction container (17) arranged at the tip (5') of the cooler lead-in (5). A filling pipe (19) with correcting ports (5" and 17") for the cooler lead-in (5) and air extraction container (17) contains a sealing cover (20) which seals these connecting ports from each other. Overpressure, underpressure and vent valves (21 and 22) in the sealing cover (20) control a connecting line (25) to an atmospheric or overpressure equalizing container (27). The connecting line (25) which is opened at least at low coolant temperatures by a thermostatically controlled vent valve (22), permits highly efficient ventilation associated with a marked variation in engine speed. As a result of the arrangement and the low-volume of the air extraction container (17), filling is more rapid and the engine (1) warms up more quickly. Advantages resulting from other features of the invention are compact design, reduction of cost and weight, component compatibility, and extended operating conditions of the cooling circuit to ensure optimal cooling.

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## IPC 8 full level

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