GB/US . . . . GH3/GH3+ Ceiling Hoist

Manual – vers. 7.00

CLASSIFIED C UL US 23W1

Guldmann™

GH3 Lifting modules, version type nomenclature									
Guldmann hoist type	Product line	Load in kg	Number of lifting straps	Number of lifting motors	Number of horizontal drive motors	Scale module	CLM module	Service module	User interface
GH3	(x)	xxx	x	x	x	x	x	x	x
GH3		200	1	1	1				
		250	1	1	1				
	+	200	1	1	1	None : 0 Scale : 1	None : 0 CLM : 1	None : 0 Service: 1	Hand control: 0 IR : 1
		250	1	1	1				
		300	1	2	2				
		350	1	2	2				
	Twin	250	2	2	0				
		500	2	2	0				

GH3	X	Y	Z	Z	Z	Q	Q	Q	Q

GH3/GH3+ Ceiling Hoist

Item nos:
552xxx

1.00 Purpose and use

1.01 Manufacturer

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Graham Bells Vej 21-23A
DK-8200 Aarhus N
Tel. + 45 8741 3100
Fax + 45 8741 3131
www.guldmann.com

1.02 Purpose

The GH3 is a ceiling-mounted hoist, which covers the need for lifting or moving a person in hospitals, nursing homes, institutions, swimming pools, riding schools and private homes.

Conditions for use

The use of the GH3 is subject to the following:

- The GH3 should only be used by trained personnel.
- The maximum nominal load, 200 kg (440 lbs), 250 kg (550 lbs), 300 kg (660 lbs), 350 kg (770 lbs) respectively, must not be exceeded.
- The instruction offered by Guldmann to all customer groups in connection with the purchase of a ceiling-mounted hoist has been received.
- The helper pays attention to the well-being of the user when using the hoist.
- The hoist is used in rail systems which are installed, tested and approved according to Guldmann's stipulation.
- Only technicians who have been certified by Guldmann may install and test the rail systems.
- The hoist is used with the Guldmann lifting hanger or with other suitable hanger *(section 1.08)*.
- The hoist is used with a Guldmann lifting sling or with other suitable slings *(section 1.09)*.

1.03 Important/Precautions

- Read the instructions carefully before using the GH3 and in connection with cleaning and service of the hoist.
- The GH3's maximum load must never be exceeded.
- The GH3 may only be used to lift a person.
- The red strap for the emergency stop and the emergency lowering must be adjutsed to the helpers reach, and must not be removed.
- The GH3 must not be used where there is a risk of it being splashed with water.
- If a defect appears during use of the GH3, stop using the hoist and contact the Guldmann Service Team for repairs.
- The GH3 is controlled by a microprocessor PCB, which can be damaged by static electricity if touched without the necessary precautions, (*see point 1.07)* The electronics may only be serviced by Guldmann approved service technicians.

- The lifting hanger must not be mounted or replaced when the GH3 hoist is positioned over the patient.

  Re: EMC
  If electromagnetic or other influences occur between this product and other products, these products must not be used together.

1.04 Load limits on GH3 system

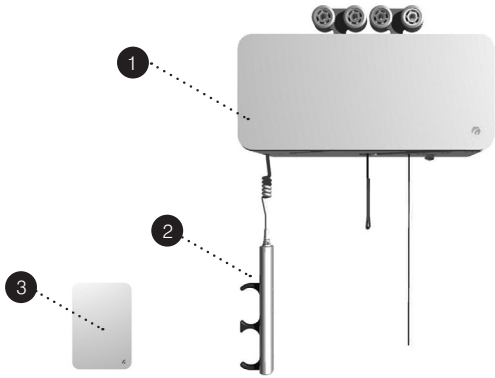
Read the label which indicate the maximum load limits for each component. The components, e.g. lifting hanger, lifting sling, etc. labelled with the lowest load limit determines the maximum load limit for the entire system.
This maximum load limit must not be exceeded.
Please note that the max load may change when different components are used, such as lifting hangers, lifting slings, etc.

1.05 Unpacking and Preparation

Visual check of the GH3.
If the GH3 is thought to be damaged upon reception, the GH3 must not be used before it has been checked and approved by a qualified person or the Guldmann Service Team.

Contents of the box

1. GH3 hoist
2. Hand control
3. Transformer
4. Manual
5. Label for rail system



1.06 Placing a new GH3 Hoist in an existing rail system

Please notice, placing a new GH3 hoist in an existing rail system it must be ensured that:

- The rated max load of the rail system, must be equal or higher than the max load of the new hoist.
  - If there is no max load mentioned on the rail system, the rail system must then be checked according to the guideline in the installation manual (distance between bracket according to max load)
  - If the brackets are not visible, then a load test with 1,5 x max load of the hoist must be performed minimum 20 min. The deflection of rails must not be higher than 1/200 of the length of the rail.

– If it is not possible to do any of the above mentioned, please contact Guldmann or their representative

- If the rail system can not be rated to the same max load as the hoist, then extra brackets must be installed according to the installation manual (distance between bracket according to max load).

Class I equipment
Fixed rail systems are class I equipment and ***must*** be installed by a qualified technician or by Guldmann Service Team.
Equipment is disconnected from Supply Mains by breaking the mains breaker switch.

Class II equipment
Mobile equipment is class II epuipment (marked with double-encassed symbol) and can be connected to the mains direct by the user.
Equipment is disconnected from Supply Mains by detaching the mains plug from the wall outlet.

Emergency stop device
The emergency stop device must be reset in order to connect power to the product. To do this, push the yellow reset button *(see point 2.09)*.

1.07 Power supply

GH3 is equipped with batteries that require regular recharging. The power supply for charging and the battery charging point must be connected by a qualified engineer or by Guldmann Service Team.
The transformer supplied must ***always*** be used.

Safety concerning static electricity (ESD)
Service technicians and installers must use an ESD-safety package consisting of a mat, a ground wire, and a bracelet. The technician/installer connects the mat to a grounding point, for instance a radiator or a water pipe. The technician/installer must then put on the bracelet and connect it to the mat. If it is not possible to find a grounding point, the mat and the bracelet must be used as a minimum.
Only then is it allowed to work with the PC Board or components where it is possible to come into contact with the PC Board.

1.08 Installation of the lifting hanger before use

Lifting hangers from other manufacturers
Guldmann shall not be liable for faults or accidents that may occur as a result of using lifting hangers made by other manufacturers.

If there is any doubt about the selection or use of a lifting hanger, please contact your supplier.

The lifting hanger can be installed to the lifting strap without the use of any tools.

1. Hold the lifting hanger in the right hand and press the yellow button using the thumb as shown *(Fig. 1)*

2. Insert the strap attachment in the slot on the lifting hanger top cover with the open side facing down *(Fig. 2a, 2b)* and release the yellow button *(Fig. 2c)*

3. Rotate the strap attachment to a vertical position *(Fig. 3)*

4. Check that the yellow button has returned to its locked position by checking that it is flush with the cover of the lifting hanger and that the strap attachment can rotate freely.

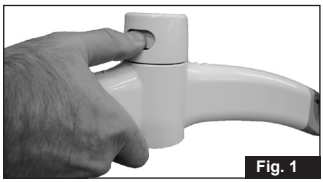


Fig. 1

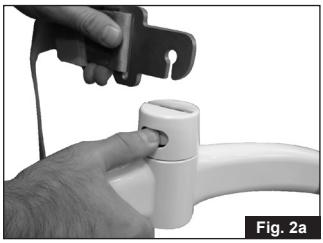


Fig. 2a

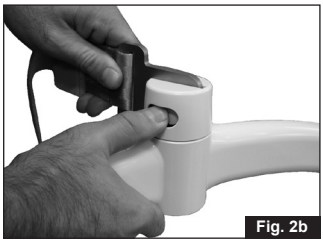


Fig. 2b

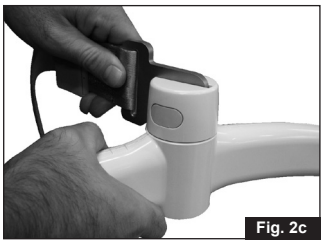


Fig. 2c

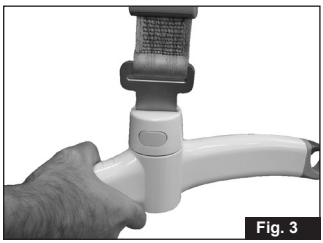


Fig. 3

1.09 Lifting sling

A lifting sling with four to six lifting straps designed for mounting on hooks should be used when using a Guldmann lifting hanger. Place the straps on the hooks. Make sure that the rubber safety catch returns to its start position, so the straps can not unintentionally fall off.

