

Title (en)  
High pressure spray nozzle.

Title (de)  
Hochdruckzerstäubungsdüse.

Title (fr)  
Buse de pulvérisation haute-pressure.

Publication  
**EP 0496016 B1 19950510 (DE)**

Application  
**EP 91100787 A 19910123**

Priority  
EP 91100787 A 19910123

Abstract (en)  
[origin: US5269495A] For the optimum atomization of liquid materials, a high-pressure atomizing nozzle is proposed with a nozzle body (1) in which is formed a turbulence chamber (11) which is connected to an external space via a nozzle orifice (4) and which has supply ducts (8) for the fluid to be atomized, through which ducts the fluid mentioned can be supplied under pressure. The cross-sectional areas of the supply ducts (8) entering the turbulence chamber (11) are larger by a factor of between 2 and 10 than the cross-sectional area of the nozzle orifice (4). In this way, part of the nozzle upstream pressure available is used to generate high levels of turbulence in the fluid to be atomized. The turbulence generation is achieved by means of an abrupt expansion (Carnot diffuser) in the turbulence chamber located before the actual nozzle orifice. The resulting droplet spray exhibits small angles of spread and very small droplet sizes (in the case of the atomization of water,  $\leq 20$  microns at upstream pressures  $\geq 150$  bar).

IPC 1-7  
**B05B 1/34**

IPC 8 full level  
**B05B 1/10** (2006.01); **B05B 1/34** (2006.01); **F23D 11/38** (2006.01)

CPC (source: EP US)  
**B05B 1/10** (2013.01 - EP US); **B05B 1/34** (2013.01 - EP US); **F23D 11/38** (2013.01 - EP US)

Cited by  
US6045058A; US5586878A; DE10024888B4; CN105728226A; US5934555A; EP0794383A3; EP0892212A2

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**US 5269495 A 19931214**; DE 59105449 D1 19950614; EP 0496016 A1 19920729; EP 0496016 B1 19950510

DOCDB simple family (application)  
**US 80566091 A 19911212**; DE 59105449 T 19910123; EP 91100787 A 19910123