

## Title (en)

VACUUM MANIFOLD FOR LABORATORY PROCESSING OF MULTIPLE LIQUID SAMPLES

## Title (de)

ABSAUGVORRICHTUNG ZUR LABORVERARBEITUNG VON MEHREREN FLÜSSIGKEITSPROBEN

## Title (fr)

TUBULURE A VIDE POUR LE TRAITEMENT EN LABORATOIRE D'ECHANTILLONS LIQUIDES MULTIPLES

## Publication

**EP 0792190 A1 19970903 (EN)**

## Application

**EP 96930585 A 19960823**

## Priority

- US 9613668 W 19960823
- US 52874195 A 19950915

## Abstract (en)

[origin: WO9710055A1] The invention provides a vacuum manifold which can be conveniently used in semi-automated and fully-automated laboratory machines to carry out a sequence of vacuum-assisted laboratory manipulations on a large number of individual liquid samples. The invention has a base (12) which is sized and dimensioned to accept and retain a first liquid receptacle (24), such as a microtitre dish. Generally, the base (12) has a bottom wall (16) and side walls (18) and the first receptacle (24) is designed to be retained within the side walls (18). The invention also has an adapter frame which is sized and dimensioned to accept and retain a second liquid receptacle (30), such as a second microtitre dish. The adapter frame (14) is typically a rectangular frame structure having a lip (32) which supports the second receptacle (30). The base (12) generally has a port (26) which is attachable to a source of vacuum. In operation, the first liquid receptacle (24) is placed within the base (12), the adapter frame (14) is placed on top of the base (12) and the second liquid receptacle (30) is placed on the adapter frame (14) so that a second receptacle (30) is located directly above the first receptacle (24). When vacuum is applied to the base using the vacuum port (26), a uniform vacuum is drawn along the bottom of the second liquid receptacle (30) which provides a driving force which acts upon liquid within the second receptacle (30). In a typical operation, the bottom of the second receptacle (30) is a filtration membrane and the vacuum is used to draw liquid from the second receptacle (30) across the filtered membrane into the first receptacle (24). Because of its modular construction, the various elements of the vacuum frame are easily stacked in stacking frames disposed to one side of the vacuum manifold. This stacking capability allows a large number of vacuum-assisted laboratory operations to be carried out on multiple sets of liquid samples without the necessity of a large amount of horizontal lab bench area. The stacking capability also facilitates the adaption of the invention with robotic equipment to provide a fully-automated laboratory processing tool.

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