

# Manual

Height adjustable work table for 200kg,  
electrical operation with 220V

# CREFORM®

CT-1250



*Image: CT-1250-400-4-K*


**Index**

1	General information.....	3
2	General description.....	4
3	Safety requirements.....	5
3.1	Symbol and meaning.....	6
3.2	Possible Endangerments.....	6
3.3	Safety precautions in normal operation .....	7
3.4	Loss of stability .....	8
4	Technical Data .....	9
4.1	Specifications.....	9
4.2	Installing the Gear box .....	9
5	Design guideline.....	11
5.1	Setup of the height adjustment system with crank .....	11
5.1.1	Design guideline for a work station with crank .....	12
5.1.2	Support and crank holder .....	12
5.1.3	Design with 6 gear boxes .....	13
5.1.4	Assembly example 1: Work station with crank .....	13
5.2	Height adjustable system setup with electric drive .....	14
5.2.1	Design guideline for a work station with electrical operation .....	16
5.2.2	Covering the profile rods.....	17
5.2.3	Assembling the motor and the operation panel .....	19
5.2.4	Assembly example 2: Cart with height adjustable work table .....	21
5.2.5	Assembly example 3: work station with electric drive.....	23
6	Troubleshooting.....	27
7	Maintenance.....	27
8	Self-repair and exclusion of liability.....	28
9	Warranty .....	29
10	Disposal.....	29
11	Appendix .....	30
11.1	Arrangement of the components.....	31
11.2	Direction of rotation .....	32

# 1 General information

We thank you for the confidence, which you set in us with the purchase of the CREFORM height adjustment work table. We wish you much business success with the new equipment. CREFORM products are developed after the state of the art, with largest care manufactured and are subject of constant quality control. Our products comply with the Machinery Directive 2006/42 / EC, the 9th ProdSGV and carry a CE mark. Connected thereto, the Purchaser may not modify the product, otherwise the CE marking may become invalid.

The available manual is to facilitate the operation of the CREFORM height adjustment work table for you and helps using it in the intended application type. The work table may only be used for the applications defined in this operation manual. This applies to all types of loads, load weights, maintenance, etc.

 <div style="border: 1px solid black; padding: 5px; margin-top: 10px; text-align: center;">Information</div>	<p><i>Intended Use</i></p> <p>The height adjustable work table is exclusively intended to help the worker working in the most ergonomic working position. Therefore, the work table is maximally to be load with 200kg.</p> <p><i>Misapplication</i></p> <p>All other uses are not intended and have therefore not been taken into account in the conception and design. In particular, it is prohibited to transport or lift persons with the work table.</p>
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The manual contains important notes, in order to operate the product surely and properly. It has to be read carefully by all persons who work with the product. That is why this manual has to be stored nearby the height adjustable work table location.

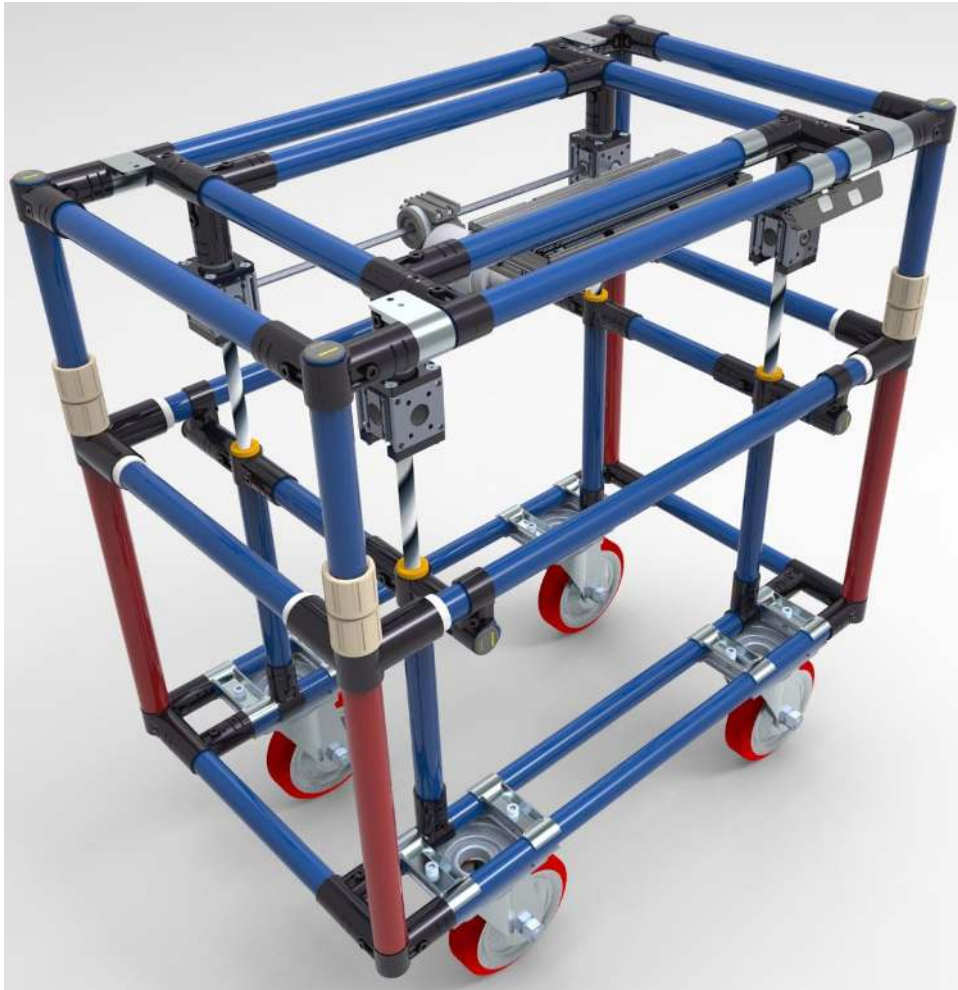
For operation of the worktable no special training is required, but we recommend a short training from the corresponding CREFORM sales representative, thus the purchaser fulfils his duty to keep the labor protection law.

The identification plate contains the most important operational data and the serial number.

Please consult directly our service department if you need additional information or references as well as in case of loss.

## 2 General description

The height-adjustable work table is marketed by CREFORM® as a manual table with crank mechanism and as an electrical table with a spindle lifting. Below there is an overview of some of our models:



*Picture 2: Mobile assembly work table*

- CT-1250-400-4-K      Lifting system, 400mm stroke, 4 transmissions, with crank
- CT-1250-400-4-EM      Lifting system, 400mm stroke, 4 transmissions, electric drive, with memory function

For further information about our product portfolio refer to the appendix.

All tables comply with the standard requirements of DIN EN ISO 14738 (Antropometric requirements for the design of workplaces) as well as DIN EN 614-2 (Ergonomic design principles) and allow to adapt to the operators standing height in working and assembly tasks with up to 400mm stroke (project-specific exceptions are possible upon request).

**Warning:** Only objects with a temperature between 0 to 50°C and a maximum load of 200kg may be stored or processed on the working surface. It is not permitted to store flammable materials on the working surface.

### 3 Safety requirements


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**Read attentively this operating instruction before start-up!**

When introducing the height adjustment work table to your company, please put a special attention to companies' safety regulations and significant work procedures.

The height-adjustable worktable should be checked for functionality during initial startup and at regular intervals thereafter.

### 3.1 Symbol and meaning

		<b>CREFORM®</b> <b>Type label</b>	
<b>Description:</b>		<b>No.</b>	
<b>Location:</b>		<b>Date:</b>	
		<b>Basic size</b>	
		<b>L</b>	mm
		<b>W</b>	mm
		<b>H</b>	mm
		<b>Max. load:</b>	
			kg
		<b>Level 1:</b>	kg
		<b>Level 2:</b>	kg
<b>Level 3:</b>	kg		
<b>Level 4:</b>	kg		
<b>Level 5:</b>	kg		
<b>Level 6:</b>	kg		

<b>Construction check</b>			
(This is only a recommendation)			
1. Visual inspection for damage			
2. All parts installed properly			
3. Tightened all screws with torque wrench according to CREFORM specifications			
<b>Recommended test cycles</b>			
fixed racks 12 Months	Mobile rack 6 Months	assembly station / work table 6 Months	Transportation carts 6 Months

Picture 3.1: Type label, Type designation, Serial number

### 3.2 Possible Endangerments

The height adjustable work table is built according to the state of the art and the accepted safety-relevant rules. Nevertheless, dangers can derive and cause light injuries of the user or the third party and/or damages at the work table or other real values by using it.

In order to exclude dangers, the height adjustment work table has to be operated only under the following conditions:

- With attention of all references from the manual.
- The work table is certified only for its intended use.
- It must be in a safety-relevant perfect condition.
- It shall only be operated by trained personnel.
- The inspection and maintenance have to be performed according to instructions.

Attention is generally drawn to the personal protective equipment (PPE). In order to prevent hair or clothing from being caught or wound up by external spindles, the operator is obliged to train the employees and, if necessary, to provide appropriate clothing, hair nets, etc. The operator is also obliged to ensure that the employees do not get caught or wound up in the spindles. In addition to this, it is recommended that appropriate warning signs are attached to the worktable ("Warning of danger of being drawn in").

