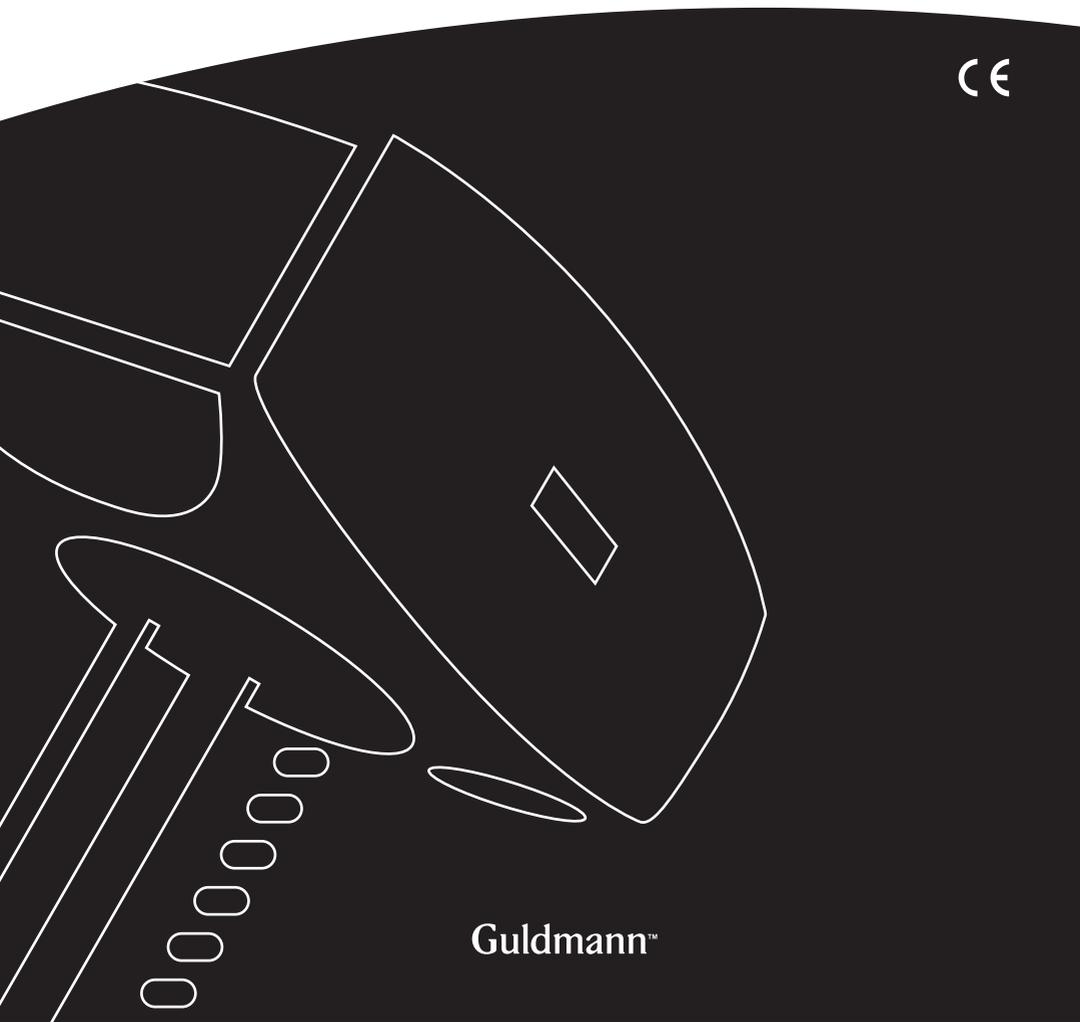




**GB .....DH 2000**

**Vers. 1.00**

CE



**Guldmann™**

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## DH 2000, Ceiling - mounted hoist

### Item nos:

12075 - 000

12075 - 100

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**1.00 Purpose and Use**

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**1.01 Manufacturer**

V. Guldmann A/S.  
Graham Bells Vej 23A  
DK – 8200 Århus N  
Tel. + 45 8741 3100  
Fax. + 45 8741 3131

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**1.02 Purpose and Use of Hoist****Purpose**

DH 2000 is a lifting module of the Guldmann Ceiling-Mounted Lifting Systems. DH 2000 is suitable in all Guldmann rail systems, both single track, room-covering, and combined rail systems. DH 2000 is developed for use in private homes, institutions, hospitals, riding schools, and swimming pools, where it offers full flexibility for lifting, transferring, and transporting of elderly and disabled persons.

