CLAIMS

1. A bi-directional filter (F) comprising an outer housing (10) and a filter assembly unit, the outer housing (10) being provided with one inlet (11) for contaminated fluid and at least one outlet (12, 130, 140), where the filter assembly unit comprises at least one separation void (2a, 2b) for contaminated fluid, a lower disc (1), an upper disc (6) and plurality of filters (4);

   wherein the lower disc (1), upper disc (6) and the plurality of filters (4) are arranged with spaces (2, 5) between them, the spaces (2, 5) being used to transport contaminated fluid from the inlet (11) to the plurality of filters (4) and to transport filtered fluid to the at least one outlet (12, 130, 140);

   wherein the lower disc (1) is provided with one or more riser inlet holes (3) and risers (15) arranged at a distance from a centre of the disc (1);

   wherein the filter assembly unit, the at least one separation void (2a, 2b) and the outer housing (10) provide an outer dead end (13) and an inner dead end (14) within the bi-directional filter (F), the outer dead end and the inner dead end arranged at an outer and an inner periphery of the at least one separation void (2a, 2b), respectively,

   wherein the filter assembly unit being connected to a drive unit (9) through a shaft (8); and

   wherein each of the filters (4) is provided with one or more riser inlet holes (3) and risers (15) arranged between the dead ends (13, 14).

2. The bi-directional filter according to claim 1,
   characterized in that the lower and/or upper disc (1, 6) is/are made of steel or a magnetic material.
3. The bi-directional filter according to claim 1,
   characterized in that the drive unit (9) is an electrical motor or a horizontal and/or vertical rotating magnetic field.

4. The bi-directional filter (F) according to any preceding claims, characterized in that the bi-directional filter (F) comprises a coil (7) and/or means to provide magnetic and electrostatic fields.
5. The bi-directional filter (F) according to any preceding claims, characterized in that the filter (4) is a membrane filter and/or a mesh filter.
6. The bi-directional according to claim 5, characterized in that the mesh filter (4) is a single-sided filter with a mesh area (17a) or a double-sided filter with mesh areas (17a, 17b).
7. Use of a bi-directional filter (F) according to claim 4, in combination with magnetic nanoparticles.