Slings made by other manufacturers

Guldmann shall not be liable for faults or accidents that may occur as a result of using lifting slings made by other manufacturers.

If there is any doubt about the selection or use of a lifting sling, please contact your supplier.

Guldmann shall not be liable for faults or accidents due to incorrect use of the lifting sling, or for reasons of inadequate attention on the part of the carer or user.

Working with the GH3

The GH3 runs easily in the rail system and does not have any special requirements for space or power in connection with moving. Attention can thus be fully focused on the user's functional level and the helper's technique.

If the hoist is used correctly, the user should only be lifted to the extent that she/he is clear of the surface and should be moved at this height.

Attaching the lifting sling

Place the straps from the lifting sling on the hooks on the lifting hanger. Start with the uppermost set of straps (from the back) and then take the lowest set of straps (from the legs).

GH Lifting hanger

Caution!
Be careful when attaching the lifting sling on the hooks. Check that the straps have been pulled completely through the rubber safety catch (A) and into place in the lifting hanger's hooks. When pressing the up button to lift the user, check again that all the straps remain correctly placed in the lifting hanger's hooks (fig. 1a and fig. 1b).

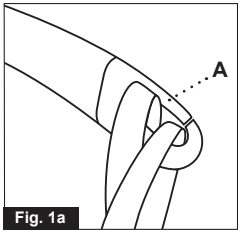


Fig. 1a

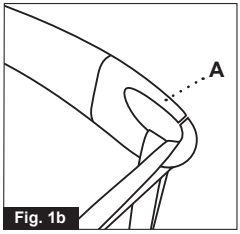
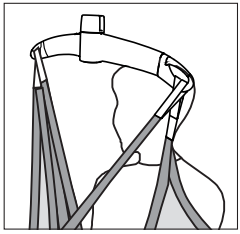


Fig. 1b



GH lifting hanger, 4 attachment points

Caution!
Be careful when attaching the lifting sling's straps on the hooks. Check that the straps have been correctly placed in the lifting hanger's hooks. When pressing the up button on the hand control to lift the user, check again that all straps remain correctly placed in the lifting hanger's hooks (Fig. 1).

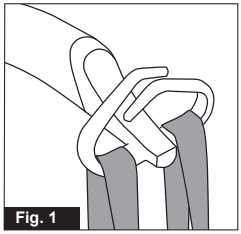
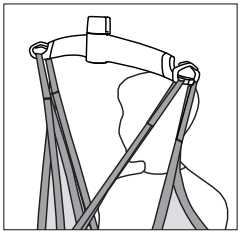


Fig. 1



Lifting to and from a seated position
When lifting a user from e.g. a wheelchair, move the GH3 towards the person to be lifted.

The lifting hanger should be at the same height as the user's chest and should not be moved further in over the user than to approximately mid-thigh position.

Place the lifting hanger parallel to the user's shoulders.

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

The centre band of the lifting sling should follow the user's spine. As for the slings type Active the strap showing the size of the sling should be opposite the spine. Lead the leg straps along the outer sides of the user's shins and beneath the thighs between the hollow of the knees and the hip joints. Cross the leg straps in front of the user.

All four lifting straps are now ready to be attached. The lifting sling can now be mounted on the lifting hanger.

Lifting to and from lying position in bed
Bring the lifting hanger over the centre of the person to be lifted.
Place the lifting hanger parallel to the user's shoulders.
Turn the user onto his or her side. The Basic High sling should be placed so that its top is at the same height as the top of the user's head. Now position the sling over the user so that the centre band follows the user's spine. Turn the user onto his or her back and pull out the remaining part of the lifting sling. Place the leg straps beneath the user's thighs and cross them. All four lifting straps are now ready to be attached and the lifting sling can now be mounted on the lifting hanger. It is an advantage to elevate the head of the bed so that the user is sitting up.

Only persons who have received competent instruction regarding the use of lifting equipment and fitting of slings should use the hoist.

Important!
Plan the move. Avoid leaving the user in the lifting sling unattended. The GH3 lifts quickly and powerfully. Before lifting, check that the user is completely free of his/her surroundings. The user's head, arms, hands and feet must not be in danger of becoming trapped. Be careful with any tubes and wires that are attached to the user. The user should not hold the lifting strap during the moving procedure as there is a risk of crushing between the strap's hook and the hoist. Check that the hand control and hand control cable is free of hanger, patient and other object before the hoist is activated up or down moved.

1.10 Swing kit

The swing function is used in conjunction with a transfer e.g. through a door from one lifting module to another.

Note: *The swing adapter must be ordered separately.*


Fig. 1

Installation of swing adapter

1. Before starting a lift involving a swing transfer the swing adapter *(Fig. 1)* must be installed on the lifting hanger. *(Fig. 2 to 5)*

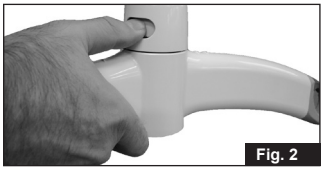


Fig. 2

2. Hold the lifting hanger in the right hand and press the yellow button using the thumb *(Fig. 2)*

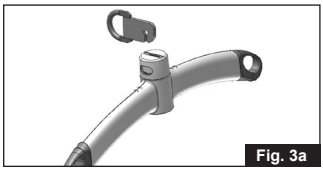


Fig. 3a

3. Insert the swing adapter in the slot on the lifting hanger top cover with the open side facing down *(Fig. 3a, 3b)* and release the yellow button.

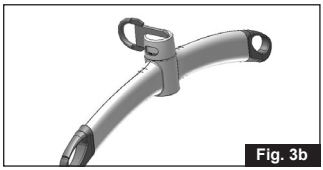


Fig. 3b

4. Rotate the swing adapter to a vertical position *(Fig. 4)*

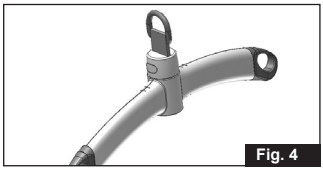


Fig. 4

5. Check that the yellow button has returned to its locked position by checking that it is flush with the cover of the lifting hanger and that the swing adapter can rotate freely.

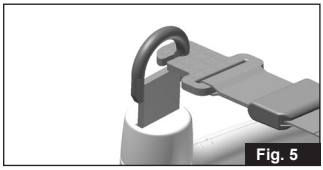


Fig. 5

6. Install the strap attachment to the swing adapter by sliding the open side of the strap attachment over the flat area of the swing adapter *(Fig. 5)*

7. Rotate the strap attachment and ensure that it moves up on the circular portion of the swing adapter *(Fig. 6)*

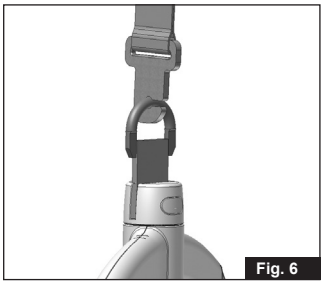
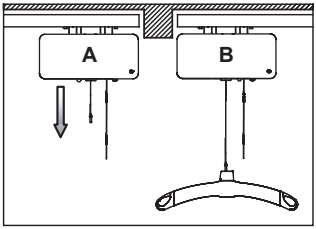


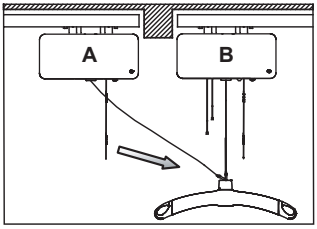
Fig. 6

1.11 Using swing kit in doorway

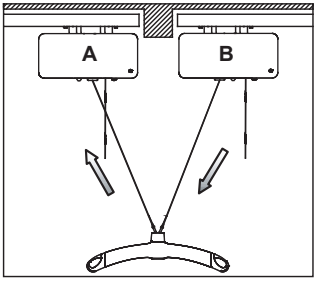
1. Bring the two hoist as close together as possible. Adjust the height of the lifting hanger on hoist B so that the transfer can be done without the user touching the floor during the transfer from one hoist to another.