**Requirements**

The instruction that Guldmann offers all customers when ordering a DH 2000, has been received. When a hoist is used in an institution or in the home care service, the assumption is that it will be operated by qualified staff. Use slings with 4-6 lifting straps designed for use with hooks of min. Ø 8 mm.

**Lifting to and from a sitting position**

When lifting from e.g. a wheelchair, move DH 2000 towards the person to be lifted. The lifting hanger should be level with the chest and positioned above the middle of the thigh. Position lifting hanger parallel to the user's shoulders. Now fit the lifting sling to the lifting hanger. For instructions on how to fit the sling, see the section entitled "Fitting the sling".

**Lifting to and from a lying position in bed**

The lifting hanger is placed right over the person. The lifting hanger should be parallel with the person's shoulders. Now fit the lifting sling to the lifting hanger. For instructions on how to fit the sling, see section entitled "Fitting the sling".

**Working with DH 2000**

As the DH 2000 does not require any special space or power consumption and as it is easy to move around in the rail system, only the user's functional level and the carer's working technique need to be considered. Lift the user clear of the surface and continue transferring at this height.

### Fitting the sling

Hook the top set of straps (from the back) to the hooks facing the user. Hook the lower set of straps (from the legs) to the hooks facing away from the user.

#### From a chair, wheelchair or other sitting positions

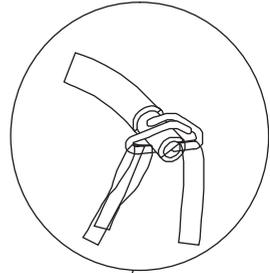
Place lifting sling behind user's back e.g. between the back of the chair and the user's back.

The suspension strap marking the size of the sling, for instance M, indicates the centre of the sling and should follow the spine.

The green, blue or red type marking bands run parallel to the spine.

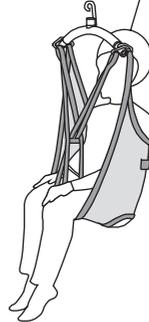
The user should not sit on the sling.

Bring the leg straps along the outer thigh and then under the thigh between the back of the knee and the hip. Now cross the leg straps in front of the user. All four straps are now ready to be mounted to the lifting hanger.



#### Lying position in bed, on a mattress or on the floor

Turn the user on his side. Place the high back sling so that its upper edge is flush with the top of the user's head. Put the sling on the user so that the coloured bands run parallel to the spine. Turn the user on his back and pull the sling out. Bring the leg straps under the thigh and cross them over. All four straps are now ready to be mounted to the lifting hooks.



#### If in doubt about how to use the sling, please contact your supplier.

Guldmann A/S cannot be rendered liable for inadequate anchoring resulting from incorrect estimation of mounting conditions.

Guldmann cannot be rendered liable for defects or accidents due to incorrect fitment or assessment of slings.

## 1.03

### Important / warning

- Read the user manual fully before using the DH 2000.
- Do **not** exceed the max. load of 175 kg.
- If accessories are used that are marked with a lower load capacity than 175 kg, the lowest load capacity decides the maximum load of the DH2000.
- Use the hoist to lift persons only.
- Do not use DH 2000 where there is a risk of considerable amounts of water continuously coming into direct contact with the hoist.
- If the DH 2000 shows defects during use, operation must be discontinued. Contact your local Guldmann representative for a possible repair
- The DH 2000 must not be used without the extension strap if the distance between rail and floor exceeds 3 metres.
- The string of the emergency lowering unit should be adapted to the reach of the user.

1.04

**Sling Safety**

Only CE-marked slings with a lifting capacity corresponding to or higher than the lifting capacity of the DH 2000 are to be used.  
 The lifting straps must be suitable for hooks with a diameter of 8 mm. The lifting straps must be designed for use with a four-point horizontal lifting hanger. Goldmann cannot be rendered liable for defects and accidents, due to use of a sling manufactured by others.

