



M-TYPE CLASSIC M-TYPE PREMIUM

Additional Instructions

Electropneumatic needle cooling

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

All rights reserved.

Property of Dürkopp Adler AG and protected by copyright. Any reuse of these contents, including extracts, is prohibited without the prior written approval of Dürkopp Adler AG.

Copyright © Dürkopp Adler AG 2018

1	General information	3
1.1	Needle cooling at the top.....	3
1.2	Needle cooling at the bottom.....	4
1.3	Kits for M-TYPE PREMIUM.....	5
2	M-TYPE CLASSIC: Assembling the needle cooling at the top	6
3	M-TYPE CLASSIC: Assembling the needle cooling at the bottom	8
4	M-TYPE PREMIUM: Assembling the needle cooling at the top	10
5	M-TYPE PREMIUM: Assembling the needle cooling at the bottom	16

1 General information

1.1 Needle cooling at the top

Components of the kit

Check whether the scope of delivery for kit 0867 590014 is correct prior to installation.

Part number	Quantity	Description
0667 315433	1	Block
Z132 001452	1	Blow tube
0699 979265	1	Hose
9790 000220	1	Plug nipple
9731 005004	1	Hose
9710 920012	1	Throttle valve
9710 061200	1	Magnet valve
9710 982003	1	Silencer
9204 200517	2	Pan-head screw
9870 367003	1	Cable K
9710 900031	1	Connection plate
9203 003097	2	Cylinder-head bolt
9203 003157	1	Cylinder-head bolt
9840 121001	5	Cable tie
0911 000478	1	O-ring
0798 120401	1	Cord clip
0791 867715 EN	1	Additional Instructions

1.2 Needle cooling at the bottom

Components of the kit

Check whether the scope of delivery for kit 0867 590024 is correct prior to installation.

Part number	Quantity	Description
0867 210060	1	Feed dog
0699 979265	1	Hose
0999 240389	1	Hose connector
9731 005004	1	Hose
9790 000220	1	Plug nipple
0999 240394	1	T-R coupling screw
9710 920012	1	Throttle valve
9710 900031	1	Connection plate
0911 000478	1	O-ring
9870 367003	1	Cable K
9203 003097	2	Cylinder-head bolt
9204 200517	2	Pan-head screw
9710 061200	1	Magnet valve
9203 003157	2	Cylinder-head bolt
9710 982003	1	Silencer
9840 121002	5	Cable tie
0791 867715 EN	1	Additional Instructions




Information

If you wish to connect the needle cooling at the bottom to a PREMIUM machine with short thread cutter, you will need the kit with the part number 0867 590054.

1.3 Kits for M-TYPE PREMIUM



Important

Machines of the M-TYPE PREMIUM class are not equipped with compressed air. If you want to connect the electropneumatic needle cooling to a PREMIUM machine, you will need the following additional kits (see  *Parts List*):

- **9780 000108**: Compressed air maintenance unit
- **0867 593534**: pneumatic connection PREMIUM
- **0797 003031**: Pressure line K

2 M-TYPE CLASSIC: Assembling the needle cooling at the top

WARNING

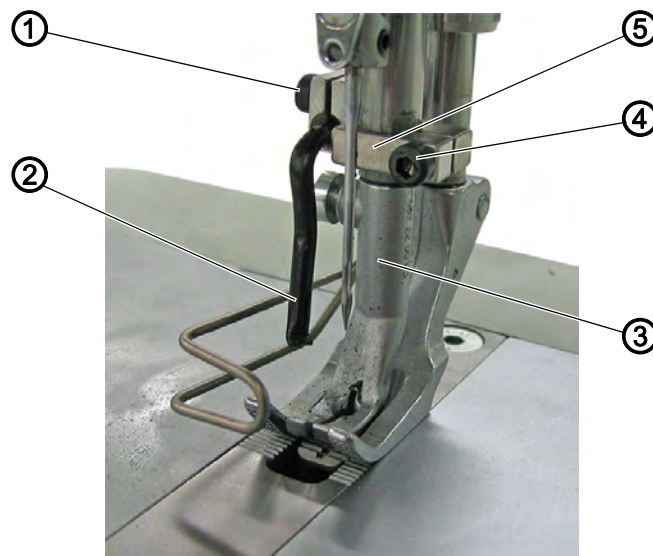


Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before assembling the needle cooling.

Fig. 1: Assembling the needle cooling at the top (1)



