

Instruction Manual **"ALTITUDE"**



NV VERMEIREN BELGIUM

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Notice to the dealer:

This instruction manual is part and parcel of the product and it should accompany each product delivered.

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PREFACE

First of all we wish to thank you for the trust you placed in us by selecting one of our products.

Vermeiren products are the result of research and experience acquired over many years. During development we placed great emphasis on simplicity of operation and maintenance.

The working life of the product depends to a large extent on the care with which you use it. This instruction manual will help you to get acquainted with the operating of your shell chair. It also advises you on how to keep your product in a good operating condition to ensure a long working life.

This instruction manual reflects the latest state of development of the product. However, Vermeiren reserves the right to introduce changes without any obligation to adapt or replace previously delivered models.

Please keep in mind that compliance with our instructions will contribute to your shell chair remaining in top condition and fully operational even after many years of use.

If you have any further questions, kindly consult your specialist dealer.

APPLICABILITY

With the ALTITUDE shell chair, you have acquired a product that was developed entirely for your comfort. The ALTITUDE has been designed exclusively for people with limited mobility. You will need a helper for indoor transporting of the ALTITUDE, and the chair might also need its own storage place. Please read the instruction manual carefully to familiarize yourself with your product. It has not been designed for outside usage.

Vermeiren's wide range of equipment and options allows usage by people with restricted movements suffering from:

- paralysis
- weak/malformed limbs
- injuries of the joints
- diseases like heart problems, poor circulation, disturbance of balance, cachexia and old-age illnesses

The indication to use this product must take into account the following elements:

- body size and weight (**max. load 120 kg**)
- physical and psychological condition
- home environment

Any guarantees will only apply if the product is used under the prescribed conditions and for the specific purposes intended herein.

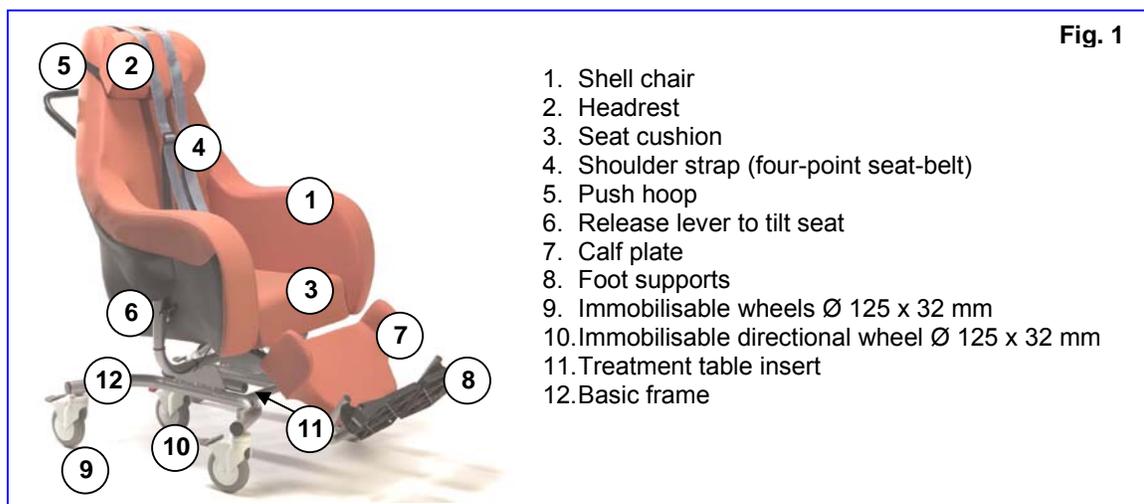
GENERAL NOTES

The frame of the ALTITUDE shell chair is made of aluminum. The shell chair is made of a composite synthetic material and the cover of pressurized plastic foam. The use of bilastic covers increases adaptability of the seat to the user. However, an imitation leather cover is also available. The footplates have been made of high-resistance ABS synthetic material.

The angle of the shell chair and the leg supports can be adjusted by means of a pneumatic cylinder.

The seat cushions come in different diameters, with the SOFT version also made of pressurized plastic foam and a bilastic cover. An imitation leather cover will be supplied on request.

