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, the filter assembly unit, at least one separation void ~~(2a, 2b)~~ and the outer housing ~~(10)~~ providing an outer dead end ~~(13)~~ and an inner dead end ~~(14)~~ within the bi-directional filter ~~(F)~~, the filter assembly unit being connected to a drive unit ~~(9)~~ through a shaft ~~(8)~~.
2. ~~A~~The bi-directional filter ~~(F)~~ according to claim 1, ~~characterized in that~~wherein the filter assembly unit comprises a lower disc ~~(1)~~, an upper disc ~~(6)~~ and at least one filter ~~(4)~~.
3. ~~A~~The bi-directional filter according to claim 1 or 2, ~~characterized in that~~wherein the filter assembly unit comprises a lower disc ~~(1)~~, an upper disc ~~(6)~~ and a plurality of filters ~~(4)~~, the lower disc ~~(1)~~, upper disc ~~(6)~~ and 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 plurality of filters ~~(4)~~ and to transport filtered fluid to the at least one outlet ~~(12, 130, 140)~~.
4. ~~A~~The bi-directional filter ~~(F)~~ according to any of the preceding claims 2-3, ~~characterized in that~~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)~~.
5. ~~A~~The bi-directional filter ~~(F)~~ according to any of the preceding claims 2-4, ~~characterized in that~~wherein the filter ~~(4)~~ is provided with one or more riser inlet holes ~~(3)~~ and risers ~~(15)~~ arranged between the end stops ~~13 and 14~~.

6. The bi-directional filter according to any of the preceding claims 2-5, ~~characterized in that~~wherein the lower and/or upper disc ~~(1, 6)~~ is/are made of steel or a magnetic material.
7. The bi-directional filter according to claim 1, ~~characterized in that~~wherein the drive unit ~~(9)~~ is an electrical motor or a horizontal and/or vertical rotating magnetic field.

8. The bi-directional filter ~~(F)~~ according to any preceding claims, ~~characterized in that~~wherein the bi-directional filter ~~(F)~~ comprises a coil ~~(7)~~ and/or means to provide magnetic and electrostatic fields.

9. The bi-directional filter ~~(F)~~ according to any preceding claims, ~~characterized in that~~wherein the filter ~~(4)~~ is a membrane filter and/or a mesh filter.

10. The bi-directional filter according to claim 10, ~~characterized in that~~wherein the mesh filter ~~(4)~~ is a single-sided filter with a mesh area ~~(17a)~~ or a double-sided filter with mesh areas ~~(17a, 17b)~~.