DÜRKOPP ADLER

911-210-10

Operating Instructions

IMPORTANT
READ CAREFULLY BEFORE USE
KEEP FOR FUTURE REFERENCE

1 About these instructions

These instructions have been prepared with utmost care. They contain information and notes intended to ensure long-term and reliable operation.

Should you notice any discrepancies or if you have improvement requests, then we would be glad to receive your feedback through **Customer Service** (📖 *p. 113*).

Consider these instructions as part of the product and keep it easily accessible.

1.1 For whom are these instructions intended?

These instructions are intended for:

- Operators:
  This group is familiar with the machine and has access to the instructions. Specifically, chapter **Operation** (📖 *p. 17*) is important for the operators.
- Specialists:
  This group has the appropriate technical training for performing maintenance or repairing malfunctions. Specifically, the chapter **Setup** (📖 *p. 97*) is important for specialists.

Service Instructions are supplied separately.

With regard to minimum qualification and other requirements to be met by personnel, please also follow the chapter **Safety** (📖 *p. 9*).

1.2 Representation conventions – symbols and characters

Various information in these instructions is represented or highlighted by the following characters in order to facilitate easy and quick understanding:

Proper setting

Specifies proper setting.

Disturbances

Specifies the disturbances that can occur from an incorrect adjustment.

Cover

Specifies which covers must be disassembled in order to access the components to be set.

Steps to be performed when operating the machine (sewing and equipping)

Steps to be performed for service, maintenance, and installation

Steps to be performed via the software control panel

The individual steps are numbered:

1. First step
2. Second step

… The steps must always be followed in the specified order.

- Lists are marked by bullet points.

Result of performing an operation

Change to the machine or on the display/control panel.

Important

Special attention must be paid to this point when performing a step.

Information

Additional information, e.g. on alternative operating options.

Order

Specifies the work to be performed before or after an adjustment.

References

📖 Reference to another section in these instructions.

Safety Important warnings for the user of the machine are specifically marked. Since safety is of particular importance, hazard symbols, levels of danger and their signal words are described separately in the chapter **Safety** (📖 *p. 9*).

Location information If no other clear location information is used in a figure, indications of **right** or **left** are always from the user's point of view.

1.3 Other documents

The machine includes components from other manufacturers. Each manufacturer has performed a hazard assessment for these purchased parts and confirmed their design compliance with applicable European and national regulations. The proper use of the built-in components is described in the corresponding manufacturer's instructions.

1.4 Liability

All information and notes in these instructions have been compiled in accordance with the latest technology and the applicable standards and regulations.

Dürkopp Adler cannot be held liable for any damage resulting from:

- Breakage and transport damages
- Failure to observe these instructions
- Improper use
- Unauthorized modifications to the machine
- Use of untrained personnel
- Use of unapproved parts

Transport

Dürkopp Adler cannot be held liable for breakage and transport damages. Inspect the delivery immediately upon receiving it. Report any damage to the last transport manager. This also applies if the packaging is not damaged.

Leave machines, equipment and packaging material in the condition in which they were found when the damage was discovered. This will ensure any claims against the transport company.

Report all other complaints to Dürkopp Adler immediately after receiving the product.

2 Safety

This chapter contains basic information for your safety. Read the instructions carefully before setting up or operating the machine. Failure to do so can result in serious injury and property damage.

2.1 Basic safety instructions

The machine may only be used as described in these instructions.

These instructions must be available at the machine's location at all times.

Work on live components and equipment is prohibited. Exceptions are defined in the DIN VDE 0105.

For the following work, switch off the machine at the main switch or disconnect the power plug:

- Replacing the needle or other sewing tools
- Leaving the workstation
- Performing maintenance work and repairs
- Threading

Missing or faulty parts could impair safety and damage the machine. Only use original parts from the manufacturer.

Transport

Use a lifting carriage or stacker to transport the machine. Raise the machine max. 20 mm and secure it to prevent it from slipping off.

Setup

The connecting cable must have a power plug approved in the relevant country. The power plug may only be assembled to the power cable by qualified specialists.

Obligations of the operator

Follow the country-specific safety and accident prevention regulations and the legal regulations concerning industrial safety and the protection of the environment.

All the warnings and safety signs on the machine must always be in legible condition. Do not remove!
Missing or damaged warnings and safety signs must be replaced immediately.

Requirements to be met by the personnel

Only qualified specialists may be used for:

- Setting up the machine
- Performing maintenance work and repairs
- Performing work on electrical equipment

Only authorized persons may work on the machine and must first have understood these instructions.

Operation

Check the machine during operating for any externally visible damage. Stop working if you notice any changes to the machine. Report any changes to your supervisor. Do not use a damaged machine any further.

Safety equipment

Safety equipment should not be disassembled or deactivated. If it is essential to disassemble or deactivate safety equipment for a repair operation, it must be assembled and put back into operation immediately afterward.

2.2 Signal words and symbols used in warnings

Warnings in the text are distinguished by color bars. The color scheme is based on the severity of the danger. Signal words indicate the severity of the danger.

Signal words

Signal words and the hazard they describe:

Signal word	Meaning
DANGER	(with hazard symbol) If ignored, fatal or serious injury will result
WARNING	(with hazard symbol) If ignored, fatal or serious injury can result
CAUTION	(with hazard symbol) If ignored, moderate or minor injury can result
CAUTION	(with hazard symbol) If ignored, environmental damage can result
NOTICE	(without hazard symbol) If ignored, property damage can result

Symbols

The following symbols indicate the type of danger to personnel:

Symbol	Type of danger
	General
	Electric shock

Symbol	Type of danger
	Puncture
	Crushing
	Environmental damage

Examples Examples of the layout of warnings in the text:

DANGER

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

↳ This is what a warning looks like for a hazard that will result in serious injury or even death if ignored.

WARNING

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

↳ This is what a warning looks like for a hazard that could result in serious or even fatal injury if ignored.

CAUTION

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

↳ This is what a warning looks like for a hazard that could result in moderate or minor injury if the warning is ignored.

CAUTION

Type and source of danger!

Consequences of non-compliance.

Measures for avoiding the danger.

↳ This is what a warning looks like for a hazard that could result in environmental damage if ignored.

NOTICE

Type and source of danger!

Consequences of non-compliance.

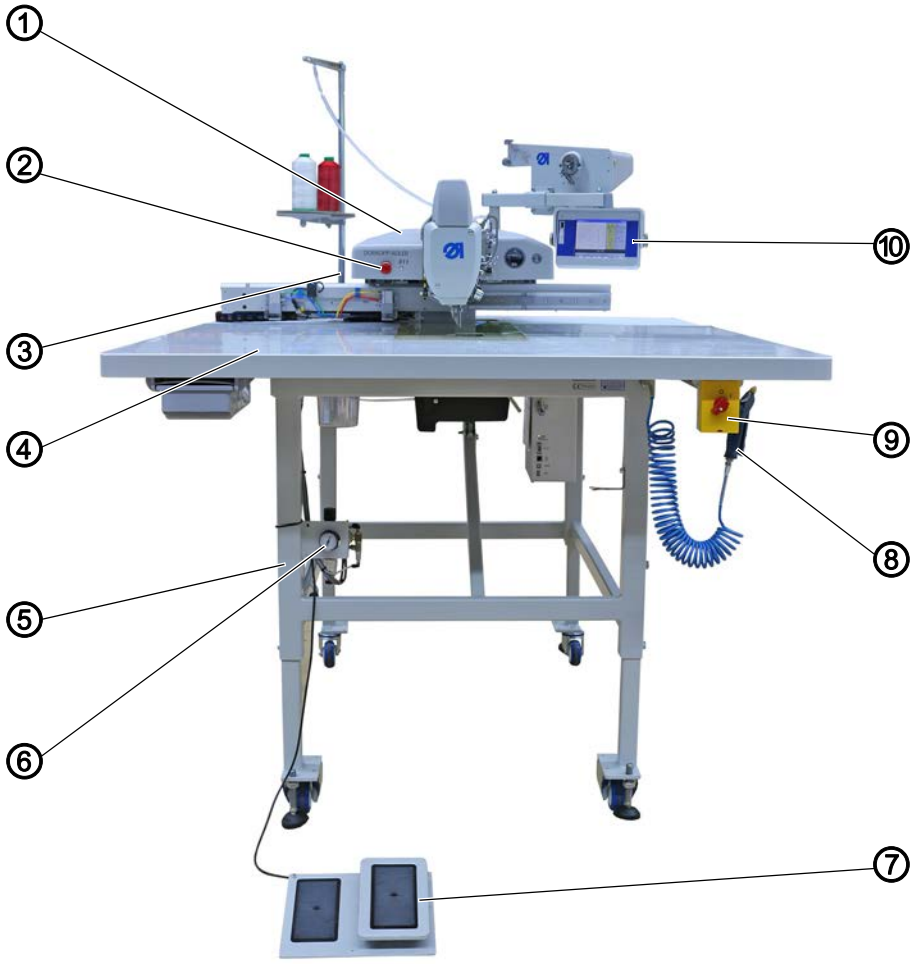
Measures for avoiding the danger.

↳ This is what a warning looks like for a hazard that could result in property damage if ignored.

3 Machine description

3.1 Components of the machine

Fig. 1: Components of the machine



(1) - Machine head
(2) - Quick-stop
(3) - Reel stand
(4) - Tabletop
(5) - Stand
(6) - Compressed air maintenance unit
(7) - Pedal
(8) - Compressed air gun
(9) - Main switch
(10) - Control panel

3.2 Proper use

The machine may only be used with sewing material that satisfies the requirements of the specific application at hand.

The machine is intended only for use with dry sewing material. The sewing material must not contain any hard objects.

The needle thicknesses permissible for the machine are listed in the **Technical data** (📖 *p. 121*) chapter.

The seam must be completed with a thread that satisfies the requirements of the specific application at hand.

The machine is intended for industrial use.

The machine may only be set up and operated in dry conditions on well-maintained premises. If the machine is operated on premises that are not dry and well-maintained, then further measures may be required which must be compatible with DIN EN 60204-31.

Only authorized persons may work on the machine.

Dürkopp Adler cannot be held liable for damages resulting from improper use.

WARNING

Risk of injury from live, moving and cutting parts as well as from sharp parts!

Improper use can result in electric shock, crushing, cutting and punctures.

Follow all instructions provided.

CAUTION

Non-observance will lead to property damage!

Improper use can result in material damage at the machine.

Follow all instructions provided.

3.3 Declaration of Conformity

The machine complies with European regulations ensuring health, safety, and environmental protection as specified in the declaration of conformity or in the declaration of incorporation.

4 Operation

The operating sequence consists of several different steps. Fault-free operation is necessary in order to achieve a good sewing result.

4.1 Preparing the machine for operation

WARNING

Risk of injury from moving, cutting and sharp parts!

Crushing, cutting and punctures are possible.

If possible, make preparations only when the machine is switched off.

Complete the following steps in preparation of sewing before starting to work:

- Inserting or changing the needle
- Threading the needle thread
- Threading or winding the hook thread
- Adjusting the thread tension

4.2 Switching on and off the machine

Fig. 2: Switching on and off the machine

(1) - Main switch

Switching on the machine

To switch on the machine:

1. Turn the main switch (1) to the right into the **I** position.

↳ The following message appears on the display:
`Press the pedal backwards`

2. Press the pedal back.

↳ The machine performs a reference run.
The main menu appears on the display.

Switching off the machine

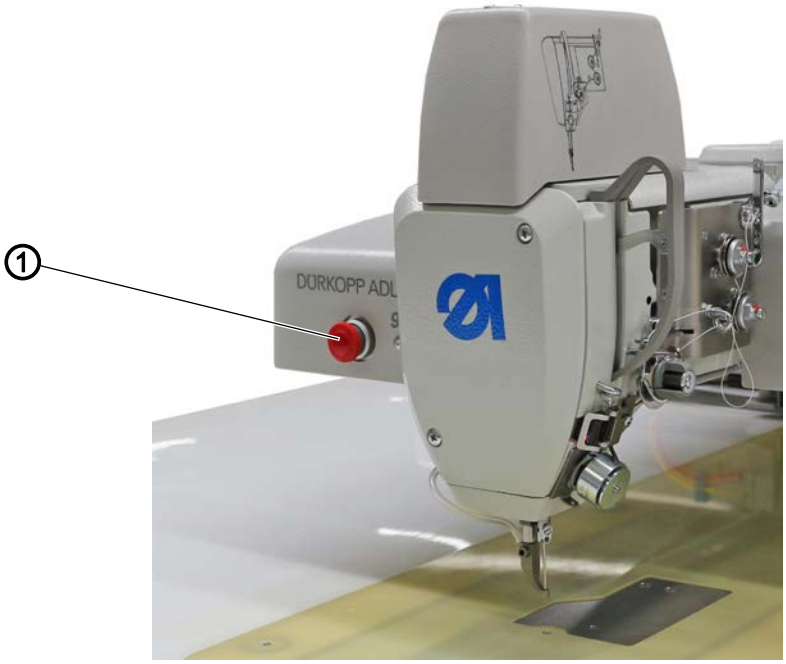
To switch off the machine:

1. Turn the main switch (1) to the left into the **0** position.

4.3 Switching on Quick-stop

The quick-stop switch (1) can be used to immediately stop all working steps on the machine, e.g. after an operating mistake.

Fig. 3: Switching on Quick-stop



(1) - Quick-stop switch

To switch on quick-stop:

1. Press the quick-stop switch (1).

↳ All working steps on the machine are immediately stopped.

4.4 Changing the needle

WARNING

Risk of injury from sharp and moving parts!

Puncture possible.

Switch off the machine before you change the needle.
Do not reach into the needle tip.

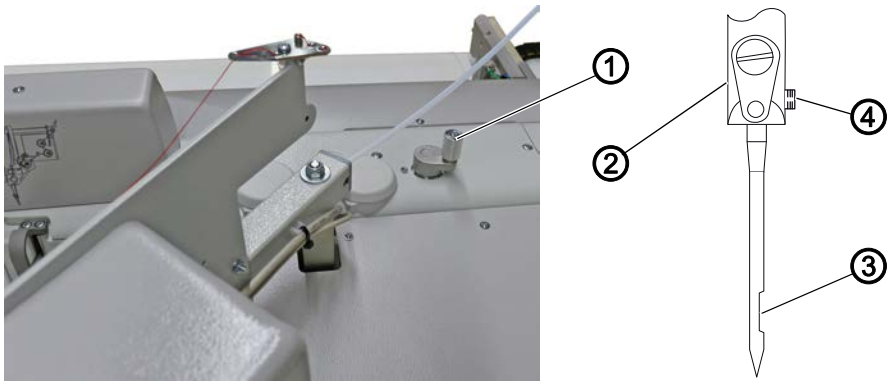
NOTICE

Property damage may occur!

Machine damage possible from incorrect hook side clearance.

When switching to a different needle thickness, adjust the distance between needle and hook (🕮 *Service Instructions*).

Fig. 4: Changing the needle



(1) - Hand crank
(2) - Needle bar
(3) - Groove
(4) - Screw

To change the needle:

1. Push the hand crank (1) down and rotate it to the left until the needle bar (2) reaches the highest position.
2. Loosen the screw (4).
3. Pull the needle downwards out of the needle bar (2).
4. Insert the new needle into the needle bar (2) until it reaches the end stop.

Important

The groove (3) must face toward the hook.

5. Tighten the screw (4).

4.5 Switching on threading mode

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Prior to any maintenance or cleaning work, switch off the machine or set the machine to threading mode.
When threading mode is active, do not reach into the hook area until this is lit up.

Fig. 5: Switching on threading mode

(1) - Button for threading mode *(2) - Hook cover*

Switching on threading mode

To switch on threading mode:

1. Press the button (1).

↳ The machine is in threading mode.
The button (1) lights up.
The sewing feet are lowered.
The hook cover (2) is opened and lit.

Switching off threading mode

To switch off threading mode:

1. Press the button (1) again.

4.6 Threading the needle thread

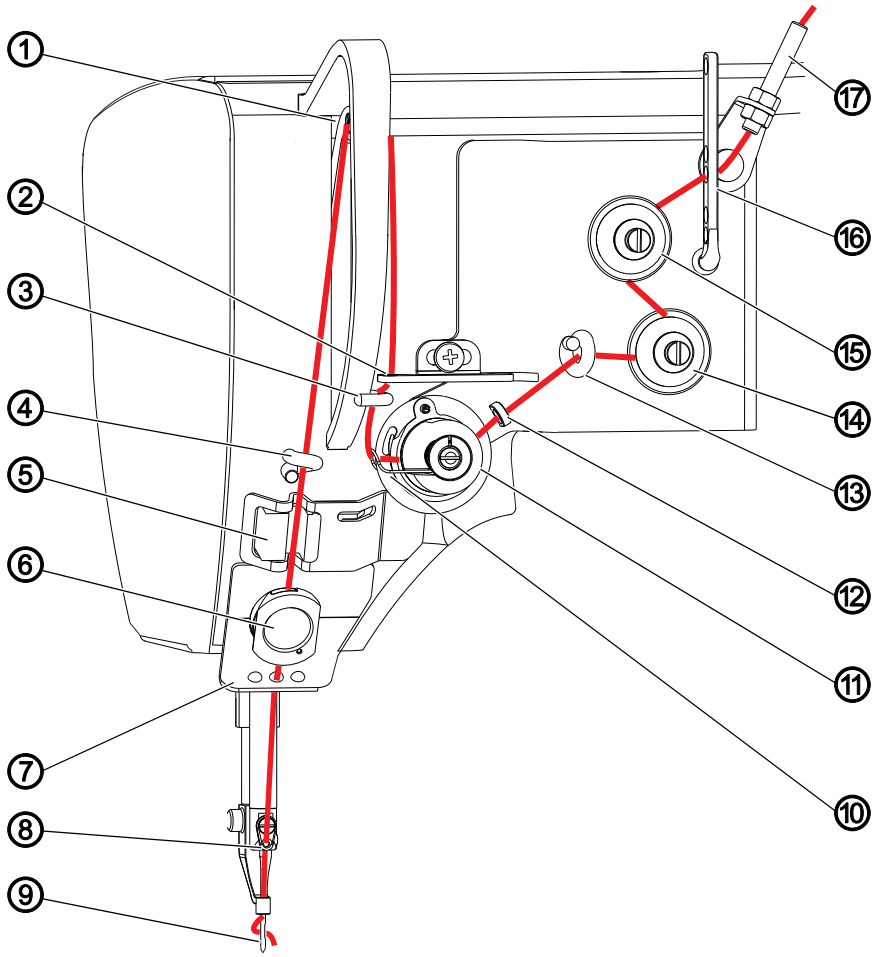
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before threading the needle thread.

Fig. 6: Threading the needle thread



(1) - Thread lever
(2) - Needle thread regulator
(3) - Guide
(4) - Guide
(5) - Needle thread monitor
(6) - Needle thread clamp (optional)
(7) - Guide
(8) - Guide
(9) - Needle eye
(10) - Thread tensioning spring
(11) - Deflection
(12) - Guide
(13) - Guide
(14) - Tension
(15) - Tension
(16) - Guide
(17) - Hose guide

To thread the needle thread:

1. Place the thread reel on the reel stand and guide the needle thread through the hole in the guide on the thread guide.

Important

The thread guide must be parallel to the reel stand.

2. Use compressed air to blow the needle thread through the hose guide (17).
3. Feed the needle thread through the guide (16).
4. Guide the needle thread counterclockwise around the tension (15).
5. Guide the needle thread clockwise around the tension (14).
6. Feed the needle thread through guides (13) and (12).
7. Guide the needle thread clockwise around the deflection (11).
8. Feed the needle thread under the thread tensioning spring (10), through the guide (3) and through the needle thread regulator (2) to the thread lever (1).
9. Feed the needle thread through the thread lever (1) and the guide (4).
10. Feed the needle thread through the needle thread monitor (5).
11. For machines with thread trimmer, insert the needle thread through the thread clamp (6).
12. Feed the needle thread through guides (7) and (8).
13. Thread the needle thread through the needle eye (9) in such a way that the loose thread end faces the hook.

4.7 Adjusting the needle thread regulator

The needle thread regulator determines the needle thread quantity to be guided around the hook. The required thread quantity depends on the thickness of the sewing material, the thread strength, and the stitch length.

Larger thread quantity for

- thick sewing material
- high thread strengths
- large stitch lengths

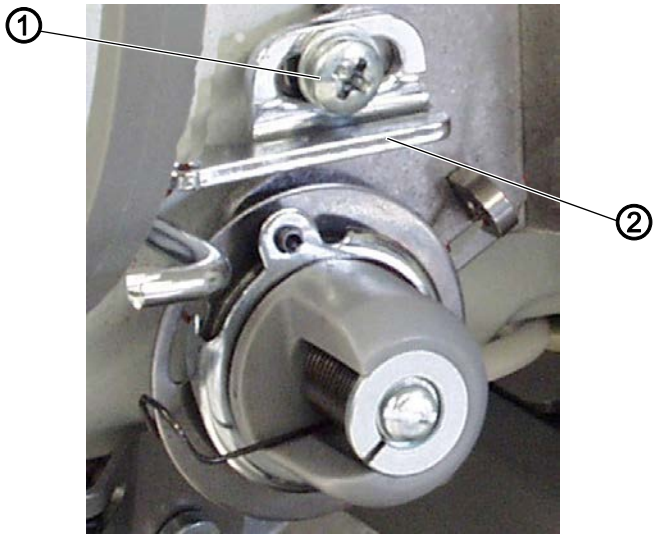
Lower thread quantity for

- thin sewing material
- low thread strengths
- small stitch lengths

Proper setting

The loop of the needle thread slides at low tension over the thickest point of the hook. The largest amount of thread is required, and the thread tensioning spring (1) should be pulled approx. 0.5 mm out of the lower end position.

Fig. 7: Adjusting the needle thread regulator



(1) - Screw *(2) - Needle thread regulator*

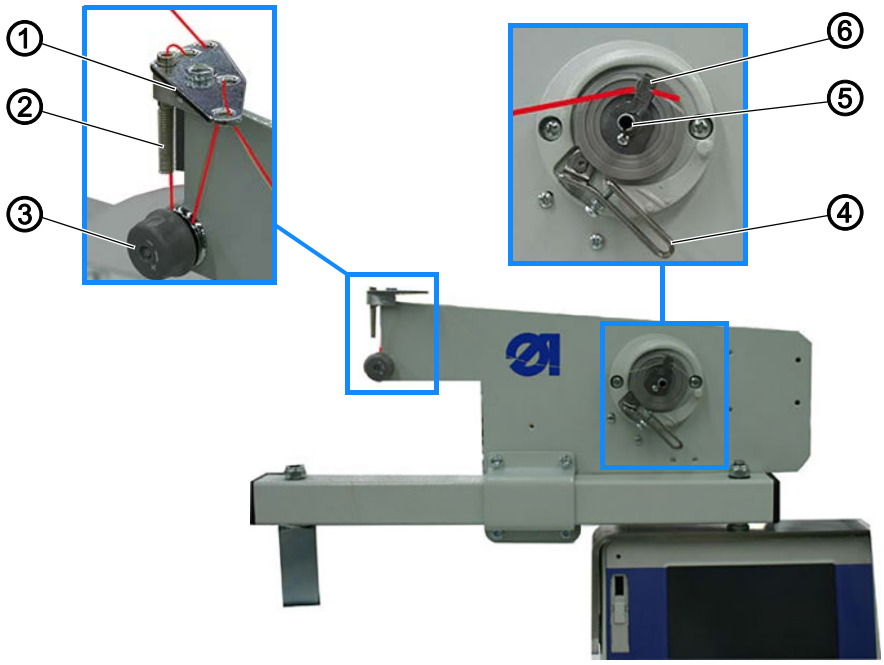
To adjust the needle thread regulator:

1. Loosen the screw (1).
2. Move the needle thread regulator (2):
   - **Lower thread quantity:** Slide the needle thread regulator (2) to the right
   - **Larger thread quantity:** Slide the needle thread regulator (2) to the left
3. Tighten the screw (1).

4.8 Winding the hook thread

The separate winder allows the hook thread to be wound both during sewing and when the sewing process is stopped.

Fig. 8: Winding the hook thread



(1) - Thread guide plate
(2) - Thread guide channel
(3) - Winding tensioner
(4) - Bobbin winder flap
(5) - Bobbin shaft
(6) - Knife

To wind the hook thread:

1. Place the thread reel on the reel stand and guide the hook thread through the hole in the guide on the thread guide.

Important

The thread guide must be parallel to the reel stand.

2. Insert the hook thread in a wavelike manner through the two rear holes of the thread guide plate (1): From top to bottom through the rear hole and from bottom to top through the left hole.
3. Feed the hook thread from top to bottom through the thread guide channel (2).
4. Guide the hook thread counterclockwise around the winding tensioner (3).
5. Insert the hook thread in a wavelike manner through the two remaining free holes of the thread guide plate (1): From bottom to top through the rear hole and from top to bottom through the front hole.
6. Feed the hook thread to the winder and clamp it behind the knife (6). Make sure the thread is NOT under tension.
7. Tear off the hook thread.
8. Fit an empty bobbin on the bobbin shaft (5) and turn clockwise until it clicks into place.

9. Press the bobbin winder flap (4) against the bobbin.

↳ The winder starts and stops automatically when the configured bobbin filling volume is reached.

