

Title (en)  
A two stage buffer

Title (de)  
Zweistufiger Puffer

Title (fr)  
Tampon à deux phases

Publication  
**EP 1247716 B1 20040908 (EN)**

Application  
**EP 02252068 A 20020322**

Priority  
GB 0108413 A 20010404

Abstract (en)  
[origin: EP1247716A1] The buffer has a conventional hydraulic capsule (12) that under high load exerts force on an end thrust plate (24) of a tube (15) that has an external diameter reducing with distance away from the plate. The tube fits inside a second tube (14) with complementary internal taper. The tubes are held together by a split ring (16) that transmits force from inner to outer tube. A flange (18) bolted to the thrust plate retains the split ring.

IPC 1-7  
**B61G 11/16**

IPC 8 full level  
**B61G 11/16** (2006.01)

CPC (source: EP)  
**B61G 11/16** (2013.01)

Cited by  
KR20180076379A; US7735427B2; CN105102295A; CN107428348A; EP1900593A3; KR100916597B1; US7537127B2; DE102016107399A1; EP1752353A1; EP2949539A1; CN106458233A; EP3199420A4; AU2008297116B2; KR101408478B1; EP2072370A1; US10882542B2; US9663122B2; US8051995B2; DE102004045600A1; KR100916595B1; EP1637426A3; EP2845784A1; GB2517970A; GB2517970B; AU2008248723B2; KR101141476B1; EP2687416A1; EP2687417A1; EP2792570A4; EP1990251A1; WO2019045579A1; WO2009034123A1; WO2008135414A3; WO2005115818A1; WO2015180839A1; US10017192B2; US11453420B2; US9409580B2; US10988149B2; US10279822B2; WO2009072843A3; WO2005075272A1; JP2010526702A; TWI412464B

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