If customer-supplied material is stored on the worktable, which could wind up if it comes into contact with the moving elements of the height adjustment, this must be stopped by taking appropriate measures. The best way is to move the screw jacks to the inside of the worktable (see chapter 5.2.5). Alternatively, containers / trays could be used instead of storing the material "loosely" on the work surface. Alternatively, a customized work surface with a surrounding edge can be made.

The operator must take appropriate protective measures against tripping and slipping, such as laying rubber mats in the working area of the height-adjustable worktable.

### **3.3 Safety precautions in normal operation**

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We point out expressly that we are not responsible for product damage caused by our devices, if this is caused with inappropriate repair and operation or with a partial exchange of not original parts as described in the technical manual and if the repair was not made by us and/or by authorized personnel. In principle our "general terms of delivery and sales" apply. These are available for the operator at the latest since conclusion of a contract at the disposal.

Guarantee and liability claims with damages to property and person are excluded, if they are to due several of the following causes:

- Not intended use of the height adjustable work table.
- Inappropriate assembling and operating of the height adjustable work table.
- Failure to observe the instructions in the manual regarding transport, storage, assembly, operation, maintenance and load placement on the height adjustable work table. The operator is

responsible for putting load onto the work table in the right way. Refer to BGR 234 / DGUV regulation 108-007:

- The height adjustable work table must not be overloaded.
- The work table must be loaded in a way that the load can not fall or move unintentionally.
- The permissible load must not be exceeded.
- Unsatisfactory monitoring of parts, which are subject to a wear
- Inappropriately accomplished repairs

### 3.4 Loss of stability

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The height-adjustable worktable must not be overloaded (information on the maximum load can be found in chapter 4.1, information on the possible dimensions of the structures can be found in the chapters with the assembly examples). Otherwise, there is a risk of loss of stability.

1. When loading the worktable or assembling customer products on the worktable, make sure that the table does not wobble or fall over. This could be caused by the load overhanging or excessive lateral force acting on the customer product.



## 4 Technical Data

Gear box for stepless height adjustment for sit-sit- or sit-stand work stations. The gear box is suitable for manual operation as well as electromotive height adjustment.

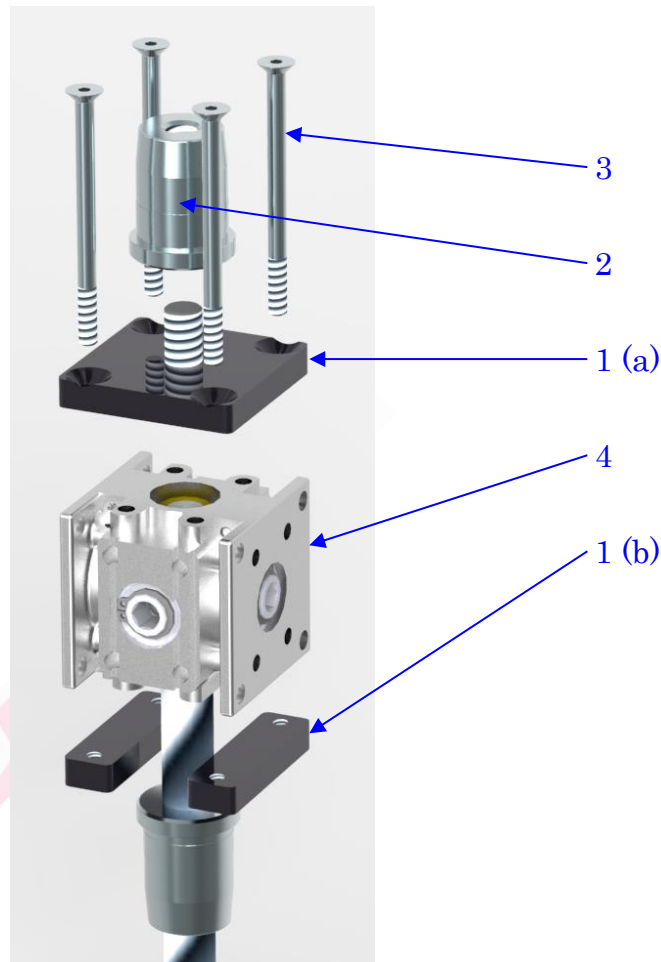
### 4.1 Specifications

Article number	CT-1250-X00-X-K	CT-1250-X00-X-EM
Type	Height adjustable work station with crank	Height adjustable work station with electric drive with 220V
Operation environment	Indoor operation, dry areas	
Operating conditions (temperature)	0 - 50°C	
Weight of gear box referred to pic. 4.2	1,2kg	
Maximum load	200kg	
Maximum driving torque	6Nm	
Actuator	6kt SW7mm	
Effective stroke for 1 rotation	2mm	
Gear reduction	1,83 : 1	
Maximum stroke	400mm	
Material of gear box	Zinc diecasting	
Gear box dimensions	50 x 50 x 50mm	
Noise volume during operion	< 68dB	

### 4.2 Installing the Gear box

The explosion drawing in picture 4.2 shows the installation of a gear box. When mounting, pay attention to the order. First you have to mount the mounting kit K-2014341, consisting of an adapter plate (1 (a)) and two counter-plates (1 (b)) with two screws CT-1147 at the gear box. All gear boxes (part numbers CT-1223-X00, CT-1224-X00, CT-1225-X00 and CT-1226-X00) are constructed identically. When assembling the countersunk bolts CT-1147 ensure that the torque is adjusted at 5,9Nm. Thereafter, the threaded insert EF-1209CAM10 is to be screwed onto the M10 thread of the adapter plate. Use appropriate thread locking system to prevent the threaded insert from getting lose. Loctite is included in the scope of delivery.

Pos.	Article number	Description	Quantity
1	K-2014341	fixing components, height adjustment system	1
2	EF-1209CAM10	Threaded insert, Ø28mm, M10	1
3	CT-1147	Countersunk bolt, DIN7991 M5x60	4
4	CT-1223-X00... CT-1226-X00	Gear box (For overview refer to appendix)	1



Picture 4.2: Installing the gear box

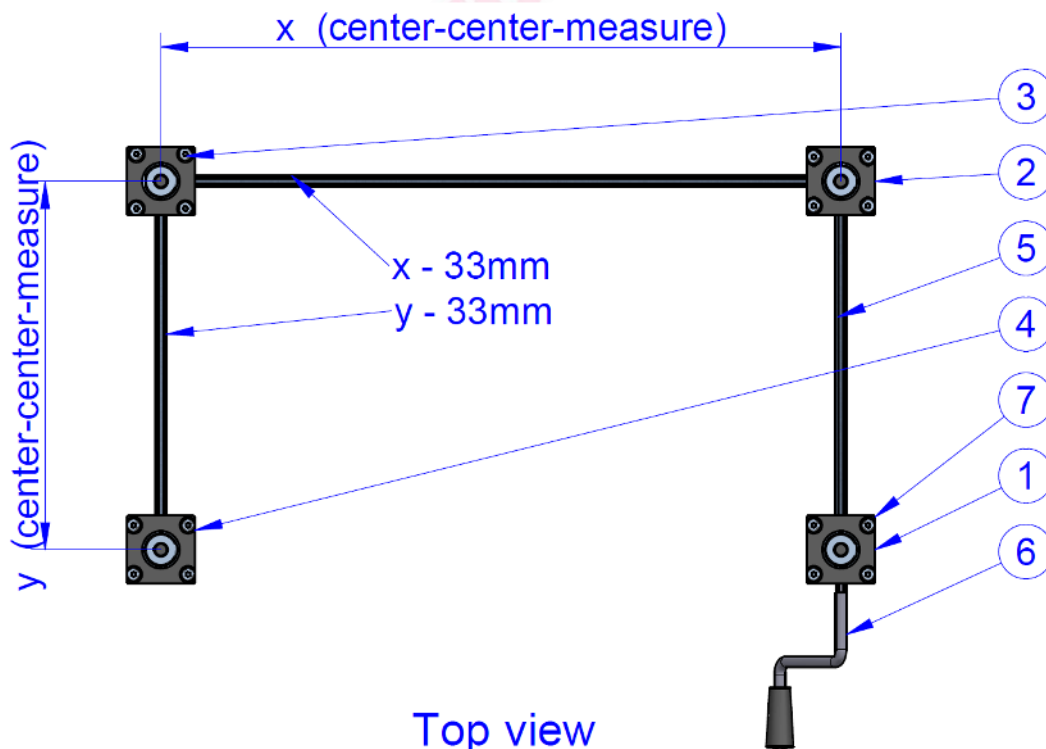
After the screw locking has cured, the gear box unit can be mounted in the structure. For this purpose, the lower threaded insert is screwed toward the gear box, so that it rests on the counter-plates. Then it has to be inserted into an open pipe end of the frame structure, until the threaded sleeve is flush with the pipe. Light impacts with a dead blow hammer on the opposite threaded bushing EF-1209CAM10 (2) are permitted for this assembly step.

## 5 Design guideline

### 5.1 Setup of the height adjustment system with crank

The design of the lift system with crank is explained on article CT-1250-400-4-K. This consists of several components, which are necessary for the height adjustment. The heart of the height adjustment system are 4 gear boxes which are partly connected via profile rod hex 7mm and thus synchronized. The structure of this system and its components is listed below.

