



SM 74

Retrofitting the inking unit temperature control

1 Product information

1.1 Priority

Priority of the information	
	This document serves for your information.

Tab. 1

A retrofit action is to be carried out on request by the customer.

1.2 Reason

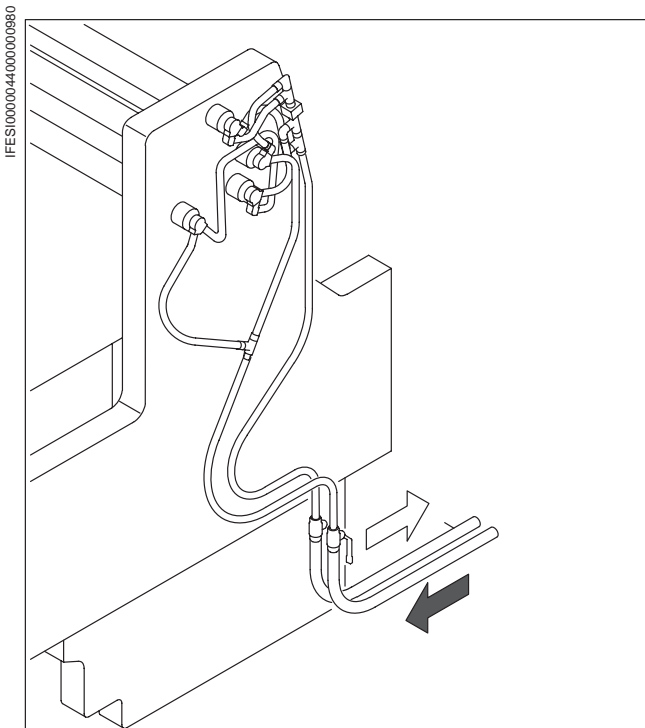


Fig. 1 Inking unit temperature control SM 74

On presses of model line SM 74 the inking unit temperature control can be retrofitted if this has not been done by the factory.

There are three different press versions if the inking unit temperature control has not yet been retrofitted:

- Presses with preassembled inking unit temperature control. Hoses, rotary tubes and distributor have been mounted. The collecting pipes to the temperature control device must still be connected.
- Presses which have been prepared for the inking unit temperature control. Hoses, rotary tubes, distributor and connection material have been enclosed. The assembly is to be carried out by the customer.
- Presses which have been prepared for the inking unit temperature control. Hoses, rotary tubes and connection material must be ordered separately. The assembly is to be carried out by the customer.



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2 Corrective actions

2.1 Retrofitting the inking unit temperature control

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Time required

Under optimum conditions this corrective action takes approx. 1 day for each printing unit.

2.1.1 Retrofittable presses

Model line	as of serial no.
SM 74 as of 2 PUs	620 300

Tab. 2



Note

Presses **prior to** the above serial number cannot be retrofitted since they are not provided with hollow ink distributors and ink fountain rollers.

2.1.2 Necessary parts

It depends on the version of the press which parts need to be ordered.

Please indicate the serial number when ordering parts.

On the basis of the serial number Spare Parts Sales (Dept. CSL) can identify the press version and find the right parts.



3 Instruction

3.1 Retrofitting the inking unit temperature control

3.1.1 Mounting the rotary tubes

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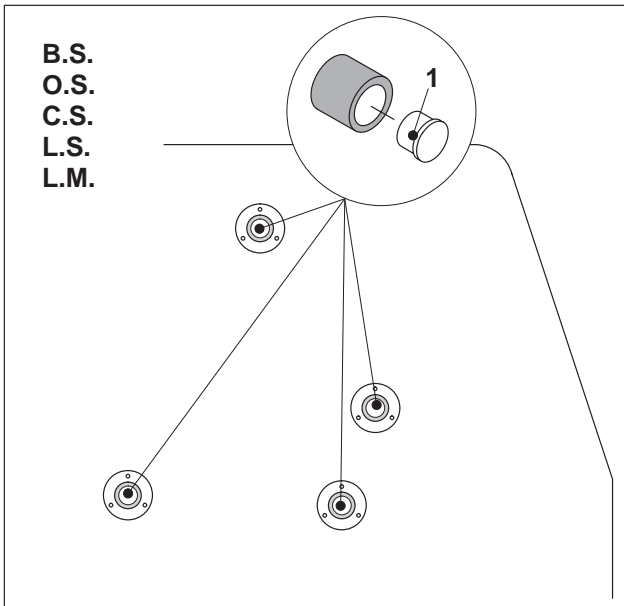


Fig. 2 Removing the plugs

- 1 Remove the printing unit guard on O.S..
- 2 Remove the plugs (Fig. 2/1) from the openings of the ink fountain roller and the ink distributors.

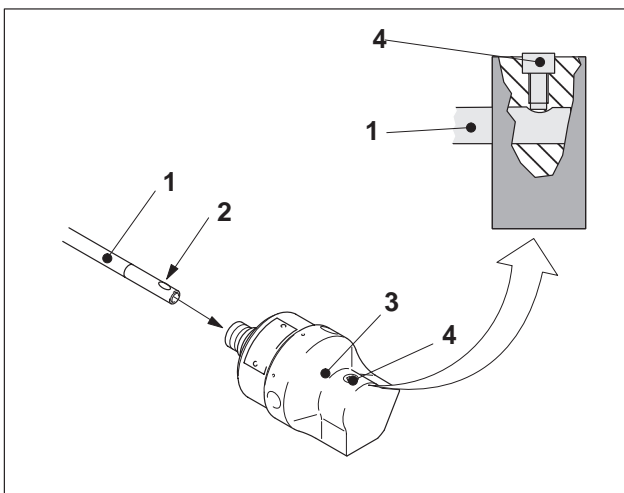


Fig. 3 Mounting the tube in the rotary tube

- 3 Insert the tube (Fig. 3/1) into the rotary tubes (Fig. 3/3) in such a way that the cheese-headed screw (Fig. 3/4) locks into the groove (Fig. 3/2) of the tube.
- 4 Tighten the cheese-headed screw (Fig. 3/4) in such a way that the tube (Fig. 3/1) is fixed.



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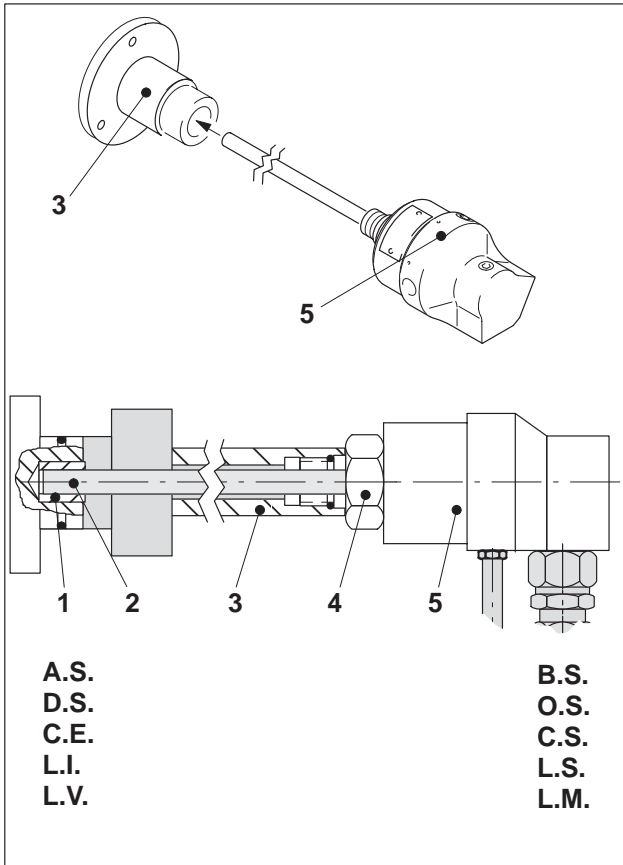


Fig. 4 Mounting the rotary tubes

- 5 Insert the rotary tube with pipe (Fig. 4/5) into the ink fountain roller or the ink distributor (Fig. 4/3).



