

Title (en)

VIBRATION-REDUCING STRUCTURE FOR FOUR-COMPRESSION-CHAMBER DIAPHRAGM PUMP

Title (de)

SCHWINGUNGSDÄMPFENDE STRUKTUR FÜR MEMBRANPUMPE MIT VIER KOMPRESSIONSKAMMERN

Title (fr)

STRUCTURE DE RÉDUCTION DES VIBRATIONS POUR POMPE À DIAPHRAGME À QUATRE CHAMBRES DE COMPRESSION

Publication

EP 3146212 A4 20180425 (EN)

Application

EP 15796730 A 20150429

Priority

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- US 2015028127 W 20150429

Abstract (en)

[origin: WO2015179085A1] A vibration-reducing structure for compressing diaphragm pump features a pump head body and a diaphragm membrane. The pump head body includes four operating holes, a first curved vibration-reducing positioning structure circumferentially disposed around the upper side of each operating hole, and or a linked four-curve positioning structure that collectively extends around all of the operating holes. The diaphragm membrane includes four equivalent piston acting zones and second curved vibration-reducing position structures situated at positions corresponding to the positions of the first curved vibration-reducing positioning structures. The first positioning structures in the pump head body, which may be grooves, slots, perforations, or protrusions, mate with the corresponding second positioning structures in the diaphragm membrane to reduce the moment arm generated during pumping by movement of the diaphragm membrane, which may be protrusions, grooves, slots, or perforations, thereby generating less torque to decrease the strength of vibrations and vibration noise.

IPC 8 full level

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Citation (search report)

- [E] WO 2015108685 A1 20150723 - CAI YING LIN [CN], et al
- [IP] CN 203770097 U 20140813 - CAI YINGLIN, et al
- [I] US 4610605 A 19860909 - HARTLEY E DALE [US]
- [I] GB 1111770 A 19680501 - ALTEC GES FUR ALLG LANDTECHNIK
- See references of WO 2015179085A1

Designated contracting state (EPC)

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