

Spezialnähmaschine

Bedienungsanleitung

D

Instructions for operating

GB

Instructions d'emploi

F

Instrucciones de empleo

E

Istruzioni per l'uso

I

Foreword

This instruction manual is intended to help the user to become familiar with the machine and take advantage of its application possibilities in accordance with the recommendations.

The instruction manual contains important information on how to operate the machine securely, properly and economically. Observation of the instructions eliminates danger, reduces costs for repair and down-times, and increases the reliability and life of the machine.

The instruction manual is intended to complement existing national accident prevention and environment protection regulations.

The instruction manual must always be available at the machine/sewing unit.

The instruction manual must be read and applied by any person that is authorized to work on the machine/sewing unit. This means:

- Operation, including equipping, troubleshooting during the work cycle, removing of fabric waste,
- Service (maintenance, inspection, repair and/or
- Transport.

The user also has to assure that only authorized personnel work on the machine.

The user is obliged to check the machine at least once per shift for apparent damages and to immediately report any changes (including the performance in service), which impair the safety.

The user company must ensure that the machine is only operated in perfect working order.

Never remove or disable any safety devices.

If safety devices need to be removed for equipping, repairing or maintaining, the safety devices must be remounted directly after completion of the maintenance and repair work.

Unauthorized modification of the machine rules out liability of the manufacturer for damage resulting from this.

Observe all safety and danger recommendations on the machine/unit! The yellow-and-black striped surfaces designate permanent danger areas, eg danger of squashing, cutting, shearing or collision.

Besides the recommendations in this instruction manual also observe the general safety and accident prevention regulations!

General safety instructions

The non-observance of the following safety instructions can cause bodily injuries or damages to the machine.

1. The machine must only be commissioned in full knowledge of the instruction book and operated by persons with appropriate training.
2. Before putting into service also read the safety rules and instructions of the motor supplier.
3. The machine must be used only for the purpose intended. Use of the machine without the safety devices is not permitted. Observe all the relevant safety regulations.
4. When gauge parts are exchanged (e.g. needle, presser foot, needle plate, feed dog and bobbin) when threading, when the workplace is left, and during service work, the machine must be disconnected from the mains by switching off the master switch or disconnecting the mains plug.
5. Daily servicing work must be carried out only by appropriately trained persons.
6. Repairs, conversion and special maintenance work must only be carried out by technicians or persons with appropriate training.
7. For service or repair work on pneumatic systems, disconnect the machine from the compressed air supply system (max. 7-10 bar). Before disconnecting, reduce the pressure of the maintenance unit.
Exceptions to this are only adjustments and functions checks made by appropriately trained technicians.
8. Work on the electrical equipment must be carried out only by electricians or appropriately trained persons.
9. Work on parts and systems under electric current is not permitted, except as specified in regulations DIN VDE 0105.
10. Conversion or changes to the machine must be authorized by us and made only in adherence to all safety regulations.
11. For repairs, only replacement parts approved by us must be used.
12. Commissioning of the sewing head is prohibited until such time as the entire sewing unit is found to comply with EC directives.



It is absolutely necessary to respect
the safety instructions marked by these signs.

Danger of bodily injuries !

Please note also the general safety instructions.



Description of proper use or proper application:

The **268** is a sewing head which can be used for sewing light to medium heavy sewing material. In general, such sewing material is made up of textile fibres but also leather. Such sewing materials are used by the clothing and upholstery industry. It would also be possible to make so called technical seams with these sewing machines. However, for this application the operator of the machine(s) must have the possible dangers assessed (cooperation with Dürkopp Adler would be welcomed), as such applications are, on the one hand, relatively rare and, on the other hand, have an immensely wide range of possibilities. Depending on the results of this assessment suitable safety measures might have to be implemented.

In general, only dry sewing material may be used on this machine. The material must not exceed 10 mm in thickness when compressed by the lowered needle butt. The material must not contain any hard objects as eye shields would otherwise have to be worn when operating the machine. However, such eye shields are currently not available.