Note

Make sure that the end of the pipe (Fig. 4/2) on D.S. is located correctly in the friction bearing (Fig. 4/1)4.

- 6 Screw the rotary tubes (Fig. 4/5) to the ink fountain roller or the ink distributor (Fig. 4/3) at the hexagon nut (Fig. 4/4) and tighten these.



3.1.2 Mounting the connection pieces and hoses

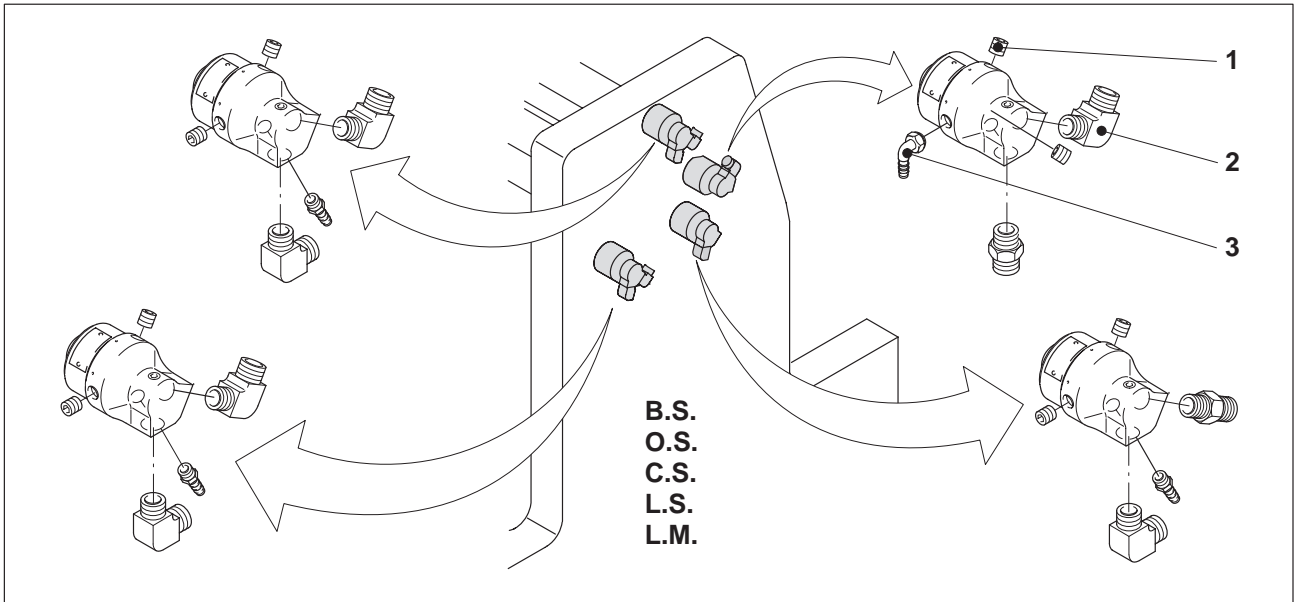


Fig. 5 Mounting the connection pieces

- 7 Screw in both straight and elbow connection pieces (Fig. 5/2), the leakage pieces (Fig. 5/3) and the screw plugs (Fig. 5/1) according to Fig. 5.

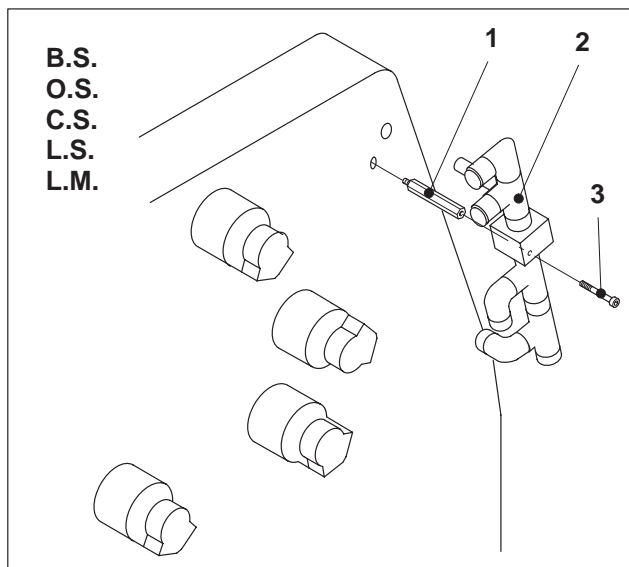


Caution – Press damage! In the case of leaking threads, temperature control medium will be discharged.

Seal the threads of the connection pieces with Teflon tape or a suitable sealant such as Loctite 243 type D1 (part no. 00.580.1781).



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- 8 Screw the support bolts (Fig. 6/1) to the side frame.
- 9 Fasten the distributor (Fig. 6/2) to the support bolt by means of a cheese-headed screw (Fig. 6/3).

Fig. 6 Mounting the distributor

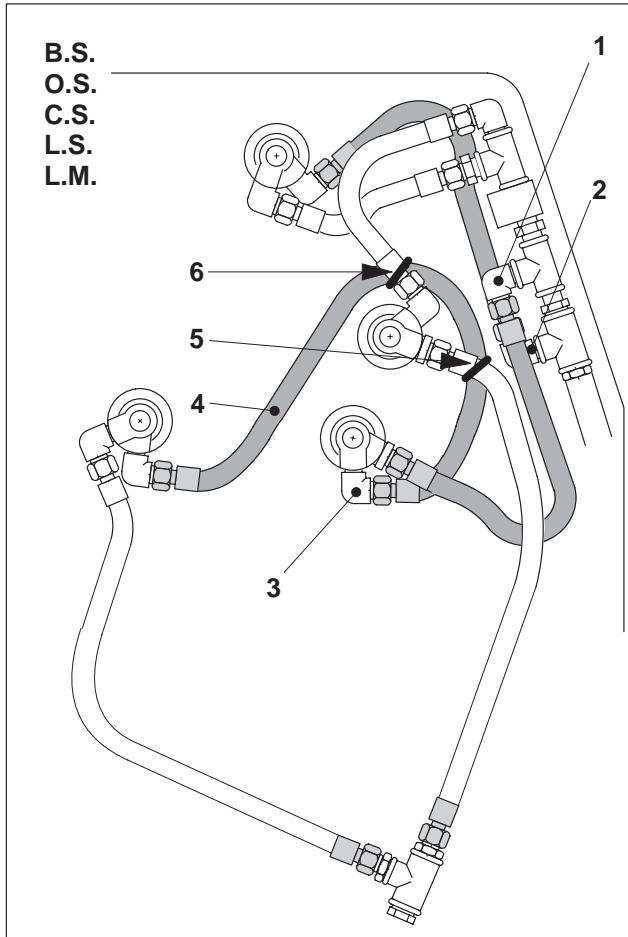


Fig. 7 Hose installation

- 10 Align the connection pieces according to the Table.

Connection pieces	
Fig. 7/1	swiveled by 25° towards the guard
Fig. 7/2	swiveled by 25° towards the side frame
Fig. 7/3	swiveled by 30° towards the side frame
all the others	parallel to the side frame



Caution – Press damage! In the case of leaking threads, temperature control medium will be discharged.

