

Title (en)
HYDROPNEUMATIC PRESSURE ACCUMULATOR

Title (de)
HYDROPNEUMATISCHER DRUCKSPEICHER

Title (fr)
ACCUMULATEUR DE PRESSION HYDROPNEUMATIQUE

Publication
EP 2488762 B1 20160921 (DE)

Application
EP 10750058 A 20100826

Priority
• DE 102009049547 A 20091016
• EP 2010005239 W 20100826

Abstract (en)
[origin: WO2011044968A2] The invention relates to a hydropneumatic pressure accumulator, comprising a movable separating element arranged in an accumulator housing (1), which separating element separates a first working chamber, preferably a gas chamber (7), from a fluid chamber (5) as a second working chamber and is formed by means of a membrane (3) made of a flexible material, in particular an elastomer, a housing opening (15) that forms an access to the fluid chamber (5) and is located on the accumulator housing (1), the passage of which housing opening can be controlled by means of a valve arrangement that can be transferred into a release position and a closed position, wherein the valve arrangement has a valve body (29) located on a surface section of the membrane (3), wherein the valve body transfers the valve arrangement into the closed position when a valve seat (33) located on the housing opening (15) is approached, the valve arrangement having a bypass arrangement that enables a limited flow through the housing opening in the closed position, the hydropneumatic pressure accumulator being characterized in that the valve body (29) has at least one projection (37) on the surface (34) of the valve body facing the valve seat (33) in order to form the bypass arrangement, which projection forms a spacer that enables the flow relative to the valve seat (33).

IPC 8 full level
F15B 1/20 (2006.01); **F15B 1/22** (2006.01)

CPC (source: EP)
F15B 1/20 (2013.01); **F15B 1/22** (2013.01); **F15B 2201/411** (2013.01); **F15B 2201/435** (2013.01)

Citation (opposition)
Opponent : Carl Freudenberg KG,
• GB 604731 A 19480708 - BENDIX AVIAT CORP
• EP 1052412 A2 20001115 - NHK SPRING CO LTD [JP]
• US 2604118 A 19520722 - GREER EDWARD M
• JP H07224801 A 19950822 - NOK CORP
• DE 202007008175 U1 20071011 - HYDAC TECHNOLOGY GMBH [DE]
• JP 2003013902 A 20030115 - NOK CORP
• INTEGRAL ACCUMULATOR GMBH & CO. KG: "Hydrospeicher /Hydraulic accumulator/ D0,24-40", ZEICHNUNG /DRAWING/ E024-1515-023-341, 21 July 2009 (2009-07-21), pages 1, XP055393709
• INTEGRAL ACCUMULATOR GMBH & CO. KG: "Membrane", ZEICHNUNG /DRAWING/ 024-1115-023-482, 11 July 2006 (2006-07-11), pages 1, XP055393712
• INTEGRAL ACCUMULATOR GMBH & CO. KG: "Membranteller", ZEICHNUNG 024-1015-024-046, 12 July 2006 (2006-07-12), pages 1, XP055393719

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)
DE 102009049547 B3 20110217; EP 2488762 A2 20120822; EP 2488762 B1 20160921; JP 2013507591 A 20130304; JP 5698247 B2 20150408; WO 2011044968 A2 20110421; WO 2011044968 A3 20130411

DOCDB simple family (application)
DE 102009049547 A 20091016; EP 10750058 A 20100826; EP 2010005239 W 20100826; JP 2012533492 A 20100826