Pos.	Article number	Description	Quantity
1	CT-1223-400	Gear box right, 2 inc, 180°, 400 stroke	1
2	CT-1224-400	Gear box right, 2 inc, 90°, 400 stroke	1
3	CT-1225-400	Gear box left, 2 inc, 90°, 400 stroke	1
4	CT-1226-400	Gear box left, 1 inc, 400 stroke	1
5	CT-1227	Profile rod 1500mm	1
6	CT-1228	Crank	1
7	K-2014341	Fixing components	4



Picture 5.1: Schematc setup of the height adjustment system CT-1250-400-4-K

For mounting a gear box refer to chapter 4.2. All four transmissions have to be installed in the frame structure, before the upper part of the table may be integrated. Note that the profile rods CT-1227 have to be cut to the correct length (center-center-measure, less 33mm; see picture 5.1) and be

inserted into the gear boxes for synchronizing before the threaded inserts are hammered into the pipes tightly. For this purpose we recommend to loosen some connectors that hold the vertically oriented pipes in position – which are holding the spindles.

After all four gear boxes are mounted, the connectors should be tightened again. Now, the upper part of the table may be integrated. Also, for this assembly step, the connectors of the upper part of the table should have little clearance to compensate small tolerance deviations of both frames.

### 5.1.1 Design guideline for a work station with crank

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When designing and constructing a height-adjustable worktable, pay attention to the following points:

- The load-bearing vertical pipes which are holding the spindles must be equipped with standing feet, so that the forces are lead directly into the floor. It is possible to use plug-in casters for a mobile structure instead of standing feet.
- The base frame and the table module have to be designed torsionally rigid. In the case of the base frame, this can be easily achieved by adding diagonal struts. For the table module, either a massive worktop or a double frame is recommended on which the lifting gear boxes are mounted.
- The table module requires a sufficient linear guide to absorb the lateral forces. The following factors directly affect the stability of the height-adjustable table:
  - Size of the work table
  - Product weight which is on the table module
  - Executed stroke
  - The table is standing on casters or on feet
- Permissible center-center-measurements of gear boxes for the structure:
  - minimum 300mm x 300mm
  - maximum 1533mm x 1533mm (standard-rod 1500mm + 33mm)
- If requested for optical reasons to hide the rods, for example these may be placed inside Ø28mm pipe which has then to be mounted under the table module.

### 5.1.2 Support and crank holder

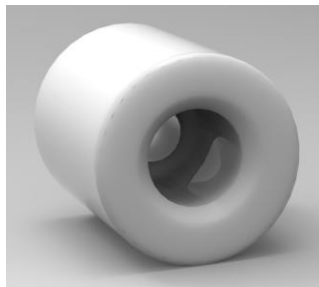
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Each height attachment system with crank contains 2 pieces K-2018563 and 2 pieces HJ-11.

The article with the number K-2018563 is a cylindrical part with a counterbore and can be used for 2 purposes: as support for the rod and as crank holder.

If using the part as crank holder: mount the part K-2018563 with the connector HJ-11 to the vertical pipe which is located closest to the gear box, where the crank can be connected to. Note that the part has to be oriented upwards with the bigger diameter. If taking off the crank, it may be plugged in here.

The second function is the profile support. All profiles with a length over than  $L=1000\text{mm}$  must be supported by the article K-2018563. Again, the part is mounted with the connector HJ-11 to a parallel pipe. If not doing this, the rod may start to swing due to rotation speed and even jump out of the gear box. Contact the corresponding sales representative if you need further parts for building big tables.



Picture 5.1.2: Support and crank holder K-2018563

### 5.1.3 Design with 6 gear boxes

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Permissible center-center-measurements for the exterior oriented gear boxes of one structure with 6 gear boxes:

- maximum size 2000mm x 1533mm

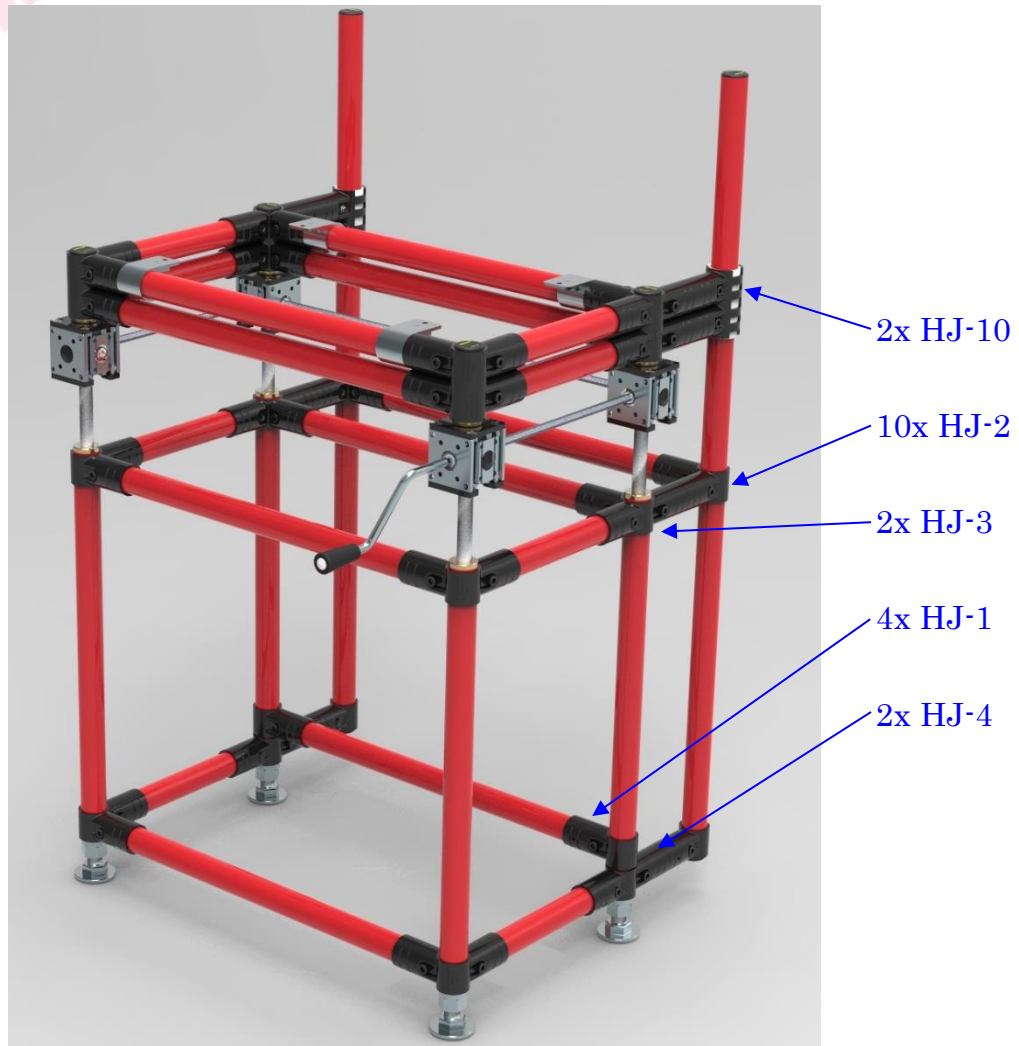
For further information refer to the appendix. Basically, for a design with 6 gear boxes the same guideline is relevant than for a design with four.

### 5.1.4 Assembly example 1: Work station with crank

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The example shows a work table with crank.

In this example two vertical pipes are mounted in the backside of the structure as a linear guide. Four HJ-10 connectors – belonging to the table module – are sliding up and down on these pipes. To get a stiff table module a double frame is used on top of the gear boxes.



Picture 5.1.4: Example for a mounted structure

Optionally, for increasing the stiffness of the structure, it is possible to add diagonal struts. Additional standing feet may be included inside the pipes on the backside of the structure, used as linear guides, to optimize the standing ability.

## 5.2 Height adjustable system setup with electric drive

The same guideline that applies for height adjustment work tables with crank is also valid for systems with electric drive with 220V.

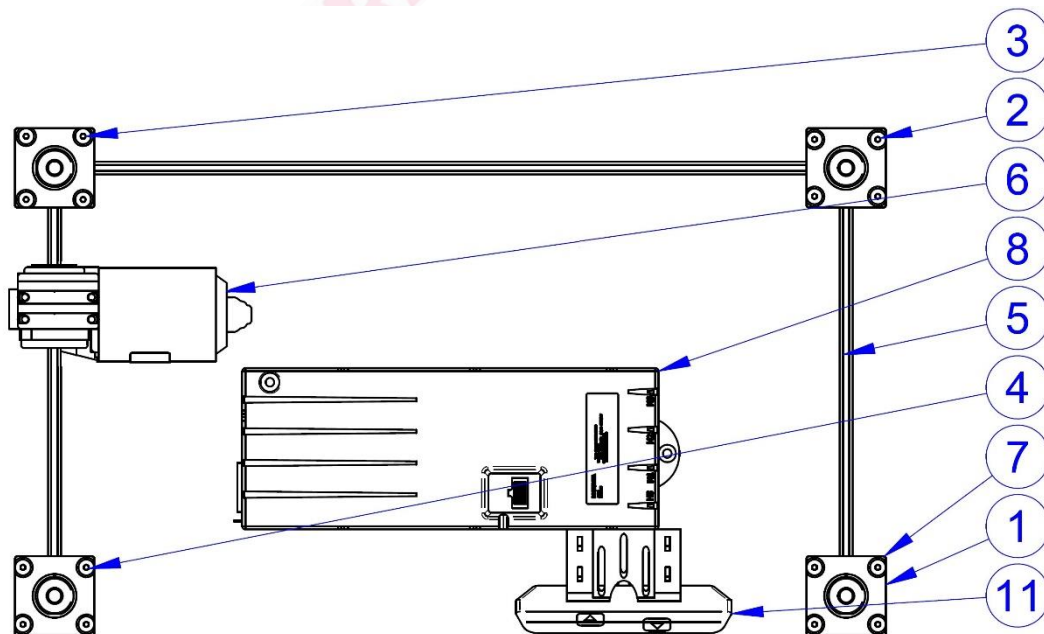
The lifting system with electric drive consists of 4 gear boxes, which partly are connected via profile rods. In addition, the work table with electric drive contains a motor, a motor controller, an operation panel and the necessary wiring. The height adjustment work table setup and its corresponding components are shown exemplified on article CT 1250-400-4-EM in picture 5.2 (The wiring is not included in the schematic setup.).