4.9 Changing the bobbin

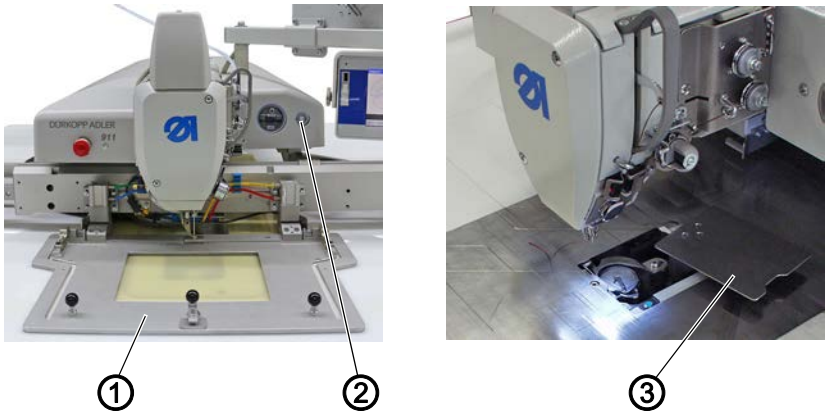
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch the machine to threading mode before changing the bobbin.
When threading mode is active, do not reach into the hook area until this is lit up.

Fig. 9: Changing the bobbin (1)



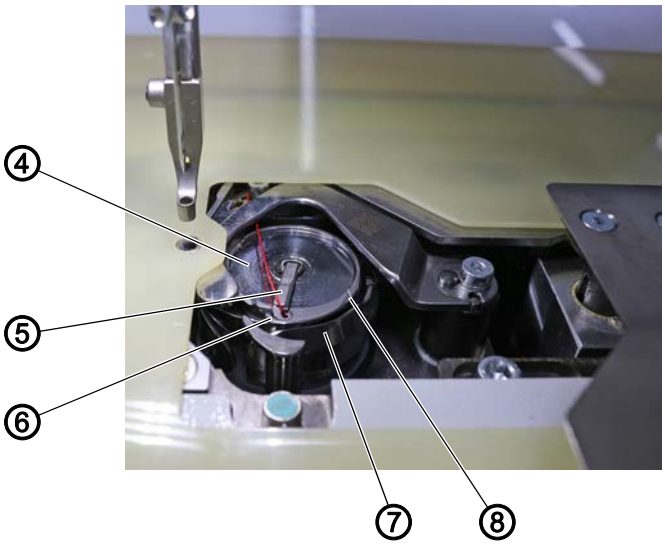
(1) - Sewing material holder
(2) - Button for threading mode
(3) - Hook cover

To change the bobbin:

1. Remove the sewing material holder (1) (for alternating clamps only).
2. Press the threading mode (2) button.

↳ The machine is in threading mode.
The button (2) lights up.
The sewing feet are lowered.
The hook cover (3) is opened and lit.

Fig. 10: Changing the bobbin (2)



(4) - Bobbin
(5) - Bobbin case retainer
(6) - Guide
(7) - Tension spring
(8) - Slot

3. Swivel up the bobbin case retainer (5).
4. Remove the empty bobbin.
5. Insert a full bobbin.

Important

Insert the bobbin (4) so that it moves in the opposite direction of the hook when the thread is pulled out.

6. Feed the hook thread through the slot (8) in the bobbin case retainer.
7. Pull the hook thread under the tension spring (7).
8. Feed the hook thread through the guide (6) and pull it approx. 3 cm further until reaching the hook cover.
9. Hold the hook thread in place and close the bobbin case retainer (5).
10. Cut off the surplus thread above the hook cover (3)
11. Release the threading mode (2) button.

↳ The hook cover (3) swivels back to the original position.

12. Enter a bobbin change in the software (📖 *p. 48*).

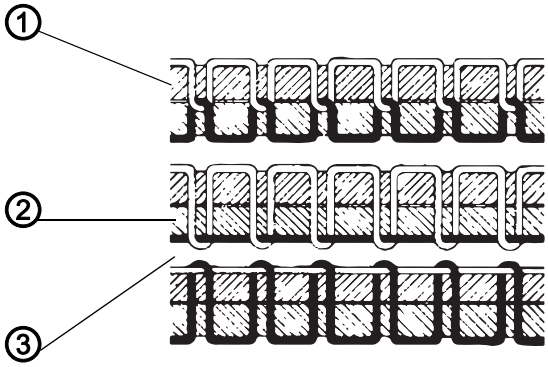
4.10 Thread tension

Together with the hook thread tension, the needle thread tension influences the final seam pattern. With thin sewing material, excessive thread tension can lead to undesired ruffing and thread breaking.

Proper setting

If the tension of needle thread and hook thread is identical, the thread interlace lies in the middle of the sewing material.
Adjust the needle thread tension so that the desired seam pattern is achieved with the lowest possible tension.

Fig. 11: Thread tension



(1) - Identical needle thread and hook thread tension
(2) - Hook thread tension higher than needle thread tension
(3) - Needle thread tension higher than hook thread tension

Adjusting the hook thread tension

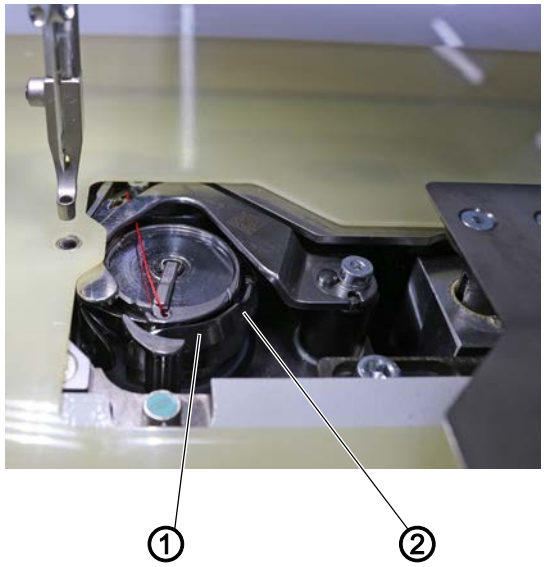
WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Switch off the machine before you adjust the hook thread tension.

Fig. 12: Adjusting the hook thread tension



(1) - Tension spring *(2) - Adjusting wheel*

The hook thread tension is generated by the tension spring (1) and adjusted via the adjusting wheel (2).

To adjust the hook thread tension:

1. Turn the adjusting wheel (2).
   - Increase the hook thread tension: Turn the adjusting wheel (2) clockwise
   - Reduce the hook thread tension: Turn the adjusting wheel (2) counterclockwise

4.11 Swiveling the machine head up and down

WARNING

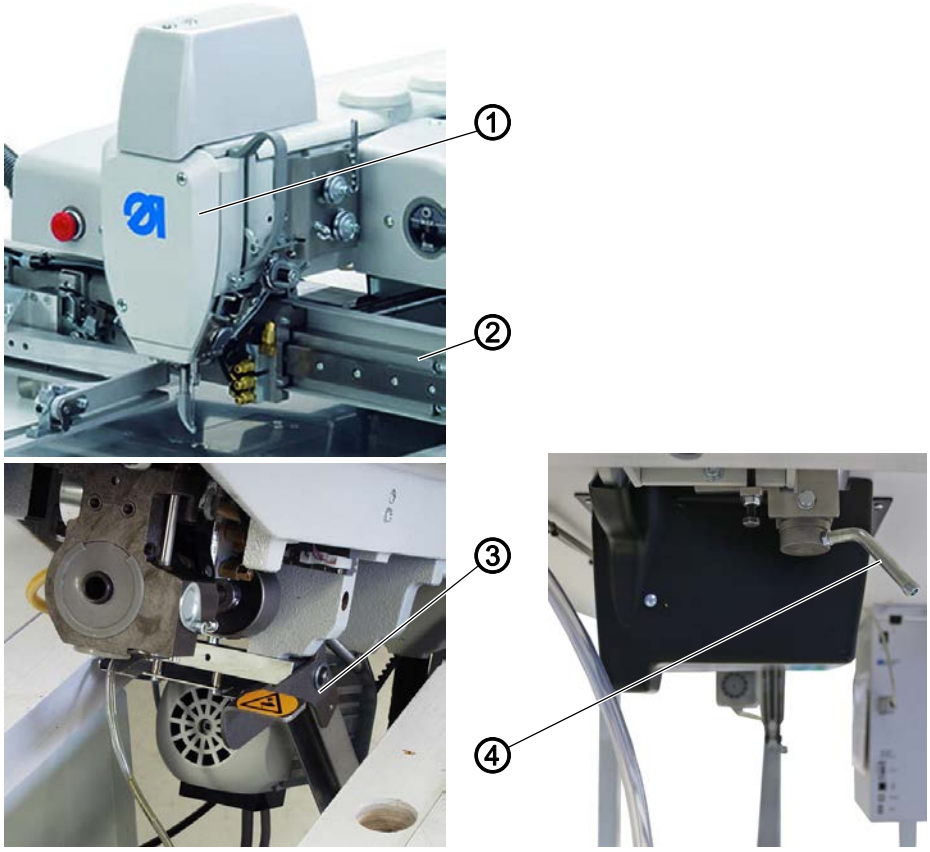
Risk of injury from moving parts!

Crushing possible.

When swiveling down the machine head, hold the machine head in place until it has returned to its position.

4.11.1 Swiveling up the machine head

Fig. 13: Swiveling up the machine head



(1) - Head cover
(2) - Transport carriage
(3) - Latch
(4) - Locking lever

Important

The transport carriage (2) must be at the rear.

To swivel up the machine head:

1. Release the locking lever (4) under the tabletop.

2. Lift the machine head in the head cover area (1) and swivel up carefully.

↳ The latch (3) latches into place.
The space under the stand is now accessible.

4.11.2 Swiveling down the machine head

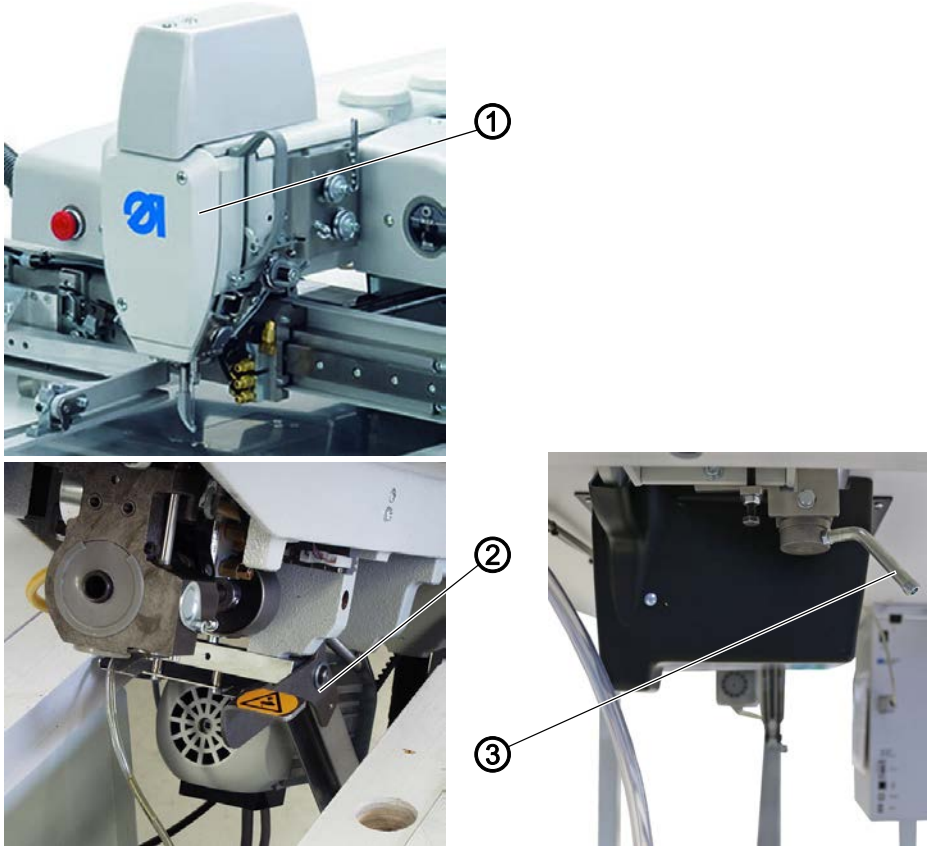
NOTICE

Property damage may occur!

Risk of machine damage from falling machine head.

When swiveling down the machine head, hold the machine head in place until it has returned to its position.

Fig. 14: Swiveling down the machine head



(1) - Head cover
(2) - Latch
(3) - Locking lever

To swivel down the machine head:

1. Hold the machine head in the head cover area (1).
2. Release the latch (2).
3. Swivel down the machine head carefully.
4. Latch the locking lever (3) under the tabletop.

5 Programming

Fig. 15: Programming

(1) - Control panel OP7000

The control is operated via the control panel OP7000 (1) located on the right next to the machine head.

The screen is a touchscreen, i.e. the buttons are displayed on the screen rather than provided as physical buttons. Buttons or functions are activated by tapping the corresponding position on the monitor.

Activating a button/selecting an element:

To activate a button or select an element:

1. Press the corresponding button or element with your finger or a touchscreen pen.

5.1 Structure of the software

You can create and manage seam programs and sequences via software. During sewing, these programs are called up and processed stitch by stitch.

Information

Seam program:

A seam program consists of a seam contour with parameters defining the individual contour sections.
Up to 99 seam programs can be stored in the system.
Seam programs have a file suffix of *.fnp911* after the filename.

Seam sequence:

Up to 30 seam programs can be combined in any order to form a seam sequence.
Up to 20 seam sequences can be stored in the system.
Seam sequences have a file suffix of *.seq911* after the filename.

The software is also used to define general settings that apply to all programs. There are also technical menu items for testing and maintaining the machine.

5.2 Overview of the menu structure

The following table provides an overview of the menu structure and the function buttons on the start screen.

Menu items in popup menus				
Menu item	**Function**	**Sub-items**	**Sub-items**	**Described on**
Datei (File)	Open existing programs for sewing Create new programs and copy or delete existing programs.	Löschen (Delete)		🕮 *p. 69*
		Kopieren (Copy)		🕮 *p. 68*
		Öffnen (Open)		🕮 *p. 46*
		Neu (New)	Nahtprogramm (Seam program)	🕮 *p. 53*
			Nahtsequenz (Seam sequence)	🕮 *p. 65*
		Speichern unter (Save As)		🕮 *p. 67*
Bearbeiten (Edit)	Define general settings for all programs or modify an existing program.	Maschinenparameter (Machine parameters)		🕮 *p. 70*
		Sequenz (Sequence)		🕮 *p. 65*
		Nahtprogramm (Seam program)	Parameter	🕮 *p. 59*
			Konturanpassung (Contour adjustment)	🕮 *p. 57*
			Konturtest (Contour test)	🕮 *p. 56*

Menu items in popup menus				
Menu item	**Function**	**Sub-items**	**Sub-items**	**Described on**
Extras	Display options: Full-screen and zoom Technician menu: Adjustments, system information and tests	Vollbild ein/aus (Full screen on / off)		🕮 *p. 45*
		Zoom ein/aus (Zoom on / off)		🕮 *p. 45*
		Service	Einstellungen (Settings)	🕮 *p. 76*
			System-Information (System information)	🕮 *p. 83*
			Multitest (Multi test)	🕮 *p. 79*
			Initialisierung und Update (Initialization and update)	🕮 *p. 84*
			Hersteller (nur für DA-Personal) (Manufacturer (for DA personnel only))	
Korrektur (Correction)	Short-term sewing with other values	Fadenspannung (Thread tension)		🕮 *p. 47*
		Nähdrehzahl (Speed)		🕮 *p. 48*
Buttons on the start screen				
	Continue sewing the contour from a particular point		Reparatur-Modus (Repair mode)	🕮 *p. 50*
	Allow for a manual bobbin change		Spulenwechsel (Bobbin change)	🕮 *p. 48*
	Reset counter to a particular value		Zählerreset (Reset counter)	🕮 *p. 52*

5.3 Starting the software

After it was switched on, the machine performs a reference run. After this, the start screen is shown for a few seconds.

Fig. 16: Starting the software (1)

(1) - Button language selection *(2) - Button Service*

Here you can select the user interface language or use `Service` to quickly access the `Multitest (Multi test)` menu.

Information

Both functions can also be selected later from within the program via the menu items `Extras` > `Service`.
(See chapters **Testing the functions of the machine** ☎🕮 *p. 79*) and **Changing the language** (🕮 *p. 77*).)

If you do not press any buttons, the software automatically switches to the start screen after a few seconds.

Start screen

The start screen is displayed during sewing. When the machine is started, the start screen is opened with the settings of the last sewing program used.

Fig. 17: Start screen

(1) - Title bar
(2) - Status bar
(3) - Main window: Display of the seam contour
(4) - Program bar
(5) - Menu bar: Popup menu
(6) - Button for resetting the counter
(7) - Button for bobbin change
(8) - Button of the current sewing parameters
(9) - Button for Repair mode
(10) - Display of time of day

Structure of the start screen

- **Title bar (1)**

This shows the version of the machine on the start screen. It also contains information on the menu item currently selected in the various menus.

- **Status bar (2)**

On the start screen, the seam sequence currently open is displayed here, and the time of day (11) is displayed at the right. It also bar contains information on the currently selected step in the various menus.

- **Main window (3)**

The contour to be sewn is displayed here.

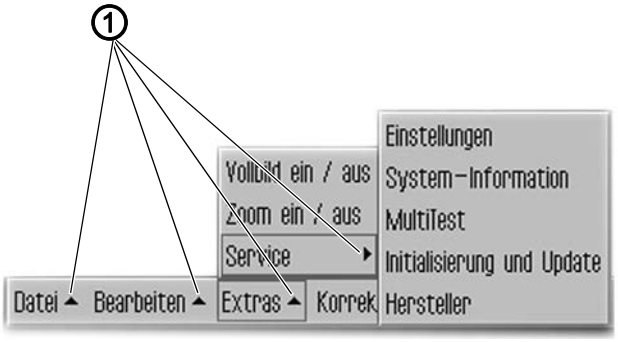
- **Program bar (4)**

The seam programs of the seam sequence currently open are displayed in this line. The program currently being executed is highlighted in black. You can use the arrow buttons (6) at the right side of the bar to navigate along the bar and display any additional programs that do not fit on the bar. If a seam sequence is not currently open but rather only a single seam program, then this program fills the entire bar.

- **Menu bar (5)**

The bar at the bottom contains the popup menu. This allows you to access the various different menu items for creating and editing seam programs and for performing settings and tests on the machine. An arrow (1) next to a menu entry indicates that pressing the entry will display further sub-items.

Fig. 18: Menu bar



(1) - Popup arrows

- **Button for resetting the counter (6)**

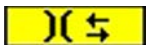
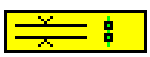
This button can be used for resetting the counter for the sewn programs or sequences. The current counter value is displayed next to this button.

- **Button for bobbin change (7)**

This button is used to inform the system that a new bobbin has been inserted (e.g. after a color change). The hook thread capacity is displayed next to this button.

- **Display of the current sewing parameters (8)**

The current sewing parameters are displayed below the repair mode button:

-  - Seam pattern size
-  - Sewing speed
-  - Thread tension
-  - Stitch length
-  - Number of stitches / hook thread consumed

Information

You can use the buttons Speed, Thread tension and Stitch length to access the sewing parameters directly (📖 *p. 59*).

- **Button for Repair mode (9)**

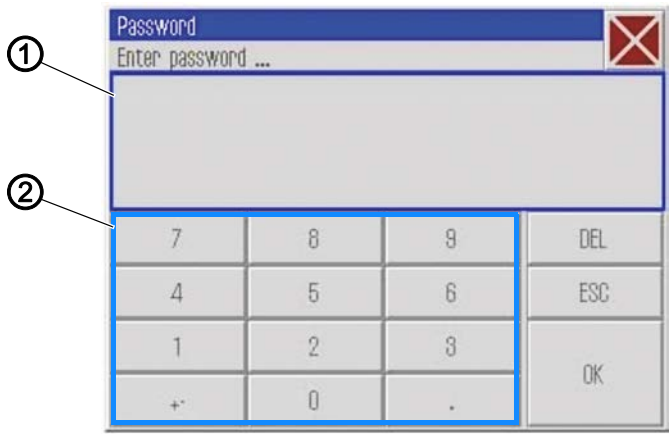
The topmost button at the right side is used for switching the repair mode on and off. The current status (`Ein (On)/Aus (Off)`) is displayed next to the button.

5.4 General operation of the software

5.4.1 Entering a password

Depending on the setting (see chapter **Changing the password options** (📖 *p. 76*)) a password is only required for accessing the technical menus or must be entered every time the machine is started.
Next, the password entry screen is displayed.

Fig. 19: Entering a password



(1) - Input field *(2) - Numeric buttons*

To enter a password:

1. Use the numeric buttons (2) to enter the password.

Information

The default password on delivery is: 25483.
The password can be changed via the `Extras` menu (📖 *p. 76*).
You can delete incorrect entries via the **DEL** button.

2. Press the **OK** button.

↳ The previously selected menu item opens.

5.4.2 Closing windows

A number of different buttons can be used for closing the currently open window.

Button	Meaning
	At the upper right in the title bar of all windows: ↳ The program jumps back by one navigation level.
OK **CR**	In windows with data entry or selection fields: ↳ The window is closed and the entered or selected data is adopted.
DEL **Abbruch** **(Cancel)**	In windows with data entry or selection fields: ↳ The window is closed and the entered or selected data is discarded.

5.4.3 Display principles

Fig. 20: Display principles

(1) - Grayed-out: Deactivated element (2) - Dark background: Activated element

- The currently activated or selected element is highlighted with a dark background (2)
- Buttons that are not used in the current context are grayed out (1)

5.4.4 Scrolling the display

Fig. 21: Scrolling the display

(1) - Scrollbar

A scrollbar (1) is displayed on the right when a displayed image is larger than the screen height.

To scroll the display:

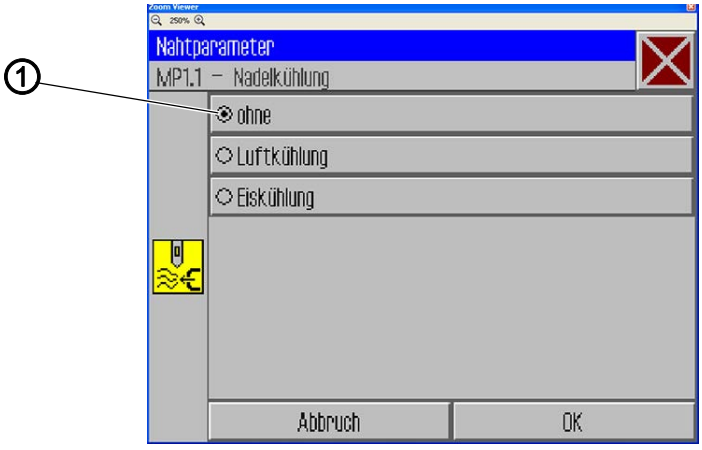
1. Drag the scrollbar (1) up or down.

5.4.5 Selecting options from a list

When selecting options, a distinction is made between round radio buttons and square check boxes.

Selection with radio buttons

Fig. 22: Selection with radio buttons



(1) - Radio buttons: Selected element

With round radio buttons only one of the displayed options can be selected.

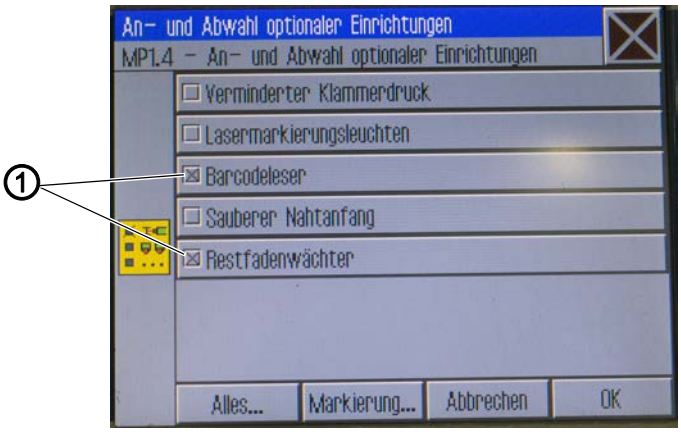
To select options using radio buttons:

1. Press the desired option.

↳ The selected option (1) is marked with a dot.

Selection with check boxes

Fig. 23: Selection with check boxes



(1) - Check box: Selected elements

Square check boxes allow for the selection of multiple entries.

To select options using check boxes:

1. Press the desired check box.

↳ The selected entries (1) are marked with a cross.

5.4.6 Using file filters

Fig. 24: File filter

When opening, copying or deleting seam programs a list of all available files is displayed.

You can use the filter functions to make the list more manageable:

To use file filters:

1. Press the **Dateifilter (File Filter)** button under the list.

↳ The file filter screen opens.

2. Press the desired filter criterion:
   - `.fnp911`: Seam programs only
   - `.seq911`: Seam sequences only
   - `All Files`: Seam programs and seam sequences
3. Press the **Öffnen (Open)** button.

↳ The list is updated according to the selected filter.

5.4.7 Entering text

A text entry window is displayed when text needs to be entered, e.g. for the name of a seam program.

Fig. 25: Entering text

(1) - Input line
(2) - Keyboard
(3) - OK (CR): Adopt the entered text
(4) - DEL: Delete a character
(5) - Aa: Switching between uppercase/ lowercase

Entering text

To enter text:

1. Use the keyboard (2) displayed to enter the text.

Switching between uppercase/lowercase

To switch between uppercase and lowercase:

1. Press the **Aa** (5) button.

Deleting the last character

To delete the last character:

1. Press the **DEL** (4) button.

Adopting the entered text

To adopt the entered text:

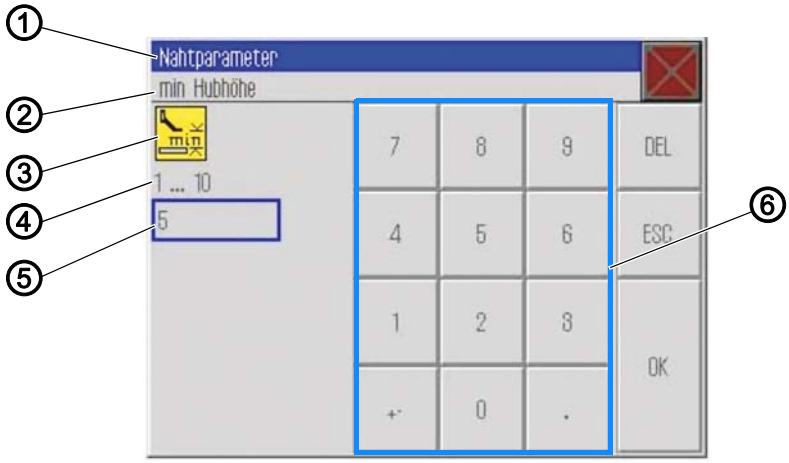
1. Press the **OK** (*CR*) (3) button.

