

User Manual

soft air[®] wds

Art. No. 110 400-wds

Pressure ulcer prevention and treatment-system
Assembly and Operation instructions



CE

Health. Security. Independence.

List of contents

1 Foreword	Page 3
2 Safety instructions	Page 4
3 Product overview soft air® wds	Page 4
4 Introduction	Page 5
5 Explanation of indication and functions	Page 5
6 Installation and setting up the mattress	Page 6
7 To set soft air® wds	Page 7
8 Alternating function	Page 9
9 memory-function	Page 9
10 CPR-function	Page 10
11 Cleaning & Service instructions	Page 10
12 Troubleshooting	Page 12
13 Indications · Contra indications	Page 12
14 Technical data	Page 13

1 Foreword

Dear client,

you are now holding the user manual of the **soft air[®] wds** therapeutic support system of **ADL[®] GmbH**. The **soft air[®] wds** system is a system for pressure ulcers prevention and treatment produced by **ADL[®] GmbH**, Germany.

There is a choice of using the system in the static position or alternating pressure. The **soft air[®] wds** large cell system has been developed for pressure ulcer prevention and treatment up to high risk (Stage 3).

With the writing of this user manual the product management of the **ADL[®] GmbH** has set itself the goal, to create a good and understandable aid and guidance for the employment of the system. If nevertheless questions remain, please ask your provider for direction and assistance.

Your

 ADL[®] GmbH

2 Safety instructions

- The system may not be used in presence of open flames, heaters a.o's. Protect the equipment against humidity. Operate it only in dry areas. No combustible gases or liquids may enter into the system.

EXPLOSION DANGER!

Warning! Note! The compressor is under power, as soon as the power supply plug is put in. Before opening the housing of the compressor please unplug the power plug. Repairs must be performed only by qualified technical personnel. The compressor may only be used for its purpose. In case of damage to the compressor the power supply plug must be unplugged immediately. Damaged power supply cord should be replaced immediately. Only room temperatures of 0 - 35 °C provide assurance to good compressor operation.

- Even a large cell pressure ulcer prevention system does not replace the manual positioning support from the nursing staff.
- Do not remove cells from the system (except for repair).

3 Product overview soft air® wds

Quantity	Description	Art. no.
1	Base with 3 x 17 cell fixations and 3 fixation straps	64000121-FO
17	Cells, ventilated and non-ventilated (micro perforation) polyurethane; individually removable	64000028-FO/-BE
1	Bi-elastic polyurethane cover, breathable, washable water repellent	64000029-FO
1	compressor/power unit	110 410-wds-FO
1	Service manual	999 190-GB
1	User manual soft air® wds	112 001-FO-GB

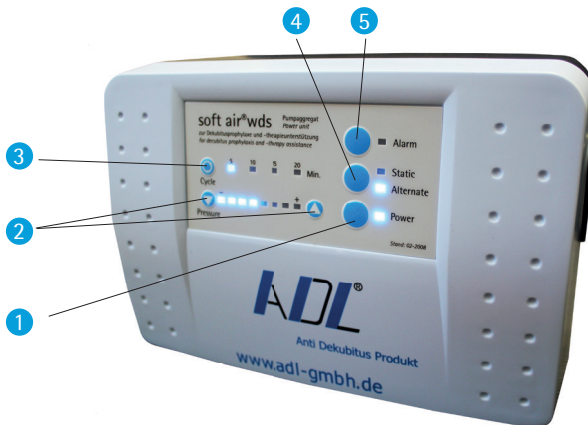
4 Introduction

The **soft air® wds** system is an overlay mattress system, therefore please make sure that a foam mattress is used underneath the soft air mattress and the minimum distance of the bed side guard must comply with **DIN EN 1970**. With the blue button in the middle of the front of the pump you can select static pressure or alternate pressure.

