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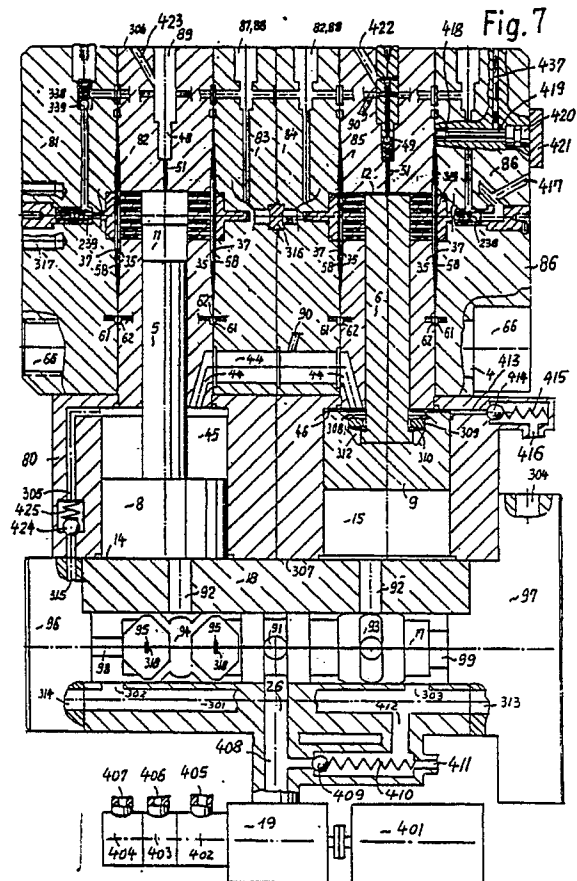
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A device for the control of flow and a high pressure pump.

A fluid motor (97) is set into the return flow of a hydraulic or pneuma-machinery. This fluid motor (97) has a relatively large consumption capacity to revolve at low speed, but it can be a low pressure motor. The motor (97) is utilized to revolve or oscilate one or more control devices which may be used to control the operation of the machinery with the return flow whereinto the fluid motor (97) is set. Specific additional matters are then proposed to secure the smoothly timed and reliable operation of the fluid motor and of the controller(s) which it drives.

This control arrangement with the fluid motor (97) in the return flow fluid line may be utilized to control the operation of a high pressure pump. This pump may have medial pressure (8, 9) and high pressure (5, 6) pistons, reciprocating in respective cylinders, as well as inner- and outer-chambers with deflectible separators (58) between these chambers in order that the outer chamber may contain a lubricatious fluid while the inner chamber can then contain a non-lubricative fluid, as for example, water.

The fluid motor (97) in the return fluid line may be replaced by another motor, for example, an electric motor with a reduction gear, to enforce a low speed operation of the control device(s). If the apparatus of the invention is a complete use of all details of the invention, a pump can provide a flow of water with pressures in excess of 30 000 psi.



EP 0 365 805 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			EP 89116750.4
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.)
E	<u>DE - A1 - 3 806 502</u> (EICKMANN) * Totality * --	1-11	F 04 B 9/08 F 04 B 43/06 F 04 B 49/00
E	<u>DE - A1 - 3 810 415</u> (EICKMANN) * Totality * --	1-11	
E	<u>DE - A1 - 3 811 625</u> (EICKMANN) * Totality * --	1-11	
A	<u>DE - A1 - 3 151 764</u> (LEWA) * Totality; especially fig. 1,2; pos. 28 * --	1-3,7	
A	<u>DE - A1 - 3 535 001</u> (BREINLICH) * Totality; especially fig. 1,2,3; pos. 102,103 * --	1-3,7	
A	<u>EP - A1 - 0 075 618</u> (HARBIDGE) * Totality * --	2,4,5, 8,9,10	
A	<u>US - A - 3 022 738</u> (KRUTE) * Totality * --	2,4,5, 8,9,10	F 01 L 33/00 F 04 B 1/00 F 04 B 9/00 F 04 B 17/00 F 04 B 21/00 F 04 B 43/00 F 04 B 49/00
D,A	<u>US - A - 4 373 874</u> (PHILIPS) * Totality * ----	2,4,5, 8,9,10	
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 27-09-1990	Examiner WERDECKER
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			