

75 710  
75 712

### STA – Three functions in one valve

#### **RESTRICTION VALVE**

Each group line in a heating installation must be provided with a restriction valve to permit regulation of the water flow between the different groups.

#### **SHUT-OFF VALVE**

The group lines must also be provided with shut-off valves.

#### **DRAINING VALVE**

There must also be provision for draining of the groups, for which a draining valve with hose union is required.

### STA-T – Four funktionen in one valve

Incorporating the three above-mentioned functions as well as:

#### **WATER VOLUME MEASUREMENT**

The valves have connections for pressure-drop measurement. By measuring the pressure-drop through the valve the water volume can easily be determined from the pressure-drop diagram.

STA-T group valves are designed to combine all these functions in a single fitting, the result being a high-class valve unit which saves both space and installation work.

STA valves have a setting scale graduated from 0 to 8.

STA-T valves have a double graduated scale to facilitate reading off while pressure-drop measurement is taking place. The valve cone is shaped so that logarithmic flow characteristics are obtained, thereby greatly facilitating adjustment of the valve.

As a guide in determining the correct valve dimension and setting (pressure-drop) there are diagrams for each size of valve showing the pressure-drop at different settings and water volumes. Acoustical level graphs have been plotted by means of sound tests at different settings with varying pressure-drops and water volumes. These are embodied in the respective pressure-drop diagrams.

### **TYPE APPROVED BY THE NATIONAL SWEDISH BOARD OF URBAN PLANNING**

(Type approval certificate No. 810/74)  
(conn. 10–40)

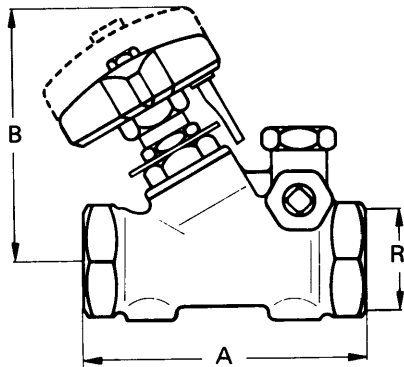
| Conn. Designation | Type  | Art.No. |
|-------------------|---|---------|
| STA               | Straight, female thread (conn. 65, flange PN 10)                  | 75 710  |
| STA-T             | Straight, female thread measuring outlet (conn. 65, flange PN 10) | 75 712  |
| –                 | Measuring nipples   | 75 711  |

For connecting dimensions, see the following pages.

**TECHNICAL DESCRIPTION**

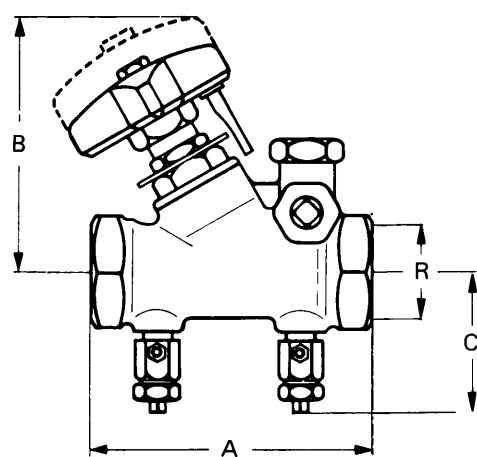
- Application:** Heating installations. Conn. 10–40 also for potable water installations.
- Nominal pressure:** Conn. 10–40 PN 16  
Conn. 50–65 PN 10
- Max. working pressure:** Conn. 10–40 16 bar = 1.6 MPa ≈ 225 psi  
Conn. 50–65 10 bar = 1.0 MPa ≈ 150 psi
- Max. working temperature:** Conn. 10–40 + 150° C  
Conn. 50–65 + 120° C
- Material:** Conn. 10–40 made of AMETAL throughout.  
Conn. 50–65 with valve body of cast iron (SIS 0125) and other parts of copper alloy (SIS 5170). Valve cone with resilient seal. Valves provided with red nylon knob.
- Draining:** Draining unit suitable for hose socket (with washer) and wing nut. Valves supplied with protective cap but excluding hose socket.
- Testing:** Each valve is individually tested before despatch, both for seat sealing and overall leak-tightness.
- Packing:** The valves are always packed in cartons in accordance with the carton packing list, see under flap 13.
- Patent:** 75 710 and 75 712 are protected by patent.