The Memory function is used to save 4 heights. These can be set by pressing the according button.

Pos.	Article number	Description	Quantity
1	CT-1223-400	Gear box right, 2 inc, 180°, 400 stroke	1
2	CT-1224-400	Gear box right, 2 inc, 90°, 400 stroke	1
3	CT-1225-400	Gear box left, 2 inc, 90°, 400 stroke	1
4	CT-1226-400	Gear box left, 1 inc, 400 stroke	1
5	CT-1227	Profile rod 1500mm	1
6	CT-1229	Gear motor (pay attention to the rotation direction, refer to chapter 5.2.2)	1
7	K-2014341	Fixing components	4
8	CT-2419	Motor controller, Laing	1
9	CT-2420	Power cable for motor controller, 2m, Laing	1
10	K-2018565	Motor holder	1
11	CT-2418	Operation panel with memory function	1

Overview over all options with electric drive for Ø28mm system:

- CT-1250-400-4-EM Lifting system, 400mm stroke, 4 gear boxes, memory function
- CT-1250-300-4-EM Lifting system, 300mm stroke, 4 gear boxes, memory function
- CT-1250-200-4-EM Lifting system, 200mm stroke, 4 gear boxes, memory function
- CT-1250-400-6-EM Lifting system, 400mm stroke, 6 gear boxes, memory function
- CT-1250-300-6-EM Lifting system, 300mm stroke, 6 gear boxes, memory function
- CT-1250-200-6-EM Lifting system, 200mm stroke, 6 gear boxes, memory function



**Top view**

Picture 5.2: Schematic Setup of the height adjustment system CT-1250-400-4-EM



**Important Note:**

In case of repair only use original parts mentioned above in the spare part list.

### 5.2.1 Design guideline for a work station with electrical operation

When designing and constructing a height-adjustable worktable, pay attention to the following points:

- The load-bearing vertical pipes which are holding the spindles must be equipped with standing feet, so that the forces are lead directly into the floor. It is possible to use plug-in casters for a mobile structure instead of standing feet.
- The base frame and the table module have to be designed torsionally rigid. In the case of the base frame, this can be easily achieved by adding diagonal struts. For the table module, either a massive worktop or a double frame is recommended on which the lifting gear boxes are mounted.
- The table module requires a sufficient linear guide to absorb the lateral forces. The following factors directly affect the stability of the height-adjustable table:
  - Size of the work table
  - Product weight which is on the table module
  - Executed stroke
  - The table is standing on casters or on feet
- Permissible center-center-measurements of gear boxes for the structure:
  - minimum 300mm x 300mm
  - maximum 1533mm x 1533mm (standard-rod 1500mm + 33mm)
- Care should be taken to avoid crushing hazards. At this point we refer to the standard BGR 234 / DGUV regulation 108-007.
- For several safety aspects (crushing / trapping and winding of hair or clothing), it is recommended that the gear boxes are not located on the outside of the structure when designing electric lifting systems. (see the two installation examples in chapter 5.2).
- If it is not possible to place the gear boxes on the inside - reasons for this could be a small design / slim design / a reduction in the number of fastening elements - then, for safety reasons, profile bars must be concealed during electrical operation. How this is done in practice is explained in chapter 5.2.2 below.
- To avoid crushing by external gear boxes, set an offset on the operation panel: the system is set at the factory to stop 30 mm before reaching the lower end position!  
(To prevent hair or clothing from being caught or wound up by external spindles, the operator is responsible for training the employees and providing appropriate PPE if necessary. S. Chapter 3.2)



- All cables must be routed underneath the worktable so that they are outside the gripping area.
- For hexagonal profiles longer than L=1000 mm, the profile must be routed through item K-2018563, which is to be attached to a parallel tube using HJ-11. (see also chapter 5.1.2)
- For the assembly of a worktable with 6 screw jacks, see chapter 5.1.3.

### 5.2.2 Covering the profile rods

There are 2 options for covering the profile bars. These are described below.

A simple way to cover the profile bars is to use the articles CT-1238 and CT-1238-M (see picture 5.2.2 A). The article CT-1238 already contains 4 countersunk screws M6x25, which can be used for holding inside the blind holes in the side of the gear box.

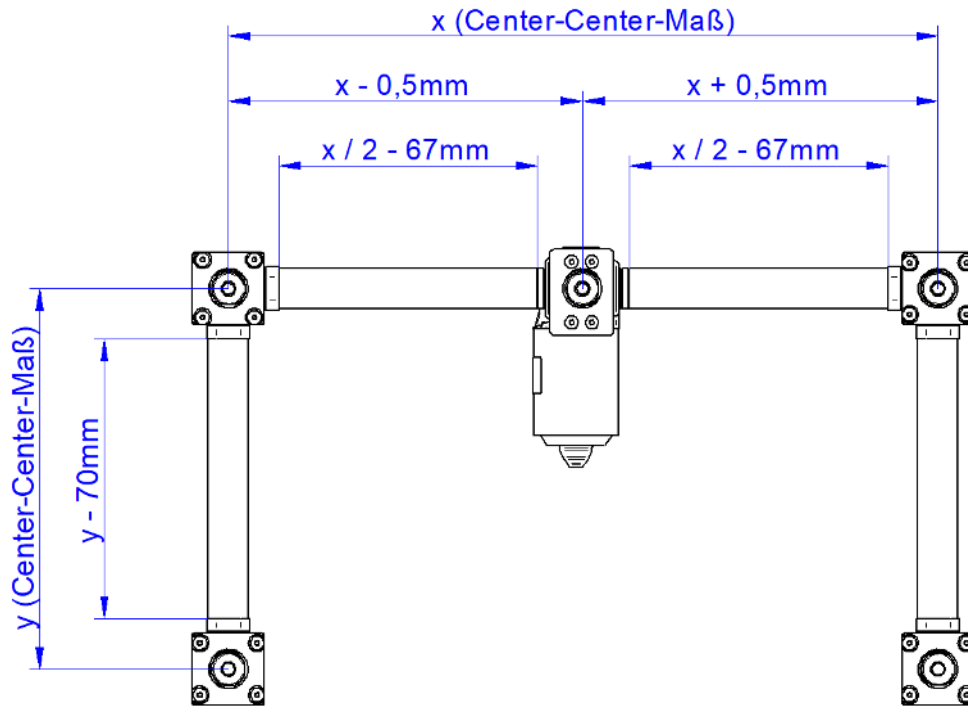


Picture 5.2.2 A: Item CT-1238 (left) and CT-1238-M (right)

Picture 5.2.2 B shows a schematic layout for a covers of the profile bars. Here, Ø28mm tube sections are cut to size and fitted with two CT-1238s at each end, or with one CT-1238 and one CT-1238-M if the installation is next to the motor.

For the tube length, subtract 70mm from the center-center dimension between the gears (see picture 5.2.2 B). The calculation of the tube length at the profile bar with with motor is a little more complex, because the motor does not sit symmetrically on the mounting K-2018565. If 2 tube sections of the same length are to be used, the formula for calculating the tube length applies:

$$L_{pipe} = \frac{x}{2} - 67mm$$



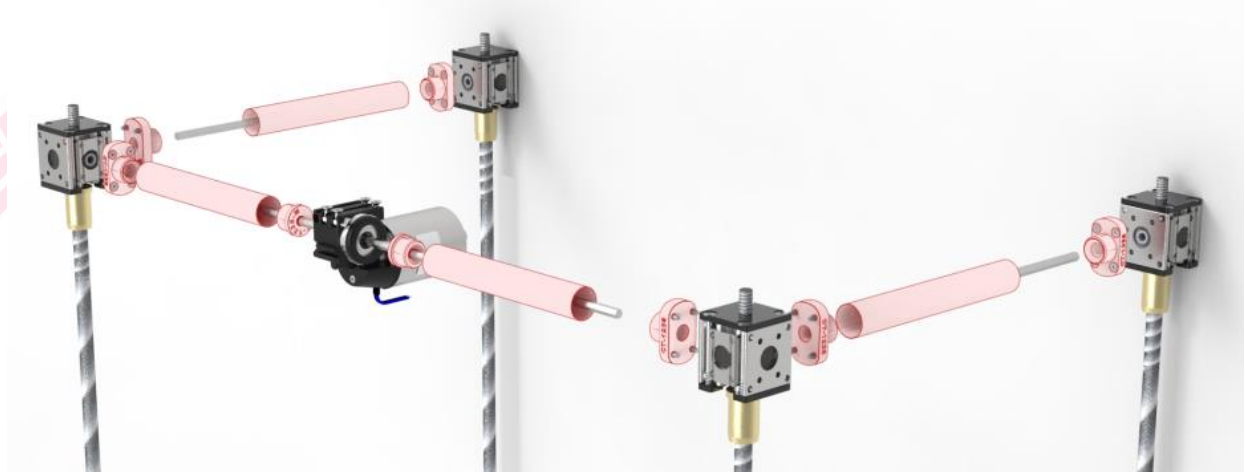
**Draufsicht**

*Picture 5.2.2 B: Schematic structure, covering the profile rods*

The exploded view in picture 5.2.2 C shows the exact arrangement of the components. The cover tubes are to be prepared before mounting in the structure: For covering between two gear boxes, one tube shall be fitted at each of its two deburred ends with the CT-1238 bracket. These items are to be pushed by hand into the tube up to the collar. Care shall be taken to ensure that the protruding bolts of both retainers are oriented the same. These bolts engage the blind holes in the screw jacks.

