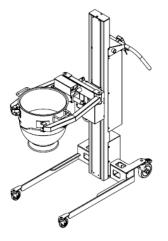




INSTRUCTION MANUAL

SERIAL NUMBER: \_\_\_\_\_



# Varimixer

Varimixer A/S Kirkebjerg Søpark 6 DK-2605 Brøndby Denmark P: +45 4344 2288 E: info@varimixer.com www.varimixer.com SAP nr. 20060-1710 Version 1.1 UK Original language "English"



# EC - DECLARATION OF CONFORMITY Machinery Directive 2006/42/EC Annex II A

Manufacturer and party responsible for compiling technical documentation:

Company name:	Hovmand A/S
Address:	Sandvadsvej 15
Destal es de	DIC 4000 IC

Postal code: DK-4600 Køge, Denmark

Phone number: + 45 57 83 33 00 www.hovmand.com

- he	reby	declar	e that	the	machine:
------	------	--------	--------	-----	----------

Designation: Mobile battery-powered lifter

Type identification number: Flexlift INOX mini

Serial number:

- is manufactured in accordance with the Machinery Directive 2006/42/EC Annex II A.

The following directives and standards as well as technical reports have been applied, insofar as they have been found to be wholly or partly relevant in relation to the construction and design of the machine:

Directives: 2014/30/EC

2014/35/EC 2011/65/EC

Standards: EN/ISO 12100: 2011

EN/ISO/TR 14121-2: 2012

EN 60204-1: 2016 EN/IEC 63000: 2018 EN/ISO 3691-5: 2015 DS/EN ISO 20607: 2019

Authorisation of HOVMAND A/S, to prepare technical documentation and communicate information about the device, in response to any sufficiently motivated request from state authorities:

Køge 15/12-2021

Søren Hovmand Managing Director Hovmand A/S



# DECLARATION OF CONFORMITY Supply of Machinery Safety Regulations 2008

Manufacturer and party responsible for compiling technical documentation:

Company name:	Hovmand A/S		
Address:	Sandvadsvej 15		

Postal code: DK-4600 Køge, Denmark

Phone number: + 45 57 83 33 00 www.hovmand.com

- hereby declare that the machine:

Designation: Mobile battery-powered lifter

Type identification number: Flexlift INOX mini

Serial number:

- is manufactured in accordance with the Supply of Machinery Safety Regulations 2008.

The following directives and standards as well as technical reports have been applied, insofar as they have been found to be wholly or partly relevant in relation to the construction and design of the machine:

Directives: Electromagnetic Compatibility Regulations 2016

Electrical Equipment Safety Regulations 2016

RoHS Regulations 2012:GB

Standards: BS/EN/ISO 12100: 2011

ISO/TR 14121-2: 2012 BS/EN 60204-1: 2016 BS/EN/IEC 63000: 2018 BS/EN/ISO 3691-5: 2015 BS/EN ISO 20607: 2019

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Søren Hovmand Managing Director Hovmand A/S

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## 1 Typographic convention

The following cautionary symbols may be used in the manual and / or on the lift.



#### Warning!

This pictogram draws attention to the risk of personal injury.



#### Warning!

This pictogram draws attention to the risk of personal injury.

• There is a risk of getting your fingers crushed.



#### Warning!

This pictogram draws attention to the risk of personal injury.

• The lifter must not be used for lifting persons.



#### Warning!

This pictogram draws attention to the risk of personal injury.

• There should be no body parts below or near the lifting tool when operated up or down.



#### Warning!

This pictogram draws attention to the risk of personal injury.

• There should be no body parts on top of the front legs steel profile, when the lift is elevated or operated.

# 2 Specifications

	Flexlift INOX mini
Weight (kg)	83
Height (mm)	1524
Max load (kg)	50kg
Lifting speed (normal speed)	100 - 125 mm/s
Protection class	IP66
Batteries	24V,18AH
Charger	90 - 264V 47/63Hz – 2,5 Amps
Charging time	6 hours (80%) 8 hours (100%)
Sound pressure level	≤ 70 Db(A)
Vibration strength	≤ 2,5 m/s²

#### 3 General safety precautions during use

The following guidelines must be observed and followed when using a lift, to prevent personal injury:



- Under no circumstances should the lift elevate more than specified on the label.
- It is of most importance, due to personal safety, that the specified weight, load position, and height are respected and that the lift is not overloaded.



The lift must not be used for lifting persons or live animals.



 No body parts near the sledge or tool at the mast or other lifting equipment when operated up/down.



• Secure that there is no person below the load, tool and lift when operated.



• There should be no body parts on top of the front legs steel profile, when the lift is elevated or operated.



- Only one person must operate the lift at a time.
- The user must read and understand these instructions or must have them explained to them before using the lifter.
- Only use the lift when operated on a hard-levelled surface during lifting or transporting loads.
- When transporting a cargo, the load should be lowered to the lowest possible position and secured in order to ensure that the cargo cannot slide.
- Always secure the cargo on the lift when moving.
- Not in use or storing, always ensure that the sledge is lowered to the lowest possible position and is free of any items or cargo.
- Operate and store in a clean, dry location with temperature from +5 °C to +40 °C.
- Make sure that the tool is firmly attached to the sledge and no slack occurs in the bolt connection.
- The lifter is to be controlled at least once a year or according to laws, regulations, directives, working conditions and experience. The control shall be performed by the manufacturer or a skilled technician. Please check your local requirements.
- Do not lift or handle open containers containing corrosive fluids, harmful to people if spilled.
- Industrial or commercial use only.
- Indoor use only.
- Do not use the lifter in explosive or flammable hazard environment.
- Do not use or store in a corrosive environment.