**75 710**



| Art.No.    | Conn. DN      | A   | B   | C | R     | Weight kg |
|------------|---------------|-----|-----|---|-------|-----------|
| 75 710-010 | 10            | 82  | 90  | — | 3/8   | 0,6       |
| -015       | 15            | 90  | 90  | — | 1/2   | 0,6       |
| -020       | 20            | 95  | 90  | — | 3/4   | 0,7       |
| -025       | 25            | 105 | 90  | — | 1     | 0,9       |
| -032       | 32            | 115 | 100 | — | 1 1/4 | 1,2       |
| -040       | 40            | 125 | 110 | — | 1 1/2 | 1,4       |
| -050       | 50            | 155 | 120 | — | 2     | 3,6       |
| -065       | Flanges PN 10 | 210 | 150 | — | —     | 9,9       |

**75 712**



|            |               |     |     |    |       |      |
|------------|---------------|-----|-----|----|-------|------|
| 75 712-010 | 10            | 82  | 90  | 50 | 3/8   | 0,7  |
| -015       | 15            | 90  | 90  | 50 | 1/2   | 0,7  |
| -020       | 20            | 95  | 90  | 50 | 3/4   | 0,8  |
| -025       | 25            | 105 | 90  | 55 | 1     | 1,0  |
| -032       | 32            | 115 | 100 | 60 | 1 1/4 | 1,3  |
| -040       | 40            | 125 | 110 | 65 | 1 1/2 | 1,5  |
| -050       | 50            | 155 | 120 | 77 | 2     | 3,7  |
| -065       | Flanges PN 10 | 210 | 148 | 93 | —     | 10,0 |

Detachable measuring nipples. Art.No. 75 711-000

### Presetting STA

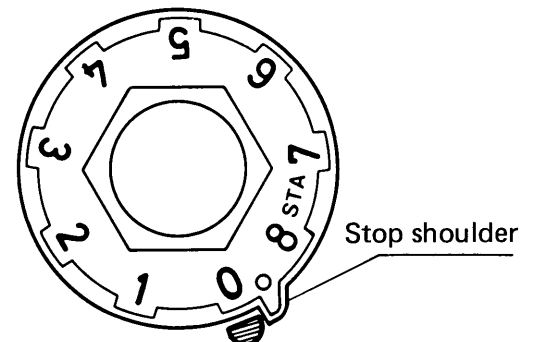
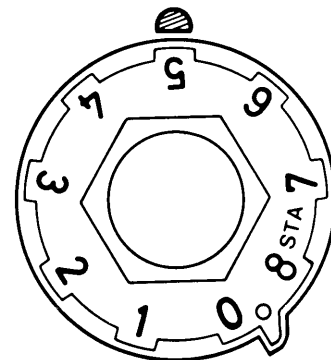
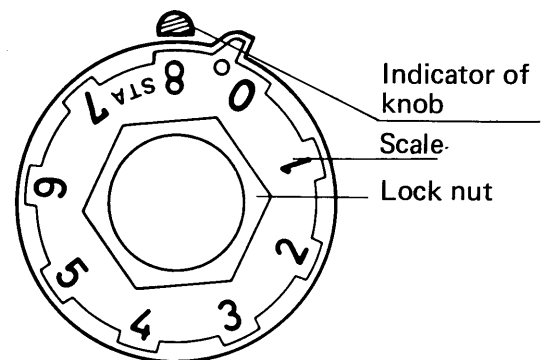
Initial setting of a new valve for a particular pressure-drop, e.g. corresponding to digit 5 on the diagram, is done as follows:

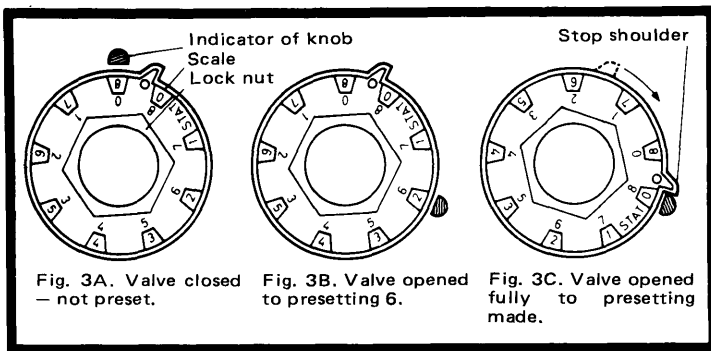
1. Close the valve fully (Fig. 1).
2. Slacken the lock nut of the scale.
3. Turn the scale clockwise so that the desired pre-setting digit 5 comes opposite the indicator of the knob (Fig. 2).
4. Tighten the lock nut.
5. Open the valve until the indicator comes up against the stop shoulder (Fig. 3). The valve is now preset.

To check the presetting of a valve, close it fully, when the indicator of the knob shows the presetting digit, in this case 5 (Fig. 2).

As a guide in determining the correct valve dimension and setting (pressure-drop) there are diagrams for each size of valve showing the pressure-drop at different settings and water volumes.

Acoustical level graphs have been plotted by means of sound tests at different settings with varying pressure-drops and water volumes. These are embodied in the respective pressure-drop diagram.