(1) - Screw
(2) - Blow tube
(3) - Feeding foot

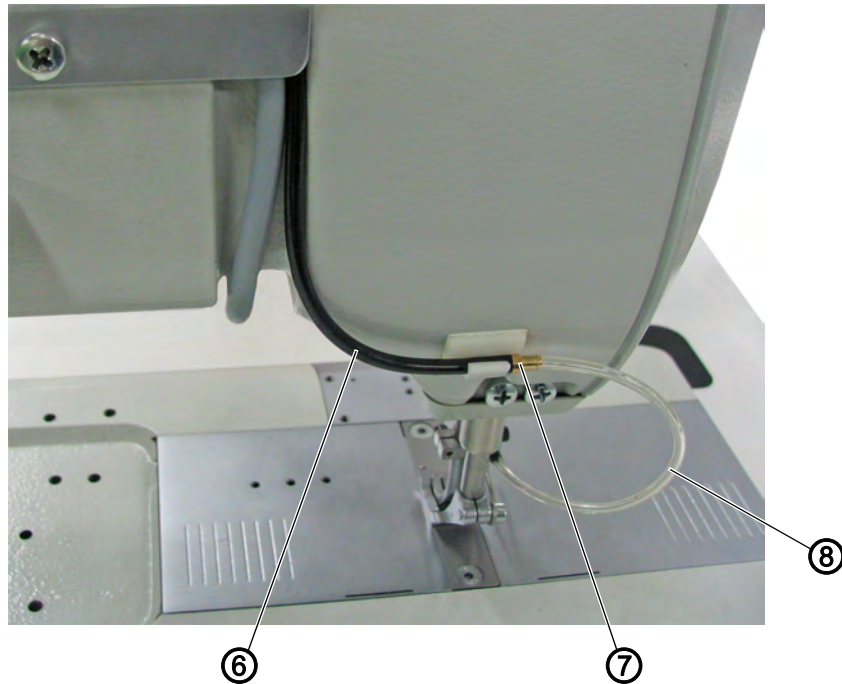
(4) - Screw
(5) - Block



To assemble the needle cooling at the top:

1. Disassemble the feeding foot (3).
2. Slip the block (5) onto the feeding foot bar.
3. Tighten the block (5) using the screw (4).
4. Tighten and align the blow tube (2) with the screw (1).
5. Assemble the feeding foot (3).

Fig. 2: Assembling the needle cooling at the top (2)



(6) - Hose

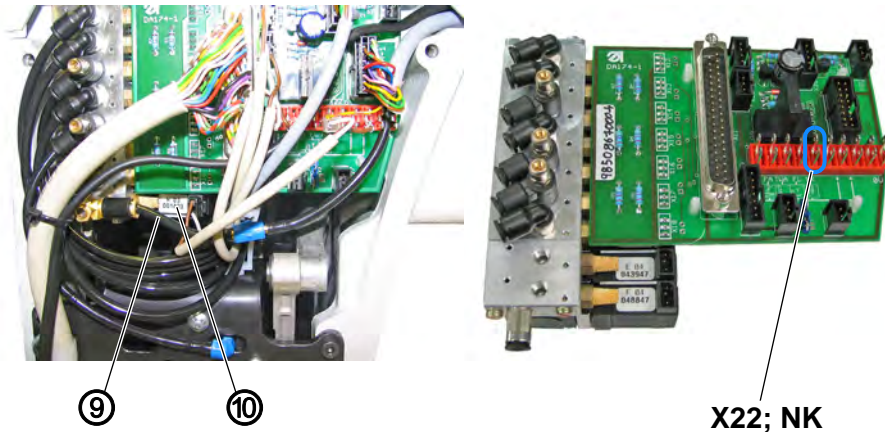
(8) - Hose

(7) - Plug nipple



6. Connect hoses (6) and (8) using the plug nipple (7).
7. Lay the hose (6) through the machine arm.
8. Remove the valve cover.

Fig. 3: Assembling the needle cooling at the top (3)



(9) - Hose

(10) - Magnet valve

X22; NK



9. Connect the magnet valve (10) at connector strip X22:
 - Contact 5 (NK)
 - Contact 7 or contact 8 (+24 V)
10. Connect the hose (9) to the pneumatic system.

3 M-TYPE CLASSIC: Assembling the needle cooling at the bottom

WARNING

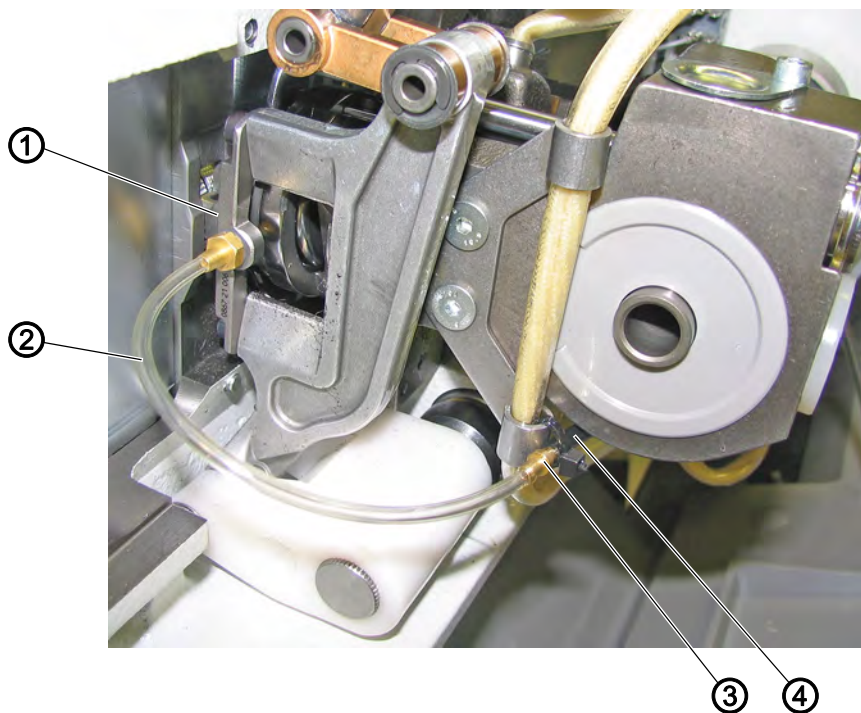


Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before assembling the needle cooling.

