CLAIMS

1. A circuit for biological liquid, comprising a plurality of connectors (2), a network for routing liquid between said connectors (2), a bag (11) comprising two flexible films (45, 46) and said routing network connectors (2), and a press (10) comprising a first shell (14) and a second shell (13) clamping said bag (11) in a state in which pipes (4) of said liquid routing network are formed between said films (45, 46), said first shell (14) comprising for each said pipe (4) a shaping channel (18), said second shell (13) comprising for each said pipe (4) a shaping channel (16) facing said corresponding shaping channel (18) of the first shell (14); said first shell (14) comprising at least one pinch valve (20) for a said pipe (4), which valve (20) comprises an actuator (21) comprising a movable pinching member (24) and has an open position in which the moveable member (24) is in a retracted position in which it does not pinch said pipe (4) as well as a closed position in which the moveable member (24) is in an extended position in which it pinches said pipe (4); said valve (20) further comprising, in ~~register~~ agreement with said moveable pinching member (24), an elastically compressible pad (30, 130), which pad (30 ; 130) has a first face (32) adjacent the moveable member (24) and a second face (33) adjacent the pipe to pinch (4), and, when said valve (20) is in an open position, has a resting configuration in which said second face (33) is concave and locally delimits said first shell shaping channel (18) of said pipe to pinch (4), and, when said valve (20) is in a closed position, has a pinching configuration in which said second face (33) is convex, with said pipe (4) and said pad (31) sandwiched between said second shell shaping channel (16) of said pipe to pinch (4) and said moveable pinching member (24); characterized in that said pipe to pinch (4) has a routing passage (40) for said biological liquid and edges (41) formed on each side of said passage (40) delimiting the ~~latter~~passage; said movable pinching member (24) and said elastically compressible pad (31) being configured such that, when said pinch valve (20) is in a closed position and said pad (30) in a pinching configuration, said routing passage (40) of said pipe to pinch (4) is pinched by said movable pinching member (24) against said second shell shaping channel (16) and said

edges

(41) of said pipe to pinch (4) are pinched flat by said movable pinching member (24) against said second shell (13).

2. A circuit according to claim 1, characterized in that said passage (40) of said pipe to pinch (4) has an elliptical outline and both said flexible films (45, 46) meet and are sealed to each other at the location of said edges (41) of said passage(40).

3. A circuit according to one of claims 1 and 2, characterized in that said pad (31 ; 131) forms part of an individual local plate (30 ; 130).

4. A circuit according to claim 3, characterized in that said pad (31 ; 131) forms a central portion (74 ; 174) of said individual local plate (30 ; 130), which comprises lateral (70 ; 170) and transverse walls (75 ; 175) ~~walls~~ which surround said central portion (31 ; 131).

5. A circuit according to claim 4, characterized in that said lateral walls (70 ; 170) are flat whereas said central portion (74 ; 174) and said transverse walls (75 ; 175) are arcuately curved, with said transverse walls (75 ; 175) having a first section referred to as wide and said central portion (74 ; 174) which has a second section referred to as smaller relative to said first section.

6. A circuit according to claim 5, characterized in that said second shell shaping channel (16) of said pipe to pinch (4) has a central portion of smaller cross-section (91) opposite said central portion (74 ; 174) of said individual local plate (30 ; 130) and two lateral portions (90) of wide cross-section formed on respective opposite sides of said smaller cross-section central portion (91) and opposite said transverse walls (75 ; 175) of said individual local plate (30 ; 130).

7. A circuit according to any one of claims 3 to 6, characterized in that said local individual plate (130) comprises several transverse walls (175) which meet at the location of a distinct junction of said central portion (174).

8. A circuit according to any one of claims 1 to 7, characterized in that said first shell (14) comprises a recessed accommodation (60) configured to receive said pad (31 ; 131) at least partially.

9. A circuit according to claim 8, characterized in that said individual local plate (130) comprises at least one fastening device (73 ; 173) fastened by

shape complementarity in at least one corresponding aperture provided in the recessed accommodation (60) of said first shell (14).

10. A circuit according to claim 9, characterized in that said individual local plate (30) comprises two fastening lugs (73) forming said fastening device, said fastening lugs (73) projecting from the transverse walls (75).

11. A circuit according to claim 9, characterized in that said individual local plate (130) comprises a peripheral curb (173) forming said fastening device, said curb (173) being provided with a periphery on which is formed at least one positioning rib (176).

12. A circuit according to any one of claims 1 to 11, characterized in that said pad (31 ; 131) is formed from elastically compressible flexible plastic molded in one piece., in particular of silicone;

13. A circuit according to any one of claims 1 to 12, characterized in that said movable pinching member of said actuator (21) comprises a finger (24) having a first distal end (83, 85, 86) shaped like the second shell shaping channel (16) and a second distal end (84) shaped like said second shell (16), outside of and in immediate proximity to said second shell shaping channel (16), said finger (24) being configured to push said pad (31) and said passage (40) of said pipe (4) towards said second shell shaping channel (16) and said edges (41) of said pipe (4) towards said second shell (13), outside of and in immediate proximity to said second shell shaping channel (16).-

14. A circuit according to claim 13, characterized in that said finger (24) comprises a body (79) provided with a pointed end (83) shaped to pinch said passage (40) of said pipe (4) as well as at least one pinching arm (82) which extends laterally along said body (79) and which is provided with a flat end (84) shaped to pinch flat said edges (41) of said pipe (4).

15. A circuit according to claim 14, characterized in that said finger (24) further comprises at least one lateral pinching wall (80, 81) which extends along said body (79) and which is provided with a beveled end (85, 86) meeting said pointed end (83) of said body(79).

16. A circuit according to one of claims 14 and or 15, characterized in that said finger (24) further comprises a base (78) from which extends said body