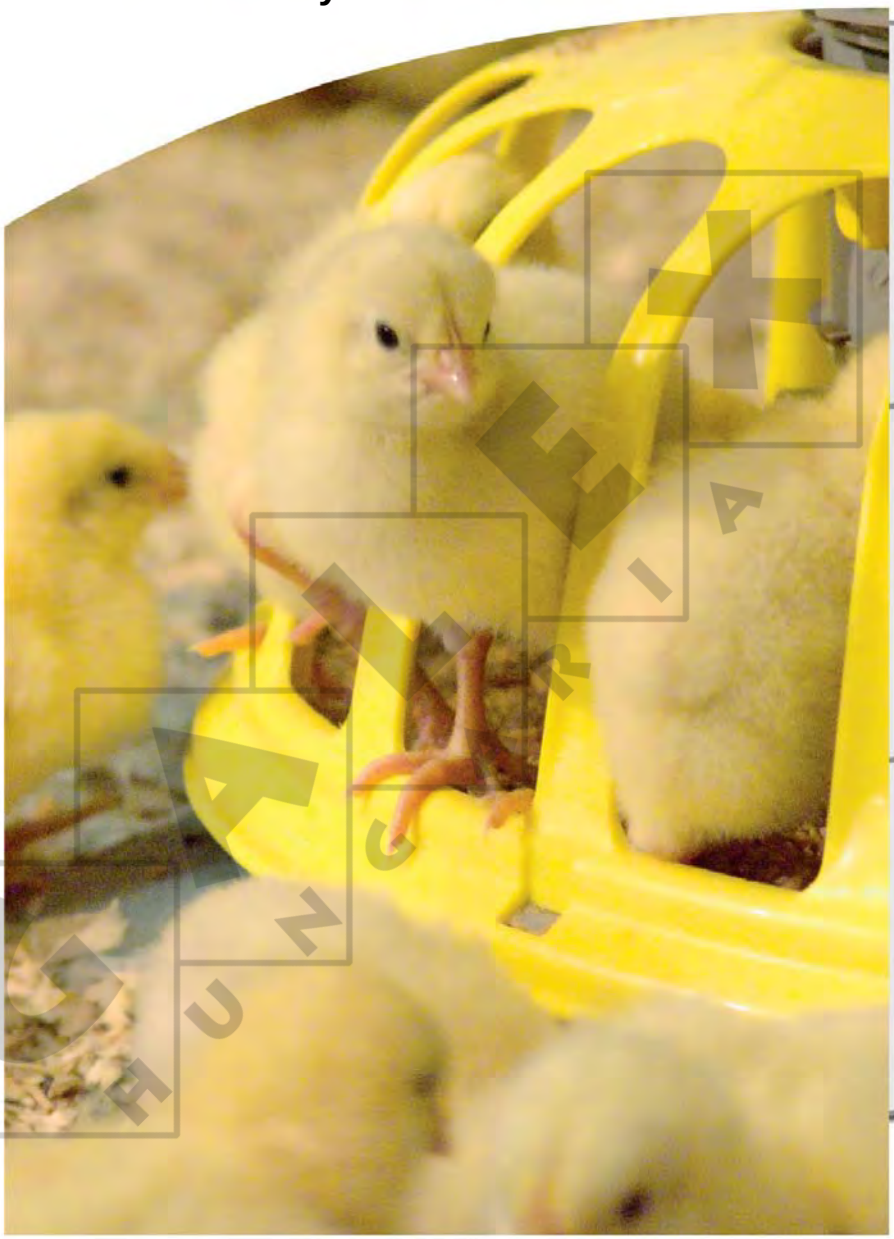
# Vitoo™ IN LINE

## Use and Assembly Guide



Instructions for the user

Components

Installation instructions

ROXELL®

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## PART III : INSTALLATION INSTRUCTIONS

# GENERAL INFORMATION

## 1. OBEY THE LEGAL REGULATIONS AND THE APPLICABLE RULES!

This concerns, among other things, the European directives transposed into national legislation and/or the laws, safety and accident prevention regulations that apply in the user's country.

During assembly, operation and maintenance of the installation the legal regulations concerned and the applicable technical rules must be obeyed.

## 2. INTENDED USE

The installation has been designed solely for intensive livestock use and has been developed according to the applicable rules of good workmanship. Extra loading of the product is therefore prohibited. Any other use is considered to be improper use. The manufacturer is not responsible for damage resulting there from. The user bears sole responsibility.

## 3. NOT-INTENDED USE

All use different than described in point 2" intended use" is at the responsibility of the end user.

## 4. LIABILITY

Any claim under guarantee is void for damage that has resulted from improper use and unauthorised actions not provided for in the instructions for use. ROXELL NV cannot be held responsible for this damage.

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user.

The liability of Roxell ends in case the end user changes or adapts the installation himself.

## 5. PERSONNEL QUALIFICATIONS

### USER:

The person who uses a function or operation of a product for their work or who works on the product. The user must be able to read the instructions for use and fully understand them. The user has knowledge of the functioning and construction of the installation.

### TECHNICALLY TRAINED PERSON:

An expert who can assemble and maintain the installation **(mechanically/electrically**), and resolve malfunctions. On the basis of his/her technical training and experience, he/she has sufficient knowledge to be able to assess activities, recognise possible dangers and rectify dangerous situations.

## 6. INFORMATION ABOUT THE RESIDUAL RISKS - USED SAFETY SIGNS

There are three levels of danger, which you can recognize from the signal word

*** DANGER**

*** WARNING**

*** CAUTION**

The nature and source of the imminent danger and possible consequences of not obeying warnings is stated here!

| | |
|---|---|
|  **DANGER** | **DANGER** indicates a direct imminent danger that can result in a serious or even fatal accident if the safety measures are not respected. |
|  **WARNING** | **WARNING** indicates a possible imminent danger that can result in a serious accident or damage to the product if the safety measures are not respected. |
|  **CAUTION** | **CAUTION** indicates possible, dangerous situations that can result in minor physical injury or material damage if the safety measures are not respected. |
|  | This symbol refers to supporting information. |

# GENERAL INFORMATION

## 7. DISMANTLING, STORAGE, TRANSPORT

Dismantle the installation and its components in accordance with the environmental legislation of the country or the local authorities applicable at that time. All functioning products and exchange parts must be stored and disposed of in accordance with the applicable environmental regulations.

**Environmental information for customers in the European Union**

European directive 2002/96/EC amended by the Directive 2008/34/EC requires that equipment that bears this symbol on the product or packaging must not be disposed of with unsorted household waste. This symbol indicates that the product must be disposed of separately. Your are yourself responsible for the destruction of this and other electrical and electronic equipment via the disposal channels designated for that purpose by the national or local government. The correct destruction and recycling of this equipment prevents any negative consequences for the environment and health. For more information about destroying your old equipment, contact your local authorities or waste disposal service.

### Information about waste disposal - electrical/electronic material for companies

**1. In the European Union**

If you have used the product for commercial purposes and you want to dispose of it, contact Roxell N.V. who will give you information about the return of the product. It is possible that you will have to pay a disposal charge for the return and recycling. Small products (and small quantities) can be processed by the local collection agencies.

**2. In other countries outside the European Union**

If you want to dispose of this product, contact the local authorities for information concerning the correct disposal procedure.

## 8. THE LEVEL OF NOISE EMISSION

The noise level of the installation in operation does not exceed 70dB.

## 9. MAIN SWITCH

Before you do any repair, or maintenance works, always disconnect the electricity supply **by switching off the main switch.**

## 10. PROTECTION

Ensure you wear personal protection equipment (gloves, dust masks...).

**THESE INSTRUCTIONS MUST BE READ, UNDERSTOOD AND ALL POINTS OBSERVED BY THE USER, THE RESPONSIBLE AND OPERATING PERSONNEL.**

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# PART I

# INSTRUCTIONS FOR THE USER

GALEX HUNGARIA KFT.

# GENERAL SAFETY RULES

KiXoo/Vitoo/Boozzter Nr: 008.../008.../002...

Automatisch pannen voedersysteem voor opfok en productie van slachtkuikenouderdieren.

Automatic pan feeding system for rearing and production of broiler breeders

Winching systeem

Liersysteem voor voer- en drinklijnen

Winching system for feed- and drink lines

## IMPORTANT

**DANGER**

**Carefully read the following instructions before USING the system**

1. Before you do any **repair**, or **maintenance works, always disconnect the electricity supply.**
2. Ensure you wear **personal protection equipment** (gloves, dust masks).
3. The system **starts automatically**.
   **Never** use your **hands** at **dangerous locations** (feed intake boots, drive units, control units or outlet holes in the tubes) before you have **completely switched off** the transport system and made sure that **nobody** can **switch it on** without your knowledge.
4. **Never** allow **unauthorized persons** to **enter the house** in your absence.
5. **Be careful** when **lowering** or **winching** up the feeding lines/circuits :
   - **stop** immediately at the slightest hitch.
   - **never** stay **underneath** when lowering or winching up the lines/circuit.
6. If the auger stalls : **immediately** switch **off** the system. Carefully read the trouble shooting guide and strictly follow instructions. Contact a **technically trained person**.
   An auger **under tension** can **cause very serious injuries** when released.
7. Regularly check the **elbow/trough and/or tube connections**. Tighten if necessary.
8. Ensure that the **hopper cover (grill) or cover** on the 100 kg hopper **closes properly**.
9. Regularly check that the **control unit (pan)** and/or the **motor handy box** are properly closed.

*This **SYMBOL** will be used to draw your attention to matters that are of **GREAT IMPORTANCE** for your **SAFETY**.*
*It means : **WARNING** - follow the safety instructions :*
*disconnect the current - re-read the safety rules.*
*In short : **BE ALERT**. IGNORING these instructions can cause SERIOUS INJURIES or even DEATH.*

# STATIC FEEDER PAN ADJUSTMENT

## AMOUNT OF FEED IN THE SUPPORT CONE ACCORDING TO THE POSITION OF THE FEED LEVEL RING

**The amount can differ depending on type of feed.**

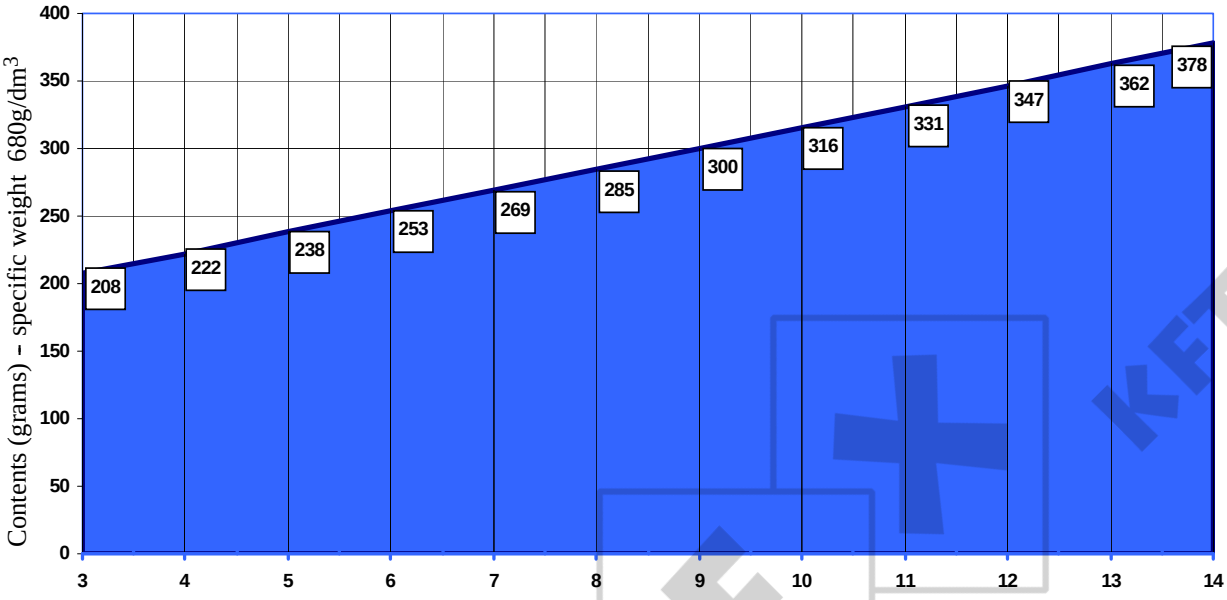



**FIGURE 1.**

**FIGURE 3.**

Pan content level 14

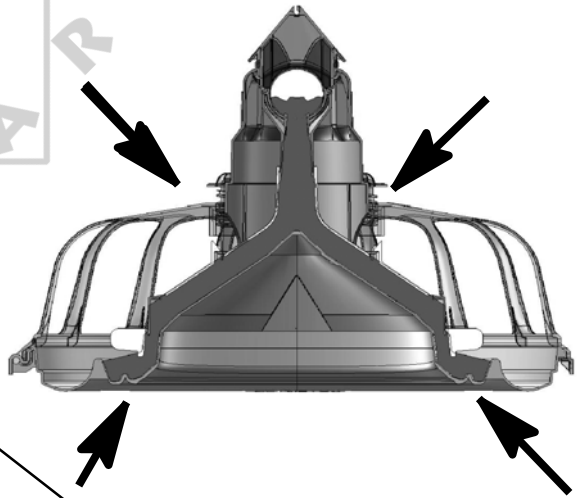
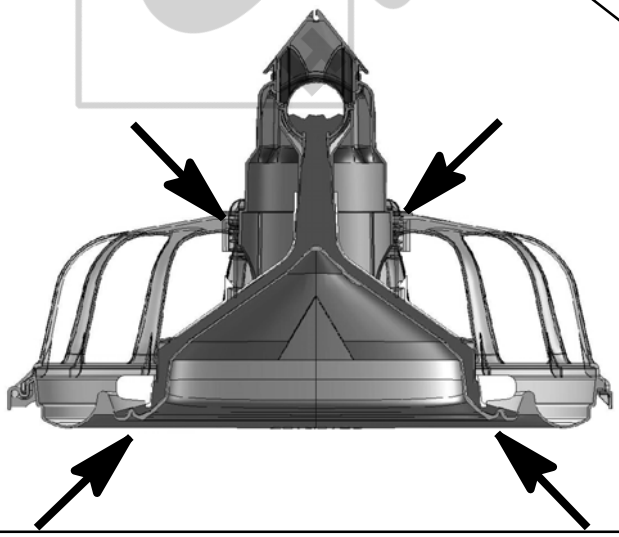


**FIGURE 2.**

Pan content level 3



# CONTROL PAN OPERATION

The control pan, ***the last but two*** pans on the feeder line, controls the whole feeding cycle.

