

Title (en)  
LIGHTWEIGHT VALVE

Title (de)  
LEICHTBAUVENTIL

Title (fr)  
SOUPAPE LEGERE

Publication  
**EP 1053388 B1 20031210 (DE)**

Application  
**EP 99908830 A 19990128**

Priority  
• DE 19804053 A 19980203  
• EP 9900561 W 19990128

Abstract (en)  
[origin: DE19804053A1] The invention relates to a hollow-stem valve for an internal combustion engine. Said valve has a ratio of wall thickness to stem diameter of less than 1:3. The aim of the invention is to minimise the deformation of the valve head. To this end, the valve disk rests directly against the stem.

IPC 1-7  
**F01L 3/02**; **F01L 3/04**

IPC 8 full level  
**F01L 3/02** (2006.01); **F01L 3/04** (2006.01); **F01L 3/12** (2006.01); **F01L 3/20** (2006.01)

CPC (source: EP US)  
**F01L 3/02** (2013.01 - EP US); **F01L 3/04** (2013.01 - EP US); **F01L 3/12** (2013.01 - EP US); **F01L 3/20** (2013.01 - EP US);  
**Y10T 29/49307** (2015.01 - EP US)

Cited by  
DE102013216188A1; DE102006061127B4

Designated contracting state (EPC)  
CH DE FR GB IT LI

DOCDB simple family (publication)  
**DE 19804053 A1 19990805**; AR 018055 A1 20011031; BR 9908554 A 20011030; DE 59908022 D1 20040122; EP 1053388 A1 20001122; EP 1053388 B1 20031210; EP 1359292 A1 20031105; JP 2002502928 A 20020129; JP 4282900 B2 20090624; US 6354258 B1 20020312; WO 9940295 A1 19990812

DOCDB simple family (application)  
**DE 19804053 A 19980203**; AR P990100450 A 19990203; BR 9908554 A 19990128; DE 59908022 T 19990128; EP 03014001 A 19990128; EP 9900561 W 19990128; EP 99908830 A 19990128; JP 2000530689 A 19990128; US 60149700 A 20000801