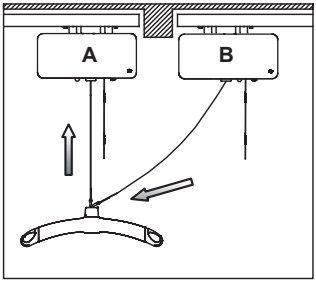
2. Take the free lifting strap from hoist A and secure it to the swing adapter on the lifting hanger *(see 1.10 figures 5 and 6)*. In order to lower the free lifting strap on hoist A a slight pull must be applied to the strap.



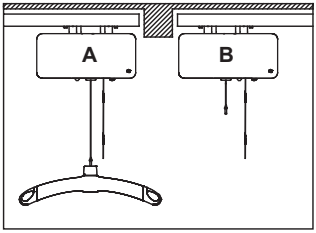
3. Lower the lifting hanger using hoist B while lifting the strap on hoist A to perform the swing transfer. The transfer has been completed when there is no load on the lifting strap on hoist B



4. Disconnect the lifting strap on hoist B from the lifting hanger and raise the strap on hoist B out of the way.



5. Move the lifting hanger from hoist A to operating height and the doorway transfer is complete.



1.12 GH3 with horizontal drive motor

The GH3 with horizontal drive motor can operate in the rail system.
Be aware that the drive motor takes time to both accelerate and brake the hoist.

It is possible to position the hoist with horizontal driving motor with a high degree of accuracy by a brief activation of the hand control.

The GH3 with horizontal drive motor runs on its own power and it should not be pulled through the rail system.

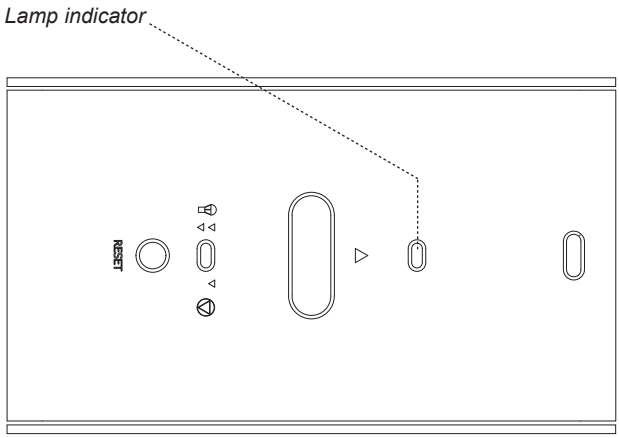
1.13 GH3 with horizontal drive motor and infrared remote (IR) control

The GH3 has an integrated IR receiver which is controlled by the IR remote control.

The hand control should be left attached to the hoist.
This means that the hoist can always be operated, in the the event that the IR remote control is mislaid or the battery is uncharged.

2.00 Description of functions

Information panel on the GH3 bottom surface.



2.01 Pictograms

Emergency stop

Emergency lowering function

RESET **Reset emergency stop**

Direction of travel (horizontal drive motor) denoted by grey arrow

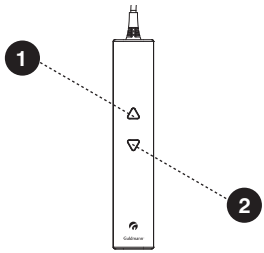
2.02 Indicator lamps and audio signals

Status	Indicator lamps	Audio signals	Possible GH3 Functions				
			Up	Down	Emergency lowering	Horizontal drive motor	Communication
Off – stand by	Off						
All OK	Green		x	x	x	x	x
No charging	Yellow, after 15 sec	3 x Beep after 60 sec	x	x	x	x	x
Low battery	Yellow		x	x	x	x	x
Fault on hoist	Yellow	Beeps at button activation			x		x
Battery critical low	Yellow	Beeps at button activation that is not permitted		x	x		x
Over load	Yellow	Beeps at button activation		x			x
Service date exceeded more than 60 days	Yellow	Beeps at button activation	x	x	x	x	x

2.03 Operation

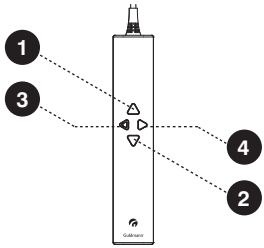
Hand control
The GH3 is switched on automatically when a button on the hand control is pressed.

The GH3 is switched off automatically after approx. 8 minutes without activation.

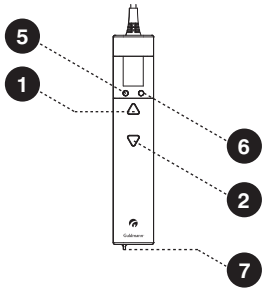


GH3
1. Lift
2. Lower

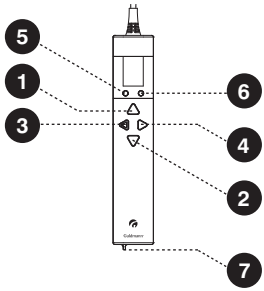
GH3 with horizontal drive motor
1. Lift
2. Lower
3. Movement in the direction of the arrow on the GH3 information panel *(section 2.00)*.
4. Movement in the direction opposite to the arrow on the GH3 information panel *(section 2.00)*.



GH3+
1. Lift
2. Lower
5. Function selection button *(section 2.05, supplementary modules)*
6. Function selection button *(section 2.05, supplementary modules)*
7. PDA interface (mini USB) *x)*

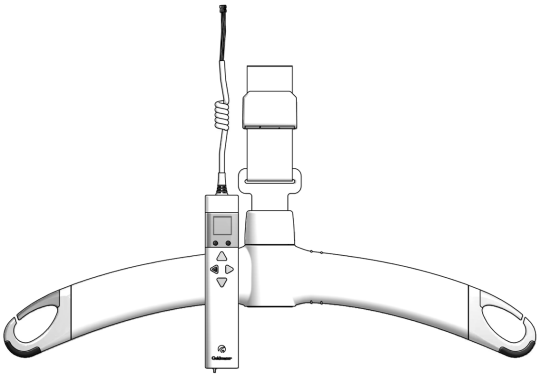


GH3+ with horizontal drive motor
1. Lift
2. Lower
3. Movement in the direction of the arrow on the GH3 information panel *(section 2.00)*.
4. Movement in the direction opposite to the arrow on the GH3 information panel *(section 2.00)*.
5. Function selection button *(section 2.05, supplementary modules)*
6. Function selection button *(section 2.05, supplementary modules)*
7. PDA interface (mini USB) *x)*



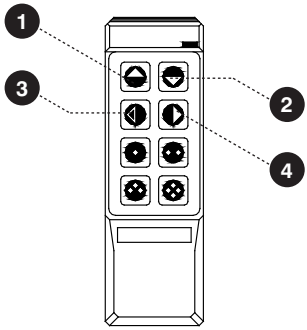
x) Accessories to CLM module (see Supplementary modules, GH3+ (section 2.04))

Parking the hand control
When the hand control is not in use it can be placed on the lifting hanger.



Infrared remote control

1. Lift
2. Lower
3. Movement in the direction of the arrow on the GH3 information panel (section 2.00).
4. Movement in the direction opposite to the arrow on the GH3 (section 2.00).



Note:
In order for the GH3's lowering function to work, the strap must be carrying a load equal to the minimum capacity for Guldmann's lifting hanger.

Transport/running in the rail system
The GH3 is manually pushed forward in the rail system by the helper. The GH3 with horizontal drive motor will run in the rail system when activated by the hand control/remote control.

