Title (en)

AIR DRIVEN DIAPHRAGM PUMP

Publication

EP 0018143 B1 19840118 (EN)

Application

EP 80301083 A 19800403

Priority

- US 2961979 A 19790413
- US 3868579 A 19790514

Abstract (en)

[origin: EP0018143A1] A diaphragm pump has opposed pump cavities (29, 31), a pump drive assembly (10, 12, 14) between said cavities (29, 31) forming an inner wall of each of said cavities (29. 31), pump chamber housings (28, 30) meeting with said pump drive assembly (10, 12, 14) to form the outer wall of each of said cavities (29, 31), an inlet manifold (128) extending to and in communication with each of said cavities (29, 31) and an outlet manifold (136) extending to and in communication with each of said cavities (29, 31), said inlet and outlet manifolds (128, 136) being diametrically opposed. Means (148) forcibly drawing said manifolds (128, 136) toward one another are provided and said manifolds (128, 136) and said pump chamber housings (28, 30) include mating surface, there between lying in planes at an acute angle to the line of force drawing said manifolds toward one another, said manifold mating surfaces each being outwardly of each associated pump chamber housing mating surface. The actuator valve comprises a valve piston (48), a control rod (15) fixed to reciprocate with the air driven reciprocating device, and a housing (36) having a cylinder (50) closed at each end and enclosing said valve piston (48), a passageway through which said control rod (15) extends, an air inlet (52) to said cylinder (50) spaced from the ends of said cylinder (50), valve piston vent passages (82, 84) extending from the ends of said cylinder (50) to said passageway, and control rod vent passages (112, 114) extending from said passageway to atmosphere, said valve piston (48) cooperating with said housing (36) to include means (78, 80) for directing incoming air to the ends of said valve piston (48) and means (58, 60) for selectively directing incoming air to and exhausting outgoing air from the air driven reciprocating device. There is an axial passage (110) in said control rod (15) positioned between said valve piston vent passages (82, 84) to vent selectively each of said valve piston vent passages (82, 84) to said control rod vent passages (112 114).

IPC 1-7

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IPC 8 full level

F01L 25/06 (2006.01); **F04B 43/073** (2006.01)

CPC (source: EP US)

F01L 25/066 (2013.01 - EP); **F04B 43/0736** (2013.01 - EP US)

Cited by

EP1855004A1; EP0067048A3; CN108087235A; DE3206242A1; CN114922801A; US7566205B2

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