CLAIMS

1. An air supported vessel comprising the following features,

- a V-shaped hull (0.0)
- with a starboard keel part (2.1.S) and a port keel part (2.1.B), and
- with a V-shaped bow (3.0), comprising an outer bow bearing surface (3.3),
- where the V-shaped hull (0.0) has at least one air supported chamber (5.0) in a part of the V-shaped hull's (0.0) length below a waterline,
- the at least one air supported chamber (5.0) is delimited by an air supported chamber ceiling (5.1), air supported chamber starboard and port side walls (5.2.S, 5.2.B) and with at least one aft closing device (7.0) with aft threshold (7.1) which forms an aft boundary of the at least one air supported chamber (5.0) and with at least one air support chamber air intake (5.3) which together with the side walls of the at least one air supported chamber in the bow (5.4) form a front boundary of the at least one air supported chamber (5.0),

wherein the V-shaped bow (3.0) further comprises a bow step (3.1) with a bow step threshold (3.2), which extends from a starboard longitudinal keel step (2.2.S) around the V-shaped bow (3.0) to a port longitudinal keel step (2.2.B), and forms a lower boundary of the air supported chamber sidewalls in the bow (5.4), to reduce air leakage below a bow base line (BBL),

c h a r a c t e r i s e d by

- a transverse step at an aft part of the bow base line (BBL), comprising a starboard transverse step (4.0.S) and a port transverse step (4.0.B), where the starboard keel part (2.1.S) with a starboard keel line (KL.S) and the port keel part (2.1.B) a the port keel line (KL.B) have greater draft than the V-shaped bow (3.0) with the bow base line (BBL) at the starboard transverse step (4.0.S) and the port transverse step (4.0.B).

2. The air supported vessel according to claim 1, wherein

- the starboard keel part (2.1.S), comprises the starboard longitudinal keel step (2.2.S) and a starboard keel step threshold (2.3.S), which form a lower starboard

lateral delimitation of the air support chamber's starboard side wall (5.2.S), to reduce air leakage under a starboard keel line (KL.S), and

- the port keel part (2.1.B), comprises the port longitudinal keel step (2.2.B) and a port keel step threshold (2.3.B), which forms a lower port side boundary of the air supported chamber's port side wall (5.2.B), to reduce air leakage under a port keel line (KL.B).

3. The air supported vessel according to claim 1, wherein

- a transition between the starboard longitudinal keel step (2.2.S) and the starboard aft part of the bow step (1.4.S) is a starboard discontinuous transition (1.0.S), and in which

- a transition between the port longitudinal keel step (2.2.B) and the port aft part of the bow step (1.4.B) is a port discontinuous transition (1.0.B).

4. The air supported vessel according to claim 3, wherein the starboard discontinuous transition (1.0.S) extends from a forward starboard point (1.3.S) on the starboard keel where the starboard longitudinal keel step (2.2.S) runs into the outer bow bearing surface (3.3) on the starboard side on the outside of the bow step (3.1), and aft to an aft starboard transition point (1.5.S) on the starboard keel where the bow step (3.1) runs into the starboard longitudinal keel step (2.2.S), and
in which the port discontinuous transition (1.0.B) extends from a forward port point (1.3.B) on the port keel where the port longitudinal keel step (2.2.B) runs into the outer bow bearing surface (3.3) on the port side on the outside of the bow step (3.1), and aft to an aft port transition point (1.5.B) on the port keel, where the bow step (3.1) on the port side runs into the port longitudinal keel step (2.2.B).

5. The air supported vessel according to claim 3, wherein the discontinuous transition, on the starboard and port side respectively (1.0.S, 1.0.B), forms a straight line forward and which extends up and converges in the outer bow bearing surface (3.3) on the starboard side respectively and port side of the V-shaped bow (3.0).

6. The air supported vessel according to claim 3 or 4, wherein the starboard discontinuous transition (1.0.S) comprises:
- a decreasing starboard keel step (1.1.S) in the forward direction, and
- an outward inclining starboard keel surface (1.2.S), and
- an aft part of the starboard bow step (1.4.S), and
- a backward tapering starboard outphasing part (1.6.S) of the outer bow bearing surface (3.3), on the starboard side, between the decreasing starboard keel step (1.1.S) and the aft part of the starboard bow step (1.4.S), and in which the port discontinuous transition (1.0.B) includes:
- a decreasing port keel step (1.1.B) in the forward direction, and
- an outward inclining port keel surface (1.2.B), and
- an aft part of the port bow step (1.4.B), and
- a backward tapering port outphasing part (1.6.B) of the outer bow bearing surface (3.3), on the port side, between the decreasing port keel step (1.1.B) and the aft part of the port bow step (1.4.B).

7. The air supported vessel according to claim 3, 4, 5 or 6, wherein the starboard discontinuous transition (1.0.S) comprises:
- that the transverse starboard step (4.0.S), which is the difference between a design draft at the aft starboard transition point (1.5.S) and a design draft at the forward starboard point (1.3.S), and in which the port discontinuous transition (1.0. B) includes:
- that the transverse port step (4.0.B) is the difference between a design draft at the aft port transition point (1.5.B) and a design draft at the forward port point (1.3.B).

8. The air supported vessel according to claim 1 or 2, wherein the V-shaped bow (3.0) has a bow base line (BBL) with a slight dip forward calculated from a transition between the bow step (3.1) and the starboard longitudinal keel step (2.2.S) or the port longitudinal keel step (2.2.B).

9. The air supported vessel according to claim 1 or 2, wherein the V-shaped bow (3.0) has a bow base line (BBL) which is substantially horizontal from a transition

between the bow step (3.1) and respectively the starboard longitudinal keel step (2.2.S) or the port longitudinal keel step (2.2.B).

10. The air supported vessel according to claim 1, wherein the starboard keel part (2.1.S) is parallel, from the at least one aft closure device (7.0) forward to a forward starboard point (1.3.S), with the V-shaped hull's (0.0) center line (CL) and in which the port keel part (2.1.B) is parallel, from the at least one aft closing device (7.0) forward to a port forward point (1.3.B), with the V- shaped hull's (0.0) center line (CL).

11. The air supported vessel according to claim 1, wherein the aft threshold (7.1) has an adjustable draft.

12. The air supported vessel according to claim 1, wherein the air supported chamber side walls, respectively on the starboard and port side, (5.2.S, 5.2.B), are entirely or partially, outwardly inclined.

13. The air supported vessel according to claim 1, wherein the longitudinal keel steps, on the starboard and port side respectively (2.2.S, 2.2.B), are substantially vertical steps.

14. The air supported vessel according to claim 2, wherein the bow step (3.1) is a vertical step.

15. The air supported vessel according to claim 1, wherein the V-shaped bow (3.0), comprising a bow step (3.1), which extends aft to the aft starboard, and respectively the aft port, transition point (1.5.S, 1.5.B) located near the center (0.5 x CWL) of a construction water line (CWL).