The covers next to the motor are equipped with one CT-1238 and one CT-1238-M bracket each. The construction of these covers is equivalent to the description above. The difference of the article CT-1238-M is its collar. CT-1238-M acts as a sliding bearing on the hexagonal profile.

In the fully assembled structure, the covers have about half a millimeter of clearance on each side and can be slid back and forth. This is intentional.



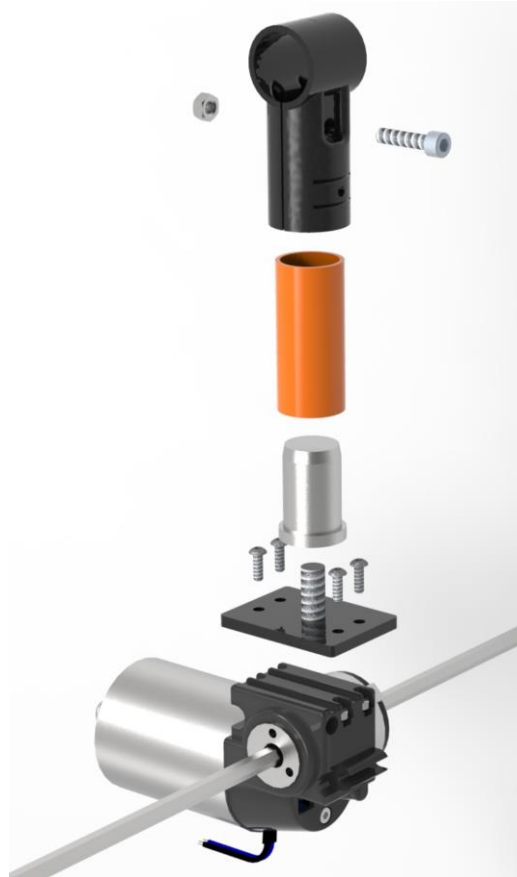
*Picture 5.2.2 C: Structure explosion, covering the profile rods*

If it is not possible to cover the profile bars as described above due to the design of the linear guide, there is another possibility: for this purpose, the tubes are screwed to the table module by means of HJ-4 connectors (see Picture 5.2.5 D)

### 5.2.3 Assembling the motor and the operation panel

For the motor assembly use the flange plate with the number K-2018565. The mounting of this plate is similar to the mounting of the fixing components K-2014341. Four pieces CT-1889 “Hexagon socket head cap screw, M5x12mm” are to screw into the nuts which are deposited inside the plastic motor housing, by using loctite. In the end, the threaded insert EF-1209CAM10 is to be hammered into a pipe and screwed onto the M10 thread from K-2018565 by using Loctite. Now, an HJ-1 is mounted on the other end of the pipe. This connector is connecting the motor to the table module.

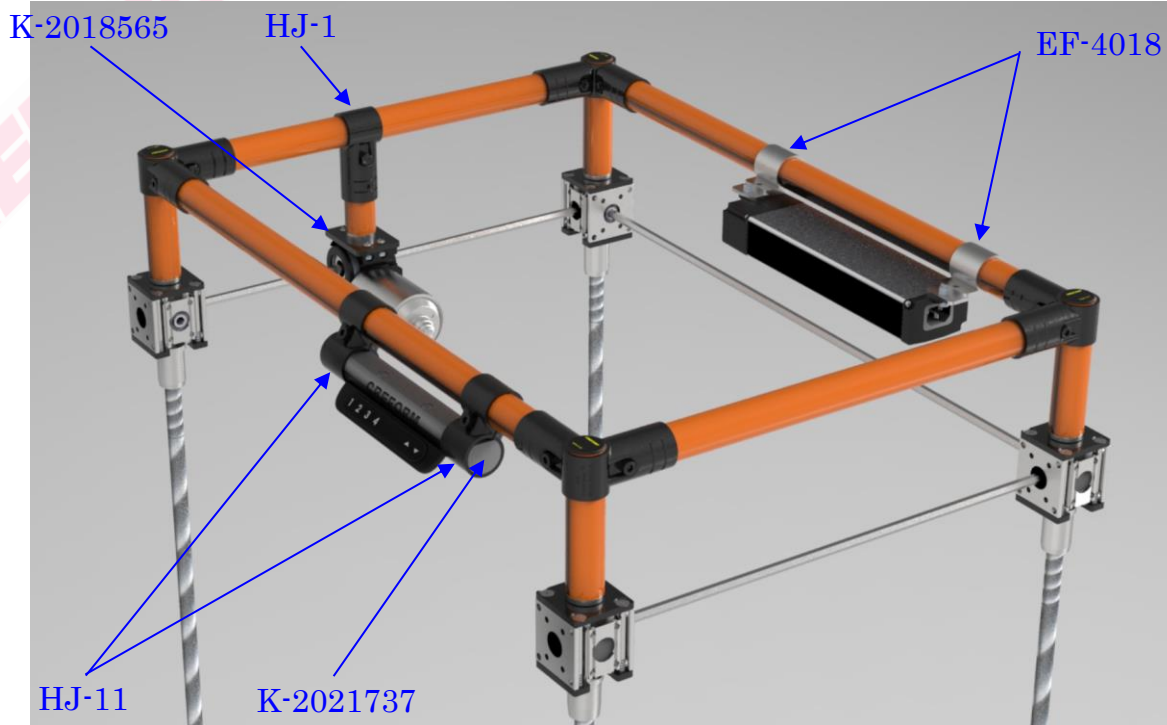
The 3D-printed article K-2021737 is used to fix the CT-2419 operation panel (see picture 5.2.3 B). It is attached to the front tube of the table module with 2 pieces of HJ-11. By placing the HJ-11 at an angle, the operation panel can be oriented towards the operator for better button accessibility.



Picture 5.2.3 A: Schematic Motor assembly



Picture 5.2.3 B: Schematic operation panel assembly



*Picture 5.2.3 C: Motor assembly / operation panel / motor controller*

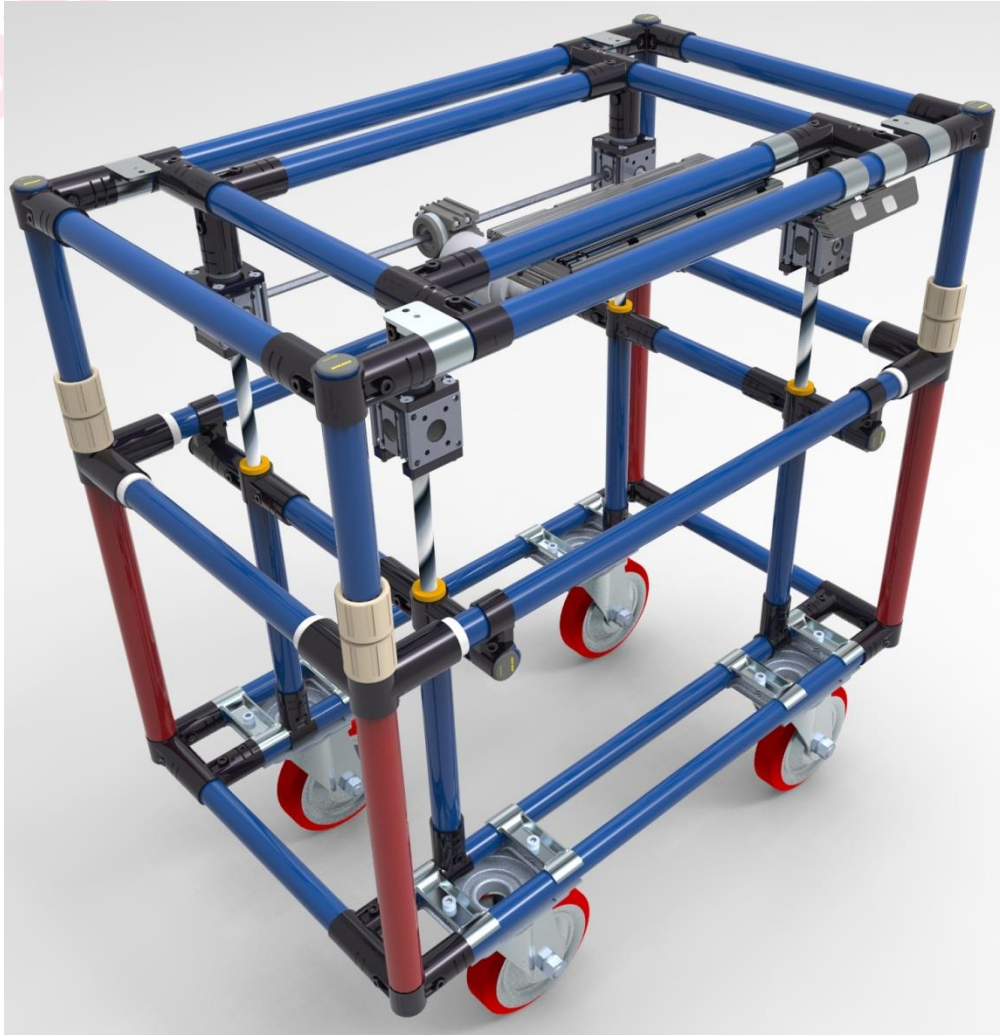
Pay attention to the rotation direction of the motor. If it is placed on the wrong profile rod, the table will move into the wrong direction, for example moving upwards while the operation button for downwards movement is been pressed. The motor can be assembled as shown in picture 5.2.3 C, between the gear boxes CT-1225 and CT-1226 or on the opposite side of the structure, between CT-1223 and CT-1224.

