CLAIMS

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

2. The air supply system according to claim 1, wherein the first subset of ADUs are arranged at a same distance from the longitudinal centreline of the vessel as the second subset of ADUs.

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

4. The air supply system according to claim 3, wherein the first pressure boosting unit and/or the second pressure boosting unit is a blower or a compressor.

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

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

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

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

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

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

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

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

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

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

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

17. A vessel comprising a hull, an engine and the air supply system according to any one of the previous claims.