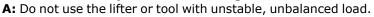
#### 4 Exception of liability

- Hovmand cannot be held responsible for any modifications on the lift or attached equipment, not authorized by Hovmand.
- Do only use original spare parts, otherwise Hovmand cannot be held liable for the function and safety of the lift.
- The lifter must only be serviced by a qualified technician, otherwise Hovmand cannot be held liable for the function and safety of the lift.

#### 5 Residual risks

There are residual risks for extraordinary wear, material or product failure due to great impact from collision, misuse, obstacle interference, blockade of driveways, etc.; e.g. a faulty wheel bearing, as a result of a heavy collision.

#### Residual risk for personnel working with or around the lifter

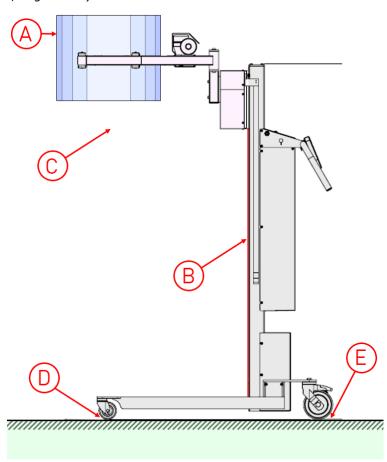


**B:** No persons or body parts must be put under or near the tool.

**C:** Do not put objects or limbs (feet, hands, fingers etc.) into any opening of the lifter or the tool.

**D:** Do not put limbs (feet, hands, fingers etc.) in the front wheel.

**E:** Do not put limbs (feet, hands, fingers etc.) in the back wheel.



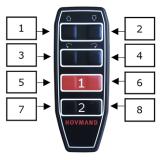
Example:
Load
Tool
Lifter

Ground

# 6 Operating the lifter

## 6.1 Remote control - QC3 - 8 buttons

The remote control has 8 buttons, which operate as follows:



#### The remote control symbols

Button no. / Function	Description	Symbol	Comments
<b>1</b> Lifting	The lifter will lift while the button is pressed	Û	Normal speed
2 Lowering	The lifter will lower while the button is pressed	Û	Normal speed
<b>3</b> Turning left	(counter clockwise)	9	
<b>4</b> Turning right	(clockwise)	G	
5+6 Manipulator reduces / grips	2 buttons must be pressed at the same time	1	
<b>7+8</b> Manipulator expands / eases gripping	2 buttons must be pressed at the same time	2	

## 6.2 Shipping



#### When shipping the lifter:

- The sledge must be lowered to the lowest possible position and be free of any items or cargo.
- Fasten the lifter securely during transport.

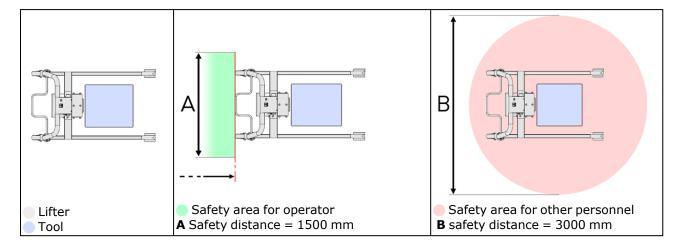
#### 6.3 Safety areas and distance



#### Safety when operating the tool

The operator must ensure that the tool is clear of obstacles before lifting, lowering or rotating. The operator must warn other personnel before lifting, lowering, rotating or using the tool. When lifting, lowering, rotating or using the tool, the operator must:

- stand behind the wheels of the lifter as illustrated below ( A).
- ensure that all other personnel are out of the danger zone as illustrated below( B).



# 7 Construction and Materials

All materials are suitable for use in pharma and food industry.

Part	Material		
Mast	Electro polished stainless steel (1.4301 / AISI 304)		
Handle	Electro polished stainless steel (1.4301 / AISI 304)		
Sledge	Electro polished stainless steel (1.4301 / AISI 304)		
Front cover for mast	Electro polished stainless steel (1.4301 / AISI 304)		
Remote	Polyamide 6		
Wheel frame	Electro polished stainless steel (1.4301 / AISI 304)		
Front wheels	Polyurethane		
Back wheels	Polyamide and Polyurethane		

#### 8 Batteries and chargers



#### Before using the batteries

New batteries should always be fully charged prior to using.

#### Charge the battery pack daily

The battery pack must be charged daily as total discharge can damage the batteries or shorten their lifespan.

#### To charge the batteries:

1: Connect the charger to the lifter and the wall-plug.

The indicator changes to green after 1 to 6 hours, which corresponds to 80% charge.

The battery pack is fit for use as soon as the green light is on.

However, it is recommended to do a full charge, which takes approximately 8 hours.



The charger automatically charges the batteries and switches to maintenance charging when the batteries are fully charged.



#### Safety when charging

Use only original charger. Check that the wires are in good condition, connect properly and correct before applying power. Make sure there are no dirt or water in the plug.

