CLAIMS

1. An air supply system ~~(100)~~ for supplying air to an outside of a hull of a vessel, the air supply system ~~(100)~~ comprising:
   - a plurality of air discharge units, ADUs, ~~(20)~~ for releasing a compressed air flow to the outside of the hull below a waterline of the vessel, wherein the plurality of ADUs ~~(20)~~ are configured to be arranged around a longitudinal centreline ~~(202)~~ of the hull of the vessel,
   - a first flow path ~~(11A)~~ for providing the compressed air flow to the ADUs ~~(20)~~,
   - one or more pressure control device(s) ~~(30)~~ arranged in the first flow path ~~(11A)~~ for feeding the compressed air flow to the ADUs ~~(20)~~ at pressure larger than a discharge pressure at the ADUs ~~(20)~~, wherein each pressure control device ~~(30)~~ comprises an inlet ~~(34)~~ for receiving an inlet air flow, a first outlet ~~(35A)~~ and a second outlet ~~(35B)~~ for feeding the air flow to a subset of the plurality of ADUs ~~(20AB, 20BA; 20CD, 20DC)~~, wherein the first outlet ~~(35A)~~ is connected to a first subset of ADUs ~~(20AB; 20CD)~~ arranged on a first side of the longitudinal centreline ~~(202)~~ of the hull ~~(201)~~ of the vessel ~~(200)~~ and the second outlet ~~(35B)~~ is connected to a second subset of ADUs ~~(20BA; 20DC)~~ arranged on a second, opposite, side of the longitudinal centreline ~~(202)~~ of the hull of the vessel, wherein the one or more pressure control device(s) ~~(30)~~ is/are configured to compensate for a difference in discharge pressure between the first subset of ADUs ~~(20AB; 20CD)~~ and the second subset of ADUs ~~(20BA; 20DC)~~.

2. The air supply system ~~(100)~~ according to claim 1, wherein the first subset of ADUs ~~(20AB; 20CD)~~ are arranged at a same distance from the longitudinal centreline ~~(202)~~ of the vessel as the second subset of ADUs ~~(20BA; DC)~~.

3. The air supply system ~~(100)~~ according to any one of the previous claims, wherein each pressure control device ~~(30)~~ comprises a drive unit ~~(31)~~, a first pressure boosting unit ~~(32A)~~ for feeding compressed air to the first outlet and/or a second pressure boosting unit ~~(32B)~~ for feeding compressed air to the second outlet, wherein the first pressure boosting unit ~~(32A)~~ and the second pressure boosting unit ~~(32B)~~ are driven by the same drive unit ~~(31)~~.

4. The air supply system ~~(100)~~ according to claim 3, wherein the first pressure boosting unit ~~(32A)~~ and/or the second pressure boosting unit ~~(32B)~~ is a blower or a compressor.

5. The air supply system ~~(100)~~ according to claim 3 or 4, wherein the first pressure boosting unit ~~(32A)~~ and the second pressure boosting unit ~~(32B)~~ is a fixed volume displacement blower or compressor.

6. The air supply system ~~(100)~~ according to any one of the claims 3 to 5, wherein the drive unit ~~(31)~~ is an electric motor.

7. The air supply system ~~(100)~~ according to any one of claims 3 to 6, wherein, upon the pressure of the compressed air flow upstream of the pressure control device ~~(30)~~ exceeding the discharge pressure at the ADUs ~~(20)~~, the first pressure boosting unit ~~(32A)~~ and/or the second pressure boosting unit ~~(32B)~~ are configured to reduce the flow through the first flow path ~~(11A)~~.

8. The air supply system ~~(100)~~ according to any one of claims 3 to 7, wherein, upon the pressure of the compressed air flow upstream of the pressure boosting ~~(30)~~ exceeding the discharge pressure at the ADUs ~~(20)~~, the drive unit ~~(31)~~ is configured to be driven by the first pressure boosting unit ~~(32A)~~ and/or the second pressure boosting unit ~~(32B)~~ and to remove energy from the flow of air.

9. The air supply system ~~(100)~~ according to any one of claims 3 to 8, wherein the drive unit ~~(31)~~ is an electric motor and, upon the pressure of the compressed air flow upstream of the pressure boosting ~~(30)~~ exceeding the discharge pressure at the ADUs ~~(20)~~, the electric motor ~~(31)~~ is configured to be driven by the first pressure boosting unit ~~(32A)~~ and/or the second pressure boosting unit ~~(32B)~~ and to act as a generator of electrical energy.

10. The air supply system ~~(100)~~ according to any one of the previous claims, wherein the inlet air flow is ambient air.

11. The air supply system ~~(100)~~ according to any one of the previous claims, wherein the inlet air flow is a compressed scavenging air flow from an engine of the vessel.

12. The air supply system ~~(100)~~ according to claim 11, wherein the air supply system ~~(100)~~ comprises one or more turbochargers ~~(10)~~, each turbocharger ~~(10)~~ comprising a turbine ~~(10A)~~ driven by an exhaust gas flow from the engine and a compressor ~~(10B)~~ for supplying the compressed scavenging air flow to the first flow path ~~(11A)~~.

13. The air supply system ~~(100)~~ according to any one of the previous claims, wherein the air supply system ~~(100)~~ comprises a changeover valve ~~(13)~~ arranged in the first flow path ~~(11A)~~ for opening and/or closing the first flow path ~~(11A)~~.

14. The air supply system ~~(100)~~ according to any one of the previous claims, wherein the air supply system ~~(100)~~ comprises a flow control device ~~(12)~~ arranged in the first flow path ~~(11A)~~ for controlling the flow through the first flow path ~~(11A)~~.

15. The air supply system ~~(100)~~ according to any one of the previous claims, wherein the air supply system ~~(100)~~ comprises one or more non-return valves ~~(14)~~ arranged in the first flow path ~~(11A)~~ between the one or more pressure control device(s) ~~(30)~~ and the plurality of ADUs ~~(20)~~ for preventing sea water from entering the first flow path ~~(11A)~~ through the plurality of ADUs ~~(20)~~.

16. The air supply system ~~(100)~~ according to any one of the previous claims, wherein the one or more pressure control device(s) ~~(30)~~ are fixed volume displacement pressure control devices providing a fixed volume flow of air to each of the plurality of ADUs ~~(20)~~.

17. A vessel ~~(200)~~ comprising a hull ~~(201)~~, an engine and the air supply system ~~(100)~~ according to any one of the previous claims.