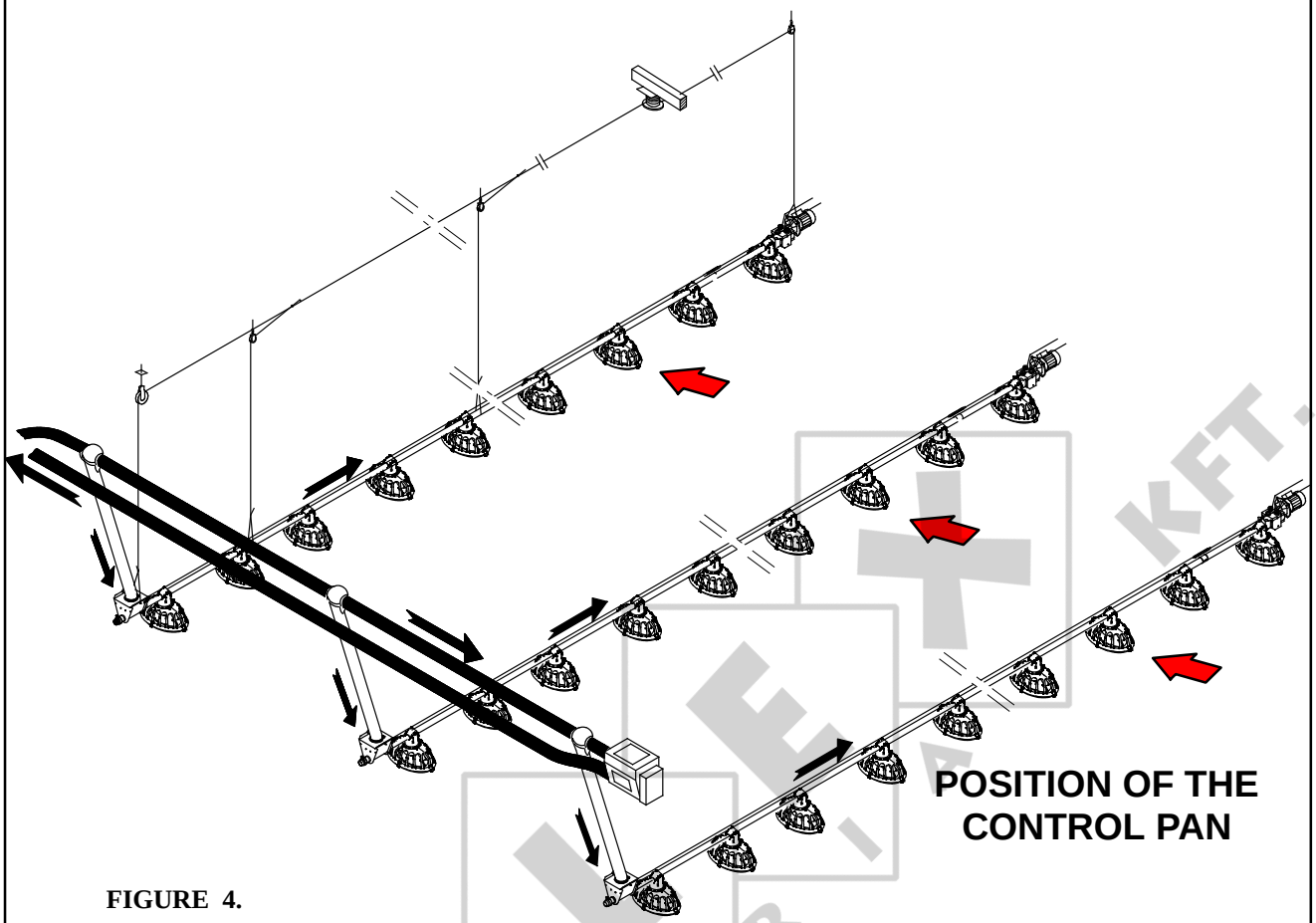



**FIGURE 4.**

The sensor in the control pan (**NOT detecting feed)** starts the feeding system as soon as the time clock is activated.

The position of the control pan (the last but two pans) guarantees that all pans and tubes before the control pan are filled with feed.

The line fills the control pan. The sensor detects feed and the system stops.

The birds eat from the control pan and the feed sinks beneath the sensor.
The line restarts after 30 seconds.

**1.** The feed sinks beneath the sensor.

**2.** The system starts when the sensor does not detect feed for 30 seconds.

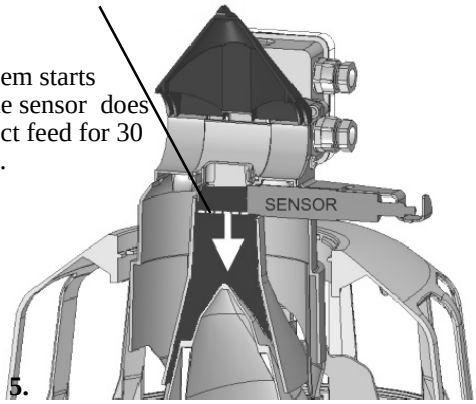



**FIGURE 5.**

The feeding cycle continues until the desired amount of feed is available in the house. At that moment, the motors of the lines and the supply Flex-Auger stop.

The meal ends when all feed in the pans has been consumed. The tubes of the lines and the Flex-Auger are full of feed: this is a "reserve" for the next meal (the day after). When the system starts the next day, all pans are filled immediately.

All birds can eat at the same time. This guarantees a very good uniformity. Because the amount of feed remaining in the tubes is the same after each feeding, the birds get the same amount of feed at each meal.

Make sure that the control pan is the last but two pans on the feeder line.

**When the system operates correctly and when there are enough birds eating from the control pan, you do not have to adjust anything. The system adjusts itself.**

**Depending on the composition of the feed, it may happen that no feed falls into the last pans.**

**If this is the case, you can easily remove the control pan (fig. 100.) and replace it with another pan. You then install the control pan two or three places further (to the front) on the feeder line.**

**Take care that just enough feed falls into the last pan. <u>Too much feed</u> in the last pan means feed waste.**

GALEX HUNGARIA KFT.

# DIRECTIONS FOR USE AND MAINTENANCE

## TO START UP THE SYSTEM

The oil layer on the new auger and the tubes slows down the feed transport.
This is corrected as soon as the oil has disappeared after some runs.

**NEVER PUT YOUR HANDS INTO THE FEED INTAKE BOOT WHILE FILLING THE PANS.**

When using a new feeder line for the first time, put 5kg of feed into the hopper.
Switch on the feeder until this feed is distributed, then repeat the procedure until the whole line is filled. By doing this :

- you limit the load on the motor of a long feeder line.
- at the same time, you test the switches and make sure that the feeder line has been properly installed.
- you become used to the system.

However, if you find small marks of rust either on the inside of the tubes or on the auger itself, we recommend mixing the first 5kg of feed with some maize oil (about $^1/_4$l). This will avoid noise and vibration when starting up.

The control pan is the most important one on the line. It must be emptied first because it starts the next feed supply.
Take care that there are enough birds eating from this pan. Keep the pan free of litter and manure. It has to be the most attractive pan on the line.
Take care that temperature, moisture, ventilation are constant at this location.

Birds are sensitive to light, moisture, draught and temperature. They will shun places with an environment deviating from the average.

More birds will feed from the control pans if you install them at a distance of 3m from the end wall, and use a light above the control pan.

Indexing the tubes prevents that the feeder line runs empty and it guarantees simultaneous filling of all pans with the same amount of feed.

If not enough feed falls into the pans at the beginning of the feeder line:

- loosen the tube clamps of the feed intake boot, the connector and the first 3 tubes.
- rotate these 3 tubes so that the holes are more down.
- tighten all tube clamps again.
- make sure that all pans and the feed intake boot are leveled.

Make sure the lines are suspended correctly !

Suspend the hopper at the correct height.

The weight of a filled 150kg hopper will stretch the main cable to which the chain is fixed when the installation is new.

The connection between the hopper and the first feeder tube will then no longer be level. This can result in premature wear and/or failures.

If necessary, adjust the suspension to level the lines.

## PRACTICAL DATA FOR USING THE SYSTEM DURING THE REARING PERIOD

### A. PREPARATION

Make sure that the motors are suspended at the correct height. The weight of the motors on a new system slightly stretches the main cable.
The line is no longer level and premature wear and/or disturbances can be the result.

If necessary, adjust the suspension to level the line !

Warm up the house and the litter at the correct temperature at least 24 hours before the birds arrive.
Set the feed level ring in position 14.
Lower ALL pans into the litter before birds arrive in the house.

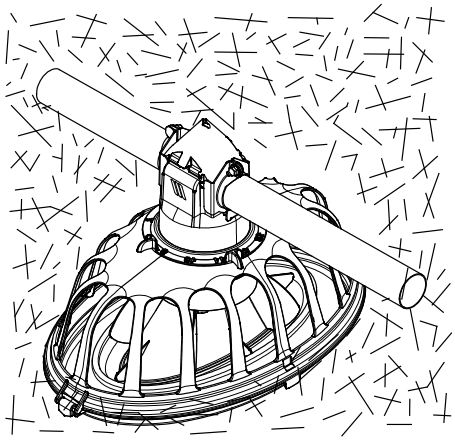


**FIGURE 6.**

Birds now have enough feed for the first day(s).

### B. THE FIRST DAYS - FEED WINDOWS OPEN

Set the number of meals per day by activating 3 x 1 segment on the time clock in the control panel.

Depending upon the feed demand, you increase the number of meals during the second week.

Fill the pans by having the lines stopped automatically by its sensor. Check the good operation of the sensor.

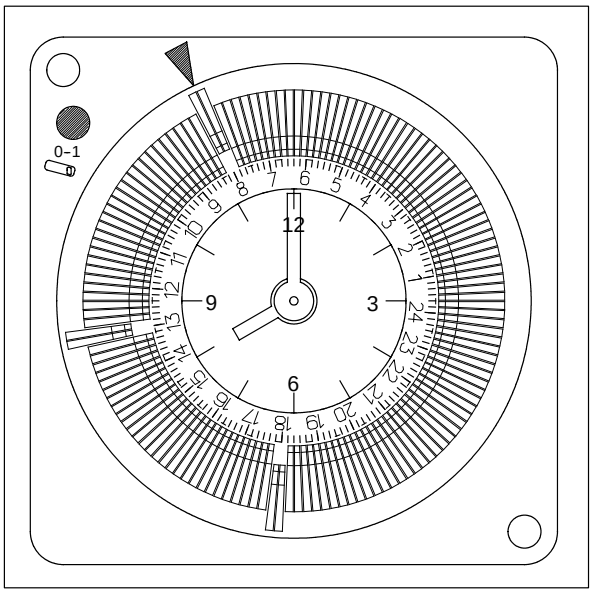



**FIGURE 7.**

A big advantage of the pan is the almost complete separation of feed and litter : fresh feed in the inner pan, eventual litter in the outer pan.

Make sure that all feed windows open and close simultaneously.

The suspension cords of the tubes must be stretched correctly.

After a couple of days, when the pans sink deeper into the litter, the feed windows remain completely open.

## C. FEED WINDOWS CLOSED

After 10-14 days you can start working with closed feed windows.

**Attention**: Winch up the lines until the bottoms of the pans are about 1 cm. above the litter.

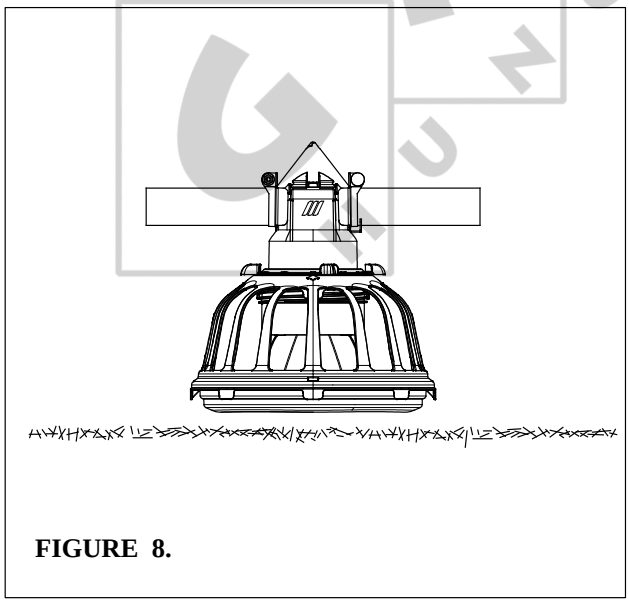


**FIGURE 8.**

Winch up the system as soon as the birds are used to the lower feed level.
A good tip : check if birds still have easy access to the feed in the inner pan and make sure that birds align around the pans.

Now that the pans are hanging above the litter, no more litter can get into the outer pans. As soon as you start restriction, the hungry birds (in search for feed) will clean the outer pan, removing litter and any dirt.

## D. FEED RESTRICTION.

In broiler breeder rearing, feed restriction is often split into two periods : **moderate and severe restriction.**

**a.** Moderately restricted birds are not extremely hungry and their eating speed is limited.

The control panel is programmed as follows :

- Set the starting time of the feeding cycle on the time clock (e.g. 7.30).

Important : activate enough tabs on the time clock in order to prevent interruption of the feeding cycle (1 tab = 10 minutes).

- Set the required amount of feed on the preselection counter.

The preselection counter (fig. 9. page I-8) shows the total daily ration.

To have a daily ration of e.g. 650 kg, you set 65 on a 6,5 ton weigher (each weigher impulse equals 10 kg), or 26 on a 13 ton weigher (each weigher impulse equals 25 kg).

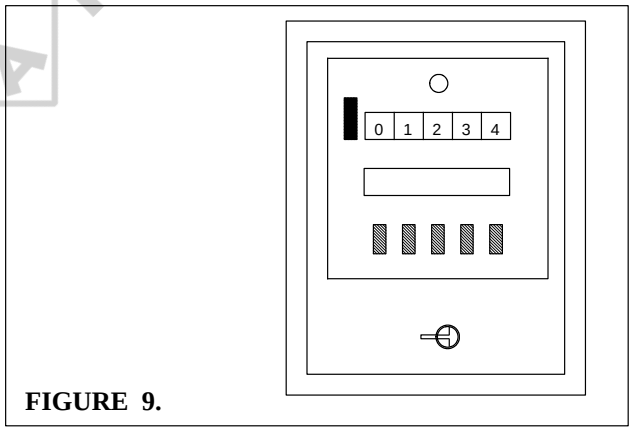



**FIGURE 9.**

Press the wide black key for "ZERO" adjustment. Hold the black button pressed while changing the settings.

**b.** In broiler breeder rearing, we also have a period of severe restriction. Birds are allowed only a limited feed intake. Before starting this period (mostly at the age of 6-7 weeks), you must of course change your feeding programme :

- Reprogram the starting time of the feeding cycle on the time clock.

- Reprogram the feed quantity on the preselection counter.

- Now the system runs at full capacity and birds all will receive the same amount of feed.

- Adjust the feed level ring in the right position. See page I-4

In order to prevent feed waste and to obtain a comfortable eating position for the breeders it is important to adjust the height of the line according to the development of the birds.

Extra advantages of the correct height of the system are an easy passage for the birds and less risk of having floor eggs.

Take care that the pans are perfectly level !

Always make sure that the back of the birds is 2-3 cm higher than the side of the pan.