Seal the threads of the connection pieces with Teflon tape or a suitable sealant such as Loctite 243 type D1 (part no. 00.580.1781).

- 11 Install and connect the hoses according to Fig. 7.



Note

The hoses must not be twisted during the installation.

- 12 Fasten the hose (Fig. 7/4) to the positions Fig. 7/5 and Fig. 7/6 by means of cable clips in such a way that the hoses do not chafe against each other.

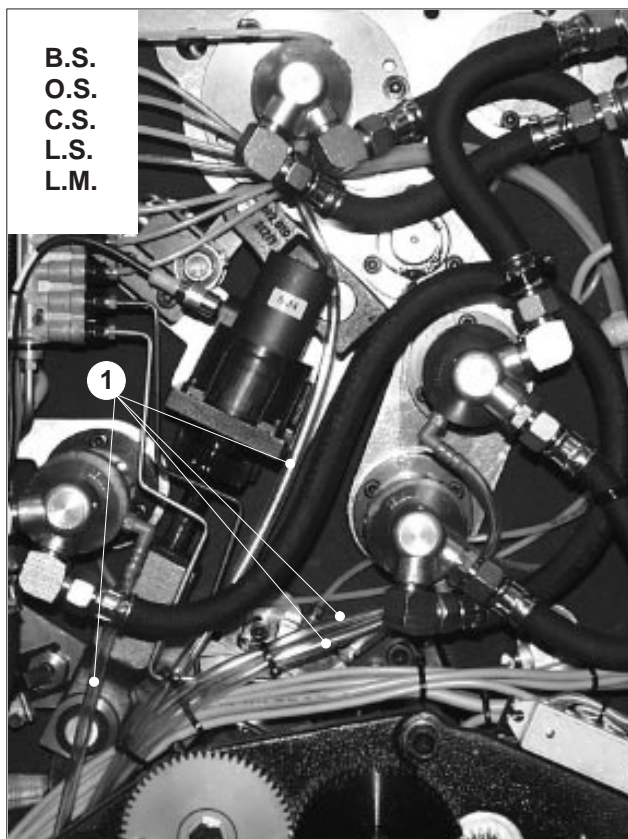


Caution – Press damage! Chafing hoses may start leaking.

On running presses, make sure that the hoses do not rub on other parts. If necessary, install more cable clips.



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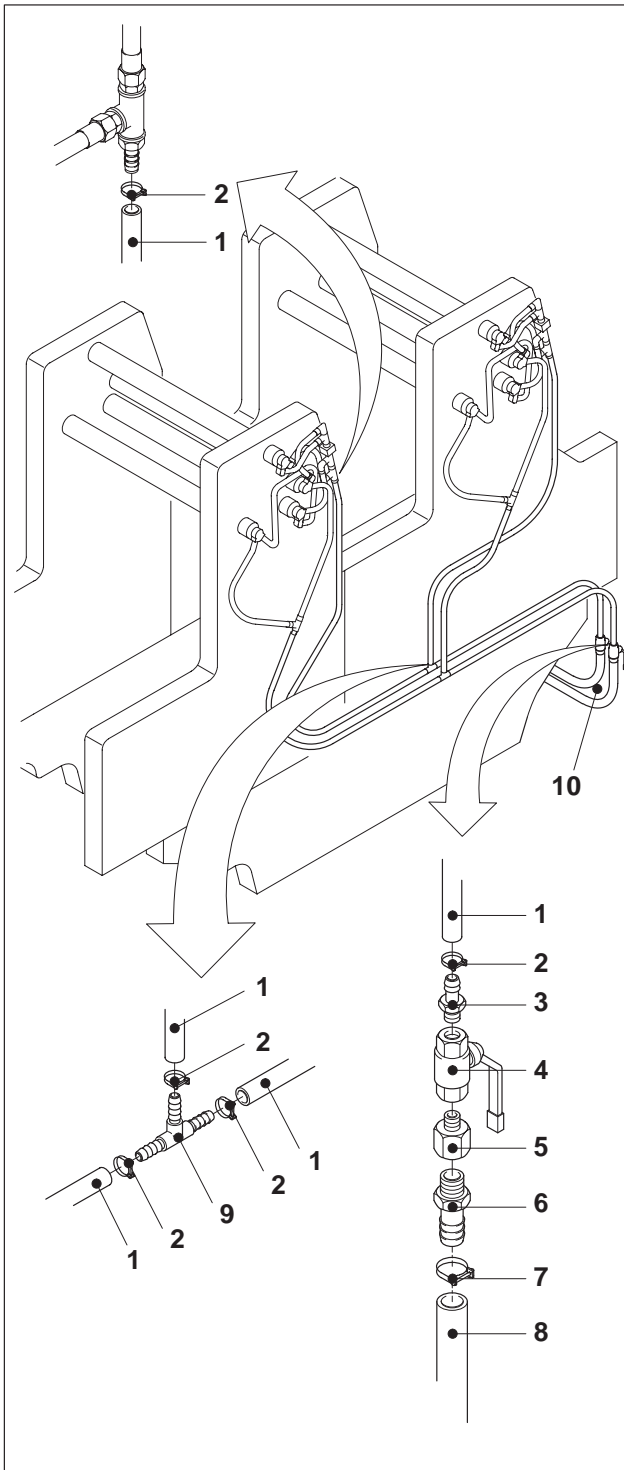
- 13 Install the leakage hoses (Fig. 8/1) according to Fig. 8 and let these dangle downwards.

► **Note**
During the installation of the leakage hoses, make sure that they do not rub against any moving parts or touch these.

Fig. 8 Installation of leakage hoses



3.1.3 Hose installation on presses with one or two printing units



Mounting the hoses and connection pieces



Caution – Press damage! In the case of leaking threads, temperature control medium will be discharged.

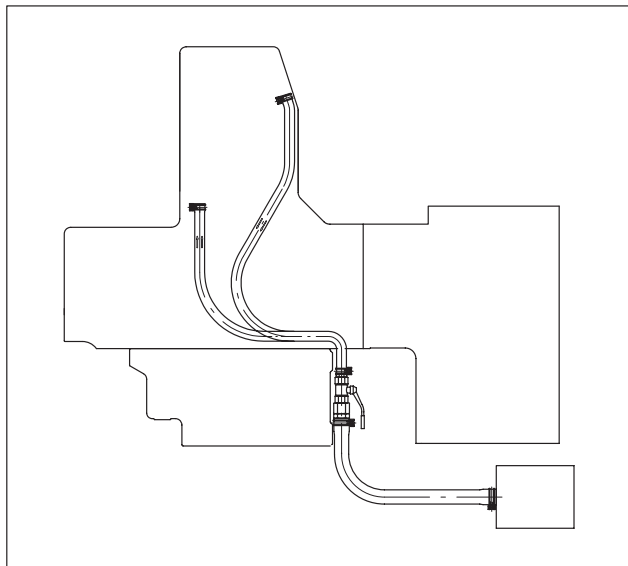
Seal the threads of the connection pieces, the tap and the reducing nipple with Teflon tape or a suitable sealant such as Loctite 243 type D1 (part no. 00.580.1781).

- 1 Screw the screwed sockets (Fig. 9/3) and the reducing nipples (Fig. 9/5) into the tap (Fig. 9/4) according to Fig. 9.
- 2 Screw the hose nozzle (Fig. 9/6) into the reducing nipple (Fig. 9/5).
- 3 Push the hoses (Fig. 9/1, 9/8) onto the hose connection (Fig. 9/9), the screwed socket (Fig. 9/3) and the hose nozzle (Fig. 9/6) according to Fig. 9.
- 4 Fasten the hose clamps (Fig. 9/2, 9/7).
- 5 Lead the hose pipes (Fig. 9/10) through the base to the temperature control device towards D.S..

