



# D867 M-TYPE DELTA

## Additional Instructions

Electropneumatic needle cooling

**IMPORTANT**  
**READ CAREFULLY BEFORE USE**  
**KEEP FOR FUTURE REFERENCE**

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<b>1</b>	<b>General information .....</b>	<b>3</b>
1.1	Components of the kit 0867 594464 (needle cooling from above) .....	3
1.2	Components of the kit 0867 594474 (needle cooling from below, thread trimmer) .....	4
1.3	Components of the kit 0867 594484 (needle cooling from below, short thread trimmer) .....	4
<b>2</b>	<b>Needle cooling from above.....</b>	<b>5</b>
2.1	Assembling the needle cooling .....	5
2.2	Connecting the needle cooling .....	11
<b>3</b>	<b>Needle cooling from below.....</b>	<b>12</b>
3.1	Assembling the needle cooling .....	12
3.2	Connecting the needle cooling .....	15
<b>4</b>	<b>Software settings.....</b>	<b>16</b>
<b>5</b>	<b>Appendix .....</b>	<b>17</b>



## 1 General information



### Important

The machine is not equipped with compressed air. If you want to assemble the electropneumatic needle cooling to the machine, you will need the following additional kits (see  *Parts List*):

- **9780 000108**: Compressed air maintenance unit
- **0867 594304**: Pneumatic small parts pack
- **0797 003031**: Pressure line K

### 1.1 Components of the kit 0867 594464 (needle cooling from above)

Check whether the scope of delivery for kit 0867 594464 is correct prior to installation.

Part number	Quantity	Designation
0667 315433	1	Block
0867 594363	1	Blow tube
0669 979265	1	Hose 0.3 m
9790 000220	1	Nipple
9731 005004	1	Hose
9731 004054	1	Hose
9710 920016	1	Throttle check valve
9710 063420	1	Solenoid valve
0570 001847	1	Blanking plug
0798 120401	1	Cord clip
9874 867023	1	Cable
9840 121002	1	Cable tie
0791 867731 EN	1	Additional Instructions

### 1.2 Components of the kit 0867 594474 (needle cooling from below, thread trimmer)

Check whether the scope of delivery for kit 0867 594474 is correct prior to installation.

Part number	Quantity	Designation
0867 214250	1	Feed dog
9790 315002	1	Hose connector
0999 240394	1	T-R coupling screw
0699 979265	1	Hose 0.3 m
9790 000220	1	Plug nipple
9731 005004	1	Hose
9710 920016	1	Throttle check valve
9710 063420	1	Solenoid valve
0570 001847	1	Blanking plug
9874 867023	1	Cable
9840 121001	5	Cable tie
0791 867731 EN	1	Additional Instructions

### 1.3 Components of the kit 0867 594484 (needle cooling from below, short thread trimmer)

Check whether the scope of delivery for kit 0867 594484 is correct prior to installation.

Part number	Quantity	Designation
0867 214390	1	Feed dog
9790 315002	1	Hose connector
0999 240394	1	T-R coupling screw
0699 979265	1	Hose 0.3 m
9790 000220	1	Plug nipple
9731 005004	1	Hose
9710 920016	1	Throttle check valve
9710 063420	1	Solenoid valve
0570 001847	1	Blanking plug
9874 867023	1	Cable
9840 121002	5	Cable tie
0791 867731 EN	1	Additional Instructions

## 2 Needle cooling from above

### WARNING



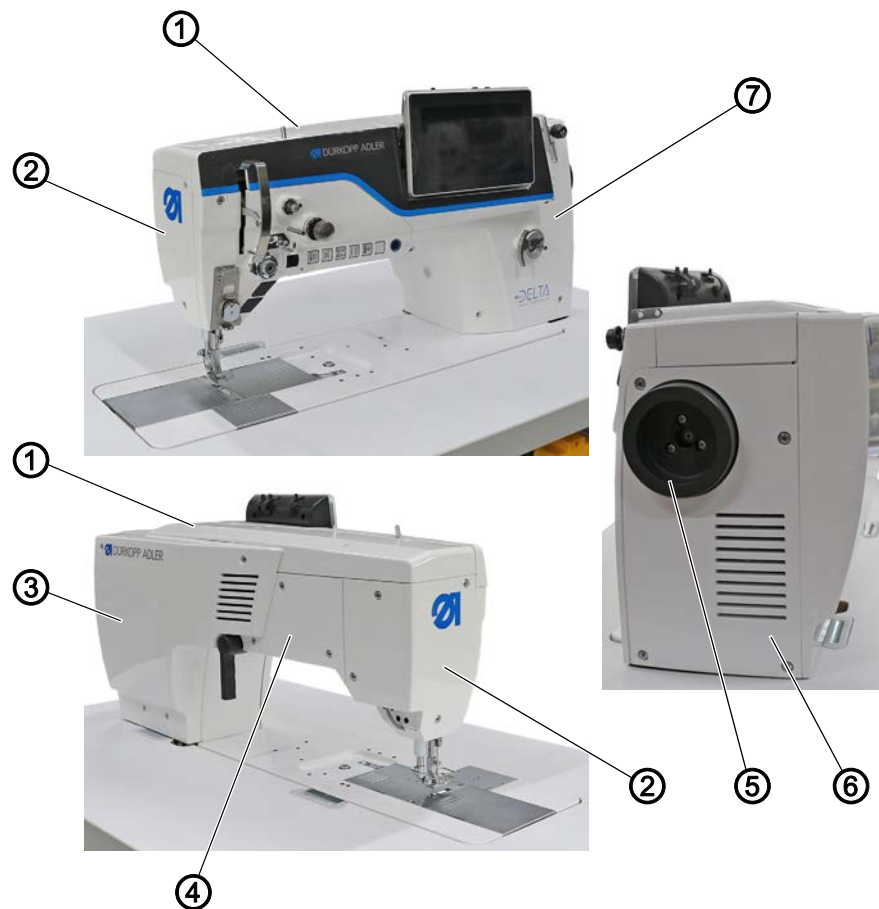
**Risk of injury from sharp and moving parts!**