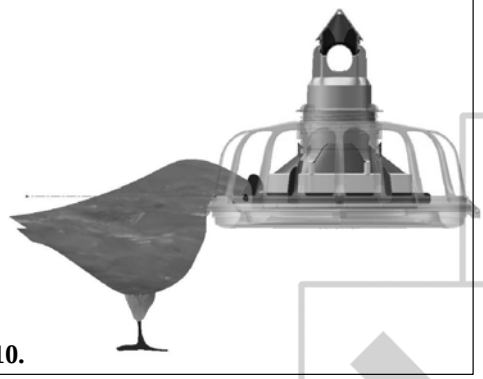


**FIGURE 10.**

## CLEANING AND MAINTENANCE.

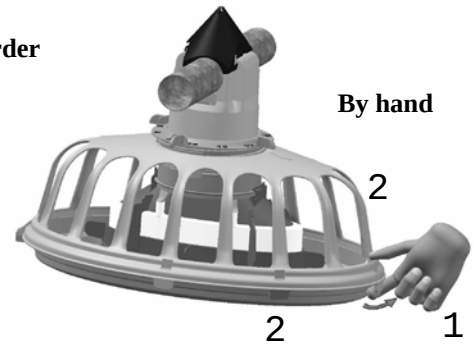
- At the end of the rearing period, empty the **COMPLETE** system.
  At the last meal, consider the amount of feed in the tubes (450-500gr./0,75m ).

  Winch up the system completely to remove the birds and the manure from the house.

**NEVER STAY UNDERNEATH WHEN LOWERING OR WINCHING UP THE LINES. STOP IMMEDIATELY AT THE SLIGHTEST HITCH.**

- If you use heavy objects or machines when emptying the house, you must avoid any damage to the system.
- Winch up the lines to a working height of about 1m for easy cleaning.
- **To remove the pan** : release the grill from the pan at the 5 clips by hand or by means of the special tool supplied **in the correct order :**

**Order** **By hand**




Pull the lip to the outside with one hand (1). Push the pan downward with the other hand.

**FIGURE 11.**

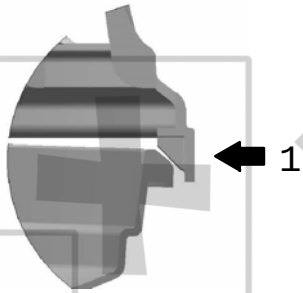



**FIGURE 12.**

Take the grill in both hands at the height of the **arrows** and open the grill. The pan loosens completely from the grill.

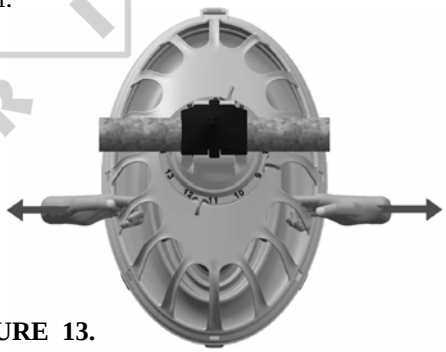
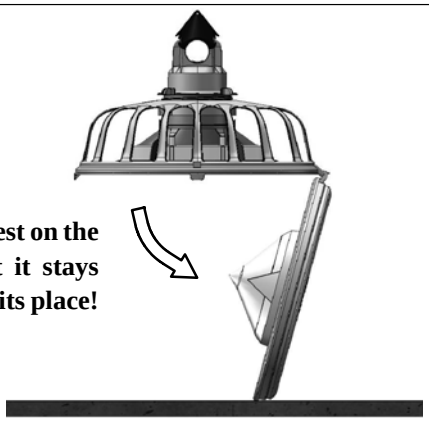


**FIGURE 13.**



**Let the pan rest on the floor, so that it stays stable and at its place!**

**FIGURE 14.**

- Now the pans can easily be cleaned one after another with a high pressure cleaner.
- Push the pan back into the grill and click the 5 clips one after another over the pan edge.
- If you want to replace a complete pan :

Now you can remove the top support **BY PRESSING THE CENTRAL LIPS.**

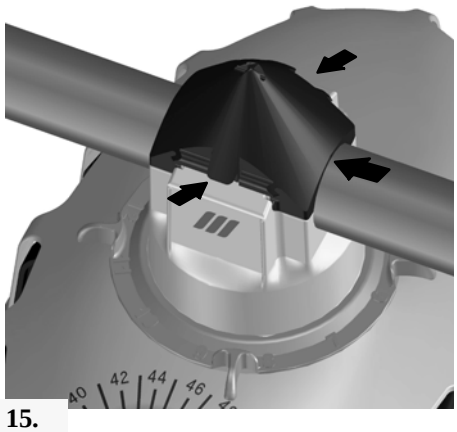


**FIGURE 15.**

**REMEMBER TO COVER THE MOTORS WITH WATERPROOF COVER !!**

Motors and switches are insulated IP54, which means that they resist splashing, but certainly not a high pressure cleaner.

The **feeder pan**, made of high **quality polypropylene**, resists practically all cleansers and disinfectants.
However, if you want to use an aggressive product (1), you should contact your supplier.

Put the **OPERATOR'S MANUAL** on the house wall at an eye-catching spot.

**(1) NB : Gaseous formaldehyde (formalin), liquid caustic soda, hypochlorite or chlorine water, cresoles are very corrosive and affect the system in no time !**

## BEFORE THE BIRDS ARRIVE.

First check the operation of your system.

Check the operation of the control panel :

- time clock
- sensor

Check the feed supply system : any leaks / obstructions.

Check the accuracy of the weigher.

Adjust the feed level of all pans at the same position (See graph page ...).

Check tension of the antiperch cables.

Make sure that all lines are perfectly level. Motors must hang at the same height.

## ELECTRICAL PART : STARTING UP AND OPERATION.

The central control panel (several models for Kixoo) operates the whole system. It is built according to the system to be installed.

**Example :**

To distribute the total amount of feed in one automatic cycle, you program enough time on the time clock – e.g. 2 hours from the start.

If you want to feed at 8 o'clock, program the time clock from 8 to 10 o'clock.

Set the preselection counter at the desired amount of feed (depending on the weigher type).

The main switches on "ON".

The lines will start at 8 o'clock. The amount of feed set is evenly distributed over all lines.

The value on the preselection counter decreases at each tipping of the weigher.
This continues until the counter arrives at the "ZERO" value.

The process is repeated until the counter reaches the ZERO value. At that moment, the system stops IMMEDIATELY and the lamp "PROGRAM ON" extinguishes.

From the moment the time clock has finished its course, you can reprogramme the preselection counter.
Now the system is ready for a new cycle.

**THE COUNTER IS NOT AUTOMATICALLY RE-ADJUSTED: YOU MUST RE-ADJUST IT MANUALLY EVERY DAY, AFTER THE FEEDING CYCLE HAS ENDED.**

# MAINTENANCE INSTRUCTIONS

|  DANGER **Switch off the current first. Use protection** | 3-monthly | 6-monthly | Yearly |
|---|---|---|---|
| **ACTIONS IN GREY BACKGROUND MUST BE DONE BY A TECHNICALLY TRAINED PERSON.** | | | |
| 1. Power unit | | | |
| – Make fan dust-free | | | X |
| – Check possible damages to electrical wiring | | | X |
| 2. Poultry intake boot with sensor | | | |
| – Check sensor | | | X |
| 3. 100kg hopper (lines) | | | |
| – Check level switch | | | X |
| 4. Suspension | | | |
| – Check operation of (central) winch | X | | |
| – Check operation of (central) winch. Grease after cleaning. | | | X |
| – Check connection of cable | X | | |
| – Check connection of pulleys | X | | |
| – Check suspension of tubes and motors | X | | |
| – Keep suspension cord/cable in tension | X | | |
| 5. Poultry perch cable above the tubes/elbows | | | |
| – Check cable | | | X |
| 6. Pans | | | |
| – Check possible damages of pans | | | X |
| 7. Sensors/switches | | | |
| – Check operation of safety switch or sensor. | | X | |
| – Check electrical wiring | | | X |
| 8. Control pan | | | |
| – Remove the pan and clean the inside tube | | | X |
| – Clean (dry) sensor head and central tube | | | X |
| – Check switch of control units | | | X |
| 9. Lines/circuits | | | |
| – Check screws and bolts in the system after the **first month and after each batch.** Tighten if necessary. | X | | |
| – Keep tubes level. | X | | |
| – Remove all feed from the system when the system will be out of use for a period. | X | | |

# TROUBLE SHOOTING GUIDE

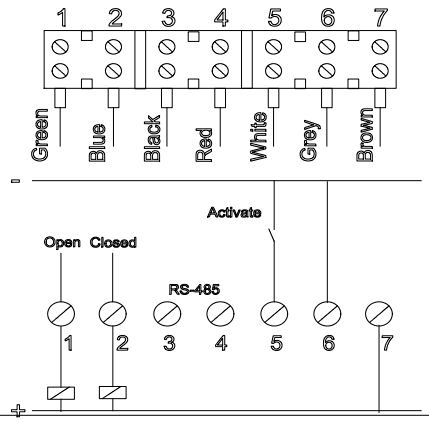
DANGER

**Switch off the current first. Use protection**

**ACTIONS IN GREY BACKGROUND MUST BE DONE BY A TECHNICALLY TRAINED PERSON.**

| PROBLEM | CAUSE | CORRECTIVE ACTION |
|---|---|---|
| 1.None of the feeder lines run. | No current. | Replace defective fuses or reset circuit breakers. Check current supply to the house. |
| | Defective clock. | Replace defective clock. |
| | Time clock not properly set. | Readjust tabs. |
| 2.One/more lines do not run. Pans are empty | Wires from motor damaged. | Measure current in motor wires. Replace wires if defective. |
| | Thermal protection of motor switched off. | See points 3. & 4. Reset motor overload button. |
| | Defective sensor in the control unit, or sensor not properly adjusted. | Check the good operation of the sensor. Replace if necessary. |
| | Defective sensor/minimum switch control unit or 100kg hopper. | Check control unit sensor or switch. Replace if necessary. |
| 3.Motor is often overloaded. | Oil on auger overloads the motor. | Clean the auger by running repeatedly 25kgs of feed through the line. |
| | Not enough current supply to the motors. | Check current supply at motor location. Start the motor. Measure start current on motors. Wiring must be thick enough to guarantee good operation of the system. |
| | Object blocks the auger. Motor runs, then stalls. Feed sticks to the tubes. | Check if there are no objects in the boot, the control unit and the drop holes of the feeder pans. Remove any objects. |
| 4.Auger stalls. | Anchor bearing worn out or broken. | Replace bearing. **Gently** slide auger back into the tubes. Don't let it jump back : your **finger** or the **bearing** could be **damaged**. |
| | Auger not enough stretched. | Shorten the auger. |
| | Object blocks the auger. | Remove the object. |
| 5.Tubes / boot wear rapidly, much noise when system runs. | Auger kinked or bent at the wear point. Auger end overlaps the anchor end. | Make sure not to kink the auger when using gripping pliers. Auger must not overlap the anchor end. |
| 6.Not enough feed supplied to fill up the lines. | Flex-Auger drop holes are too small or point upwards. | Make holes wider/turn tubes with holes downwards. |
| | Flow regulator in boot of feed supply system blocks passage of the feed. | Adjust flow regulator to get a higher capacity. |
| | Flex-Auger capacity is too low. | Check the capacity of the Flex-Auger according the specifications. Check the installation of the Flex-Auger. |
| | Not enough time set on the time clock. | Extend operation time per meal. |
| 7.Feed drops directly on the adjuster ring of the grill. | Pan not installed over the hole. | Remove the top support. Install the pan ass'y over the hole and the lips. |
| 8.Irregular distribution of the feed along the feeder line. | Bad indexing of tubes or no indexing at all. | Check indexing. |
| | Switch over to other feed disturbs the indexing of the feeder tube. (Too much or too little feed in front or at the back.) | 1.Too much in front : turn the holes a bit higher. 2.Too little feed in front : turn the holes somewhat lower. |
| | Foreign object in auger. | Remove foreign object. |
| | Feeder tubes turned in relation to each other. | Check according to the marks when installed. Adjust if required and tighten clamps securely. |

# WIRING DIAGRAM AUTOMATIC OUTLET




Connections and signals.

1)Green Signal Open
2)Blue Signal Closed

3)Black RS-485 (MFII) not yet in use
4)Red RS-485 (MFII) not yet in use

5)White (--) Signal Open With 0VDC
6)Grey (-) 0VDC
7)Brown (+) 24VDC

## Feedback of OPEN/CLOSE signal by digital input or relay.

Both signals OPEN & CLOSE which come from the Automatic Drop can be connected to a 24 VDC relay.

In MFII application can the feedback be directly connected to a IDM.

## Declaration signalling LED

| | |
|---|---|
| 24VDC+Close | **LED Blue** |
| Motor OPEN | **LED Blue blink** |
| Motor Alarm | **LED Red** |
| Motor Calibration | **LED Green** |

## With blocking motor alarm LED Red

Remove DROP.

Remove possible blocked feed.

Switch 24VDC OFF.

Switch 24VDC ON.

Calibration starts automatically.

**LED Blue**

## Technical specifications

| | |
|---|---|
| Voltage | **24 VDC± 20%** |
| Motor Current Stand–by | **20 mA** |
| Motor Current OPEN/CLOSE | **150 mA** |
| Motor Current Alarm | **400 mA** |
| Relais output 24VDC | **100 mA** |
| Max. Cable Length | **200 M** |
| Min. Cable Section | **0.5mm$^2$ max.100 M** |
| Min. Cable Section | **0.75mm$^2$ max. 200 M** |

Remark

After interruption of voltage in “OPEN position, one don’t look for 15 sec. the input, so the “OPEN position” re-tains.

**DANGER**

**THE AUTOMATIC OUTLET STARTS AUTOMATICALLY. NEVER PUT YOUR HANDS IN THE OUTLET OR IN THE DROP HOLE BEFORE MAKING SURE THAT THE CURRENT IS SWITCHED OFF.**

**ATTENTION : Contact ROXELL for professional advice when using following feeds:**

**CCM (Corn Cob Mix).**
**Feed mixed with CCM.**
**Soya.**
**Soya lumps.**
**Wet feed.**

**Without explicite authorization, all our warranties will expire and no claims will be accepted.**

**Also contact Roxell if you want to use strongly grating feeds like hen feed etc...**

## CONTROL PANEL SETTINGS

### SETTING DURING THE REARING - AD LIBITUM - PERIOD

**Feed windows open**

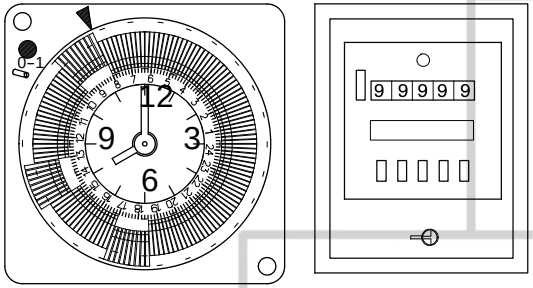
**Regularly fill all pans manually (M)**


**Stop the lines as soon as all pans have been filled !**

**Do not let the system run too long !!!**

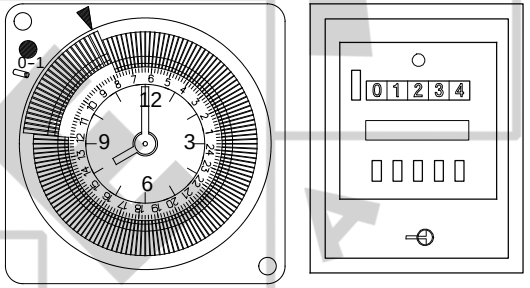
**Feed windows closed**

**Set the counter AT 999999**




### SETTING "RESTRICTION" PERIOD

**Set the starting time. Set activation time (tabs) longer than the time to finish the meal.**




**Set the counter at the required feed amount.**

**"1"= 10kg (6,5 ton weigher)**

**"1"= 25kg (13 ton weigher)**

**Reset the counter every day (if necessary adjust) after the clock became inactive.**

* Spread the litter evenly over the house floor.
* Lower all pans into the litter.
* Make sure that **ALL** feed windows are completely opened.
* Fill all pans manually (**M** ). Repeat this, so that there is always fresh feed in the pan.
* Make sure that the system does not run too long !!
* Winch up the lines after 10-14 days (pans about 1cm. above litter) to close the feed windows.
* All switches in position automatic **(A).**
* When necessary, winch up the pans gradually into a higher position.
* The day before starting restricted feeding, all circuits and Flex-Augers must be completely filled.
* Set the feed level according to the type of feed.

