

Title (en)  
Filling a container with gas under pressure

Title (de)  
Füllung eines Behälters mit Gas unter Druck

Title (fr)  
Remplissage d'un récipient avec gaz sous pression

Publication  
**EP 0994290 A1 20000419 (EN)**

Application  
**EP 99308100 A 19991014**

Priority  
FR 9812956 A 19981015

Abstract (en)  
When filling a tank with xenon or krypton gases for use as a propellant in satellites, it is necessary to proceed slowly to allow heat to dissipate. The invention deals with this problem by withdrawing gas from the tank, cooling it, and re-introducing the cooled gas into the tank. The circulation of gas from and back to the tank is preferably achieved by a thermosyphonic action. The gas is preferably liquefied when it is cooled to give a strong thermosyphonic action and may be evaporated again before being returned to the tank. In a variation of the invention, the temperature of the tank is prevented from falling below a critical minimum temperature during depressurization of the tank by recirculating and heating some of the fluid during depressurization. <IMAGE>

IPC 1-7  
**F17C 5/06**

IPC 8 full level  
**F17C 5/06** (2006.01)

CPC (source: EP)  
**F17C 5/06** (2013.01); **F17C 2221/014** (2013.01); **F17C 2221/016** (2013.01); **F17C 2223/0153** (2013.01); **F17C 2223/033** (2013.01); **F17C 2225/0123** (2013.01); **F17C 2225/036** (2013.01); **F17C 2227/0302** (2013.01); **F17C 2227/0337** (2013.01); **F17C 2227/0393** (2013.01); **F17C 2250/032** (2013.01); **F17C 2250/036** (2013.01); **F17C 2260/031** (2013.01); **F17C 2265/065** (2013.01); **F17C 2270/0197** (2013.01)

Citation (search report)  
• [XY] WO 9706383 A1 19970220 - CYPHELLY IVAN J [CH]  
• [X] US 4749384 A 19880607 - NOWOBILSKI JEFFERT J [US], et al  
• [Y] DE 3805832 A1 19890119 - TEVES GMBH ALFRED [DE]  
• [Y] US 4274851 A 19810623 - STOKES ANTHONY D

Cited by  
DE10107895B4; CN112814876A

Designated contracting state (EPC)  
FR

DOCDB simple family (publication)  
**EP 0994290 A1 20000419**; FR 2784737 A1 20000421

DOCDB simple family (application)  
**EP 99308100 A 19991014**; FR 9812956 A 19981015