

Title (en)

Pressure valve unit in an expansion tank of a cooling circuit of an internal combustion engine.

Title (de)

Druckventileinheit an einem Ausgleichsbehälter im Kühlkreis einer Brennkraftmaschine.

Title (fr)

Unité de soupape de pression dans un vase d'expansion d'un circuit de refroidissement d'un moteur à combustion interne.

Publication

**EP 0464317 B1 19931020 (DE)**

Application

**EP 91105000 A 19910328**

Priority

DE 4020866 A 19900629

Abstract (en)

[origin: EP0464317A1] The invention relates to a pressure valve unit on an expansion tank (1) in the cooling circuit of an internal-combustion engine. In this case, the individual pressure-relief valves (14, 15) inside a retaining housing (9) arranged in a prone manner in an expansion tank cover (6) are additionally surrounded by valve housings (16, 17), clipped to one another, so that the sealing surfaces (22, 23) of the pressure-relief valves (14, 15) are decoupled from the walls of the expansion tank (1). This prevents deformations of the sealing surfaces and leaks in the sealing on the pressure-relief valves from occurring in the event of the expansion tank changing shape as a result of a pressure increase caused by the water level.  
<IMAGE>

IPC 1-7

**F01P 11/02**; F01P 11/18; F01P 3/22

IPC 8 full level

**F01P 11/00** (2006.01); **F01P 3/22** (2006.01); **F01P 11/02** (2006.01); **F01P 11/18** (2006.01); **F16K 17/04** (2006.01)

CPC (source: EP US)

**F01P 3/2207** (2013.01 - EP US); **F01P 11/0238** (2013.01 - EP US); **F01P 11/029** (2013.01 - EP US)

Designated contracting state (EPC)

ES FR GB IT

DOCDB simple family (publication)

**DE 4020866 C1 19910523**; EP 0464317 A1 19920108; EP 0464317 B1 19931020; ES 2047357 T3 19940216; JP H05332137 A 19931214; JP H0747929 B2 19950524; US 5088453 A 19920218

DOCDB simple family (application)

**DE 4020866 A 19900629**; EP 91105000 A 19910328; ES 91105000 T 19910328; JP 25010191 A 19910626; US 69743591 A 19910509