## CLEANING

* The last day : run the tubes empty and let the birds empty the pans as much as possible.
* Winch up the lines to a working height of about 1m for easy cleaning.
* Collect the feed residues by opening all pans, and empty them.
* Protect electrical components against water.
* Clean the whole system by means of a high-pressure cleaner **(max 100 BAR)**.
* When using aggressive detergents or disinfectants consult your supplier. Respect the specifications of the supplier.

**Order**

**By hand**

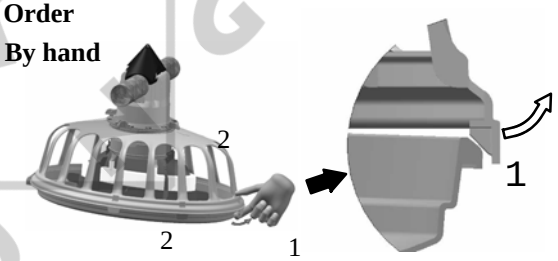



**FIGURE 23.**

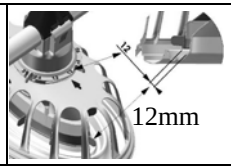
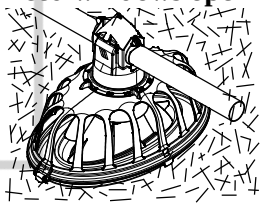
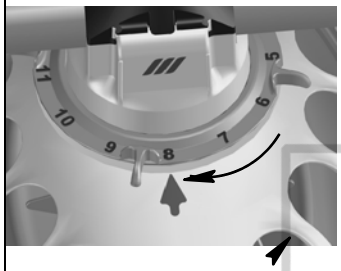
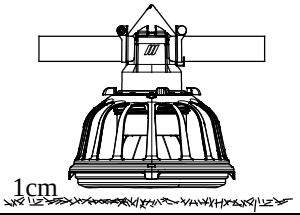
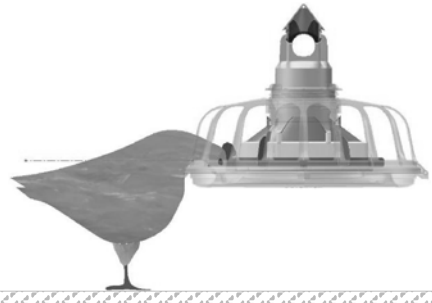
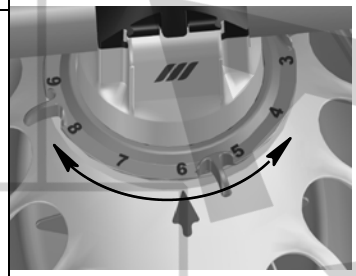
Take the grill in both hands at the height of the **arrows** and open the grill. The pan loosens completely from

09701749
Pan remover

**FIGURE 24.**

Let the pan rest on the floor, so that it stays stable and at its place!

**FIGURE 25.**

| Age (weeks) | Feeding regime | Position of the feed level ring = streamopening beneath cone | Poultry perch system | Suspension height of the pan |
|---|---|---|---|---|
| 1 | Ad lib |  12mm | off | into the litter : feed windows open  |
| 2 | |  Meal 3 à 8 | off | 1 cm above the litter : feed windows closed  1cm |
| 3 | | | on | |
| 4 | Mild restriction | | off | Back of the birds = edge of eating opening  |
| 5 | | | | |
| 6 | | Pellets/crumbles 3 à 6 | | |
| 7 | Severe restriction |  | on | |
| | | | off | |
| | | | | |
| | | | | |
| 18 | | | on | |
| 19 | | | | |
| 20 | | | off | |
| 21 | | | | |

00802603

**Inbouwverklaring betreffende niet voltooide machines** *(Richtlijn 2006/42/EG, Bijlage II.1.B)*
**Declaration of incorporation of partly completed machinery** *(Directive 2006/42/EC, Annex II.1.B)*

Fabrikant/Manufacturer:
Roxell, Industrielaan 13, 9990 Maldegem
Tel: +32 50 72 91 72
Fax: +32 50 71 67 21

Verklaart geheel onder eigen verantwoordelijkheid dat het product:
Declares on its own responsibility that the product:

KiXoo/Vitoo/Boozzter Nr: 008…/008…/002…
Automatisch pannen voedersysteem voor opfok en productie van slachtkuikenouderdieren.
Automatic pan feeding system for rearing and production of broiler breeders.

Waarop deze verklaring betrekking heeft, in overeenstemming is met:
- de volgende richtlijnen: 2006/42/EG (Machinerichtlijn); 2004/108/EG (Elektromagnetische Compatibiliteit).
- de geharmoniseerde Europese Normen: EN ISO 13857:2008; EN 349:1993 + A1:2008; EN ISO 12100:2010; EN 60204-1:2006

**Het is verboden bovengenoemd product in gebruik te stellen voordat de machine waarin het wordt ingebouwd in overeenstemming met de bepalingen van de Machinerichtlijn is verklaard.**

Tevens verbindt de fabrikant (of zijn gemachtigde) zich om op met redenen omkleed verzoek van de nationale autoriteiten de relevante informatie over deze niet voltooide machine door te geven. De wijze van doorgifte is digitaal. De wijze van informatieverschaffing laat de intellectueel-eigendomsrechten van de fabrikant van de niet voltooide machine onverlet

**(NL)**

Relating to this declaration, is conform
- The following directives 2006/42/EC (Machinery Directive); 2004/108/EC (Electromagnetic Compatibility).
- The harmonised European standards: EN ISO 13857:2008; EN 349:1993 + A1:2008; EN ISO 12100:2010; EN 60204-1:2006

**This product must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive.**

The manufacturer (or its agent) also undertakes, at the duly reasoned request of the national authorities, to provide the relevant information concerning this partly completed machinery. The method of transmission will be digital. The manner in which the information is provided does not prejudice the manufacturer's intellectual property rights concerning the partly completed machinery.

**(EN)**

Plaats, Datum / Place, Date : Maldegem, 01/01/2012

……
Dhr. Gino Van Landuyt
Managing Director

---

"This part may only be filled out if all built-in subparts are delivered by Roxell"

**EG-verklaring van overeenstemming** *(Richtlijn 2006/42/EG, Bijlage I.1.A)*
**EC-declaration of conformity** *(Directive 2006/42/EC, Annex II.1.A)*

Wij/We_____
(naam installateur/name fitter)
_____
_____
(volledig adres en land/complete address)

Verklaren geheel onder eigen verantwoording de
Declare completely on own justification that

_____
(naam machine/name machinery) (nummer CE-label/number CE-label)

In een installatie te hebben ingebouwd geheel volgens de Roxell-voorschriften en in overeenstemming met de bepalingen van de Machinerichtlijn.
Has been incorporated in conformity with the provisions of the Machinery Directive and the prescriptions of Roxell NV

_____
(plaats, datum/place, date) (naam, handtekening/name, signature)

Deze verklaring betreft uitsluitend de machine in de toestand waarin zij in de handel is gebracht, met uitsluiting van de later door de eindgebruiker toegevoegde componenten en/of verrichte bewerkingen.

This declaration concerns solely the machinery in the condition in which it has been brought onto the market, excluding components added and/or modifications made later by the end user.

**EG-verklaring van overeenstemming** *(Richtlijn 2006/42/EG, Bijlage II.1.A)*
**EC-declaration of conformity** *(Directive 2006/42/EC, Annex II.1.A)*

Fabrikant/Manufacturer:
Roxell, Industrielaan 13, 9990 Maldegem
Tel: +32 50 72 91 72
Fax: +32 50 71 67 21

Verklaart geheel onder eigen verantwoordelijkheid dat het product:
Declares on its own responsibility that the product:

Winching system Nr: 00102368 / 00102087
Liersysteem voor voer- en drinklijnen; manueel en gemotoriseerd
Winching system for feed- and drink lines; manual and motorised
Nummer CE-label/number CE-label :_____

Waarop deze verklaring betrekking heeft, in overeenstemming is met:
- de volgende richtlijnen: 2006/42/EG (Machinerichtlijn); 2004/108/EG (Elektromagnetische Compatibiliteit).
- de geharmoniseerde Europese Normen: EN ISO 13857; EN 349:1993 + A1:2008; EN ISO 12100:2010; gemotoriseerd: EN 60204-1:2006

Deze verklaring betreft uitsluitend de machine in de toestand waarin zij in de handel is gebracht, met uitsluiting van de later door de eindgebruiker toegevoegde componenten en/of verrichte bewerkingen.

**(NL)**

Relating to this declaration, is conform
- The following directives 2006/42/EC (Machinery Directive); 2004/108/EC (Electromagnetic Compatibility).
- The harmonised European standards: EN ISO 13857:2008; EN 349:1993 + A1:2008; EN ISO 12100:2010; motorised: EN 60204-1:2006

This declaration concerns solely the machinery in the condition in which it has been brought onto the market, excluding components added and/or modifications made later by the end user.

**(EN)**

Plaats, Datum / Place, Date : Maldegem, 01/01/2012

……..
Dhr. Gino Van Landuyt
Managing Director

# PART II

# COMPONENTS

HALEX HUNGARIA KFT.

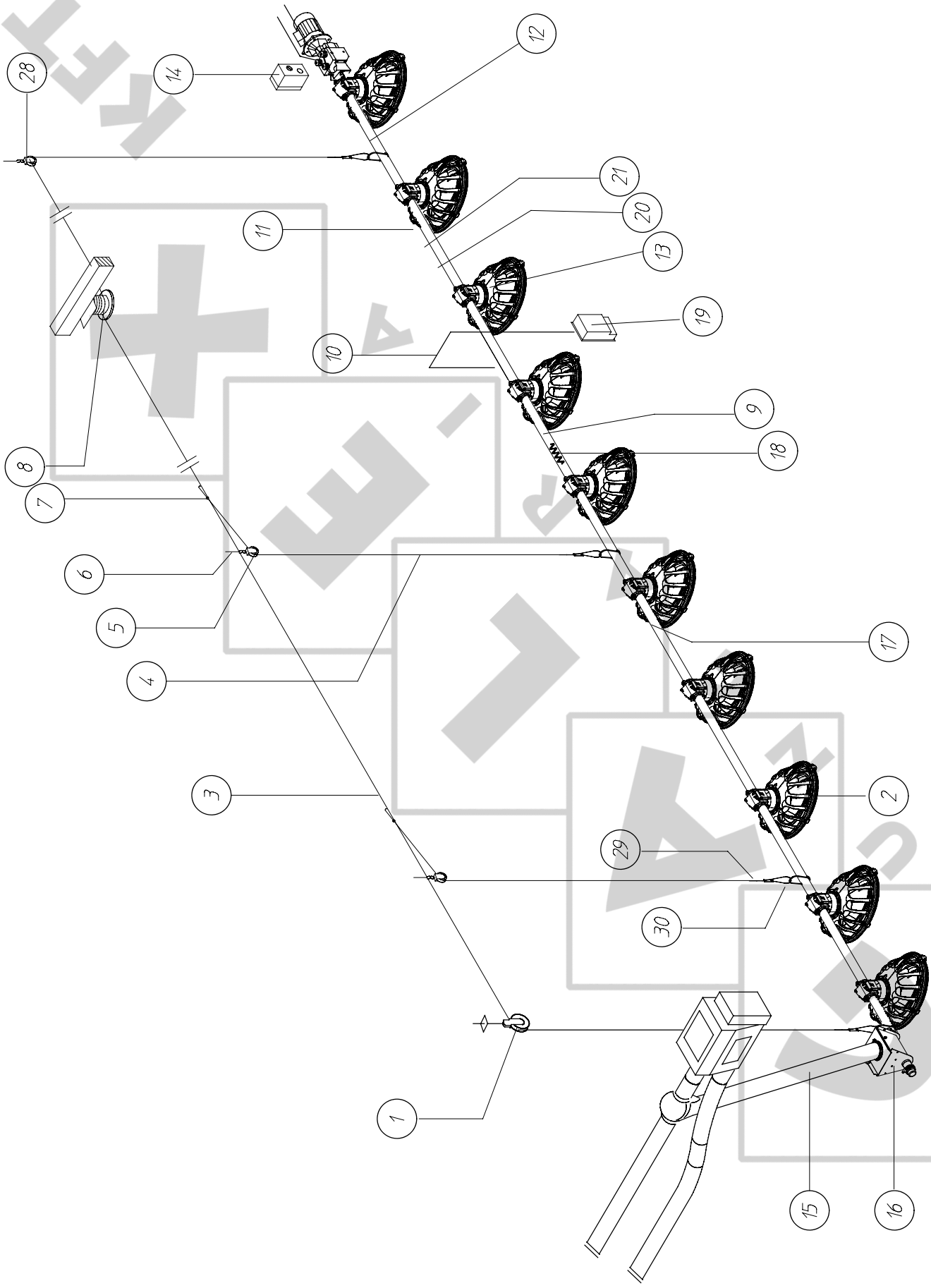
## 1. ENVIRONMENTALLY-FRIENDLY DESIGN

**Roxell complies with the Commission Regulation No. 640/2009, implementing Directive 2009/125/EC (the European standard IEC 60034) for the environmentally-friendly design of electronic motors which exceed 0.75 kW (IE2), because Roxell feeding and drinking systems are made to function at an ambient temperature above 40°C.**