This pressure relief system can support patients with body weights of **30 to 140 kg**. (Keep in mind that these weights are applicable to patient in lying position. In different postures, the weight distributions are different.) The system **soft air® wds** is a three-chamber alternating pressure system, with variable cycle times of **5, 10, 15 and 20** minutes and visual and acoustic alarm, The acoustic alarm is activated by pressing the alarm button once.

After approx. **45** minutes of inflation, the alarm becomes active. The mattress consists of **17** cells, the first **3** head cells are in permanent static mode (not integrated in alternating pressure). Nine cells of the mattress have Micro perforation and thus ensure a more pleasant climate.

5 Explanation of indications and functions



- 1 On / off switch
- 2 Pressure setting
 - ▲ higher
 - ▼ lower
- 3 Cycle time
- 4 Mode (Static / Alternating)
- 5 Alarm button

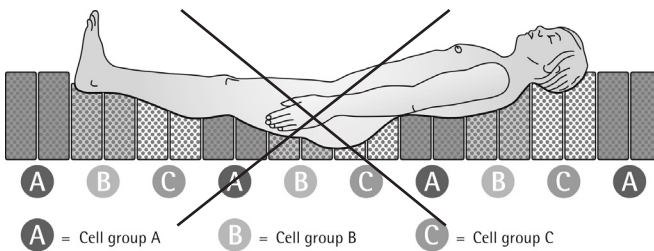
6 Installation and setting up the mattress

- ① Place the soft air wds on the existing mattress and fix fixation straps only to the moving parts of the bed.
When not correctly attached to the bed this may lead to bed- and mattress damages.
- ② Place the mattress in such a way that the tubing's are located at the foot end of the bed.
- ③ Before placing the power unit at the foot end of the bed you have to mount the brackets at the reverse of the power unit. Slide the brackets from below up in the fixation slot.
The power unit can also simply be placed underneath the bed.
Please note that the power unit should not be covered in any way, as thermal damage may occur!
- ④ Connect the mattress to the pump by connecting the hose to the pump. Check with a short pull at the hose if the connector is correctly fixed.
Note: Please check from time to time the O-rings on the connector. If you want to disconnect the connector from the pump unit, without damaging it, firmly press the springs (in the middle at both sides of the connector) with your thumb and forefinger while pulling on the connector.
- ⑤ Check if the tubes are not bent or clamped between other parts.
- ⑥ Switch on the power unit.

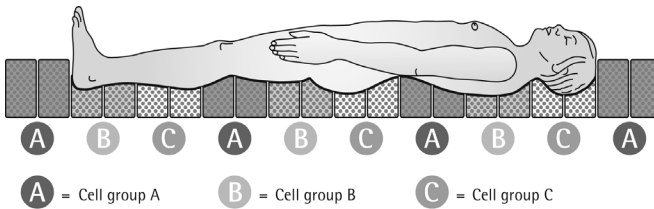
7 To set soft air® wds

- ① Switch on the power unit ①
- ② The alarm light is blinking and the system will start to be filled with air. The alarm light ⑤ is put out of circuit when inflation of the mattress is completed. Depending on if it is switched on, an acoustic signal sounds. This can be switched off and on with the alarm button. ⑤ The alarm light should be put out of circuit when the patient is laying on the mattress. Below a beforehand set pressure level, the alarm light is blinking again.
In 40-45 minutes the filling cycle for soft air® wds will be completed.
- ④ Bei der Umstellung von Wechseldruck zum statischen Druck ④ und umgekehrt, muss der Druck in der Matratze durch die Druckregelungstasten ② neu angepasst werden. In der Regel ist der Fülldruck bei statischem Betrieb geringer als bei Wechseldruckbetrieb.
- ⑤ The most effective pressure level can be set with the pressure setting button. ② The scale is divided into 8 parts. After switching on the power unit, the pressure is set in the middle part of the scale, around 30 - 40 mbar. Pressure can be lowered by repeated pressing on the button down to around 10 mbar. By repeated pressing on the right button a maximum pressure of 105 mbar can be set. It is imperative to check the pre-adjustment with a "hand check". Try to move your hand under the knee-joint, the lumbar and neck lordosis in order to check if supporting material is present. When the patient sinks to far in the mattress the so called Hammockeffect occurs. This should be prevented at all times.
- ⑥ When pressure is too high there will be a lack of supporting material underneath the lordosis area's of the body. The situation can be improved by deflating the mattress by (repeatedly) pressing the left button. When pressure is too low (Hammock effect), (repeatedly) press the right button. Each time when changing pressure level you will have to wait minimum 5 to maximum 20 minutes before checking the contact area again.
Note: From pressure level 5 (70-90 mbar), it may be necessary to increase the cycle time from 5 to 10 minutes, since under certain circumstances, a too low set cycle time could make the system to not directly reach the desired pressure value.