COMPONENTS OF THE SHELL CHAIR



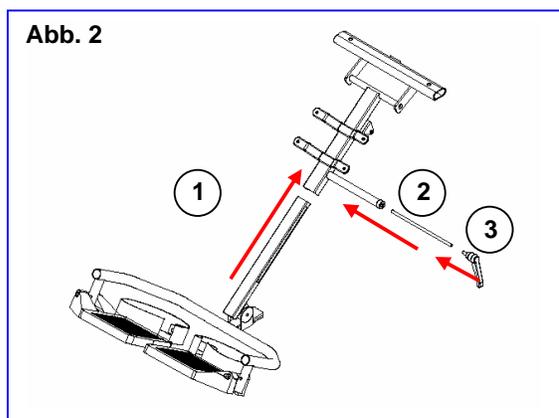
SPECIFICATIONS

(given in fully assembled condition and as standard equipment)

Total length	112 cm				
Total width	67 cm				
Seat width	38 cm	40 cm	42 cm	44 cm	48 cm
Total height	119cm -124cm (standard setting: 121.5 cm)				
Height of seat	45 cm -56 cm (standard setting: 52 cm)				
Seat inclination	-4° to +36°				
Seat depth	46 cm				
Height of backrest	75 cm -79 cm (standard setting: 77 cm)				
Height of armrests	23 cm -27 cm (standard setting: 25 cm)				
Total weight	Approx. 25 kg				
Max. nominal load	Nominal load 120 kg				
Max. gradient (up-/downhill)	6%				
Color of frame	Silver-gray				
Cover	Dartex® Balmy Green	Dartex® Orange	Sky blue		

We reserve the right to introduce technical changes. Tolerances +/- 15 mm/kg, 1.5°

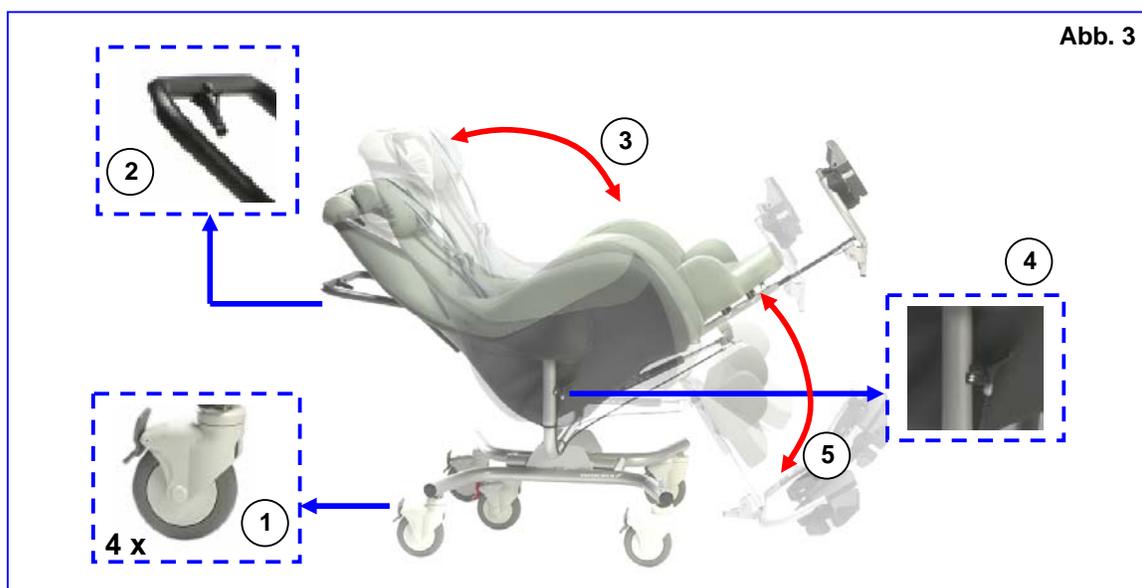
FITTING OF LEG SUPPORTS



- 1 Insert the leg support guide into the socket below the calf plate.
- 2 Insert the safety rod into the side of the guide.
- 3 Put the screw handles into the side of the guide, set the length of the leg support and fasten the screw.

Before use, always check that the screws have been fastened properly.