## 2. COMMUNICATION

**For all communication concerning parts/spare parts refer to the appropriate part number (not part name).**

# GENERAL LAY-OUT



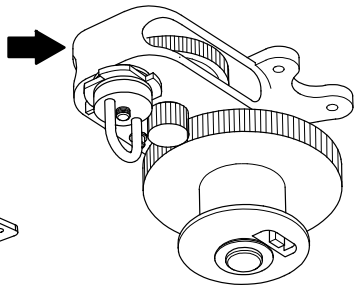
# COMPONENT NUMBERS

| Key | Description | Number | Page |
|---|---|---|---|
| 1 | HEAVY DUTY PULLEY | 00100412 | II–8 |
| 2 | FEEDER PAN | PARTS | II–16 |
| 3 | CABLE DIA. 5MM | 00100388 | II–7 |
| 4 | CABLE DIA. 2.5MM | 00600205 | |
| 5 | SMALL PULLEY W/ METAL HOOK | 00101527 | |
| 6 | SCREW HOOK 90MM | 05000872 | |
| | SCREW HOOK 160MM | 05000237 | |
| 7 | CABLE CLAMP N_5 | 00100545 | |
| 8 | HAND OPERATED CENTR. WINCH | 00102368 | II–3 |
| 9 | TUBE 3.05M W/2 TRIANG. HOLES | 00102467 | II–8 |
| | TUBE 3.05M W/3 TRIANG. HOLES | 00102459 | |
| | TUBE 3.05M W/4 TRIANG. HOLES | 00102442 | |
| 10 | CABLE F/POULTRY PERCH GUARD | 01001254 | II–8 |
| 11 | SPRING | 00400077 | |
| 12 | POWER UNIT | SEVERAL | II–5 |
| 13 | CONTROL PAN VITOO IN LINE | 00802975 | II–15 |

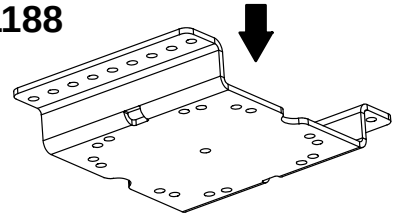
| Key | Description | Number | Page |
|---|---|---|---|
| 14 | CUT – OFF SWITCH | SEVERAL | II–25 |
| 15 | TEL..DROP TUBE D.100–1m | 07400153 | II–9 |
| 16 | FEED INTAKE BOOT POULTRY | 00106500 | II–10 |
| 16* | POULTRY INTAKE BOOT WITH SENSOR (OPTION) | 00106526 | II–11 |
| 17 | TUBE CLAMP ASS4Y DIA. 45MM | 00102921 | II–8 |
| 18 | AUGER | 00200873 | |
| 19 | POULTRY PERCH GUARD | 00105692 | |
| 20 | CABLE DIA. 1.6MM | 00100149 | |
| 21 | CABLE CLAMP BODY | 00101386 | |
| 28 | SINGLE EYE PULLEY | 00100420 | II–7 |
| 29 | ADJUSTMENT LEVELER | 00600213 | II–7 |
| 30 | HANGER | 00100354 | |
| * | ANCHOR BRACKET LOW | 00102681 | II–8 |
| * | (NOT SHOWN) | | |

## PAN REMOVER – 09701749

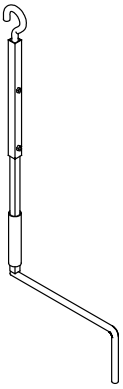
## HAND OPERATED CENTRAL WINCH – 00102368



## MOUNTING PLATE F/HAND OPERATED CENTRAL WINCH – 02001188

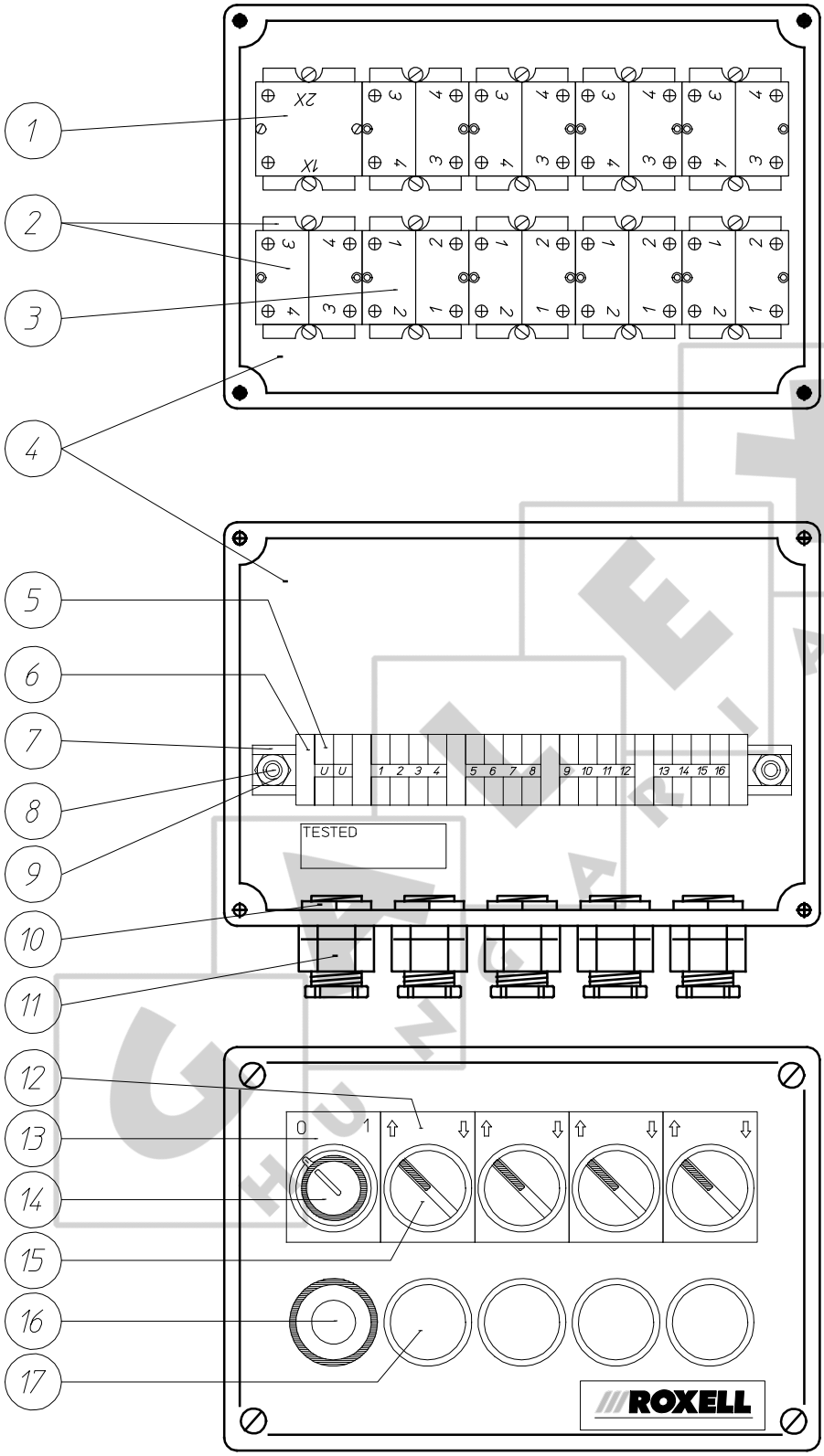


## TELESCOPICAL WINCH DRIVE TUBE – 00102962



# *OPTION : CONTROL PANEL FOR CENTRAL WINCH*

**(USED IN COMBINATION WITH SINGLE PHASE MOTORS)**




**ALWAYS PROVIDE A SOLID EARTHING !**

# *OPTION : CONTROL PANEL FOR CENTRAL WINCH*

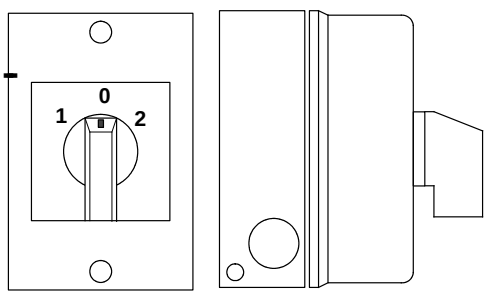
**(USED IN COMBINATION WITH SINGLE PHASE MOTORS)**

| | |
|---|---|
| 00101030 | CONTROL PANEL FOR 1 WINCH MOTOR |
| 00101048 | CONTROL PANEL FOR 2 WINCH MOTORS |
| 00101055 | CONTROL PANEL FOR 3 WINCH MOTORS |
| 00101063 | CONTROL PANEL FOR 4 WINCH MOTORS |
| 00101071 | CONTROL PANEL FOR 5 WINCH MOTORS |
| 00101089 | CONTROL PANEL FOR 6 WINCH MOTORS |

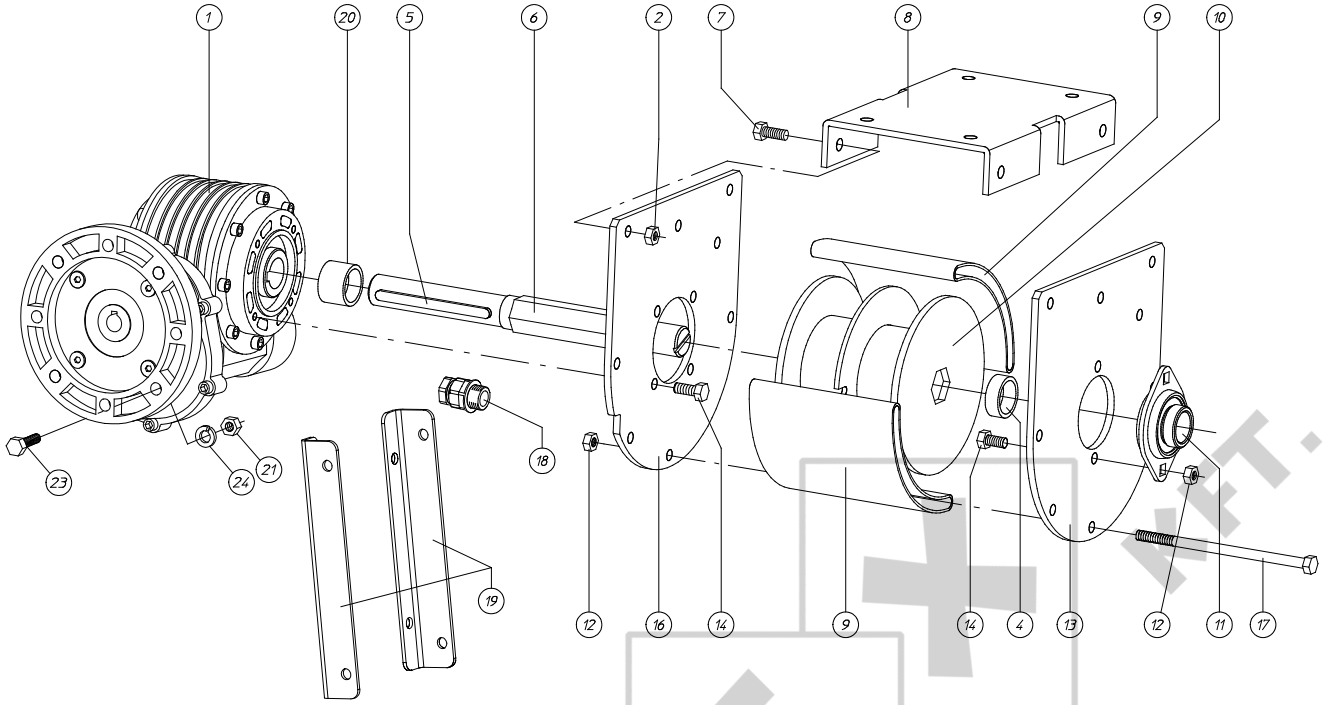
| Key | Name | Part Nr. | Qt. | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | LAMPHOLDER XB2-BV64 | 15002298 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | ON-OFF SWITCH BODY ZB2-BZ103 | 15002009 | 3 | 5 | 7 | 9 | 11 | 13 |
| 3 | CONTACT BODY ZB2-BE102 | 15002371 | 2 | 4 | 6 | 8 | 10 | 12 |
| 4 | BOX WITH HOLES - 1 LINE | 15002199 | 1 | / | / | / | / | / |
| | BOX WITH HOLES - 2 LINES | 15002207 | / | 1 | / | / | / | / |
| | BOX WITH HOLES - 3 LINES | 15002215 | / | / | 1 | / | / | / |
| | BOX WITH HOLES - 4 LINES | 15002223 | / | / | / | 1 | / | / |
| | BOX WITH HOLES - 5 LINES | 15002231 | / | / | / | / | 1 | / |
| | BOX WITH HOLES - 6 LINES | 15002249 | / | / | / | / | / | 1 |
| 5 | MINICLAMP MBK-10PCS. | 11005337 | 6 | 10 | 14 | 18 | 22 | 26 |
| 6 | END CLAMP 9208/S15 WZ552275530 | 15002322 | 3 | 4 | 5 | 6 | 7 | 8 |
| 7 | MOUNTING RAIL-90MM | 11005329 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | SCREW M4X8 - DIN 84-4.8 | 20100665 | 2 | 2 | 2 | 2 | 2 | 2 |
| 9 | NUT M4 | 20100681 | 2 | 2 | 2 | 2 | 2 | 2 |
| 10 | CABLE RING NUT PG 11 | 10103083 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11 | CABLE RING PG 11 | 10100634 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12 | IND.PLATE WINCH UP/DOWN | 15002611 | 1 | 2 | 3 | 4 | 5 | 6 |
| 13 | INDICATOR PLATE | 15001017 | 1 | 1 | 1 | 1 | 1 | 1 |
| 14 | KEY SWITCH HEAD ZB2-BG2 | 15002280 | 1 | 1 | 1 | 1 | 1 | 1 |
| 15 | ON-OFF SWITCH HEAD ZB2-BD2 | 15001993 | 1 | 2 | 3 | 4 | 5 | 6 |
| 16 | LAMP DL1-CF220 | 15002306 | 1 | 1 | 1 | 1 | 1 | 1 |
| 17 | PUSH BUTTON HEAD ZB2-BA4 | 15002272 | 1 | 2 | 3 | 4 | 5 | 6 |

## STANDARD : CONTROL SWITCH FOR WINCH - 00102327

**(STANDARD IN COMBINATION WITH THREE PHASE MOTORS)**



# *OPTION : CENTRAL WINCH W/GEARBOX - MOTOR OPERATED - 00102087*



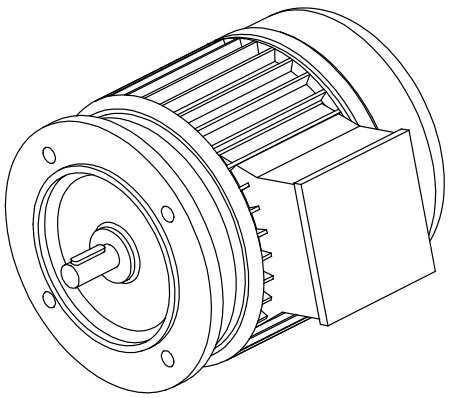

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | GEARBOX FRA60 PC1 - 1/320 | 10106136 | 1 |
| *2 | LOCKNUT M8 - DIN 985 | 20100418 | 6 |
| 4 | SPACING TUBE D.33.7X3.25X115 | 10106052 | 1 |
| 5 | SQUARE KEY - 8X100 | 10110666 | 1 |
| 6 | DRUM SHAFT | 10106102 | 1 |
| *7 | BOLT M8X25 - DIN 933-8.8 | 20100236 | 6 |
| 8 | MOUNTING PLATE | 10106037 | 1 |
| 9 | WINCH BODY | 10104057 | 2 |
| 10 | DRUM WELDMENT | 10106060 | 1 |
| 11 | FLANGE BEARING Ø25 | 11006756 | 1 |
| 12 | LOCKNUT M8 - DIN 985 | 20100418 | 8 |
| 13 | SIDE PLATE - BEARING | 10106045 | 1 |