Fig. 4: Assembling the needle cooling at the bottom (1)



(1) - Feed dog
(2) - Hose

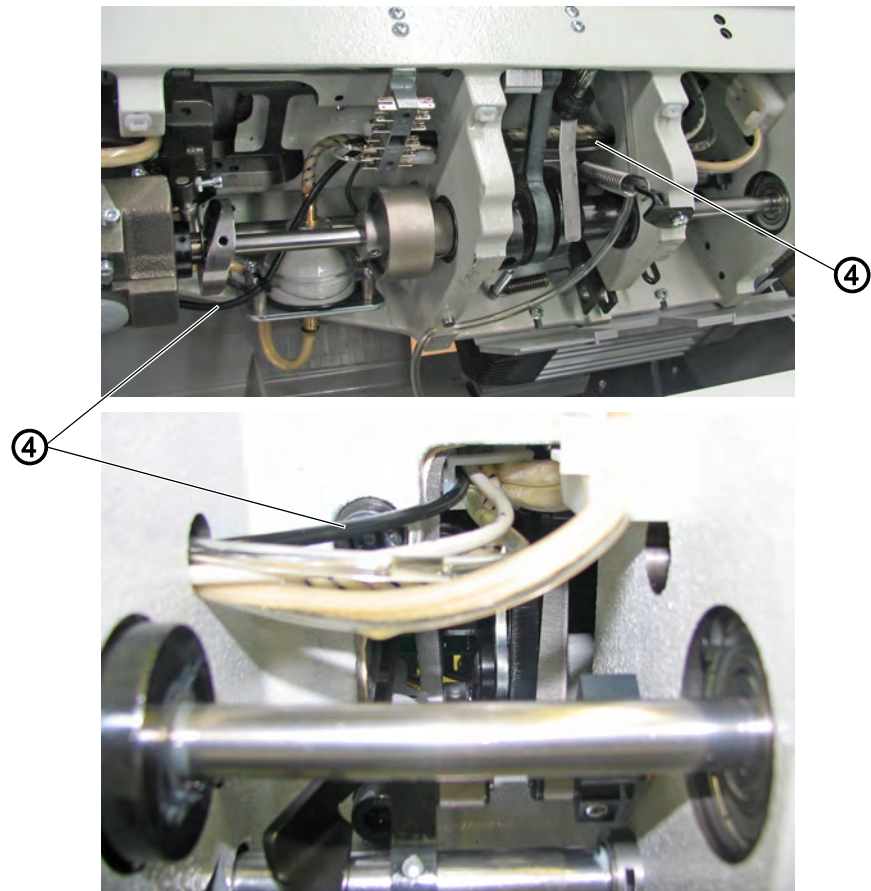
(3) - Plug nipple
(4) - Hose



To assemble the needle cooling at the bottom:

1. Disassemble the old feed dog.
2. Assemble the new feed dog (1).
3. Connect hoses (2) and (4) using the plug nipple (3).

Fig. 5: Assembling the needle cooling at the bottom (2)

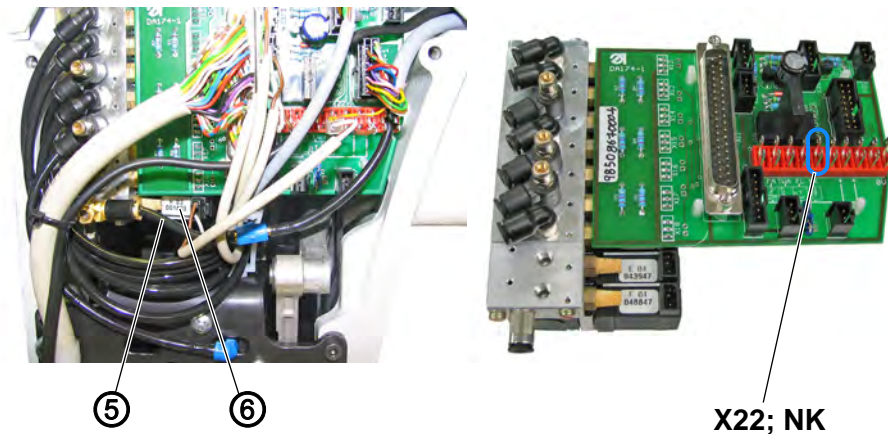


(4) - Hose



4. Lay the hose (4) below the machine.

Fig. 6: Assembling the needle cooling at the bottom (3)



(5) - Hose

(6) - Magnet valve



5. Connect the magnet valve (6) at connector strip X22:

- Contact 5 (NK)
- Contact 7 or contact 8 (+24 V)