1.05

**Unpacking and preparation of the hoist**

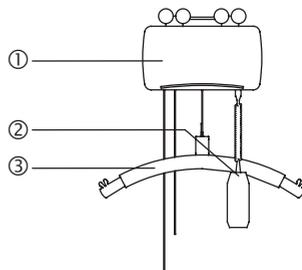
**Visual check of hoist:**

Should the packaging be damaged on receipt, each part of the hoist must be carefully examined for visible defects or deficiencies. In case of suspected damage, do not use the hoist until authorised by qualified service staff or the Goldmann Service Team.

**Parts list:**

**Pos.**

- 1. DH 2000
- 2. Hand switch
- 3. Lifting hanger, if delivered

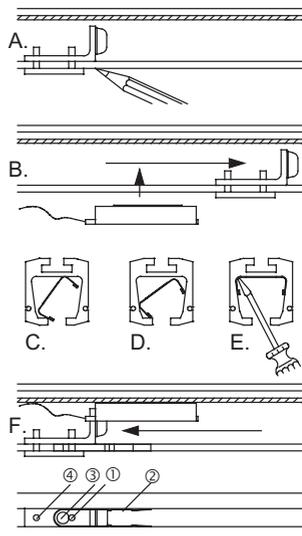


1.06

**Mounting of charging station.**

Always position the charging station together with an end stop. Check that the current receiver on the hoist / trolley for traverse rail is turned the right way so that it faces the conductor housing.  
 Make a mark on the rail to indicate where the end stop is to be positioned.

- B Loosen the end stop and slide it up the rail. Pull the wire of the conductor housing out of the rail and position the rear end of the conductor housing opposite the mark.
- C Remove the cover film from the tape on the conductor housing and push one side of the conductor housing into the rail.
- D Push the other side of the conductor housing into the rail so that it rests on the bottom of the rail. Check that the conductor housing is positioned opposite the mark.
- E Push the conductor housing into position in the rail. Push right at the side of the conductor housing in order to avoid deforming it. Give the conductor housing a press to ensure that the tape is in fully contact with the rail.



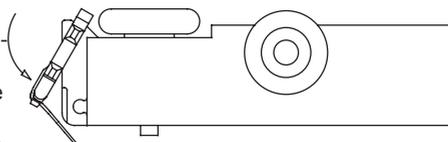
Slide the end stop back to the mark. Unscrew the screw (1) next to the rubber knob of the end stop and fit the spring retainer (2) into the opening of the rail underneath the end stop. The opening of the spring retainer must face the hoist. The foam rubber disc (3) must be positioned at the bottom end of the spring retainer (4) behind the screw. Tighten the end stop.

Connect the conductor housing to the charger and check the function. The positioning of the conductor housing could be marked by means of the enclosed labels with charging symbols.

## 1.07

### Mounting of charging station in the traverse rail system.

When charging in the traverse rail system, two conductor housings, one for the traverse rail and one for the parallel rail are employed. Furthermore, one current receiver is employed in addition to the current receiver on the hoist.



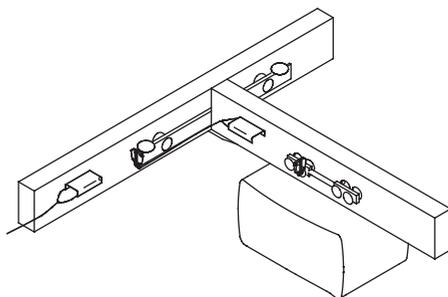
The above mounting instructions apply for the mounting of the conductor housing in connection with trolley for traverse rail. However, no spring retainer is to be mounted.

Before mounting the trolleys for traverse rail, position the current receiver on one of the trolleys for traverse rail and make sure that it will face the chosen position of the conductor housing.

Fit the current receiver to the hanger at the end of the trolley and push it into position in the eye of the hanger. The solderings of the current receiver must turn away from the trolley.

### Check that the wire is secured in the hooks placed at the bottom of the current receiver.

After mounting the traverse rail, mount the conductor housing of the hoist as shown in the instructions, and connect it to the current receiver on the trolley for traverse rail. The marked wire is the + conductor. (The + conductor of the conductor housing is connected to the + conductor of the current receiver)



Stick the wire underneath the trolley for traverse rail by means of double sided adhesive tape.