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 14 | BOLT M8X20 - DIN 933-8.8 | 20200150 | 6 |
| 16 | SIDE PLATE - REDUCTOR | 10106110 | 1 |
| 17 | BOLT M8X160 DIN 931 GALVANIZED | 10106128 | 6 |
| *18 | CABLE RING PG 13.5 | 10100642 | 1 |
| 19 | MOUNTING PLATE | 10107456 | 2 |
| 20 | SPACING TUBE Ø33.7X3.25X27 | 10110161 | 1 |
| *21 | NUT M8 - DIN 934 | 20200028 | 4 |
| *22 | CONNECTION DIAGRAM WINCH MOTOR (NOT SHOWN) | 10106334 | 1 |
| *23 | BOLT M8X30 - DIN 933-8.8 | 20100244 | 4 |
| *24 | LOCKWASHER M8 - DIN 127B | 20108908 | 4 |
| * | HARDWARE KIT | 10106169 | 1 |

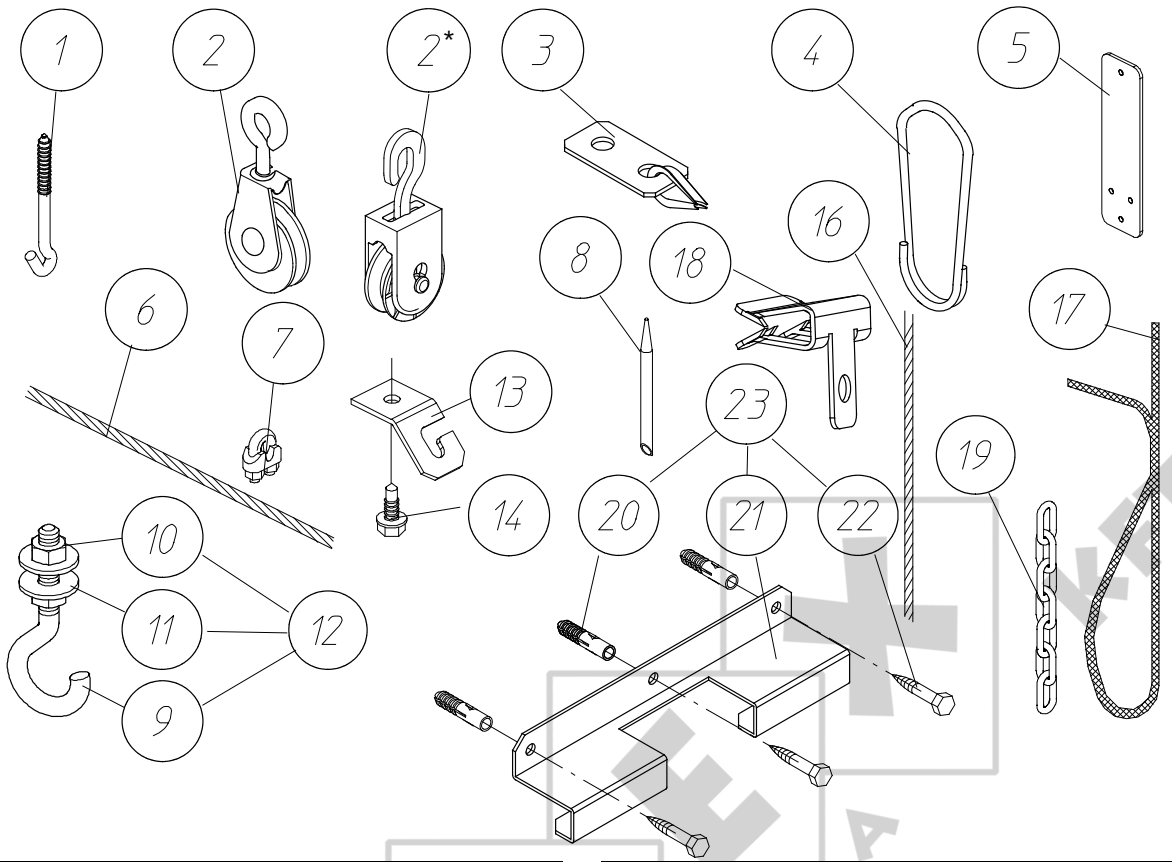
| System | WINCH |
|---|---|
| Gearbox W/O F-Coupling | 10106136 |
| Ratio | 315 |
| Output speed | 4.5 |
| Construction size | 71 |
| Motor speed 50Hz(RPM) | 1500 |
| Motor speed 60Hz(RPM) | 1800 |
| Feed capacity kg | |
| 3x230/400V 50Hz | |
| Motor | 11111978 (0,25kW) |
| 3x200/346V 50Hz | |
| Motor | 11100476 (0,25kW) |
| 1x230V 50Hz | |
| Motor | 00102061 (0,25kW) |
| 3x220/380V 60Hz | |
| Motor | 00102343 (0,3kW) |
| 3x200/346V 60Hz | |
| Motor | 11102779 (0,3kW) |
| 3x254/440V 60Hz | |
| Motor | 11900842 (0,3kW) |
| 1x220V 60Hz | |
| Motor | 10103554 (0,37kW) |

## *MOTOR*

**FOR CENTRAL WINCH - MOTOR OPERATED**



# SUSPENSION COMPONENTS

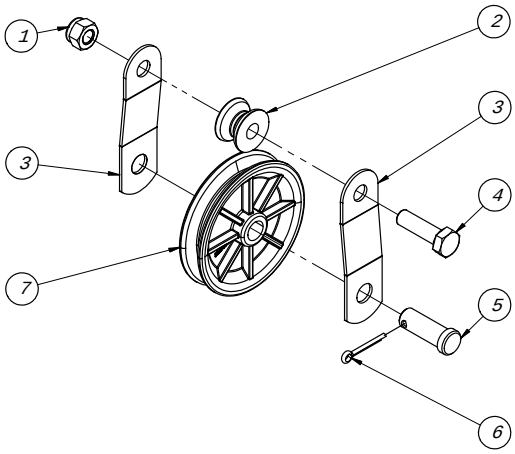



| Key | Name | Part Nr. |
|---|---|---|
| 1 | SCREW HOOK 90MM | 05000872 |
| | SCREW HOOK 160MM | 05000237 |
| 2 | SMALL PULLEY - METAL | 00101485 |
| *2 | SMALL PULLEY WITH METAL HOOK | 00101527 |
| 3 | CABLE CONNECTION ASSEMBLY | 00102699 |
| 4 | HANGER | 00100354 |
| 5 | ADJUSTMENT LEVELER | 00602060 |
| 6 | CABLE Ø5MM - 3/16" - (7X7) | 00100388 |
| 7 | CABLE CLAMP NO.5 | 00100545 |
| 8 | NEEDLE TO FIX SUSPENSION CORD | 00100792 |
| 9 | SCREW HOOK M6X60 | 20103156 |
| 10 | NUT M6 - DIN 934 | 20100210 |
| 11 | WASHER 6.4X18X1.5 - DIN 9021 | 20100756 |

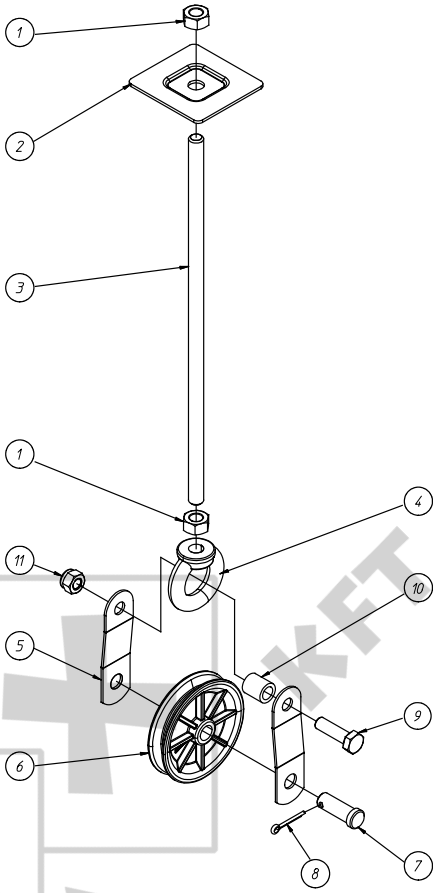
| Key | Name | Part Nr. |
|---|---|---|
| 12 | SUSPENSION HOOK M6X60 | 05000302 |
| 13 | SUSPENSION PLATE | 00103069 |
| 14 | SELF DRILLING SCREW 6.3X25 | 00103077 |
| 16 | CABLE Ø2.5MM (3/32") | 00600205 |
| 17 | SUSPENSION CORD | 00100610 |
| 18 | CADDY CLIPS TYPE 4H58 | 20104220 |
| 19 | CHAIN Ø3.5MM | 00100750 |
| *20 | PLUG Ø10 MM - NYLON | 20102034 |
| *21 | WALL BRACKET FOR HOPPER | 10107878 |
| *22 | HEXAG.WOOD SCREW 6X40-DIN 571 | 20102026 |
| *23 | KIT WITH WALL BRACKET FOR HOPPER | 00104331 |
| * | OPTION | |

## SINGLE EYE PULLEY - 00100420

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | LOCKNUT M10 - DIN 985 | 20100426 | 1 |
| 2 | CABLE GUIDE WHEEL | 10111417 | 1 |
| 3 | PULLEY SIDE PLATE (SE) | 10111391 | 2 |
| 4 | BOLT M10X35 - DIN 933 | 20102190 | 1 |
| 5 | CLEVIS PIN | 10101723 | 1 |
| 6 | SPLIT PIN 3X25 - DIN 94 | 20100533 | 1 |
| 7 | PULLEY WHEEL | 10101707 | 1 |

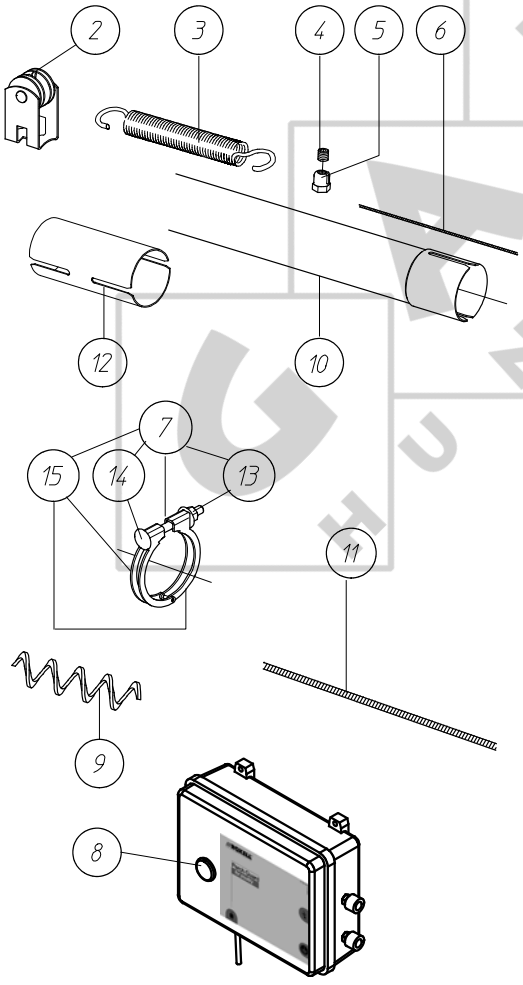


## HEAVY DUTY PULLEY - 00100412




| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | NUT M12-DIN 934 | 20100582 | 2 |
| 2 | FOOT | 10101657 | 1 |
| 3 | SCREW SPINDLE M12X350 | 10107530 | 1 |
| 4 | EYENUT M12 | 20104279 | 1 |
| 5 | PULLEY SIDE PLATE (SE) | 10111391 | 2 |
| 6 | PULLEY WHEEL | 10101707 | 1 |
| 7 | CLEVIS PIN | 10101723 | 1 |
| 8 | SPLIT PIN 3X25 - DIN 94 | 20100533 | 1 |
| 9 | BOLT M10X35 - DIN 933 | 20102190 | 1 |
| 10 | SPACER | 10101715 | 1 |
| 11 | LOCKNUT M10 - DIN 985 | 20100426 | 1 |

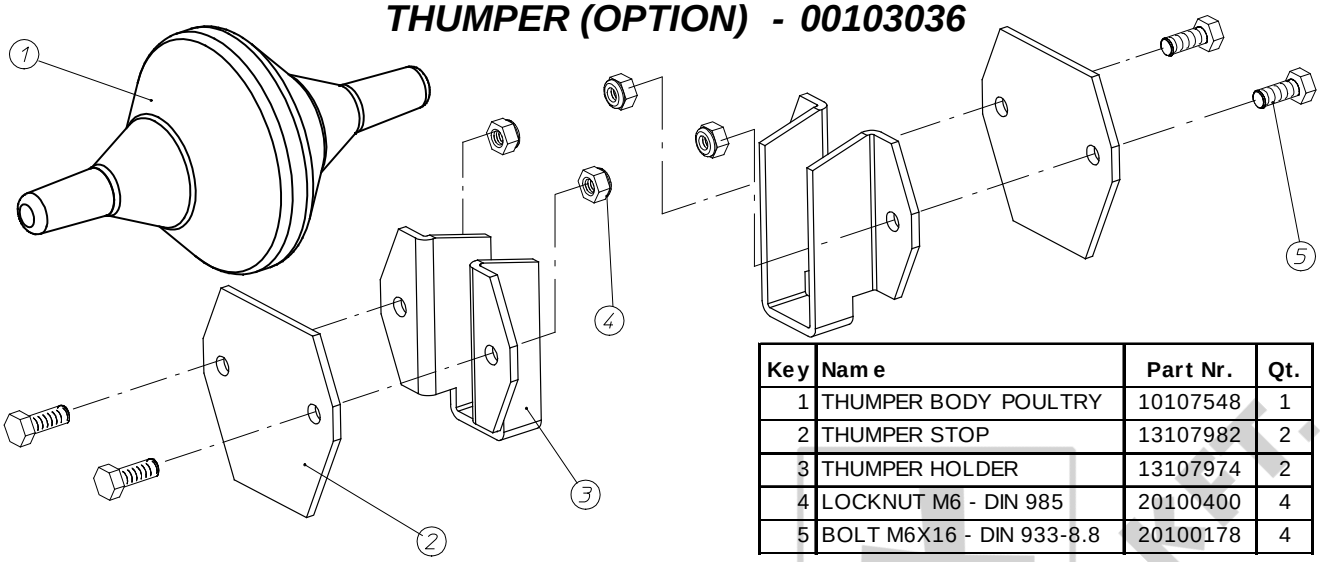
## FEEDER LINE COMPONENTS




| Key | Name | Part Nr. |
|---|---|---|
| 2 | ANCHOR BRACKET - LOW | 00102681 |
| 3 | SPRING | 00400077 |
| 4 | SET SCREW M8X8 | 00101394 |
| 5 | CABLE CLAMP BODY | 00101386 |
| 6 | CABLE Ø1.5MM (1/16") | 00100149 |
| 7 | TUBE CLAMP ASSEMBLY Ø45 MM | 00102921 |
| 8 | POULTRY PERCH GUARD | 00105692 |
| 9 | AUGER | 00200873 |
| 10 | TUBE 3.05M W/1 TRIANGULAR HOLE | 00102475 |
| | TUBE 3.05M W/2 TRIANGULAR HOLES | 00102467 |
| | TUBE 3.05M W/3 TRIANGULAR HOLES | 00102459 |
| * | TUBE 3.05M - 1 TRIANGULAR HOLE / 2M | 00202481 |
| * | TUBE 3.05M - 2 TRIANGULAR HOLES / 2M | 00202499 |
| 11 | CABLE FOR POULTRY PERCH GUARD | 01001254 |
| 13 | HEX. NUT WITH FLANGE - M6 - DIN 6923 | 20104105 |
| 14 | SQUARE NECK BOLT M6X60 - DIN 603 - 8.8 | 20101432 |
| 15 | TUBE CLAMP HALF Ø45 | 10107365 |
| * | OPTION (WITH 1 OR 2 HOLES EVERY 2M) | |