Now an HJ-1 is mounted on the mentioned tube end with threaded bushing. The other end of the HJ-1 sits on the tube frame that makes the lifting motion of the height adjustment system.

The motor controller is attached to a tube with 2 joints EF-4018. The mounting position should be chosen so that the cables are as difficult as possible to reach for the employee. (For an illustration on a complete structure, see picture 5.2.5 D.).

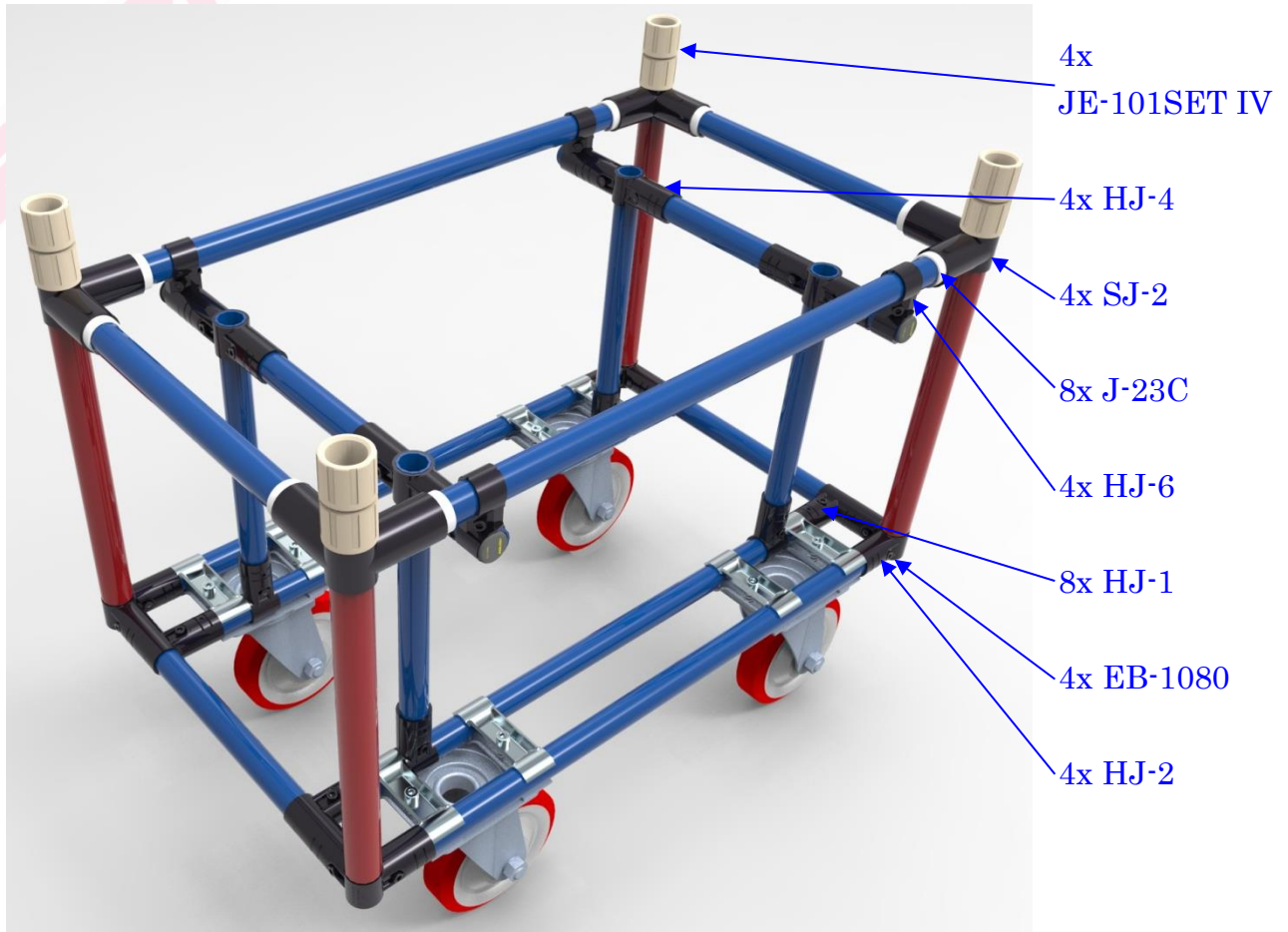
#### 5.2.4 Assembly example 2: Cart with height adjustable work table

The assembly example 2 shows a cart with height adjustment work table. The linear guide here is realized with 4 verticle Ø28mm pipes, each inserted in a Ø32mm pipe (picture 5.2.4 A, red pipes).



*Picture 5.2.4 A: Example cart with height adjustable work table, electric drive with 220V*

The cart substructure is constructed as shown in picture 5.2.4 B. The tubular frame in the lower level is carrying the casters (the schematic setup shows 4 pieces of YJ-150U). An HJ-2 connector is mounted in each corner of the frame, on their part holding the adapters EB-1080 in a vertical orientation. Take care during design process and final assembly that the load-bearing vertical pipes, in which the gear box spindles are mounted, are connecting with HJ-1 connectors directly above the casters with the tubular basic frame. Thus, the forces can be led optimally into the floor.



Picture 5.2.4 B: Substructure from a cart with height adjustable work table

### 5.2.5 Assembly example 3: work station with electric drive

The assembly example 3 shows a work station with height adjustable work table (yellow pipe) and a base frame (green pipe).

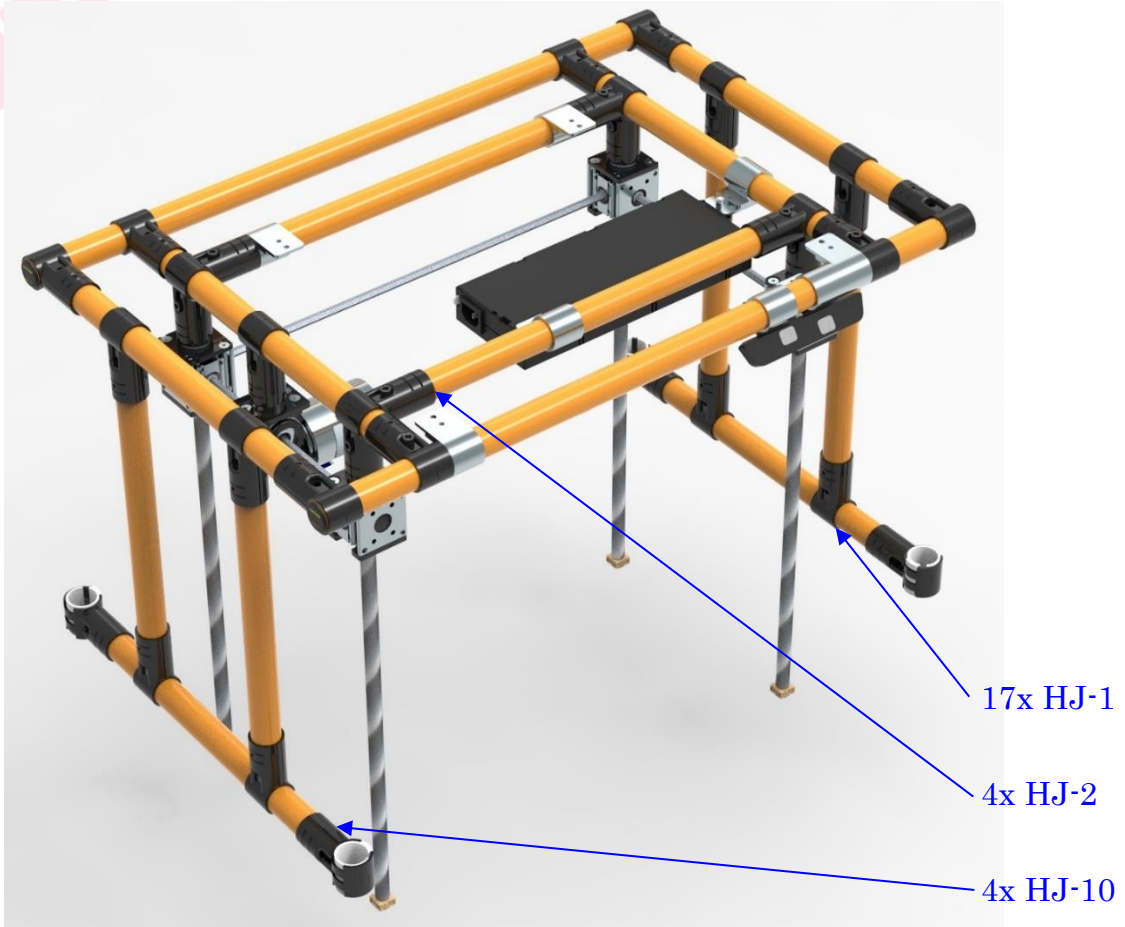
In this example the linear guides are realized by means of four HJ-10 connectors per side and thus absorb forces that occur in the direction of the structure width. For clarity reason the picture does not show a linear guide on the backside. For a stable linear guide, that also can be stressed in the length direction of the structure, an additional frame with four HJ-10 connectors on the backside is essential.