Puncture or crushing possible.

Switch off the machine before assembling the needle cooling.

### 2.1 Assembling the needle cooling

Fig. 1: Assembling the needle cooling (1)



- (1) - Arm cover
- (2) - Head cover
- (3) - Motor cover
- (4) - Rear cover

- (5) - Handwheel
- (6) - Belt cover
- (7) - Front cover

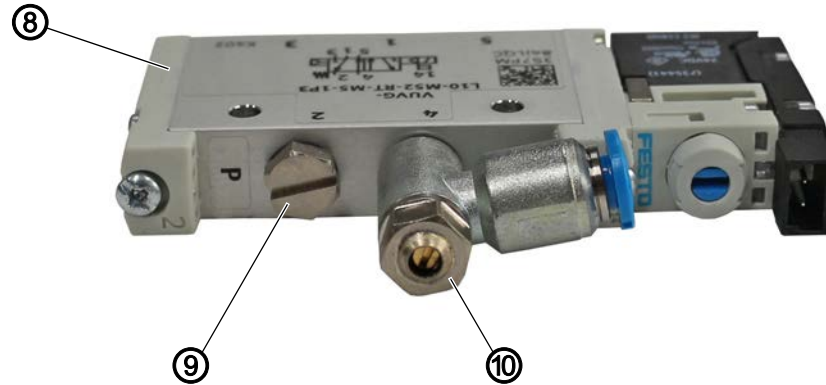


To assemble the needle cooling:

1. Disassemble the arm cover (1).
2. Disassemble the front cover (7).
3. Disassemble the head cover (2).
4. Disassemble the motor cover (3).

5. Disassemble the rear cover (4).
6. Disassemble the handwheel (5).
7. Disassemble the belt cover (6).

Fig. 2: Assembling the needle cooling (2)



- (8) - Solenoid valve  
(9) - Blanking plug

(10) - Throttle check valve




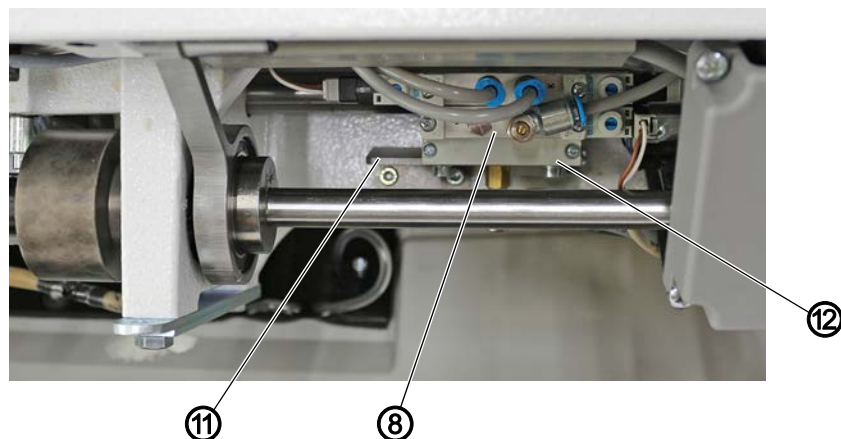
8. If not yet present, assemble the compressed air maintenance unit to the stand (see  *Operating Instructions*).
9. Screw the blanking plug (9) at valve output 2 onto the solenoid valve (8).
10. Screw the throttle check valve (10) at valve output 4 onto the solenoid valve (8).

Fig. 3: Assembling the needle cooling (3)



- (8) - Solenoid valve  
(11) - Bracket

(12) - Valve block



11. Tilt the machine head.
12. If not yet present, tighten the valve block (12) with the bracket (11).
13. Remove the dummy plate from the valve block (12).
14. Screw the solenoid valve (8) in at the available space on the valve block (12).
15. Erect the machine head.



