CLAIMS

1. A welder gas supply device comprising:

a gas supply source into which a gas is filled at a high pressure,

a single-stage decompressor which is provided at a gas outlet of the gas supply source and which is configured to reduce pressure of a gas led out from the gas supply source to a predetermined pressure,

a gas supply line having one end connected to the single-stage decompressor and the other end connected to a use destination of the gas,

a solenoid valve provided in the gas supply line, and

a flow regulating valve provided in the gas supply line located between the solenoid valve and the use destination.

2. The welder gas supply device according to Claim 1, wherein the welder gas supply device comprises a constant flow valve provided in the gas supply line located in a latter stage of the solenoid valve instead of the flow regulating valve, and a first branch line which is branched from the gas supply line located in a former stage of the solenoid valve and connected to the constant flow valve.

3. The welder gas supply device according to Claim 1, wherein the flow regulating valve is a needle valve.

4. The welder gas supply device according to Claim 1 or 3, wherein the welder gas supply device further includes a flow meter which is provided in the gas supply line located in a latter stage of the flow regulating valve and measures the flow of the gas.

5. The welder gas supply device according to any one of Claims 1 to 4, wherein the gas supply device comprises a pilot gas supply source which is configured to supply a pilot gas instead of a shield gas supply source, and a pilot gas supply line in which the pilot gas flows instead of the shield gas supply line.

6. A welder gas supply mixer device having a mixing function comprising a plurality of welder gas supply devices according to any one of Claims 1 to 4, and a line which has one end connected to each shield gas supply line in the plurality of welder gas supply devices and the other end connected to the use destination, and has a function of mixing together a plurality of the shield gases.

7. The welder gas supply mixer device having a mixing function according to Claim 6, wherein the welder gas supply mixer device having a mixing function further includes a solenoid valve control unit which is electrically connected to the solenoid valve in the plurality of welder gas supply devices and is configured to control the solenoid valve, and the solenoid valve control unit is a current sensor which uses a magnetic core.

8. A welding device including the welder gas supply device according to any one of Claims 1 to 4, the use destination is a welding torch, and the welder gas supply device is configured to supply the shielding gas.

9. A welding device comprising:

the welder gas supply device according to any one of Claims 1 to 4;

a GMA welding device provided in a shield gas supply line located between the

solenoid valve and the single-stage decompressor;

a second branch line branched from the shield gas supply line located between the single-stage decompressor and the GMA welding device,

another solenoid valve provided in the second branch line;

another flow regulating valve provided in the second branch line located at the latter stage of the other solenoid valve, and

another GTA welding device which is configured to control the other solenoid valve.

10. A welder gas supply method comprising:

a decompression step in which the pressure of a shield gas is reduced by using the single-stage decompressor so that the pressure of the shielding gas led out from the gas supply source filled with the shielding gas at high pressure becomes a predetermined pressure; and

a back pressure applying step in which when a solenoid valve is opened and closed, which is provided in the gas supply line 23 of which one end is connected to the single-stage decompressor and the other end is connected to a use destination of the shielding gas, a back pressure is applied in the gas supply line positioned on the upstream side of the flow regulating valve by the flow regulating valve disposed at the latter stage of the solenoid valve.

11. The welder gas supply method according to Claim 10, wherein the use destination of the shield gas is a welding torch and the shield gas is used.

12. The welder gas supply method according to Claim 10 or 11, wherein a pilot gas is supplied instead of the shield gas.