

CLAIMS

1. Cooling element for a vacuum pump, comprising

a base element, wherein by the base element an internal void is defined,

an inlet connected to the base element and in fluid connection with the void and

an outlet connected to the base element and in fluid connection with the void such that a coolant can flow from the inlet through the void to the outlet to dissipate heat,

wherein the base element is connectable to a housing of the vacuum pump.
2. Cooling element according to claim 1 characterized in that the void is tubular.
3. Cooling element according to claim 1 characterized in that the void has a flat shape.
4. Cooling element according to any of claims 1 to 3, characterized in that the base element has a flat shape.
5. Cooling element according to any of claims 1 to 4, characterized in that the base element comprises a bottom surface to be directly attached to the surface of the housing of the vacuum pump.

6. Cooling element according to claim 5, characterized in that the material thickness between the bottom surface and the void is less than 3mm, preferably less than 2mm and more preferably less than 1mm.
7. Cooling element according to any of claims 1 to 6, characterized in that the internal void comprises at least one corrugated surface to create turbulent flow within the void.
8. Cooling element according to any of claims 1 to 7, characterized by a turbulator element disposed within the void to create turbulent flow within the void.
9. Cooling element according to any of claims 1 to 8, characterized in that the base element is one piece.
10. Cooling element according to any of claims 1 to 9, characterized in that the base element is fabricated by 3D printing.
11. Cooling element according to any of claims 1 to 10, characterized in that the base element is surrounded by a connecting element, preferably made from aluminum, wherein the connecting element is directly connected to the housing of the vacuum pump.
12. Cooling element according to any of claims 1 to 11, characterized in that the base element is made of stainless steel.
13. Vacuum pump comprising a housing and a cooling element according to any of claims 1 to 12 connected to the housing.