Fig. 9 Hose installation on a two-colour press



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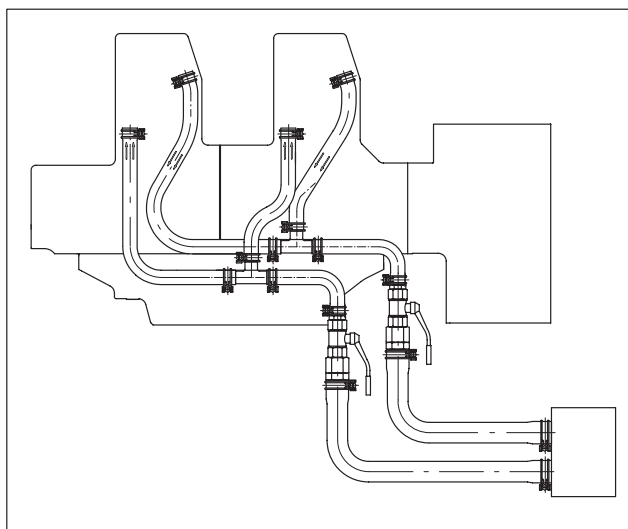
Installation of the hoses and connection pieces



Note

Make absolutely sure that the hoses are installed in exactly the way illustrated in the drawings.

Fig. 10 Hose installation on a single-colour press



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Fig. 11 Hose installation on a two-colour press



3.1.4 Hose installation on presses with more than two printing units

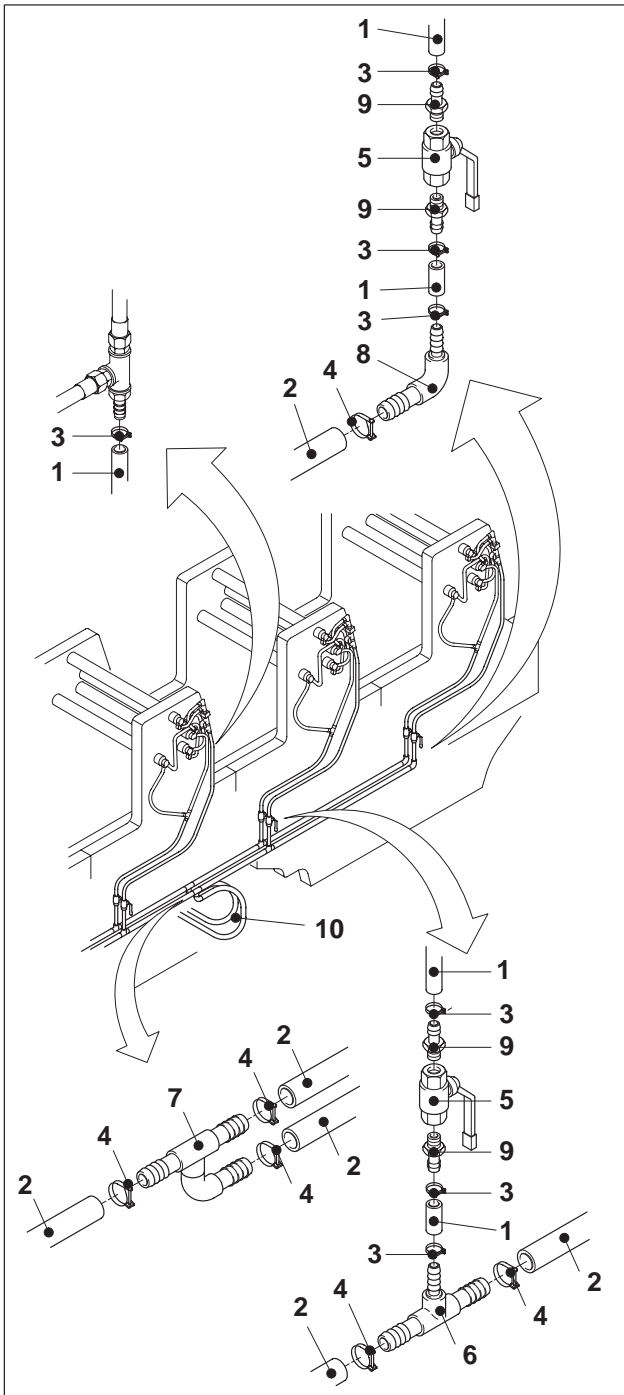


Fig. 12 Hose installation on a press with more than two colours

Mounting the hoses and connection pieces



Caution – Press damage! In the case of leaking threads, temperature control medium will be discharged.

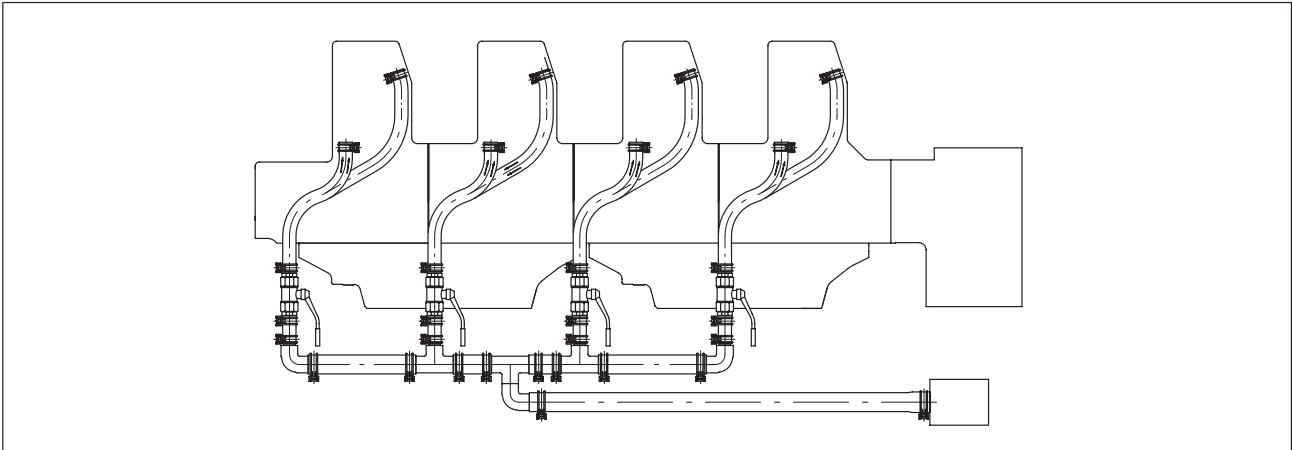
Seal the threads of the connection pieces and the tap with Teflon tape or a suitable sealant such as Loctite 243 type D1 (part no. 00.580.1781).

- ❶ Screw the screwed sockets (Fig. 12/9) into the taps (Fig. 12/5) according to Fig. 12.
- ❷ Push the hoses (Fig. 12/1, 12/2) onto the hose connections (Fig. 12/6, 12/7, 12/8) and the screwed sockets (Fig. 12/9) according to Fig. 12.
- ❸ Fasten the screw clamps (Fig. 12/3, 12/4).
- ❹ Lead the hose pipes (Fig. 12/10) through the base to the temperature control device towards D.S..