6. Connect the hose (5) to the pneumatic system.

4 M-TYPE PREMIUM: Assembling the needle cooling at the top

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

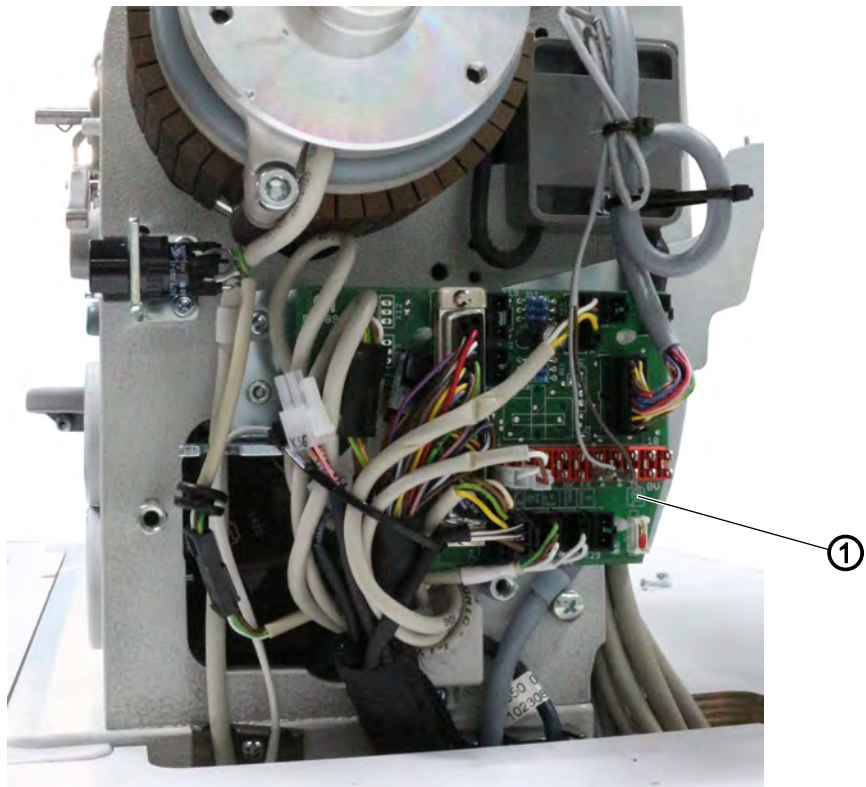
Switch off the machine before assembling the needle cooling.



To assemble the needle cooling at the top:

1. Remove the motor cover.

Fig. 7: Assembling the needle cooling at the top (1)

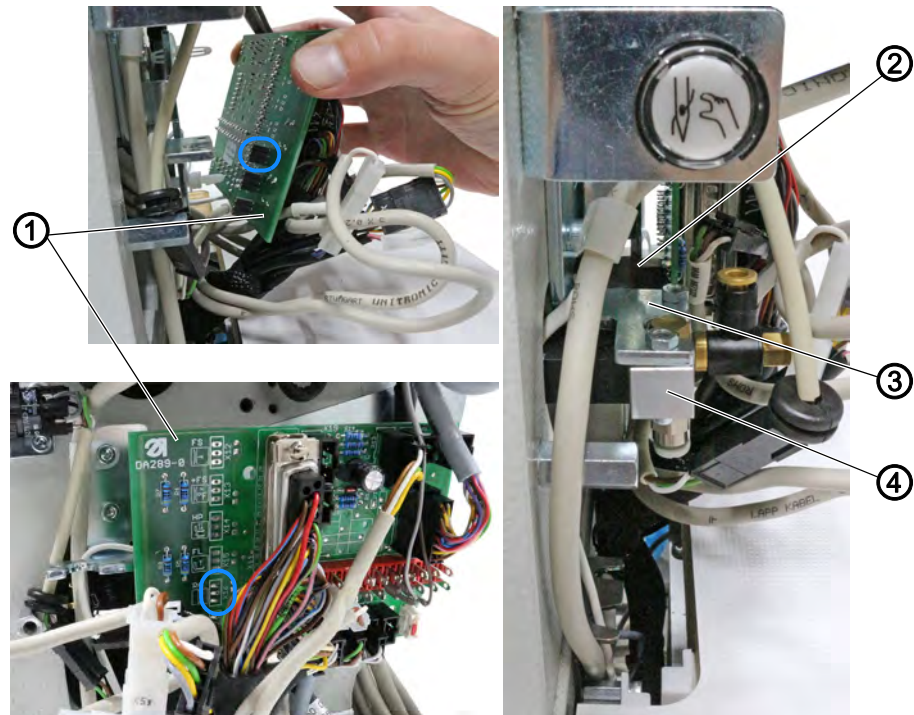


(1) - Circuit board



2. Loosen the circuit board (1).
To do so, push the circuit board (1) down and off the white spacers.
3. Screw the connection plate and magnet valve together.

Fig. 8: Assembling the needle cooling at the top (2)