Fig. 4: Assembling the needle cooling (4)



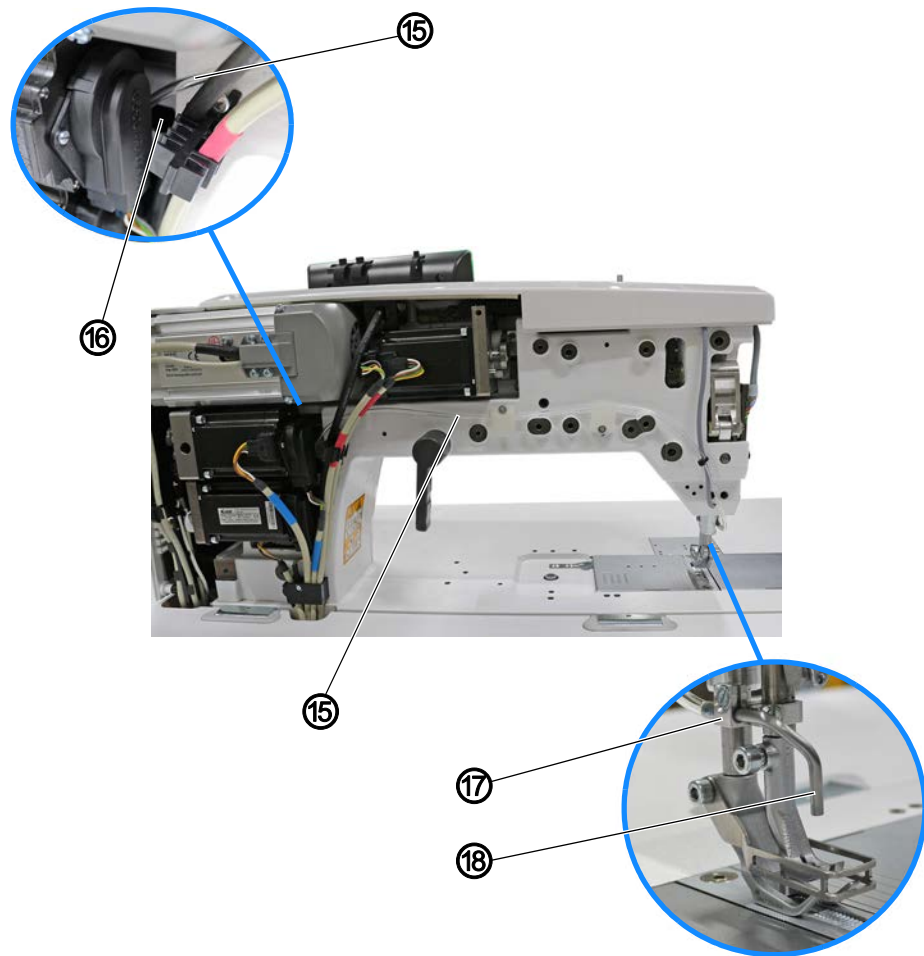
(13) - Walking foot

(14) - Needle



16. Raise the sewing feet.
17. Remove the needle (14).
18. Disassemble the walking foot (13).

Fig. 5: Assembling the needle cooling (5)



