

**Section 5.14**  
**Two-level Sub-pressure Switching**  
**System (Optional)**

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The two-level sub-pressure switching system enables the air pressure of each sub nozzle to switch between two levels.

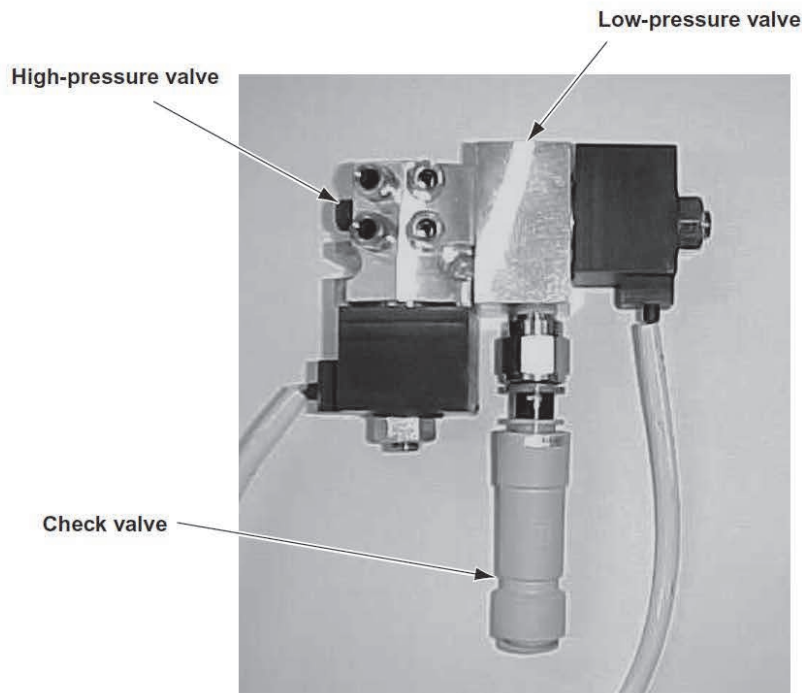
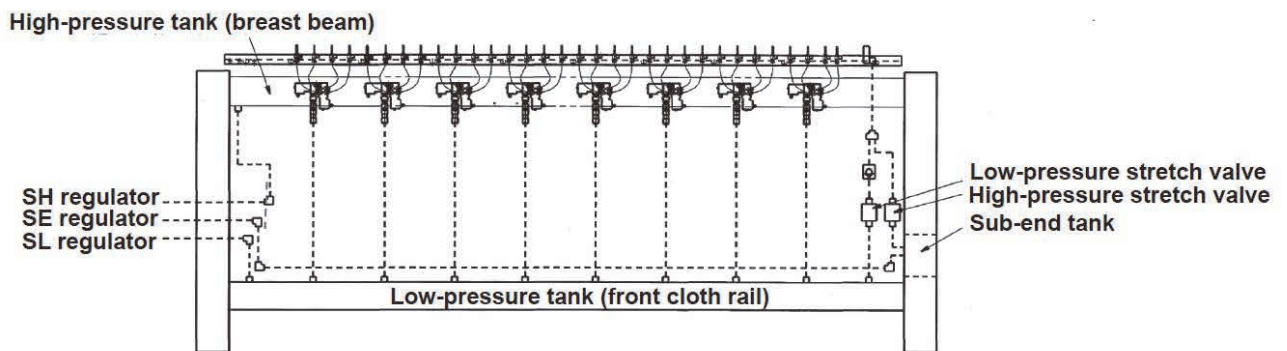
It provides the following two merits:

- When the difference rate between yarn number counts of wefts to be used is high, matching the sub-nozzle pressure to thicker yarn will damage finer yarn, causing weaving defects. This switching system prevents such problems by switching the sub-nozzle pressure.
- When the difference rate between yarn number counts of wefts to be used is high, this switching system decreases the flow rate by switching sub-nozzle pressures to match yarn.

Note that when the same level pressure is applied without switching the sub-nozzle pressure, the flow rate might slightly increase over that required in the standard machine (not equipped with this switching system) due to the preset pressure and other conditions.

The conceptual diagram is given below. A set of a high-pressure valve, low-pressure valve, and check valve switches the air pressure between two levels.

The breast beam and the front cloth rail serve as a high-pressure tank and low-pressure tank, respectively.

