Claims

1. A propeller nozzle ~~(100, 200)~~, in particular for watercraft, comprising a nozzle ~~(10)~~ and a propeller ~~(20)~~ having at least one propeller blade ~~(22)~~, preferably a plurality of propeller blades, said at least one propeller blade ~~(22)~~being rotatable about a propeller axis, wherein the at least one propeller blade ~~(22)~~ spans a propeller area through rotation about the propeller axis, wherein the at least one propeller blade ~~(22)~~ comprises a propeller blade end region ~~(23)~~, wherein the propeller ~~(20)~~ is disposed inside the nozzle ~~(10)~~ in such a manner that a circumferential gap ~~(40)~~ in the circumferential direction of the propeller nozzle ~~(100, 200)~~ is formed between the propeller end region ~~(23)~~ and the inner wall ~~(12)~~ of the nozzle, wherein the gap ~~(40)~~ allows for passage of a marginal flow ~~(33)~~, said marginal flow ~~(33)~~ flowing in the area of the inner wall ~~(12)~~ of the nozzle,
~~characterised in~~
~~that~~wherein ~~-~~flow guiding means are provided for guiding at least part of the marginal flow ~~(33)~~ 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°.

~~2. The propeller nozzle according to claim 1,~~
~~characterised in~~
~~that the flow guiding means are disposed on the inner wall of the nozzle (12).~~

~~3~~2. The propeller nozzle according to claim 1 ~~or 2~~,
~~characterised in~~
~~that~~wherein the flow guiding means are disposed in the immediate vicinity of the gap ~~(40)~~, in particular in the direction of flow directly upstream of the gap ~~(40)~~.

34. The propeller nozzle according to claim ~~3~~2,
~~characterised in~~
~~that~~wherein the flow guiding means are configured to be circumferential in the circumferential direction of the nozzle ~~(10)~~.

~~5~~4. The propeller nozzle according to any one of the preceding claims, ~~characterised in~~ ~~that~~ wherein the flow guiding means are configured in such a manner that they guide the marginal flow ~~(33)~~ away from the inner wall of the nozzle ~~(12)~~ in the direction of the nozzle centre or that they enable the propeller area to be introduced into the region of the marginal flow ~~(33)~~.

~~6~~5. The propeller nozzle according to any one of the preceding claims, ~~characterised in~~ ~~that~~ wherein the flow guiding means comprise a recess in the inner wall ~~(12)~~ of the nozzle.

~~7~~6. The propeller nozzle according to claim ~~6~~5, ~~characterised in~~ ~~that~~wherein the recess has a step-shaped profile, a sloping profile or a curved profile in a longitudinal sectional view of the nozzle ~~(10)~~.

~~8~~7. The propeller nozzle according to claim ~~6~~ 5 or ~~7~~6, ~~characterised in~~ ~~that~~wherein the recess is configured as an indentation ~~(15)~~ in the inner wall ~~(12)~~ of the nozzle.

~~9~~8. The propeller nozzle according to claim ~~8~~7, ~~characterised in~~ ~~that~~wherein the indentation ~~(15)~~ is configured as a circular arc having the same curvature in a longitudinal sectional view of the nozzle ~~(10)~~.

~~10~~9. The propeller nozzle according to claim ~~8~~ 7 or ~~9~~8, ~~characterised in~~ ~~that~~wherein the indentation ~~(15)~~ is configured to be spherical.

~~11~~10. The propeller nozzle according to any one of claims 1 to ~~5~~4, ~~characterised in~~ ~~that~~wherein the flow guiding means comprise one or more projection bodies projecting from the inner wall ~~(12)~~ of the nozzle, wherein preferably said one or more projecting bodies are disposed directly upstream and/or downstream of the gap ~~(40)~~ 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 ~~(10)~~.

~~12~~11. The propeller nozzle according to any one of the preceding claims, ~~characterised in~~ ~~that~~wherein the propeller end region ~~(23)~~ of the at least one propeller blade ~~(22)~~ has a shape corresponding to the shape of the flow guiding means, in particular a corresponding curvature.

~~13~~12. The propeller nozzle according to claim ~~12~~11, ~~wherein the nozzle (10) is configured to be pivotable about the propeller (20),~~ ~~characterised in~~ ~~that the flow guiding means and the propeller blade end region (23) are configured in such a manner and matched to one another so that~~wherein the gap ~~(40)~~ is substantially constant up to a pivot angle ~~(α)~~ of the nozzle of ~~5°, preferably~~ 10°, ~~particularly~~ preferably 20°.

~~14~~13. The propeller nozzle according to any one of the preceding claims, ~~characterised in~~ ~~that~~wherein the propeller end region ~~(23)~~ is configured to extend into the region of the flow guiding means.

~~15~~14. The propeller nozzle according to any one of the preceding claims, ~~characterised in~~

~~that~~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 ~~(23)~~.