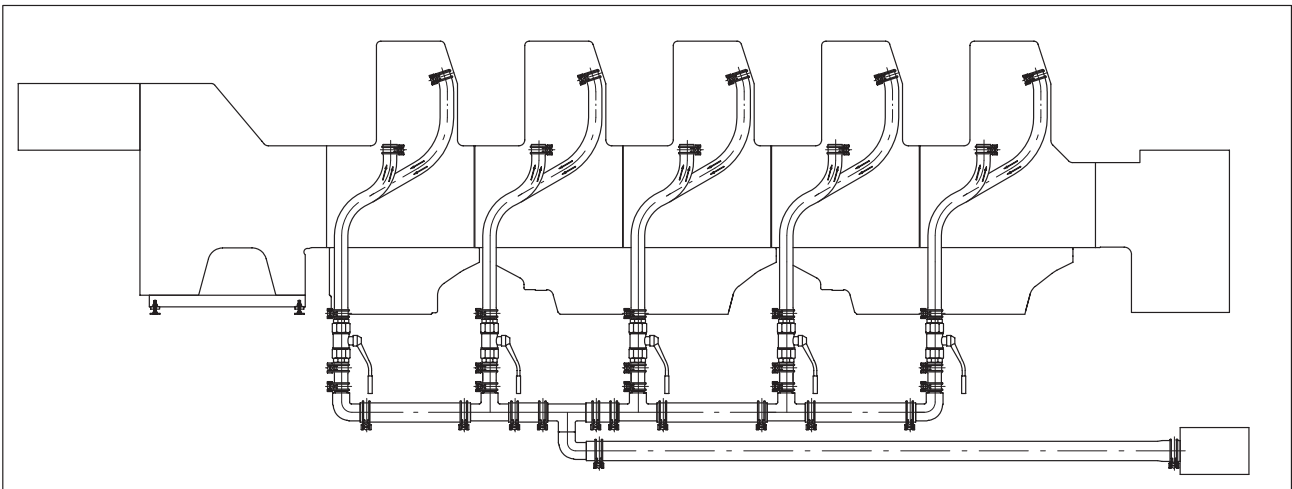
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► **Note**
Make absolutely sure that the hoses are installed in exactly the way illustrated in the drawings.



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Fig. 13 Hose installation on a four-colour press



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Fig. 14 Hose installation on a five-colour press