(15) - Hose  
(16) - Hole

(17) - Block  
(18) - Blow tube



19. Slide the block (17) with blow tube (18) and hose (15) onto the walking foot bar.

20. Assemble the walking foot (13).

21. Insert the needle (14).

22. Align the blow tube (18) with the needle so that the blow tube (18) is at the center relative to the needle eye.



**Important**

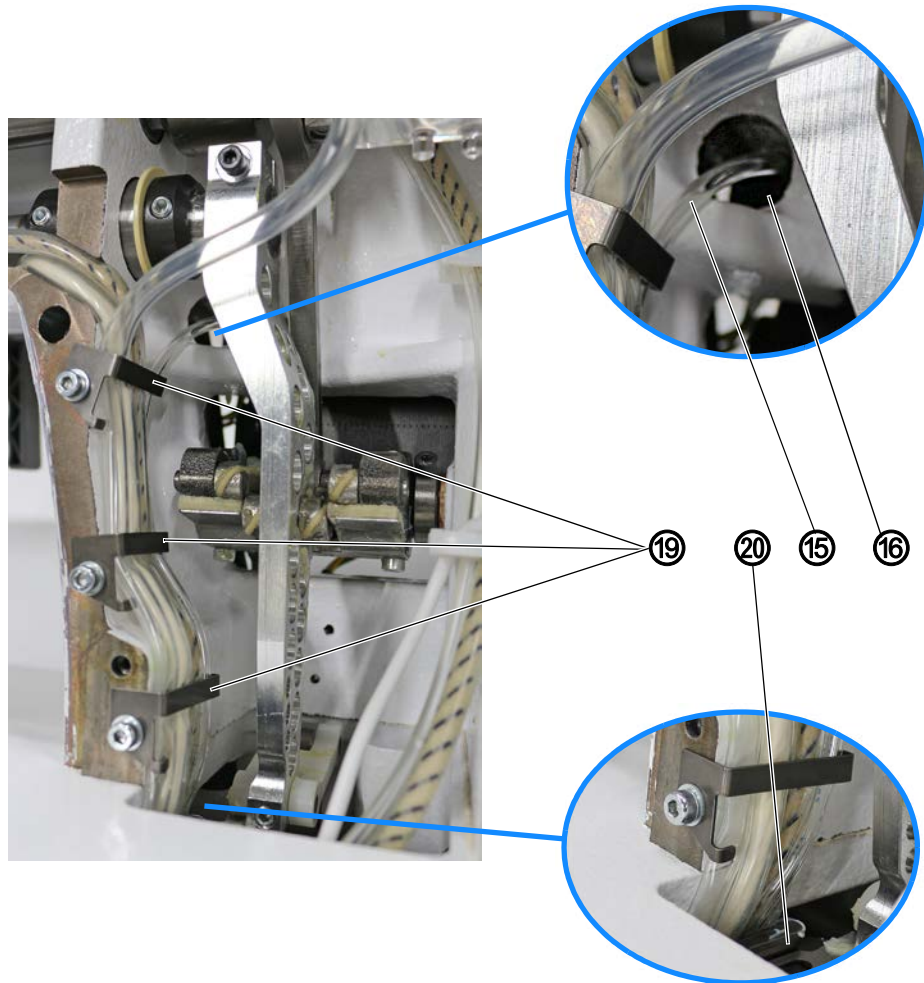
Turn the handwheel and check if the blow tube (18) collides with the finger guard.

If necessary, slightly correct the position of the blow tube (18).

23. Lay the hose (15) towards the rear to the stepper motor using cable clamps.

24. Feed the hose (15) towards the front through the hole (16) in the machine casting.

Fig. 6: Assembling the needle cooling (6)



(15) - Hose  
(16) - Hole

(19) - Guides  
(20) - Oil pump holder



25. Feed the hose (15) through the guides (19).
26. Feed the hose (15) through the cutout of the oil pump holder (20).
27. Lay the hose (15) downwards.
28. Tilt the machine head.

Fig. 7: Assembling the needle cooling (8)