Connect the conductor housing to the charger and check the function.

The positioning of the conductor housing could be marked by means of the enclosed labels with charging symbols.

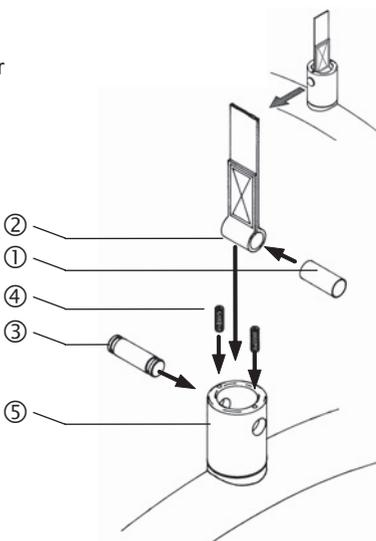
If service/repair should be necessary, the conductor housing and charging station for the room-covering system can be dismantled and exchanged without dismantling the rail system. For servicing of the current receiver it is necessary to remove the hoist and/or the travelling trolley from the rail.

**Assembling before use**

Place the DH 2000 lifting unit in the rail prior to mounting the lifting hanger. The Guldmann lifting hanger model 21170 or 21190 is mounted on the lifting strap as shown on the drawings below.

For use with DH 2000, the standard liftinghanger is model 21170.

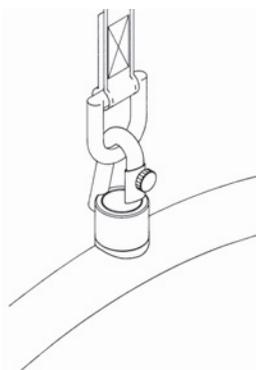
Loosen the pointed screws (4) with the 1.5 mm Allen key to pull out the axle journal (3) and the cylinder sleeve (1). Insert the cylinder sleeve (2) in the lifting strap (2) and mount the lifting hanger(5).



For use with DH 2000 with the oval hook, the lifting hanger is model 21190.

Loosen the screw, remove the pipe and mount the lifting hanger. Reposition the pipe and tighten the screw. The pipe is mounted as shown below

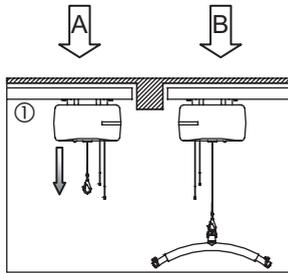
**Please make sure that the screw is correctly fixed and fastened after the installation.**



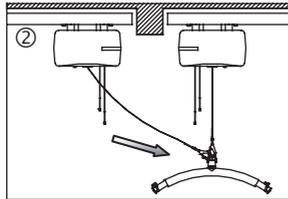
Bath chair, bath stretcher, or horizontal lifting support are mounted direct on to the oval hook of the lifting strap, by means of a snap hook with a swiveling safety. The hand control is connected to the plug on the bottom of the lifting module, as shown on the sketch.



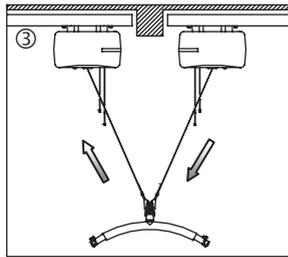
DH 2000 is now ready for use in the Guldmann rail systems.



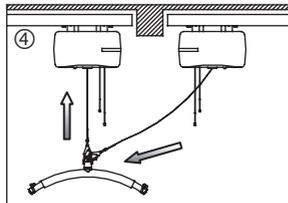
1. Place the two hoists as close to each other as possible.  
Mount the lifting hanger on the hook of hoist B.



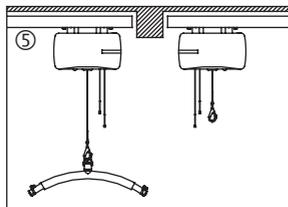
2. Unroll the unloaded strap of the hoist A until it can be hooked onto the oval hook of the lifting hanger.