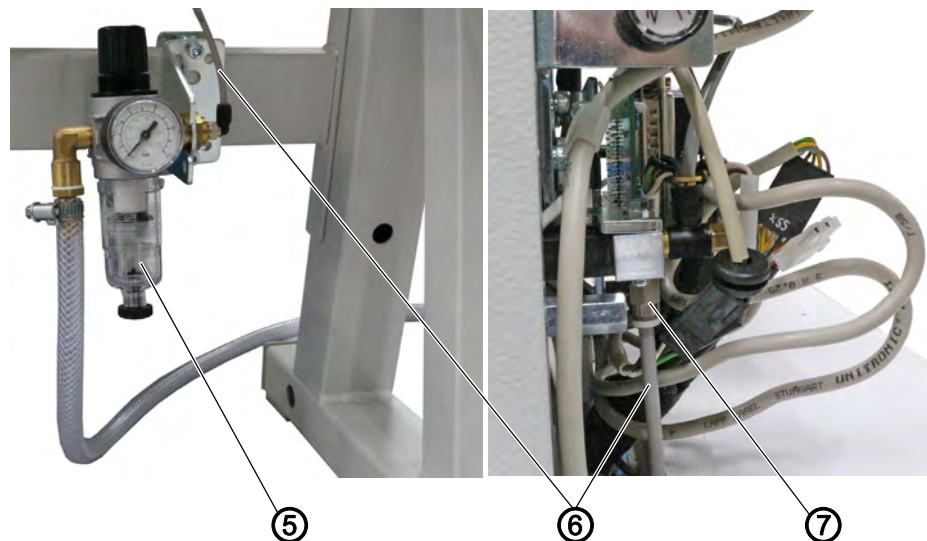


- (1) - Circuit board
- (2) - Magnet valve
- (3) - Holder
- (4) - Connection plate



4. Insert the magnet valve (2) into socket X16 on the circuit board (1). If socket X16 is already occupied, use socket X17 or socket X18.
5. Assemble the circuit board (1).
6. Tighten the connection plate (4) on the holder (3).

Fig. 9: Assembling the needle cooling at the top (3)

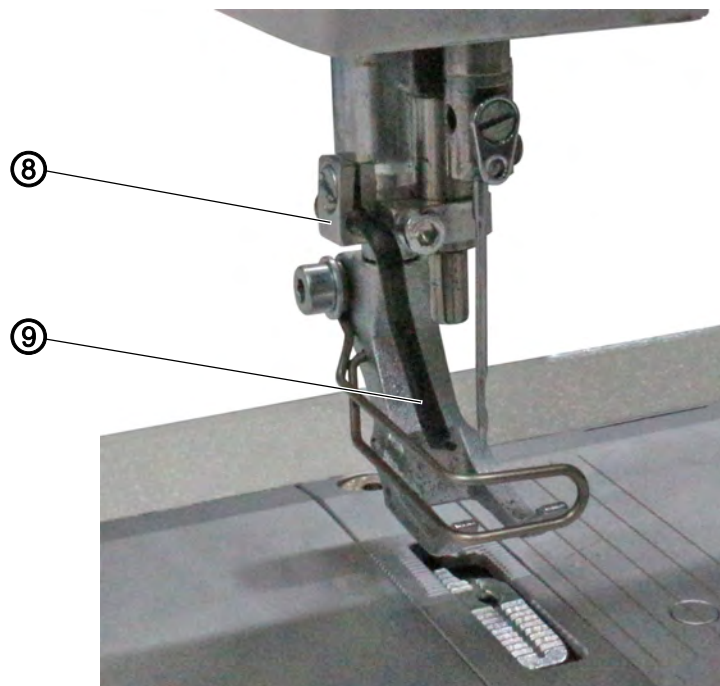


- (5) - Compressed air maintenance unit
- (6) - Hose
- (7) - Valve



7. Assemble the compressed air maintenance unit (5) to the stand.
8. Use an R 1/4" hose coupling to connect the connection hose to the compressed air supply.
9. Set the operating pressure to 6 bar.
10. Connect the hose (6) to the valve (7).
11. Raise the sewing feet.
12. Disassemble the needle.
13. Disassemble the feeding foot.

Fig. 10: Assembling the needle cooling at the top (4)



(8) - Block

(9) - Blow tube

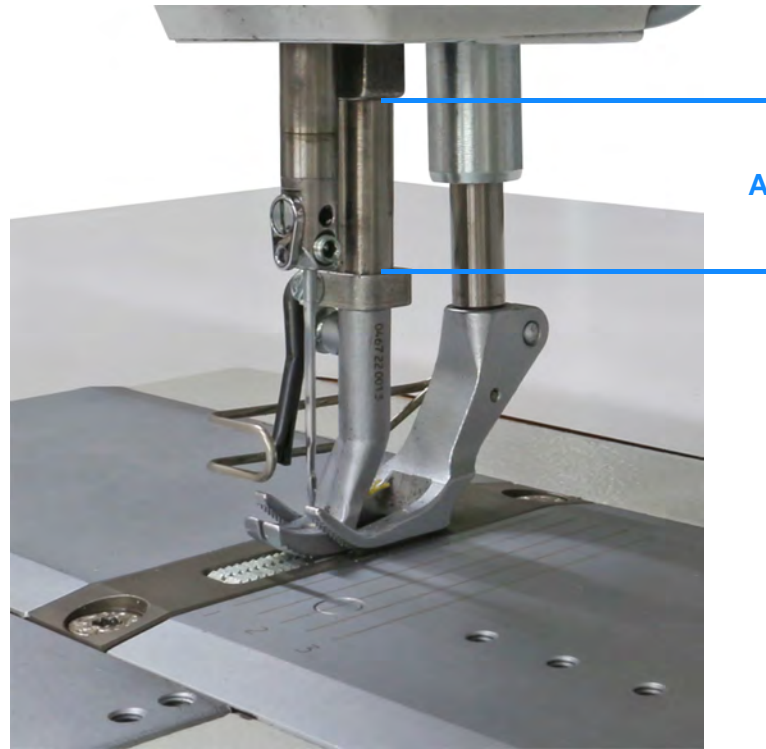


14. Screw the blow tube (9) to the block (8).
15. Screw the block (8) with the blow tube (9) to the feeding foot bar.
16. Insert the needle.
17. Align the blow tube (9) with the needle so that the blow tube (9) is at the center relative to the needle eye.
18. Assemble the feeding foot.