ADJUSTMENT FUNCTIONS

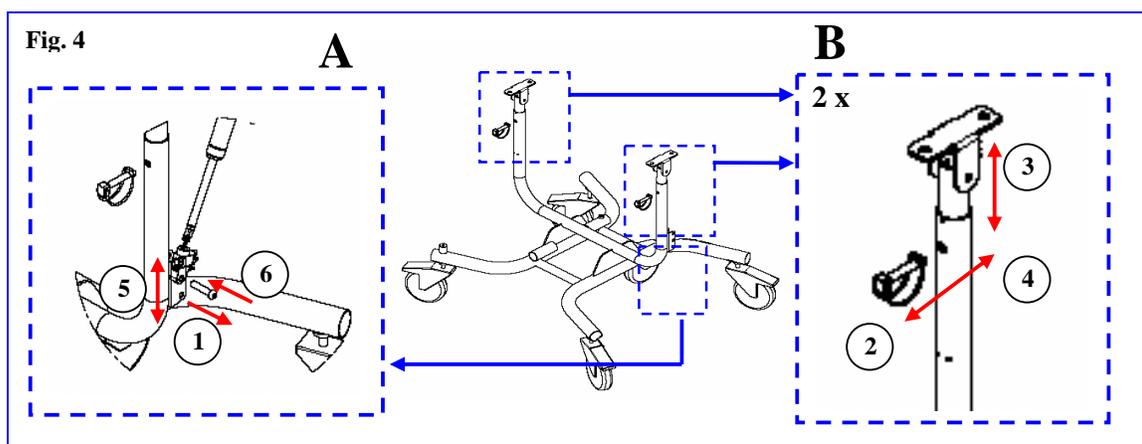


- ① Fasten the brakes of the wheels by pushing the gray brake backplates down with your toes. To again release the brakes, push the brake backplates forward in the direction of the frame with your toes.
- ② Pull the lever on the back tube to release the gas pressure spring.
- ③ Pull the push hoop in the desired direction to incline it backwards or set it in the horizontal position (+36° to -4°).
- ④ To set the angle of the leg supports, pull the lever located below the right armrest.
- ⑤ While keeping in the release lever you will be able to set the leg supports in a clickfree movement all the way up to the horizontal position. Once the desired position has been reached, let go of the lever.

L Always first fasten the brakes on the wheels before adjusting any of the settings.

ADJUSTMENT OF THE SEAT HEIGHT

To adjust the seat height you can either make use of seat cushions of different diameters, or set the shell chair itself at different heights on the frame. The shell chair must not be removed during this process. The safety pins (Fig. 4 B) can be accessed by folding upwards the flaps fitted on the shell.

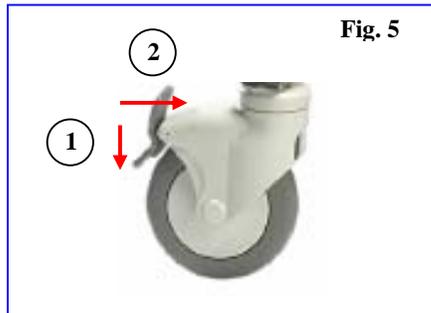




- ① Loosen the screw of the pneumatic spring support (left armrest frame).
- ② On both sides pull out the safety pins of the seat height adjuster (upper armrest frame).
- ③ Now set the shell chair to the desired position.
- ④ On both sides secure the desired setting by inserting the safety pins and securing them (NB: adjust the height on both sides at the same time!).
- ⑤ Set the pneumatic spring to the desired height.
- ⑥ Insert the screw of the pneumatic spring support and firmly tighten by hand.

- L The height of both armrests must be adjusted at the same time.
- L Check that all safety pins and screws have been properly secured and fastened.
- L Adjusting can only be done by authorized people.

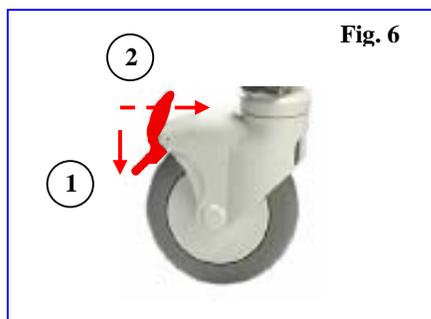
RUNNING WHEELS / PARKING BRAKES



- ① **Engaging the parking brakes**
With your foot, press the gray brake plate downwards till it locks in place. The wheels can now neither roll nor turn.
- ② **Disengaging the parking brakes**
With your foot, press the gray brake plate in the direction of the frame. The wheels have now been released and can both roll and swivel.