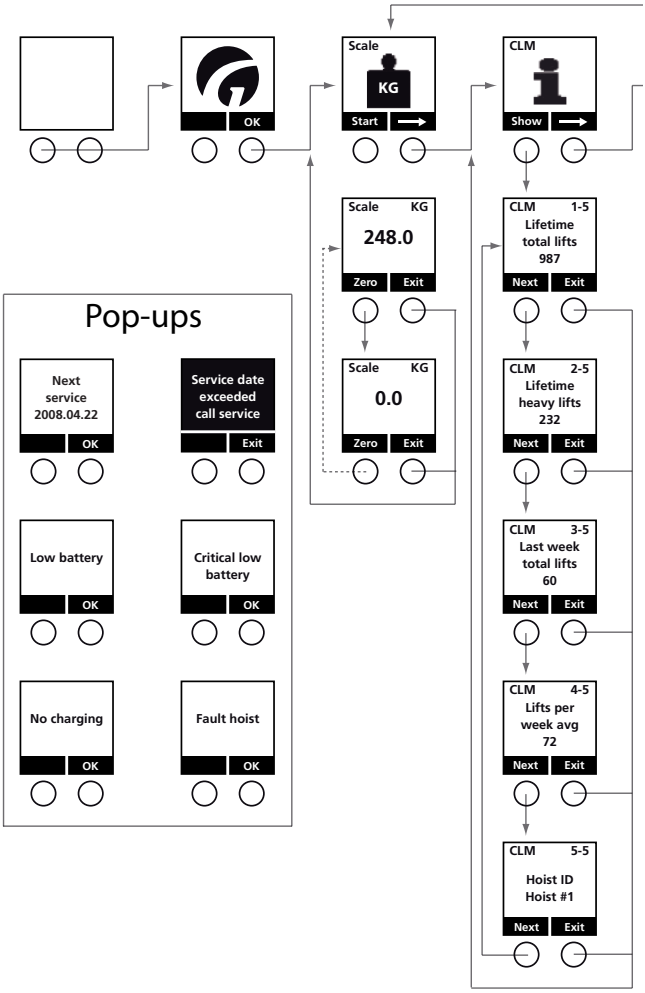
2.04 Supplementary modules, GH3+

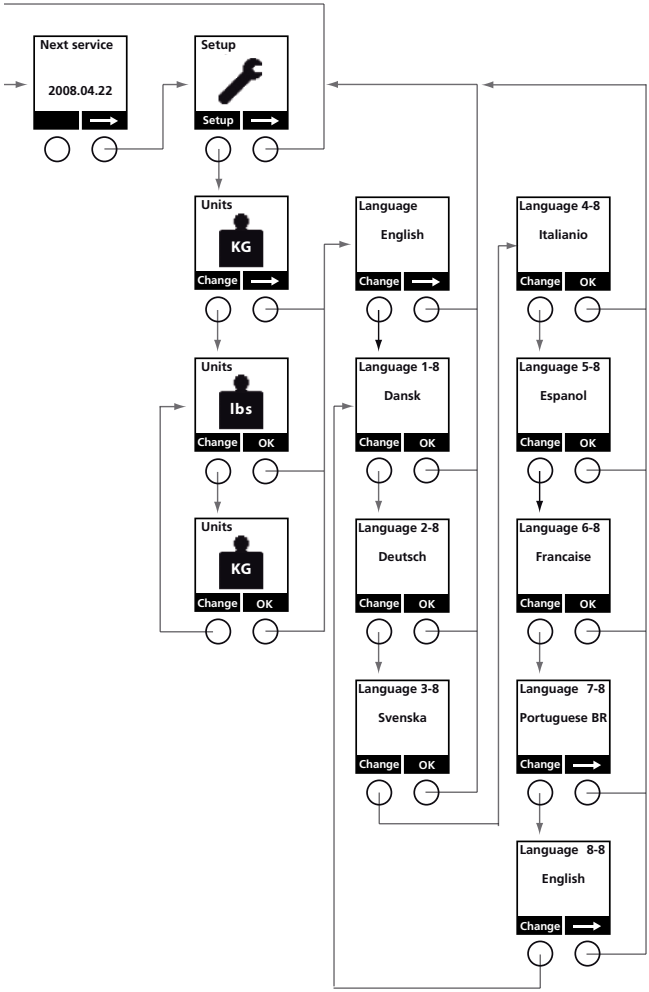
There are various supplementary modules for the GH3+

- Scale module (GH3+ with integrated scale)
- CLM module (GH3+ with statistical function for management use)
- Service module (GH3+ with Service module)

Menu structure, Supplementary modules GH3+

(Detailed description follows in sections 2.05-2.09)





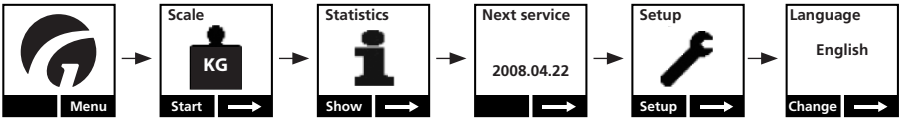
2.05 Configuration of supplementary modules, GH3+

Before the GH3+ is put into use, the hoist must be configured. Configuration covers language (Scale module/CLM module/Service module) and the unit for specification of weight (Scale module).

Factory setting:	Language:	English (UK)
	Unit of weight:	kg

Configuration of supplementary modules takes place from the GH3+ hand control.

Setting the language



1. Press any key on the GH3 hand control to activate the hoist.
   When the hoist is activated, the display on the hand control is switched on and the Guldmann logo “G” appears.

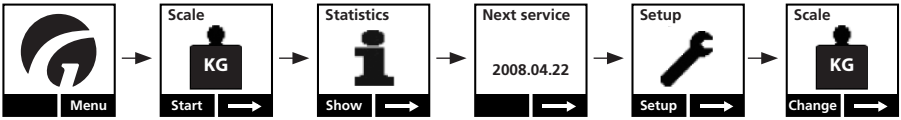
2. Select “Menu” using the function key located immediately below the display and then select ➔ until the “Setup” menu appears in the display.

3. Select “Setup” and then ➔ until the “Language” menu appears in the display.

4. Select “Change” until the preferred language appears in the display, and confirm the selection by pressing “OK”.

5. Then return to “Setup”. Select ➔ to return to the start menu.

Setting the units, kg/lbs (Scale module)



1. Press any key on the hand control to activate the hoist.
   When the lifting module is activated, the display on the hand control is switched on and the Guldmann logo “G” appears.

2. Select “Menu” using the function key located below the display

3. Then select → until the “Setup” menu appears in the display.

4. Select “Setup” and then → until the “Units” menu appears in the display.

5. Select “Change” to switch between the units kg and lbs, and confirm the selection by pressing “OK”.

6. Select → to return to the start menu.

7. The display in the hand control switches off automatically after use (approx. 8 min). *(See the complete menu summary, section 2.04, Supplementary modules, GH3+)*

2.06 Scale module (GH3+ with integrated scale module)

The GH3+ with scale module (option) provides the facility to determine the user’s weight.

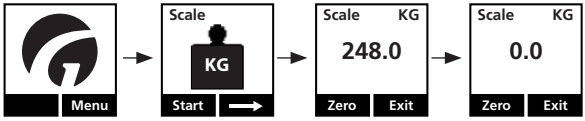
Warning!
The integrated scale in GH3+ is not approved to determine mass in medical practice, including the weighing of patients in connection with health monitoring, diagnosis and medical treatment.

(The provisions for medical weighing are specified in accordance with EEC Directive 90/384)

Shock effects
The GH3+ with scale module includes high-sensitive sensors to register mass corresponding to the nominal recommended load. The sensors are highly sensitive and can be damaged by the effects of shock, for example pulling the GH3+ at extreme speed into an end stop.

Operation
Always reset the GH3+ scale module before weighing takes place. When resetting the unit, the lifting hanger and the desired lifting sling must be attached under the hoist.

Resetting the unit (tara)



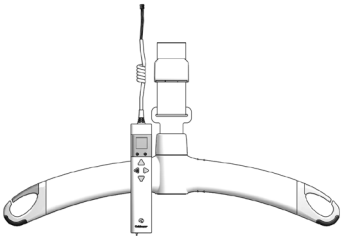
1. Press any key on the hand control to activate the hoist.
   When the lifting module is activated, a display on the hand control is switched on and the Guldmann logo “G” appears.

2. Select “Menu” using the function key located immediately below the display

3. Then select → until the “Scale” menu appears in the display.

4. Then select “Start”.

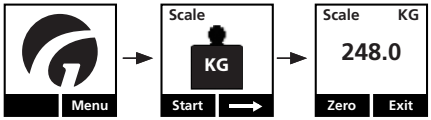
5. Park the hand control on the lifting hanger. (If the helper pulls the hand control during weighing, this will affect the result of the weighing process).