(10) - Throttle check valve

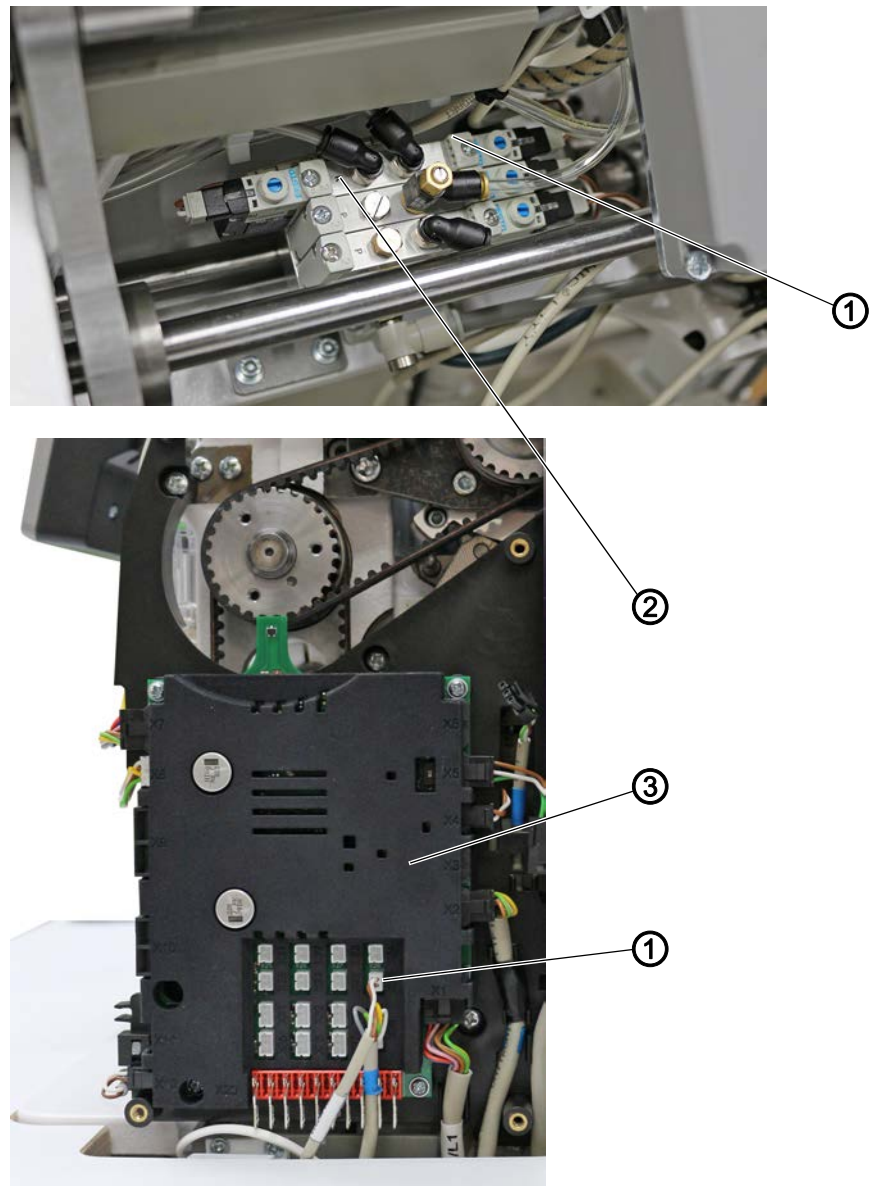
(15) - Hose



29. Shorten the hose (15) to the exact length that allows for the hose (15) to be connected to the throttle check valve (10).
30. Connect the hose (15) to the throttle check valve (10).
31. Set the pressure at the throttle check valve.
  - **more pressure:** turn counter-clockwise
  - **less pressure:** turn clockwise

## 2.2 Connecting the needle cooling

Fig. 8: Connecting the needle cooling



(1) - Cable

(2) - Solenoid valve

(3) - PCB A2



To connect the needle cooling:

1. Tilt the machine head.
2. Connect the cable (1) at the solenoid valve (2).
3. Lay the cable (1) to PCB A2 (3) along the other cables of the machine head.
4. Insert the cable (1) at slot **X28** on PCB A2.
5. Erect the machine head.
6. Install all covers.

### 3 Needle cooling from below

#### WARNING



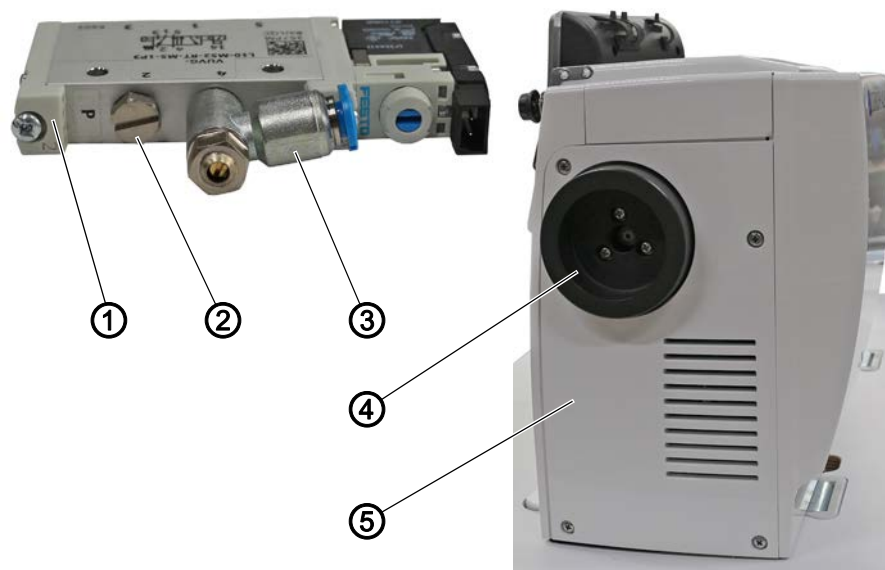
**Risk of injury from sharp and moving parts!**

Puncture or crushing possible.

Switch off the machine before assembling the needle cooling.

#### 3.1 Assembling the needle cooling

Fig. 9: Assembling the needle cooling (1)