- L To put the shell chair in a parking position, all four wheels must be locked in place.

DIRECTIONAL LOCKING



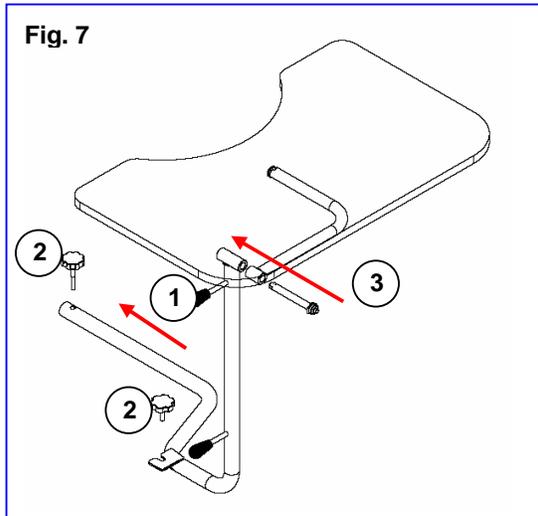
- ① **Engaging the directional lock**
With your foot, press the red brake plate downwards till it locks in place. The directional lock has now been engaged and the wheels can run in a parallel direction only. This keeps the shell chair from moving sideways or swerving.
- ② **Disengaging the directional lock**
With your foot, press the red brake plate in the direction of the frame tube. Your directional lock will now be disengaged. The shell chair can now be moved sideways.

- L The directional lock is not designed for slowing down the chair whilst driving!

ACCESSORIES

● TREATMENT TABLE (B12)

If, while using your shell chair, you want to enjoy the possibility of taking your meals, writing or performing other activities that require a working surface, we offer a treatment table – featuring a cut-out for your abdomen (B12) – that can be lowered down to the side if not required, or placed on the armrest cushions by inserting the guide located under the shell chair into the sockets provided to that intent.



- 1 Insert the B12 support into the sockets provided to this intent on the underside of the frame (see Fig. 1).
- 2 Secure the support to the underside of the frame with the fixing screws.
- 3 Insert the floating axle from the front through the table sockets and then through the B12 support. (To set the table closer to your body, the floating axle could also be inserted first through the B12 support and then through the table support).

! A plastic washer must be placed between the table and the B12 supports. When the treatment table is removed, take care that you do not lose the washer.

! Use the table only when seated in the upright position.

! For proper use of the treatment table (B12): please note that the fitting can only be attached to the right side of the chair.

! Before using the table, make sure that all screws have been tightened properly.

! To prevent injury and/or damage, make sure that no objects or body parts could be compressed between the table and the armrest cushion.

! To avoid injury and/or damage there should be no persons and/or objects on the right side of the shell chair when the board is lowered.

! When using or lowering the treatment table, the immobilizers must be engaged to prevent the chair from moving on its own as a result of the movements on the chair as this might cause injury and/or damage.

! Only your specialist dealer should be allowed to fit these accessories – only he has suitable tools and required expertise.

! Your warranty claim will be voided in the case of injury and/or damage due to unauthorized persons having improperly fitted the accessories.

● FOUR-POINT SEAT-BELT

(Included depending on version and place of sale)

Buttons on the back allow assembling/disassembling of the four-point seat-belt. When using the seat-belt, take care that the straps be placed in such a way that both the shoulder- and pelvis-straps straight, i.e. untwisted, on both shoulders and both sides of the body.

First let all four straps go to the front of the body of the patient and there fix them securely. Now use the loose ends of the individual buckles to adjust the width of the straps.

! Use the seat-belt only with the consent of the patient or his/her authorized representative.

● PILLOW

(Included depending on version and place of sale)



An elastic strap attached to the pillow enables placing thereof on the upper part of the seat at the height of the head. The pillow comes with a hollow in which the patient can rest his/her head. The material used for the cover and inside of the pillow is the same as that used for the cover of the shell chair.

TRANSPORTING THE SHELL CHAIR

Note the following when you transport the shell chair:

Never use the shell chair to transport a patient.

Use the relevant lever to set the seat in a horizontal position and remove the leg supports (see chapter on "Leg Supports". You may now let a minimum of two adults carry the shell chair.