6. When the lifting hanger with the lifting sling is at rest, select “Zero” to reset the GH3+ scale module.

   The scale module has now been reset and weighing can commence.

Weighing



1. Always reset the GH3+ scale module before weighing takes place, see section entitled “Resetting the unit”.

2. Place the lifting sling on the user and attach it to the lifting hanger.

3. Lift the user with care.

4. Park the hand control on the lifting hanger.

5. Select “Menu” using the function key located immediately below the display and then select → until the “Scale” menu appears in the display.

6. Then select “Start”.

7. When the sling and the user are at rest and hanging freely, the current weight can be read on the display. (The weight can be read to an accuracy of 1 decimal place).

8. Select “Exit” to return to the main menu.

   Note:
   The display in the hand control switches off automatically after use (approx. 8 min.)

2.07 CLM module (GH3+ with statistical function for management use)

The GH3+ with CLM module (option) includes a management tool that saves important information on the use of the lifting module and which can be used to evaluate the system's efficiency and utilisation, as well as to optimise its use and hoist name/location.

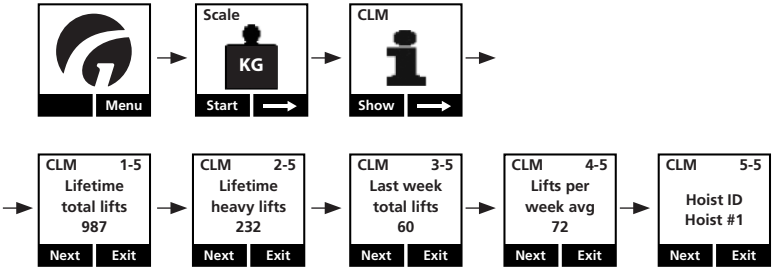
The following data can be shown on the hand control's display: number of lifts, number of heavy lifts, number of lifts in last week, average number of lifts per week.

As an additional option, by connecting a PDA/Net Book to the hand control it is possible to gain access to a number of other saved data, e.g. the number of lifts since the last strap change, number of critically low battery readings, number of weighings, total lifting time, etc.
This information can be downloaded and used for further analysis.
(PDA/Net Book readouts requires a PDA/Net Book with Guldmann CLM software).

Number of lifts, total	A lift is registered automatically when the following events are registered simultaneously • Hand control is activated (Direction UP) for more than 2 seconds • The load on the lifting strap is registered as being within the range: 15 kg – Recommended load kg (33 lbs – Recommended load lbs) Total includes the number of lifts performed after the lifting module was first taken into use.
Number of heavy lifts, total	A heavy lift is registered automatically when the following events are registered simultaneously • Hand control is activated (Direction UP) for more than 2 seconds • The load on the lifting strap is registered as being within the range: 150 kg – Recommended load kg (330 lbs – Recommended load lbs) Total includes the number of heavy lifts performed after the lifting module was first taken into use.
Number of lifts, last week	The total number of lifts performed within the last seven calendar days
Average number of lifts per week	Average number of lifts per week (performed after the lifting module was first taken into use)

The data for "Number of lifts, last week" and "Average number of lifts per week" can, if necessary, be reset using a PDA/Net Book.

Operation



1-5 Number of lifts, total

2-5 Number of heavy lifts, total

3-5 Number of lifts last week

4-5 Average numbers of lifts per week

5-5 Hoist ID

1. Press any key on the GH3+ hand control to activate the hoist.
   When the lifting module is activated, the display on the hand control is switched on and the Guldmann logo “G” appears.

2. Select “Menu” using the function key located below the display.

3. Then select → until the “CLM” menu appears in the display.

4. Then select “Show”.

5. Then select “Next” until the required information appears in the display.

6. Select “Exit” to return to the main menu.

Note:
The display on the hand control will automatically revert to the screensaver after approx. 8 min.

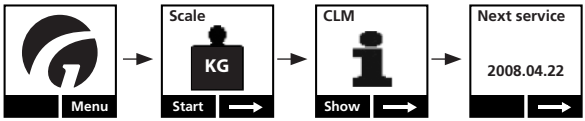
Accessories for the CLM module, GH3+
The CLM module includes an extended management menu which can be operated via a PDA/Net Book (with Guldmann CLM software installed).
The PDA/Net Book is connected to the GH3+ hand control via a mini USB plug located in the base of the hand control (see section 2.04).
Contact supplier or the Guldmann Service Team for further information about CLM accessories.

2.08 Service module (GH3+ with service module)

The GH3+ with Service module (option) saves all of the information about time and indication of next safety/service inspection.

The GH3+ with Service module specifies the date of the next safety/service inspection.

Operation



1. Press any key on the hand control to activate the hoist. When the lifting module is activated, a display on the hand control is switched on and the Guldmann logo “G” appears.

2. Select “Menu” using the function key located immediately below the display.

3. Then select → until the “Next service:” menu item appears in the display.

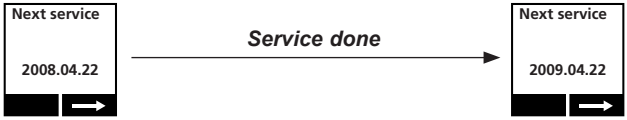
4. Read off the date of the next safety/service inspection (Year, Month, Date).

Pop-Up's for Service module (supplementary module)

There are two different Pop-Up's (brief messages on the display) on the GH3+ with Service module. These pop-up's notify the user of upcoming and exceeded dates for service inspections.

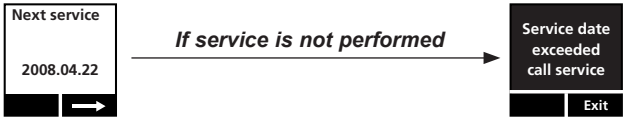
Both Pop-Up's appear immediately after the hand control has been switched on.

Pop-Up's before and after "Service Date"



1. Pop-Up, 30 days
   The next service inspection must be undertaken within 30 days.

   Select "OK" to return to the main menu
   (returns automatically after approx. 5 seconds).



2. Pop-Up, Service date exceeded
   The date of the service inspection has been exceeded, contact the Guldmann Service Team.

   Select "Exit" to return to the main menu (returns automatically after approx. 5 seconds).

Attention!
If the service date is exceeded by more than 60 days, the hoist makes an acoustic signal, at any button activation.

The Acoustic signal can be disabled by the "Guldmann Service and Information Consol" software.

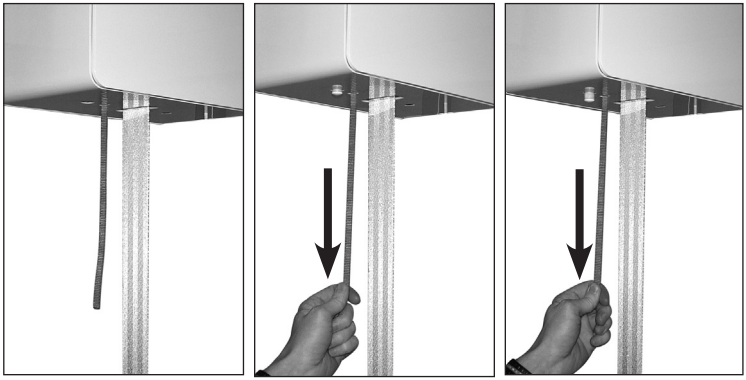
Note:
The display on the hand control will automatically revert to the screensaver after approx. 8 minutes.

2.09 Safety functions

The emergency stop and emergency lowering device should only be used in an emergency
In the event that it is necessary to use the safety functions, the fault must be identified and rectified before the GH3 is taken into use again.
Please contact your supplier.

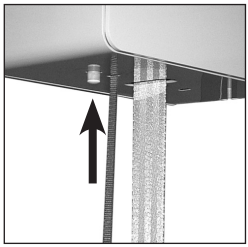
Emergency and lowering strap
The red strap has the following functions:

- One pull: Emergency stop is activated.
- Constant pull (2 steps): Emergency lowering is activated. It will work with following load:
  GH3 up to 250 kg/550 lbs from approx. load 80 kg/176 lbs.
  GH3 from 300 kg/660 lbs from approx. load 120 kg/264 lbs.



Emergency stop
If the GH3 does not stop/react to the hand control when the GH3 is in use, pull the red strap and all lifting/lowering/horizontal driving functions (except emergency lowering) are deactivated.
When the emergency stop is activated, the hoist will not function. The green lamp is switched off.