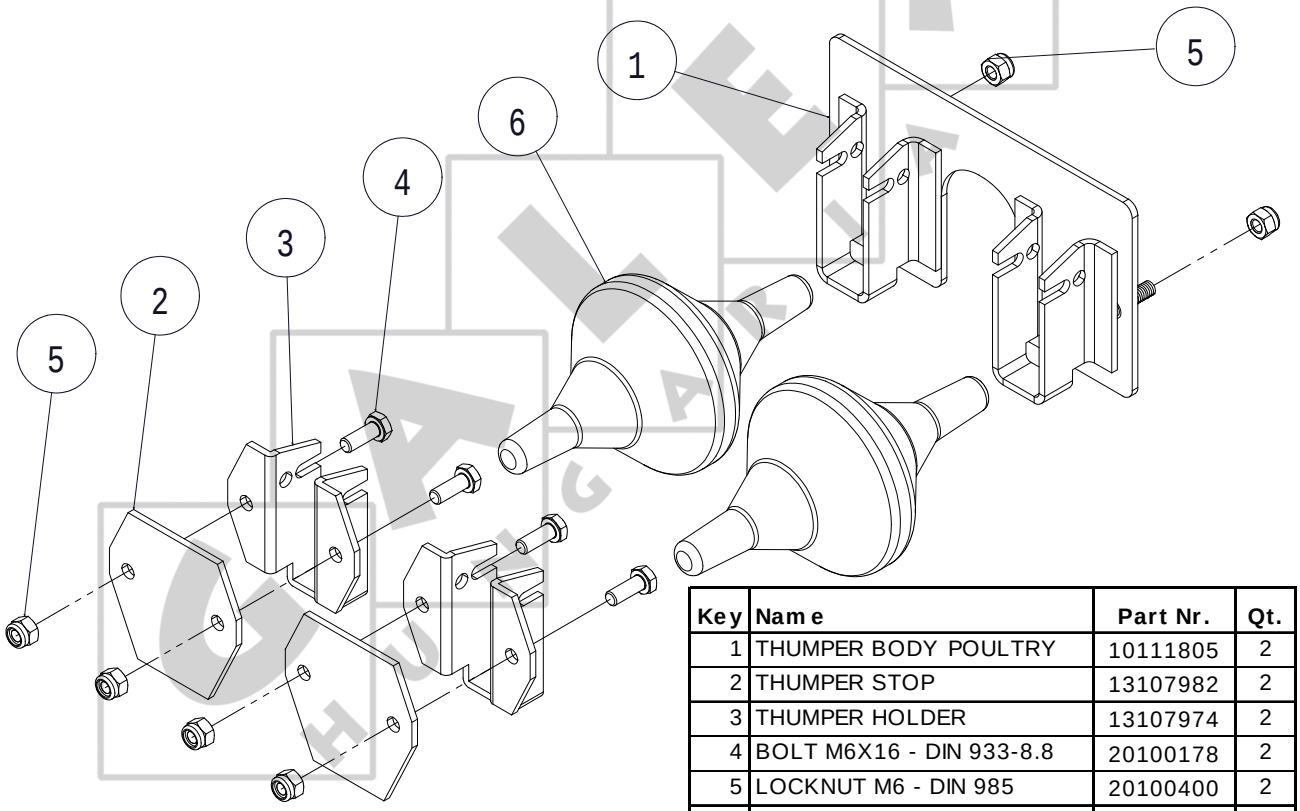
## *CAST IRON BALL (OPTION) - 00102228*

## *THUMPER (OPTION) - 00103036*



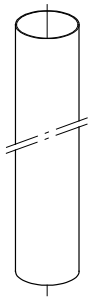

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | THUMPER BODY POULTRY | 10107548 | 1 |
| 2 | THUMPER STOP | 13107982 | 2 |
| 3 | THUMPER HOLDER | 13107974 | 2 |
| 4 | LOCKNUT M6 - DIN 985 | 20100400 | 4 |
| 5 | BOLT M6X16 - DIN 933-8.8 | 20100178 | 4 |

## *THUMPER KIT FOR DOUBLE INTAKE BOOT(OPTION) - 00106765*

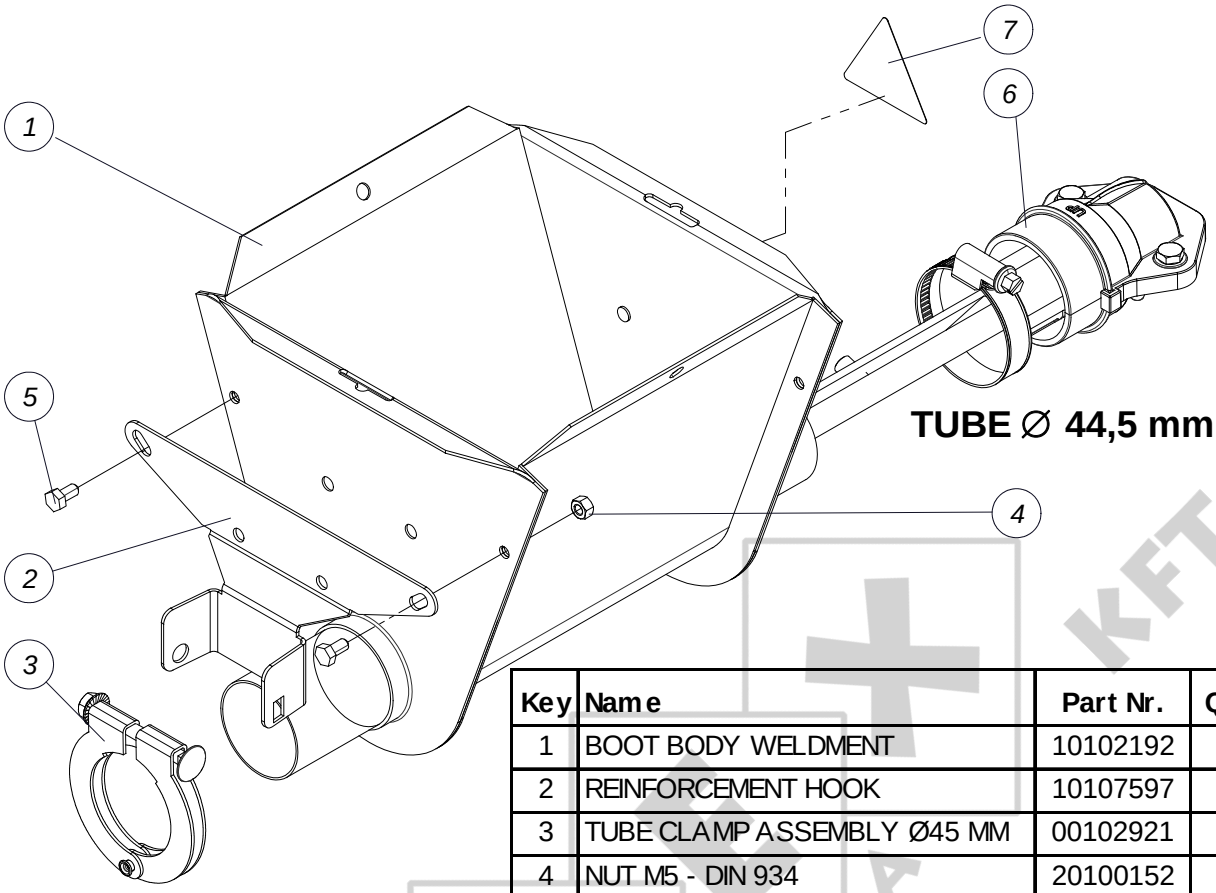



| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | THUMPER BODY POULTRY | 10111805 | 2 |
| 2 | THUMPER STOP | 13107982 | 2 |
| 3 | THUMPER HOLDER | 13107974 | 2 |
| 4 | BOLT M6X16 - DIN 933-8.8 | 20100178 | 2 |
| 5 | LOCKNUT M6 - DIN 985 | 20100400 | 2 |
| 6 | THUMPER BODY POULTRY | 10107548 | 2 |

## TELESCOPICAL DROP TUBE
## Ø.100 -1m - 07400153

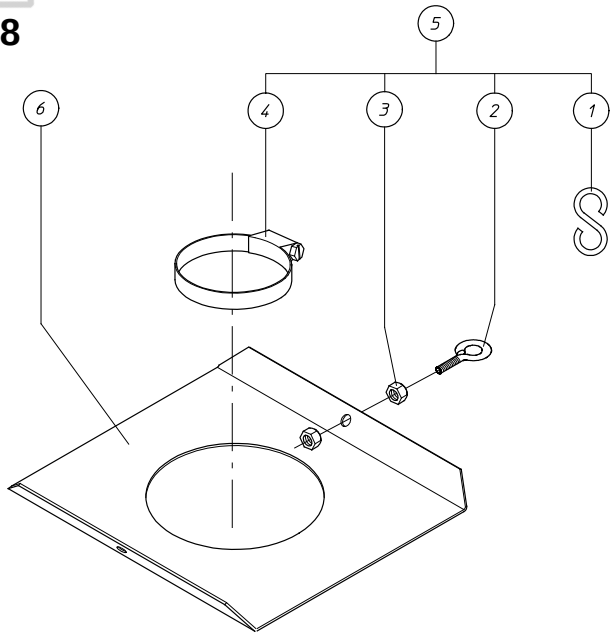


## FEED INTAKE BOOT - 00106500



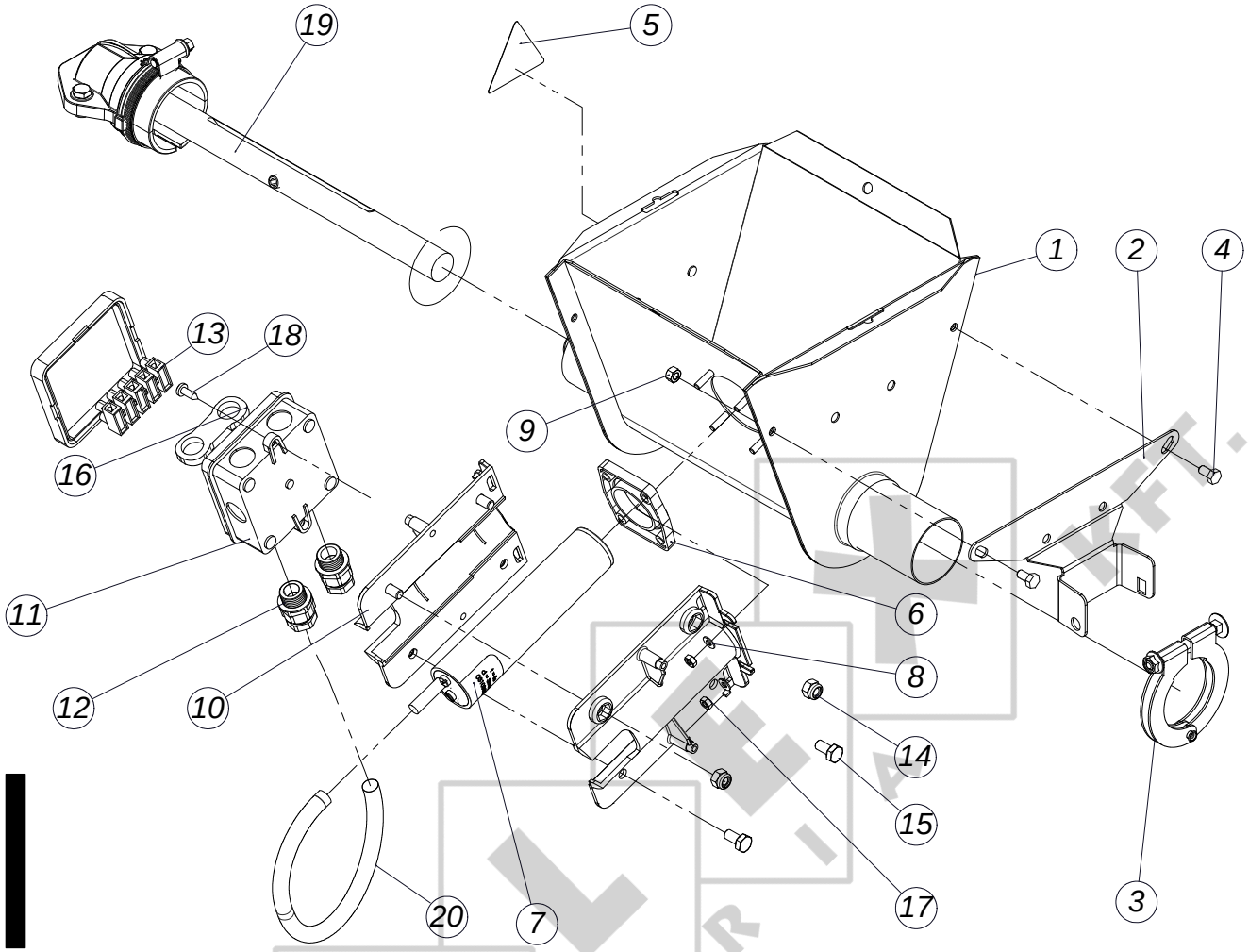

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | BOOT BODY WELDMENT | 10102192 | 1 |
| 2 | REINFORCEMENT HOOK | 10107597 | 1 |
| 3 | TUBE CLAMP ASSEMBLY Ø45 MM | 00102921 | 1 |
| 4 | NUT M5 - DIN 934 | 20100152 | 2 |
| 5 | BOLT M5X10 DIN 933 | 20100111 | 2 |
| 6 | ANCHOR & BEARING ASS'Y | 10111441 | 1 |
| 7 | DECAL - HANDS WARNING | 13106596 | 1 |