**Regulation of water volumes**

The actual pressure-drops in the group lines of a heating system are difficult to establish by calculation, meaning that the water volume — and thereby also the heat distribution — is often incorrect in practice. With the STA-T valve it is easy to regulate the desired water volume. By measuring the pressure-drop across the valve at a particular presetting value the water volume for the size of valve concerned can be read off from the pressured-drop diagram.

**Preparations for measuring Valve**

1. Close the valve fully, when it must not be connected to the gauge.
2. Slacken the scale dial lock nut.
3. Turn the dial so that the digit 0 on the INNER scale comes opposite the indicator of the knob (Fig. 3A).
4. Tighten the lock nut.
5. Open the valve to the desired presetting value, e.g. 6, by turning the knob until its indicator comes opposite 6 on the INNER scale (Fig. 3B).

**Gauge**

1. Use a differential pressure gauge DTM. Valves 1, 2 and 3 should be closed until measurement is started.
2. Connect the hoses to the nipples on the STA-T valve hose from outlet S to the outlet side.
3. Open nipples N about one turn and then open valve 1 on the gauge. Water circulation now also takes place past the STA-T valve and air is forced out in the hoses.

4. Wait a moment until the hoses are vented, open valves 2 and 3 and slowly close valve 1.

The pressure-drop in the STA-T valve can now be read off in metres water column directly on the scale of the gauge. Max. 6.3 metres water column.

**Measuring Checking water volume at specified presetting**

If a particular presetting value has been specified, e.g. 6, turn the knob so that its indicator points to 6 on the INNER scale (Fig. 3B). Measure the pressure-drop as described above and read off the water volume through the valve at setting 6 in the pressure-drop diagram.

If the water volume does not agree with that desired, select another valve setting — still using the INNER scale — and repeat the measuring procedure until the correct water volume has been obtained.

**Where no presetting is specified**

If no presetting value is specified, select a suitable valve opening, measure the pressure-drop and

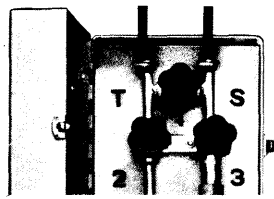


Fig. 4. Close-up view of differential pressure gauge DTM.

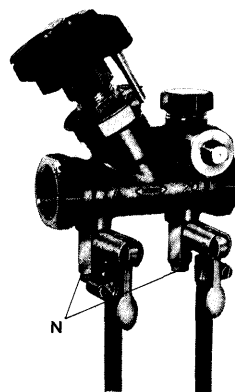
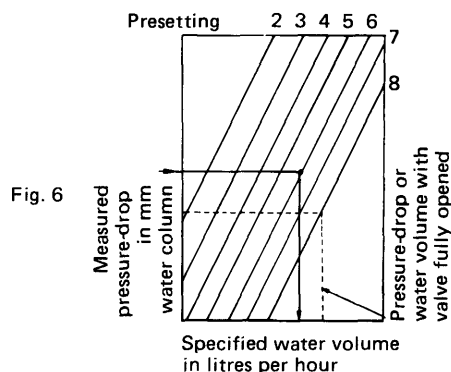


Fig. 5. Gauge hoses connected to valve nipples.



determine the water volume. If the water volume does not agree with that required, reset the valve and repeat the measuring procedure until the correct water volume has been obtained.

NOTE. While carrying out measurement the STA-T valve must not be fully closed if the gauge valves 2 and 3 are open. If the valve has to be closed, the valves on the gauge must be closed first, otherwise there is a risk that the mercury will be blown out. During transport valves 2 and 3 must be closed.

**Fixing of presetting position**

When the correct presetting position has been obtained it is fixed as follows:

1. Slacken the scale dial lock nut.
2. Turn the dial clockwise until the stop shoulder comes up against the indicator of the knob (when the position of the knob must not be altered).
3. Tighten the lock nut, when the maximum opening of the valve is now limited to the presetting made, e.g. 6. See Fig. 3C.

The valve dial has a hole close to the stop shoulder whereby lead-sealing of the set position can be made. If it is required to check the valve setting, close the valve fully, when the indicator of the knob will show the presetting value on the OUTER scale.

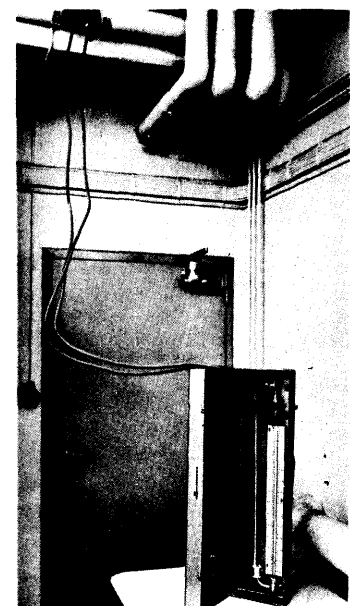


Fig. 7. Differential pressure gauge DTM connected to STA-T valve.