Reset emergency stop
Reset the emergency stop by pressing the yellow button on the bottom of the hoist.



The yellow button that appears when the emergency stop is pulled, must be pressed manually before the GH3 is ready for use.
After deactivating the emergency stop, activate the hand control twice.

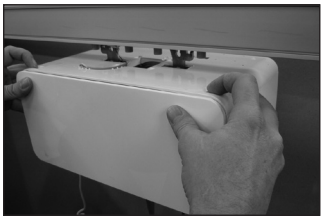
Emergency lowering function, electric
If the GH3 fails, the electrical emergency lowering function is used to lower the user safely. The emergency lowering function is operated by a constant pull on the red strap that is used for the emergency stop.

Electric emergency lowering will work with following load:

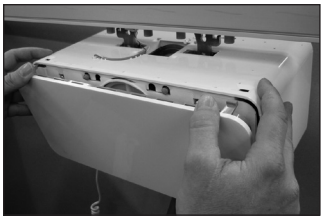
- GH3 up to 250 kg/550 lbs from approx. load 80 kg/176 lbs.
- GH3 from 300 kg/660 lbs from approx. load 120 kg/264 lbs.

When releasing the red strap, the emergency lowering function will be replaced by the emergency stop.

Emergency lowering function, mechanical
If the electrical emergency lowering function in the GH3 fails, the emergency lowering can be done mechanically.

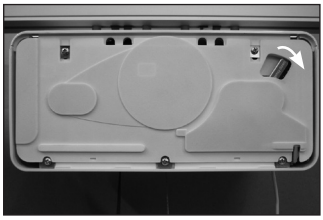


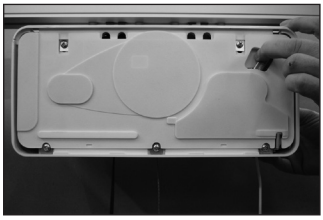
1. Remove the side covers.
   Release the side covers from the top of the hoist by means of a gentle push on the fixing points on each side. The covers are tipped free of the hoist and can be removed.



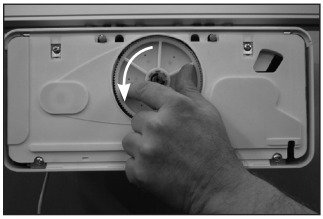
2. Then release the hoist's motor by turning the handle bearing the words "EMERGENCY DOWN". This handle is located immediately behind the side cover and must be turned clockwise.

   Note:
   For hoists with a recommended load of more than 250 kg (550 lbs), there are two motors and therefore two handles to activate, one on each side.





3. When the brake(s) has/have been released, the user will be lowered slowly. If the total weight of the user and the lifting accessories is low (e.g. less than 50 kg (110 lbs), it may be necessary to help the user down by turning the large belt wheel located on the opposite side of the handle and in the direction of arrow marked on the belt wheel.



Note:
A GH3 with a recommended load of more than 250 kg (550 lbs) has two motors, and therefore two belt wheels to activate, one on each side.

Warning!
After the mechanical emergency lowering function has been activated in the GH3, the hoist MUST be serviced by a qualified technician or by the Guldmann Service Team.

2.10 Charging/connection

The GH3 is automatically charged troughout in straight rails. This guarantees the hoist functionality and maintains the batteries to ensure a long lifetime.

The indicator lamp on the bottom of the hoist turns yellow if the charge status becomes low or if there is a complete interruption to the charging function. The GH3 then has a limited number of lifts available at a time and must be re-charged.

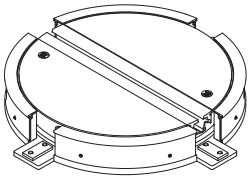
The transformer must be connected and switched on before charging can take place. A green indicator lamp on the transformer indicates that it is connected and switched on.

2.11 Accessories

Guldmann – ABC slings and lifting hangers
Obtain a brochure from your distributor, manufacturer or at www.guldmann.com

Extension strap
The extension strap is used where the distance between the lower part of the rails and the floor exceeds 3.5 m (11' 7"). The extension strap is available as an accessory.

Turntable

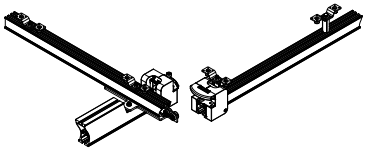


The turntable is used in rail systems where the hoist needs to run in several directions. The turntable must not be used with the GH3 Twin hoist.
The GH3 hoist is placed in the center of the turntable. By pressing the switch, the turntable rotates 90°. Press again, and the turntable returns to the first position.

Safety
This product is mechanically protected against derailing and jamming.

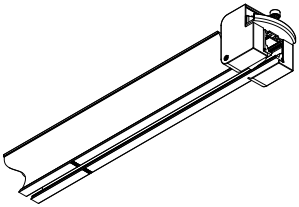
GH Combi-lock, automatic

Intended use



The Combi-lock is used to move a person from one rail system to another.

Purpose
Use the Combi-lock when connecting one rail system to another.



The Combi-lock enables a secure connection to be made between two rail systems, e.g. when operating from a single-track rail system in the bedroom to a room-covering system in the bathroom.

The Combi-lock requires no manual operations.

Using the Combi-lock
When activating the Combi-lock, position the traverse rail opposite the fixed rail, where the locking mechanism is automatically activated (the rail systems lock together). Now it is possible to run the hoist from one rail system to the other. When the traverse rail is moved away from the fixed rail, the locking mechanisms are re-activated to secure the hoist and prevent it from running off the rail. The hoist must always be run completely past the Combi-lock before the traverse rail is moved away (the Combi-lock must be visible).

The rail systems are optimally connected at a max. distance of 1000 mm between the hoist and the Combi-lock; you may also refer to the marking label on the rail. At this distance, a secure and easy connection can be made. At a distance greater than 1000 mm, it is more difficult to position the two rail systems opposite one another. Please note that the connection works regardless of the position of the hoist in relation to the Combi-lock.

Safety

- In the event of an error while using the Combi-lock, discontinue its use. Contact the Guldmann Service Team or a certified technician to perform any necessary repairs. A defective Combi-lock can result in injury to both the user and helper.
- The locking mechanism in the Combi-lock must not be manually activated.
- The Combi-lock is mechanically secured to prevent de-railing and crushing.
- Do not touch the Combi-lock during activation/deactivation

Cleaning

See section 4.01

Daily maintenance

Ensure that the Combi-Lock is intact. Do not use the Combi-lock if it is damaged or defective. Instead, contact the Guldmann Service Team or a certified technician, as per Guldmann's instructions.

Infrared remote control

Turntable and Combi-locks can be supplied with receivers for IR remote control.

Batteries

NiMH Battery 24 V/2800 mAh, Guldmann type number 550574.

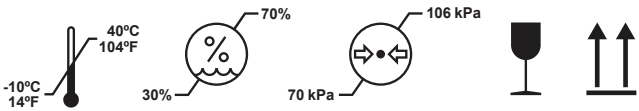
Transformer

Transformer, Class 1, Guldmann item number 550200
Transformer, Class 2, Guldmann item number 550269 (EU), 550268 (US/CAN)

3.00 Transport and storage

Guldmann recommends that the products are always transported and stored in the original packaging.

Key to symbols on the packaging:



The products should be stored at:
– Temperatures between -10 and +40°C / 14 and 104°F
– A relative air humidity of between 30 and 70 %
– An air pressure of between 700 and 1060 hPa
– This side up

4.00 Maintenance and storage

4.01 Cleaning

We recommend that the product and the parts that patients and caregivers can come in contact with are cleaned with Novadan Des Wipes or Novadan Desinfect O.

Desinfect O: A broad-spectrum disinfectant system as tablets. Suitable for disinfection of equipment, tools and surfaces in the healthcare sector.

Novadan Des Wipes: Is a disposable wipe for cleaning and disinfection of all types of surfaces, machines and instruments in the healthcare sector.

Note: Do not use strong acids, bases or alcohol to clean the products. Never clean the products in an autoclave.