Information

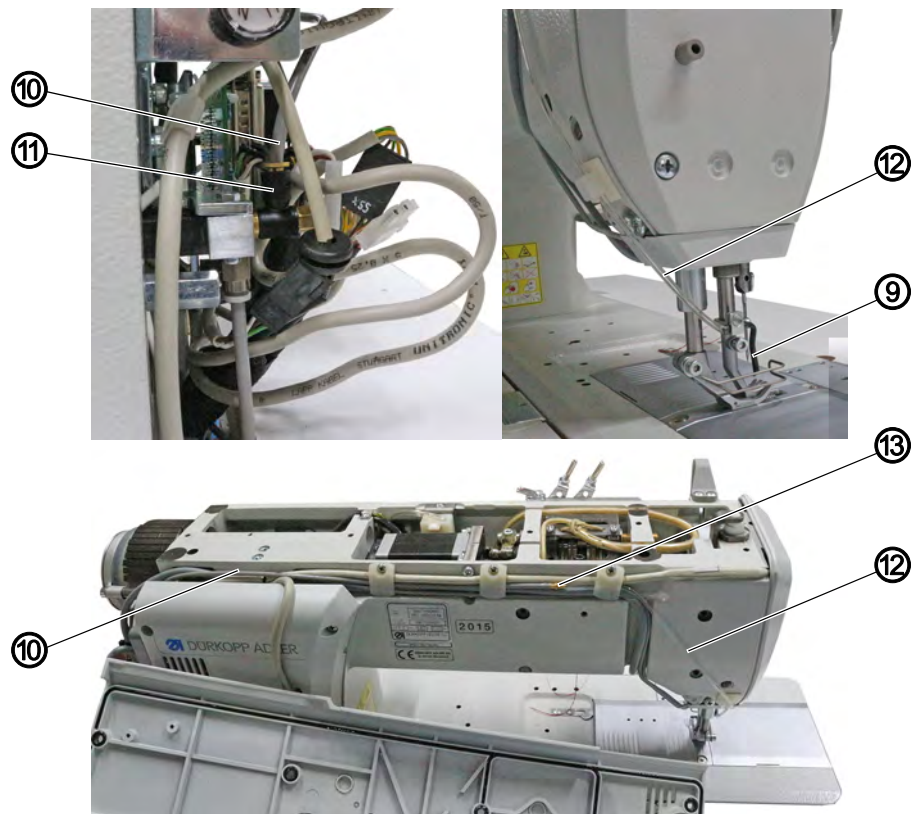
Fig. 11: Assembling the needle cooling at the top (5)



When the presser foot is lowered, the distance **A** must be 26 mm.
On machines with short thread cutter the distance **A** must be 24 mm.

19. Remove the arm cover.

Fig. 12: Assembling the needle cooling at the top (6)



(9) - Blow tube
(10) - Hose
(11) - Valve

(12) - Hose
(13) - Plug nipple



20. Connect the hose (10) to the valve (11).
21. Lay hose (10) through the machine arm and connect it with hose (12) using the plug nipple (13).
22. Shorten the hose (12) to the exact length that allows for the hose (12) to be connected to the blow tube (9).
23. Place the arm cover.
24. Place the motor cover.
25. Assemble the handwheel.



Important

PREMIUM machines require that the valve output be enabled for electro-pneumatic needle cooling via software.

NOTICE


Property damage may occur!

Defect of the stepper motor cards.

To prevent a defect of the stepper motor cards, install the correct software version or adjust the sewing foot lifting height.

The software version must be higher than **A04.30**.

If the software version is **A04.30 or lower**:

- perform a software update ( *Service Instructions*)
- OR**
- limit the sewing foot lifting height to 16 mm (for short thread cutter 14 mm)



To enable the valve output via software:

1. Call up the Technician level.
 - Switch on the machine.
 - Press the **P** and **S** buttons at the same time.
 - Enter password (25483).
- ↳ You are on the Technician level:
2. Open the submenu *User config.* > *Output Config* and select the parameter T 56 00.
3. Assign mode 1 (NeedleCooling) to the output at which the needle cooling is connected.

Machine output signal	Output
RA (X16)	X120B.12
STL (X17)	X120B.22
STL (FA) (X18)	X120B.23

5 M-TYPE PREMIUM: Assembling the needle cooling at the bottom

WARNING



Risk of injury from sharp and moving parts!

Puncture or crushing possible.