- (1) - Solenoid valve
- (2) - Blanking plug
- (3) - Throttle check valve

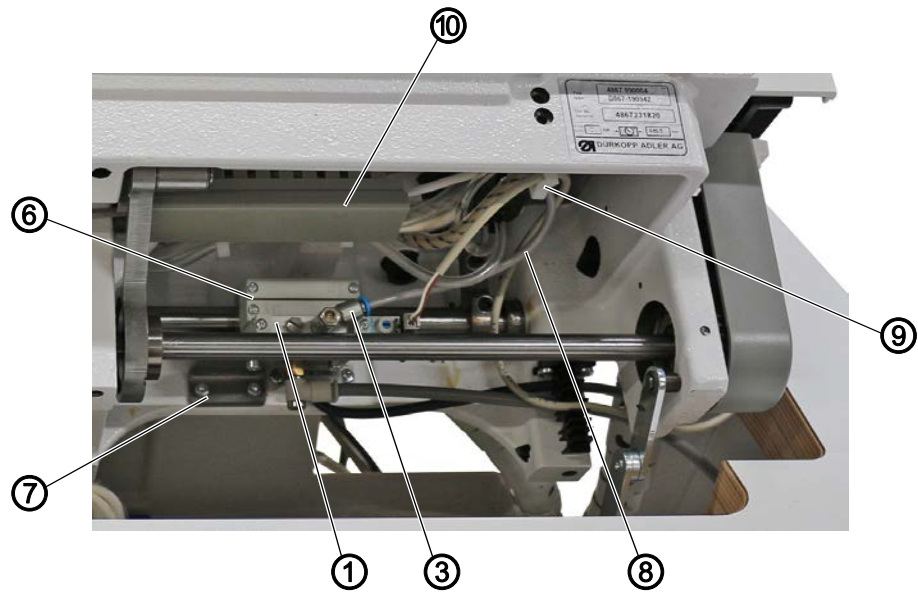
- (4) - Handwheel
- (5) - Belt cover



To assemble the needle cover:

1. Disassemble the handwheel (4).
2. Disassemble the belt cover (5).
3. If not yet present, assemble the compressed air maintenance unit to the stand (see *Operating Instructions*).
4. Screw the blanking plug (2) at valve output 2 onto the solenoid valve (1).
5. Screw the throttle check valve (3) at valve output 4 onto the solenoid valve (1).

Fig. 10: Assembling the needle cooling (2)

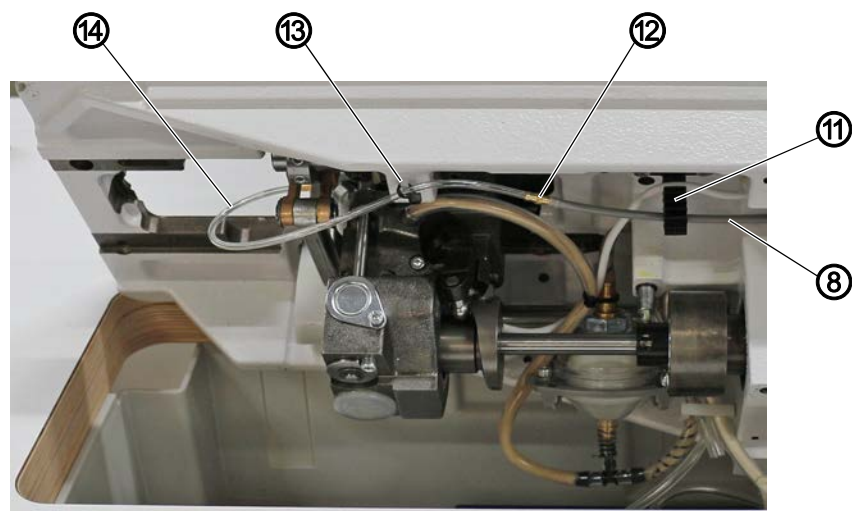


- |                            |                    |
|----------------------------|--------------------|
| (1) - Solenoid valve       | (8) - Hose         |
| (3) - Throttle check valve | (9) - Cable holder |
| (6) - Valve block          | (10) - Cable duct  |
| (7) - Bracket              |                    |



6. Tilt the machine head.
7. If not yet present, tighten the valve block (6) with the bracket (7).
8. Remove the dummy plate from the valve block (6).
9. Screw the solenoid valve (1) in at the available space on the valve block (6).
10. Connect the hose (8) to the throttle check valve (3).
11. Feed the hose (8) through the cable holder (9) and the cable duct (10).

Fig. 11: Assembling the needle cooling (3)

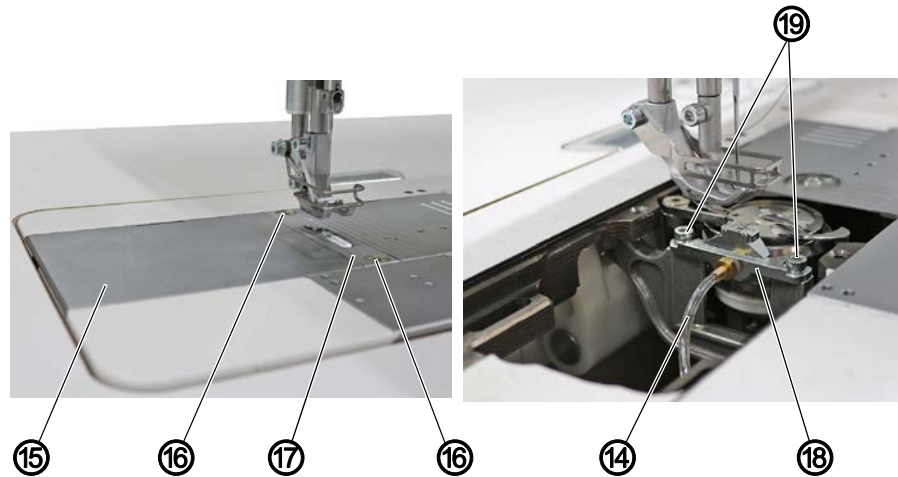


- |                     |                     |
|---------------------|---------------------|
| (8) - Hose          | (13) - Cable holder |
| (11) - Cable holder | (14) - Hose         |
| (12) - Plug nipple  |                     |



12. Feed the hose (8) through cable holder (11).
13. Connect hose (8) with hose (14) using a plug nipple (12).
14. Feed the hose (14) through cable holder (13).
15. Erect the machine head.