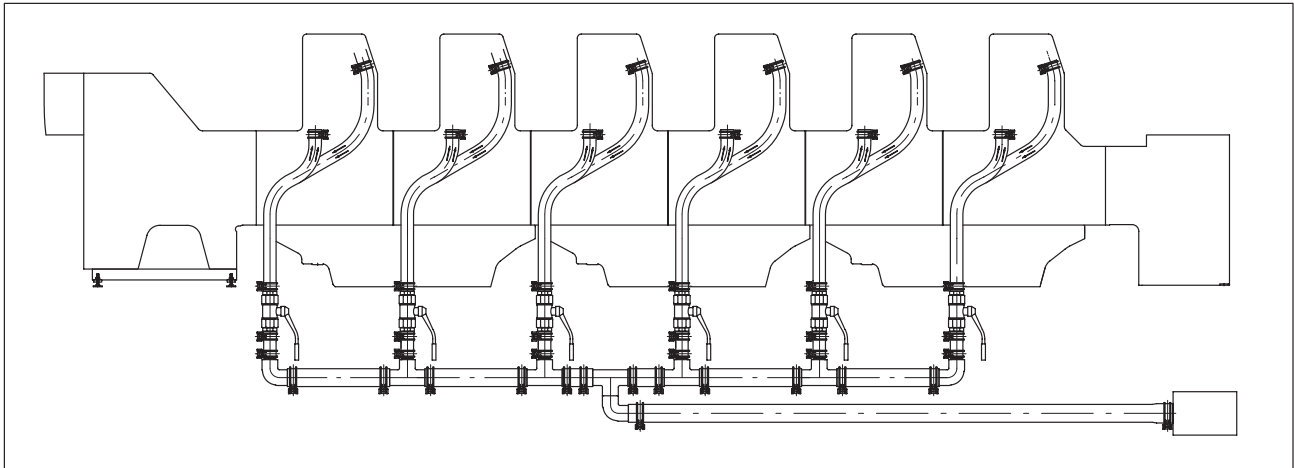


Fig. 15 Hose installation on a six-colour press

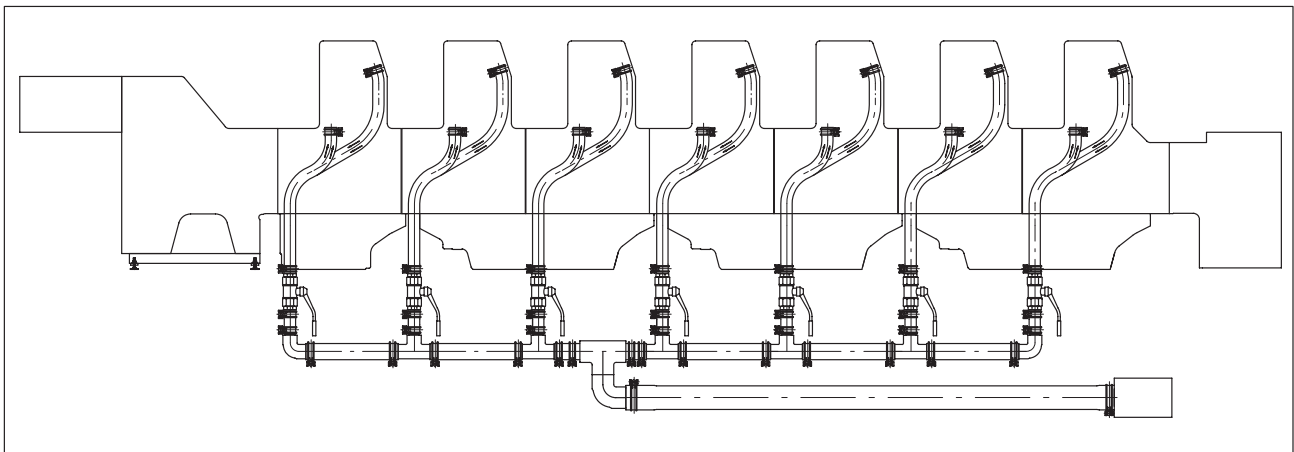


Fig. 16 Hose installation on a seven-colour press

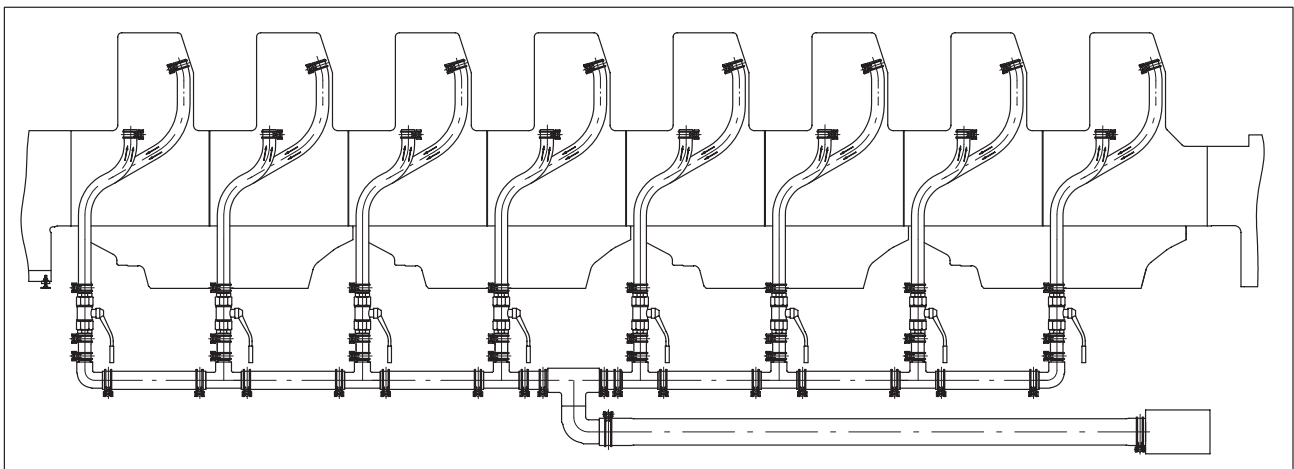
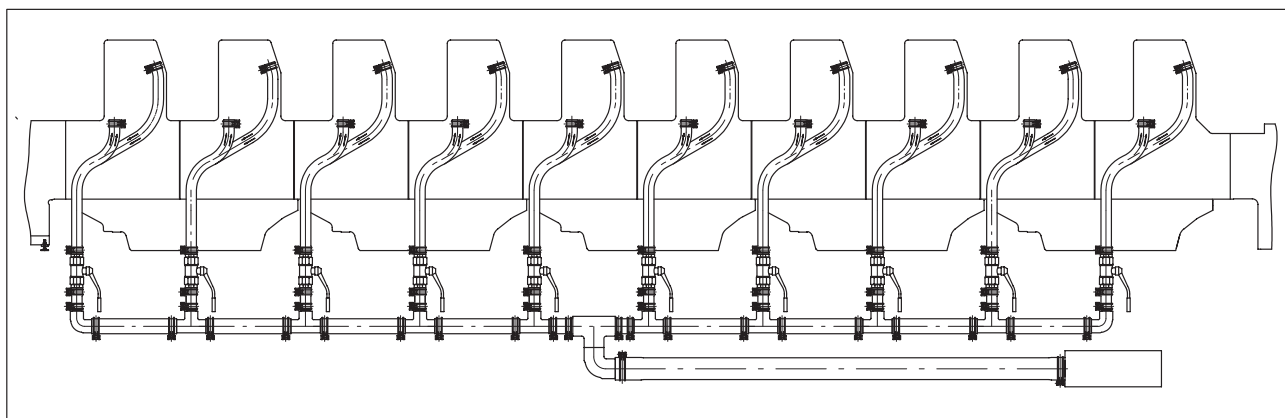


Fig. 17 Hose installation on an eight-colour press



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Fig. 18 Hose installation on a ten-colour press



3.1.5 Electrical connection and assembly

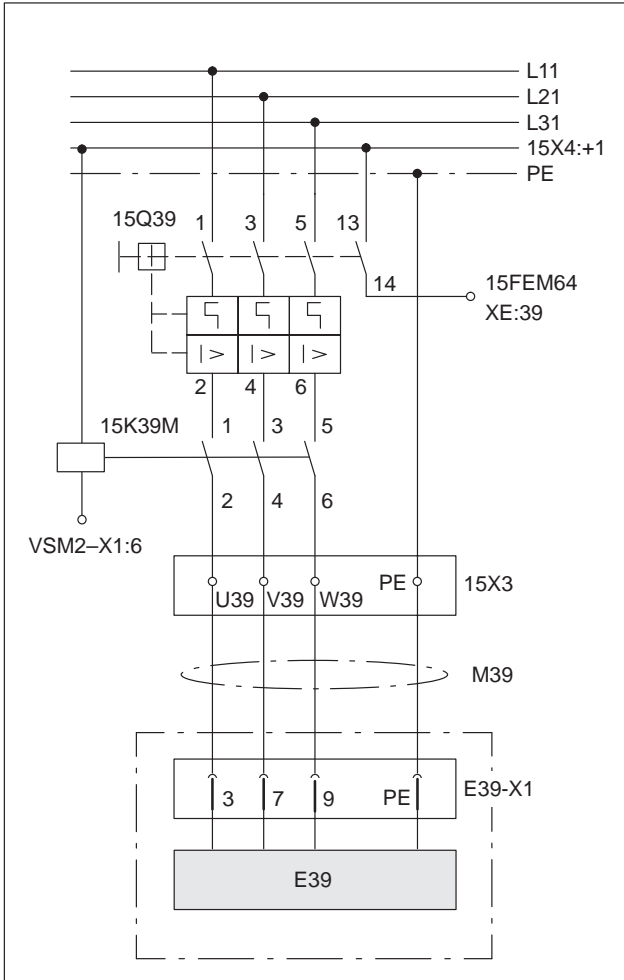


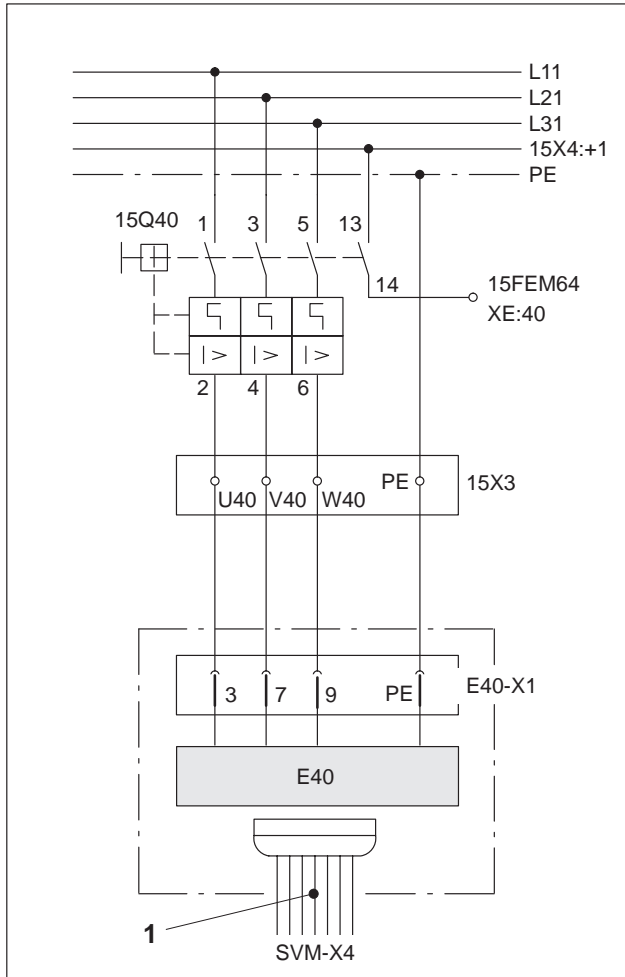
Fig. 19 Circuit diagram for the temperature control device

Retrofitting the temperature control device

- 1 Wire the motor overload switch 15Q39, the contactor 15K39M and the RC link 15RC39M according to the circuit diagram (Fig. 19).
- 2 Connect the cable M39 for the distributor 15X3 of the central control cabinet to the temperature control device E39 and connect it.



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Retrofitting the combination device

During the retrofit action on a combination device, the central dampening solution supply must first be removed. The corresponding motor overload switch 15Q40 must be dismantled.

- 1 Mount the new motor overload switch 15Q40 on the bus bar and connect it according to Fig. 20.
- 2 Lead the cable from the distributor 15X3 of the central control cabinet to the combination device E40 and connect it.
- 3 Connect the cable for the serial interface (Fig. 20/1) of the combination device to SVM-X4 of the central control cabinet.