Two HJ-10 connectors per side are attached to the base frame and two to the table module. Due to this large-scale arrangement of the linear guide elements, tilting during the height adjustment is prevented.

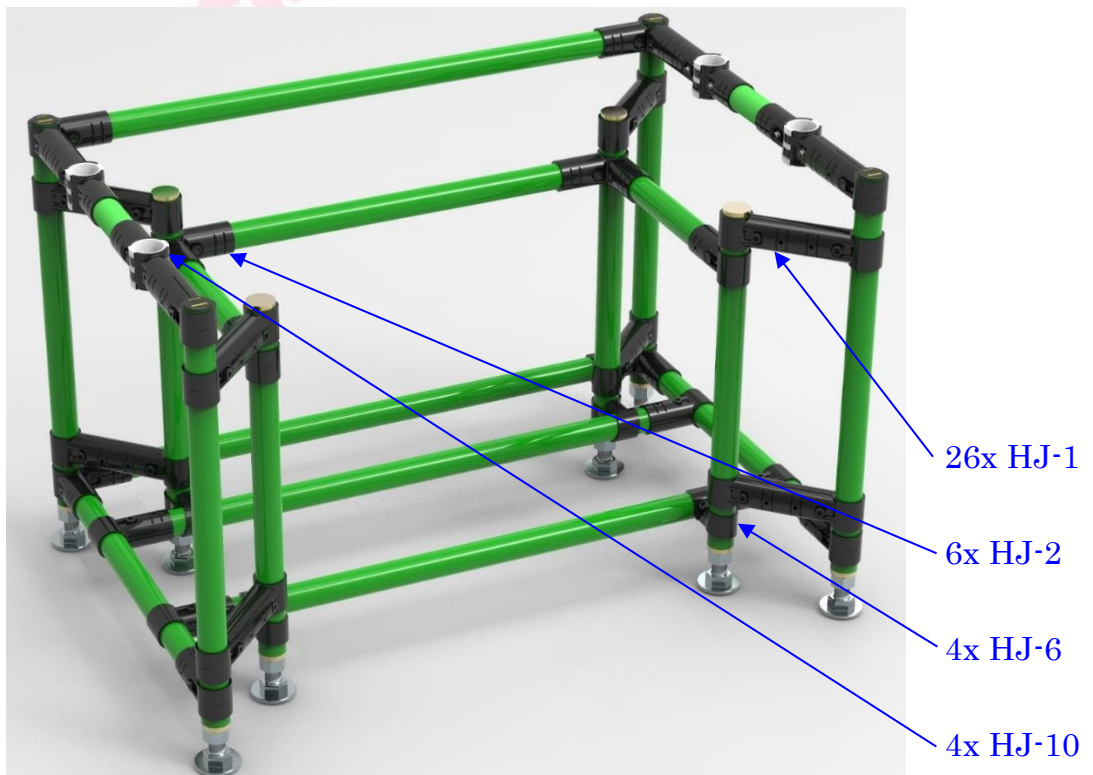


*Picture 5.2.5 A: Example for a work station with height adjustable work table, electric drive with 220V*





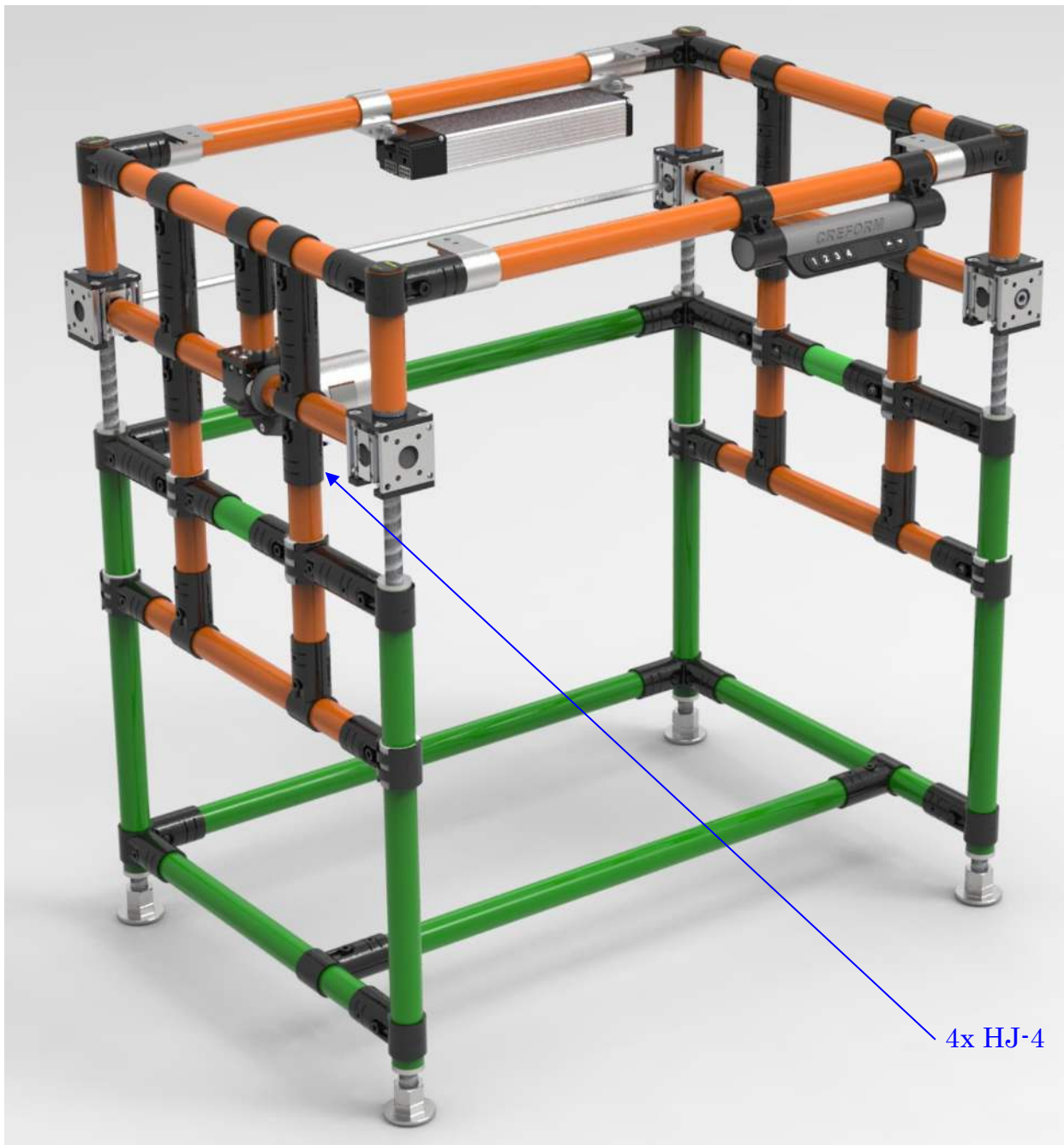
Picture 5.2.5 B: Table module of a height adjustable work station



Picture 5.2.5 C: Substructure of a work station with height adjustable work table

Alternatively, this structure can be designed with the gear boxes arranged externally, taking into account the design guidelines in chapter 5.2.1.

The special feature of this design is the covering of the hexagonal rods. Starting from the table module, tubes are drawn downwards, on which the linear guide is realized by means of HJ-10 connectors (previously described, refer to pictures 5.2.5 A-C). In addition, HJ-4 connectors are inserted in the gear boxes. These hold horizontal tubes through which cover the hexagonal rods.



*Picture 5.2.5 D: Example of a work station with height adjustable work surface, externally arranged gear boxes, electrical operation with 220V*

## 6 Troubleshooting

After a power breakdown, the height adjustment work table with electric drive has to be moved to the lowest end position. Thereafter, the full functionality is restored. (For further details refer to the short manual from Laing Innotech.)

## 7 Maintenance

The maintenance of the work table can be carried out by the operator and his competent staff itself or directly by CREFORM service.