In general, the seam will be sewn with sewing threads made of textile fibres in sizes of up to 10/3 NeB (cotton threads), 10/3 Nm (synthetic thread), or 11/3 Nm (covering twists). Using other threads would also require an assessment of the related possible dangers and risks in advance, and the implementation, where necessary, of suitable safety measures.

This sewing machine may only be put up and used in dry and clean rooms. Should the machine be used in other rooms which are not dry and clean, further measures may have to be taken which have to be agreed (see EN60204-31:1999).

As a manufacturer of industrial sewing machines we assume that operators who are at least semi-skilled will work at our products, so that it can be assumed that all standard operations and, where applicable, the dangers are known.

Noise level Lc

Workstation related emission according to DIN 45635-48-A-I-KL2

Subclass:	-203S; -FA-203S;	-3S; -FA-3S	-273	-FAP-273-1
Number of stitches:	1.700 min ⁻¹	1.700 min ⁻¹	1.500min ⁻¹	1.400min ⁻¹
Stitch lenght:	3,6 mm	4,8 mm	3,6 mm	6,4 mm
Sewing material:	2-play Skai 1,6 mm 900 g/m ² DIN 53352	dto. dto.	dto. dto.	dto. dto.
Lc =	82 dB (A)	82 dB (A)	83 dB (A)	84 dB (A)

Class 268
Operating instructions

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1. Technical data

Sub-class 268 -		VG-2-S	VG-202-S	FA-202-S	3-S	VG-3-S
- Needle system	:	134 Lr	134 Lr	134 Lr	134 Lr	134 Lr
- Needle size	Nm:	80-110	80-110	80-110	110-140	110-140
- Stitch length, max.	mm:	4,5	4,5	4,5	6	4,5
- Foot stroke, max.	mm:	7	6	6	7	7
- Alternating top feed stroke	mm:	-	-	-	-	-
- Needle clearance	mm:	-	0,8-2,0	0,8-2,0	-	-
- Cutting distance	mm:	-	-	-	-	-
Sub-class 268 -		203-S	FA-3-S	FA-203-S	4-S	204-S
- Needle system	:	134 Lr	134 Lr	134 Lr	134 Lr	134 Lr
- Needle size	Nm:	110-140	110-140	110-140	140-180	140-180
- Stitch length, max.	mm:	4,5	6	4,5	6	5
- Foot stroke, max.	mm:	6	7	6	7	7
- Alternating top feed stroke	mm:	-	-	-	-	-
- Needle clearance	mm:	1,2-2,4	-	1,2-2,4	-	2,4-3,6
- Cutting distance	mm:	-	-	-	-	-
Sub-class 268 -		FA-4-S	FA-204-S	FA-63-S	363-S	73
- Needle system	:	134 Lr	134 Lr	134 Lr	134-35 Lr	134
- Needle size	Nm:	140-180	140-180	110-140	110-140	110-140
- Stitch length, max.	mm:	6	5	6	6	6
- Foot stroke, max.	mm:	7	7	7	7	12
- Alternating top feed stroke	mm:	-	-	-	-	10
- Needle clearance	mm:	-	2,4-3,6	-	-	-
- Cutting distance	mm:	-	-	-	-	-
Sub-class 268 -		FA-73	273	273-NH1	FA-273	FA-273-NH1
- Needle system	:	134-35	134	134-35	134-35	134-35
- Needle size	Nm:	110-140	110-140	110-140	110-140	110-140
- Stitch length, max.	mm:	6	6	6	6	6
- Foot stroke, max.	mm:	7	7	7	7	7
- Alternating top feed stroke	mm:	8	8	8	8	8
- Needle clearance	mm:	-	3,0-20,0	4,0-12,0	3,0-20,0	4,0-12,0
- Cutting distance	mm:	-	-	-	-	-