#### The battery status indicator

The lifter is equipped with a battery status indicator, which indicates the battery status when the lift button is activated.

Red indicator: Batteries must be recharged immediately.Orange indicator: The batteries are functionally charged.

Green indicator:
The batteries are fully charged.





#### Safety when discharged

Using discharged batteries means an extreme stress for the battery and should be avoided.

#### 9 Lifting equipment

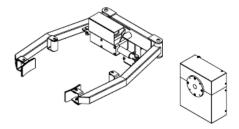
#### 9.1 Quick Clamp with turning unit - QC3

The QC3 consist of a "scissor type" gripping unit and a turning unit.

The QC3 is used to handle items up to 50 kg, which needs to be lifted and turned sideways.

The gripping unit can grip a load and hold it while it is lifted, moved and rotated.

The turning unit can rotate the tool sideways.



QC3 - Quick Clamp with turning unit



#### Safety

Due to the risk of dropping the load through unintentional pushing a button on the remote control, the opening and closing functions are operated with two buttons; i.e. both buttons must be activated simultaneously, in order to perform the desired operation.

There are risks of entrapment hazards, if the safety regulations for using the tools are not upheld.

The tool, pressure adjustment and grippers, needs to be suitable for handling the specific item. Do not handle items which you have not specifically made adjustments for, or settings to suit.

Before the turning unit is activated, control that the load is correctly held between the arms of the tool. This is done by ensuring that all contact areas of the tool are indeed in contact with the load. Make sure that the load is lifted high enough, so that no collision between the legs, the floor or other obstacles and the load itself, can occur.

#### **LED** indicator

The LED indicator lights up red when the gripping/closing function is activated, and once the tool is gripping the item with the pre-set holding pressure, the LED indicator turns green.

#### **Adjustments**

The gripping pressure needs to be preset in the PLC settings, to suit the item that is handled. The rotational speed can be adjusted in the PLC settings.

#### Extra equipment

Different grippers can be mounted on the gripping arms depending on which equipment needs to be handled; see the separate section on grippers.

#### 9.2 Light Indicator

The LED indicator lights red during the Gripping / closing function, when the tool has gripped to the preset holding pressure, the LED indicator lights green.

#### 9.3 Adjustments

The gripping pressure needs to be preset in the PLC settings, to suit the item that is handled. The rotational speed can be adjusted in the PLC settings.

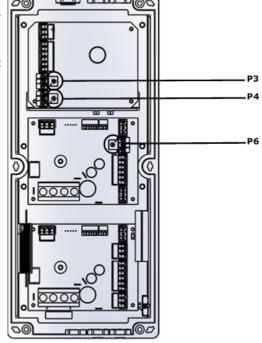
#### 9.4 Adjusting speed and Amps for gripping unit

Parameters should only be adjusted by skilled technicians, as improper procedures may lead to insufficient clamping power and/or irreversible motor damage.

The following parameters may be adjusted in the control box:

**P3:** Used for adjusting amps on gripping (clamping force)

**P4:** Gripping speed **P6:** Turning speed



#### 10 Maintenance and Inspection

All Hovmand products are designed for minimum maintenance, however some safety checks and procedures are required.

Hovmand strongly recommends the following checks be carried out on a daily basis and before using the lift. Ensure that the lift is functioning as intended. If in doubt, do not use.

- The lifter must be free of dirt or debris which could affect safe operation
- Ensure all labels are present, without damage and are readable.
- Ensure no sign of wear, miss sounds or visual defects.
- Ensure bolts, nuts and rivets should not be loose.
- · Ensure correct operation of the brakes.
- · Ensure the lifter moves freely on its wheel and the castors.
- · Ensure control unit are in working order.

The yearly maintenance must be performed by a qualified technician.

The critical components listed below, must be replaced with the intervals stated, to make sure that the lifter is in safe, operational condition.

#### **Critical components:**

Please contact Hovmand for instruction on how to replace critical components.

#### Cam belt

- Replace when / if any of the below points occur:
  - Any sign of wear, visual cracks, or miscolour.
  - Under normal use (Use < 20 lifts per day, in average over a year), replace after 8 years.
  - Under intensive use (Use > 20 lifts per day, in average over a year), replace after 4 years.

#### One way bearing

- Replace when / if any of the below points occur:
  - Any sign of wear, miss sounds or visual defects.
  - Under normal use (Use < 20 lifts per day in average over a year), replace after 8 years.
  - Under intensive use (Use > 20 lifts per day, in average over a year), replace after 4 years.

#### 11 Disposal

When disposing the lifter, make sure to sort the different materials by category, metal, electronic waste, batteries etc.. Make sure to follow the local environmental legislations, and hand over the materials to the local recycling station.



• Note: The batteries contain lead and must be disposed accordingly!

# 12 Cleaning instructions



#### Swap batteries

The external battery swap unit must be removed from the lifter, prior to cleaning.