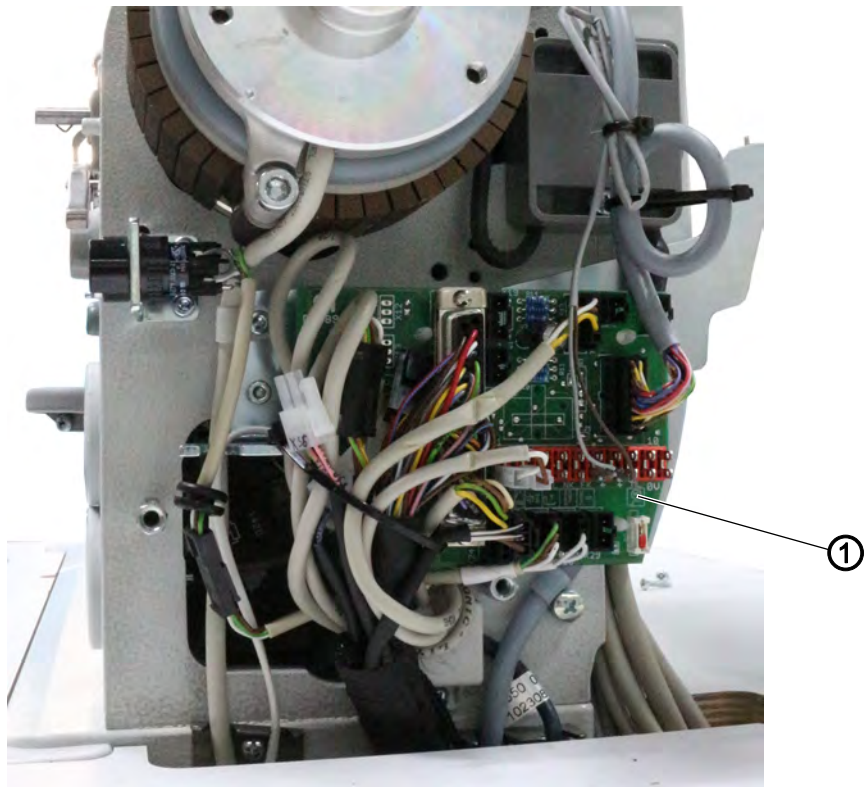
Switch off the machine before assembling the needle cooling.



To assemble the needle cooling at the bottom:

1. Remove the motor cover.

Fig. 13: Assembling the needle cooling at the bottom (1)

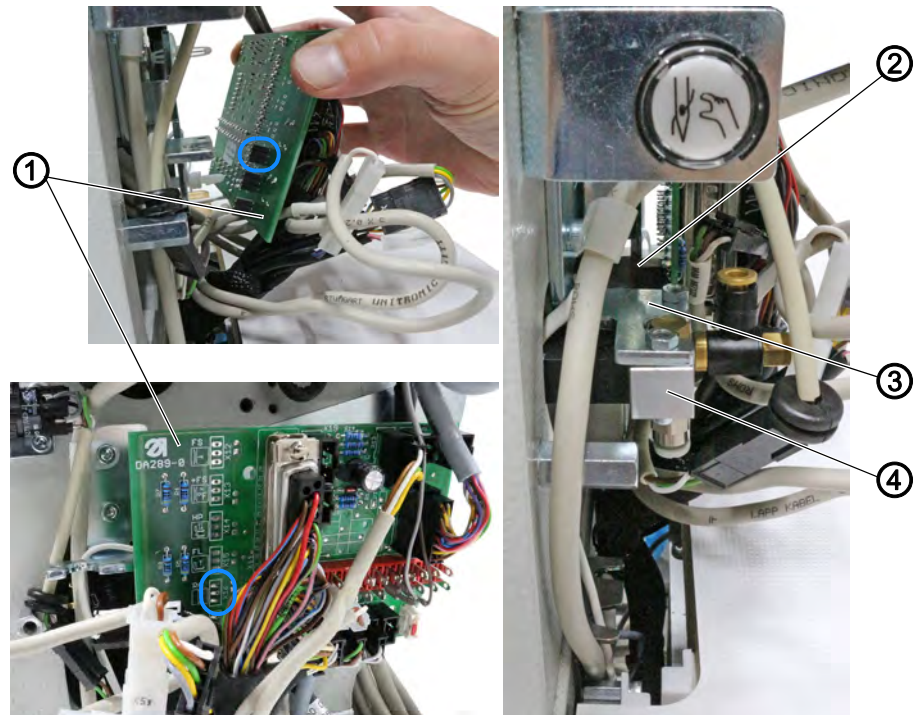


(1) - Circuit board



2. Loosen the circuit board (1).
To do so, push the circuit board (1) down and off the white spacers.
3. Screw the connection plate and magnet valve together.

Fig. 14: Assembling the needle cooling at the bottom (2)

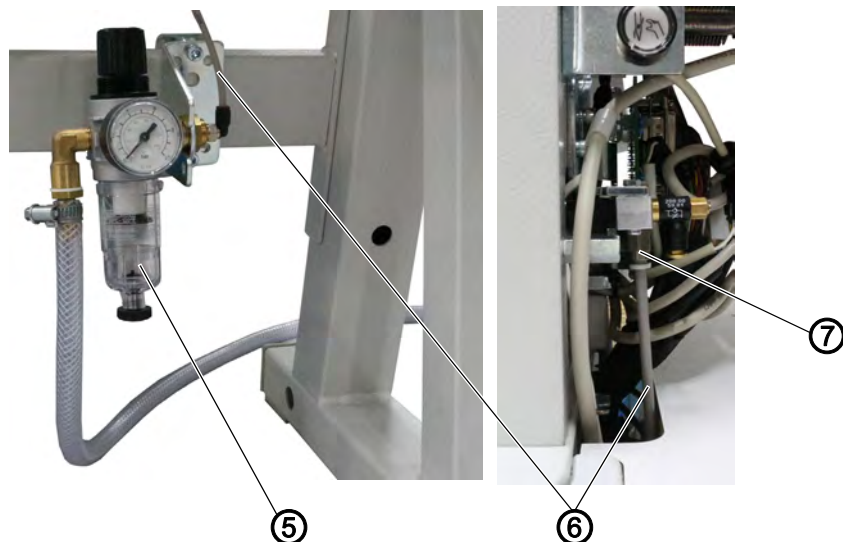


- (1) - Circuit board
- (2) - Magnet valve
- (3) - Holder
- (4) - Connection plate