Sub-class 268 -		NT-82-S	NT-82-SUX	NF-82-S	NF-82-SUX	VGN-82-S
- Needle system	:	134 Lr	134 Lr	134 Lr	134 Lr	134 KK Lr
- Needle size	Nm:	80-110	80-110	80-110	80-110	75-90
- Stitch length, max.	mm:	4,5	4,5	4,5	4,5	4,5
- Foot stroke, max.	mm:	6	6	6	6	6
- Alternating top feed stroke	mm:	-	-	-	-	-
- Needle clearance	mm:	-	-	-	-	-
- Cutting distance	mm:	-	1,0	-	1,0	-
Sub-class 268 -		VGNF-82-S	NT-83-S	NT-83-SUX	NF-83-S	NF-83-SUX
- Needle system	:	134 KK Lr	134 Lr	134 Lr	134 Lr	134 Lr
- Needle size	Nm:	75-90	110-140	110-140	110-140	110-140
- Stitch length, max.	mm:	4,5	8	8	8	8
- Foot stroke, max.	mm:	6	6	6	6	6
- Alternating top feed stroke	mm:	-	-	-	-	-
- Needle clearance	mm:	-	-	-	-	-
- Cutting distance	mm:	-	-	1,5	-	1,5

2. Operating elements and functional elements

A/1 Stitch regulator lever
B/1 Screws for regulating the main needle thread tension
C/1 Thread pulling spring
D/1 Screws for regulating the needle thread pretension
L/1 Thread guides
K/1 Regulating screw for cloth presser
G/1 Bobbin winder
H/1 Screw for regulating the bobbin thread pretension
P/1 Positioner
T/1 Thread take-up lever
J/2 Lever for lifting the cloth presser
N/2 Reel stand
O/3 Machine head support
a1/3 Mainswitch
S/3 Motor control box
W/3 Conditioning unit
K/3 Knee lever
M/3 Motor pedal
P/3 Pedal for instant stroke adjustment in machine with HP 11-2
R/3 Pneumatic knee switch for instant stroke adjustment for machine with HP 11-1.

3. Installation

3.1 Setting up the machine

- Insert the hinges into the base plate and place the machine into the table top cut out
- Fit the machine head support O/3
- Mount the reel stand N/2 and fasten by screws
- Place the V-belt in position and, if required, tension it by swinging the motor
- Fit the knee lever K/3

3.2 Fitting the belt guard

- Screw-in the bolt d/6
- turn-in, about 2 revolutions, the screws f/6 with shims
- Push both belt guard parts behind the shims and fasten by screws through the boreholes of the belt guard; screw the positioner holder to the belt guard, fig. 7

3.3 Fitting the positioner

- Screw the positioner P/7 on the handwheel flange so that the holder on the belt guard catches into the groove of the positioner and that the red marks on the flange and on the positioner are in alignment
- Connect the plug on the motor control box S/3

3.4 Pneumatic connection

- Establish pneumatic connections according to the pneumatic system plan 268-Plde-01-03
- Fill the oil atomizer of the conditioning unit W/3 with pneumatic oil up to the mark. For oil type see chapter 6.3
- Connect the compressed air hose to the line and set the service pressure for 6 bar by the regulator on the conditioning unit

3.5 Electric connection

- Introduce the FA magnet plug E/2 and the F/2 plug of the thread tension lifting magnet
- Introduce the mains plug (the mains voltage should agree with the specifications on the type plate of the motor)
- Switch on the machine and check the direction of rotation of the handwheel
Direction of rotation: counter clockwise
- In case of wrong direction of rotation invert the poles of the mains plug

Elektrical work should be done only by specialists.

- Lubricate the machine before taking it into service or after its longer stop. See item 6.2 - oil lubrication

4. Operation of the sewing machine

4.1 Winding the bobbin thread

- Slip the bobbin on the bobbin winder shaft, fig. 4
- Pass the thread according to fig. 4 through the thread guides and through the bobbin thread pretension H/4 and wind it several times counter clockwise around the bobbin
- Adjust the bobbin thread pretension so that the thread is wound up regularly with the lowest possible tension
- Press the lever g/4 against the bobbin
- Operate the machine with the cloth presser being in its upper position
- As soon as the bobbin is full the bobbin winder is stopped automatically

4.2 Inserting the bobbin into its case

- Insert the bobbin into its case so that when unwinding the thread the bobbin turns contrary to the direction of unwinding, fig. 5
- Pull the thread through the slit under the spring K/5 and pass it through the hole a/5

