Title (en)

Liquid dispensing device and use for dispensing high purity liquid

Title (de)

Flüssigkeitsabgabevorrichtung und Verwendung zum Abgeben einer hochreinen Flüssigkeit

Title (fr)

Système de distribution de liquide et son utilisation pour la distribution d'un liquide ultra-pur

Publication

**EP 1031533 A1 20000830 (FR)**

Application

**EP 99403239 A 19991221**

Priority

FR 9902467 A 19990226

Abstract (en)

The liquid distribution system has a supply tank holding liquid with a head space under a preset pressure connected to an intermediate storage tank with a headspace at a higher pressure and receiving tanks arranged in parallel and supplying a user network. The volume of the receiving tanks is much smaller than that of the intermediate tank. The receiving tanks are filled and emptied by applying respectively a lower and higher pressure relative to the pressure in the intermediate tank. All the tanks may be pressurized using nitrogen. The intermediate tank volume is 220 l - 5 m<3>. Each receiving tank is a tube of 1-50 l. The supply tanks are at 100 mbar, the intermediate tank at 100-500 mbar and the emptying pressure applied to the receiving tanks is 0.5-6 bar. Liquid is recycled back from the user network to the intermediate tank. The connection between the supply and intermediate tanks includes filters.

Abstract (fr)

Le liquide à distribuer part d'un réservoir (3A, 3B) maintenu sous une première surpression P1, d'où il est transféré à une cuve intermédiaire de stockage (11) maintenue sous une pression intermédiaire prédéterminée P2 > P1. En aval de cette cuve sont montés en parallèle plusieurs récipients de distribution de faible volume (12A, 12B), dont chacun peut être mis soit à une pression de distribution P3 > P2, soit à une pression de remplissage P4 < P2. Application à la distribution de produits chimiques ultra-purs destinés à l'industrie micro-électronique. <IMAGE>

IPC 1-7

**B67D 5/02**; B67D 5/60

IPC 8 full level

**B67D 5/02** (2006.01); **B67D 5/60** (2006.01); **B67D 7/02** (2010.01); **B67D 7/78** (2010.01); **F17D 1/08** (2006.01)

CPC (source: EP KR US)

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Citation (applicant)

- US 5330072 A 19940719 - FERRI JR EDWARD T [US], et al
- US 5417346 A 19950523 - FERRI JR EDWARD T [US], et al
- US 5772447 A 19980630 - CHEUNG TAT KWONG [HK]

Citation (search report)

- [A] US 5832948 A 19981110 - SCHELL DANIEL [US]
- [DA] WO 9205406 A1 19920402 - APPLIED CHEMICAL SOLUTIONS [US] & US 5330072 A 19940719 - FERRI JR EDWARD T [US], et al
- [A] US 5556002 A 19960917 - GREEN THOMAS S [US]

Cited by

EP2388232A1; KR100668392B1; EP1327603A3; EP1081253A3; CN104373817A; CN112368404A; CN102563350A; EP1991495A4; US11603306B2; US7334595B2; US6953047B2; EP2388231B1

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