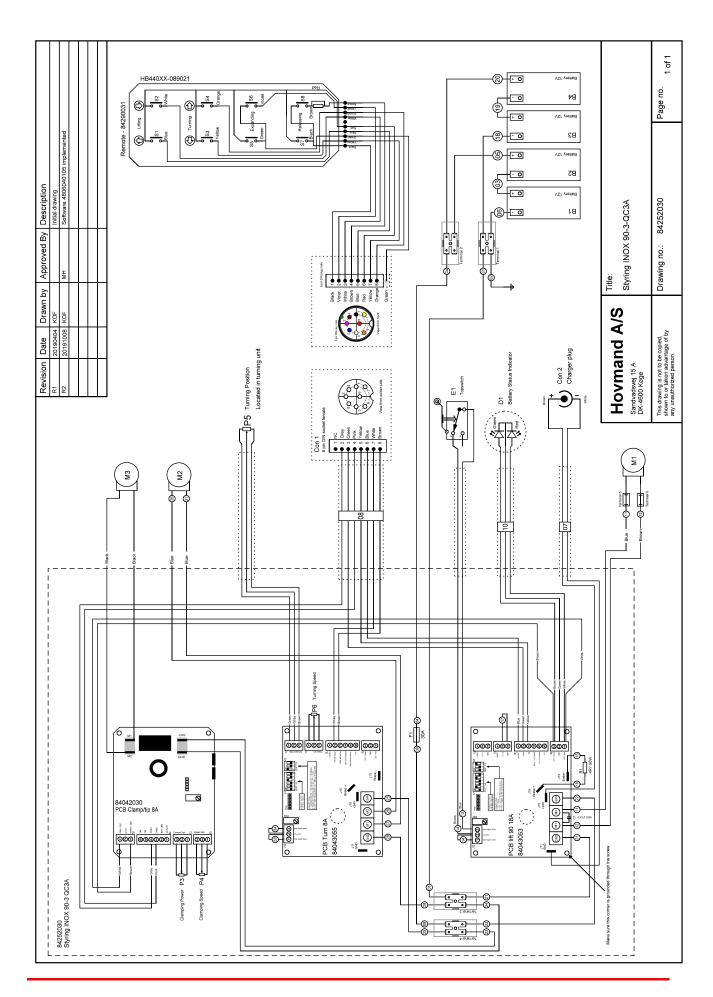
Ingress protection marking (IP)				
Model-approved IP code: IP 66			IP code description	
Solid particle protection IP <b>6</b> X		Dust tight	No ingress of dust; complete protection against contact (dust tight). A vacuum must be applied. Test duration of up to 8 hours based on air flow.	
Liquid ingress protection IP X <b>6</b>		Powerful water jets	Water projected in powerful jets (12.5 mm nozzle, at a pressure of 100 kPa. at a distance of 3 m) against the enclosure from any direction shall have no harmful effects.	
	S	pecial ins	tructions/Pro	ecautions
	ear the correct / appr e lifting tool, so that ye			hen cleaning near the floor.
		Deter	gent applicat	tion
•	Use a standard PH neutral cleaning detergent.		<b>(3)</b>	Do not use Acid, Alkaline or harsh chemical products, these might weaken the drive belt and other sensitive components or leave marks on the surfaces.
		W	Vork process	
	<ul> <li>The outer surfaces can be cleaned using a wet brush or a damp cloth.</li> <li>The outer surfaces can be cleaned using a standard water hose.</li> <li>The outer surfaces can be cleaned using a high pressure cleaner; Please note that the max. allowable pressure is 100 kPa. at a distance of 3 m.</li> <li>The lifter must dry for min. 2 hours after cleaning.</li> </ul>		X	Do not use a higher pressure than 100 kPa. at a distance of 3 m.
		Key i	nspection po	ints
	The power con-	nection plug		tely dry, before mounting the battery unit.

The power connection plug must be completely ary, before mounting the back.
 Test that all functions are working properly before the lifter is taken back into service.