↳ The entered text is adopted, and the text entry window is closed.

5.4.8 Entering parameter values

A numeric entry window opens when numeric values for program or machine parameters need to be entered.

Fig. 26: Entering parameter values



(1) - Title bar
(2) - Status bar
(3) - Symbol
(4) - Value range
(5) - Input field
(6) - Numeric buttons

The title bar (1) shows the parameter group.
The status bar (2) shows the name of the parameter currently being edited. The symbol (3) for the corresponding parameter is displayed below the parameter name.
The prescribed value range (4) for the parameter is displayed below the symbol (3).
The current valid value is displayed in the data entry field (5) below the value range (4).

Entering a value

To enter a value:

1. Press the desired value using the numeric buttons (6).

Deleting a value

To delete a value:

1. Press the **DEL** button.

Adopting a value

To adopt a value:

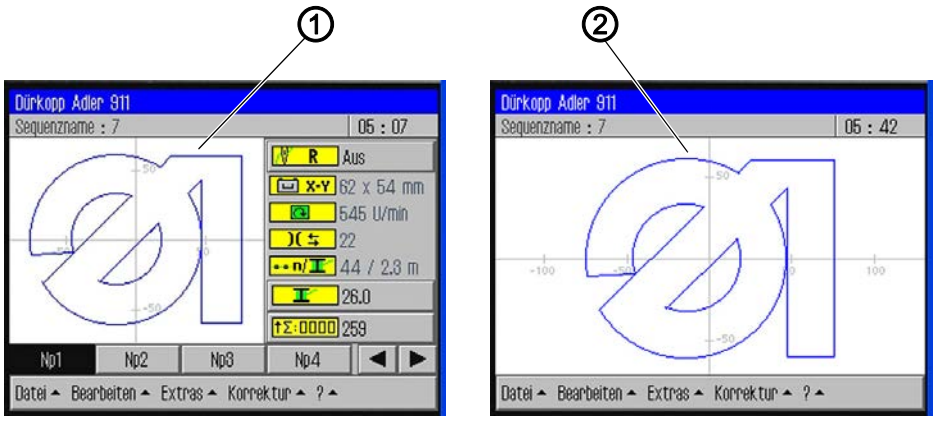
1. Press the **OK** button.

↳ The entered value is adopted, and the numeric entry window is closed.

5.4.9 Switching the full-screen display on and off

In order to see the seam contour in more detail you can switch the main window (1) to occupy the full screen and hide the buttons (2) on the right side of the start screen.

Fig. 27: Switching the full-screen display on and off



(1) - Full-screen switched off

(2) - Full-screen switched on

To switch full-screen on and off:

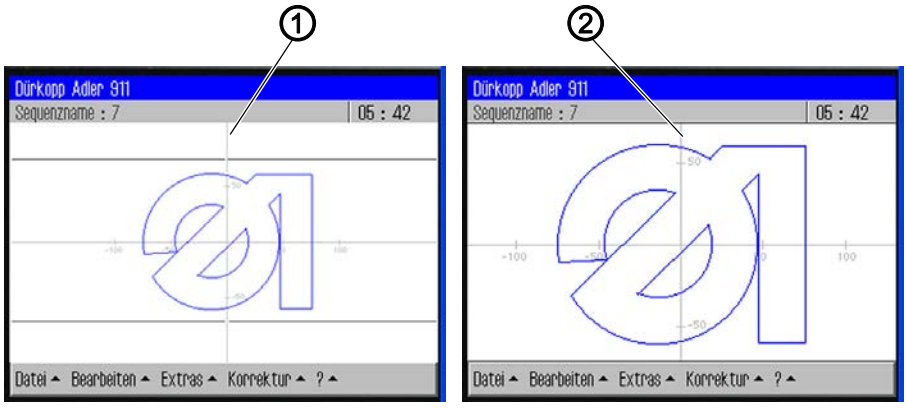
1. Press the menu items *`Extras> Vollbild ein/aus (Full-screen on / off)`*.

↳ The display switches to the respective mode.

5.4.10 Switching zoom on and off

You can magnify the display in order to see the seam contour in more detail. There is only one zoom level that can be switched on or off.

Fig. 28: Switching zoom on and off



(1) - Zoom switched off

(2) - Zoom switched on

To switch zoom on and off:

1. Press the menu items *`Extras> Zoom ein/aus (Zoom on / off)`*.

↳ The display switches to the respective mode.

5.5 Opening a seam program or seam sequence for sewing

To open a seam program or seam sequence for sewing:

1. Press the menu items *Datei (File)* > *Öffnen (Open)*.

↳ The file selection screen is displayed.
All existing seam programs and seam sequences are displayed.

Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 42*).

Fig. 29: Opening a seam program or seam sequence for sewing

2. Press the desired file.
3. Press the **Öffnen (Open)** button.

↳ The seam program/seam sequence is opened on the start screen.

4. Press the pedal forwards.

↳ The seam program is sewn.

5.6 Briefly sewing with modified values

If you wish to briefly sew with a special material or use a particular thread strength with different values, without changing the seam program, you can use the *Korrektur (Correction)* menu item to temporarily change the values for thread tension and speed. The values then apply to all subsequently executed seams until the machine is switched off.

Important

If you wish to adopt the changes, you must modify and save the program. Otherwise, the values are automatically reset to the original settings when the machine is switched off.

5.6.1 Sewing with a modified thread tension

To sew with a modified thread tension:

1. Press the menu items *Korrektur (Correction)* > *Fadenspannung (Thread tension)*.

↳ The window for changing the thread tension appears:

Fig. 30: Sewing with a modified thread tension

2. Enter the desired value.
3. Press the **OK** button.

↳ The value is adopted and used for all seams until the machine is switched off.

5.6.2 Sewing with a modified speed

To sew with a modified speed:

1. Press the menu items *Korrektur (Correction)* > *Nähdrehzahl (Speed)*.

↳ The window for changing the thread tension appears:

Fig. 31: Sewing with a modified speed

2. Enter the desired speed.
3. Press the **OK** button.

↳ The value is adopted and used for all seams until the machine is switched off.

5.7 Changing the bobbin/managing a thread breaking

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

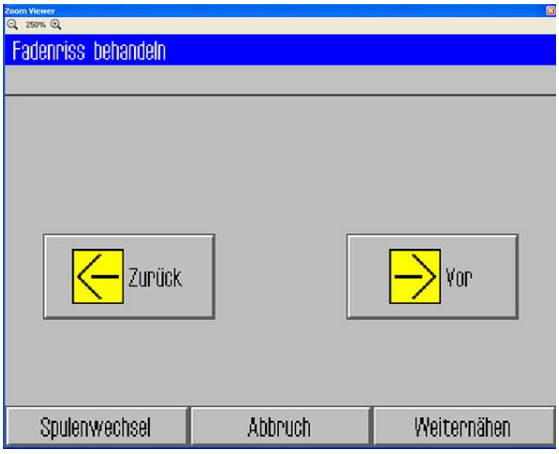
Switch the machine to threading mode before changing the bobbin.

The machine automatically detects when the hook thread has been used up and a new bobbin needs to be inserted.

In this case, or if thread breaking occurs, the *Fadenriss behandeln (Manage Thread Breaking)* window is automatically displayed.

5.7.1 Changing the bobbin

Fig. 32: Changing the bobbin



To change the bobbin:

1. Press the **Spulenwechsel (Bobbin change)** button.
2. Change the bobbin (📖 *p. 48*).
3. Use the *Vor (Forwards)* and *Zurück (Back)* buttons to move to the point where sewing is to continue.
4. Press the **Weiternähen (Continue sewing)** button.

↳ The program jumps back to the start screen and sewing of the seam continues from the selected point.

5.7.2 Bobbin change without a request from the program

If you wish to independently insert a new bobbin without being requested to do so by the program, you have to press the **Spulenwechsel (Bobbin Change)** button on the start screen after changing the bobbin.
This will inform the program that a new bobbin has been inserted, causing it to resume counting thread consumption starting with the full bobbin capacity.

5.7.3 Updating the bobbin capacity

To update the bobbin capacity:

1. Press the button **Spulenwechsel (Bobbin Change)**  on the start screen.

↳ The counter for the bobbin capacity begins anew with a full bobbin.

5.8 Continuing a seam after an error

5.8.1 Continuing a seam in Repair mode after an error

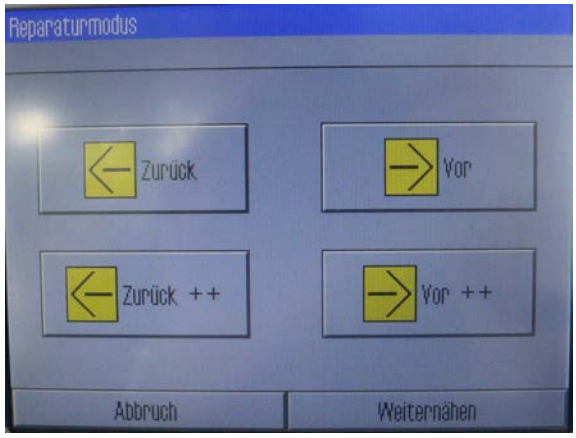
In Repair mode you can move to any desired point on the contour, e.g. in order to continue the seam program from this position after an error has occurred.

To continue a seam in Repair mode after an error:

1. Press the button **Reparaturmodus (Repair mode)**  on the start screen.

↳ The *Reparaturmodus (Repair mode)* window is displayed.

Fig. 33: Continuing a seam in Repair mode after an error



2. Use the **Vor (Forwards)** and **Zurück (Back)** buttons to move to the point where sewing is to continue.

OR

3. Use the buttons **Vor ++ (Forwards)** and **Zurück ++ (Back)** to skip to the beginning of the next or the beginning of the previous seam section.
4. Press the **Weiternähen (Continue sewing)** button.

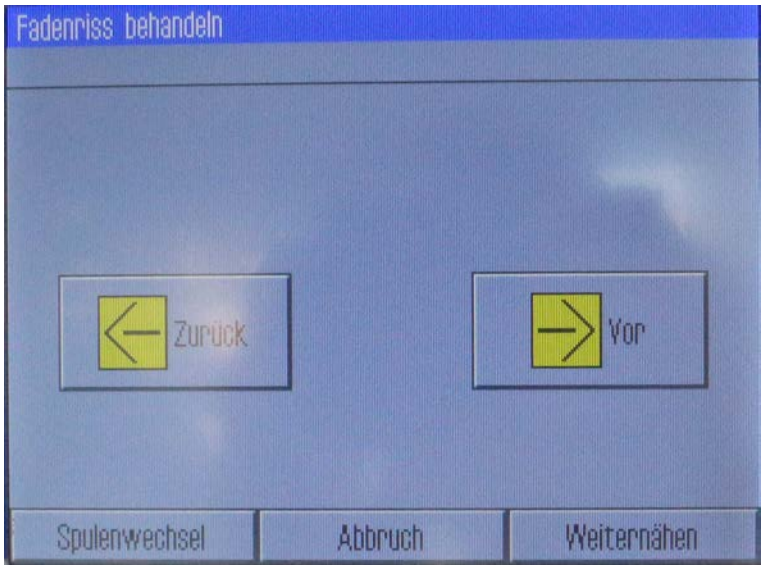
↳ The program jumps back to the start screen and sewing of the seam continues from the selected point.

5.8.2 Continuing a seam after thread breaking

When the machine was set up, the needle thread monitor mode that is supposed to be active was selected in the machine parameters (MP 3 (📖 *p. 73*)).
In the event of an error, the machine will undo a certain number of preset stitches and stop.

The control panel will show the display *`Fadenriss behandeln (Manage Thread Breaking)`*:

Fig. 34: Continuing a seam after thread breaking



Continuing a seam

To continue a seam after thread breaking:

1. Re-thread the needle thread.
2. Use the **Vor (Forwards)** and **Zurück (Back)** buttons to move to the point where sewing is to continue.
3. Continue sewing.

Canceling sewing and starting a new seam

To cancel sewing after thread breaking and start a new seam:

1. Press the **Abbruch (Cancel)** button.
2. Remove the transfer plate.
3. Press the pedal backwards.

↳ The machine performs a reference run.

4. Press the pedal forwards.

↳ The machine moves to the loading position, and you can start a new seam.

Checking or changing the bobbin

To change or check the bobbin:

1. Press the **Spulenwechsel (Bobbin change)** button.

↳ The display shows a prompt asking whether you wish to reset the bobbin counter.

2. Press the **JA (YES)** button if you wish to change the bobbin.

↳ The bobbin counter will be reset.

OR

3. Press the **NEIN (NO)** button if you merely wish to check the bobbin.

↳ The bobbin counter will not be reset.

4. Remove the transfer plate.
5. Press the **Einfädelmodus (Threading mode)** button on the machine head.

↳ The hook cover opens.

6. Change or check the bobbin.
7. Press the **Einfädelmodus (Threading mode)** button on the machine head.

↳ The hook cover closes.

8. Press the pedal forwards.

↳ The machine moves into the insertion position.

9. Insert the transfer plate.
10. Press the pedal or press the **Weiternähen (Continue Sewing)** button.

↳ The machine moves to the sewing position.

11. Press the pedal or press the **Weiternähen (Continue Sewing)** button.

↳ The sewing procedure is resumed.

5.9 Resetting the counter

Depending on the machine parameter settings, the counter counts the sewn programs or seam sequences up or down. You can use the *Zähler-Reset (Reset Counter)* button to reset the counter to the start value (📖 *p. 75*).

To reset the counter:

1. Press the button **Zähler-Reset (Reset Counter)** ↑Σ:0000 on the start screen.

↳ The counter is reset to the value defined in the machine parameters.

5.10 Seam programs and seam sequences

5.10.1 Creating a new seam program

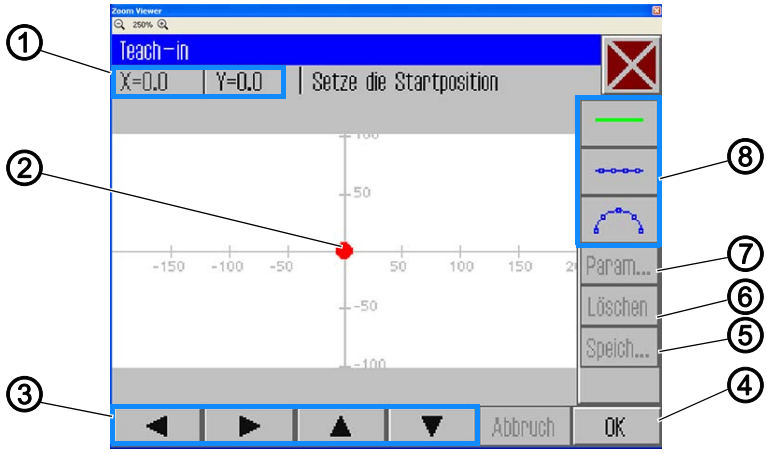
New seam programs are created using a Teach-In procedure. Individual seam paths with specific sewing parameters are defined via the control panel in order to do this.

To create a new seam program:

1. Press the menu items *Datei (File)* > *Neu (New)* > *Nahtprogramm (Seam Program)*.

↳ The Teach-In window appears.

Fig. 35: Creating a new seam program



(1) - Cursor position
(2) - Cursor
(3) - Arrow buttons
(4) - OK button: Accept
(5) - Save button
(6) - Delete button
(7) - Parameter button
(8) - Line selection buttons

Defining the starting point

2. Define the starting point:

Method	Coordinate area
Using the **arrow buttons** (3) **Caution** For safety reasons, you cannot use the arrow buttons (3) to select a position beyond 90.1 or -92.6 on the Y-axis. Settings beyond these coordinates require that you use the pedal.	X -150 to X 230 Y 90.1 to Y -92.6
Using the **pedal** Every press of the pedal moves the cursor (2) by 0.1 in the direction of the selected axis (X or Y)	X -150 to X 230 Y 100 to Y -100
Entering coordinates **directly** via the **cursor position** (1)	X -150 to X 230 Y 100 to Y -100

3. Press the **OK** (4) button.

↳ The desired starting point is adopted and marked with a green / blue dot.

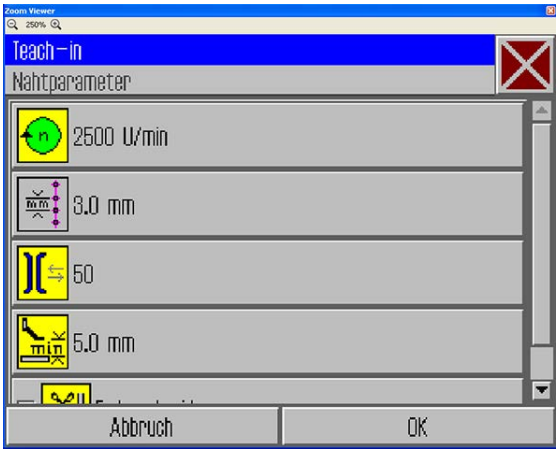
Selecting the line type

4. Use the line selection buttons (8) to select the type of line to be defined:
   - **Seamless path**: The clamp moves over this path to the next position without sewing
   - **Straight seam**: A straight path is sewn
   - **Curved seam**: A curve is sewn

↳ After pressing the button for a straight or curved seam, the corresponding window for entering the sewing parameters for this path opens.

Defining the sewing parameters for the path

Fig. 36: Defining the sewing parameters for the path



5. Press the desired parameter.

↳ The window for entering the parameter value opens.

6. Enter the desired value for the parameter (📖 *p. 44*).

Sewing parameters for Teach-In

Button	Meaning
	Speed
	Stitch length

Button	Meaning
	Thread tension
	Stroke height
	Thread cutting

Drawing a path

7. Use the arrow buttons to move the cursor to the end point of the desired path.

Information

Alternatively, you can press an arrow button once in order to define the direction and then continue moving in this direction by pressing the pedal.

Important

Take care to ensure that the contour remains within the permissible sewing field of the machine.
Especially with curved paths, you should remember that the start and end points are not directly connected and that a curve is generated between these two points.

8. Press the **OK** button.

↳ The seam path is adopted with the specified parameters.

Adding further seam paths

You can now define all further seam paths in the same manner.

1. Begin every new seam path by selecting the type of line (📖 *p. 54*).

Deleting a seam path

1. Press the **Löschen (Delete)** button.

↳ The last section of the seam path is deleted.

Saving a seam program

After you have defined all the seam paths, you can save the seam program and specify a name for the program.

1. Press the **Speich...(Save...)** button.

↳ The window for entering the name of the seam program opens.

2. Enter the desired name (📖 *p. 43*) and adopt the change by pressing **OK** (*CR*).

↳ The seam program is now available under this name for sewing, editing or copying.

Important

Always perform a contour test after creating a new seam program (📖 *p. 56*).

NOTICE

Property damage may occur!

If you have entered contour points that lie outside the sewing field, the movement of the clamps during sewing can cause damage to the machine or the sewing material.

Always perform a contour test after creating or editing a contour to ensure that the entire contour lies within the permissible sewing field.

5.10.2 Performing a contour test

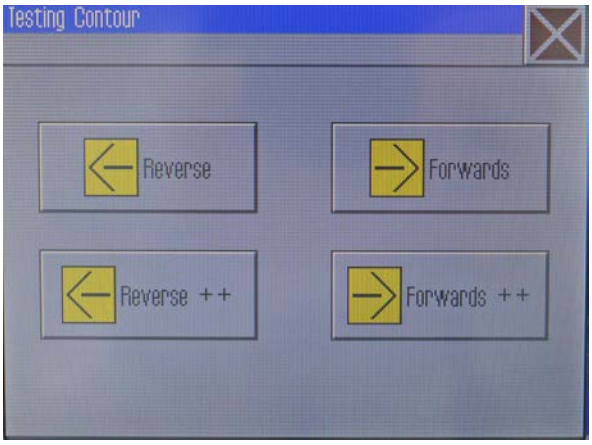
Perform a contour test every time after creating a new seam program or editing a seam contour to ensure that the contour you entered lies within the permissible sewing field.

To perform a contour test:

1. Press the menu items *Bearbeiten (Edit)* > *Nahtprogramm (Seam program)* > *Konturtest (Contour test)*.

↳ The *Konturtest (Contour test)* window appears.

Fig. 37: Performing a contour test



2. Move along the contour stitch by stitch using the **Vor (Forwards)** and **Zurück (Back)** buttons or the pedal.
3. Check that all points lie within the sewing field.

5.10.3 Editing a seam program

You can change the contour and the sewing parameters of existing seam programs. The changes are applied to the seam program that is currently open on the start screen.

To edit an existing seam program:

1. Open the seam program you wish to modify via the menu items *Datei (File)* > *Öffnen (Open)*.

↳ The seam program opens on the start screen.

Changing the contour of a seam program

NOTICE

Property damage may occur!

If you have entered contour points that lie outside the sewing field, the movement of the clamps during sewing can cause damage to the machine or the sewing material.

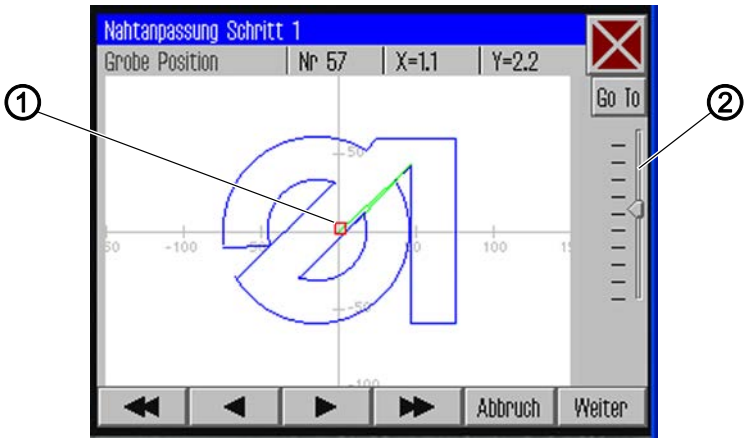
Always perform a contour test after creating or editing a contour to ensure that the entire contour lies within the permissible sewing field.

To change the contour of a seam program:

1. Press the menu items *Bearbeiten (Edit)* > *Nahtprogramm (Seam program)* > *Konturanpassung (Contour adjustment)*.

↳ The contour adjustment window appears:

Fig. 38: Changing the contour of a seam program (1)



(1) - Cursor *(2) - Scale: First to last stitch*

2. Use the arrow buttons to move the cursor (1) to the position on the contour that is to be changed.

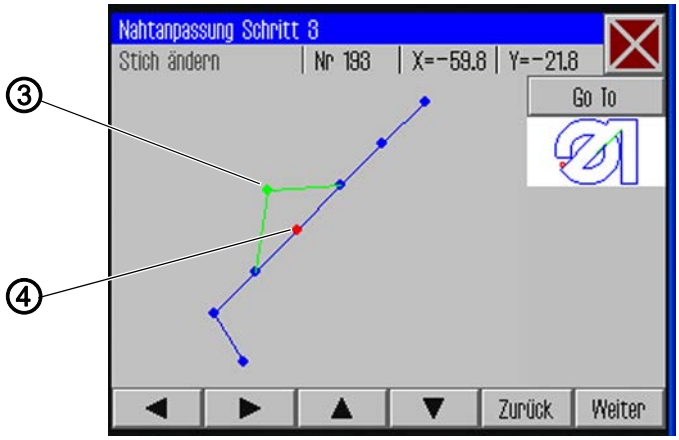
Information

You can also use the slider control on the scale (2) to select the stitching area you wish to change:
The first stitch of the seam pattern is at the top and the last stitch is at the bottom.

3. Press the **Go To** button.

↳ The selected contour region is displayed in detail.
The stitching point (2) to be modified is marked in red.

Fig. 39: Changing the contour of a seam program (2)



(3) - Old stitching point *(4) - New stitching point*

4. Use the arrow buttons to move the stitching point to the new position (4).

↳ The modified seam path is displayed in green.

5. Press the **Weiter (Next)** button.

↳ The window for selecting the technology operations opens.

Fig. 40: Changing the contour of a seam program (3)

6. Select the desired technology operation(s) for the new seam path (📖 *p. 40*).
7. Confirm the selection with **OK**.

↳ You are returned to the detail window with the modified contour.

8. Press the **Weiter (Next)** button.

↳ A query dialog is displayed, asking if you wish to adopt the changes. Confirm the query dialog with **JA (YES)** to save the modified contour.

Important

Always perform a contour test after modifying a contour to ensure that the new seam path lies within the permissible sewing field (📖 *p. 56*).

Changing seam program parameters

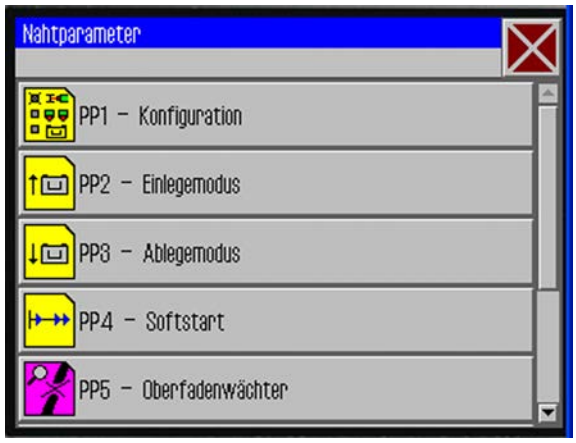
You can change the general settings that apply to the entire seam program.

