CLAIMS

What is claimed is:

1. A plug valve, comprising:

a valve body internally having a valve core accommodation cavity, a gas inlet channel, an outer ring channel, an inner ring channel, and an electromagnetic valve accommodation cavity, the electromagnetic valve accommodation cavity being located between the gas inlet channel and the valve core accommodation cavity;

an electromagnetic valve located in the electromagnetic valve accommodation cavity to enable or disable communication between the gas inlet channel and the valve core accommodation cavity; and

a valve core located in the valve core accommodation cavity and having an inner ring gas channel and an outer ring gas channel, the inner ring gas channel being configured to communicate the valve core accommodation cavity with the inner ring channel, and the outer ring gas channel being configured to communicate the valve core accommodation cavity with the outer ring channel,

wherein a gas inlet of the gas inlet channel, an outer ring gas outlet of the outer ring channel, and an inner ring gas outlet of the inner ring channel are coplanar and have collinear circle centers;

the inner ring gas channel has a first gas outlet hole;

the outer ring gas channel has a second gas outlet hole;

the inner ring channel has a first gas inlet hole corresponding to the first gas outlet hole;

the outer ring channel has a second gas inlet hole corresponding to the second gas outlet hole;

the first gas outlet hole is spaced apart from the second gas outlet hole in a height direction of the valve core;

a plurality of first gas outlet holes and a plurality of second gas outlet holes are provided, the plurality of first gas outlet holes and the plurality of second gas outlet holes being each arranged at intervals in a first direction; and

in the first direction, the plurality of first gas outlet holes and the plurality of second gas outlet holes have hole diameters gradually increasing, or the plurality of first gas outlet holes and the plurality of second gas outlet holes have hole diameters gradually decreasing.

2. The plug valve according to claim 1, wherein:

the gas inlet channel has a first extending axis;

the outer ring channel has a second extending axis;

the inner ring channel has a third extending axis; and

the first extending axis, the second extending axis, and the third extending axis are each located in a first plane.

3. The plug valve according to claim 2, wherein the electromagnetic valve accommodation cavity has a fourth extending axis, the fourth extending axis being located in the first plane.

4. The plug valve according to claim 3, wherein the first extending axis, the second extending axis, the third extending axis, and the fourth extending axis are parallel to one another.

5. The plug valve according to claim 1, wherein the valve core has a first region with the plurality of first gas outlet holes and a second region with the plurality of second gas outlet holes, wherein:

a central angle a of the first region satisfies: $180° \leq a \leq 270°$, and

a central angle b of the second region satisfies: $180° \leq b \leq 270°$.

6. The plug valve according to claim 5, wherein the central angle a of the first region and the central angle b of the second region satisfy: $a > b$.

7. The plug valve according to any one of claims 1 to 6, wherein:

the inner ring channel has a first transition portion at an end of the inner ring channel facing towards the valve core accommodation cavity, wherein in the height direction of the valve core, the first transition portion extends to a position above and/or below the second gas inlet hole to enable the first gas inlet hole to be spaced apart from the second gas inlet hole; or

the outer ring channel has a second transition portion at an end of the outer ring channel facing towards the valve core accommodation cavity, wherein in the height direction of the valve core, the second transition portion extends to a position above and/or below the first gas inlet hole to enable the first gas inlet hole to be spaced apart from the second gas inlet hole.

8. The plug valve according to claim 7, wherein the first transition portion comprises an

inclined tube extending obliquely upwards or downwards in a direction where the inner ring channel leads to the valve core accommodation cavity.

9. The plug valve according to any one of claims 1 to 8, further comprising:

a valve stem configured to drive the valve core to enable the valve core to rotate in the valve core accommodation cavity; and

a damping stop block located on the valve body and configured to prevent a rotation of the valve stem or a rotation of the valve core when the valve core rotates to a corresponding stop position.

10. The plug valve according to claim 9, wherein:

the damping stop block comprises a plurality of stop members corresponding to a plurality of stop positions, and

each of the plurality of stop members is configured to emit a different sound effect when being triggered.

11. A combustion device, comprising the plug valve according to any one of claims 1 to 10.