

## Title (en)

HYDRAULIC CONTROL SYSTEM OF MONOBLOC CONSTRUCTION FOR RAISING AND LOWERING A LOAD WITH AT LEAST TWO ELECTROMAGNETIC PROPORTIONAL TWO-WAY VALVE ELEMENTS

## Title (de)

HYDRAULISCHE STEUERUNG IN MONOBLOCKBAUWEISE ZUM HEBEN UND SENKEN EINER LAST MIT MINDESTENS ZWEI ELEKTROMAGNETISCH BETÄTIGBAREN PROPORTIONALWEGEVENTILELEMENTEN

## Title (fr)

COMMANDE HYDRAULIQUE DE STRUCTURE MONOBLOC POUR ELEVER ET ABAISSER UNE CHARGE, AVEC AU MOINS DEUX ELEMENTS DISTRIBUTEURS PROPORTIONNELS A COMMANDE ELECTROMAGNETIQUE

## Publication

**EP 0799384 B1 19980722 (DE)**

## Application

**EP 95937771 A 19951116**

## Priority

- DE 9501595 W 19951116
- DE 4446145 A 19941223

## Abstract (en)

[origin: DE4446145A1] The invention concerns a hydraulic control system with at least two electromagnetic proportional two-way valve elements, a non-return valve and a pressure balance for raising the load, as the input element, independently of the load pressure. The proportional two-way valve elements are parallel to each other, the electromagnetic drives being disposed adjacent each other on the same side and in particular at the same level. A pressure balance piston is disposed coaxially adjacent a longitudinal slide of the first proportional two-way valve element in a bore which houses both valve elements. The longitudinal slide of the first proportional two-way valve element is supported on the housing via a spring. To this end, at least one component is guided by the pressure balance piston in order to adjust the pretension of a spring. The structural volume of the hydraulic control system is small. The individual valve elements are grouped close to one another and the individual slides, including their linkages, are disposed in a space-saving manner. In addition, individual connections are doubled to allow a greater volumetric flow to pass.

## IPC 1-7

**F15B 13/01**

## IPC 8 full level

**B66F 3/24** (2006.01); **B66F 9/22** (2006.01); **F15B 11/00** (2006.01); **F15B 11/04** (2006.01); **F15B 13/01** (2006.01); **F15B 13/044** (2006.01)

## CPC (source: EP US)

**F15B 11/003** (2013.01 - EP US); **F15B 13/015** (2013.01 - EP US); **F15B 2211/20538** (2013.01 - EP US); **F15B 2211/30505** (2013.01 - EP US); **F15B 2211/40515** (2013.01 - EP US); **F15B 2211/40576** (2013.01 - EP US); **F15B 2211/413** (2013.01 - EP US); **F15B 2211/41572** (2013.01 - EP US); **F15B 2211/41581** (2013.01 - EP US); **F15B 2211/7052** (2013.01 - EP US)

## Designated contracting state (EPC)

DE FR GB IT

## DOCDB simple family (publication)

**DE 4446145 A1 19960627**; CN 1079917 C 20020227; CN 1171146 A 19980121; DE 59502932 D1 19980827; EP 0799384 A1 19971008; EP 0799384 B1 19980722; JP 3654364 B2 20050602; JP H11500810 A 19990119; KR 100409141 B1 20040403; KR 987000522 A 19980330; US 5839345 A 19981124; WO 9620348 A1 19960704

## DOCDB simple family (application)

**DE 4446145 A 19941223**; CN 95196974 A 19951116; DE 59502932 T 19951116; DE 9501595 W 19951116; EP 95937771 A 19951116; JP 52010796 A 19951116; KR 19970704117 A 19970619; US 88096797 A 19970623