Lift and Transport Trucks

Type: HTW 50/XXX

HTW 51/XXX





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1 General Information

1.1 Symbols in the Instruction Manual

The following symbols are used in the instruction manual:



Warning, Caution

Failure to follow these instructions can lead to personal injuries, property damages and, at worst, death.



Additional information

1.2 General Information of Use

To be used by authorized personnel only!

Storage conditions:

Must be stored in dry conditions.

Installation:

According to KUGEL medical instruction manual

Transport instructions:

Transport by sea freight on a pallet or in a wooden crate

The lift and transport truck is designed solely for transporting, loading and unloading of body trays and coffin plates.

It is strictly forbidden to use the lift and transport truck for any other purpose, e.g.:

- Transporting persons
- Using as climbing aid
- Using as support
- Using as a lifting device for other loads



Ignoring the installation and safety instructions shall cancel any and all warranty and liability claims.

1.3 Operating the Lift and Transport Truck

Place the body tray or the coffin plate on the lift- and transport truck and secure them against rolling away by using the clamp.

On uneven ground, e.g. gradients always drive backwards in downward direction in order to make sure that the body tray or coffin plate do not roll away.

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The lift- and transport truck is only ever to be lifted or lowered on a straight, even surface.

Lock the rear wheels whenever you park, lift or lower the lift- and transport truck.

When lifting the lift- and transport truck, make sure it does not knock against any other objects.

When lowering the lift- and transport truck, make sure that there are not persons or objects in the area of the scissors mechanism, the frame or delivery point.

It is strictly for bitten to stay underneath the lift- and transport truck.

The lift- and transport truck is lifted by pumping smoothly on the foot pedal. It is lowered by lifting the pedal.

A valve is integrated in the hydraulic hose to ensure a uniform lowering speed regardless of the load. It also acts as safety device in case f hose breakage.

2 Lift and Transport Truck HTW 50/010 BASIC line



Use the lift and transport truck as described above.

To secure the body tray, turn the holding device to the left or right side. Push the body tray onto the lift and transport truck and turn the holding device back to its previous position.





3 Lift and Transport Truck HTW 50/110 with Slewing Ring



Use the lift and transport truck as described above.

For rotating the roller track, unlock the bolt and rotate it to the left or right side. The roller track will automatically snap-in to at the left or right side at 90°.

4 Lift and Transport Truck HTW 50/120 with Tilting Device



Use the lift and transport truck as described above.

For tilting the roller track use the reversing valve on the left side of the hydraulic pump and lift the small pedal up. Lifting and lowering of the roller track works now with the foot hydraulic pump

For regular lifting and lowering of the transport truck, push down the valve on the lift side of the hydraulic pump.

For tilting the roller track at a lift and transport truck with integrated 12 Volt hydraulic aggregate, push the right foot pedal and the medium pedal at the same time. For lowering, push the left foot pedal and the medium pedal at the same time.



Horizontal position of the valve = position lifting/lowering of the lift and transport truck







Vertical position of the valve = tilting/lowering



CAUTION!

Always completely lower the lift and transport trucks after using!



Right pedal = Lifting the transport truck

Left pedal = Lowering the transport truck

Right and mid pedal at the same time = Tilting the transport truck <u>up</u>

Left and mid pedal at the same time = Tilting the transport truck **down**

5 Lift and Transport Truck HTW 50/130 5.1 HTW 50/130 with 12 Volt Hydraulic Unit



Use the lift and transport truck as described above.

The electric powered lift- and transport truck is operated with the UP/Down Pedal. Press the red EMERGENCY STOP button in case of danger or if you don't use the lift- and transport truck. Use the rapid charge for the accumulator approx. every 2 weeks and be sure that the loading time isn't longer than 18 hours.

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While operating the 12 volt hydraulic unit a fine oil mist could appear. (This has no influence on the functionality of the unit) This oil mist could depose on the bottom of the casing. A mat can absorb this oil mist very well. This mat should be renewed at regular intervals (once a year).

