CLAIMS

1. A hull integrated desulfurization device comprising:

a casing forming a part of a hull structure of a ship; and

an absorber supported by the casing to desulfurize exhaust gas discharged from an exhaust gas generation device mounted to the ship.

2. The hull integrated desulfurization device according to claim 1, wherein

the absorber is connected by welding to the casing surrounding an outer periphery of the absorber and is formed integrally with the casing.

3. The hull integrated desulfurization device according to claim 1 or 2, wherein

in a state where the hull integrated desulfurization device is mounted to the ship, a gap is formed between the absorber and an engine casing of the ship positioned below the absorber, and the absorber is peripherally supported by the casing.

4. The hull integrated desulfurization device according to any one of claims 1 to 3, wherein

a length of the casing along a width direction of the ship is larger than a length of the casing along a front-back direction of the ship.

5. The hull integrated desulfurization device according to any one of claims 1 to 4, wherein

in a state where the hull integrated desulfurization device is mounted to the ship, the absorber is positioned above exhaust gas piping of the exhaust gas generation device.

6. The hull integrated desulfurization device according to any one of claims 1 to 5, further comprising piping supported by the casing and including at least one of: gas piping

connecting the exhaust gas piping of the exhaust gas generation device to an exhaust gas inlet of the absorber; and liquid piping through which an absorbing liquid to be used in the absorber flows.

7. A ship comprising the hull integrated desulfurization device according to any one of claims 1 to 6, wherein

a part of the hull structure is formed by the hull integrated desulfurization device.

8. The ship according to claim 7, wherein

the hull structure includes an engine casing positioned below the casing of the hull integrated desulfurization device, and

a lower end of a shell wall of the casing is connected to the engine casing by welding.

9. The ship according to claim 8, wherein

a first reinforcing member formed by ribs provided on an inner side surface of the shell wall of the casing and extending in an up-down direction or by stiffeners installed between the shell walls arranged opposite to each other is aligned with a second reinforcing member formed by ribs or stiffeners provided in the engine casing.

10. The ship according to any one of claims 7 to 9, wherein

the hull structure of the ship includes:

the casing; and

another hull structure arranged adjacent to the casing in a width direction of the ship and welded to the casing.

11. A method for assembling a hull integrated desulfurization device to a ship, the method comprising:

a forming step of forming a hull integrated desulfurization device that includes a casing

forming a part of a hull structure of the ship, and an absorber supported by the casing to desulfurize exhaust gas discharged from an exhaust gas generation device mounted to the ship; and

an installing step of installing the hull integrated desulfurization device in the ship, wherein

the installing step includes joining the casing of the hull integrated desulfurization device to the hull structure of the ship other than the casing.

12. The method for assembling a hull integrated desulfurization device to a ship according to claim 11, wherein

the forming step includes assembling the absorber and the casing together in order from a lower section to an upper section of the hull integrated desulfurization device.

13. The method for assembling a hull integrated desulfurization device to a ship according to claim 11, wherein

the forming step includes forming an aggregation of a plurality of divisional sections into which the hull integrated desulfurization device is divided in an up-down direction, and

the installing step includes sequentially stacking the divisional sections in the ship to install the hull integrated desulfurization device in the ship.