Claims

1. An inclined channel solids separator for retaining and recirculating solids from a reactor mixture, comprising the following elements:
   - an upper region of the solids separator having one or more feed-throughs/fittings (80) for removing a harvest stream (70), which is separated from the cells, ~~(=harvest)~~ from a harvest stream collection region (56), connected to
   - a separation region formed by a plate stack (1) composed of single-layer or multilayer plastic web plates, which stack is tilted during operation at an angle (10) of from 30° to 80° with respect to the horizontal, connected to
   - a lower segment of the solids separator having one or more feed-throughs or fittings (84) for flow distribution of the reactor mixture (74), above
   - a solids collection region (57) which is downwardly tapered for collecting the cells by means of gravity,
   - wherein the solids collection region (57) is downwardly tapered in a conical or pyramidical manner, and
   - wherein the web plates are joined by means of adhesive bonding.

2. The inclined channel solids separator as claimed in claim 1, wherein the solids collection region (57) has one or more feed-throughs (89) or fittings (88) for removing the solids.

3. The inclined channel solids separator as claimed in any of claims 1 or 2, which comprises at least one disposable sensor in the interior.

4. The inclined channel solids separator as claimed in any of claims 1 to 3, wherein the separation region consists of a multiplicity of channels arranged next to one another in the plate stack (1).

5. The inclined channel solids separator as claimed in any of claims 1 to 4, wherein the ratio of strut height to channel width hs/d is $0.01 \leq hs/d \leq 5$, with the restriction that the two dimensions hs and d are both greater than or equal to 3 mm.

6. The inclined channel solids separator as claimed in any of claims 1 to 5 comprising a gamma-sterilizable plastic bag (50) through which flow passes and, within the plastic bag (50):
   - in the upper region of the plastic bag (50), the feed-throughs/fittings (80) for removing a harvest stream (70) separated from the solids from the harvest stream collection region (56),