Desifect O is effective against:	Novadan Des Wipes is effective against:
Microbial- & Virus test	
• Staphylococcus aureus (ATCC 6538) (EN 13697:2001) • Enterococcus hirae (ATCC 10541) (EN 13697:2001) • Escherichia coli (ATCC 10536) (EN 13697:2001) • Pseudomonas aeruginosa (ATCC 15442) (EN 13697:2001) • Candida albicans (ATCC 10231) (EN 13697:2001) • Swine plague - Bovine viral diarrhea virus (BVDV) (EN 14675:2006) • Swine and avian flue (Influenza A virus H1N1) (EN 14675:2006)	• Staphylococcus aureus • Escherichia coli • Proteus mirabilis • Pseudomonas aeruginosa • Candida albicans • MRSA • H1N1 • HBV (HIV) • HCV

Novadan product	Description	Microbial and Virus test	Application	Dosing	Frequency
Desinfect O	A broad-spectrum disinfectant system as tablets.	Staphylococcus aureus, Enterococcus hirae, Escherichia coli, Pseudomonas aeruginosa, Candida albicans, Swine plague - Bovine viral diarrhea virus (BVDV), Swine and avian flu. (Influenza A virus H1N1)	Tools apparatus (Remember to wash afterwards)	1 tablet –10 l of water Time before effect: 5 min.	Daily/ periodically
Novadan Des Wipes	Is a disposable wipe for cleaning and desinfection of all types of surfaces, machines and instruments within the healthcare sector and food industry.	Staphylococcus aureus, Escherichia coli, Proteus mirabilis Pseudomonas aeruginosa, Candida albicans, MRSA, H1N1 HBV (HIV), HCV	Lifting pool with adjustable handle, bed guard, remote control of beds, extension piece for bed guards, handle, polyester line for lifting pool.	Time before effect: 1 min. Apart from H1N1: 30 min	After every touching

4.02 **Storage**

See 3.00

For long-therm storage, disconnect the battery plugs and the plug from the battery at the charging PCB.

4.03 **How to prevent/avoid corrosion?**

When the products are mainly used in an corrosive environment, e.g. swimming pool, the products must be ordered with a special corrosion-preventive surface treatment.

4.04 **The owner's daily maintenance duty**

Check the lifting sling for wear and damage before use.
Do not use the lifting sling if it is damaged or defective.
Do not use the GH3 if the lifting strap is damaged or defective.
Contact your supplier and order a new lifting sling or a replacement of the lifting strap. Replacement of the lifting strap must only be performed by the Guldmann Service Team or by a qualified technician in accordance with Guldmann's instructions.

4.05 Disposal of the GH3 including batteries

Local and national regulations on environmentally correct recycling must be observed.
Batteries (type NiMH) must always be delivered to an approved recycling point.

5.00 Service and lifetime

5.01 Lifetime

The products have an expected lifetime of 15 years, on the condition of correct use and correct service inspections, see section 5.02.

Replacement of components

Replacement of batteries, PCBs and lifting straps must be performed by a qualified service technician or the Guldmann Service Team.

5.02 Safety/service inspections

In accordance with international standard EN/ISO 10535 “Hoist for the transfer of disabled persons – Requirements and test methods” an inspection should be performed on the hoist at least once a year.
Guldmann recommends that regular safety/service inspection is performed at least once a year with regard to the pattern of usage.

Safety/service inspections of the products must be performed by a qualified service technician or the Guldmann Service Team.
In connection with the purchase Guldmann may offer a service agreement for this inspection.

NB!
The GH3+ with service module may only be serviced by the Guldmann Service Team or by a qualified service technician with access to the PDA/Net Book with Guldmann software.

During the safety/service inspection a report must be prepared on what was checked and replaced. Parts that are worn or defective must be replaced with new parts from Guldmann. Spare parts drawings and documentation can be obtained from the manufacturer or supplier.

Documentation/checklist regarding safety/service inspection can be obtained from the manufacturer or supplier.

5.03 Troubleshooting

The GH3 does not respond to the hand control's keys

1. Check the emergency stop is not activated
2. Check the hoist has power supply
3. Check the transformer is switched on and connected to the rail system
4. Contact the Guldmann Service Team

6.00 Classification

CE marking

Medical equipment with respect to electrical shock, fire and mechanical hazards only.
In accordance with UL 60601-1, CAN/CSA c.22.2 No. 601.1

Type B in accordance with UL/EN 60601-1

Read the manual before use

Must not be disposed of as standard household waste, must be recycled.

Class I equipment:	Permanent installation with protective ground
Class II equipment:	Non-permanent installation without protective ground

The equipment is not suitable for use in the presence of flammable mixtures.

Degree of protection against harmfull ingress of liquids (water)

Hoist	IP20
Hand control	IP44
Remote control	IP20
Transformer	IP20

Examples of serial number label

Lifting module

GH3 250 110 0000

max 250 kg/550 lbs

Part no. xxxxxx
Prod. date yyyy-mm-dd
Serial no. xxxxx
33V AC, 2.5 A, IP20
CONTINUOUS OPERATION
WITH SHORT-TIME LOADING

INTERNALLY POWERED
EQUIPMENT 24V DC

Guldmann™
www.guldmann.com

Barcode 128C

Transformer Class 1

Type DK-13991
Input 100 - 115V AC 50-60 Hz, 1A
Input 230V AC 50-60 Hz, 0,5A
Output 33V AC 2,5A
Prod. date yyyy-mm-dd
Serial no. xxxxx
IP20

www.guldmann.com

Guldmann™

Barcode 128C

Transformer Class 2
Use within US/CAN

Type DK-14001
Input 100-115V AC 50-60 Hz, 1A
Output 33V AC 2,5A
Prod. date yyyy-mm-dd
Serial no. xxxxx
IP20

www.guldmann.com

Guldmann™

Barcode 128C

Transformer Class 2
Use within EU

Type DK-13992
Input 230V AC 50-60 Hz, 0,5A
Output 33V AC 2,5A
Prod. date yyyy-mm-dd
Serial no. xxxxx
IP20

www.guldmann.com

Guldmann™

Barcode 128C

Lifting hanger

max
xxx kg/xxx lbs

Part no. xxxxxx
Edition xxx
Prod. date yyyy-mm-dd
Serial no. xxxxx

Barcode 128C

V. Guldmann A/S
www.guldmann.com

Hand control

Part no. xxxxxx
Edition xxx
Date xxxx-xx-xx
IP44

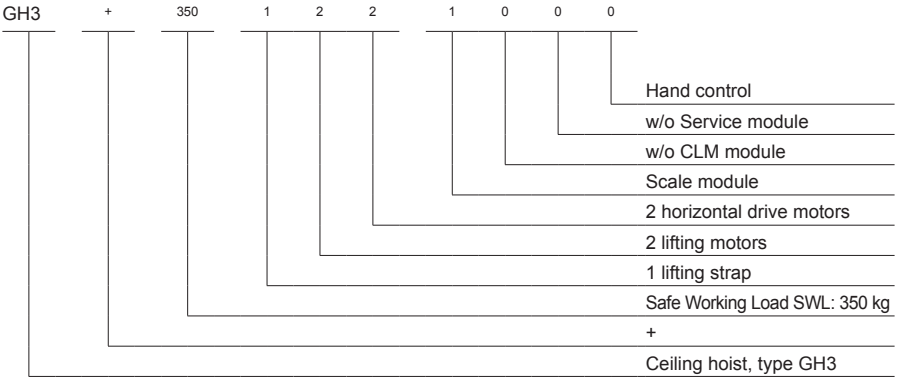
7.00 Certificates

UL 60601-1	UL No. 305250
EN/ISO10535	HMI No. 08.49A, 09.14A, 09.15A

8.00 Technical specifications

GH3 Lifting modules, version type nomenclature									
Guldmann hoist type	Product line	Load in kg	Number of lifting straps	Number of lifting motors	Number of horizontal drive motors	Scale module	CLM module	Service module	User interface
GH3	(x)	xxx	x	x	x	x	x	x	x
GH3		200	1	1	1				
		250	1	1	1				
	+	200	1	1	1	None : 0 Scale : 1	None : 0 CLM : 1	None : 0 Service: 1	Hand control: 0 IR : 1
		250	1	1	1				
		300	1	2	2				
		350	1	2	2				
	Twin	250	2	2	0				
		500	2	2	0				
GH3	X	Y	Z	Z	Z	Q	Q	Q	Q

