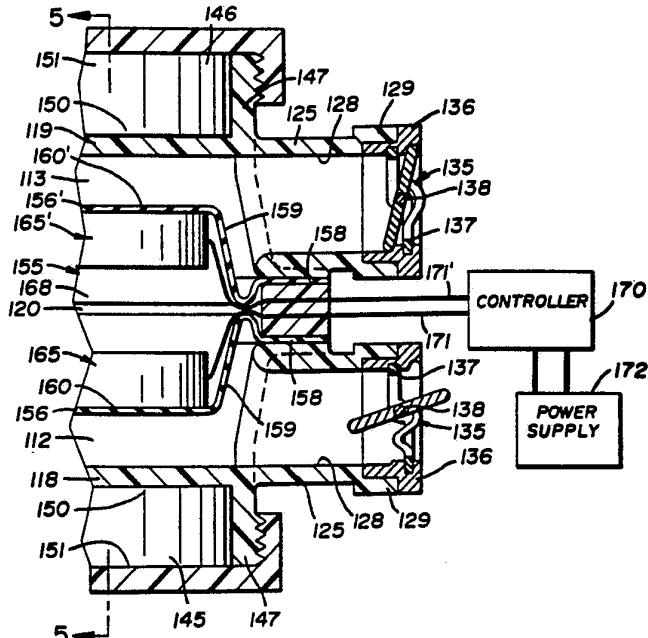




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁴ : F04B 15/00, 17/00		A1	(11) International Publication Number: WO 88/ 05867 (43) International Publication Date: 11 August 1988 (11.08.88)
(21) International Application Number: PCT/US88/00303	(22) International Filing Date: 3 February 1988 (03.02.88)	(74) Agents: KENNER, Phillip, L. et al.; Renner, Kenner, Greive, Bobak & Taylor, 1610 First National Tower, Akron, OH 44308-1456 (US).	
(31) Priority Application Numbers: 011,746 086,954	(32) Priority Dates: 6 February 1987 (06.02.87) 19 August 1987 (19.08.87)	(81) Designated States: AT, AT (European patent), AU, BE (European patent), BR, CH, CH (European patent), DE, DE (European patent), DK, FI, FR (European patent), GB, GB (European patent), HU, IT (European patent), JP, KP, KR, LK, LU, LU (European patent), MC, MG, MW, NL, NL (European patent), NO, RO, SE, SE (European patent), SU.	
(33) Priority Country: US		Published <i>With international search report.</i>	
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(54) Title: PUMPING APPARATUS WITH AN ELECTROMAGNETIC ASSEMBLY AFFIXED TO A FLEXIBLE SEPTUM



(57) Abstract

Pump apparatus (10; 110) for the controlled ingress and egress of a fluid comprising, a generally cylindrical housing (11; 111), a flexible septum (55; 155) disposed within the housing and attached to the housing substantially axially medial- ly thereof, an electromagnet assembly (65; 165, 165') affixed to the septum, a pair of inlet ports (25, 25; 125, 125) in the housing with one disposed to either side of the septum, valves (35; 135) in the inlet ports permitting only ingress of fluid to said housing, a pair of outlet ports (26, 26; 126, 126) in the housing with one disposed to either side of the septum, valves (35; 135) in the outlet ports permitting only the egress of fluid from the housing, permanent magnets (45, 46; 145, 146) dis- posed proximate the axial extremities of the housing, and a controller (70; 170) for selectively energizing the electromagnet assembly for the controlled displacement of the septum axially of the housing to alternately effect the ingress and egress of fluid from the inlet and outlet ports to either side of the septum.

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