3. Continue to unroll a little further the lifting strap of the hoist B and then wind up the lifting strap of hoist A.  
Once the transfer from one room to the other is carried out, one of the lifting straps is unloaded, hoist B.

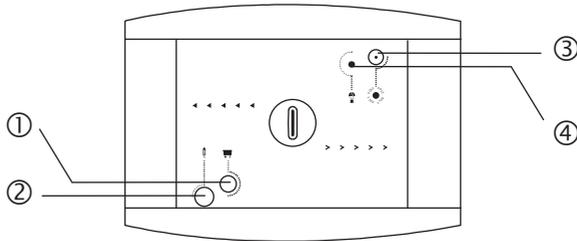


4. Disconnect the unloaded strap from the lifting hanger. Wind up the lifting strap into the hoist B, where it remains until the hook is going to be used again.



5. Move the lifting hanger in hoist A up to correct working height and the transfer through the door is completed.

Pictograms printed on bottom of the DH 2000



1. Charging indicator



2. Hand-control



3. Emergency stop



4. Emergency lowering.

### Hand switch and indicator lamp

DH 2000 switches on automatically when pressing one of the keys of the hand control.

The hoist turns green when the hoist is switched on.

The hoist switches off automatically approx. 1 minute after use.

DH 2000 will only function when the lifting hanger is mounted on the lifting strap.

Lifting and lowering is activated by pressing and of the hand control.



### Transport / Transferring along the rail system

Transferring and transport of the DH 2000 along the rail is carried out manually by the carer

### The transverse drive motor

DH 2000 can be provided with a transverse drive motor, which can be build into the hoist

The transverse drive motor is activated by pressing of the hand control.

DH 2000 with transverse drive motor can also be transported manually along the rail system, when the hoist is switched on and are not activated.

---

**2.03****Safety functions****Important.**

Only use the emergency stop and emergency lowering functions in emergencies. Should it be necessary to apply the emergency / safety functions, the supplier must be contacted prior to using the hoist again.

**Description of the emergency stop function**

If during operation the DH 2000 should not react on the functions of the hand control, the lifting/lowering can be interrupted by pulling the string marked "STOP". The DH 2000 is not ready for operation again, until the emergency stop has been pushed back into the hoist again.

**Description of the emergency lowering function**

If the DH 2000 fails to operate by the hand control, the emergency lowering unit is activated to lower the user safely.

The emergency lowering unit is activated by pulling the string marked . When the emergency stop or emergency unit have been activated the defect has to be repaired before the DH 2000 is ready for operation again.

**Description of the safety strap function**

The lifting stops automatically, when not performed vertically, when the lifting strap is twisted, or in case of overloading.

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**2.04****Recharging / connecting the hoist****Recharging**

When the green lamp on the bottom of the DH 2000 starts flashing, the hoist must be recharged as soon as possible. The DH 2000 is placed at the charging station, which is mounted in an appropriate place in the rail system and connected to the charger. When the hoist is run into position in the charging station, the hoist will respond with a number of "beeps" depending on the charging state of the battery. At the sound of 3-5 "beeps" the battery is fully charged. At the sound of 6-30 "beeps" recharging is required and the hoist should be recharged for a longer period. If the beeping sound does not stop, the batteries are defective. After recharging, when the hoist is run out of the charging station, there will be the sound of one "beep". During recharging the hoist is secured in the charging station by means of a spring retainer. Recharge the DH 2000 overnight or when not in use to ensure a long lifespan of the batteries.

---

**2.05****Connection of Charging station****Recharging in single-track rail - systems.**

Bring the DH 2000 to the charging station.

The charging station signs with a number of beep's, depending on the energy level of the battery. The beep is a guarantee for charging.

**Recharging in room-covering rail systems.**

Bring the DH 2000 to the end of the traverse rail and the traverse rail to the end of the parallel rails where the charging station of the room-covering system is placed. The charging station signs with a number of beep's, depending on the energy level of the battery. The beep is a guarantee for charging.

**Transverse drive motor.**

The transverse drive motor makes the hoist fully automatic. It is built into the DH 2000 without changing the outer dimensions and the visual impression of the hoist.

When the hoist is provided with the drive motor, the speed is gradually increased to 8 metres / minute to ensure a smooth up-start.

