

Title (en)

Apparatus for expelling water in a torpedo launch tub of a sub-marine

Title (de)

Vorrichtung zum Verdrängen von Wasser in einem Torpedorohr eines U-Bootes

Title (fr)

Dispositif de refoulement d'eau destiné à une installation de lancement notamment de torpilles d'un sous-Marin

Publication

**EP 0881455 B1 20020724 (FR)**

Application

**EP 98401155 A 19980514**

Priority

FR 9705960 A 19970515

Abstract (en)

[origin: EP0881455A1] The system, especially for a torpedo, mine or missile launch tube (1) in a submerged structure such as a submarine, equipped with at least one end (3) and one side (7) shutter, comprises a water-filled housing (9) fixed to the outside of the submarine shell (11) and equipped with pneumatic driving (20) and hydraulic driven (13) cylinders. The pneumatic and hydraulic cylinders are movable and independent of the housing, with the pneumatic cylinder connected to a source (28) of a gas under pressure. Its piston (20) is connected to an annular piston (15) surrounding the cylinder chamber and able to move with it in a linear direction. The pneumatic cylinder's piston (20) is also connected to the hydraulic cylinder piston by a stirrup (21).

IPC 1-7

**F41F 3/10**; **B63G 8/32**

IPC 8 full level

**B63G 8/32** (2006.01); **F41F 3/10** (2006.01)

CPC (source: EP US)

**B63G 8/32** (2013.01 - EP US); **F41F 3/10** (2013.01 - EP US)

Cited by

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**FR 2763391 A1 19981120**; **FR 2763391 B1 19990618**; DE 69806690 D1 20020829; DE 69806690 T2 20021205; EP 0881455 A1 19981202; EP 0881455 B1 20020724; US 6220196 B1 20010424

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**FR 9705960 A 19970515**; DE 69806690 T 19980514; EP 98401155 A 19980514; US 7593398 A 19980512