To change the seam program parameters:

1. Press the menu items `Bearbeiten (Edit)` > `Nahtprogramm (Seam program)` > `Parameter (Parameters)`.

↳ The window for selecting the program parameter group appears:

Fig. 41: Changing seam program parameters



2. Press the desired parameter group.

↳ The individual parameters of this group are displayed.

3. Press the desired parameter.

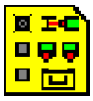
↳ The window for modifying the parameter value opens.

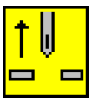
4. Set the parameter to the desired value (🕮 *p. 44*).

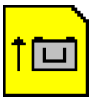
There are 8 program parameter groups:

Symbol	Parameter group
	**PP1 - Configuration** General settings
	**PP2 - Load mode** Load mode and position
	**PP3 - Deposit mode** Deposit mode and position
	**PP4 - Soft start** Number of stitches and speed
	**PP5 - Needle thread monitor** Sensitivity value for the needle thread monitor
	**PP6 - Thread consumption** Values for determining thread consumption
	**PP7 - Move:** Contour is moved in a particular direction
	**PP8 - Scaling:** The size of the contour is changed.

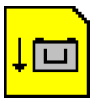
Overview of the individual program parameters

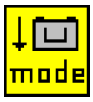
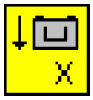
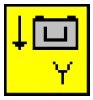
	**PP1 - Configuration**
Symbol	**Meaning**
	**Seam name** max. 20 characters
	**Minimum sewing foot stroke height** (min. = 1.0 .. max. = 10.0; Def. = 5.0 mm) Sets this as the minimum value of the programmable sewing foot stroke height so that only this value needs to be adjusted when sewing thicker materials.
	**Adjust thread tension** (min. = 10… max. = 200; Def. = 100 %) The thread tension profile for the entire contour is adjusted accordingly. A value of 100% means that no adjustments are made.
	**Adjust empty-run speed** (min. = 10… max. = 200; Def. = 100 %) The travel speeds are adjusted.
	**Clamp ID code** Barcode (ID code) of max. 10 characters for performing a safety check before the start of sewing (the barcode scanner additional equipment must be activated)

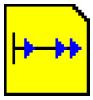
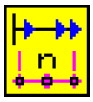
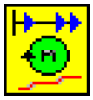
Symbol	Meaning
	**Marking lamps** Up to 4 marking lamps for easier alignment of the sewing material can be controlled (the additional equipment must be activated)
	**Reversal mode** The following options can be set: • **Not activated:** The needle remains at the Stop position • **After the entire contour:** After completing all seams in the contour, the needle is reversed to the value specified in the machine parameters • **After each seam** (Def.): The needle is reversed after every seam
	**Needle cooling** (On / Off) Activates/deactivates the needle cooling.
	**Adjust sewing speed** (min. = 10… max. = 200; Def. = 100%) The sewing speed is adjusted by the specified percent value.

	**PP2 - Load mode**
Symbol	**Meaning**
	**Load mode** The following options can be set: • **Mode 1** (Def.) The clamp is opened in the loading position. The clamp is closed when the pedal is pressed. Pressing the pedal again starts the sewing of the seam. • **Mode 2** The clamp is opened in the loading position. Pressing the pedal closes the left part of the two-piece clamp for angle mounting. Pressing the pedal again closes the right part. Another press of the pedal starts the sewing of the seam. • **Mode 3** The clamp is opened in the loading position. Pressing the pedal closes the right part of the two-piece clamp for angle mounting. Pressing the pedal again closes the left part. Another press of the pedal starts the sewing of the seam. • **Mode 4** Quick-start mode: The clamp is opened in the loading position. The clamp is closed, and the sewing of the seam is started when the pedal is pressed. With the alternating clamp, the seam is automatically started after insertion. This mode is only active when quick-start is activated in the machine parameters. The machine must be switched off and on in order to activate the quick-start mode. • **Mode 5** The clamp remains closed in the loading position. Pressing the pedal again starts the sewing of the seam.
	**Loading position** (On / Off) With the loading position activated the clamps move to the desired position for convenient insertion of the sewing material.

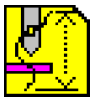
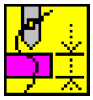
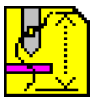
Symbol	Meaning
	**Loading position X** The value range varies depending on the subclass and sewing field size.
	**Loading position Y** The value range varies depending on the subclass and sewing field size.

	**PP3 - Deposit mode**

Symbol	Meaning
	**Deposit mode** The following options can be set: • **Mode 1** (Def.) Clamp is opened in the removal position. • **Mode 2** The clamp remains closed in the removal position. The clamp is opened when the pedal is pressed. • **Mode 3** The clamp remains closed in the removal position. Pressing the pedal opens the left part of the two-piece clamp for angle mounting. Pressing the pedal again opens the right part. • **Mode 4** The clamp remains closed in the removal position. Pressing the pedal opens the right part of the two-piece clamp for angle mounting. Pressing the pedal again opens the left part. • **Mode 5** Clamp remains closed in the removal position.
	**Removal position** (On / Off) With the removal position activated the clamps move to the desired position for convenient removal of the sewing material after the sewing procedure.
	**Removal position X** The value range varies depending on the subclass and sewing field size.
	**Removal position Y** The value range varies depending on the subclass and sewing field size.

	**PP4 - Soft start**
Symbol	**Meaning**
	**Soft-start stitch count** (min. = 0.. max. = 10; Def. 5)
	**Soft-start speed** (min. = 100 .. max. = 2000; Def. 300 rpm)

	**PP5 - Needle thread monitor**
	(min. = 0 .. max. = 99; Def. 5) Only active if activated in the machine parameters. (A higher value makes the needle monitor less sensitive. 99 = Needle thread monitor switched off in this program only.)

	**PP6 - Thread consumption**
Symbol	**Meaning**
	**Sewing material thickness** (min. = 0.. max. = 20.0; Def. 0) The thickness of the sewing material when pressed together.
	**Adjust thread consumption** (min. = -10.0.. max. = 10.0; Def. 0) Correction of the calculated values.

	**PP7 - Move**
Symbol	**Meaning**
	**X move** (min. = -5.0… max. = 5.0; Def. = 0.0 mm)
	**Y move** (min. = -5.0… max. = 5.0; Def. = 0.0 mm)

	PP8 - Scaling.

Symbol	Meaning
	X scaling (min. = 80… max. = 120; Def. = 100 %) 100% corresponds to the original size.
	Y scaling (min. = 80… max. = 120; Def. = 100 %)
	X scaling origin (min. = -150.0… max. = 150.0; Def. = 0.0 mm)
	Y scaling origin (min. = -150.0… max. = 150.0; Def. = 0.0 mm)

5.10.4 Creating a new seam sequence

You can combine up to 30 seam programs to form a seam sequence. You can create up to 20 seam sequences in total.

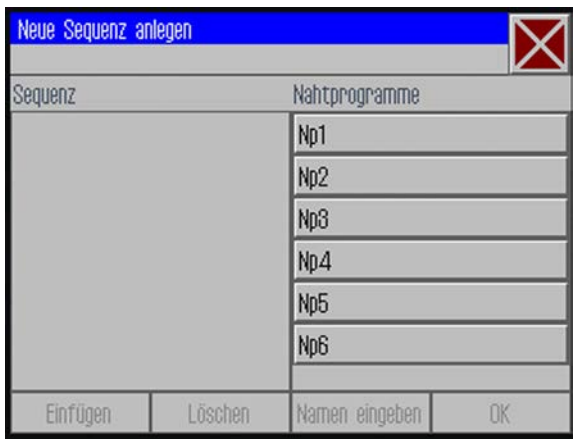
Selecting seam programs

To select seam programs:

1. Press the menu items *Datei (File)* > *Neu (New)* > *Sequenz (Sequence)*.

↳ The window for selecting the seam program appears.

Fig. 42: Selecting seam programs



The existing seam programs are displayed at the right side of the screen. The field *Sequenz (Sequence)* field on the left shows the seam programs that have been transferred to the seam sequence.

2. Press the desired seam program.
↳ The selected seam program is highlighted with a dark background.
3. Press the **Einfügen (Insert)** button.
↳ The seam program is transferred to the seam sequence and is displayed in the *Sequenz (Sequence)* field on the left side of the screen.
4. Add further seam programs in the same manner.

Removing a seam program from a seam sequence

To remove a seam program from a seam sequence:

1. Press the seam program in the *Sequenz (Sequence)* field and then press the **Löschen (Delete)** button.
↳ The seam program is removed from the seam sequence.

Assigning a name to a seam sequence

To assign a name to a seam sequence:

1. Press the **Namen eingeben (Set name)** button.
↳ The window for entering the name of the seam sequence opens.
2. Enter the desired name and adopt the change by pressing **OK** *(CR)* (📖 *p. 43*).
↳ The seam sequence is now available under this name for sewing, editing or copying.

5.10.5 Editing a seam sequence

You can edit an existing seam sequence by adding or removing seam programs.

To edit a seam sequence:

1. Open the seam program you wish to modify via the menu items *Datei (File)* > *Öffnen (Open)*.
↳ The seam sequence opens on the start screen.
2. Press the menu items *Bearbeiten (Edit)* > *Sequenz (Sequence)*.
↳ The window for editing the seam sequence appears.

Fig. 43: Editing a seam sequence

3. Use the buttons **Einfügen (Insert)** and **Löschen (Delete)** to add programs to the seam sequence or remove programs from the seam sequence.

5.10.6 Saving a seam program or seam sequence under a different name

You can also save existing seam programs or seam sequences under a different name.

Information

If you wish to create a new program that is similar to an existing program, you do not need to create the entire program anew. You can save the existing program under a new name and then change the details you wish to modify.

To save a seam program or a seam sequence under a different name:

1. Press the menu items *Datei (File)* > *Speichern unter (Save As)*.

↳ A selection window allowing you to select a seam program or seam sequence appears.

Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 42*).

2. Press the desired element.
3. Press the **Speichern unter (Save As)** button.

↳ The window for entering the new name is opened.

4. Enter the desired name and adopt the change by pressing **OK** *(CR)* (📖 *p. 43*).

↳ The seam program or seam sequence is now available under this name for sewing, editing or copying.

5.10.7 Copying a seam program or seam sequence

You can also copy seam programs or seam sequences from a USB key to the control or from the control to a USB key.

Important

Not all commonly available USB keys are suitable for the copying process. You can obtain a suitable USB key from Dürkopp Adler.

To copy a seam program or a seam sequence:

1. Press the menu items *Datei (File)* > *Kopieren (Copy)*.

↳ The window for selecting the file to be copied appears:

Fig. 44: Copying a seam program or seam sequence

(1) - Select the source to be copied *(2) - File selection window*

2. Use the buttons (1) to select whether the data is to be copied from the DAC control or the USB key.

↳ The selected button is highlighted with a dark background.
The files present at this location are listed in a selection window (2).

Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 42*).

3. Press the desired file.

↳ The selected file is highlighted with a dark background.

4. Press the **Datei koperen (Copy File)** button.

↳ The selected file is copied to the USB key or the control.

5.10.8 Deleting a seam program or seam sequence

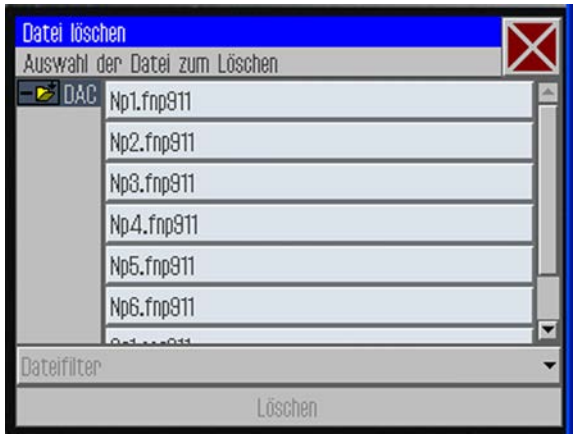
Seam programs or seam sequences that are no longer required can be deleted from the control.

To delete a seam program or a seam sequence:

1. Press the menu items *Datei (File)* > *Löschen (Delete)*.

↳ The window for selecting the file to be deleted appears:

Fig. 45: Deleting a seam program or seam sequence



Information

You can use the *Dateifilter (File Filter)* to make the list more manageable (📖 *p. 42*).

2. Press the desired file.

↳ The selected file is highlighted with a dark background.

3. Press the **Löschen (Delete)** button.

↳ The selected file is deleted.

5.11 Editing machine parameters

You use the machine parameters to define the basic machine settings. These basic settings apply to all programs.

To edit the machine parameters:

1. Press the menu items *Bearbeiten (Edit)* > *Maschinenparameter (Machine parameters)*.

↳ The window for selecting the machine parameter group appears.

Fig. 46: Editing machine parameters

2. Press the desired parameter group.

↳ The individual parameters of this group are displayed.

3. Press the desired parameter.

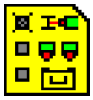
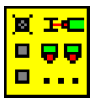
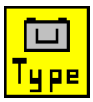
↳ The window for modifying the parameter value opens.

4. Set the parameter to the desired value (📖 *p. 44*).

There are 6 machine parameter groups:

Symbol	Parameter group
	MP1 - Configuration General settings
	MP2 - Limit values Limit values for speeds and positions
	MP3 - Needle thread monitor Behavior after thread breaking
	MP4 - Thread cutting Speed, position and tension
	MP5 - Thread clamping Starting angle
	MP6 - Counters Settings for program and bobbin counters

Overview of the individual machine parameters

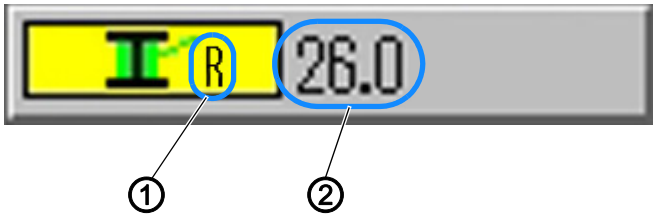
	**MP1 - Configuration**
Symbol	**Meaning**
	**Needle cooling** The following options can be set: • **Without**: No needle cooler activated. • **Air cooling** (Def.): The needle is cooled with air while sewing the seam • **Ice cooling**: Optional equipment
	**Sewing foot mode** The sewing foot can be operated in the following modes: • **Jumping foot**: The sewing foot only presses on the sewing material while the needle is in the sewing material • **Presser foot**: The sewing foot presses continuously on the sewing material
	**Sewing field size** Take care to ensure a valid sewing field size for your subclass when making the selection! (See chapter **Technical data** (🕮 *p. 121*)) • **Normal sewing field** (Def.): A sewing field of up to 200 x 300mm is available • **Extra-large sewing field**: A larger sewing field can be used in conjunction with the alternating clamps
	**Optional equipment** • **Reduced clamp pressure:** Optional equipment limiting the amount of clamp pressure to allow for better alignment on insertion. • **Neat seam beginning:** Optional equipment, activates stitch position optimization (🕮 *Additional Instructions Stitch Position Optimization*) • **Marking lamps:** Optional equipment providing orientation lines on insertion for easier alignment. Up to 4 marking lamps can be switched on for each program. This setting only activates the option, the actual switching is defined in the program parameters (see **Marking lamps**(🕮 *p. 62*)) • **Barcode scanner:** Optional equipment for performing a safety check before sewing. A barcode can be stored with each program. Agreement with the barcode on the clamp is checked. Sewing only proceeds when the barcodes agree. You enter the barcode ID in the program parameters (see **Clamp ID code** (🕮 *p. 61*)).
	**Clamp type** The following clamp types are available: • **Single clamp:** One-piece parallel clamp with angle mount • **Single clamp with hanger** (Def.): One-piece parallel clamp with hanger mount • **Double clamp:** Two-piece parallel clamp with angle mount • **Alternating clamp:** Removable clamp • **Special clamp:** Special clamp
	**Clamp limitation** • **Preset limitation** (Def.): No additional structures are taken into account • **Special limitation:** Individual limits are taken into account

Symbol	Meaning
	**Pedal mode** The following options are available: • **Mode 1:** The current position of the pedal is evaluated • **Mode 2** (Def.): The pedal must be returned to the initial position after every actuation before a new actuation is recognized • **Mode 3:** The current position of the pedal is evaluated. The quick-start mode is also enabled (see **Load mode** (📖 *p. 62*)). The machine must be switched off and on in order to activate the quick-start mode. • **Push button:** In push button mode one sensor is used only for controlling the clamp motion (up and down). The other sensor is used for starting the sewing process.
	**Barcode mode** The following options are available: • **Manual:** Machine checks whether the inserted clamp matches the entered seam program. If the clamp is correct, the machine is ready for sewing. If the clamp is incorrect, an error message will be displayed, and the clamp will have to be replaced. • **Automatic:** The machine looks for the seam program that matches the inserted clamp. The machine is ready for sewing once the seam program has been selected.

Information

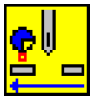
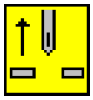
The remaining thread monitor (MP 1, *Optionale Einrichtungen (Optional equipment)*) and the bobbin counter (MP 6) can be activated simultaneously. The display shows the two options as follows:

Fig. 47: Remaining thread monitor and bobbin counter



(1) - Display - remaining thread monitor:
Remaining thread monitor active: ***R*** *shown*
Remaining thread monitor inactive: ***R*** *hidden*

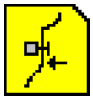
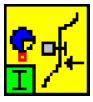
(2) - Display - bobbin counter:
Bobbin counter active: Number black
Bobbin counter inactive: Number grayed-out

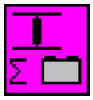
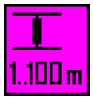
	**MP2 - Limit values**
Symbol	**Meaning**
	**Max. speed** (min. = 500 .. max. = 2700; Def. 2700 rpm) All sewing programs are limited to this maximum speed
	**Max. run-empty speed** (min. = 10 .. max. = 100; Def. 100 %) Limits all clamp movements between the seams to this value
	**Feed starting angle** (min. = 30 .. max. = 350; Def. 210 degrees) The clamp motion during the stitch starts at this angle of needle motion
	**Feed phase** (min. = 30 .. max. 100; Def. 80 %) This parameter defines how the clamp is to be moved during the stitch. (A value of 100 % means that the desired clamp motion is distributed over the entire stitch.)
	**Reversal position** (min. = 0 .. max. 359; Def. 0 degrees) The needle is reversed at this angle in order to increase the clearance to the clamp.
	**Edit times and routes** This function is only for Dürkopp Adler Service personnel

	**MP3 - Needle thread monitor**
Symbol	**Meaning**
	**Needle thread monitor mode** The following options are available: • **Threading position**: After detection of a thread breaking, the thread is cut, and the clamp then moves to the threading position • **Thread cutting** (Def.): After detection of a thread breaking, the thread is cut, and the clamp then moves to the contour position according to the defined reversing path • **Pausing:** After detection of a thread breaking, seam motion is stopped • **Not activated:** The needle thread monitor is ignored
	**Reversing path after thread breaking** (min. = 0 .. max. 20; Def. 5 stitches) Number of stitches to be taken into account when reversing after a thread breaking

Symbol	Meaning
	**Position of bobbin change X** The value range varies depending on the subclass and sewing field size
	**Position of bobbin change Y** The value range varies depending on the subclass and sewing field size

	**MP4 - Thread cutting**
Symbol	**Meaning**
	**Cutting speed** (min. = 70 .. max. 500; Def. 150 rpm) Speed of the cutting stitch
	**Cutting position on** (min. = 0° .. max. 359°; Def. 180°) Angular position of the needle at which the thread cutting knife is switched on
	**Cutting position off** (min. = 0° .. max. 359°; Def. 359°) Angular position of the needle at which the thread cutting knife is switched off
	**Thread tension during thread cutting** (min. = 00 .. max. 100; Def. 10 %) Thread tension of the cutting stitch
	**Position for thread tension during thread cutting** (min. = 0° .. max. 400°; Def. 370°) Starting angle for the thread tension during the cutting stitch (At an angle greater than 359° the thread tension is activated in the next stitch.)

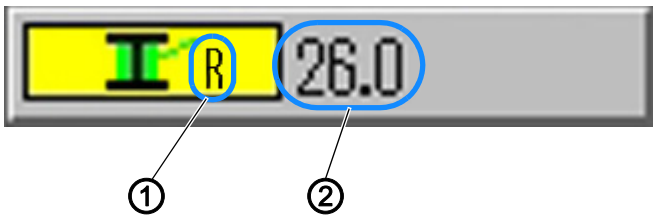
	**MP5 - Thread clamping**
Symbol	**Meaning**
	**Close thread clamp at 1st stitch** (min. = 0° .. max. 250°; Def. 180°) Start angle for closing the thread clamp during the first stitch
	**Open thread clamp at 1st stitch** (min. = 0° .. max. 359°; Def. 340°) Starting angle for opening the thread clamp during the first stitch. If the closing and opening angles are the same then the thread clamp is not activated

	**MP6 - Counters**
Symbol	**Meaning**
	**Counter type** The following options are available: • **Increment counter** (Def.): The counter is incremented after each sewn program • **Decrement counter**: The counter is decremented after each sewn program • **Increment seam sequence counter:** The counter is incremented after each seam sequence sewn • **Decrement seam sequence counter:** The counter is decremented after each seam sequence sewn
	**Reset value for the counter** (min. = 0 .. max. 9999; Def. 0) Value to which the counter is set when a counter reset is performed
	**Set seam count for bobbin reserve** (min. = 0 .. max. 100; Def. 0) A message is displayed to the user after the number of seams specified here have been sewn. A value of 0 deactivates the function
	**Bobbin supply capacity** (min. = 0.0 .. max. 400.0; Def. 0.0 m) A message is displayed to the user after the bobbin supply capacity has been consumed. A value of 0 deactivates the function

Information

The remaining thread monitor (MP 1, *Optionale Einrichtungen (Optional equipment)*) and the bobbin counter (MP 6) can be activated simultaneously. The display shows the two options as follows:

Fig. 48: Remaining thread monitor and bobbin counter



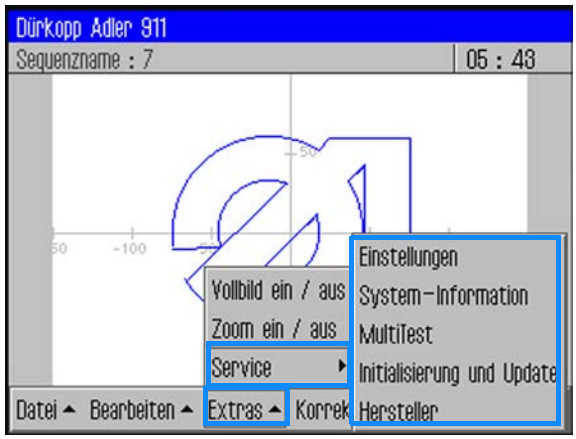
(1) - Display - remaining thread monitor:
Remaining thread monitor active:
***R** shown*
Remaining thread monitor inactive:
***R** hidden*

(2) - Display - bobbin counter:
Bobbin counter active: Number black
Bobbin counter inactive:
Number grayed-out

5.12 Checking and changing the technical settings

The technical settings are made via the menu item *Extras* > *Service*.

Fig. 49: Checking and changing the technical settings



Important

A password must always be entered in order to access the additional menu items in *Extras* > *Service* (📖 *p. 38*).

5.12.1 Changing the password options

The default password on delivery is: 25483.

You can change this password and also define whether the password only applies to the technical menu items or must always be entered after the machine is switched on.

Changing the password

To change the password:

1. Press the menu items *Extras* > *Service* > *Einstellungen (Settings)*.

↳ The *Einstellungen (Settings)* window appears.

2. Press the *Operator Passwort (Password)* option.
3. In the following window press the option *Passwort ändern (Change password)*.

↳ The window for entering the new password appears.

4. Enter the new password (📖 *p. 38*).

Important

The password must not have more than 5 digits.

5. Confirm the new password with **OK**.

Defining the password protected areas

To define the password protected areas:

1. Press the menu items *Extras* > *Service* > *Einstellungen (Settings)*.

↳ The *Einstellungen (Settings)* window appears.

2. Press the *Operator Passwort (Password)* option.

↳ In the next window the *Aktivieren/De-aktivieren (Activate/Deactivate)* option indicates the type of password protection:

- ☒ - Comprehensive password protection activated: Password protection of the first action after switching on
- ❑ - Comprehensive password protection deactivated: Password protection for the technical menu items only

3. Press the *Aktivieren/De-aktivieren (Activate/Deactivate)* option to switch between each respective setting.
4. Confirm with **OK**.

Important

Switch off and on again the machine to adopt the setting.

5.12.2 Changing the language

To change the language:

1. In the menu item *Extras* > *Service* > *Einstellungen (Settings)* press the *Sprache (Language)* option.

↳ The list of available languages is displayed.

2. Press the desired language.
3. Confirm with **OK**.

↳ The screen is reloaded in the selected language.

5.12.3 Setting date and time

To set date and time:

1. In the menu item *Extras* > *Service* > *Einstellungen (Settings)* press the option *Datum (Date) und (and) Uhrzeit (Time)*.

↳ The data entry window for date and time is displayed.

2. Enter the date and/or time.
3. Confirm with **OK**.

↳ The entered values are adopted.

5.12.4 Setting the brightness

To set the brightness:

1. In the menu item *Extras* > *Service* > *Einstellungen (Settings)* press the *Bedienfeld-Einstellungen (Control panel settings)* option.
2. In the following window press the *Kontrast (Contrast)* *Helligkeit (Brightness)* option.