5.2 HTW 50/130 with 12 Volt Hydraulic Unit and Emergency Foot Pump



If the 12 Volt hydraulic-unit is out of order, the transport truck can be operated with the emergency foot pump as follows:

- First make sure that the lift and transport truck is in its lowest position.
- Then please turn the 3-way valve by 90° to the left. Now you can lift or lower the truck by pumping the foot pedal of the foot operated hydraulic pump.
- Before turning the 3-way valve in its normal position please make sure that the truck is in the lowest position

6 Lift and Transport Truck HTW 50/101 for Lateral Loading



Use the lift and transport truck as described above.

To fix the body tray push the holding device on the u-profiles upwards.

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7 Lift and Transport Truck HTW 50/140 with Digital Weighing Device



Use the lift and transport truck as described above.

7.1 Description Weighing Device

The weight ca be indicated in either kg/g or lb/oz.

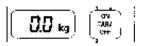
Changing of weighing unit:

- When the scale is switched off, press key for about 5 second.
- Change from kg/g to lb/oz display and back by pressing the key/button for a short time.
- Key has to be pressed for about 5 second in order to store the required weighing unit.



When pushing too long the EIN/AUS/TARA button the unit switched into calibration Mode. "C 0" appears on the display. **IMPORTANT:** Please do not load or move the balance in this condition as this will alter the calibration and require the balance to be completely recalibrated!

7.1.1 Weighing

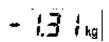


Switch the scale on. Test figure 8888 appears on the display, then 0.0

7.1.2 Additive Weighing

Press button to automatically re-zero. Add next item, which will be weighed separately and so on, until max. capacity is reached.

7.1.3 Total Weight



Press the bottom. The display will be show 0,0. Remote the item to be weighed. The total weight will then be displayed with a minus sign.

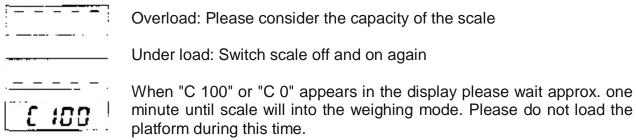




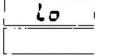
7.1.4 Switching Off

Press button while display us showing 0.0

7.1.5 Interruptions



Charging the battery: Connect the scales to the power supply.



Scale cannot be switched on:

Charge the accu-pack. If the LED of the mains adaptor doesn't light during the charging process it is defective.

8 Maintenance

The following points should be checked at regular intervals (approx. every 3 months)

- Smooth operation of all moving parts
- Working order of the wheels and parking brakes
- Hydraulic pipes (small leakage rates are acceptable and have no effect on the trolley's working order)
- Check the oil-level, approx. 1 cm underneath the top
- Clean the lift and transport truck with soap water
- If batteries are used, check the acid level

The lift and transport truck was subjected to a function test at the factory.

8.1 Maintenance of Lift and Transport Trucks with 12 Volt Hydraulic Units

- The gel battery of the 12 Volt hydraulic unit is maintenance-free
- Check the oil-level, approx. 1 cm underneath the top
- only use hydraulic oil as per DIN 51.524 or 51.525 purity class 17/14 as per ISO/DIN 4406
- Disconnect the cable of the battery or take out the fuse before working at the electrical wiring (disconnect first the negative pole and then the positive pole)
- In case of disconnecting and connecting of any wiring check the polarity!
- Use only a 12 Volt DC battery





- Use only 12 Volt DC recharger with overload protection
- The mat should be renewed at regular intervals (yearly)

The lift and transport truck was subjected to a function test at the factory.