Before starting the work, the operator must visually check if the system components are in perfect condition.

We recommend tightening the bolting of the structure every 6 months with the right torque (M6-screws 9.8 Nm / M5-screws 5,9 Nm). As part of this measure, attention should be paid to whether corrosion has occurred on any components. In the unlikely event that this is the case, the maintenance personnel should assess whether this is "flash rust" or corrosion that could lead to malfunctions. In the latter case, the appropriate component should be replaced with a new one.

All current-carrying cables must be checked for external damage to the insulation. In case of any damage, replace them with new ones.

We recommend lubricating the mechanic components every 6 months. A multi-purpose grease can be used for this purpose.



The actual maintenance intervals are to be defined by the responsible safety officer.



Electric voltage

Note: For all maintenance work, the height adjustment work table with electric drive has to be "de-energized". During maintenance, make sure that no unauthorized person enables again the power supply. The work table may only be reconnected to the power supply after the maintenance work has been completed.

## 8 Self-repair and exclusion of liability

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In the case of self-repair, we disclaim any further liability for the work table.

Please contact our sales representative for the repair or replacement of damaged or worn out components. Always specify the article number of the component, which is given in the concerning part list.

Note for significant changes:



By unauthorized, "significant" changes the functionality, security and stability of the height adjustment work table can be affected.  
In this case the CE declaration of conformity loses its validity.

## 9 Warranty

<b>Warranty terms</b>	The warranty duration for the <b>CREFORM</b> height adjustable system is 24 months in 1 shift operation, starting with the delivery date.
<b>Warranty Conditions</b>	<ul style="list-style-type: none"> <li>• In the event of a failure of the height adjustment system during the warranty term due to defects in materials, design by CREFORM or workmanship, we will repair the pallet cart free of charge. Provided however, that such failure is not caused by fault or negligence of the user.</li> <li>• If used improperly, such as overloading and external force influences by fork-lift, there is no guarantee commitment by CREFORM.</li> <li>• This warranty will automatically be voided in the event of assembling not authorized components to the system.</li> <li>• We will continue to provide customer support with costs even after the warranty term has expired.</li> <li>• There are no other warranties, expressed or implied. Our obligation under this warranty is limited only to the repair or replacement of defect parts.</li> </ul>

## 10 Disposal

We like to point out that the height adjustable work table is to be disposed in sole responsibility of the operator at the end of its usage period. Familiarize yourself with the disposal regulations of the EU (RoHS Directive, WEEE Directive) and the national legislature.

In any case, the materials are to be disposed of sorted by type – as far as possible.

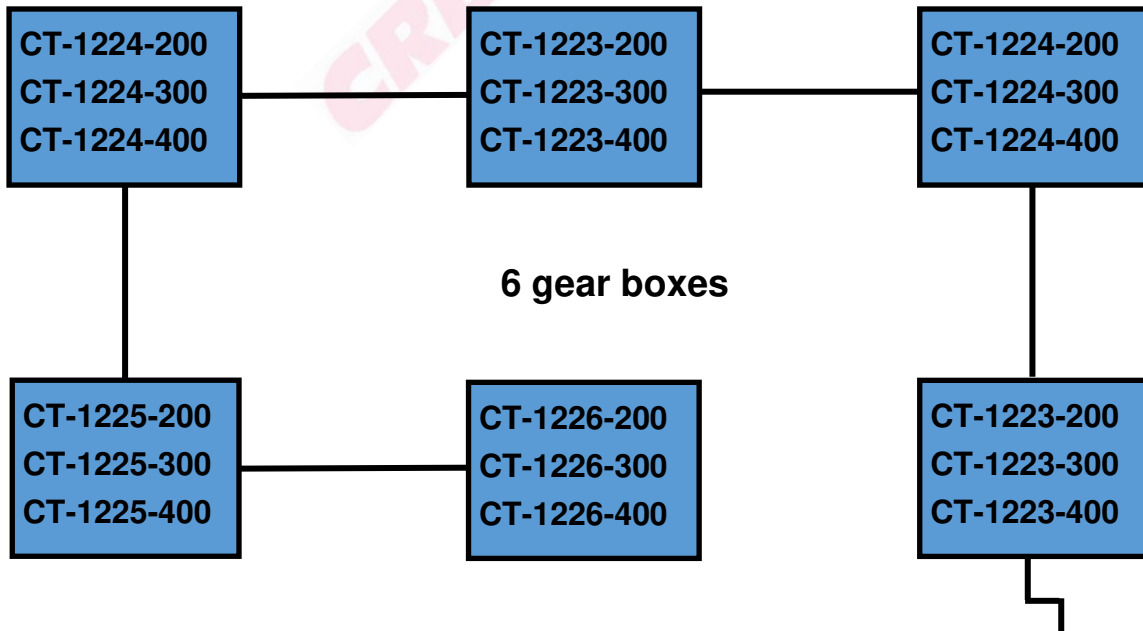
## 11 Appendix

The following article matrix lists all available configurations for the assembling of any CREFORM height adjustable system.

Article	Description	CT-1250-400-4-K	CT-1250-400-4-EM	CT-1250-300-4-K	CT-1250-300-4-EM	CT-1250-200-4-K	CT-1250-200-4-EM	CT-1250-400-6-K	CT-1250-400-6-EM	CT-1250-300-6-K	CT-1250-300-6-EM	CT-1250-200-6-K	CT-1250-200-6-EM
CT-1223-400	Gear box R, 2 inc, 180°, 400 stroke	X	X					X	X				
CT-1224-400	Gear box R, 2 inc, 90°, 400 stroke	X	X					X	X				
CT-1225-400	Gear box L, 2 inc, 90°, 400 stroke	X	X					X	X				
CT-1226-400	Gear box L, 1 inc, 400 stroke	X	X					X	X				
CT-1223-300	Gear box R, 2 inc, 180°, 300 stroke			X	X					X	X		
CT-1224-300	Gear box R, 2 inc, 90°, 300 stroke			X	X					X	X		
CT-1225-300	Gear box L, 2 inc, 90°, 300 stroke			X	X					X	X		
CT-1226-300	Gear box L, 1 inc, 300 stroke			X	X					X	X		
CT-1223-200	Gear box R, 2 inc, 180°, 200 stroke					X	X					X	X
CT-1224-200	Gear box R, 2 inc, 90°, 200 stroke					X	X					X	X
CT-1225-200	Gear box L, 2 inc, 90°, 200 stroke					X	X					X	X
CT-1226-200	Gear box L, 1 inc, 200 stroke					X	X					X	X
CT-1227	Profile rod, 1500mm	X	X	X	X	X	X	X	X	X	X	X	X
CT-1228	Crank	X		X		X		X		X		X	
CT-1229	Gear motor		X		X		X		X		X		X
CT-2418	Motor controller		X		X		X		X		X		X
CT-2420	Power cable for motor controller		X		X		X		X		X		X
CT-2419	Operation panel with memory function, 4 Pos		X		X		X		X		X		X
K-2014341	Fixing components	X	X	X	X	X	X	X	X	X	X	X	X
EF-1209CAM10	Threaded insert, Ø28 mm, M10	X	X	X	X	X	X	X	X	X	X	X	X
CT-7790	Pipe clamp, Ø28mm		X		X		X		X		X		X
CT-1147	Countersunk bolt, M5x60mm	X	X	X	X	X	X	X	X	X	X	X	X
CT-1178	Hex. Socket head cap screw, M5x40mm		X		X		X		X		X		X
K-2018563	Crank holder, Support	X	X	X	X	X	X	X	X	X	X	X	X
K-2018565	Motor holder		X		X		X		X		X		X

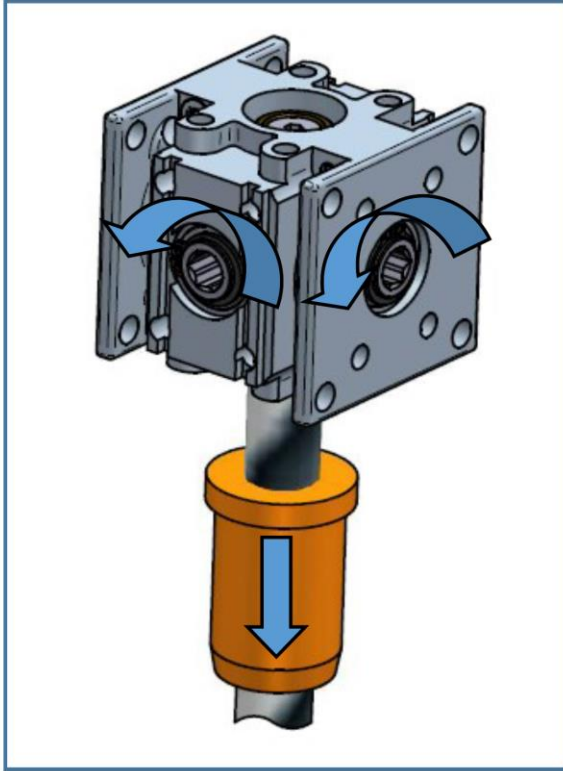
**Remark:** the following items have been replaced: CT-1271 by CT-2418, CT-1230 by CT-2419 and CT-1231 by CT-2420

## 11.1 Arrangement of the components



## 11.2 Direction of rotation

CT-1224-X00



CT-1225-X00