↳ A window with slider controls is displayed.

3. Pull the corresponding slider control up or down to change the value.

↳ The changes are immediately visible on the display.

5.12.5 Testing the touchscreen

You can use the *Extras* > *Service* > *Einstellungen (Settings)* menu item to check that the touchscreen is functioning correctly over all areas of the screen.

To test the touchscreen:

1. In the menu item *Extras* > *Service* > *Einstellungen (Settings)* press the *Bedienfeld-Einstellungen (Control panel settings)* option.
2. In the following window press the *Touch Test* option.

↳ An empty window is opened.

3. Use your finger to press various different points or draw lines.

↳ When the touchscreen is functioning correctly all touched points of the screen are marked.

5.13 Testing the functions of the machine

You can use the *Extras > Service > Multitest (Multi test)* menu item to check the inputs and outputs, test the sewing motor and set the stroke position.

Fig. 50: Testing the functions of the machine

Information

The *Transportklammer (Transport clamp)* function is only intended for use by Dürkopp Adler Service personnel.

5.13.1 Testing inputs and outputs

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

Do NOT reach into the machine during function testing of inputs and outputs.

Important

The instructions only provide an overview of the test possibilities.

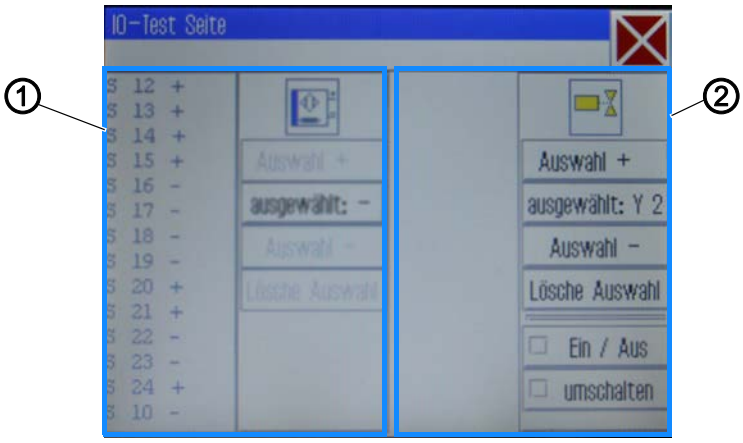
The tests may only be performed by qualified specialists that have received training from Dürkopp Adler.

To test inputs and outputs:

1. In the menu item *Extras > Service > Multitest (Multi test)* press the *Eingänge / Ausgänge testen (Test inputs / outputs)* option.

↳ The *IO Test Seite (Page)* window is displayed.

Fig. 51: Testing inputs and outputs



(1) - Area for input elements *(2) - Area for output elements*

The input elements are listed and selected at the left side (1) and the output elements at the right side (2).

2. For the 1st time: Press the button *ausgewählt: (selected:)* and select an output.
3. Next, use *Auswahl (Select)* + or *Auswahl (Select)* - to select the desired element in the respective area.

↳ The number of the element is displayed on the *ausgewählt: (selected:)* button.

4. Test the element using the *Ein/Aus (On/Off)* or *umschalten (switchover)* buttons, depending on the type of the input or output element.

	Input elements
No.	**Meaning**
S1	Lower right clamp
S2	Lower left clamp
S9	Needle thread monitor active
S10	Hook cover closed
S11	Machine head latch closed
S13	Pedal forwards
S14	Pedal backwards
S16	Pressure switch
S17	Quick-stop
S100	Sewing motor reference
S101	X-axis reference
S102	Y-axis reference
S103	Z-axis reference

	**Output elements**

No.	Meaning
Y1	Foot mode
Y2	Hook cover
Y3	Needle cooling on
Y4	Right clamp
Y5	Left clamp
Y8	Stitch position optimization
Y9	Threading switch lamp on
Y10	Oil level indicator warning light on
Y25	Marking lamp 1 (Z)
Y26	Marking lamp 2 (Z)
Y27	Marking lamp 3 (Z)
Y28	Marking lamp 4 (Z)

5.13.2 Adjusting the stroke position

WARNING

Risk of injury from sharp and moving parts!

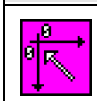
Puncture or crushing possible.

Do not reach into the machine when setting the stroke position.
Switch off the power to the drives when you wish to test the freedom of motion of the sewing foot rod.

To adjust the stroke position:

1. In the menu item *Extras > Service > Multitest (Multi test)* press the *Hublage einstellen (Set stroke position)* option.

↳ The following options are displayed:

Symbol	Meaning
	**Perform a reference run** Check the movement
	**Switch between jumping foot and presser foot** Switch over the mode of operation

Symbol	Meaning
	**Go to position** Adjust the sewing foot height
	**Switch off the power to the drives** Manually check the freedom of motion of the sewing foot rod

2. Press the desired symbol and execute the function.

5.13.3 Testing the sewing motor

WARNING

Risk of injury from sharp and moving parts!

Puncture or crushing possible.

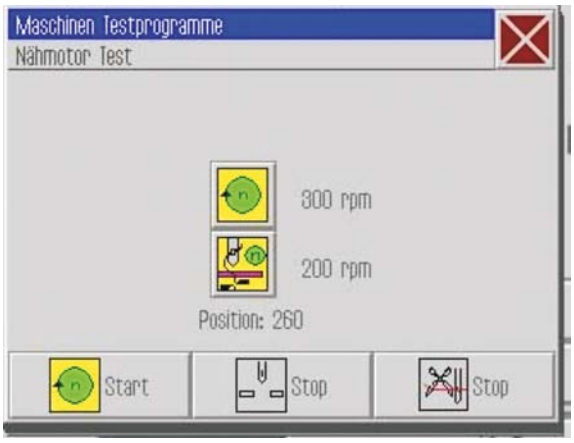
Do not reach into the machine during the function test of the motor.

To test the sewing motor:

1. In the menu item *Extras > Service > Multitest (Multi test)* press the *Nähmotor testen (Test sewing motor)* option.

↳ The sewing motor test screen is displayed:

Fig. 52: Testing the sewing motor



Important

Remove the thread from the needle and the thread lever before starting the test.

2. Press the  button.

↳ The window for entering the speed opens.

3. Enter the desired value (300 - 2000 rpm).
4. Press the button.

↳ The window for entering the cutting speed opens.

5. Enter the desired value (70 - 500 rpm).
6. Press the Start button.

↳ The sewing motor runs at the entered speed.

7. Press the Stop button.

↳ The sewing motor stops.

8. Press the Start button.

↳ The sewing motor runs at the entered speed.

9. Press the Stop button.

↳ The sewing motor stops, and the thread trimmer is actuated.

5.13.4 Calling up log displays and error lists

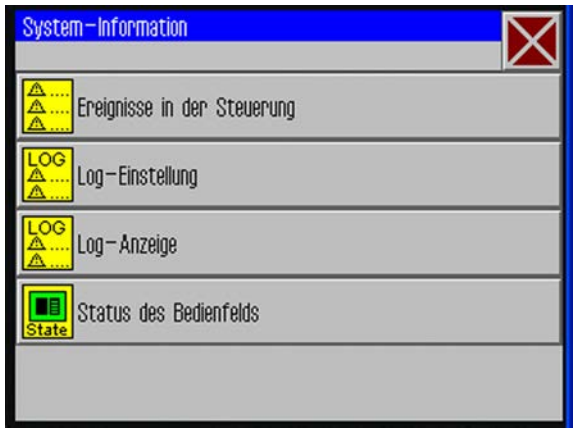
You can access the log settings and error lists via *Extras* > *Service* > *System-Information (System Information)*.

To call up log displays and error lists:

1. Press the menu items *Extras* > *Service* > *System-Information (System Information)*.

↳ The selection screen for system information appears.

Fig. 53: Calling up log displays and error lists



2. Press the desired symbol.

Symbol	Meaning
	**Control unit events** List of the latest errors
	**Log configuration** Only for Dürkopp Adler Service personnel
	**Log display** List of the last log settings
	**State of control panel** Status appears in the log display

5.14 Initializing the control and performing updates

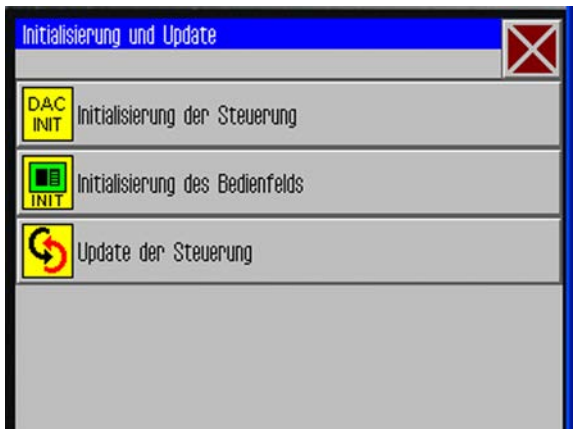
You can use *Extras* > *Service* > *Initialisierung (Initialization) and Update* to reset the control and control panel to the factory defaults and to update the control with a new software version.

To initialize the control and perform updates:

1. Press the menu items *Extras* > *Service* > *Initialisierung (Initialization) and Update*.

↳ The screen for initialization and update appears.

Fig. 54: Initializing the control and performing updates



5.14.1 Initializing the control

Important

Initializing the control resets all values to the factory default settings.
All changes are lost.
Only execute this option if you really want to return to the factory settings.

Order

Save your seam programs and seam sequences to a USB key before performing initialization.

1. Press the *Initialisierung (Initialize) Steuerung (Control)* option.

↳ The control is completely reset to the factory default settings.

5.14.2 Initializing the control panel

Important

Initializing the control panel resets all values to the factory default settings.
All changes are lost.
Only execute this option if you really want to return to the factory settings.

1. Press the *Initialisierung des Bedienfelds (Initialize control panel)* option.

↳ The control panel is completely reset to the factory default settings.

5.14.3 Performing an update of the control

Information

The latest software version is available in the download area at *www.duerkopp-adler.com*.

You can easily transfer a new software version from a USB key to the control.

Important

Not all commonly available USB keys are suitable for the copying process.
You can obtain a suitable USB key from Dürkopp Adler.

To perform an update of the control:

1. Switch off the machine.
2. Insert the USB key into the USB port (1) on the control panel.

Fig. 55: Performing an update of the control

(1) - USB port

3. Switch on the machine.

↳ The software update is performed automatically.

Information

If the automatic update does not function then you can use the menu items `Extras` > `Service` > `Initialisierung (Initialize) and` `Update` > `Update der (the) Steuerung (control)` to load a specific software version.

Contact the Dürkopp Adler Service Hotline for this.

Displaying software version information

The menu item ***?*** displays information on the software currently installed on the machine.

To display information on the software version currently used:

1. Press menu items `?` > Press on `Info`.

↳ The following information is displayed:

- Class
- Subclass
- Software version
- Date of creation of this software version

5.15 DACCAD professional

You can use the DACCAD professional program to create seam programs on a PC (📖 *Operating Instructions DACCAD professional*).

6 Maintenance

WARNING

Risk of injury from sharp parts!

Punctures and cutting possible.

Prior to any maintenance work, switch off the machine or set the machine to threading mode.

WARNING

Risk of injury from moving parts!

Crushing possible.

Prior to any maintenance work, switch off the machine or set the machine to threading mode.

This chapter describes maintenance work that needs to be carried out on a regular basis to extend the service life of the machine and achieve the desired seam quality.

Advanced maintenance work may only be carried out by qualified specialists (🕮 *Service Instructions)*.

Maintenance intervals

Work to be carried out	Operating hours			
	8	40	160	500
Cleaning				
Removing sewing dust and thread residues	●			
Cleaning the motor fan mesh		●		
Lubricating				
Lubricating the machine head	●			
Lubricating the hook		●		
Servicing the pneumatic system				
Adjusting the operating pressure	●			
Draining the water condensation	●			
Cleaning the filter element		●		
Servicing specific components				
Checking the toothed belt		●		

6.1 Cleaning

WARNING

Risk of injury from flying particles!

Flying particles can enter the eyes, causing injury.

Wear safety goggles.
Hold the compressed air gun so that the particles do not fly close to people.
Make sure no particles fly into the oil pan.

NOTICE

Property damage from soiling!

Sewing dust and thread residues can impair the operation of the machine.

Clean the machine as described.

NOTICE

Property damage from solvent-based cleaners!

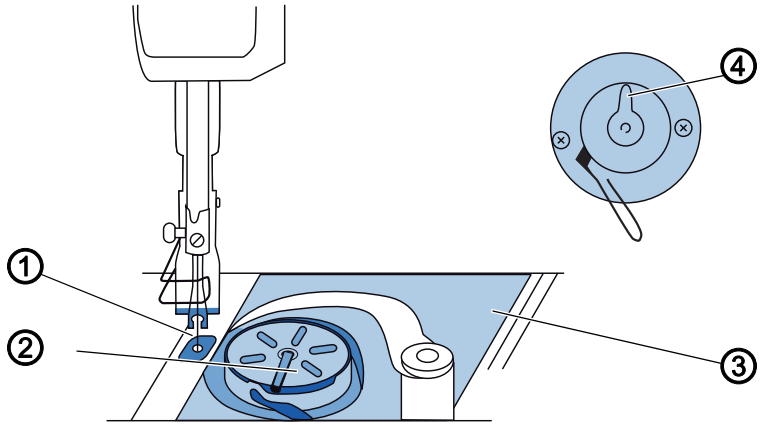
Solvent-based cleaners will damage paintwork.

Use only solvent-free substances for cleaning.

6.1.1 Cleaning the machine

Sewing dust and thread residues should be removed after every 8 operating hours using a compressed air gun or a brush. If very fluffy sewing material is being sewn, the machine must be cleaned more frequently.

Fig. 56: Cleaning the machine



(1) - Area around the needle
(2) - Hook
(3) - Area under the throat plate
(4) - Knife on the winder

Areas particularly susceptible to soiling:

- Knife on the winder (4)
- Area under the throat plate (3)
- Hook (2)
- Area around the needle (1)

To clean the machine:

1. Remove any dust and thread residues using a compressed air gun or a brush.

6.1.2 Cleaning the motor fan mesh

The motor fan mesh must be cleaned once a month using a compressed air gun. If very fluffy sewing material is being sewn, the motor fan mesh must be cleaned more frequently.

Fig. 57: Cleaning the motor fan mesh

To clean the motor fan mesh:

1. Remove any sewing dust and thread residues using a compressed air gun.

6.2 Lubricating

CAUTION

Risk of injury from contact with oil!

Oil can cause a rash if it comes into contact with skin.

Avoid skin contact with oil.
If oil has come into contact with your skin, wash the affected areas thoroughly.

NOTICE

Property damage from incorrect oil!

Incorrect oil types can result in damage to the machine.

Only use oil that complies with the data in the instructions.

CAUTION

Risk of environmental damage from oil!

Oil is a pollutant and must not enter the sewage system or the soil.

Carefully collect up used oil.
Dispose of used oil and oily machine parts in accordance with national regulations.

The machine is equipped with a central oil-wick lubrication system.
The bearings are supplied from the oil reservoir.

For topping off the oil reservoir, use only lubricating oil **DA 10** or oil of equivalent quality with the following specifications:

- Viscosity at 40 °C: 10 mm²/s
- Flash point: 150 °C

You can order the lubricating oil from our sales offices using the following part numbers:

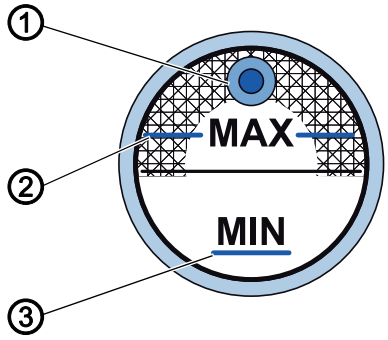
Container	Part no.
250 ml	9047 000011
1 l	9047 000012
2 l	9047 000013
5 l	9047 000014

6.2.1 Lubricating the machine head

Proper setting

The oil level is between the minimum level marking and the maximum level marking.

Fig. 58: Lubricating the machine head



(1) - Refill opening
(2) - Maximum level marking
(3) - Minimum level marking

To lubricate the machine head:

1. Check the oil level indicator every day.
2. If the oil level is below the minimum level marking (3):
   Top off oil through the refill opening (1) but no higher than the maximum level marking (2).

6.2.2 Lubricating the hook

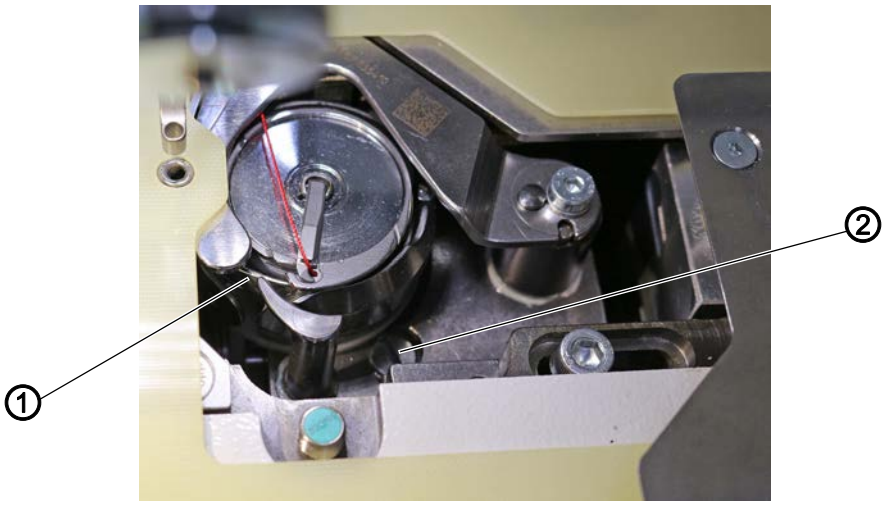
The approved oil quantity for hook lubrication is a factory specification.

Proper setting

1. Hold a piece of blotting paper next to the hook (1) while sewing.

↳ After sewing a stretch of approx. 1 m, the blotting paper will have been sprayed with a thin and even film of oil.

Fig. 59: Lubricating the hook



(1) - Hook *(2) - Screw*

To lubricate the hook:

1. Turn the screw (2):
   - **more oil**: turn counterclockwise
   - **less oil**: turn clockwise

Important

The released amount of oil does not change until the operating time has run a few minutes. Sew for several minutes before you check the setting again.

6.3 Servicing the pneumatic system

6.3.1 Adjusting the operating pressure

NOTICE

Property damage from incorrect adjustment!

Incorrect operating pressure can result in damage to the machine.

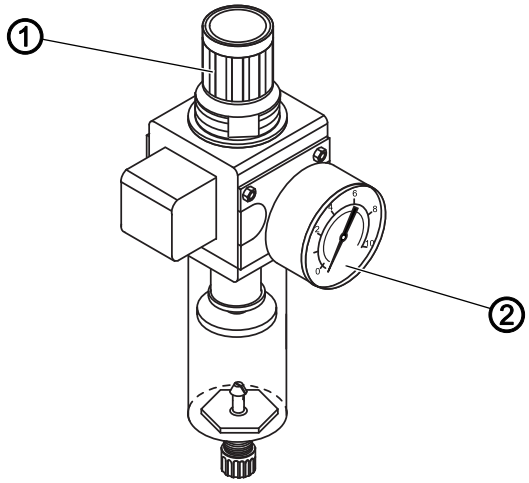
Ensure that the machine is only used when the operating pressure is set correctly.

Proper setting

Refer to the **Technical Data** (📖 *p. 121*) chapter for the permissible operating pressure. The operating pressure cannot deviate by more than ± 0.5 bar.

Check the operating pressure on a daily basis.

Fig. 60: Adjusting the operating pressure



(1) - Pressure regulator *(2) - Pressure gage*

To adjust the operating pressure:

1. Pull the pressure regulator (1) up.
2. Turn the pressure regulator until the pressure gage (2) indicates the proper setting:
   - Increase pressure = turn clockwise
   - Reduce pressure = turn counterclockwise
3. Push the pressure regulator (1) down.

6.3.2 Draining the water-oil mixture

NOTICE

Property damage from excess liquid!

Too much liquid can result in damage to the machine.

Drain liquid as required.

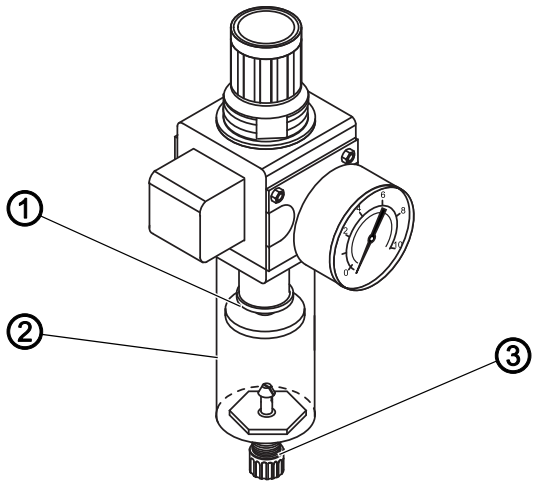
The collection tray (2) of the pressure regulator will show accumulation of a water-oil mixture.

Proper setting

The water-oil mixture must not rise up to the level of the filter element (1).

Check the level of the water-oil mixture in the collection tray (2).

Fig. 61: Draining the water-oil mixture



(1) - Filter element
(2) - Collection tray
(3) - Drain screw

To drain the water-oil mixture:

1. Disconnect the machine from the compressed air supply.
2. Place the vessel under the drain screw (3).
3. Loosen the drain screw (3) completely.
4. Allow the water-oil mixture to drain into the vessel.
5. Tighten the drain screw (3).
6. Connect the machine to the compressed air supply.

6.3.3 Cleaning the filter element

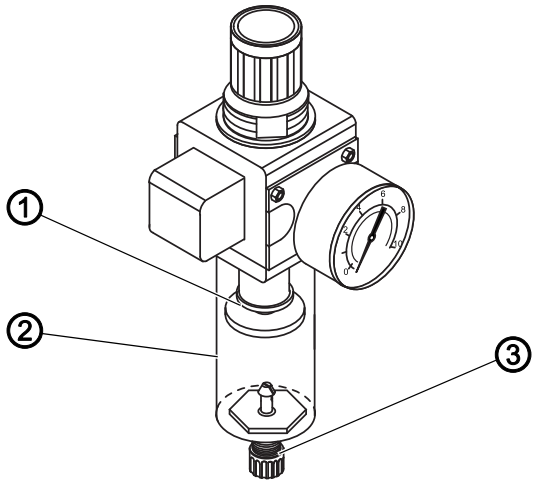
NOTICE

Damage to the paintwork from solvent-based cleaners!

Solvent-based cleaners damage the filter.

Use only solvent-free substances for washing out the filter tray.

Fig. 62: Cleaning the filter element



(1) - Filter element
(2) - Collection tray
(3) - Drain screw

To clean the filter element:

1. Disconnect the machine from the compressed air supply.
2. Drain the water-oil mixture (*p. 94*).
3. Unscrew the collection tray (2).
4. Unscrew the filter element (1).
5. Blow out the filter element (1) using the compressed air gun.
6. Wash out the filter tray using benzine.
7. Tighten the filter element (1).
8. Tighten the collection tray (2).
9. Tighten the drain screw (3).
10. Connect the machine to the compressed air supply.

6.4 Servicing specific components

Checking the toothed belt

WARNING

Risk of injury from moving parts!

Crushing possible.

Switch off the machine before checking the condition of the toothed belt.

The condition of the toothed belt must be checked once a month.

Important

A damaged toothed belt must be replaced immediately.

Proper setting

The toothed belt exhibits no cracks or fragile areas.
When pressed with a finger, the toothed belt must yield no more than 10 mm.

6.5 Parts list

A parts list can be ordered from Dürkopp Adler. Or visit our website for further information at:

www.duerkopp-adler.com

7 Setup

WARNING

Risk of injury from cutting parts!

Cutting injuries may be sustained while unpacking and setting up the machine.

Only qualified specialists may set up the machine. Wear safety gloves.

WARNING

Risk of injury from moving parts!

Crushing injuries may be sustained while unpacking and setting up the machine.

Only qualified specialists may set up the machine. Wear safety shoes.

7.1 Checking the scope of delivery

The scope of delivery depends on your specific order. Check that the scope of delivery is correct after taking delivery.

7.2 Transporting the machine

WARNING

Risk of injury from moving parts!

Crushing possible.

The machine is heavy.
ALWAYS use a lifting carriage or stacker for lifting the machine to avoid back injuries or crushing injuries if the machine falls down.

WARNING

Risk of injury from unsafe positioning of the machine!

Crushing possible.

Before commissioning all stand variants ensure that the stand feet are turned out sufficiently and the nuts are tightened so that the machine stands securely.

Important

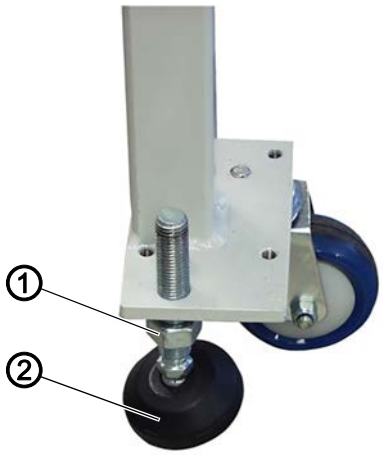
While being transported, the machine must always be in transport position (height adjustment all the way down).

Different stands are provided, depending on the order:

- Stand with rollers
- Stand without rollers

Stands without rollers must be transported with a lifting carriage or stacker.