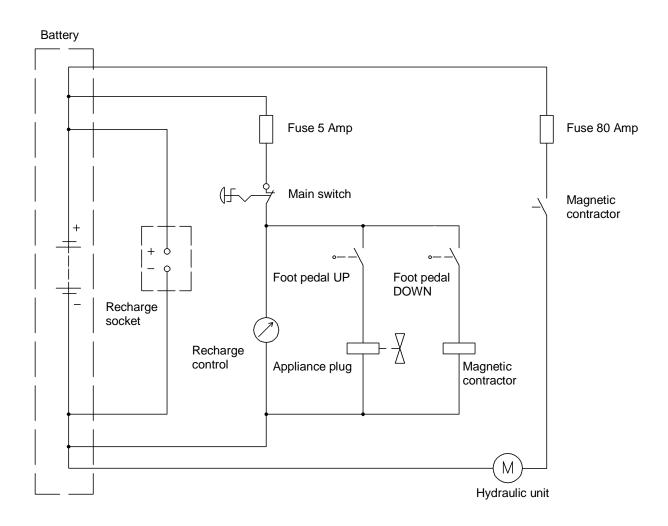
8.1.1 Safety Instructions

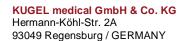
- Hydraulic oil can cause rashes and other health impairments. Avoid longer skin contact!
- Hydraulic oil may leak in case of damage of individual parts

The lift and transport truck was subjected to a function test at the factory.

9 Electro Diagrams

9.1 Electro Diagrams for Models HTW 50/130, HTW 51/130, HTW 50/160, HTW 51/160

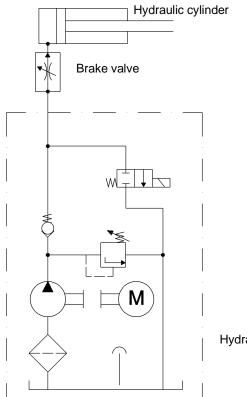








9.2 Hydraulic Diagrams for Models HTW 50/130, HTW 51/130, HTW 50/160, HTW 51/160



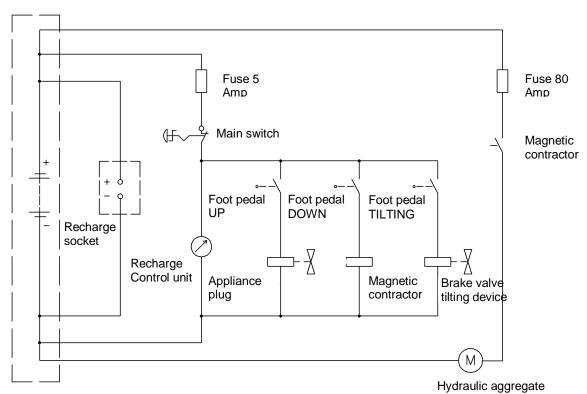
Hydraulic aggregate





9.3 Electro Diagrams for Models HTW 50/120, HTW 51/120 with Tilting Device

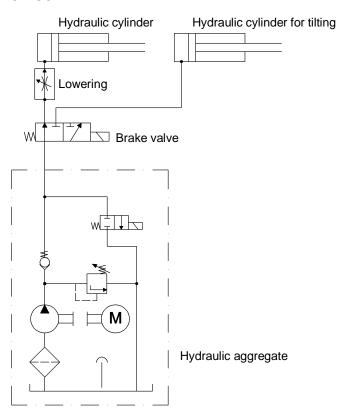
Battery







9.4 Hydraulic Diagrams for Models HTW 50/120, HTW 51/120 with Tilting Device



10 Electronic Battery Charger for HTWs with 12 Volt Traction Battery 10.1 General Information



Read the operating instructions carefully before switching on the battery charger. Keep the operating instructions for future reference. Operate the battery charger in accordance with the instructions.



Since explosive gasses form during battery charging, do not smoke, and avoid naked flames and sparks ensure that the room is well ventilated during charging.