Fig. 12: Assembling the needle cooling (4)



- (14) - Hose  
 (15) - Throat plate slide  
 (16) - Screws

- (17) - Throat plate  
 (18) - Feed dog  
 (19) - Screws

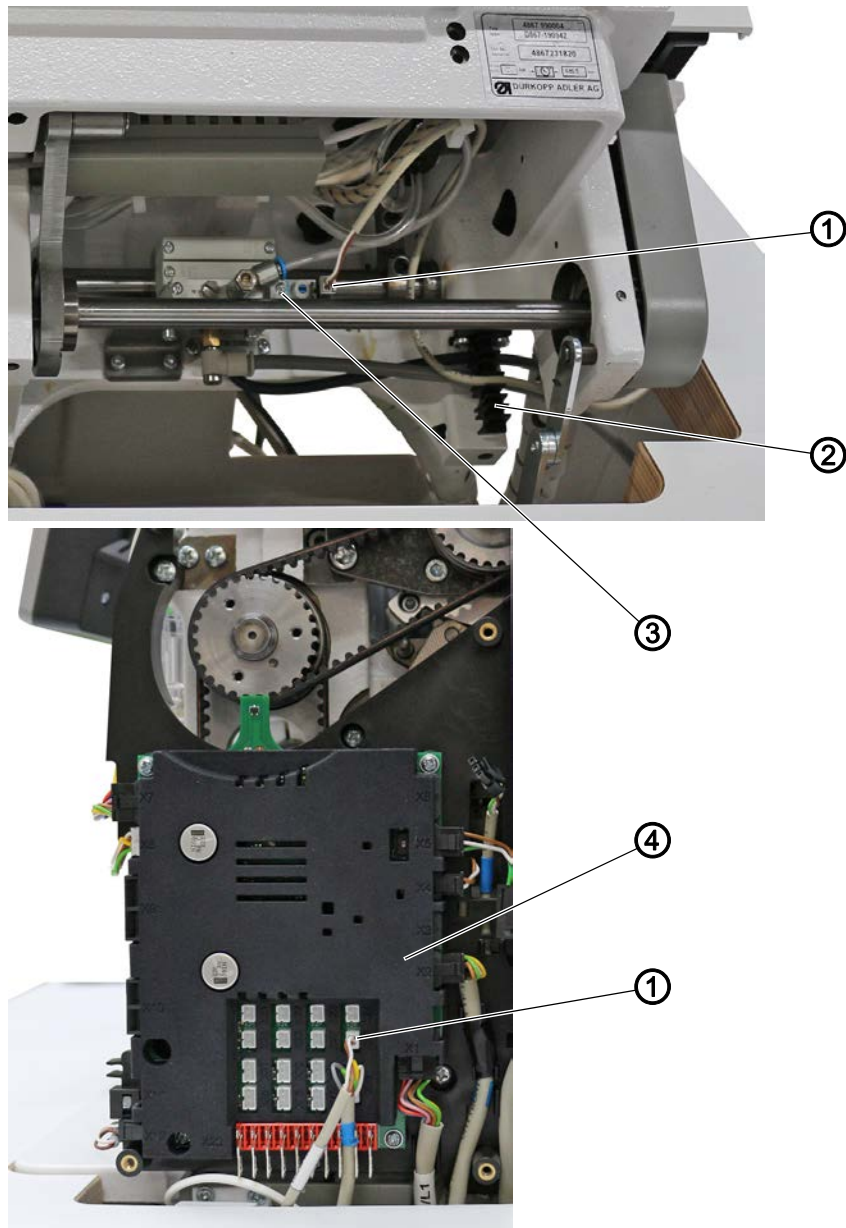


16. Disassemble the throat plate slide (15).
17. Loosen the screws (16).
18. Disassemble the throat plate (17).
19. Loosen the screws (19).
20. Remove the feed dog.
21. Assemble the new feed dog (18).
22. Align the feed dog (18) such that the needle pierces in the center of the hole.
23. Tighten the screws (19).
24. Connect the hose (14) to the feed dog (18).
25. Assemble the throat plate (17).
26. Assemble the throat plate slide (15).



### 3.2 Connecting the needle cooling

Fig. 13: Connecting the needle cooling



(1) - Cable

(2) - Cable holder

(3) - Solenoid valve

(4) - PCB A2



To connect the needle cooling:

1. Tilt the machine head.
2. Connect the cable (1) at the solenoid valve (3).
3. Feed the cable (1) through the cable holder (2) and to PCB A2 (4).
4. Insert the cable (1) at slot **X28** on PCB A2 (4).
5. Erect the machine head.
6. Install all covers.













