

Title (en)  
Venturi based vacuum valve apparatus for water conservation

Title (de)  
Venturi artiges Unterdruckventil zur Wassereinsparung

Title (fr)  
Vanne de sous-pression avec venturi pour la conservation d'eau

Publication  
**EP 1142646 A1 20011010 (EN)**

Application  
**EP 00107404 A 20000405**

Priority  
EP 00107404 A 20000405

Abstract (en)  
A venturi based vacuum valve (10) has a plug (12) with first (14), second (16) and third (18) openings. The first opening (14) formed in the plug (12) acts as an inlet and is smaller than the second opening (16). The first (14) and second (16) openings are connected within the plug (12) so that a small diameter space (20) is connected with a large diameter space (22) within the plug (12). A third opening (18), open to the atmosphere and forming a suction hole, intersects the small (20) and large (22) diameter space after the small diameter space (20) and before the second opening (16). The second opening (16) forms an outlet in the plug (12). The plug (12) in a preferred embodiment, is form fitted within a shower pipe (26) so that water is received first at the first opening (14). Thereafter, small diameter space (20) opens into large diameter space (22) and air through third opening (18) is mixed therein. The air/water mixture exits second opening (16) and proceeds at high velocity and force through a user's normal unrestricted showerhead attached to the shower pipe (26) thereafter. Preferred embodiments of the invention include threads (32 and 34) for engaging the shower pipe (26) and the showerhead.

IPC 1-7  
**B05B 7/04**; **E03C 1/084**; **B05B 1/30**

IPC 8 full level  
**B05B 1/30** (2006.01); **B05B 7/04** (2006.01); **E03C 1/084** (2006.01); **B05B 1/18** (2006.01)

CPC (source: EP US)  
**B05B 1/30** (2013.01 - EP US); **B05B 7/0425** (2013.01 - EP); **E03C 1/084** (2013.01 - EP); **B05B 1/18** (2013.01 - EP)

Citation (search report)

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Designated contracting state (EPC)  
DE ES FR GB IT PT

DOCDB simple family (publication)  
**EP 1142646 A1 20011010**; **EP 1142646 B1 20040804**; DE 60012689 D1 20040909

DOCDB simple family (application)  
**EP 00107404 A 20000405**; DE 60012689 T 20000405