Position the battery charger so that it is well ventilated. Protect the unit from dampness and moisture. Only charge lead batteries in perfect condition. Do not charge several batteries at the same time. Do not attempt to charge non-rechargeable batteries. Never remove the battery charger plug during charging! Never short-circuit the charger plug. Battery cables must not be shortened or lengthened. The mains connector cable and the

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battery charging leads must be in perfect condition. If the mains cable of this battery charger is damaged, it must be replaced by a special cable, which is available from the manufacturer. Disconnect the battery charger from the 230 V mains before removing the battery terminals. Wear protective goggles and gloves when working on the battery. Battery acid is caustic. Thoroughly rinse off any acid splashes immediately with plenty of water, and consult a doctor if necessary. Keep the battery and battery charger out of the reach of children. If the battery charger is faulty, it should only be inspected by a qualified electrician.



A strong gas smell indicates a high risk of explosion. Do not switch off the battery charger. Do not remove the charging plug. Ventilate the room thoroughly immediately. Have the battery inspected by an electrician.

10.2 Battery Charger Features

This appliance has an electronic control system. The charging procedure is interrupted as soon as a terminal voltage of 14.1 V is reached (green LED). The battery is now fully recharged. The charging procedure resumes automatically if the battery voltage drops to 12.8 V due to self discharge. Overloading of the battery and the accompanying emission of dangerous gasses are effectively prevented. The battery charger can remain connected to the battery for several days. Monitor the charging procedure. The electronic system only operates when a battery voltage exists with the correct polarity.

There are three LED's on the battery charger, with the following meanings:

- Red LED on: Appliance is connected to the 230 V mains
- Yellow LED on: Battery is being charged
- Green LED on: Battery is fully charged and no further charging takes place.

10.3 Operation

- Connect the recharge plug into the recharge socket. If possible, remove the battery filter caps and check the electrolyte level. Replace filter caps loosely.
- Connect the recharge to the 230 Volt power supply.
- After recharge disconnect first the 230 Volt power supply and then the 12 Volt plug.
- Check the acid level onto the battery after recharge.



Don't use the lift and transport truck during the recharge process!!!

Voltage: 230 Volt 50-60 Hz Battery voltage: 12 Volt DC





11 Replacing the Brake Valve at a HTW

The replacement has to be performed by a specialist!

- Lower the lift and transport truck completely
- Loosen the hydraulic screw at the hydraulic hose
- Loosen the hydraulic screw at the hydraulic cylinder and remove the brake valve
- Install the new brake valve in reversed order



Ensure the brake valve is installed in the correct position!

Connection with marking "B" = Cylinder Connection with marking "F" = Fitting at the hydraulic hose

Lower and lift the lift and transport truck 2 to 3 times completely. The hydraulic system is being ventilated automatically.



Brake valve Type: SB 05 G-3,0 Article No. 050.010.030



Brake valve installed at at a HTW

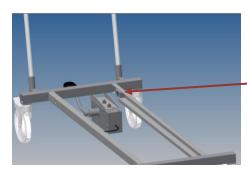




12 Replacing the Hydraulic Pump

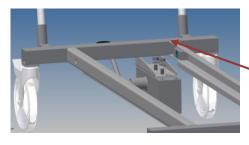


Let the lift and transport truck down



Take the hydraulic hose off

Hydraulic chose



Loosen the M 12 bolts

M 12 bolts



Remove the hydraulic pump downwards

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Remove M4 nuts, remove the foot pedal and mount the new pump



Mount the new hydraulic pump in reverse order.

Fill in approx.. 1 I of hydraulic oil. Then, lift and lower the lift and transport trucks 3-4 times.

Check hydraulic screw connections upon leaking.