Fig. 63: Transporting the machine



(1) - Nut *(2) - Stand foot*

To transport a machine **with rollers**:

1. Loosen the nuts (1).
2. Rotate the stand feet (2) fully upwards.
3. Tighten the nuts (1) so that the stand feet (2) remain upwards.
4. Roll the machine to the desired setup location.
5. Loosen the nuts (1).
6. Rotate the stand feet (2) downwards so that the stand is supported evenly and firmly on all 4 stand feet (2).
7. Tighten the nuts (1).

To transport a machine **without rollers**:

1. Load the machine onto a lifting carriage or stacker.
2. Move the machine to the desired setup location.

7.3 Adjusting the working height

WARNING

Risk of injury from moving parts!

The tabletop can sink under its own weight when the screws on the stand bars are loosened. Crushing possible.

Ensure that your hands are not jammed when loosening the screws.

CAUTION

Risk of musculoskeletal damage from incorrect setting!

The operator can sustain musculoskeletal damage if failing to comply with the ergonomic requirements.

Adjust the working height to the body height of the person who will operate the machine.

7.3.1 Adjusting the working height for stands with rollers

The working height is continuously adjustable between 800 and 1050 mm (clearance between the floor and upper edge of the tabletop).

Fig. 64: Adjusting the working height for stands with rollers

(1) - Screws

To adjust the working height for stands with rollers:

1. Support the unit with a lifting carriage or stacker.
2. Loosen the screws (1) on the table legs.

3. Adjust the tabletop to the desired working height.

Important

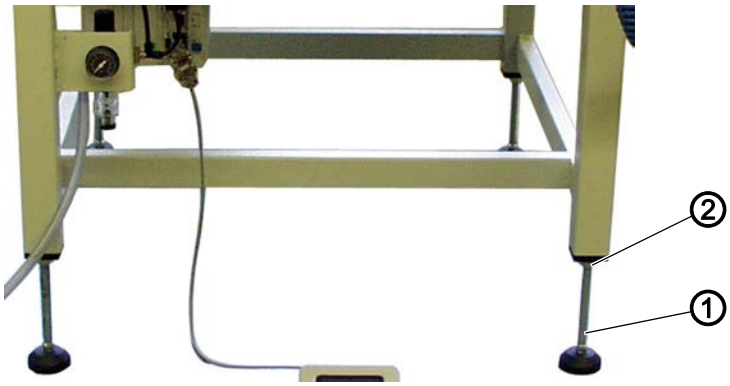
Pull out or push in the stand tubes evenly on both sides to prevent jamming.

4. Tighten the screws (1).
5. Remove the lifting carriage or stacker.

7.3.2 Adjusting the working height for stands without rollers

The working height is continuously adjustable between 760 and 910 mm (clearance between the floor and upper edge of the tabletop).

Fig. 65: Adjusting the working height for stands without rollers



(1) - Threaded rod *(2) - Nut*

To adjust the working height for stands without rollers:

1. Support the unit with a lifting carriage or stacker.
2. Loosen the nuts (2) on the table legs.
3. Adjust the tabletop level to the desired working height by turning the threaded rods (1).

Important

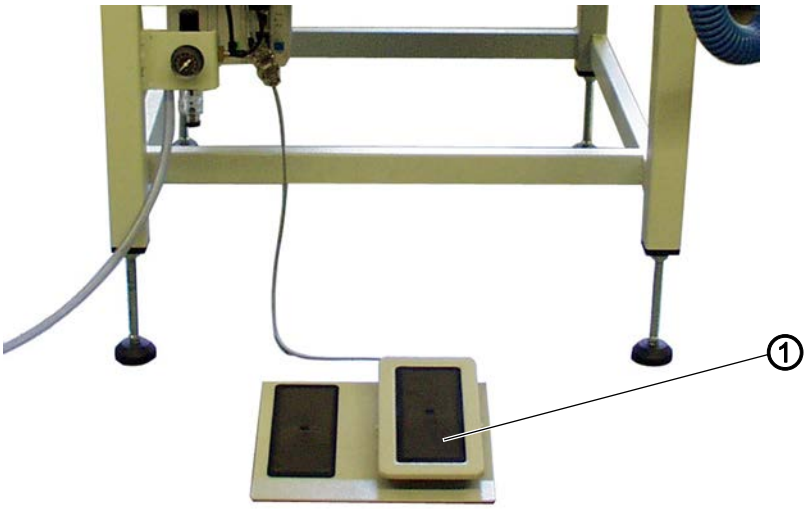
Turn the threaded rods (1) evenly at both sides to prevent jamming.

4. Tighten the nuts (2).
5. Remove the lifting carriage or stacker.

7.4 Adjusting the pedal

The pedal can be freely positioned in front of the machine as far as the cable allows.

Fig. 66: Adjusting the pedal



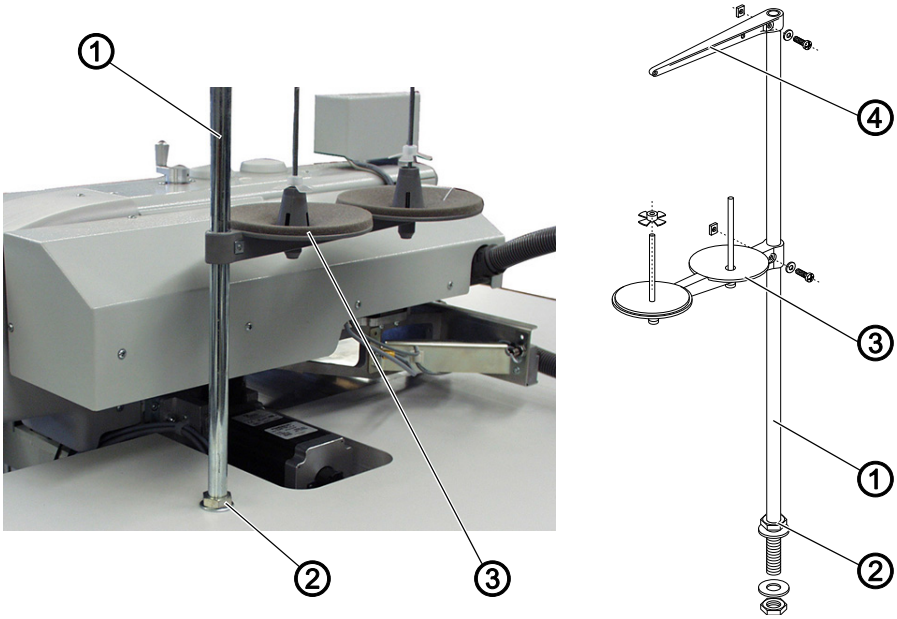
(1) - Pedal

To adjust the pedal:

1. Position the pedal (1) in front of the machine so that pedal and machine can be comfortably operated.

7.5 Assembling the reel stand

Fig. 67: Assembling the reel stand



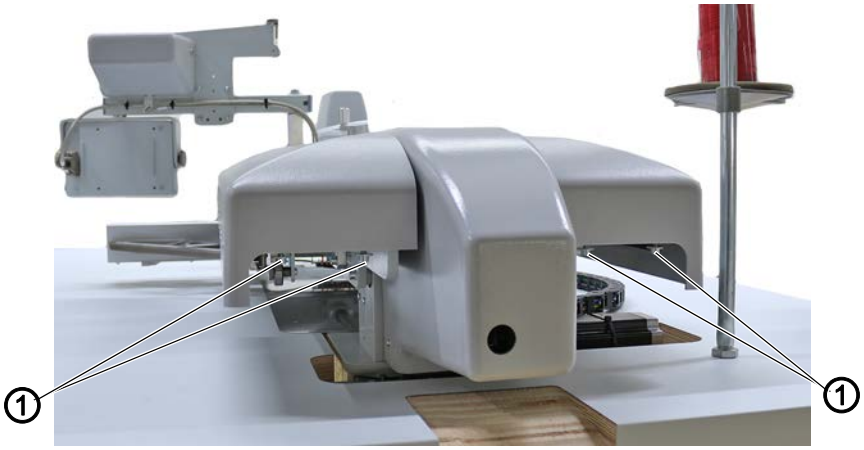
(1) - Reel stand
(2) - Nut
(3) - Thread reel holder
(4) - Thread guide

To assemble the reel stand:

1. Insert the reel stand (1) into the hole in the tabletop.
2. Assemble the reel stand (1) to the tabletop using the nuts (2).
3. Assemble the thread reel holder (3) and the thread guide (4) onto the reel stand in such a way that they are located precisely above one another.

7.6 Assembling the rear machine cover (911-210-6055-10 only)

Fig. 68: Assembling the rear machine cover (1)



(1) - Screws

To assemble the rear machine cover:

1. Loosen the 4 screws (1).

Fig. 69: Assembling the rear machine cover (2)

(1) - Screws *(2) - Cover*

2. Slide the cover (2) onto the screws (1) as far as it will go.

Fig. 70: Assembling the rear machine cover (3)

(2) - Cover

3. Tighten the screws (1).

7.7 Electrical connection

DANGER

Risk of death from live components!

Unprotected contact with electricity can result in serious injuries or death.

Only qualified specialists may perform work on electrical equipment.

7.7.1 Checking the rated voltage

To check the rated voltage:

1. Check the mains voltage before connecting the machine.

7.7.2 Establishing the electrical connection

To establish the electrical connection:

1. Connect the power plug.

7.8 Pneumatic connection

NOTICE

Property damage from oily compressed air!

Oil particles in the compressed air can cause malfunctions of the machine and soil the sewing material.

Ensure that no oil particles enter the compressed air supply.

NOTICE

Property damage from incorrect adjustment!

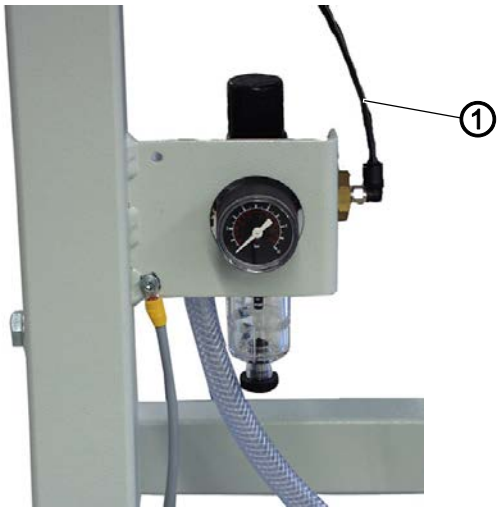
Incorrect system pressure can result in damage to the machine.

Ensure that the machine is only used when the system pressure is set correctly.

The pneumatic system of the machine and of the additional equipment must be supplied with dry and oil-free compressed air. The supply pressure must lie between 8 and 10 bar.

7.8.1 Assembling the compressed air maintenance unit

Fig. 71: Assembling the compressed air maintenance unit



(1) - Connection hose

To assemble the compressed air maintenance unit:

1. Connect the connection hose (2) to the compressed air supply using a hose coupling R 1/4”.

7.8.2 Adjusting the operating pressure

NOTICE

Property damage from incorrect operating pressure!

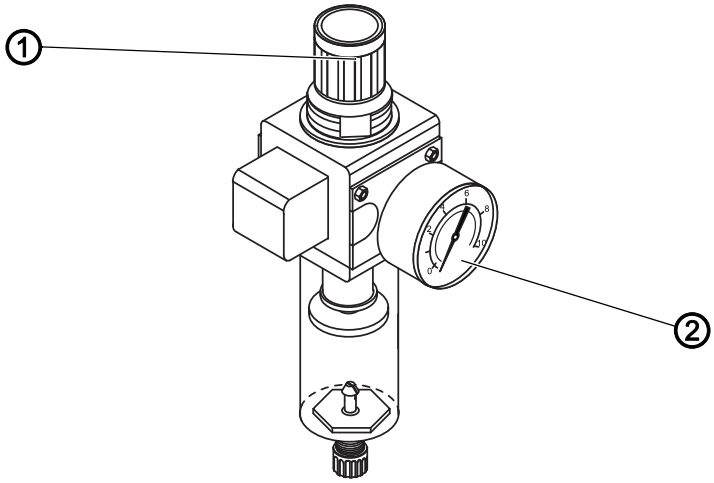
Incorrect operating pressure can result in damage to the machine.

Ensure that the machine is only used when the operating pressure is set correctly.

Proper setting

Refer to the **Technical Data** (📖 *p. 121*) chapter for the permissible operating pressure. The operating pressure cannot deviate by more than ± 0.5 bar.

Fig. 72: Adjusting the operating pressure



(1) - Pressure regulator *(2) - Pressure gage*

To adjust the operating pressure:

1. Pull the pressure regulator (1) up.
2. Turn the pressure regulator until the pressure gage (2) indicates the proper setting:
   - Increase pressure = turn clockwise
   - Reduce pressure = turn counterclockwise
3. Push the pressure regulator (1) down.

7.9 Performing a test run

When setup is complete, perform a test run to check the functionality of the machine.

To perform a sewing test:

1. Switch off the machine.
2. Thread the needle thread (📖 *p. 22*).
3. Insert the bobbin (📖 *p. 26*).
4. Switch on the machine.

↳ The control is initialized.

5. Press the pedal forwards.

↳ The reference run starts.
The transport carriage moves to the reference position.

Information

The reference run is necessary in order to obtain a defined starting position of the transport carriage.
Pressing the pedal forwards triggers the different steps of the insertion procedure one after another and then starts the sewing process.

8 Decommissioning

WARNING

Risk of injury from a lack of care!

Serious injuries may occur.

ONLY clean the machine when it is switched off.
Allow ONLY trained personnel to disconnect the machine.

CAUTION

Risk of injury from contact with oil!

Oil can cause a rash if it comes into contact with skin.

Avoid skin contact with oil.
If oil has come into contact with your skin, wash the affected areas thoroughly.

To decommission the machine:

1. Switch off the machine.
2. Unplug the power plug.
3. If applicable, disconnect the machine from the compressed air supply.
4. Remove residual oil from the oil pan using a cloth.
5. Cover the control panel to protect it from soiling.
6. Cover the control to protect it from soiling.
7. Cover the entire machine if possible to protect it from contamination and damage.

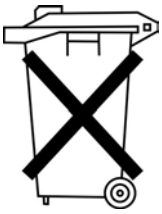
9 Disposal

CAUTION

Risk of environmental damage from improper disposal!

Improper disposal of the machine can result in serious environmental damage.

ALWAYS comply with the national regulations regarding disposal.



The machine must not be disposed of in the normal household waste.

The machine must be disposed of in a suitable manner in accordance with all applicable national regulations.

When disposing of the machine, be aware that it consists of a range of different materials (steel, plastic, electronic components, etc.). Follow the national regulations when disposing these materials.

10 Troubleshooting

10.1 Customer Service

Contact for repairs and issues with the machine:

Dürkopp Adler GmbH

Potsdamer Str. 190
33719 Bielefeld, Germany

Tel. +49 (0) 180 5 383 756
Fax +49 (0) 521 925 2594
Email: service@duerkopp-adler.com
Internet: www.duerkopp-adler.com

10.2 Messages of the software

Code	Description	Troubleshooting
Sewing motor		
1051	Sewing motor timeout • Cable to sewing motor reference switch defective • Reference switch defective • Machine head does not move freely or has excessive belt tension	• Replace cable • Replace reference switch • Check the freedom of movement and belt tension of the machine head
1052	Sewing motor excess current • Sewing motor cable defective • Sewing motor defective • Control defective	• Replace sewing motor cable • Replace sewing motor • Replace control
1053	Sewing motor mains voltage too high	Check the mains voltage
1055	Sewing motor overload • Sewing motor blocked/not moving freely • Sewing motor defective • Control defective	• Remove blockage/sluggishness • Check the sewing motor • Check the control
1056	Sewing motor overtemperature • Sewing motor not moving freely • Sewing motor defective • Control defective	• Eliminate seizing • Replace sewing motor • Replace control

Code	Description	Troubleshooting
1058 1302 1342 1344	Sewing motor speed • Sewing motor defective Sewing motor error Control not receiving pulses from pulse encoder in motor Sewing motor error Internal error	 • Replace sewing motor • Check the cable from the pulse encoder in the motor to the control • Switch off and on the machine again • Software update
Stepper motors		
2101	X-axis stepper motor referencing timeout • Faulty reference switch setting • Cable to reference switch defective • Reference switch defective	 • Align reference switch • Replace cable • Check reference switch
2102	X-axis stepper motor current error • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective	 • Fix blockage • Check/replace the encoder cable • Replace the stepper motor
2152	X-axis stepper motor excess current	• Replace the stepper motor • Replace control
2153	X-axis stepper motor overvoltage • Mains voltage too high	• Check mains voltage
2155	X-axis stepper motor overload • Feed system not moving freely • Obstacle to feed movement	• Eliminate sluggishness • Remove obstacles/adjust the motion
2156	X-axis stepper motor overtemperature • Stepper motor sluggish • Stepper motor faulty • Control defective	 • Eliminate seizing • Replace the stepper motor • Replace control
2201	Y-axis stepper motor referencing timeout • Faulty reference switch setting • Cable to reference switch defective • Reference switch defective	 • Align reference switch • Replace cable • Replace reference switch
2202	Y-axis stepper motor current error • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective	 • Fix blockage • Check/replace the encoder cable • Replace the encoder
2252	Y-axis stepper motor excess current	• Replace the stepper motor • Replace control
2253	Y-axis stepper motor overvoltage • Mains voltage too high	 • Check mains voltage

Code	Description	Troubleshooting
2255	Y-axis stepper motor overload • Feed system not moving freely • Obstacles to the feed motion	• Eliminate sluggishness • Remove obstacles/adjust the motion
2256	Y-axis stepper motor overtemperature • Feed system not moving freely • Stepper motor faulty • Control defective	• Eliminate seizing • Replace the stepper motor • Replace control
2301	Stroke position stepper motor referencing timeout • Faulty reference switch setting • Cable to reference switch defective • Reference switch defective	• Align reference switch • Replace cable • Replace reference switch
2302	Stroke position stepper motor current error • Stepper motor blocked • Encoder cable not connected or defective • Encoder defective	• Fix blockage • Check/replace the encoder cable • Replace the encoder
2352	Stroke position stepper motor excess current	• Replace the stepper motor • Replace control
2353	Stroke position stepper motor overvoltage • Mains voltage too high	• Check mains voltage
2355	Stroke position stepper motor overload • Feed system not moving freely • Obstacles to the feed motion	• Eliminate sluggishness • Remove obstacles/adjust the motion
2356	Stroke position stepper motor overtemperature • Feed system not moving freely • Stepper motor faulty • Control defective	• Eliminate sluggishness • Replace the stepper motor • Replace control
Machine control		
3100	Machine control voltage • Temporary mains voltage interruption	• Check the mains voltage
3102	Machine voltage in sewing motor intermediate circuit • Temporary mains voltage interruption	• Check the mains voltage
3103	Machine voltage in stepper motor intermediate circuit • Temporary mains voltage interruption	• Check the mains voltage
3107	Machine temperature • Ventilation openings closed • Ventilation grille dirty	• Clean ventilation grille • Check ventilation openings
3109	Threading mode is switched on	Switch off threading mode
3121	Compressed air is missing, not sufficient	Turn up air pressure and stabilize

Code	Description	Troubleshooting
3123	Oil sensor active	Top off the oil
3210	Thread broken	Re-thread the thread
3215	Bobbin empty (remaining thread counter)	Insert full bobbin
3220	Bobbin empty (remaining thread counter)	Insert full bobbin
3500	Error in calculating the contour data	• Reload the contour data • Check the contour data
3501	Target position of the XY clamps outside the motion limits	Adjust the contour data
3502	Target position of the XY clamps within the "forbidden areas"	Adjust the contour data
3721 3722	Internal error	• Switch off and on the machine • Software update • Notify DA Service
4201	Internal CF card defective	• Switch off and on the machine • Retrofit/replace control
5301	Program cannot be sewn	Copy program to DAC
6551 6554 6651 6653 6751 6761	Error in machine head position/AD converter/process error Internal error	• Switch off and on the machine • Software update • Notify DA Service
6952	Stepper motor driver error Internal error	• Switch off and on the machine • Software update • Notify DA Service
Communication		
7801	Control panel interface communication • Cable disturbance • Cable	• Switch off and on the machine • Software update • Notify DA Service
8151 8156 8159	IDMA error • Disturbance • Control defective	• Switch off and on the machine • Replace control
8152 8154	IDMA error • Internal error	• Switch off and on the machine • Software update • Notify DA Service
8252 8257 8258 8256 8254	ADSP Boot/Xilinx Boot/ Boot error Disturbance	• Switch off and on the machine

Code	Description	Troubleshooting
8351	Test pins error	• Switch off and on the machine • Software update • Notify DA Service
8400	Control panel has no valid program for the DAC.	Load the current program into the control panel from a USB key.
8401 8402	Control panel has no valid program for the DAC.	Load the current program into the control panel from a USB key.
8403	Program in DAC is no longer current.	Load the current program into the DAC.
8404 8407	DAC update was faulty.	• Attempt the update again • Check cable connection • Replace the DAC
8408	Waiting for a DAC reset.	Wait until the restart has been performed (Duration: several seconds).
8411	DAC program check is active.	Wait until the test has been performed (Duration: several seconds).
8414	DAC update succeeded.	
8801 8805 8806 8890 8891	Error in test pins/signal processing/ event processing/ Memory wrapper/ list functions Internal error	• Switch off and on the machine • Software update • Notify DA Service
System		
9000	Reference run active	
9002	Machine head not locked	Lock machine head
9006	Quick-stop switch is activated.	Releasing the quick-stop switch
9016	Wrong bar code ID	Change the program
9100	The counter has not reached the default value.	Press the OK button. The counter is reset.
9601	Stop while sewing on the contour Continue sewing?	• OK button = Continuing the sewing process • ESC button = Canceling the sewing process
9700	Bobbin case retainer for bobbin change not closed	Close the bobbin case retainer for bobbin change
9701	Parallel clamps not lowered	• Remove obstacles • Align sensors
9900	Incorrect machine parameters	Initialize the data
9901	Incorrect sequences	Initialize the data
9902	Incorrect program parameters	Initialize the data

10.3 Errors in sewing process

Error	Possible causes	Remedial action
Unthreading at seam beginning	Needle thread tension is too firm	Check needle thread tension
Thread breaking	Needle thread and hook thread have not been threaded correctly	Check threading path
	Needle is bent or sharp-edged	Replace needle
	Needle is not inserted correctly into the needle bar	Insert the needle correctly into the needle bar
	The thread used is unsuitable	Use recommended thread
	Thread tensions are too tight for the thread used	Check thread tensions
	Thread-guiding parts, such as thread tube, thread guide or thread take-up disk, are sharp-edged	Check threading path
	Throat plate, hook or spread have been damaged by the needle	Have parts reworked by qualified specialists
Skip stitches	Needle thread and hook thread have not been threaded correctly	Check threading path
	Needle is blunt or bent	Replace needle
	Needle is not inserted correctly into the needle bar	Insert the needle correctly into the needle bar
	The needle thickness used is unsuitable	Use recommended needle thickness
	The reel stand is assembled incorrectly	Check the assembly of the reel stand
	Thread tensions are too tight	Check thread tensions
	Throat plate, hook or spread have been damaged by the needle	Have parts reworked by qualified specialists

Error	Possible causes	Remedial action
Loose stitches	Thread tensions are not adjusted to the sewing material, the sewing material thickness or the thread used	Check thread tensions
	Needle thread and hook thread have not been threaded correctly	Check threading path
Needle breakage	Needle thickness is unsuitable for the sewing material or the thread	Use recommended needle thickness