Fig. 20 Circuit diagram for combination device



3.1.6 Start-up with temperature control device FRT-S

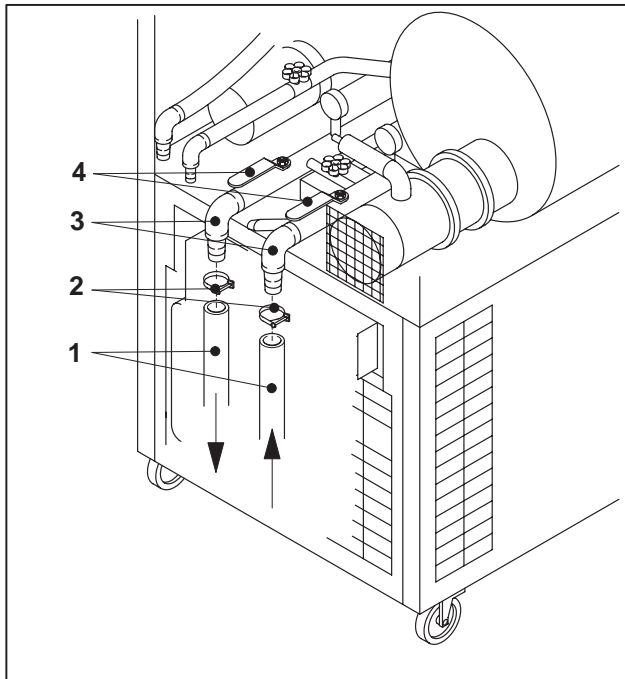


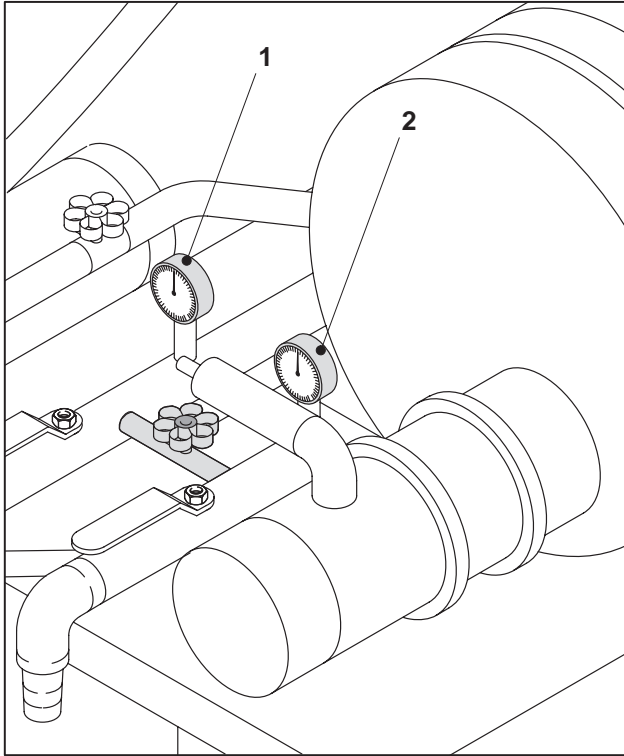
Fig. 21 Connecting the temperature control device FRT-S

Connection

- 1 Connect the hoses for the supply and return flow (Fig. 21/1) to the connecting sockets (Fig. 21/3) by means of hose clamps (Fig. 21/2).

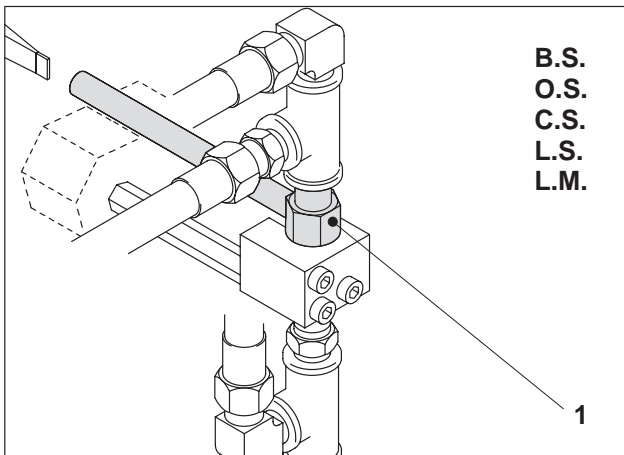


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Fig. 22 By-pass valve with filling manometers



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Fig. 23 Tap

Adjustments/specified measures

- The static filling pressure on both manometers (Fig. 22/1, 22/2) amounts to **1...1.5 bar**.
 - ▶ **Note**
The measurement must be carried out at standstill of the pump!
- The operation pressure (manometer Fig. 22/2) at **1.5 bar** static filling pressure amounts to **3.0...4.0 bar**.

Filling procedure

- 2 Check all connections and connecting pieces.
- 3 Connect the hose pipe for fresh water on the feed cock of the temperature control device.
- 4 Open the automatic air-relief valves, i. e. the end covers.
- 5 Open the taps (Fig. 21/4) for the supply and return flow.
- 6 Close the tap (Fig. 23/1) for the ink fountain temperature control device.

- ▶ **Note**
When the tap is closed (Fig. 23/1) the flow towards the ink fountain roller is open.

- 7 Fill the temperature control device.

- ▶ **Note**
For further information on the filling procedure, please see the Service Information SI.000.0042 "Filling the inking unit temperature control".

- 8 Close the water supply when the filling pressure of both manometers (Fig. 22/1, 22/2) amounts to **1...1.5 bar**.
- 9 Switch on the temperature control device (pump is running).
- 10 Vent thoroughly and refill water, if necessary.

- ▶ **Note**
The secondary venting procedure takes place automatically via the air-relief valves.

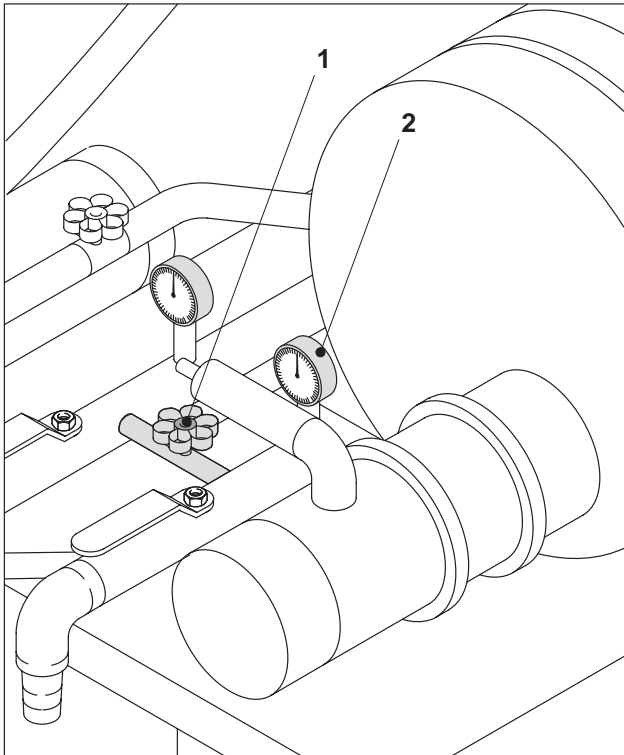


Fig. 24 By-pass valve with filling manometers

- 11 Adjust the operation pressure at the supply run to **3.0...4.0 bar** by means of the by-pass valve (Fig. 24/1).