13 Filling In Hydraulic Oil



Fill in max. 1.3 liters of HPL 22 hydraulic oil as per DIN 51524/2 ISO VG 22





14 Traction Drive Units and Their Control Panel



- (1) MAIN SWITCH: turns the control panel on/off
- (2) UP: lift the lift and transport truck up
- (3) DOWN: lower the lift and transport truck
- (4) FORWARD: drive roller at the front end of the lift and transport truck moves forwards
- (5) BACKWARD: drive roller at the front end of the lift and transport truck moves backwards
- (6) Turn the traction drive unit on/off
- (7) drive the complete lift and transport truck backwards (preselection of direction)
- (8) drive the complete lift and transport truck forwards (preselection of direction)
- (9) adjust speed of the traction drive unit by turning the wheel to the left/right side
- (10) press the handle to drive the lift and transport truck in the previously selected direction
- (11) EMERGENCY STOP: safety button. Once getting into contact with any kind of obstacle, the truck stops moving backwards, e.g. to prevent injuries of the operator.
- (12) battery level







Two gas struts push the motorized roller wheels of the traction drive to the floor.

- (1) Press the lever to lift the motorized roller wheels from the floor, e.g. for driving sideways
- (2) Press the lever to lower the motorized roller wheels to the floor



For driving the lift and transport truck via the traction drive unit, the motorized roller wheels must be lowered until the have full contact with the floor!

The battery can be charged with a 24 Volt charger.

15 Maintenance of Stainless Steel Surfaces

15.1 General Maintenance Tips on Stainless Steel Surface

The best thing about stainless steel is that it barely requires maintenance and soiling can be removed easily.

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15.2 Initial Cleaning / Cleaning / Preventive Measures

After installing the stainless steel devices and/or furniture, an initial cleaning is to be performed to remove any soiling caused by storage, transport or installation works.

Protective films, paper packaging or residues of adhesives are to be removed completely after having installed the devices or furniture otherwise they might lead to corrosion. For cleaning you may only use suitable cleaning agents (see below). Normally, the corresponding cleaning agent is being distributed evenly on the surface with a microfiber

cloth. Tough soiling is to be treated with a soft synthetic fleece, e.g.

Then remove cleaning agent stains with clear water and dry the surfaces with soft cloths.

Poorly soluble residues or small scratches can be removed with a suitable non-woven abrasive.

15.3 Cleaning Agents / Cleaning Instruments

Cleaning agents and instruments are t be used in accordance with the instructions of the respective producer.

15.3.1 Stainless Steel Polish / Stainless Steel Cleaner

Stainless steel polish – special cleaning product and protective agent for stainless steel. 400ml spray can.

Article No. 060,010,001

Shake spray can before use. Spray from approx. 25 cm distance and let it sink in for a few minutes. Then remove with a clean, dry cloth. You may sterilize and disinfect the surface if necessary afterwards.

15.3.2 Suitable Cleaning Agents

Basically, alkaline cleaning agents are to be used on stainless steel parts only.

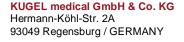
Never use cleaning agents that contain hydrochloric acids or bleach. They might lead to discolorations.

15.3.3 Descaling Agents

Only use off-the shelf descaling agents for stainless steel.

15.3.4 Brushes / Non-Woven abrasives

Brushes made of natural or plastic bristles







Article	Article No.	Grain Size	Dimension L/W
Nylon non-woven abrasive (fine grain)	060.010.002	P 1000	200 x 115mm
Nylon non-woven abrasive (coarse grain)	060.010.003	P 280	200 x 115mm

Cleaning instructions for non-woven abrasives are to be observed provided that it is a ground surface. Always clean towards the grinding pattern, never across.

15.3.5 Textiles

Textiles made of natural or chemical fibers. Particularly microfibers are suitable to remove patches or fingerprints from stainless steel surfaces.

Article	Article No	Material	Dimension L/W
Microfiber cloth	060.010.005	80% Polyester	400 x 400 mm
		20% Polyamides	



For Lift and Transport Trucks

as of July 1, 2019





Lift- and Transport Truck HTW

Models						
50/51/100	50/51/110	50/51/120	50/51/130	50/51/140	50/51/150	50/51/160