4.3 Regulating the bobbin thread tension

The bobbin thread tension can be regulated by the screw k/5

4.4 Inserting the case into the hook

- Lift the bar E/8 of the middle part of the hook and slip the bobbin onto the pivot of said middle part
- Lower again the bar

4.5 Attach needle(s)

- Move needle bar to topmost position
- Insert needle(s) fully in the needle holder, so that the indentation is facing the looper point

4.6 Thread needle

Thread according to figs. 9 und 10

4.7 Regulating thread tension

The thread tension can be regulated by the screw for the needle thread pretension D/9/10 and by the screw for the needle thread pretension B/9/10. (In machines with thread cutter the needle thread pretension influences the length of the cut thread).

Note: The formation of loops on the underside of the fabric can be avoided by displacing the thread eyelet n/9/10 downwards.

4.8 Lifting the cloth presser foot

- Manually by the lever J/2
- In machines with clutch motor and pneumatic cloth presser foot lift, FLP 14-3, by lowering the pedal backwards
- In machines with positioner drive and pneumatic cloth presser lift, FLP 14-4, by lowering backwards the motor pedal. See in this connection the chapter 5.2 - Pneumatic cloth presser lift

Note: If the machine is operated without material, the cloth presser must be lifted.

4.9 Regulating the pressure of the cloth presser foot

The presser of the cloth presser foot can be regulated by the screw K/1.

4.10 Setting the stitch length

4.10.1 Drop feed

The stitch length can be set by the rotary handle on the stitch regulator lever A/1:

- Turn the handle to the right - shorter stitches
- Turn the handle to the left - longer stitches
- Swing stitch regulator lever upwards for reverse stitches

4.10.2 Wheel feed and driven roller foot, AR

- Depress and hold the pin M/13 and turn then the handwheel until the pin snaps
- With the pin snapped, adjust the desired stitch length according to the scale by returning the handwheel:
 - Letter A - minimum stitch length
 - Letter E - maximum stitch length

4.11 Adjusting the stroke of the alternating top feed

The stroke of the sewing feet should be adjusted for the maximum fabric thickness encountered within a seam line.

The foot stroke can be adjusted by shifting the traction rod O/17 in the coulisse H/17:

- Traction rod up - maximum stroke
- Traction rod down - minimum stroke

Note: In case of maximum stroke, owing to the higher noise level, it is advised to sew at a lower speed.

5. Additional equipment

5.1 Thread cutter, FA/FAP

In machines with thread cutter, FA/FAP, the cutting action is released.

5.2 Pneumatic cloth presser lift, FLP

In machines with pneumatic cloth presser lift, FLP 12... , or with automatic, pneumatic backtacking device, RAP 12... , the cloth presser foot is lifted by heeling down the pedal of the FAP cylinder.

5.3 Pneumatic, automatic backtacking equipment, RAP

The initial backtacking is released by lowering the pedal forwards and the final backtacking by lowering the pedal backwards.

Single and double initial and final backtacking stitches see the instructions of the motor supplier.

5.4 Instant stroke adjustment, HP

In machines with alternating top feed and pneumatic instant stroke adjustment, HP, the feet stroke can be increased while sewing for passing over cross seams. In machines with HP 11-1 with pneumatic knee switch R/3, in machine with HP 11-2 with left pedal P/3.

Note:

In case of maximum stroke, owing to the higher noise level, it is advisable to sew at a lower speed.

5.5 Needle positioning, NP

The machines with thread cutter stop after thread cutting with the thread take-up lever in its upper position. With the maximum stroke of the presser foot, the needle point can project under the presser foot.

For being able to utilize the maximum feet stroke without damaging the material, the needle bar is returned by the needle positioner so far that the needle point no longer projects under the presser foot.

5.6 Thread pulling-in device, FE

In machines with thread pulling-in device, FE, after the thread cutting process, the loose end of the thread is used on the backside of the fabric.