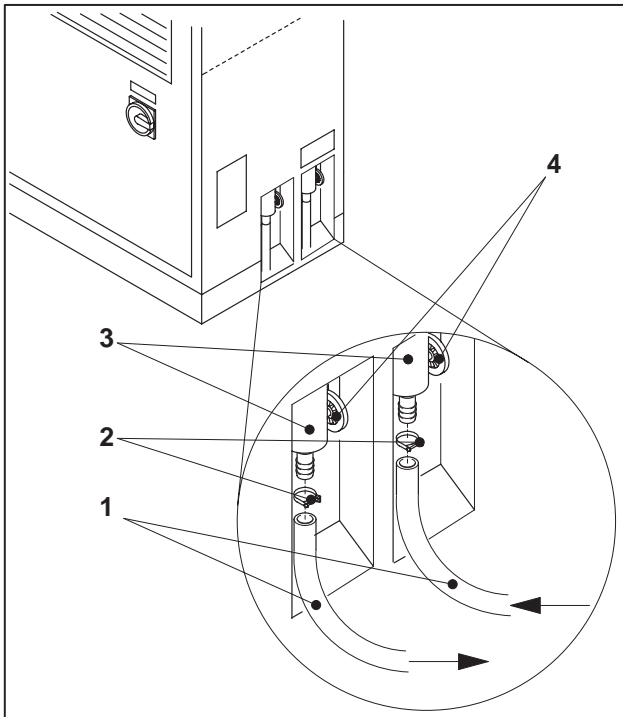
Note

When the temperature control device is switched on the manometer (Fig. 24/2) indicates the operation pressure.



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3.1.7 Start-up with temperature control device FRT-C/combination device FKT-C



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Connection

- 1 Connect the hoses for the supply and return flow (Fig. 25/1) to the connecting sockets (Fig. 25/3) by means of hose clamps (Fig. 25/2).

Fig. 25 Connecting the temperature control device FRT-C

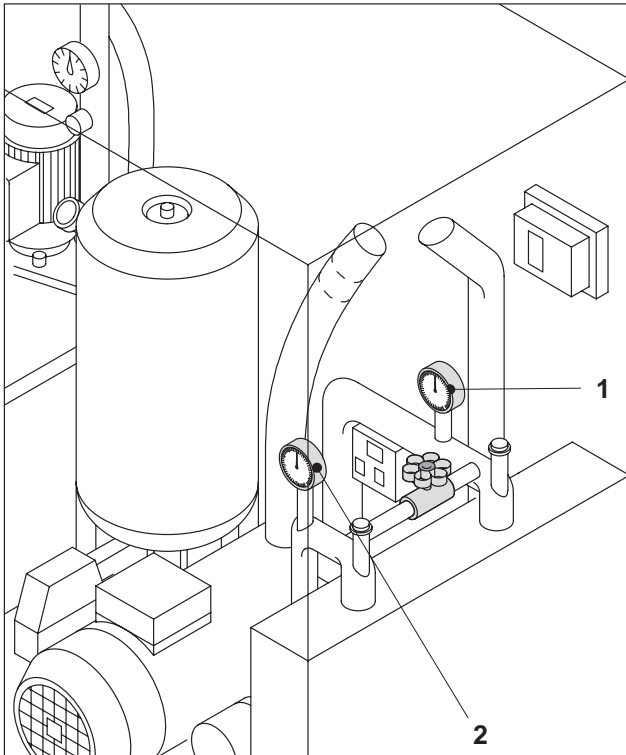


Fig. 26 By-pass valve with filling manometers

Adjustments/specified measures

- The static filling pressure on both manometers (Fig. 26/1, 26/2) amounts to **1...1.5 bar**.
 - ▶ **Note**
The measurement must be carried out at standstill of the pump!
- The following operation pressures (manometer Fig. 26/2) are applicable at **1.5 bar** static filling pressure:

Temperature control device	Operation pressure in supply run
FRT-C 10000 L -H- 50 Hz	6.1 ±0.2 bar
FRT-C 10000 L -H- 60 Hz	5.3 ±0.2 bar
FRT-C 12000 L -H- 50 Hz	5.0 ±0.2 bar
FRT-C 12000 L -H- 60 Hz	5.0 ±0.2 bar
FRT-C 16000 L -H- 50 Hz	5.7 ±0.2 bar
FRT-C 16000 L -H- 60 Hz	6.2 ±0.2 bar
FRT-C 20000 L -H- 50 Hz	6.2 ±0.2 bar
FRT-C 20000 L -H- 60 Hz	6.0 ±0.2 bar

Tab. 3



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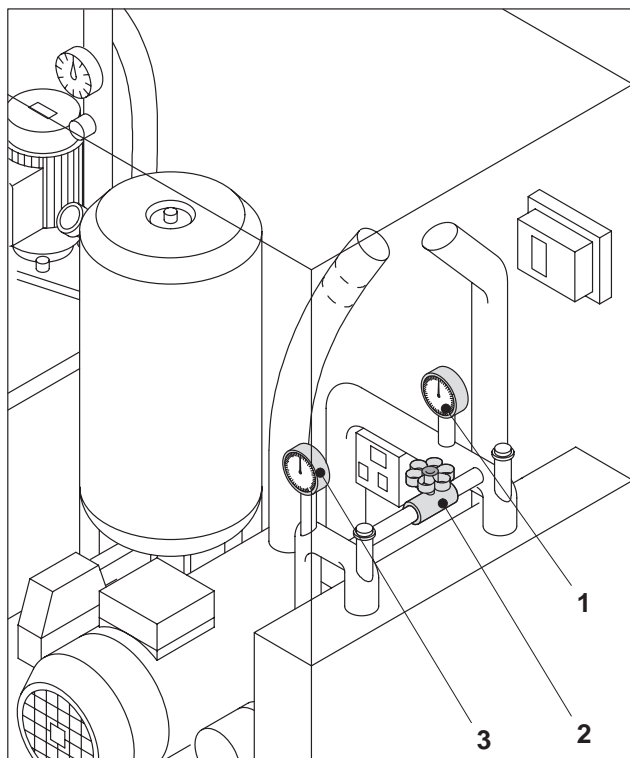


Fig. 27 By-pass valve with filling manometers

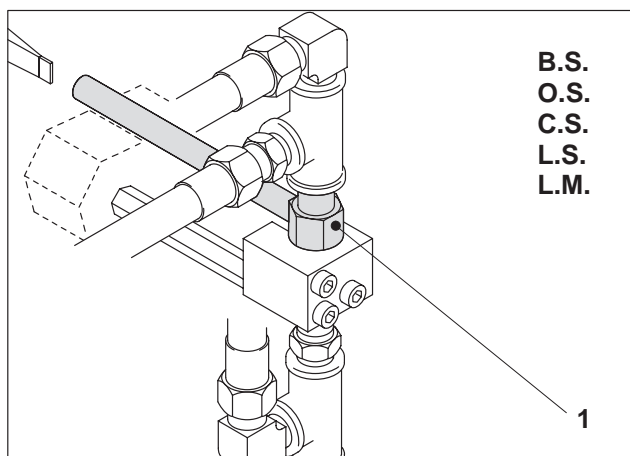


Fig. 28 Tap

Filling procedure

- 2 Check all connections and connecting pieces.
- 3 Connect the hose pipe for fresh water to the feed cock of the temperature control device.
- 4 Open the automatic air-relief valves, i. e. the end covers.
- 5 Open the taps (Fig. 25/4) for the supply and return flow.
- 6 Close the tap (Fig. 28/1) for the ink fountain temperature control device.

► **Note**
When the tap (Fig. 28/1) is closed the flow to the ink fountain roller is open.

- 7 Fill the combination device.

► **Note**
For further information on the filling procedure, please see the Service Information SI.000.0042 "Filling the inking unit temperature control".

- 8 Close the water supply when both manometers (Fig. 27/1, 27/3) indicate a filling pressure of **1...1.5 bar**.

- 9 Switch on the combination device (pump is running).

- 10 Vent thoroughly and refill water, if necessary.

► **Note**
The secondary venting procedure takes place automatically via the air-relief valves.

- 11 Adjust the operation pressure on the by-pass valve (Fig. 27/2) according to Tab. 3.

► **Note**
When the combination device is switched on the manometer (Fig. 27/3) indicates the operation pressure.

► **Note**
When using the combination device, the hoses for the dampening solution must have been connected.



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