No.	Description		Art. No.	Quantity							
1	Carrying rollers for roller track	Α	030.100.100	5 pcs	Х	Х	Α	Х	Х	Х	Х
2	Central lock for stopping rail		050.010.023	1 pcs	Х	Х	х	х	х	х	х
3	End stop profile at the roller track		050.070.034	1 pcs	Х	Х	Х	х	х	х	х
4	slide handle		050.010.028	1 pcs	Х	Х	Х	х	Х	х	х
5	Anti-collision buffer		050.010.039	2 pcs	Х	Х	Х	Х	Х	Х	х
6	Foot pedal for hydraulic pump		050.010.026	1 pcs	Х	Х	Х	-	х	х	_
7	Hydraulic pump 120/1		050.010.025	1 pcs	Х	Х	Х	-	Х	Х	-
8	Hydraulic cylinder 250 kg		050.010.024	1 pcs	Х	Х	х	х	х	х	х
8	Hydraulic cylinder 350 kg		050.010.052	1 pcs	Х	Х	Х	Х	Х	Х	х
9.1	Rubber wheel 250 kg with locking device		050.156.085	2 pcs	х	х	х	х	х	х	х
9.3	Rubber wheel 250 kg with locking device for straight direction		050.156.090	1 pcs	х	х	х	х	х	х	х
9.2	Rubber wheel 250 kg without locking device		050.156.095	1 pcs	х	х	х	х	х	х	x
9.1	Rubber wheel 350 kg with locking device		050.155.021	2 pcs	х	х	х	х	х	х	х
9.3	Rubber wheel 350 kg with locking device for straight direction		050.155.022	1 pcs	х	х	х	х	х	х	х
9.2	Rubber wheel 350 kg without locking device		050.155.020	1 pcs	х	х	х	х	х	х	х
10	Rubber metal bumper		050.010.050	5 pcs	Х	Х	х	х	х	х	х
11	Battery for HTW		050.055.225	1 pcs	-	-	-	х	-	-	х
-	Recharger 12 / 230 Volt		050.050.042	1 pcs	-	-	-	х	-	-	х
12	Battery charge indicatior		050.050.019	1 pcs	-	-	-	Х	-	-	х
13	Foot switch		050.050.016	2 pcs	-	-	-	Х	-	-	х
14	Oil absorbing mat		090.020.600	1 pcs	-	-	-	Х	-	-	х
15	Main switch/ Emergency OFF		050.050.091	1 pcs	-	-	-	х	-	-	x
16	Relais for 12V hydraulic unit		050.050.028	1 pcs	-	-	-	Х	-	-	х
17	Hydraulic aggregate 12 Volt		050.050.058	1 pcs	-	-	-	Х	-	-	х
18	Recharger plug / socket 12/24 Volt		050.050.099	1 pcs	-	-	-	Х	-	-	х
19	Fuse link 80 AMP		050.050.021	1 pcs	-	-	-	х	-	-	Х
20	Fuse link 5 AMP		050.050.033	1 pcs	-	-	-	Х	-	-	х
21	Switch valve for tilting		050.010.053	1 pcs	-	-	х	-	-	-	-
22	Hydraulic cylinder for tilting		050.110.013	1 pcs	-	-	х	-	-	-	-



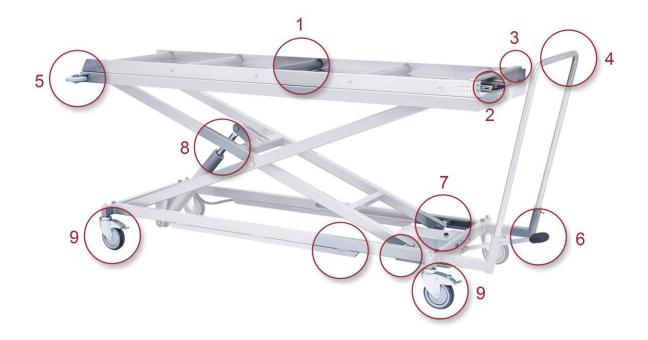


Spare Parts for HTW with 24 Volt Traction Drive Unit (FAT)

