CLAIMS

1. A high-efficiency dynamic slurry-liquid separator filter, comprising: a filter cylinder body (1), a filter pipe (2a) disposed in the filter cylinder body (1) and a filter core disposed on the filter pipe (2a), a material inlet (3) disposed on the filter cylinder body (1), a solid residue outlet (4) disposed at a bottom part of the filter cylinder body (1), and a filtrate outlet (5) disposed at a middle-lower part of the filter cylinder body (1); **characterized in that**

the filter core comprises a plurality of filter disks (2b) connected to the filter pipe (2a), and the filter disks (2b) are perpendicular to a longitudinal axis of the filter cylinder body (1);

an upper end of the filter pipe (2a) is connected to a rotational axis of a variable-frequency motor (7); a top part of the filter cylinder body (1) and a transmission shaft of the variable-frequency motor (7) are sealed through high pressure hard sealing; and

a lower part of the filter pipe (2a) is connected to a pipe of the filtrate outlet (5)via a connecting pipe joint (2c);the connecting pipe joint (2c) and the pipe of the filtrate outlet are perpendicularly fixed together; an upper opening of the connecting pipe joint (2c) and a rotational connection part of the lower part of the filter pipe (2a) are sealed through high-pressure hard sealing; and a lower part of the connecting pipe joint (2c) is sealed;

wherein each filter disk (2b) separately communicates with the filter pipe (2a); the filter disks (2b) and the filter pipe (2a) form groove connection;

the filter disk (2b) is fixed on a grooved plate (2g) for collecting a filtrate;

the filter disk (2b) and the grooved plate (2g) form a sealed cavity (2d),

and a pipe opening (2e) at an inner side of the sealed cavity (2d) communicates with an inner cavity of the filter pipe (2a);

the grooved plate (2g) is connected to the filter pipe (2a) via a clamp (2f); and

the collected filtrate from each grooved plate (2g) is accumulated in the filter pipe (2a);

wherein the filter disks (2b) are sintered porous metal materials having a pore size distribution of between 15 and 160μm, a thickness of between 1 and 3 mm, and a working temperature range of between-200 and 800ºC; and

an upper surface of each filter disk is coated with a nanoscale surface agent; and

wherein the bottom part of the filter cylinder body (1) is in a conical structure; an outer wall of the filter cylinder body (1) is provided with an insulation jacket layer (1a); and a vapor inlet (6) is disposed at a middle-upper part of the filter cylinder body (1) for communicating with the insulation jacket layer (1a).

~~2. The separator filter of claim 1,~~ **~~characterized in that~~**

~~each filter disk (2b) separately communicates with the filter pipe (2a); the filter disks (2b) and the filter pipe (2a) form groove connection;~~

~~the filter disk (2b) is fixed on a grooved plate (2g) for collecting a filtrate;~~

~~the filter disk (2b) and the grooved plate (2g) form a sealed cavity (2d), and a pipe opening (2e) at an inner side of the sealed cavity (2d) communicates with an inner cavity of the filter pipe (2a);~~

~~the grooved plate (2g) is connected to the filter pipe (2a) via a clamp (2f);~~

~~and~~

~~the collected filtrate from each grooved plate (2g) is accumulated in the filter pipe (2a).~~

~~3. The separator filter claim 1 or 2,~~ **~~characterized in that~~**

~~the filter disks (2b) are sintered porous metal materials having a pore size distribution of between 15 and 160 μm, a thickness of between 1 and 3 mm, and a working temperature range of between 200 and 800ºC; and~~

~~an upper surface of each filter disk is coated with a nanoscale surface agent.~~

~~4. The separator filter claim 1 or 2,~~ **~~characterized in that~~** ~~the bottom part of the filter cylinder body (1) is in a conical structure; an outer wall of the filter cylinder body (1) is provided with an insulation jacket layer (1a); and a vapor inlet (6) is disposed at a middle-upper part of the filter cylinder body (1) for communicating with the insulation jacket layer (1a).~~

~~5.~~2. The separator filter claim 1~~ or 2~~, **characterized in that** a straight cylinder body and an upper part head of the filter cylinder body (1) are connected by a flange (1b).

~~6.~~3. The separator filter claim 1~~ or 2~~, **characterized in that** a height of the material inlet (3) is higher than a height of the filtrate outlet (5) by H1of between200 and 700 mm; and a distance between the filtrate outlet (5) and the bottom is H2of between400 and 700 mm.

~~7.~~4. The separator filter claim 1~~ or 2~~, **characterized in that**

the lower part of the filter cylinder body is provided with a remaining material outlet (10);

a height of the remaining material outlet (10) is higher than a height of the solid residue outlet (4) by H3 of between 200 and 300 mm;

a condensate outlet (8) is disposed between the filtrate outlet (5) and the solid residue outlet (4); and

a ventilation opening (9) is disposed on an upper part of the filter cylinder body (1).

~~8.~~5. The separator filter claim ~~3~~1, **characterized in that** a straight cylinder body and an upper part head of the filter cylinder body (1) are connected by a flange (1b).