## 4 Software settings




To activate the needle cooling in the software:

1. Log in as a technician.  
User: technician  
Password: 25483

The needle cooling has been preset in the software. Check anyway if the set value is correct.

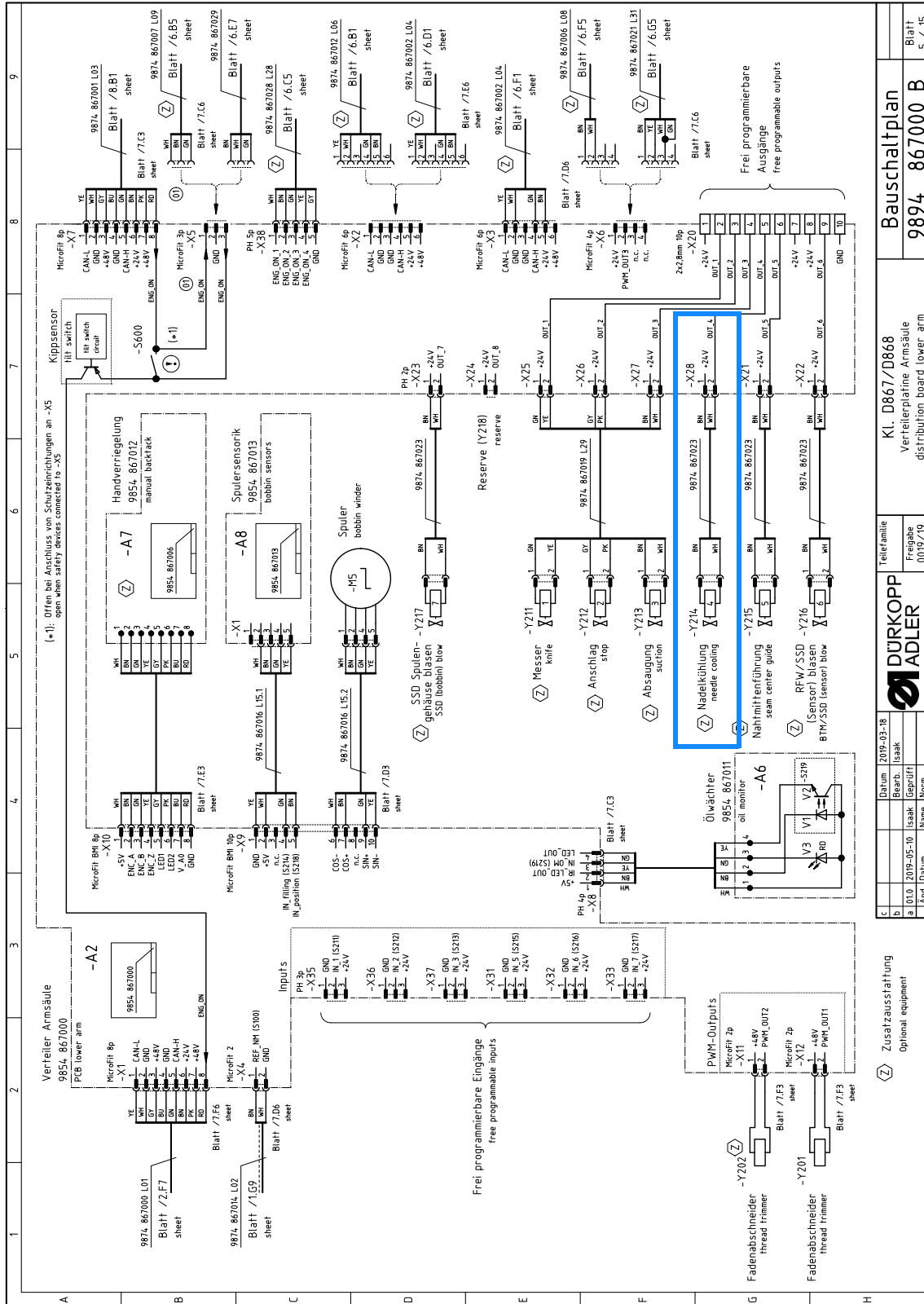
2. Open the menu  *Navigation* >  *Settings* >  *Machine Configuration* and press the  **Input/Output Configuration** button.
  3. Press the  **Configuration of the outputs** button.
  4. Check in the section  *OUT04 (A2.X28.2)* (parameter *t 57 30*) if the value is set to **1**.
  5. Press the  button to exit the menu.
  6. Open the menu  *Navigation* >  *Settings* >  *Machine Configuration* and press the  **Needle Cooling** button.
  7. Select the **ON** setting.
-  Needle cooling is activated.

Press the  button to return to the main screen.

# 5 Appendix

## Wiring diagram

Fig. 14: Wiring diagram, connection needle cooling













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