Example: GH3+ 350 122 1000



Functions

Lifting capacity, SWL . . . . . 200 kg (440 lbs), 250 kg (550 lbs)
300 kg (660 lbs), 350 kg (770 lbs)
Operation . . . . . .Hand control / IR
Sound level . . . . . .52 dB (A)
Horizontal speed . . . . . .18 m/min (709 inch/min)

	GH3	GH3+
Lifting speed		
85 kg (187 lbs) load	40 mm/sec (1.6 inch/sec)	60 mm/sec (2.4 inch/sec)
150 kg (330 lbs) load	40 mm/sec (1.6 inch/sec)	60 mm/sec (2.4 inch/sec)
Max capacity load, SWL	40 mm/sec (1.6 inch/sec)	55 mm/sec (2.2 inch/sec)
Max 5 kg (11 lbs) load	100 mm/sec (3.9 inch/sec)	100 mm/sec (3.9 inch/sec)

Weight and materials

SWL . . . . . 200 kg (440 lbs), 250 kg (550 lbs)
Own weight . . . . . 9.6 kg (21.1 lbs)
with horizontal drive motor. . . . . 10.5 kg (23.1 lbs)
with scale module and horizontal drive motor . . . . . 11.1 kg (24.5 lbs)

SWL . . . . . 300 kg (660 lbs), 350 kg (770 lbs)
Own weight . . . . . .14.2 kg (31 lbs)
with horizontal drive motor. . . . . .15.9 kg (35 lbs)
with scale module
and horizontal drive motor . . . . . .17.3 kg (38 lbs)

Covers . . . . . Impact-resistant UL 94 V-0 flame retardant recyclable plastic

Digital Scale Specifications (Non medical). Optional for GH3

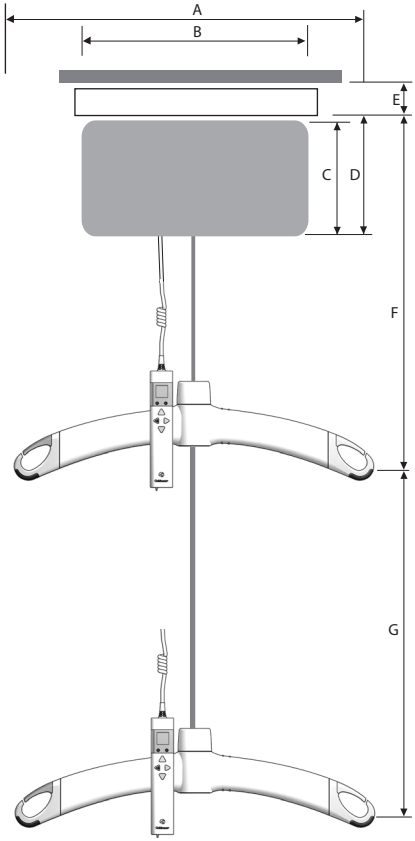
Capacity . . . . . .0 - SWL
Accuracy . . . . . +/- 0.1 % at max load
Display resolution (d) . . . . . 0.1 kg (0.22 lbs)
Repeatability . . . . . < 0.1 kg at 0-200 kg (0-440 lbs)
< 0.2 kg at 0-350 kg (0-770 lbs)
Minimum weight . . . . . 5 kg (11 lbs)
Display type . . . . . .LCD in Hand Control

Dimensions

A . . . . . .580 mm (22.8 inch)
B . . . . . .345 mm (13.6 inch)
C . . . . . .156 mm (6.1 inch)
D . . . . . .184 mm (7.2 inch)
E, min. . . . . .59 mm (2.3 inch)
F, min . . . . . .445 mm (17.5 inch)
G . . . . . .2500 mm (98.4 inch)
Depth of hoist . . . . . .205 mm (8.1 inch)

Safety

Emergency stop . . . . . Yes, mechanical and electrical
Emergency lowering device. . . . . Yes
Control of lifting strap . . . . . Yes
Cut-off angle . . . . . 45° along the rail 10° across the rail



Electronics

On/off . . . . . Automatic when used. Soft start/stop
Overload protection . . . . . Automatic
Low Battery protection . . . . . Automatic
Power supply . . . . . 33V AC, 2.5 A
Supply voltage, transformer . . . . . 100-115/230V AC, 50-60 Hz

Battery . . . . . 24V NiMH
SWL: 200 kg (440 lbs), 250 kg (550 lbs) . . . . . 2.8 Ah
SWL: 300 kg (660 lbs), 350 kg (770 lbs) . . . . . 5.6 Ah

Continuous operation with short time loading with:
3 hours without recharging . . . . . 10/90% (2 min operation/18 min pause)

Max number of lifts in series with:
85 kg (187 lbs). . . . . 55/1000 mm (39.4 inch)
SWL: 200 kg (440 lbs), 250 kg (550 lbs). . . . . 28/1000 mm (39.4 inch)
SWL: 300 kg (660 lbs), 350 kg (770 lbs). . . . . 40/1000 mm (39.4 inch)

Max charging time at 25ºC:
SWL: 200 kg (440 lbs), 250 kg (550 lbs). . . . . 2 hours
SWL: 300 kg (660 lbs), 350 kg (770 lbs). . . . . 4 hours

Operating temperature. 10ºC-35ºC (50ºF-95ºF)

Degree of protection against harmful ingress of liquids (water)

Hoist. . . . . IP 20
Hand control. . . . . IP 44
Remote control. . . . . IP 20
Transformer . . . . . IP 20

9.00 EC-Declaration of conformity

The products are manufactured in compliance with the Council Directive 93/42/EEC of 14 June 1993 – with amendments, as medical device class 1.

10.00 Environmental policy statement - V. Guldmann A/S

Guldmann is continuously working towards ensuring that the company's impact on the environment, locally and globally, is reduced to a minimum.

It is Guldmann's goal to:

- Comply with the current environmental legislation (e.g. WEEE and REACH directives)
- Ensure that we, at the widest possible range, use RoHS compliant materials and components
- Ensure that our products do not have an unnecessary negative impact on the environment regarding use, recirculation or disposal
- Ensure that our products contribute to a positive working environment in the places they are utilised

Inspections are made annually by the Department for Nature and Environment from the Municipality of Aarhus using the Danish Environmental Protection Act, section 42 as a reference.

USA and countries outside the EU

A. Users guide
Before using the product, read the entire operation manual including warranty.

B. WARRANTY
Guldmann warrants its equipment is free from material defects under normal use, and will perform substantially in accordance with the specifications set forth in documentation provided with the equipment.

This express warranty shall be in effect for one year from the date of original purchase and installation (the “Warranty Period”). If a valid claim is made during the Warranty Period for malfunction or equipment defect, Guldmann will repair or replace the equipment at no additional cost to you. Guldmann retains sole discretion as to whether the equipment will be repaired or replaced.

This warranty shall be null and void if the equipment is operated and maintained in any manner inconsistent with its intended use or the instructions provided with the product. Further, in order for the warranty to remain in effect for the full Warranty Period, all service to the equipment must be provided by a Guldmann designated technician. Any parts or components repaired or replaced by a Guldmann designated technician will be guaranteed for the remainder of the Warranty Period.

The warranty does not cover any part of the equipment which has been subject to damage or abuse by the user or others. The warranty does not cover any part of the equipment which has been altered or changed in any way by the user or others. Guldmann does not warrant that the lifting device functions will meet your requirements, be uninterrupted or error free.

The warranty set forth is in lieu of all other express and implied warranties, whether oral, written or implied, and the remedies set forth above are your sole and exclusive remedies. Only an authorized officer of Guldmann may make modifications to this warranty, or additional warranties binding on Guldmann. Accordingly, additional statements such as advertising or presentations, whether oral or written, do not constitute warranties by Guldmann.

Service or Repair
Contact Guldmann Repair for an authorization to return any defective item during the Warranty Period. You will be provided with a return authorization number and address for returning the item for warranty service or replacement. Do not return items to Guldmann under warranty without receiving a Return Authorization Number.

If mailing the item, pack it carefully in a sturdy carton to prevent damage. Include your Return Authorization Number, a brief description of the problem and your return address and phone number. Guldmann does not assume the risk of loss or damage while in transit, so it is recommended you insure the package.

Time to care

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