4. Insert the magnet valve (2) into socket X16 on the circuit board (1). If socket X16 is already occupied, use socket X17 or socket X18.
5. Assemble the circuit board (1).
6. Tighten the connection plate (4) on the holder (3).

Fig. 15: Assembling the needle cooling at the bottom (3)

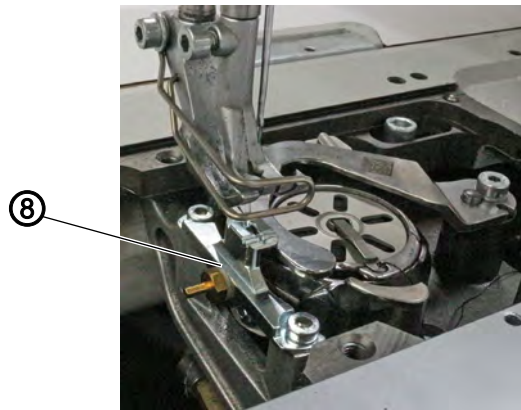


- (5) - Compressed air maintenance unit
- (6) - Hose
- (7) - Valve



7. Assemble the compressed air maintenance unit (5) to the stand.
8. Use an R 1/4" hose coupling to connect the connection hose to the compressed air supply.
9. Set the operating pressure to 6 bar.
10. Connect the hose (6) to the valve (7).
11. Open the throat plate slide.
12. Disassemble the throat plate.
13. Disassemble the feed dog.

Fig. 16: Assembling the needle cooling at the bottom (4)

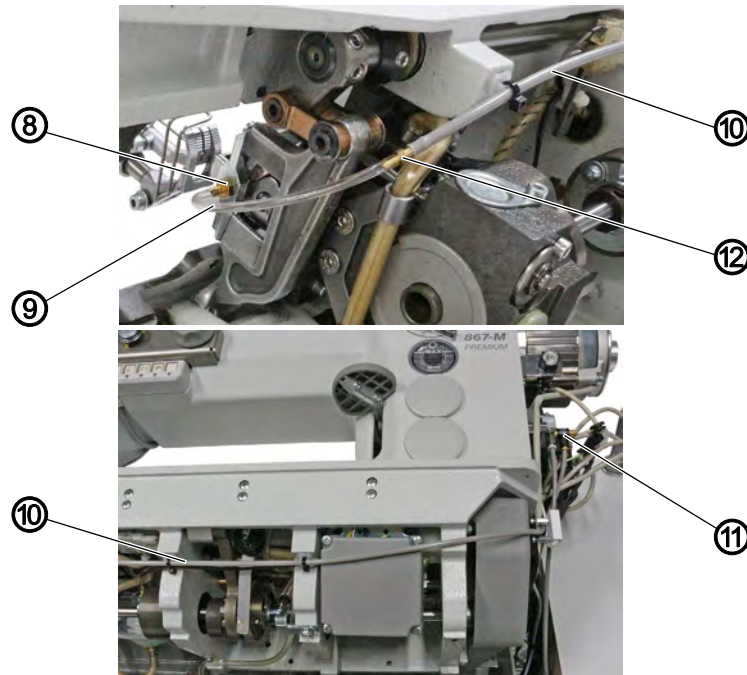


(8) - Feed dog



14. Assemble the new feed dog (8).
15. Tilt the machine head.

Fig. 17: Assembling the needle cooling at the bottom (5)



(8) - Feed dog
(9) - Hose
(10) - Hose

(11) - Valve
(12) - Plug nipple



16. Connect the hose (9) to the feed dog (8).
17. Connect hoses (9) and (10) using the plug nipple (12).
18. Lay the hose (10) below the machine using plug nipples.
19. Connect the hose (10) to the valve (11).
20. Erect the machine head.
21. Place the motor cover.
22. Assemble the handwheel.



Important

PREMIUM machines require that the valve output be enabled for electro-pneumatic needle cooling via software.



To enable the valve output via software:

1. Call up the Technician level.
 - Switching on the machine
 - Press the **P** and **S** buttons at the same time.
 - Enter password (25483).
- ↳ You are on the Technician level:
2. Open the submenu *User config.* > *Output Config* and select the parameter T 56 00.
3. Assign mode 1 (NeedleCooling) to the output at which the needle cooling is connected.

Machine output signal	Output
RA (X16)	X120B.12
STL (X17)	X120B.22
STL (FA) (X18)	X120B.23



DÜRKOPP ADLER AG
Potsdamer Str. 190
33719 Bielefeld
Germany
Phone: +49 (0) 521 925 00
Email: service@duerkopp-adler.com
www.duerkopp-adler.com