11 Technical data

11.1 Data and characteristic values

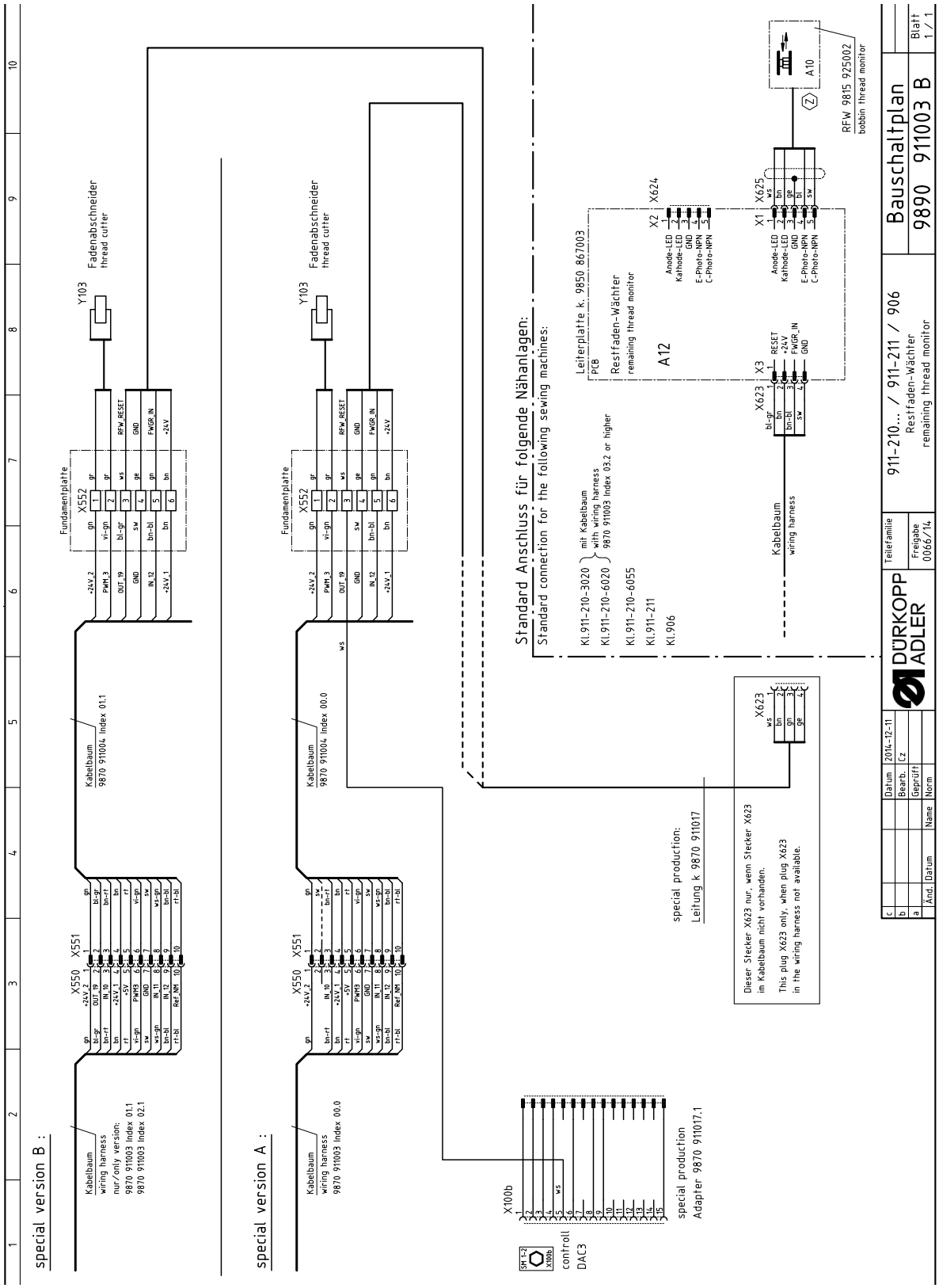
Technical data	Unit	911-210-3020-10	911-210-6020-10	911-210-6055-10
Type of stitches		301		
Hook type		Vertical hook		
Number of needles		1		
Needle system		134/35		
Needle strength	[Nm]	80 - 180		
Thread strength	[Nm]	Needle thread 10/3 Hook thread 20/3		
Stitch length	[mm]	up to 12.7, dependent on seam pattern		
Speed maximum	[min^{-1}]	2700 intermittent		2000 intermittent
Needle bar stroke	[mm]	40		
Clamp stroke	[mm]	20		
Sewing foot stroke	[mm]	20		
Sewing field size	[mm]	300 x 200	600 x 200	600 x 550
Number of free seam contours		99		
Mains voltage	[V]	230		
Mains frequency	[Hz]	50/60		
Operating pressure	[bar]	6		
Air consumption	[NL/min]	8		
Length	[mm]	1200		1760
Width	[mm]	1200		1360
Height	[mm]	875-1275		760-910 (without height adjustment) 800-1150 (with height adjustment)
Weight	[kg]	225		275

11.2 Requirements for fault-free operation

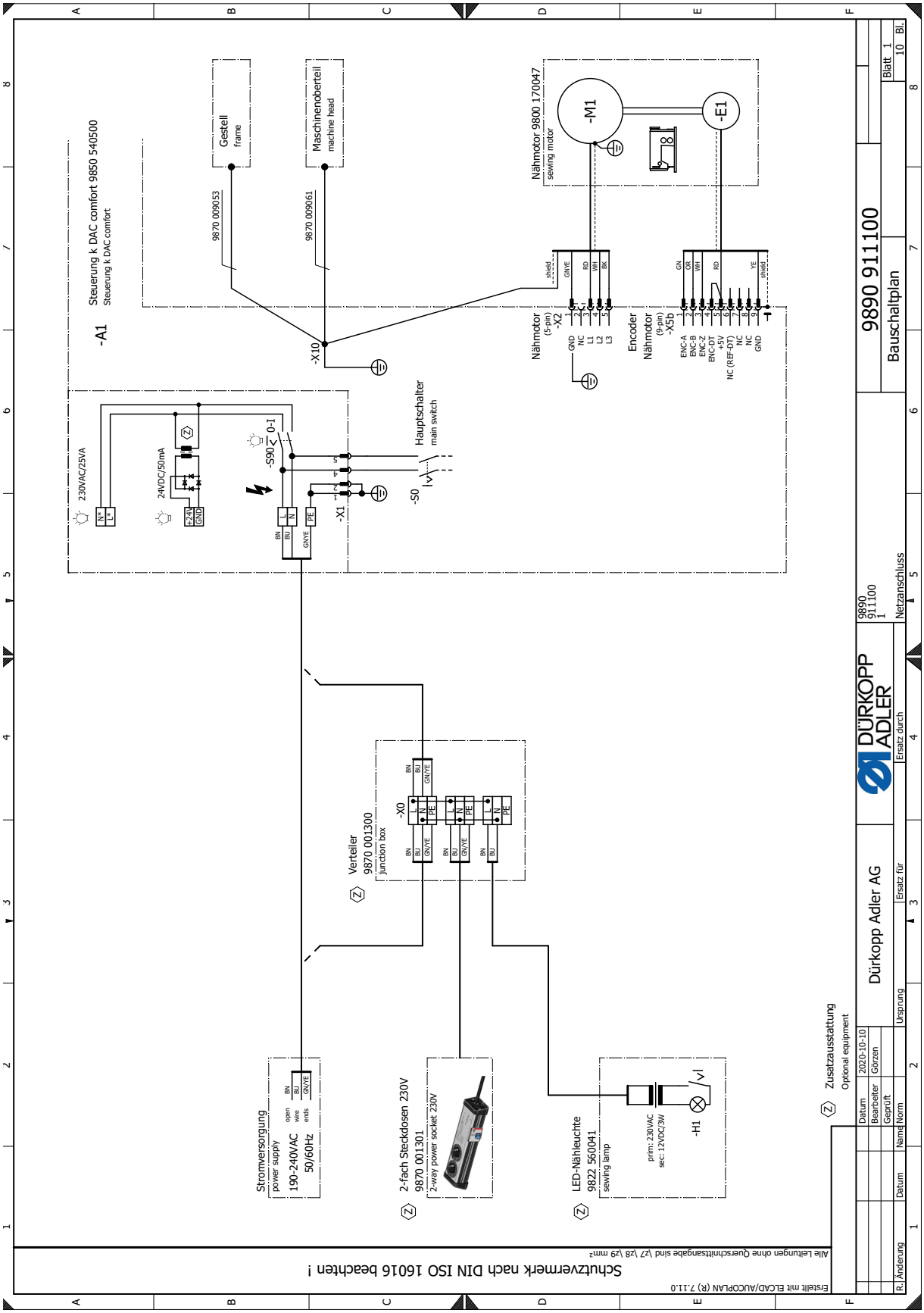
Compressed air quality must conform to ISO 8573-1: 2010 [7:4:4].

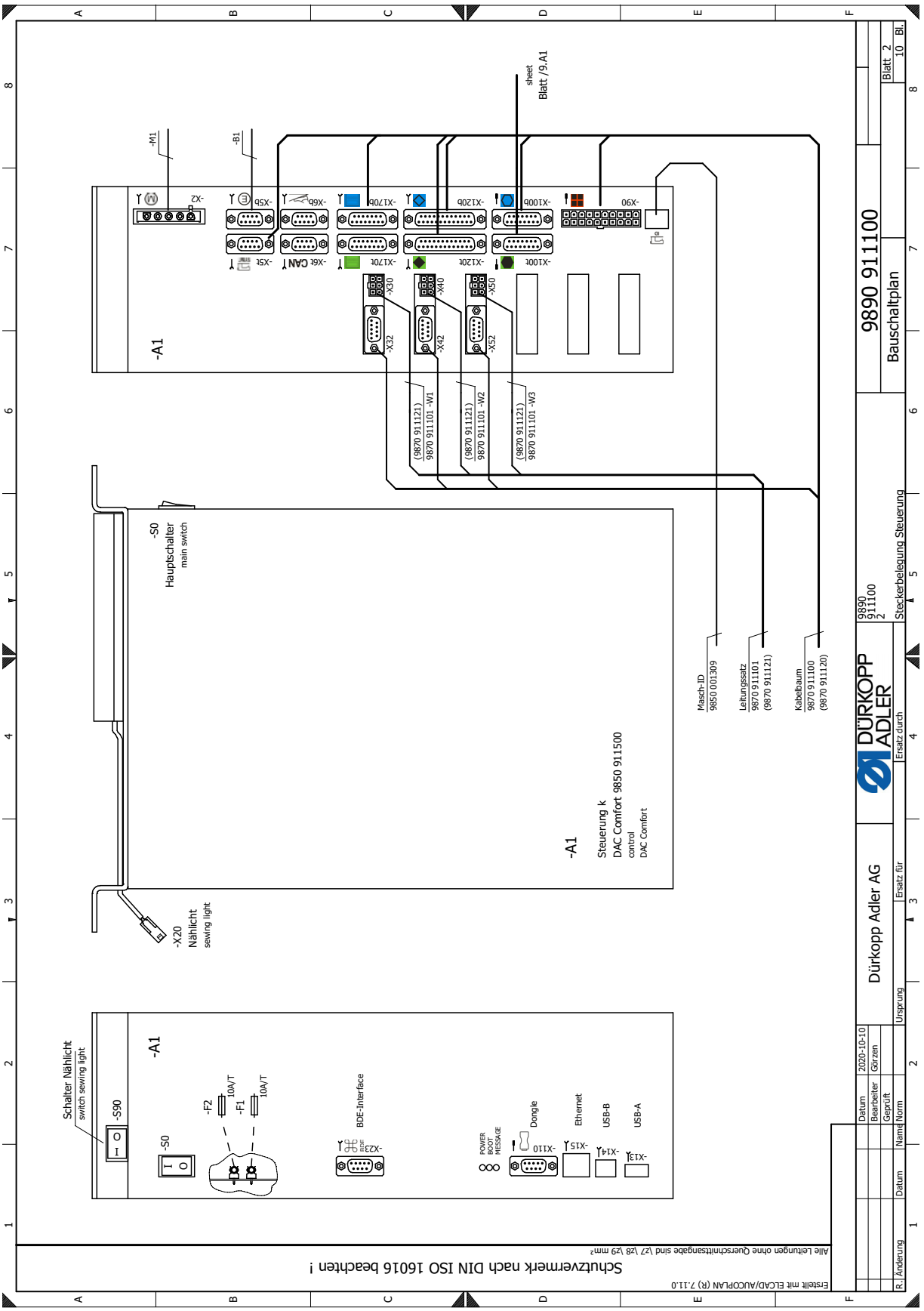
12 Appendix

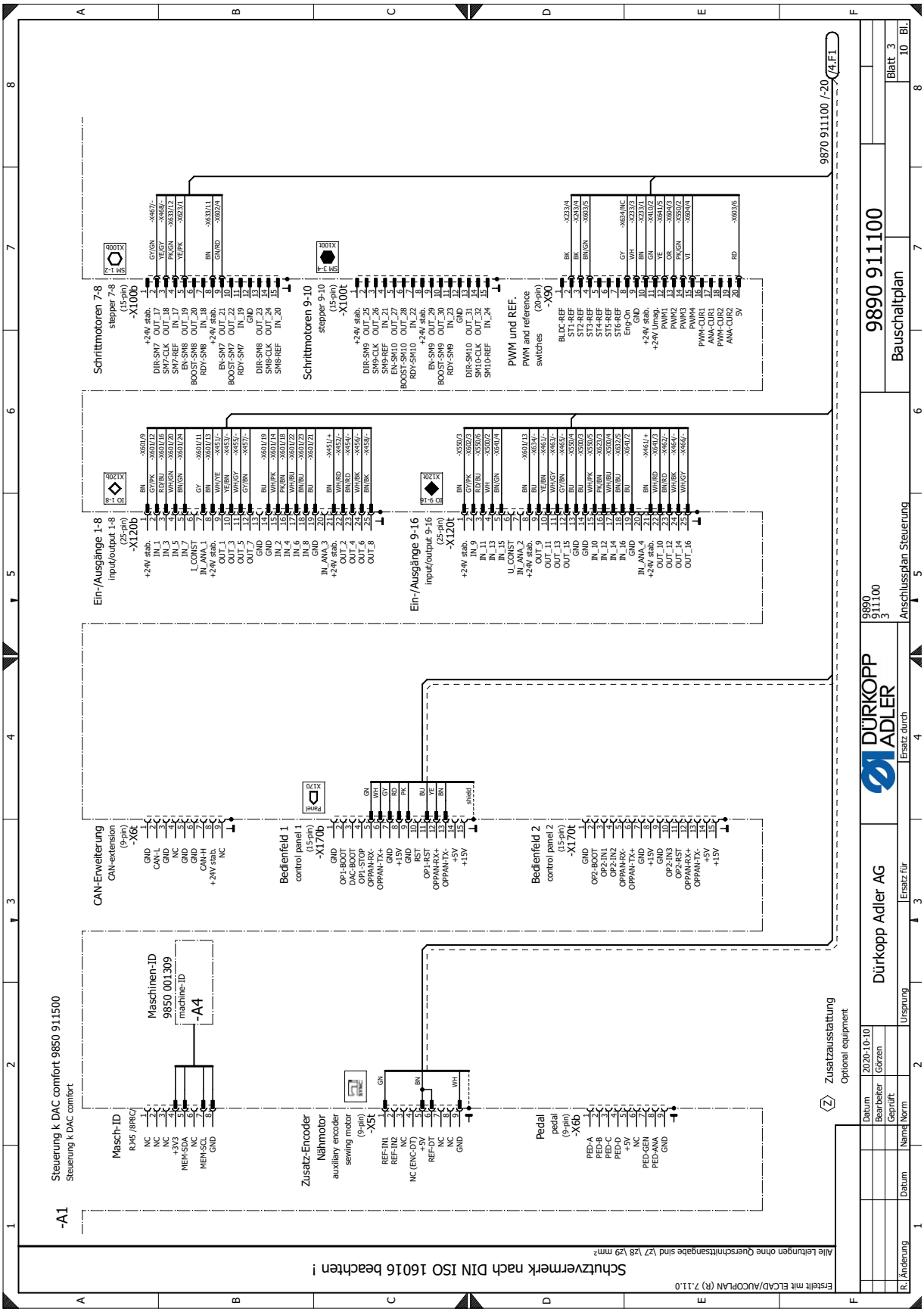
12.1 Wiring diagram - remaining thread monitor