5.7 Disconnectable needle bar, NH

5.7.1 Disconnecting the needle bar

In twin needle machines with disconnectable needle bars it is possible to disconnect the left or the right needle bar by the lever U/12:

Push the lever to the left - for disconnecting l/h needle bar

Push the lever to the right - for disconnecting r/h needle bar

The needle bars can be disconnected with the machine in operation or stopped.

The uncoupling is done always when the needle bar is at its upper dead point, i.e. that the following stitch will be performed by one needle if the lever U/12 is operated while the needle bar is ascending.

5.7.2 Connecting the needle bar

For reconnecting the disconnected needle bar operate the lever T/12.

It is possible to reconnect the needle bar with the machine in operation or stopped.

The coupling is done always when the needle bar is at its upper dead point, i.e. that the following stitch will be produced by both needles if the lever T/12 is operated while the needle bar is ascending.

Note: If the switching for connecting or disconnecting a needle bar has been done too late, i.e. during the descent of the needle bar it is possible to connect or disconnect the needle bar before the following stitch **by moving the needle bar back**, i.e. by turning the handwheel back about 3 mm over the upper dead point.

5.8 Undertrimmer, UX

5.8.1 Moving-in the knife

For moving the knife in the cutting position swing the lever K/11 to the right up to the stop. At the same time the trimming motor will be started.

5.8.2 Moving-out the knife

For moving the knife in the neutral position, lower the cap of the lever K/11. At the same time the trimming motor will be started.

5.8.3 Adjusting the knife height

The knife height can be adjusted by the screw t/11.

The bottom of the knife shaft should stand above the throat plate according to the thickness of the lower material ply.

5.9 Driven roller foot, AR

5.9.1 General

- AR1: For machines with wheel feed without RAP, with forward feed.
AR2: For machines with wheel feed and with RAP, forward feed,
backwards freely operating

5.9.2 Swinging-off the roller foot

After lifting the roller foot push back the lever W/14 and move the roller foot sideways

5.9.3 Swinging-in the roller foot

- Swing-in the lifted roller foot so that the lever W/14 snaps
- Lower the roller foot

5.10 Puller feed, SP 462; SP 463

5.10.1 Feeding length

The feeding length of the puller can be adapted to the stitch length by shifting the traction rod T/15 in the coulisse U/15:

- | | |
|--|------------------------|
| Traction rod in the upper end position of the coulisse | - |
| | maximum feeding length |
| Traction rod in the lower end position of the coulisse | - |
| | minimum feeding length |

5.10.2 Puller pressure

The puller pressure can be set by the screw F/16

5.10.3 Lifting the puller

The puller can be lifted by the lever V/16.

6. Maintenance

6.1 Cleaning

In case of heavy use clean daily bobbin, feed dog and needle thread tension.

6.2 Oil lubrication

6.2.1 Machines without thread cutter

In case of an intensive operation, the lubrication points marked in the lubrication plan should be oiled daily before starting the work, fig. 18.

6.2.2 Machines with thread cutter

In machines with thread cutter (FA) the bearings and the links are supplied with oil out of the oil containers by means of wicks.

The oil container can be filled with oil up to the upper mark through the opening in the sight glass E/13.

The oil level should not drop below the lower mark on the sight glass E/13.

The oil quantity fed can be regulated by the screw e/19 on the distributor.

The bearings and the links, to which no oil is supplied by wicks, should be oiled daily before starting the work.

See fig. 19 in the lubrication plan.

6.3 Types of oil

6.3.1 Lubricating oil

Use only branded oils e.g. ESSO MILLCOT K 68 or similar products with the following specifications:

Viscosity at 40° C : 65 mm²/s

Flashpoint : 212° C

ESSO MILLCOT K 68 can be ordered from Dürkopp Adler:

1 ltr.: Part-No. 990 47 012 8

5 ltr.: Part-No. 990 47 012 9

6.3.2 Pneumatic oil

Use only branded oils, e.g. ESSO NUTO H 68 or similar products with the following specifications:

Viscosity at 40° C : 66 mm²/s

Flashpoint : 236° C

ESSO NUTO H 68 can be ordered from Dürkopp Adler:

250 cm : Part-No. 990 81 006 7

1 ltr.: Part-No. 990 47 010 5