**IR remote control.**

The IR remote control is often used with the hoist with transverse drive motor, enabling the user to " call " the hoist and thus to a certain degree be independent of the carer.

**Important:**

When the user is independent, the IR remote control sender should be attached to the user, so that it will always be within the reach.

**Lifting Slings**

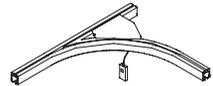
Please ask the distributor for a special leaflet on Lifting Slings.

**Extension strap**

This is used if the distance between rail and floor exceeds 3 metres, and is ordered separately. If E.G. the distance is 3.5 metres between rail and floor you should order an extension strap of 0.5 metres length.

**Switch track**

The switch track is used when it is necessary to divide a single track rail system into two tracks.



The manual switch track is activated by pulling one of the strings hanging down from the switch track. The DH 2000 is driving in the direction of the string pulled. The electric switch track is activated by pressing the key on the hand control once.

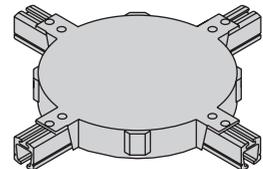
**Safety**

Via mechanical safety devices the product secures the hoist against running off the rail or getting jammed.

**Turntable**

The turntable is used in rail systems where it is necessary to combine 3 or 4 directions.

The DH2000 is positioned in the centre of the turntable prior to use. The turntable is activated by pressing the key of the hand control. When activating the key once, the turntable turns 90°. Keep pressing the key till the desired direction is reached.

**Safety**

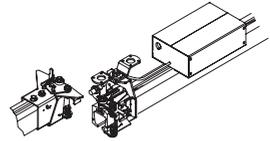
Via mechanical safety devices the product secures the hoist against running off the rail or getting jammed.

### **Combi-lock**

The Combi-lock is used when joining a single-track system with a room-covering system, or when joining two room-covering systems.

By using the Combi-lock the two systems are locked together, for instance when the hoist passes from the single-track system in the bedroom on to the traverse rail in the room-covering system in the bathroom.

The Combi-lock is activated by pressing the key of the hand control once.



### **Safety**

Via mechanical safety devices the product secures the hoist against running off the rail or getting jammed.

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## **3.00 Dismantling & Transport**

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### **3.01 Dismantling the hoist**

The hoist can be dismantled, see section 1.8

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### **3.02 How to transport the hoist ?**

The hoist can be dismantled for transport and storage, see section 3.1

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### **3.03 How to package the hoist for transport ?**

Guldmann recommends that the dismantled hoist is always transported in its original packaging.

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## **4.00 Maintenance and storage**

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### **4.01 Cleaning the hoist**

Hoist and lifting hanger can be cleaned using a damp sponge..

Do not use chemicals or autoclaving to cleanse the hoist.

The charger must only be wiped using a dry cloth.

The charging system is maintenance-free as it is placed inside the rail system.

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### **4.02 Storing the hoist**

The hoist should be kept in a dry room, where the humidity does not exceed 70 per cent. This is why the hoist must never be kept in bathrooms and similar areas.

---

4.03

**Long-term storage**

The hoist should be stored in cool rooms e.g. a basement.  
The hoist should be stored at temperatures below 15 °C due to the risk of running the batteries down. The Guldmann Service Team recommends that the fuses are removed from the hoist when it is stored for long periods of time.

---

4.04

**How to prevent / avoid corrosion ?**

The hoist should not be kept / remain in damp surroundings for long periods. Water vapour might liquefy into water on the hoist, thus causing corrosion / rust in the bearings.

The hoist should not be exposed to sudden cold or warmth. This means that one should not take a cold hoist into e.g a hot bathroom.

The DH 2000 shall be ordered with a treatment / coating if it mainly is used in aggressive environment, eg. swimming baths.

In swimming baths and bathrooms where strong gasses may be present, the hoist is particularly exposed to corrosion.

---

4.05

**Maintenance which should be carried out by the owner?**

Check at regular intervals that the lifting strap has no damages. If the lifting strap is damaged, DH 2000 should not be used. The lifting strap must only be exchanged by an authorized installer.