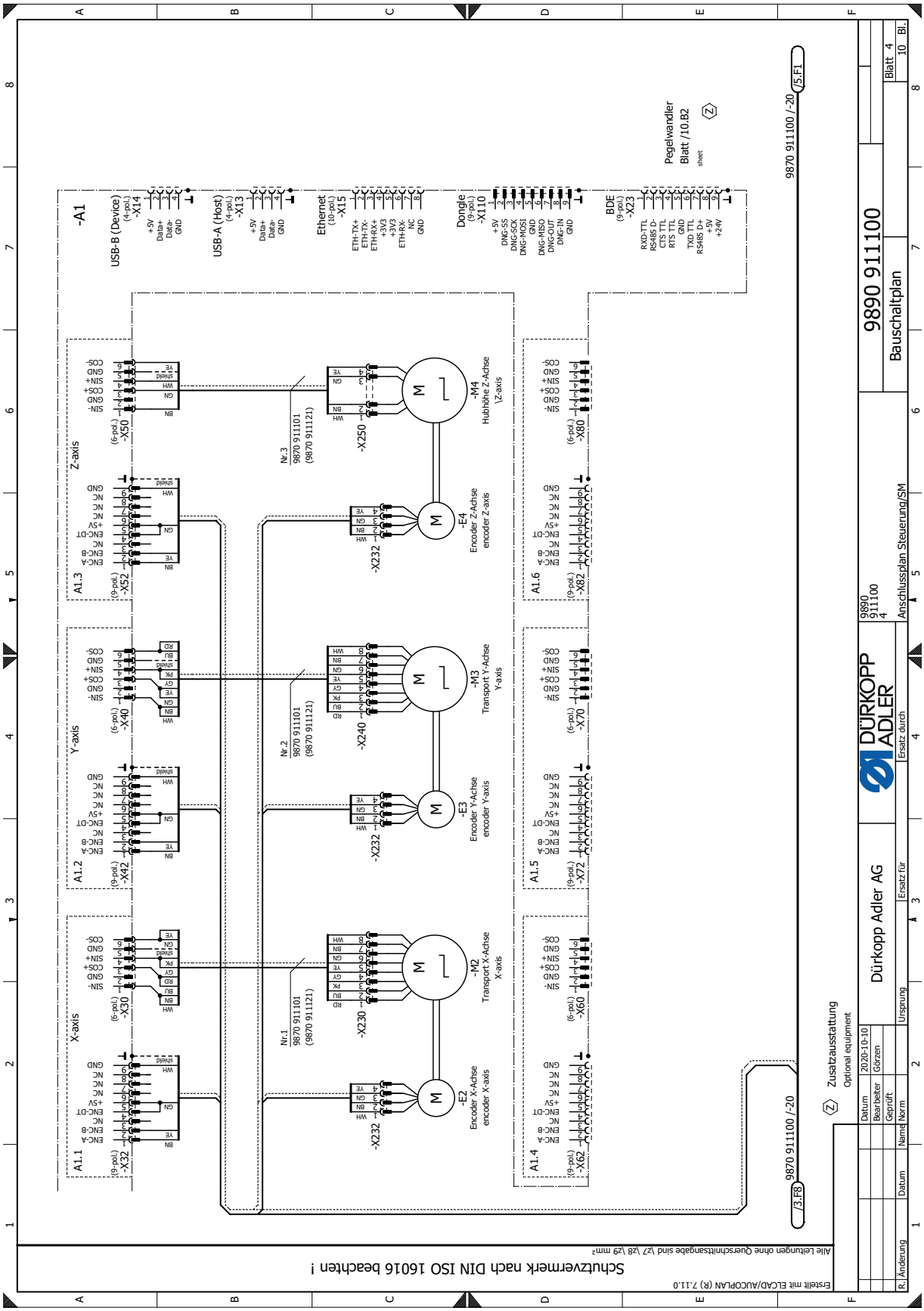


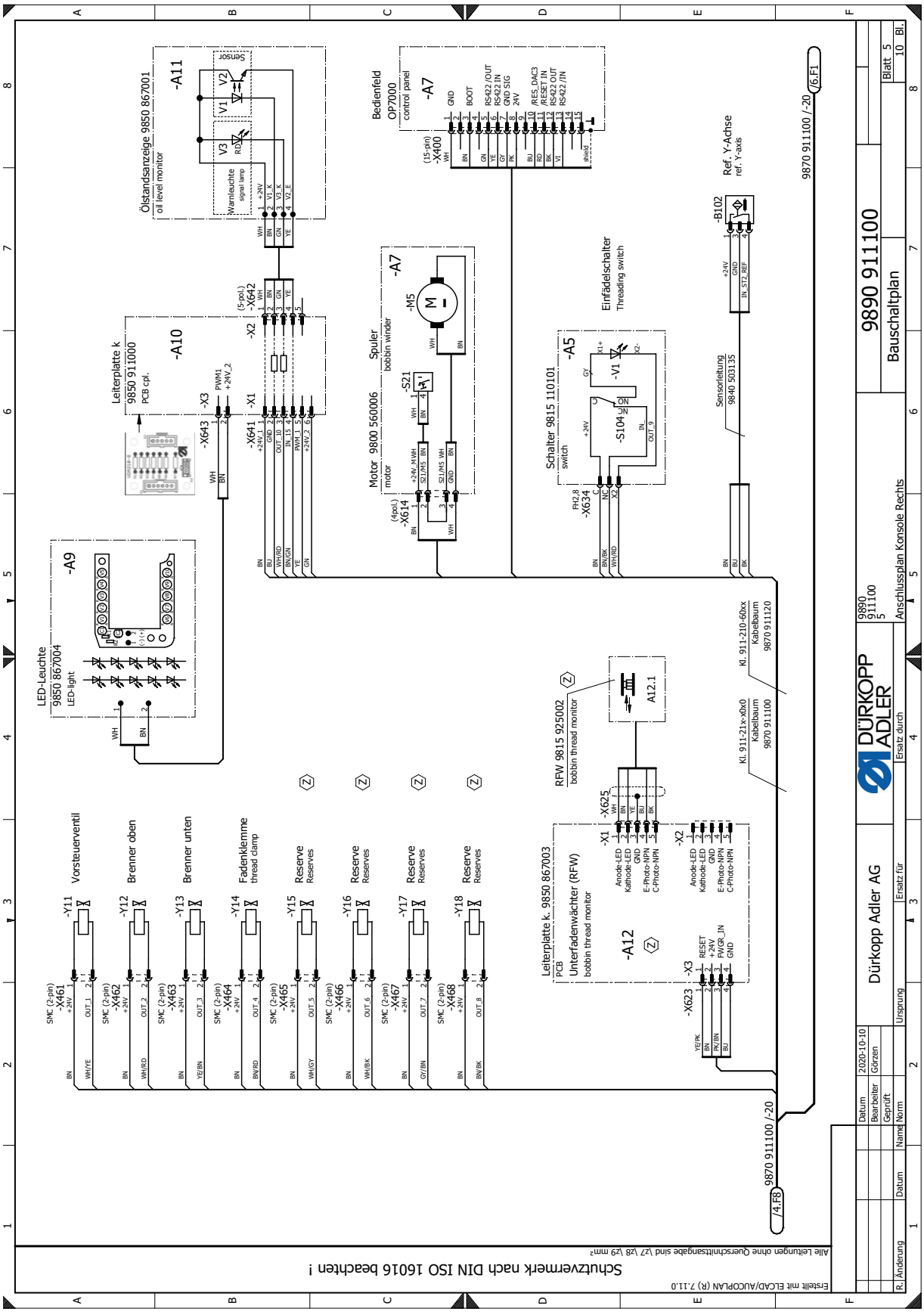
12.2 Wiring diagram

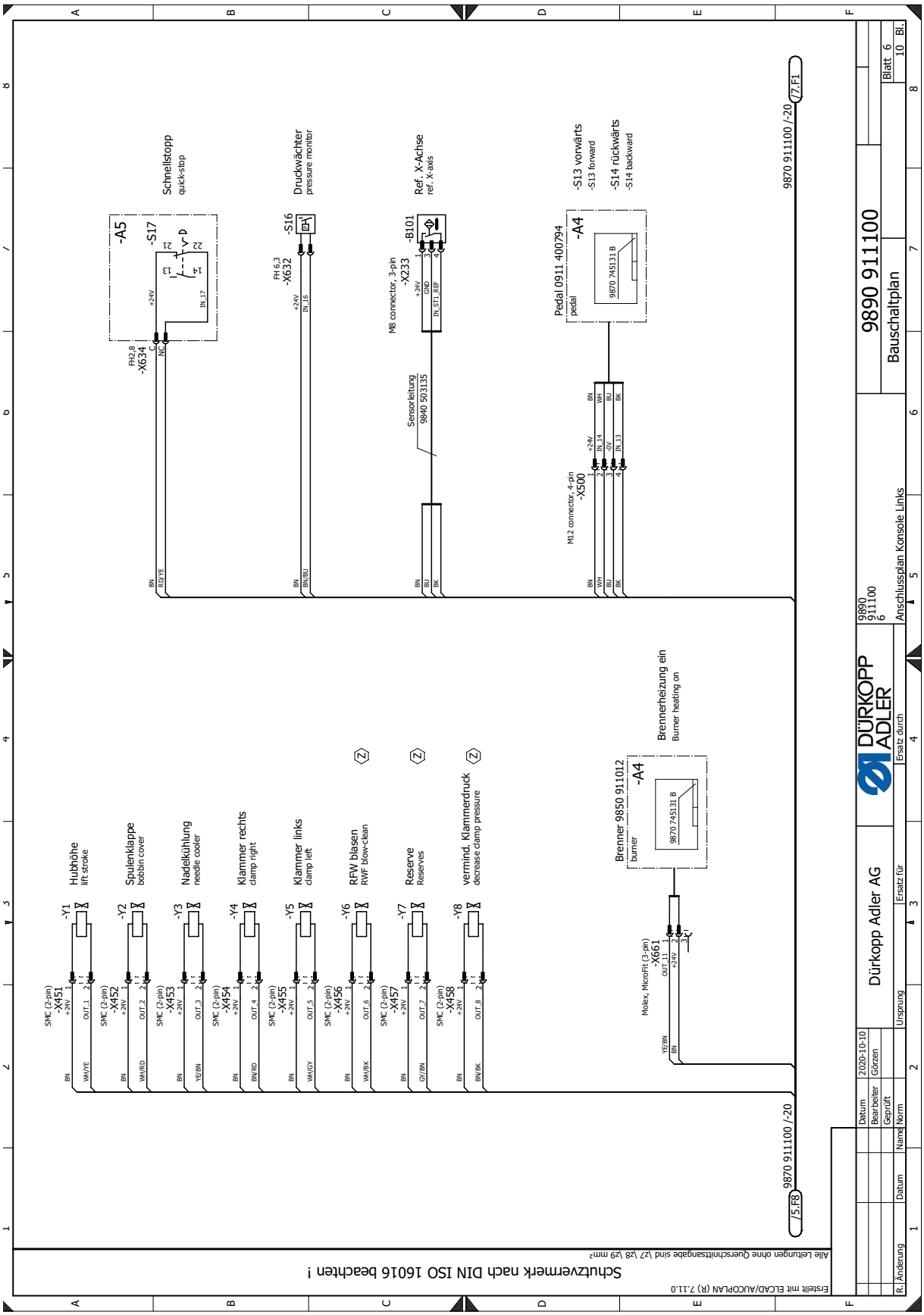


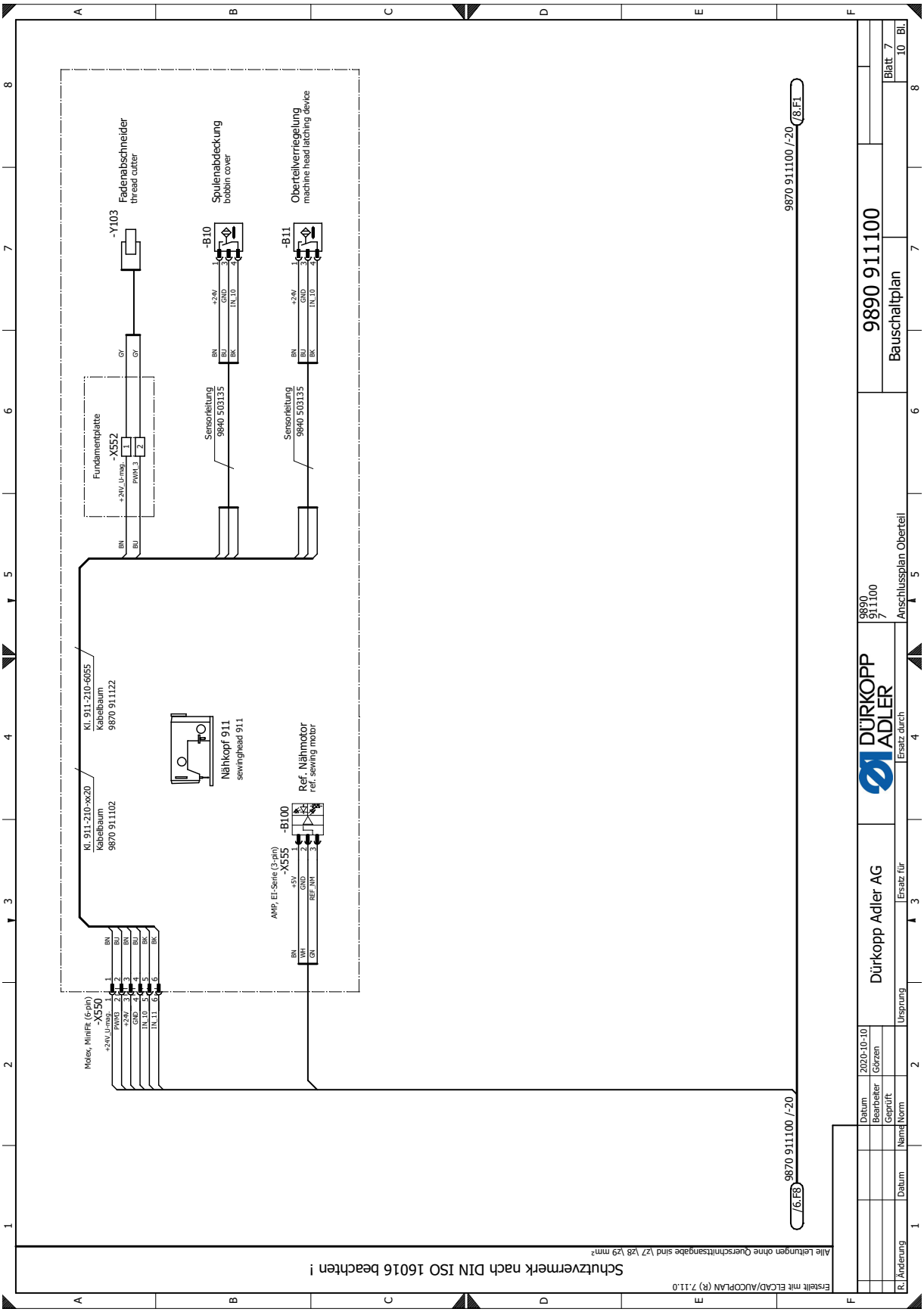

9890 911100
Bauschaltplan
Blatt 2
10 Bl.
Dürkopp Adler AG
Steckerbelegung Steuerung
Schutzvermerk nach DIN ISO 16016 beachten !
-A1
Steuerung k
DAC Comfort 9850 911500
control
DAC Comfort
-S0
Hauptschalter
main switch
-X20
Nähllicht
sewing light
Schalter Nähllicht
switch sewing light
-S90
-F2
-F1
10A/T
BDE-Interface
Dongle
Ethernet
USB-B
USB-A
Masch-ID
9850 001309
Leitungssatz
9870 911101
(9870 911121)
Kabelbaum
9870 911100
(9870 911120)
sheet
Blatt /9.A1

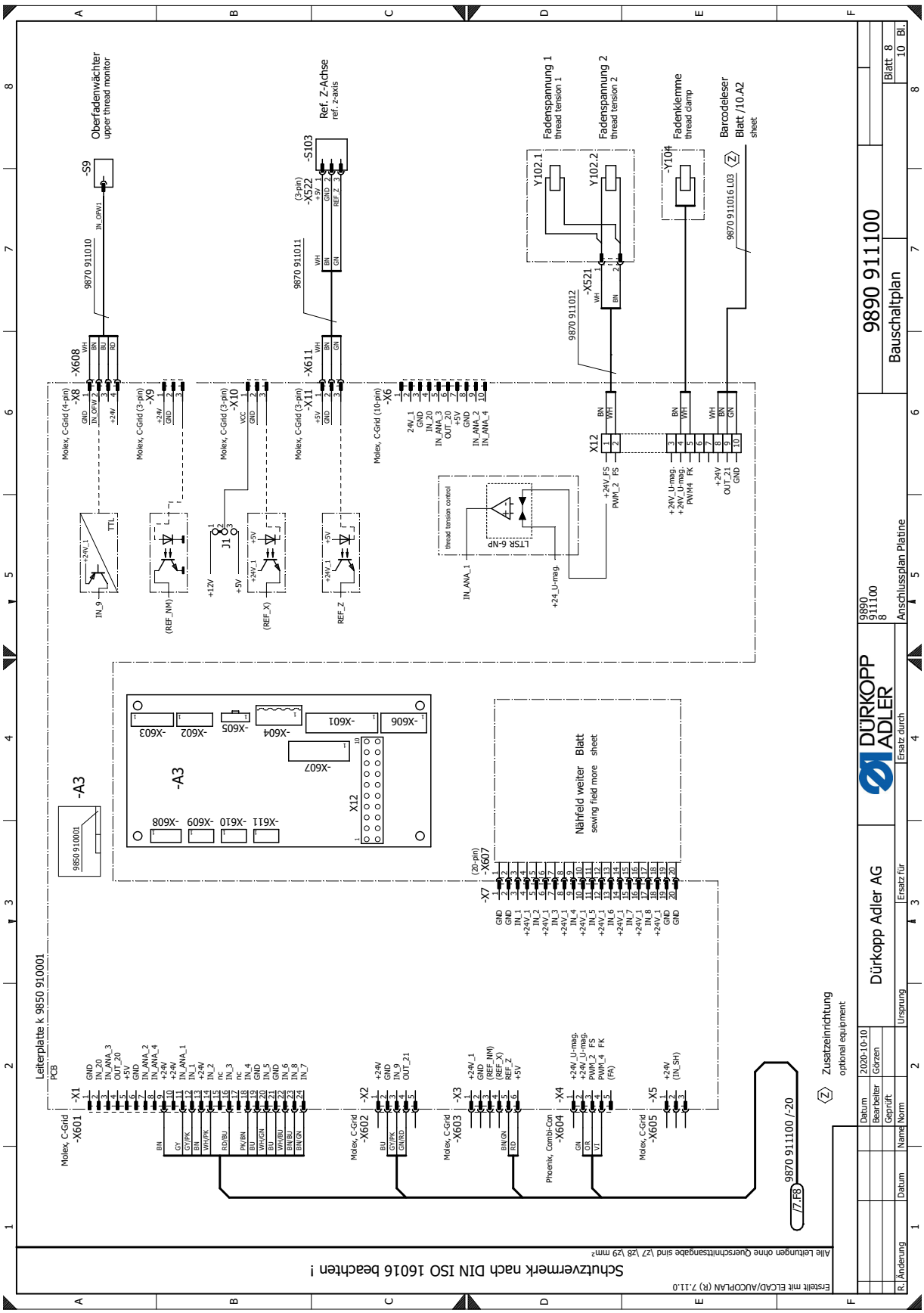

-A1
Steuerung k DAC comfort 9850 911500
Steuerung k DAC comfort
Masch-ID
RJ45 /8P8C/
-X5t
Maschinen-ID
9850 001309
machine-ID
-A4
Zusatz-Encoder
Nähmotor
auxiliary encoder
sewing motor
(9-pin)
-X5t
Pedal
pedal
(9-pin)
-X6b
CAN-Erweiterung
CAN-extension
(9-pin)
-X6t
Bedienfeld 1
control panel 1
(15-pin)
-X170b
Bedienfeld 2
control panel 2
(15-pin)
-X170t
Ein-/Ausgänge 1-8
input/output 1-8
(25-pin)
-X120b
Ein-/Ausgänge 9-16
input/output 9-16
(25-pin)
-X120t
Schrittmotoren 7-8
stepper 7-8
(15-pin)
-X100b
Schrittmotoren 9-10
stepper 9-10
(15-pin)
-X100t
PWM und REF.
PWM and reference
(20-pin)
-X90
9870 911100 /-20
(4.F1
Zusatzausstattung
Optional equipment
Dürkopp Adler AG
9890 911100
Bauschaltplan
Blatt 3
10 Bl.
Anschlussplan Steuerung
Ersatz durch
Ersatz für
Ursprung
Datum
Name
Norm
Gepruft
Bearbeiter
2020-10-10
Görzen
R. Änderung
Schutzvermerk nach DIN ISO 16016 beachten !
Alle Leitungen ohne Querschnittsangabe sind \27 \28 mm²
Erstellt mit ELCAD/AUCOPLAN (R) 7.11.0

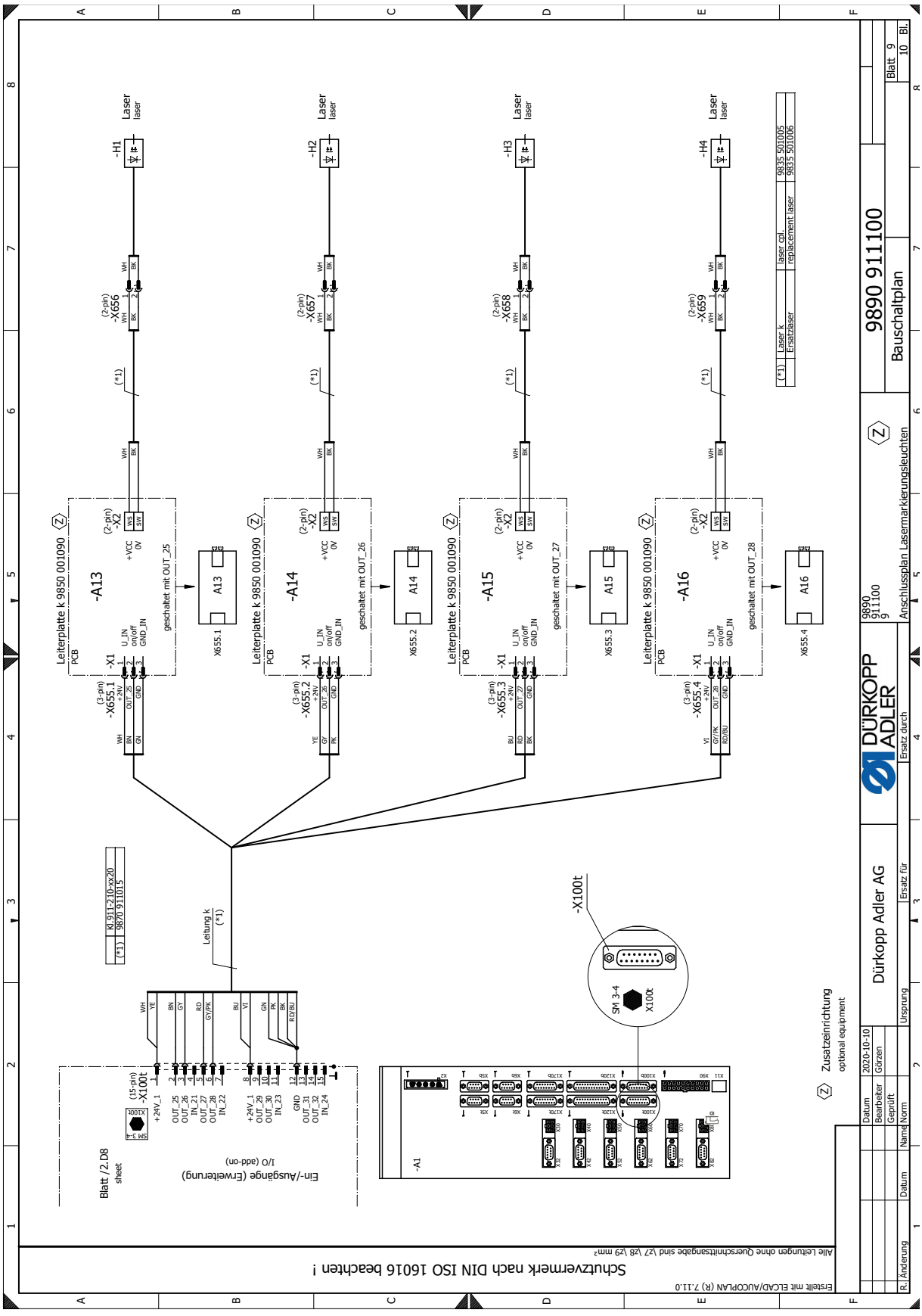

-A1
USB-B (Device) (4-pol.) -X14
+5V Data+ Data- GND
USB-A (Host) (4-pol.) -X13
+5V Data+ Data- GND
Ethernet (10-pol.) -X15
ETH-TX+ ETH-TX- ETH-RX+ +3V3 +3V3 ETH-RX- NC GND
Dongle (9-pol.) -X110
+5V DNG-SS DNG-SCK DNG-MOSI GND DNG-MISO DNG-OUT DNG-IN GND
BDE (9-pol.) -X23
RXD-TTL RS485 D- CTS TTL RTS TTL GND TXD TTL RS485 D+ +5V +24V
Pegelwandler Blatt /10.B2
9870 911100 /-20
/5.F1
/3.F8
Z-axis
Y-axis
X-axis
A1.1
A1.2
A1.3
A1.4
A1.5
A1.6
-X32
-X42
-X52
-X62
-X72
-X82
-X30
-X40
-X50
-X60
-X70
-X80
-X230
-X240
-X250
-X232
Nr.1 9870 911101 (9870 911121)
Nr.2 9870 911101 (9870 911121)
Nr.3 9870 911101 (9870 911121)
-M2 Transport X-Achse X-axis
-M3 Transport Y-Achse Y-axis
-M4 Hubhöhe Z-Achse \Z-axis
-E2 Encoder X-Achse encoder X-axis
-E3 Encoder Y-Achse encoder Y-axis
-E4 Encoder Z-Achse encoder Z-axis
Zusatzausstattung
Optional equipment
Dürkopp Adler AG
9890 911100
Bauschaltplan
Anschlussplan Steuerung/SM
Blatt 4
Bl. 10
Schutzvermerk nach DIN ISO 16016 beachten !
Alle Leitungen ohne Querschnittsangabe sind \27 \28 \29 mm²
Erstellt mit ELCAD/AUCOPLAN (R) 7.11.0

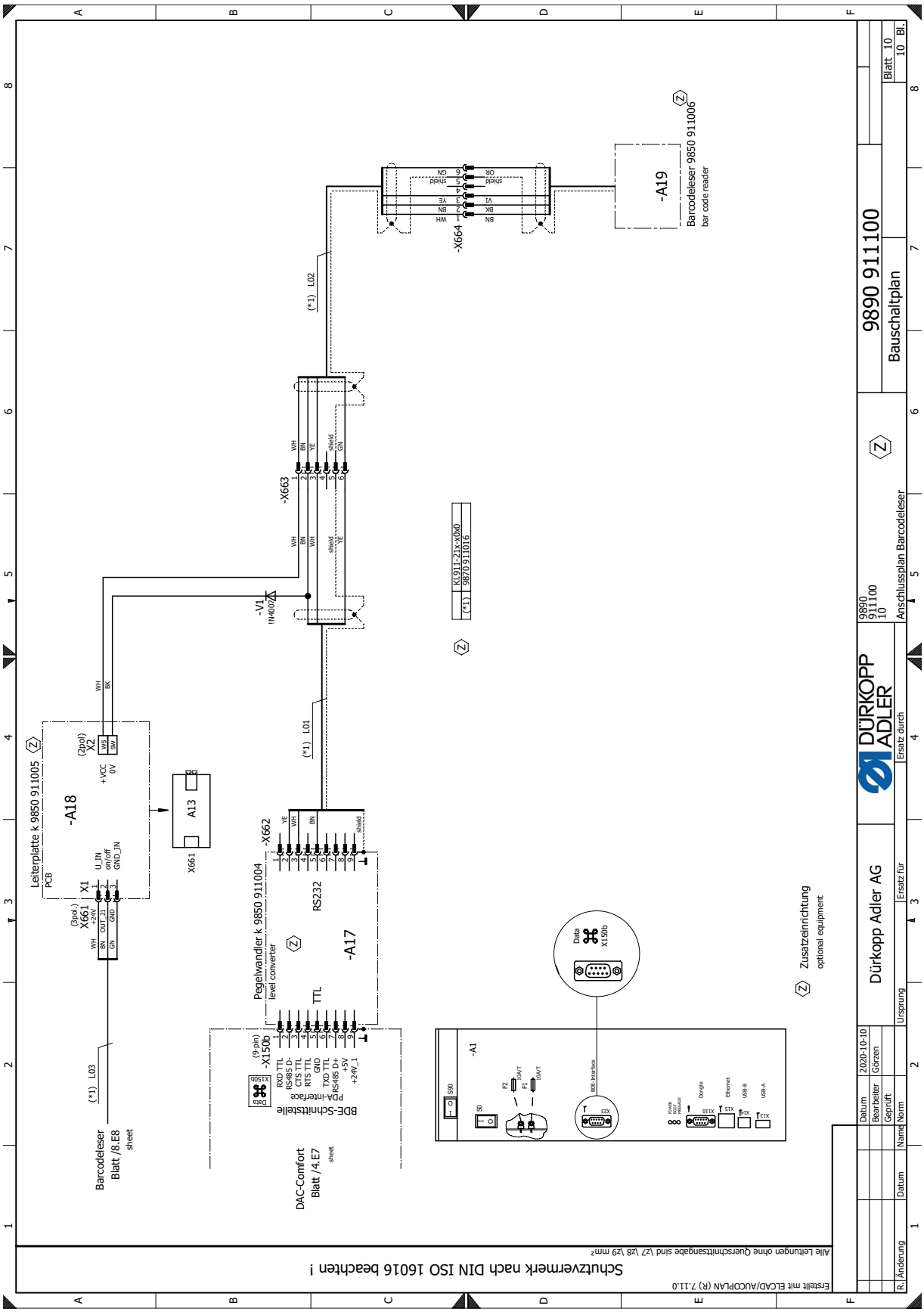

9890 911100
Bauschaltplan
Dürkopp Adler AG
Anschlussplan Konsole Rechts
Schutzvermerk nach DIN ISO 16016 beachten !
-A9
LED-Leuchte
9850 867004
LED-light
-A10
Leiterplatte k
9850 911000
PCB cpl.
-A11
Ölstandsanzeige 9850 867001
oil level monitor
-A12
Leiterplatte k. 9850 867003
Unterfadenwächter (RFW)
bobbin thread monitor
-A5
Schalter 9815 110101
switch
-A7
Bedienfeld
OP7000
control panel
-A7
Spuler
bobbin winder
-B102
Ref. Y-Achse
ref. Y-axis
-M5
Motor 9800 560006
motor
-S104
Einfädelschalter
Threading switch
-S21
-V1
-Y11 Vorsteuerventil
-Y12 Brenner oben
-Y13 Brenner unten
-Y14 Fadenklemme
thread clamp
-Y15 Reserve
-Y16 Reserve
-Y17 Reserve
-Y18 Reserve
RFW 9815 925002
bobbin thread monitor
A12.1
Sensorleitung
9840 503135
Kl. 911-210-60xx
Kabelbaum
9870 911120
Kl. 911-21x-x0x0
Kabelbaum
9870 911100
9870 911100 /-20
/6.F1
/4.F8
Alle Leitungen ohne Querschnittsangabe sind \27 \28 \29 mm²
Erstellt mit ELCAD/AUCOPLAN (R) 7.11.0
Datum 2020-10-10
Bearbeiter Görzen
Geprüft
Name Norm
Ursprung
Ersatz für
Ersatz durch
Blatt 5
10 Bl.


Schutzvermerk nach DIN ISO 16016 beachten !
Dürkopp Adler AG
9890 911100
Bauschaltplan
Anschlussplan Konsole Links
Schnellstopp
quick-stop
Druckwächter
pressure monitor
Ref. X-Achse
ref. X-axis
-S13 vorwärts
-S13 forward
-S14 rückwärts
-S14 backward
Pedal 0911 400794
pedal
Sensorleitung
9840 503135
Hubhöhe
lift stroke
Spulenklappe
bobbin cover
Nadelkühlung
needle cooler
Klammer rechts
clamp right
Klammer links
clamp left
RFW blasen
RWF blow-clean
Reserve
Reserves
vermind. Klammerdruck
decrease clamp pressure
Brenner 9850 911012
burner
Brennerheizung ein
Burner heating on
9870 911100 /-20
/7.F1
/5.F8


Schutzvermerk nach DIN ISO 16016 beachten !
Alle Leitungen ohne Querschnittsangabe sind \27 \28 \29 mm²
Erstellt mit ELCAD/AUCOPLAN (R) 7.11.0
Dürkopp Adler AG
9890 911100
Bauschaltplan
Blatt 7
10 Bl.
Anschlussplan Oberteil
9870 911100 /-20
/8.F1
/6.F8
Fadenabschneider
thread cutter
Spulenabdeckung
bobbin cover
Oberteilverriegelung
machine head latching device
Fundamentplatte
Sensorleitung
9840 503135
Nähkopf 911
sewinghead 911
Ref. Nähmotor
ref. sewing motor
Kl. 911-210-xx20
Kabelbaum
9870 911102
Kl. 911-210-6055
Kabelbaum
9870 911122
Molex, MiniFit (6-pin)
AMP, EI-Serie (3-pin)


Oberfadenwächter
upper thread monitor
Ref. Z-Achse
ref. z-axis
Fadenspannung 1
thread tension 1
Fadenspannung 2
thread tension 2
Fadenklemme
thread clamp
Barcodeleser
Blatt /10.A2
sheet
Leiterplatte k 9850 910001
PCB
Zusatzeinrichtung
optional equipment
Nähfeld weiter
sewing field more
Blatt
sheet
Dürkopp Adler AG
9890 911100
Bauschaltplan
Anschlussplan Platine
Schutzvermerk nach DIN ISO 16016 beachten !


Laser
laser
-H1
-H2
-H3
-H4
(2-pin)
-X656
-X657
-X658
-X659
WH
BK
(*1)
(2-pin)
-X2
WS
SW
+VCC
0V
Leiterplatte k 9850 001090
PCB
-A13
-A14
-A15
-A16
-X1
U_IN
on/off
GND_IN
geschaltet mit OUT_25
geschaltet mit OUT_26
geschaltet mit OUT_27
geschaltet mit OUT_28
(3-pin)
-X655.1
-X655.2
-X655.3
-X655.4
+24V
OUT_25
OUT_26
OUT_27
OUT_28
GND
A13
A14
A15
A16
X655.1
X655.2
X655.3
X655.4
Laser k
Ersatzlaser
laser cpl.
replacement laser
9835 501005
9835 501006
Kl.911-210-xx20
9870 911015
Leitung k
-X100t
SM 3-4
X100t
-A1
Ein-/Ausgänge (Erweiterung)
I/O (add-on)
Blatt /2.D8
sheet
Zusatzeinrichtung
optional equipment
Dürkopp Adler AG
DÜRKOPP ADLER
9890 911100
Anschlussplan Lasermarkierungsleuchten
Bauschaltplan
9890 911100
Blatt 9
10 Bl.
Datum
Name
Bearbeiter
Görzen
Geprüft
Norm
Ursprung
Ersatz für
Ersatz durch
2020-10-10
Änderung
Schutzvermerk nach DIN ISO 16016 beachten !
Alle Leitungen ohne Querschnittsangabe sind \27 \28 \29 mm²
Erstellt mit ELCAD/AUCOPLAN (R) 7.11.0


Barcodeleser 9850 911006
bar code reader
-A19
-X664
(*1) L02
-X663
-V1
IN4007
Kl 911-21x-x0x0
(*1) 9870/911016
(*1) L01
-X662
Pegelwandler k 9850 911004
level converter
-A17
RS232
TTL
-X150b
BDE-Schnittstelle
PDA-Interface
DAC-Comfort
Blatt /4.E7
sheet
(*1) L03
Barcodeleser
Blatt /8.E8
sheet
Leiterplatte k 9850 911005
PCB
-A18
X661
X661
A13
X661
(2pol.)
X2
+VCC
0V
U_IN
on/off
GND_IN
-A1
S90
S0
F2
F1
10AVT
10AVT
BDE-Interface
X23
Data
X150b
Dongle
Ethernet
USB-B
USB-A
X10
X10
X10
X10
Zusatzeinrichtung
optional equipment
Dürkopp Adler AG
DÜRKOPP ADLER
9890 911100
10
Anschlussplan Barcodeleser
9890 911100
Bauschaltplan
Blatt 10
10
Bl.
Ersatz durch
Ersatz für
Ursprung
Datum
2020-10-10
Bearbeiter
Götzen
Geprüft
Norm
Name
Datum
Änderung
Erstellt mit ELCAD/AUCOPLAN (R) 7.11.0
Schutzvermerk nach DIN ISO 16016 beachten !
Alle Leitungen ohne Querschnittsangabe sind \27 \28 \29 mm²

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