

Title (en)  
METERING PUMP

Title (de)  
DOSIERPUMPE

Title (fr)  
POMPE DOSEUSE

Publication  
**EP 1385633 A1 20040204 (FR)**

Application  
**EP 02730397 A 20020507**

Priority  

- FR 0201564 W 20020507
- FR 0106175 A 20010510

Abstract (en)  
[origin: WO02089996A1] The invention relates to a metering pump comprising a pump barrel (1) housing a dose chamber (32) and control means that can be moved between a discharge position and a rest position. The inventive metering pump is characterised in that the control means comprise: a push rod (2); a piston (3) that can slide in relation to the push rod (2) and in relation to the pump barrel (1) all the while remaining in permanent contact with said two elements; and an elastically-deformable annular valve (4) that rests permanently against the push rod (2). The control means are moved between the rest position and the discharge position in two steps: the push rod (2) slides in relation to the piston (3) in the pump barrel; and subsequently the push rod (2) and the piston (3) slide jointly in the pump barrel (1) and a discharge opening (42) is released.

IPC 1-7  
**B05B 11/00**

IPC 8 full level  
**B05B 11/00** (2006.01)

CPC (source: EP US)  
**B05B 11/1023** (2023.01 - EP US); **B05B 11/1053** (2023.01 - EP); **B05B 11/1064** (2023.01 - EP); **B05B 11/1076** (2023.01 - EP US);  
**B05B 11/1094** (2023.01 - EP); **B05B 11/026** (2023.01 - EP US); **B05B 11/028** (2023.01 - EP US)

Citation (search report)  
See references of WO 02089996A1

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)  
**WO 02089996 A1 20021114; WO 02089996 A8 20031204;** DE 60223671 D1 20080103; DE 60223671 T2 20081030; EP 1385633 A1 20040204;  
EP 1385633 B1 20071121; ES 2296925 T3 20080501; FR 2824538 A1 20021115; FR 2824538 B1 20040116; US 2005023298 A1 20050203;  
US 7178701 B2 20070220

DOCDB simple family (application)  
**FR 0201564 W 20020507;** DE 60223671 T 20020507; EP 02730397 A 20020507; ES 02730397 T 20020507; FR 0106175 A 20010510;  
US 47744304 A 20040513