

## Title (en)

Apparatus for centrifuging liquids and use of the apparatus

## Title (de)

Vorrichtung zum Zentrifugieren von Flüssigkeiten und Verwendung dieser Vorrichtung

## Title (fr)

Appareil de cetrifugation de liquide et utilisation de cet appareil

## Publication

**EP 1043071 A1 20001011 (FR)**

## Application

**EP 99810294 A 19990409**

## Priority

EP 99810294 A 19990409

## Abstract (en)

A first coupling (16) is attached to the first driver, and a second coupling (11) to the centrifuge. An elastic means (18) h the two together. A movable controller (17) is connected to the elastic means to disengage the coupling. The second coupling als has a cam surface (11b) which exerts on the elastic means a greater and opposite force to that holding the couplings together. The centrifuge has coaxial first (1) and second (22) drivers mounted to pivot, means (23-33) of driving the first and secon drivers with a rotation ratio of 2/1 between them, a circular centrifuge (2) for the liquid which has at least three channels (4,5,6) connecting its center to a peripheral separation chamber (3), means (11-18) of coupling the centrifuge to the first driv and three channels (4a,5a,6a) made of elastically deformable material with one end fixed to each of the three channels in the centrifuge. These channels each form an open circuit around the centrifuge, with the second end coaxial with the first and fixed angularly. One channel is connected to the source of the liquid to be centrifuged and the other two act to recover the different density components produced by the centrifuge. One of the drivers has an axial passage at the internal end of which is a ball bearing. The other driver has a lug with a diameter and length corresponding to the passage. The part of the lug which fits into passage has an annular groove which is dimensioned to partially receive the ball bearing and a conical end. A tubular piston has end designed to receive the ball bearing and connected to the elastic means to press the piston axially towards the end of the passage near the ball bearing. This provides a centripetal pressure on the ball bearing in the annular groove. A tensioning elem is fixed to the piston to allow it to be displaced against the elastic means. A detector on one of the channels detects the puri of the liquid in the pipe. The detector is a light source and double prism, with a photoelectric detector to measure the angular value of the part of the double prism in the layer of blood cells. When the liquid reaches a certain purity, the elastic means a used to separate the centrifuge from the first driver. The liquid is pressurized to overcome pressure losses in the system.

## Abstract (fr)

Cet appareil de centrifugation comprend deux organes d'entraînement (1, 22) coaxiaux montés pivotant, des moyens (23-33) pour entraîner le premier (1) et le second (22) organe d'entraînement, avec un rapport de rotation de 2/1 entre eux, un organe de centrifugation circulaire (2), muni d'au moins trois canaux (4, 5, 6) reliant son centre à une chambre de séparation périphérique (3) et trois conduits (4a, 5a, 6a) en matériau déformable élastiquement, présentant chacun une première extrémité solidaire de l'extrémité centrale de l'un des trois canaux (4, 5, 6) dudit organe de centrifugation (2). Des premiers moyens d'accouplement (16) sont solidaires du premier organe d'entraînement (1) et des seconds moyens d'accouplement (11) sont solidaire de l'organe de centrifugation (2), mis en prise par des moyens élastiques (18). Un organe de commande mobile (17), solidaire d'un élément de préhension (20) est relié auxdits moyens élastiques (18) pour dégager les moyens d'accouplement (11, 16) les uns des autres. <IMAGE>

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