Never pick up the shell chair by its wheels. Take hold only of fixed parts either on the front, on the back, or on the sides under the armrests.

At least two persons are required for moving the chair up or down staircases or over single steps. Do not tilt the chair during transporting.

To prevent personal injury or damage, there should be no people or objects under the shell chair during transportation.

Never let anyone sit in the shell chair while you are transporting it in a private vehicle.

When transporting the chair in a private vehicle, use safety straps to anchor the shell chair's frame to the vehicle.

USING RAMPS

If you are considering the installation of ramps to overcome obstacles, kindly note the following:

The chair is intended firstly and mostly to be used inside on level and solid surfaces. Never go up or down ramps that are rough or have bumpy edges. Limit yourself to ascents or descents with a maximum angle of 6%.

Never go up or down ramps without the aid of a helper.

FOR YOUR SAFETY

Take note of the following safety hints:

Use your shell chair strictly according to regulations. For example, avoid uncontrolled rolls against an obstacle (step, edge of the kerb) or jumping down from a landing or a ledge.

Never cross steps, ledges or other obstacles with a patient seated on the chair. If alternatives like ramps or lifts are available, use them.

Regularly check that the wheel immobilizers function correctly.

Be careful when using possible causes of fire such as cigarettes since they may set the seat and back covers alight.

Never exceed the **maximum load (120 kg)**.

Never open the gas pressure springs: the inside pressure is very high and may result in injury!

If one of the gas pressure springs is damaged, stop using the shell chair immediately. Contact your specialist dealer and have the necessary repairs done without delay.

Use only genuine and original parts for maintenance work.



SERVICING

Your shell chair requires servicing just like any other technical product. Below follow the imperatives that will – if you closely follow them – enable you to enjoy all the advantages of your chair even after many years of use.

• BEFORE DRIVING

Check the tyres for visible damage and/or soiling.

- Remove any dirt since it could impair the functioning of the parking brakes.
- If a wheel gets damaged, go see an authorized workshop for repair without delay.

• APPROX. EVERY 8 WEEKS

Depending on the frequency of use lubricate the following parts lightly:

- Movable parts of the leg supports
- Movable parts of the tilt mechanism

• APPROX. EVERY 6 MONTHS

Depending on the frequency of use check the following:

- Cleanness
- General condition
- Function of the wheels

If the rotation resistance is too large, clean the bearings of the steering wheels. If this is insufficient, please consult your specialist dealer.

INSPECTION

In principle we recommend one inspection every twelve months, and a minimum of one before usage is resumed. All of the following checks must be performed and documented by authorized persons:

- Check the frame parts for plastic deformation and reduced functioning.
- Visually check for damage to the paintwork (danger of corrosion)
- Check the operation of the wheels (free running, level rolling, wheel immobilizers)
- Check the solidity and tightness of all screws, nuts and bolts.
- Verify the amount of grease on the metal joints of movable parts
- Visually check all plastic parts for tears and brittle spots
- Check the functioning of the leg supports (locking, loading, deformation, wear and tear due to loading, gas pressure springs, adjustment levers)
- Check the operating of other detachable parts (e.g. multi-point safety belt, treatment table)
- Visually and functionally inspect the gas pressure springs (including the adjusting lever and Bowden cable)
- Verify completeness of the delivery condition
- Is the instruction manual available?

The service must only be signed off in the service plan if a minimum of all the above-mentioned aspects have been checked. If your specialist dealer is incapable of performing the required services, please contact the manufacturer. We shall gladly refer you to authorized specialist dealers in your area.

The manufacturer is not liable for damage caused by the lack of or improper service.

CARE

Your shell chair will require regular care if you want it to remain visually attractive. Please take note of the following hints:

• COVERS

Clean the covers with a cloth moistened with hot water. You may remove stubborn dirt by taking off the cover and washing it with a mild commercial detergent. Stains can be removed by using a sponge or a soft brush. Do not use brushes or any other pointed objects for cleaning a DARTEX cover.



Do not use strong cleaning liquids like solvents, nor use hard brushes.

We shall decline all liability for damage due the use of improper cleaning liquids.

• **PLASTIC PARTS**

Use commercial plastic cleaners to clean all plastic parts. Please comply with special product information.