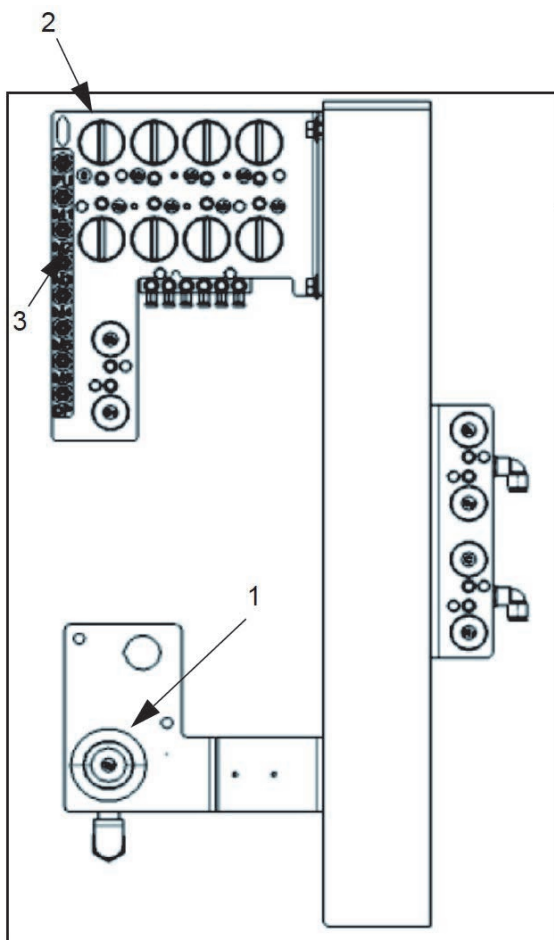


## 5.14.1 Regulating the Air Pressure

Adjust the sub-valve pressure with the following regulators.

**1:** High-pressure regulator (SH)

**2:** Low-pressure regulator (SL)



- (1) Be sure to set a higher value to the high-pressure regulator than the value set to the lowpressure regulator.
- (2) Make a pressure difference 0.05 MPa (0.5 kgf/cm<sup>2</sup>) or more between the high- and low-pressure regulators.

**NOTE:** If the difference is slight, the check valve operation becomes unstable, failing to switch between the high and low pressures.

- (3) When no switching of the sub pressure is applied, set the high-pressure regulator with the designate pressure and set the low-pressure regulator with approximately 0.1 MPa (1 kgf/cm<sup>2</sup>) lower than that of the high-pressure regulator.

Adjust the stretch valve pressure with the following regulators.

**2.** Low-pressure regulator (SL)

\* This valve is also used to adjust the sub low pressure.

**3.** Stretch high-pressure regulator (SE)

## 5.14.2 Setting the Sub-valve Drive Timing



SUB

Compare Manual Value Setting Copy

| Opening angle | 475    |     | 475    |     | 475    |     | 475    |     | 475    |     | 475    |     |
|---------------|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|
| Compare       | Color1 |     | Color2 |     | Color3 |     | Color4 |     | Color5 |     | Color6 |     |
| Sub1          | 95     | 135 | 95     | 135 | 95     | 135 | 95     | 135 | 95     | 135 | 95     | 135 |
| Sub2          | 115    | 155 | 115    | 155 | 115    | 155 | 115    | 155 | 115    | 155 | 115    | 155 |
| Sub3          | 135    | 175 | 135    | 175 | 135    | 175 | 135    | 175 | 135    | 175 | 135    | 175 |
| Sub4          | 150    | 190 | 150    | 190 | 150    | 190 | 150    | 190 | 150    | 190 | 150    | 190 |
| Sub5          | 165    | 205 | 165    | 205 | 165    | 205 | 165    | 205 | 165    | 205 | 165    | 205 |
| Sub6          | 185    | 230 | 185    | 230 | 185    | 230 | 185    | 230 | 185    | 230 | 185    | 230 |
| Sub7          | 200    | 300 | 200    | 300 | 200    | 300 | 200    | 300 | 200    | 300 | 200    | 300 |
| Sub8          | 220    | 300 | 220    | 300 | 220    | 300 | 220    | 300 | 220    | 300 | 220    | 300 |
| Sub9          | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   |
| Sub10         | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   |
| Sub11         | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   | 0      | 0   |

OK

SUB

Compare Manual Value Setting Copy

Sub Pressure H-L

| Stretch pressure | SE     | SE     | SE     | SE     | SE     | SE     |
|------------------|--------|--------|--------|--------|--------|--------|
| ALL              | Color1 | Color2 | Color3 | Color4 | Color5 | Color6 |
| Sub1 pressure    | High   | High   | High   | High   | High   | High   |
| Sub2 pressure    | High   | High   | High   | High   | High   | High   |
| Sub3 pressure    | High   | High   | High   | High   | High   | High   |
| Sub4 pressure    | High   | High   | High   | High   | High   | High   |
| Sub5 pressure    | High   | High   | High   | High   | High   | High   |
| Sub6 pressure    | High   | High   | High   | High   | High   | High   |
| Sub7 pressure    | High   | High   | High   | High   | High   | High   |
| Sub8 pressure    | High   | High   | High   | High   | High   | High   |
| Sub9 pressure    | High   | High   | High   | High   | High   | High   |
| Sub10 pressure   | High   | High   | High   | High   | High   | High   |

OK

- (1) Set the sub-valve drive timing in the same way as that for the standard weaving machine on the first page of [ Map ] - [ SUB ] - [ Setting ] of the function panel.
- (2) The [ SUB ] - [Setting ] screen on the left is shown.

On this screen, switch the sub pressure.

If HIGH is selected, the high-pressure valve opens to feed air from the high-pressure tank; if LOW, the low-pressure tank opens to feed air from the low-pressure tank.

When using no switching system, set all of the sub pressures to HIGH.

All of the sub pressure changes into the selected pressure when selecting either high or low in this item.

The stretch pressure is not included.

Changing items in <All> only makes all subs the same pressure by default.