	Models									
60/64/400	001/10/00	50/51/110	50/51/120	50/51/130	50/51/140	50/51/150	50/51/160			

No.	Description	Art. No.	Quantity	 	 		
23	Wheels for traction drive unit	059.055.261	1 pcs				
24	Motor for traction drive unit	059.055.262	1 pcs				
	24 Volt / 230 V charger for traction drive unit	050.050.044	1 pcs				
25	Gas strut	050.010.249	1 pcs				
26	Female multipoint connector M8- plug	059.900.065	1 pcs				
27	Handle at the control panel of the traction drive unit	050.055.261	1 pcs				
28	Controller traction drive unit at the control panel	050.055.257	1 pcs				
29	Main switch for the control panel	034.055.107	1 pcs				
30	Button for the control panel	034.055.101	1 pcs				
31	S-Drive controller for traction drive	050.055.256	1 pcs				

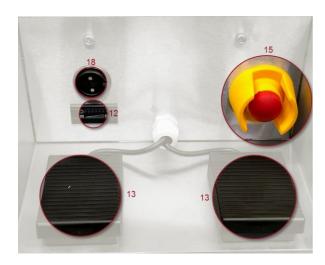
A suitable with these products but 6 rollers are necessary

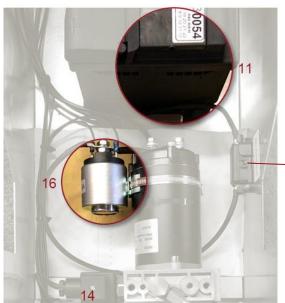




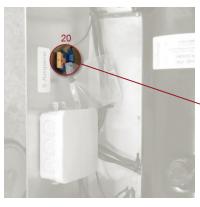


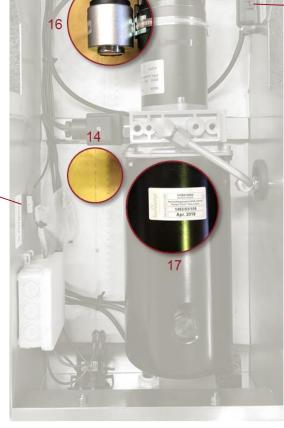








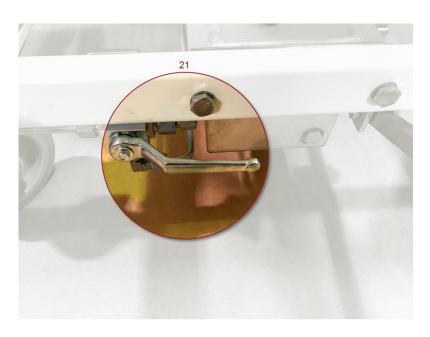




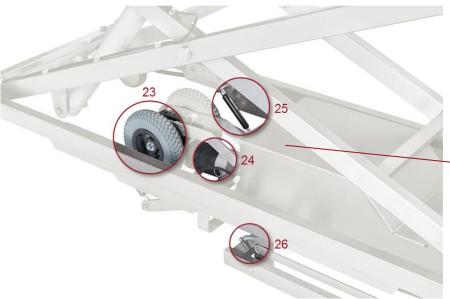
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DECLARATION OF CONFORMITY

We KUGEL medical GmbH & Co. KG Hermann-Köhl-Str. 2A DE - 93049 Regensburg / GERMANY

Explain in own responsibility, that the product:

Kind of equipment:	Lift and transport truck
Type:	HTW 50/010, HTW 51/010, HTW 50/100, HTW 50/101, HTW 50/110, HTW 50/120, HTW 50/130, HTW 50/140, HTW 50/150, HTW 50/160, HTW 51/100, HTW 51/101, HTW 51/110, HTW 51/120, HTW 51/130, HTW 51/140, HTW 51/150, HTW 51/160

Is in compliance with following standard specifications or documents

Technical regulations: 2006/42/EG, DIN EN ISO 13849-1

Regensburg, 02.05.2018

Authorized representative signature