• **SURFACE LAYERS**

The high quality of the surface layer guarantees optimal protection against corrosion. If the outer layer has been scratched or otherwise damaged, you can protect the area by applying varnish obtainable from your specialist dealer. Occasional greasing of the movable parts (also refer to the section "Servicing") will ensure that you enjoy the benefit of your shell chair for many years to come.

Initially the chrome parts only require rubbing with a dry cloth. Dull spots or stubborn dirt can best be removed by using a suitable commercial chrome polish. If steel parts are lightly greased with vaseline premature dulling of the chrome can be avoided.

To guarantee the long-term preservation of your shell chair, we recommend that you take it to your specialist dealer for inspection once a year. These inspections can be signed off in the "Service plan" section.

The manufacturer does not accept liability for damage/injury caused by inadequate servicing and care.

DISINFECTION

Disinfection must be performed only by a trained hygienist or someone appointed by him.

All parts of the shell chair can be disinfected by scrubbing. In terms of the stipulations of the Federal Epidemic Law, in general all surfaces of a system or product of this nature must be disinfected before handing it over to a new user, or when infections are detected in the user.

Disinfective substances may only be applied by authorized professional staff trained in the functioning and application of disinfectives.

You should wear suitable protective clothing because the disinfectants could irritate your skin. For this purpose you should also take note of the product information of the solutions concerned.

You employ unauthorized persons at your own risk.

The manufacturer shall decline all liability for damage or injuries due to the improper handling of disinfectants.

All steps taken to disinfect rehabilitation equipment, their components or other accessory parts are to be recorded in a disinfection report containing a minimum of the following information (with product documentation appended):

Table 2 – Example of a disinfection book

Date of the disinfection	Reason	Specification	Substance and concentration	Signature

Abbreviations used in column 2 (reason):
V = suspected infection IF = infection case W = repetition I = inspection

We recommend the following disinfectants for scrubbing (based on the list provided by the Robert Koch Institute, RKI):

Wirkstoff	Name	Wasche- desinfektion		Flächen- desinfektion (Scheuer- Wischdes- infektion)		Desinfektion von Ausscheidungen 1 Teil Auswurf oder Stuhl + 2 Teile Gebr.- Verd. bzw. 1 Teil Harn + 1 Teil Gebr.-Verd.						Wir- kungs- bereich	Hersteller bzw. Lieferfirma
		Gebrauchsverdünnung		Gebrauchsverdünnung		Auswurf		Stuhl		Harn			
		%	Std.	%	Std.	%	Std.	%	Std.	%	Std.		
Phenol oder Phenolderivate	Ämocid	1	12	5	6	5	4	5	6	5	2	A	Lysoform Schüke & Mayr B. Braun Petzold
	Gevisol	0,5	12	5	4	5	4	5	6	5	2	A	
	Helipur			6	4	6	4	6	6	6	2	A	
	m-Kresolseifen- lösung DAB 6	1	12	5	4							A	
	Mucoic-F 2000	1	12									A	Merz
	Phenol	1	12	3	2							A	Ecolab
Velicin forte					5	4	5	6			A		
Chlor, organ. oder anorgan. Substanzen mit aktivem Chlor	Chloramin-T DAB 9	1,5	12	2,5	2	5	4					A ¹ B	Lysoform Lysoform
	Clerina	1,5	12	2,5	2	5	4					A ¹ B	
	Trichlorol	2	12	3	2	6	4					A ¹ B	
Perver- bindungen	Äpesin AP100 ²			4	4							AB	Tana Chemie
	Dismozon pur ²			4	1							AB	Bode Chemie
	Perform ²			3	4							AB	Schüke & Mayr
	Wofasteri ²			2	4							AB	Kesla Pharma
Formaldehyd und/oder sonstige Aldehyde bzw. Derivate	Aldasan 2000			4	4							AB	Lysoform
	Antiseptica Flächen- Desinfektion 7			3	6							AB	Antiseptica
	Aldospray-Konz.			3	4							AB	Lysoform
	Äpesin AP30			5	4							A	Tana Chemie
	Bacillocid Spezial			6	4							AB	Bode Chemie
	Buraton 10 F			3	4							AB	Schüke & Mayr
	Desomed A 2000			3	6							AB	Desomed
	Desinfektions- reiniger Hospital			8	6							AB	Dreiturm
	Desomed Perfekt			7	4							A	Desomed
	Fink-Antisept B			8	6							AB	FINKTEC
	Formaldehyd- Lösung DAB 10 (Formalin)	1,5	12	3	4							AB	
	Incidin perfekt	1	12	3	4							AB	Ecolab
	Kohrsolin	2	12	3	4							AB	Bode Chemie
	Lyso FD 10			3	4							AB	Schüke & Mayr
	Lysoform	4	12	5	6							AB	Lysoform
	Lysoformin	3	12	5	6							AB	Lysoform
Lysoformin 2000			4	6							AB	Lysoform	
Melsept	2	12	4	6							AB	B. Braun Petzold	
Melsitt	4	12	10	4							AB	B. Braun Petzold	