Steps	Weight
1. Step = 1 led light	ca. 30 – 40 kg
2. Step = 2 led lights	ca. 40 – 50 kg
3. Step = 3 led lights	ca. 50 – 70 kg
4. Step = 4 led lights	ca. 60 – 80 kg
5. Step = 5 led lights	ca. 70 – 90 kg
6. Step = 6 led lights	ca. 80 – 100 kg
7. Step = 7 led lights	ca. 85 – 105 kg
8. Step = 8 led lights	ca. until 140 kg



„Hammock effect“
 (is to avoid)
 High extended
 pressure in the
 sacral area



Optimum surface
 (Supporting material
 under the knee-point
 and lordosis of neck
 and lumbar)

8 Alternating function

In the case of the contraindications for the alternating pressure mentioned in the indication table, the mattress pressure can be switched from alternate to static soft storage by pressing button 4 (Static / Alternate) on the pump, during which the display changes the operating mode from blue (alternate) to green (static). A comfort setting is still possible in this mode. Since all cells support the static mode, a reduction of 10-20 mbar from the set value is necessary.

To switch on the static function, press the button 4, which is the middle blue button on the right edge of the control panel. The display changes to the green LED (static). To turn off the static function, press this button again. The display changes back to the blue LED (Alternate). Please do not forget to increase the pressure by approx. 10 - 20 mbar, if you switch on the alternating pressure function again.

9 memory-function

Once set, the pressure setting will be saved and will be retained until the pressure setting is changed again. In the event of a power failure, the pressure setting is also retained, and after the power is back on, the pump will automatically operate at the last set pressure.

10 CPR-function

Please make sure that the CPR plug (Cardio Pulmonary Resuscitation) is always closed. This CPR plug is located on the head end of the mattress and is marked with a red flag labeled CPR. To verify if CPR is tightly closed, the cover near the CPR plug must be opened by partly unzipping the cover. The lid of the CPR should be tightly closed. For this, the lid must be pressed firmly into the CPR lower part. Avoid accidentally opening the CPR when lowering the bed rail.

In the event of an emergency, the system is deflated by jerking the CPR tab. The patient lies on the stronger foam after about 30-60 seconds. Please note that it is better not to perform cardio pulmonary resuscitation on a foam mattresses. Best is to position the patient on a firm ground e.g. by using a special resuscitation board.

11 Cleaning & Service instructions

- During use the mattress and tubes should be cleaned weekly using a damp soft cloth and mild detergent or non-phenol germicidal solution.

Never use any detergents containing aldehyde!

- After changing to another patient the mattress should be disinfected by an accredited company approved by the [Robert-Koch-Institute](#). Please ensure conformity to the European guideline for medical devices, directions for preparation of medicine products and directions for hospital hygiene and prevention of infections from the [Robert-Koch-Institute](#) or other guidelines they rule.
- The PU cover can be washed to a maximum temperature of **95 °C** and be re-used after a thermal process (e.g. Ottalin - Peracet - process). Also a steam sterilisation process can be applied. The power unit of the [soft air® wds](#) system, should be cleaned with a damp cloth and soap detergent or a mild non-aldehyde cleaning detergent.