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5.00

**Service and Life Span**

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5.01

**Life span and servicing of hoist**

According to the international standard EN/ISO 10535 "Hoist for the transfer of disabled persons - Requirements and test methods" a safety inspection of the hoist must be performed at least once a year.

Servicing and estimation of life span are based on the annual service check and maintenance carried out by a service engineer or by the Guldmann Service Team.

The hoist has an expected life span of 15 years. The hoist must then be assessed by qualified service staff as to its future use.

Spare parts lists and drawings are available from manufacturer or supplier.

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5.02

**Battery and fuses**

Change of batteries and fuses should be carried out by a service engineer or by the Guldmann Service Team.

**Service check - Allround**

During the inspection a service report shall be made, describing what has been checked and exchanged.

Worn or defective parts shall be replaced by new spareparts from V. Guldmann A/S.

**1 Visual check of the product.**

- Check the product for wear and tear
- Check the product for any deformity
- Check that the product does not show any other deficiencies.

**2 Test of the product, as during normal use.**

- Check all functions on the product, with and without load,
- ( eg. Up, down, forward, backward, out and in ).
- Check the emergency lowering is operational.
- Check the emergency stop is operational.
- Check the charging indicator is operational.

**3 Dismantle the cover / fence.****4 Check the electrical condition of the products**

- Check the batteries and measure the:
  - Input / Voltage
  - Output / Voltage
- Check electrical functions and signals
- Check all wirings for errors and defects
- Check wire lead-ins
- Check all possible connections, plugs etc.

**5 Check the mechanical condition of the product**

- Clean the product for dirt and other impurities
- Inspect and evaluate the vital parts of the product
- Exchange defective and worn
- Grease the product

**6 Mount the cover / fence****7 Point 1.2 is carried out one more time as a control function****8 Have new errors or problems arisen in point 7?**

- If new problems have arisen, go back to point 3
- If no problems have arisen, finish the inspection.

**9 When a service inspection including service work or exchange of components has taken place, the final check should comprise a weight test with the product's nominal load.**

If the DH 2000 has been silicone-coated for use in wet environment, this coating must be renewed if it shows sign of drying.

5.04

**Trouble Shooting**

**If the DH 2000 does not react when pressing the keys of the hand control ?**

- Check that the plug for the hand control is correctly inserted

**If the green light on the bottom of the DH 2000 does not come on when pressing the keys of the hand control ?**

- Check that the emergency stop is not activated
- Check that the batteries are charged
- Check that the charger is on
- the hand control could be faulty or a fuse is blown in the hoist
- Please contact your local Guldmann representative

**If the green light on the bottom of the DH 2000 is still flashing after the hoist has been recharged ?**

- Check that the light on the charger is on when recharging the DH 2000
- Check that the charger is on
- Check that the charging points of the DH 2000 have been connected properly to the charging station
- Please contact your local Guldmann representative

6.00

**Technical Specifications**

Dimension (WxHxL): . . . . . 350x190x245 mm  
 Maximum lifting capacity: . . . . . 175 kg  
 No. of lifts per charging: . . . . . 100 with 85 kg & 40 with 175 kg  
 Lifting speed with 85 kg load: . . . . . 2000 mm pr. min.

Lifting interval: . . . . . 2000 mm  
 Min. distance from pivot joint on the lifting hanger to the ceiling: . . . . 400 mm  
 Max. distance from pivot joint on the lifting hanger to the ceiling: . . . . 2400 mm

Total weight of hoist without sling:  
 without hanger: . . . . . 14,5 kg  
 Lifting hanger: . . . . . 2,0 kg

Electrical connection for charger / hoist: . . . . . 230V / 115V  
 (depending on national voltage standards)  
 Connection between charger and hoist: . . . . . 24V DC.  
 Consumption / effect of actuator: . . . . . 240 VA.  
 Charger, fully automatic: . . . . . 24V DC / 0,5 Ah.  
 Charging time: . . . . . Max. 8 hours  
 Batteries, gasproof and free of maintenance: . . . . . 2 pcs 12V / 4,0 Ah  
 Battery protection at too low a voltage: . . . . . Yes, disconnects below 17V  
 Permitted periodic load . . . . . 15/85  
 (working time / breaks in percentages)  
 Guarantee . . . . . 1 year

| Time to care |

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