Claims

1. A propeller nozzle, in particular for watercraft, comprising a nozzle and a propeller having at least one propeller blade, preferably a plurality of propeller blades, said at least one propeller blade being rotatable about a propeller axis, wherein the at least one propeller blade spans a propeller area through rotation about the propeller axis, wherein the at least one propeller blade comprises a propeller blade end region, wherein the propeller is disposed inside the nozzle in such a manner that a circumferential gap in the circumferential direction of the propeller nozzle is formed between the propeller end region and the inner wall of the nozzle, wherein the gap allows for passage of a marginal flow, said marginal flow flowing in the area of the inner wall of the nozzle, wherein flow guiding means are provided for guiding at least part of the marginal flow onto the propeller area, wherein the flow guiding means are disposed on the inner wall of the nozzle,
wherein the nozzle is configured to be pivotable about the propeller,
~~and~~ wherein the flow guiding means and the propeller blade end region are configured in such a manner and matched to one another that the gap is substantially constant up to a pivot angle of the nozzle of ~~5~~10°,
and wherein the flow guiding means are configured in such a manner that they act as a labyrinth seal in cooperation with the propeller blade end region.

2. The propeller nozzle according to claim 1,

wherein the flow guiding means are disposed in the immediate vicinity of the gap, in particular in the direction of flow directly upstream of the gap.

3. The propeller nozzle according to claim 2,

wherein the flow guiding means are configured to be circumferential in the circumferential direction of the nozzle.

10. The propeller nozzle according to any one of claims 1 to 4,

wherein the flow guiding means comprise one or more projection bodies projecting from the inner wall of the nozzle, wherein preferably said one or more projecting bodies are disposed directly upstream and/or downstream of the gap when viewed in the flow direction, and wherein the projection body is preferably configured as a bulge, in particular a circumferential bulge running in the circumferential direction of the nozzle.

11. The propeller nozzle according to any one of the preceding claims,

wherein the propeller end region of the at least one propeller blade has a shape corresponding to the shape of the flow guiding means, in particular a corresponding curvature.

12. The propeller nozzle according to claim 11,

wherein the gap is substantially constant up to a pivot angle of the nozzle of ~~10°, preferably~~ 20°.

13. The propeller nozzle according to any one of the preceding claims,

wherein the propeller end region is configured to extend into the region of the flow guiding means.

~~14. The propeller nozzle according to any one of the preceding claims,~~

~~wherein the flow guiding means are configured in such a manner that they act as a labyrinth seal in cooperation with the propeller blade end region.~~