- Disinfection with cleaning on locations is also possible, when instructions for use and process time are properly kept.
- **ADL® GmbH** prescribes safety-related **revisions** of all electric powered parts after at least **2 years**.
The accident prevention regulations DGUV regulation 3 remain unaffected.
These checks may only be carried out by specially trained personnel.

Disinfectant recommendations:

BACILLOCID RASANT (BODE), BACILLOL AF (BODE), BACILLOCID SPEZIAL (BODE), KOHR SOLIN FF (BODE), KOHR SOLIN (BODE), MICROBAC FORTE (BODE), DISMOZON PUR (BODE), INCIDIN FOAM (ECOLAB), INDUR DES (ECOLAB).

Check with your supplier the disinfectant does not damage plastic surfaces (PUR, PA, ABS, PVC).

Prevent contact on electrical components with damp or moisture. Cleaning cloths should be damp, not wet. Carefully check no moisture remains in the system.

Execute a functions control procedure before using the system again.

Check your cleaning process on effectiveness on a regular basis.

12 Troubleshooting

Problem	Cause	Solution
Mattress does not inflate or inflates insufficiently.	Connectors are not accurately locked. Tubes are twisted or kinked. Defect cell.	Check connection and position of the tubes. Exchange possible defect cells.
The unit does not operate (green light at on switch is not illuminated).	No power available. Plug defect, power cord socket defect, safety fuse defect.	Check plug and partition. Check the safety fuse at the location where the power cord enters the power unit.
Red alarm light is blinking and acoustic signals sounds.	Connectors not accurately locked. Air cell defect. Tubing defect.	Check connectors, cells and tubing. Check CPR valve. Exchange possible defect cell.
The patient sinks too deep into the mattress.	Air cell defect. Tubing defect. Pressure not correctly set.	Check cells and tubing connections. Check pressure setting. Exchange possible defect cell.

13 Indications · Contra indications

Function	Indications	Contra indications
Alternating pressure	Pressure ulcers up to high risk (Stage 3). Large surface wounds. Plastic surgery.	Spastics e.g. situation according to apoplex. Pain patients, e.g. patients with osteoporosis. Neurological patients (e.g. lost of sensivity). Instable fractures.
Static pressure	Pressure ulcers up to high risk (Stage 3). Large surface wounds. Spastics e.g. situation according to apoplex. Pain patients e.g. patients with osteoporosis.	Spastics e.g. situation according to apoplex. Pain patients, e.g. patients with osteoporosis. Neurological patients (e.g. lost of sensivity). Instable fractures.

14 Technical data

	Mattress	Pump
Material	PU-Nylon	ABS
Dimensions in cm	190 x 86,5 x 13,5	23 x 15 x 8,5
Weight in kg	6,1	~1,5
Warranty*	2 years	2 years
Electr. connections	-	230 V /7 W
Protection class	-	Protection class II
Fuse	-	230 V/F500mA (slow)
Cover	Polyurethane, washable to 95 °C, can be used in dryer (to 50 °C)	
Application	Pressure ulcer prevention and treatment up to High Risk (Stage 3), patient weights between 30 -140 kg.	

* Warranty only valid in case of production or material failures.

In case of technical problems please contact your appointed dealer or directly to ADL® GmbH.

(Dealer stamp)

ADL® GmbH
An der Germania Brauerei 1
48159 Münster
Germany
Phone: + 49 251 149896-0
Fax: + 49 251 149896-99

ADL® GmbH
Production- and servicer center
Im Flürchen 1
99334 Amt Wachsenburg
Germany
Phone: + 49 36202 7519-0
Fax: + 49 36202 7519-12

E-Mail: info@adl-gmbh.de
Internet: www.adl-gmbh.de



Copyright durch ©ADL GmbH · Münster
Stand 09/2018