(...)



Wirkstoff	Name	Wasche- desinfektion		Flächen- desinfektion (Scheuer- Wischdes- infektion)		Desinfektion von Ausscheidungen 1 Teil Auswurf oder Stuhl + 2 Teile Gebr.- Verd. bzw. 1 Teil Harn + 1 Teil Gebr.-Verd.						Wir- kungs- bereich	Hersteller bzw. Lieferfirma
		Gebrauchsverdünnung		Gebrauchsverdünnung		Auswurf		Stuhl		Harn			
		%	Std.	%	Std.	%	Std.	%	Std.	%	Std.		
Formalde- hyd und/ oder sonstige Aldehyde bzw. Derivate	Minutil	2	12	6	4							AB	Ecolab
	Multidor			3	6							AB	Ecolab
	Muscosept			5	4							AB	Dr. Nusken Chemie
	Optisept			7	4							A	Dr. Schumacher
	Pursept-FD			7	4							AB*	Merz
	SeptocleanFDN			3	6							AB	Haka Kunz
	Tegodor			3	6							AB	Goldschmidt
UltrasolF	3	12	5	4							AB	Fresenius	
Amphotensid	Franko-DES	2	12									A	Franken
	Tensodur 103	2	12									A	MFH >Marienfelde<
Lauge	Kalkmilch ³							20	6			A ³ B	

¹ Gegen Mykobakterien insbesondere in Gegenwart von Blut bei der Flächen-desinfektion unzureichend wirksam. ² Nicht zur Desinfektion von merklich mit Blut kontaminierten Flächen oder von porösen Oberflächen (z. B. rohem Holz) geeignet. ³ Unbrauchbar bei Tuberkulose; Bereitung der Kalkmilch: 1 Teil gelöschter Kalk (Calciumhydroxid) + 3 Teile Wasser. * Viruswirksamkeit gemäß Prüfmethod des RKI [Bundesgesundheitsblatt 38 (1995) 242] geprüft.

A: suitable for killing vegetative bacterial germs including myco-bacteria as well as fungi, including fungal spores.
B: suitable for deactivating viruses.

The current state of the disinfectants included in the RKI list can be obtained from the Robert Koch Institute (Home page: www.rki.de).

Kindly consult your specialist dealer if you have further queries on matters relative to disinfection; he will gladly assist you.



GUARANTEE

Excerpt from the "General Business Conditions":

(...)

5. The guarantee period for warranty claims is 24 months.

(...)

The guarantee excludes damage arising from structural changes to our products, insufficient maintenance, defective or improper handling or storage or the use of pirate parts. Likewise, the guarantee excludes parts or working parts subject to natural wear and tear.

(...)

CONFORMITY

The manufacturer or his authorized representative:

N.V. VERMEIREN and Company

Address:

Vermeirenplein 1/15, B-2920 Kalmthout (Belgium)

hereby declares that

all ALTITUDE shell chairs

fully comply with the requirements of the latest version of the following European guidelines and national laws and regulations whereby these guidelines have been implemented:

MDD 93/42/EWG (Medical products)

and that the following harmonized European standards apply to them:

(DIN) EN 12182, (DIN) EN 12183



SERVICE PLAN

The shell chair was checked:

Dealer's stamp
Date :

Dealer's stamp
Date :

Dealer's stamp
Date :

Dealer's stamp
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Dealer's stamp
Date :

For service checklists and additional technical information, please see our specialist dealers nearest to you. More information on our website at: www.vermeiren.com



Please note that in some of the countries where Vermeiren products are marketed, different laws and regulations may apply in addition to the European guidelines. Kindly contact the specialist dealer in your country for more information.

ADDRESSES

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