# 13 Resolving faults

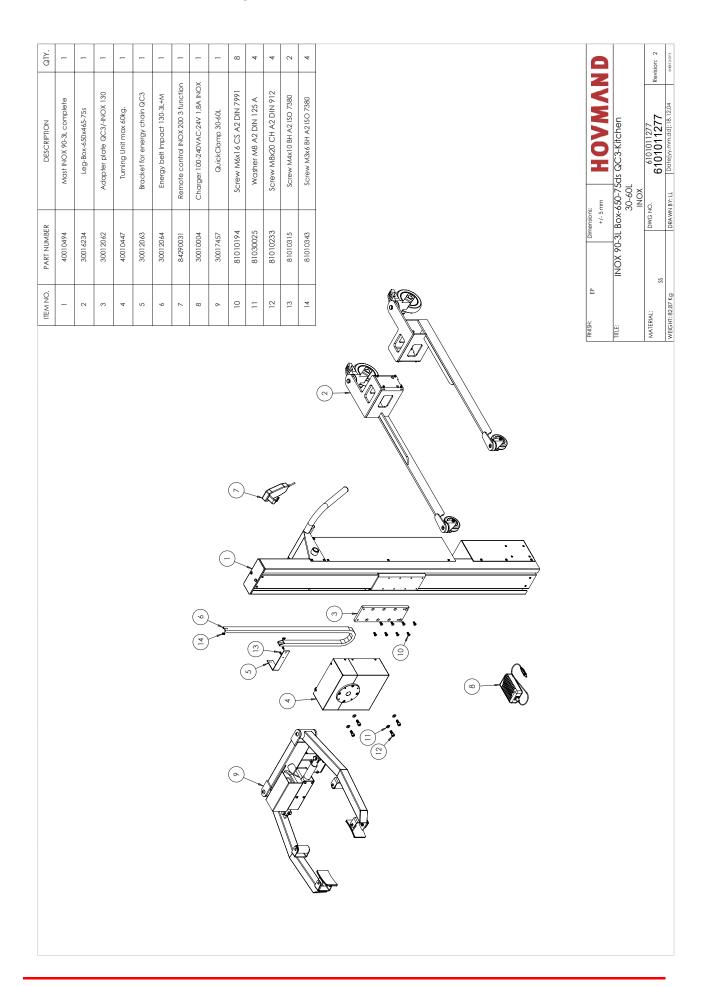
Fault type	Check the following	Solve
The timing belt jumps on the belt wheel (the belt is making crackling noises)	Is the belt slack?	Tighten the belt using the screws at the top of the mast.
	Is the belt worn?	Replace the belt.
The belt is skewed (the belt squeaks)	Is the belt running skewed in the track on the top cam wheel?	Adjust the screw at the top of the mast, on the side to which the belt is skewed.
	Is the belt worn?	Replace the belt.
The sledge jerks	Is there dirt in the mast on which the sledge runs?	Remove the dirt and wipe with alcohol.
	Is there dirt on the sledge wheels?	Remove the dirt or replace the wheels.
The lifter does not respond	Check whether the item being lifted is heavier than the lift's capacity	Remove the item.
	Check the main fuse or the on/off button	Replace the main fuse or press the button.
	Check that the batteries are charged	Connect the charger.
The lift works very slowly	Check the voltage of the batteries	Connect the charger.
	Check the charging frequency. Does the light quickly change to green when connected?	If the charger quickly changes to green, it could indicate that the batteries should be replaced or the fuse on the charger is broken or the main switch is off.

#### 14 Electrical chart

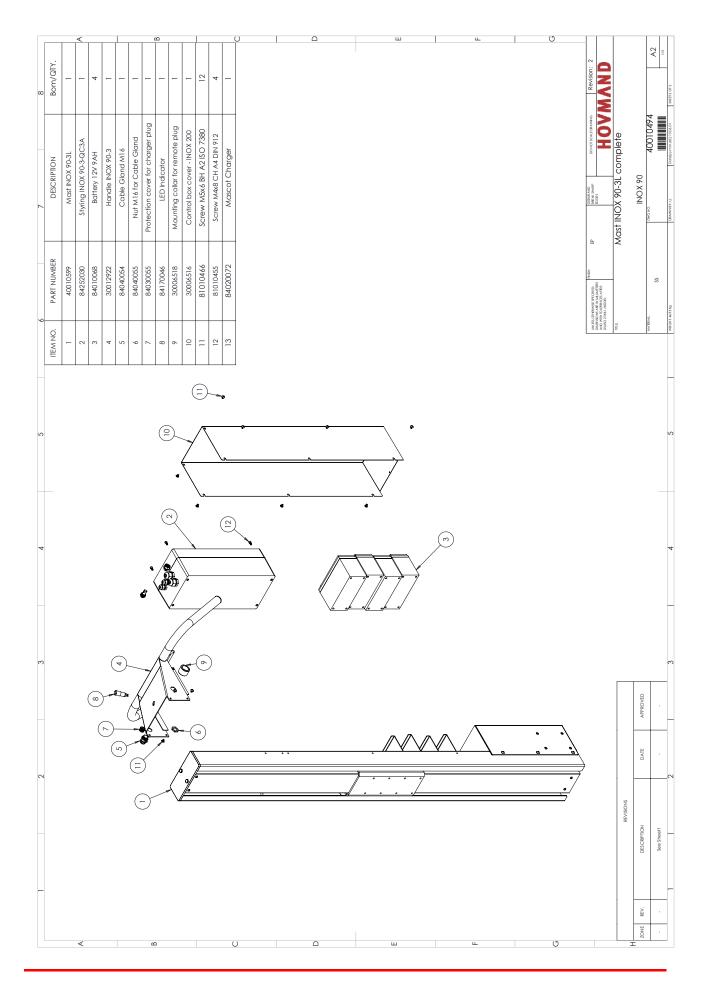


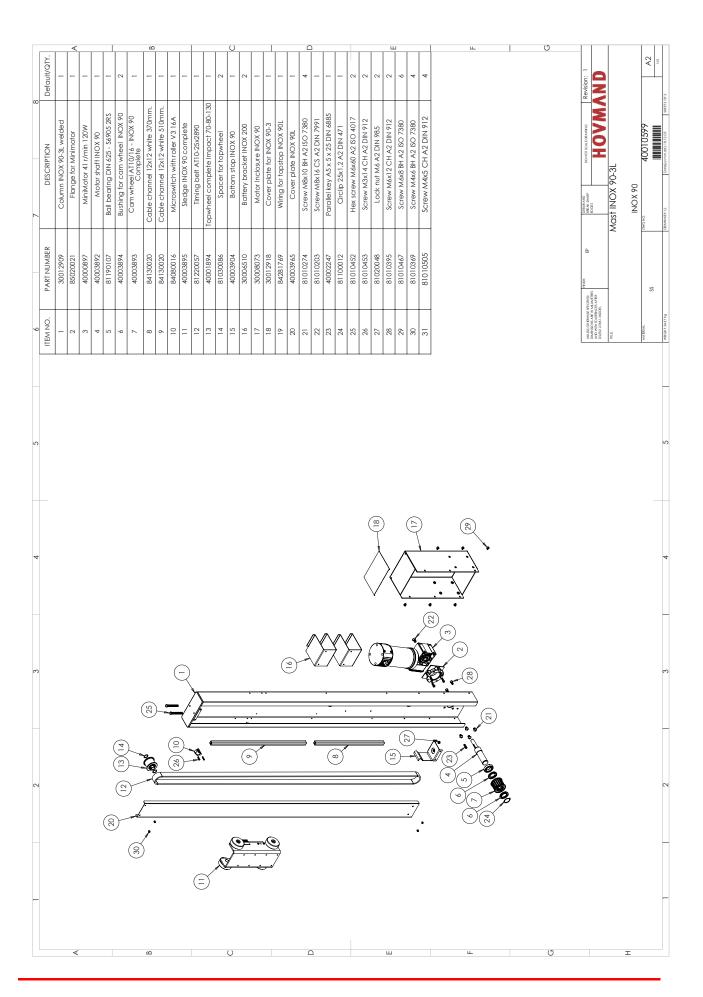
## 15 Spare parts

#### 15.1 Flexlift INOX mini - Complete

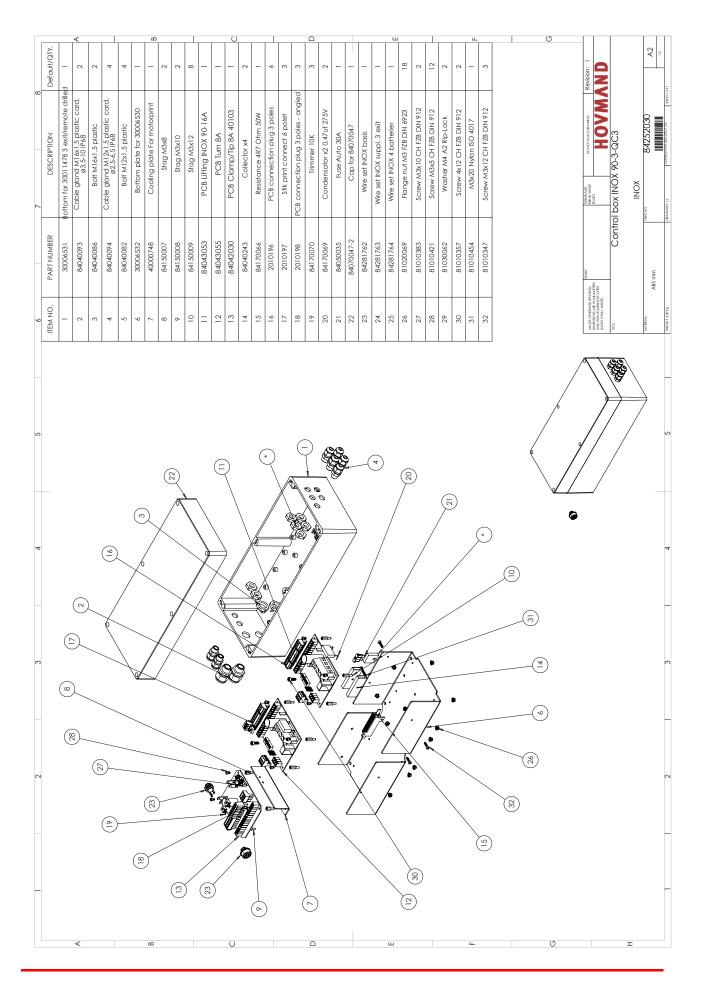


#### 15.2 Mast - Complete

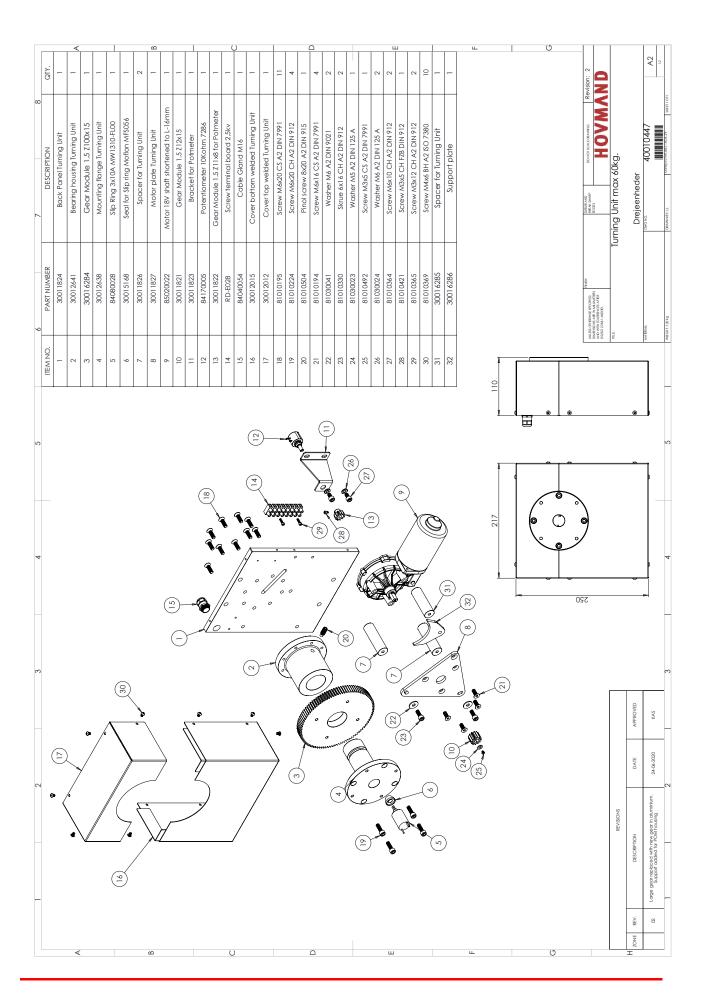


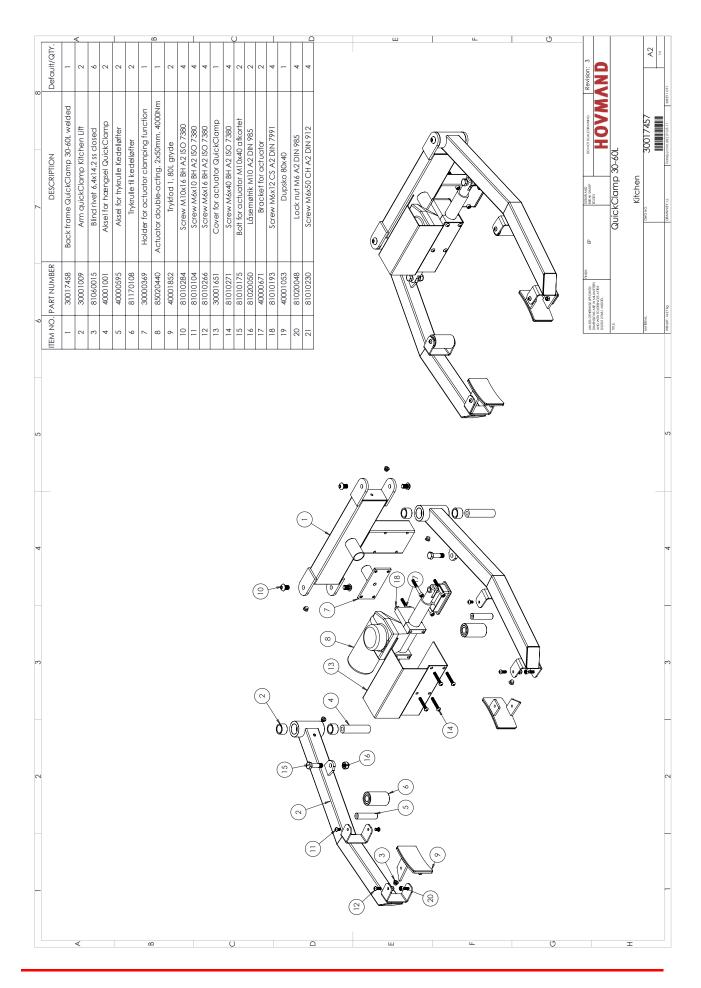


#### 15.4 Control box:

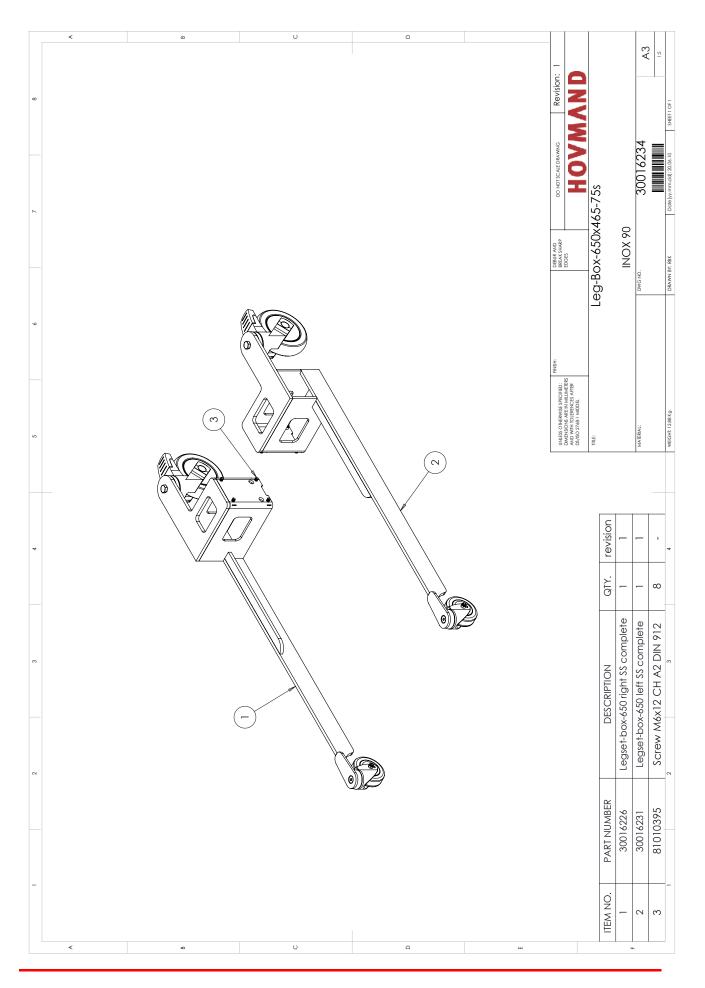


#### 15.5 Turning unit



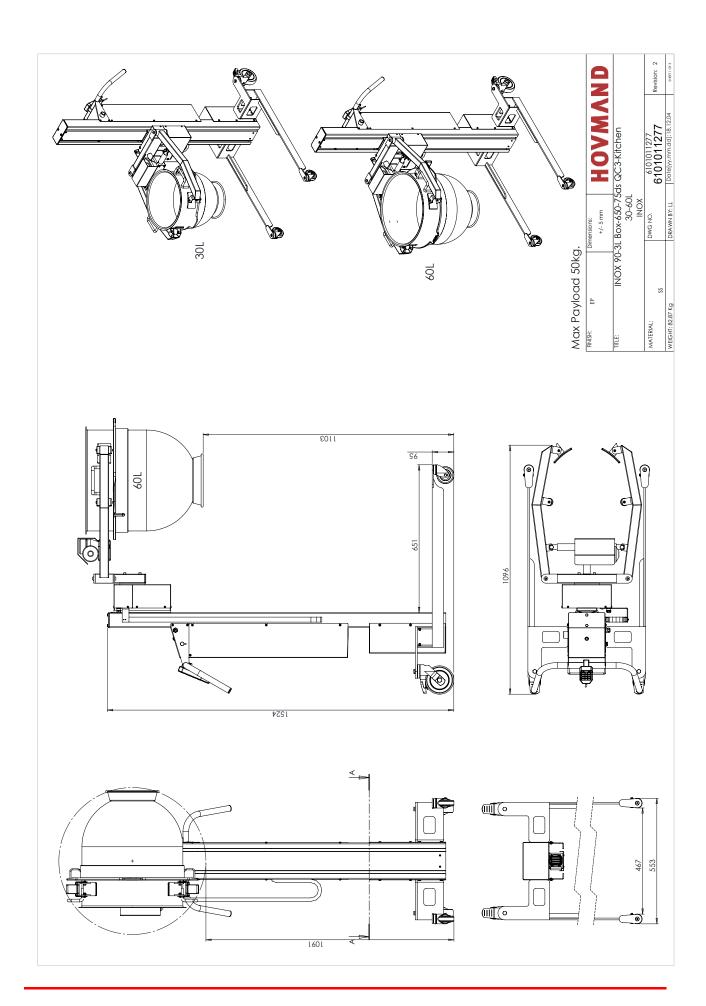


## 15.7 leg set

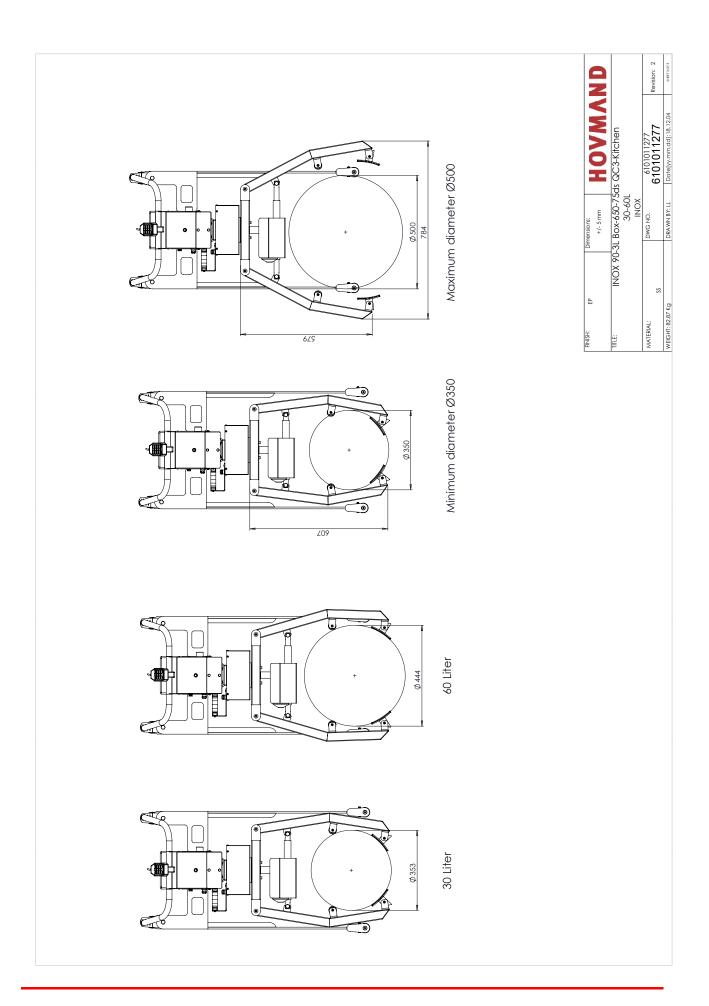


## **16 Dimensions**

## 16.1 Lifter dimension



#### 16.2 Tool dimensions



# 17 Annual inspection

Date of inspection:	Controller:	Comments:

CONTACT HOWMAND FOR SUPPORT AND SERVICE:

**(** +45 57 83 33 00

customerservice@hovmand.com