## BOOT COVER KIT - 00202218




| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | "S" HOOK | 05000013 | 3 |
| 2 | EYEBOLT M6X20 | 20100772 | 2 |
| 3 | NUT M6 - DIN 934 | 20100210 | 4 |
| 4 | HOSE CLAMP Ø80 - 100MM | 03200250 | 2 |
| 5 | HARDWARE KIT FOR BOOT ASS'Y | 10202091 | 1 |
| 6 | BOOT COVER | 10201788 | 1 |

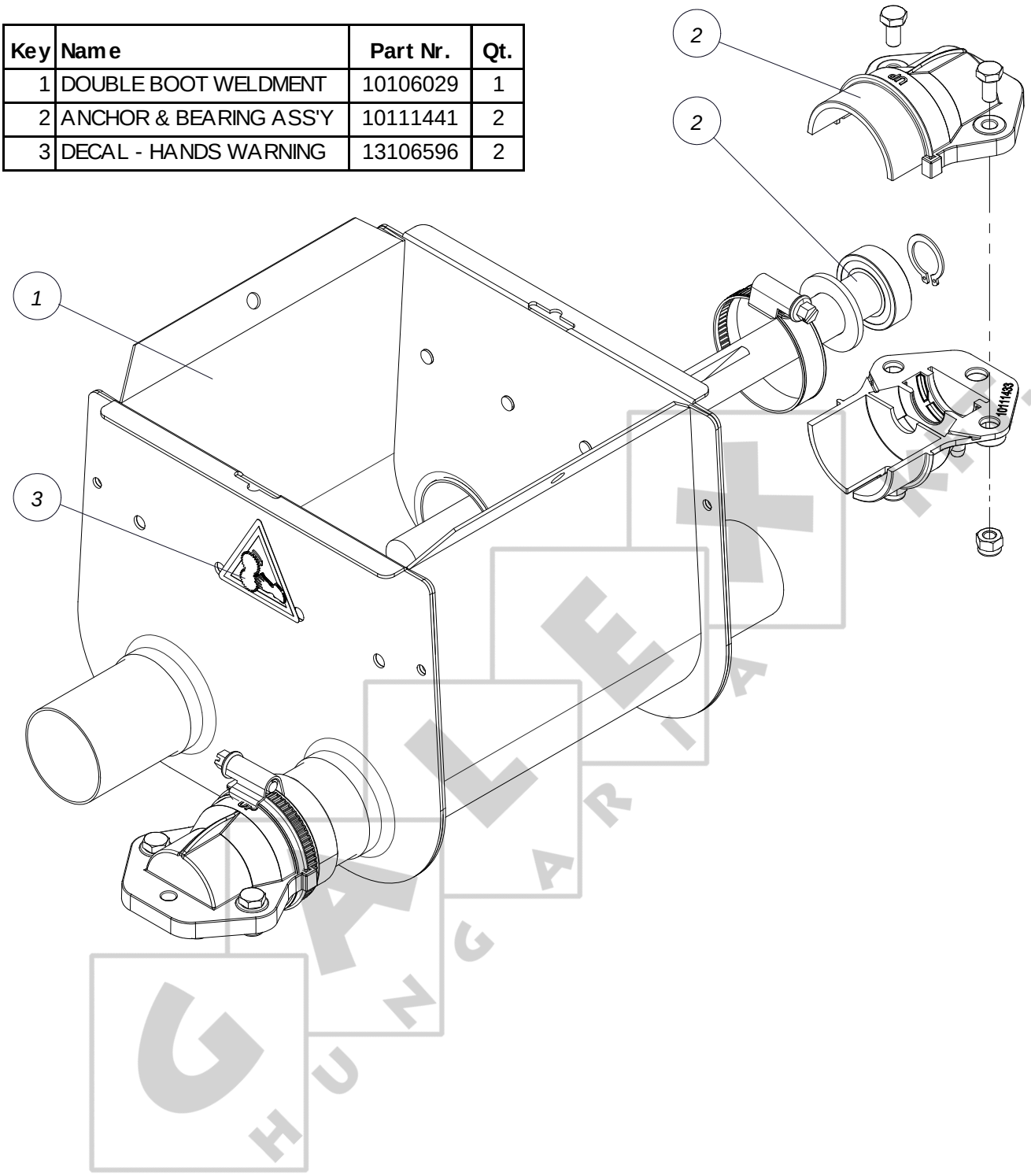
# POULTRY INTAKE BOOT WITH SENSOR (OPTION) - 00106526



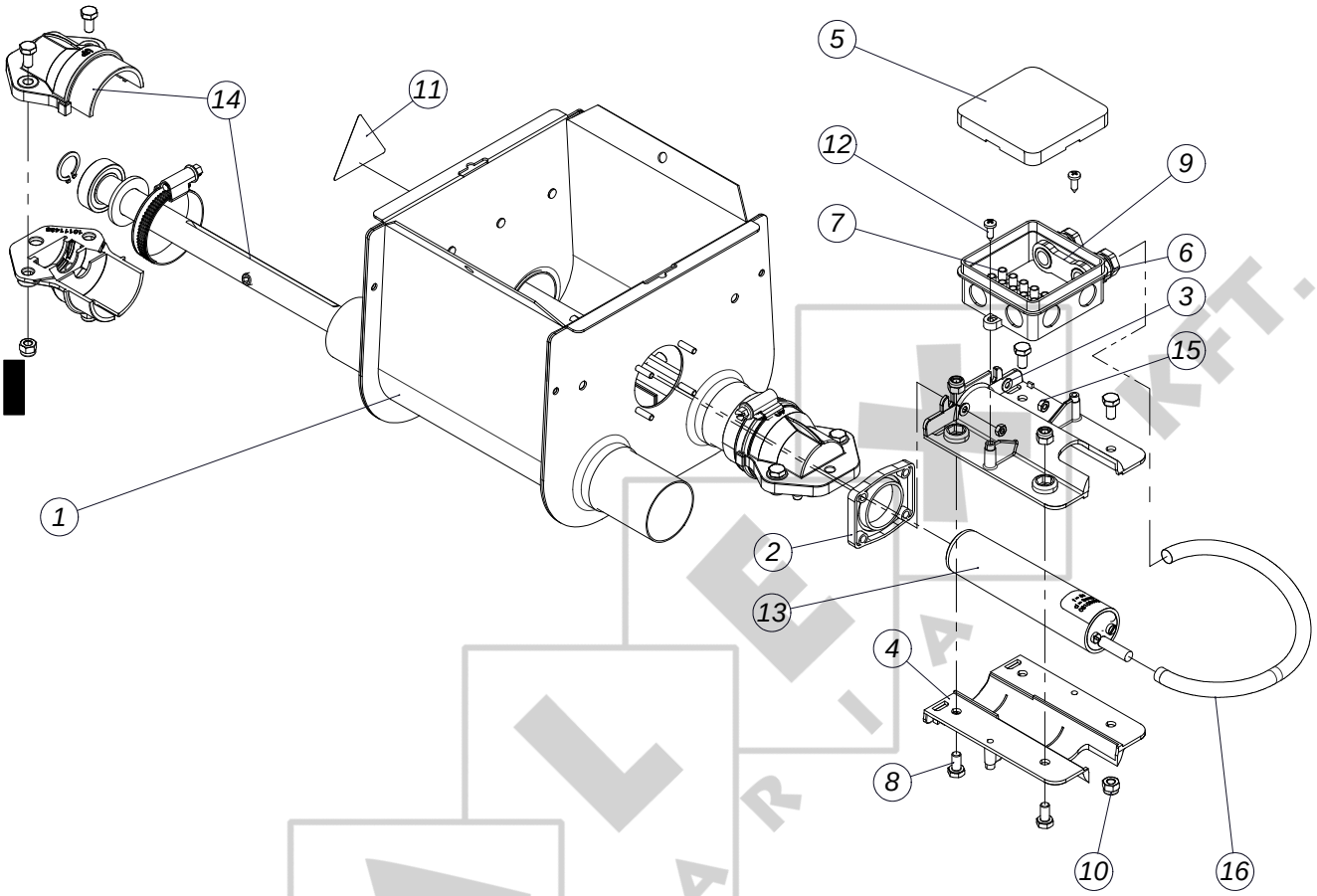

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | BOOT BODY WELDMENT WITH SENSOR | 10111706 | 1 |
| 2 | REINFORCEMENT HOOK | 10107597 | 1 |
| 3 | TUBE CLAMP ASSEMBLY Ø45 MM | 00102921 | 1 |
| 4 | BOLT M5X10 DIN 933 | 20100111 | 2 |
| 5 | DECAL - HANDS WARNING | 13106596 | 1 |
| 6 | SENSOR DISTANCE PIECE | 10111714 | 1 |
| 7 | SENSOR VC12RT230106821 S3 D5 | 03103678 | 1 |
| 8 | WASHER 4.3X9X0.8 | 20100566 | 4 |
| 9 | NUT M5 - DIN 934 | 20100152 | 2 |
| 10 | SENSOR HOLDER | 13000443 | 2 |
| 11 | HANDY BOX OBO A8 | 15000037 | 1 |
| 12 | CABLE RING PG 9 | 15001472 | 2 |
| 13 | CLAMP STROKE 47 40 6E/5 | 13303086 | 1 |
| 14 | LOCKNUT M6-DIN 985-A2 | 20101960 | 4 |
| 15 | BOLT M6X12-DIN 933-A2 | 20103883 | 4 |
| 16 | CABLE RING HOLDER (2xPG9) | 15010119 | 1 |
| 17 | NUT M4 | 20100681 | 4 |
| 18 | PARCKER SCREW 8X1/2" | 20100525 | 2 |
| 19 | ANCHOR & BEARING ASS'Y | 10111441 | 1 |
| 20 | CABLE GUARD LG=220MM | 13109145 | 1 |

# OPTION : DOUBLE FEED INTAKE BOOT - 00106518

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | DOUBLE BOOT WELDMENT | 10106029 | 1 |
| 2 | ANCHOR & BEARING ASS'Y | 10111441 | 2 |
| 3 | DECAL - HANDS WARNING | 13106596 | 2 |

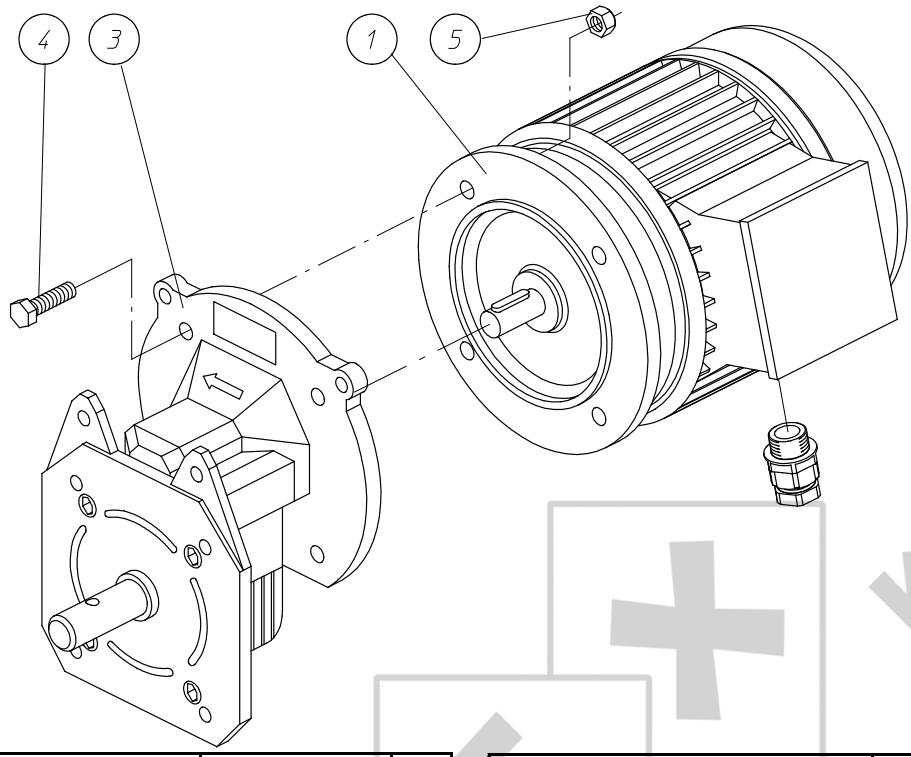


# DOUBLE POULTRY INTAKE BOOT W/SENSOR (OPTION) - 00106534




| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | DOUBLE BOOT WELDMENT WITH SENSOR | 10111722 | 1 |
| 2 | SENSOR DISTANCE PIECE | 10111714 | 1 |
| 3 | WASHER 4.3X9X0.8 | 20100566 | 4 |
| 4 | SENSOR HOLDER | 13000443 | 2 |
| 5 | HANDY BOX OBO A8 | 15000037 | 1 |
| 6 | CABLE RING PG 9 | 15001472 | 2 |
| 7 | CLAMP STROKE 47 40 6E/5 | 13303086 | 1 |
| 8 | BOLT M6X12-DIN 933-A2 | 20103883 | 4 |
| 9 | CABLE RING HOLDER (2xPG9) | 15010119 | 1 |
| 10 | LOCKNUT M6-DIN 985-A2 | 20101960 | 4 |
| 11 | DECAL - HANDS WARNING | 13106596 | 1 |
| 12 | PARCKER SCREW 8X1/2" | 20100525 | 2 |
| 13 | SENSOR VC12RT230106821 S3 D5 | 3103678 | 1 |
| 14 | ANCHOR & BEARING ASS'Y | 10111441 | 2 |
| 15 | NUT M4 | 20100681 | 4 |
| 16 | CABLE GUARD LG=220MM | 13109145 | 1 |

# POWER UNIT

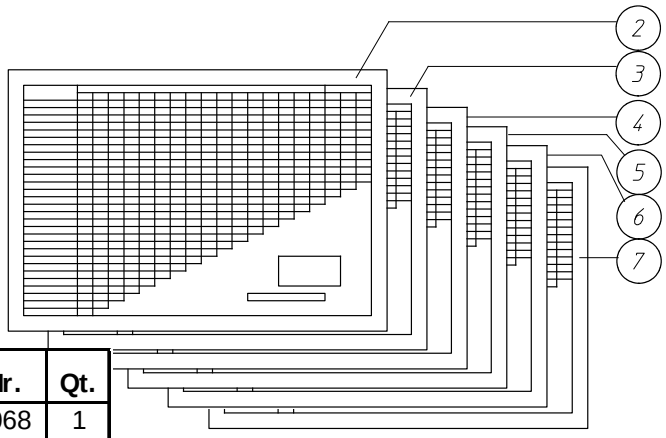



| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| | POWER UNIT | 0..(See table) | 1 |
| 1 | MOTOR | 1..(See table) | 1 |
| 3 | GEARBOX | 1..(See table) | 1 |
| 4 | BOLT M8X30 - DIN 933-8.8 | 20100244 | 4 |
| 5 | LOCKNUT M8 - DIN 985 | 20100418 | 4 |

| Name | Part Nr. |
|---|---|
| **SERVICE PARTS** | On Demand |
| FAN COVER | On Demand |
| CONNECTION BOX | On Demand |
| CAPACITOR 1-PHASE MOTOR | On Demand |
| CABLE RING | On Demand |

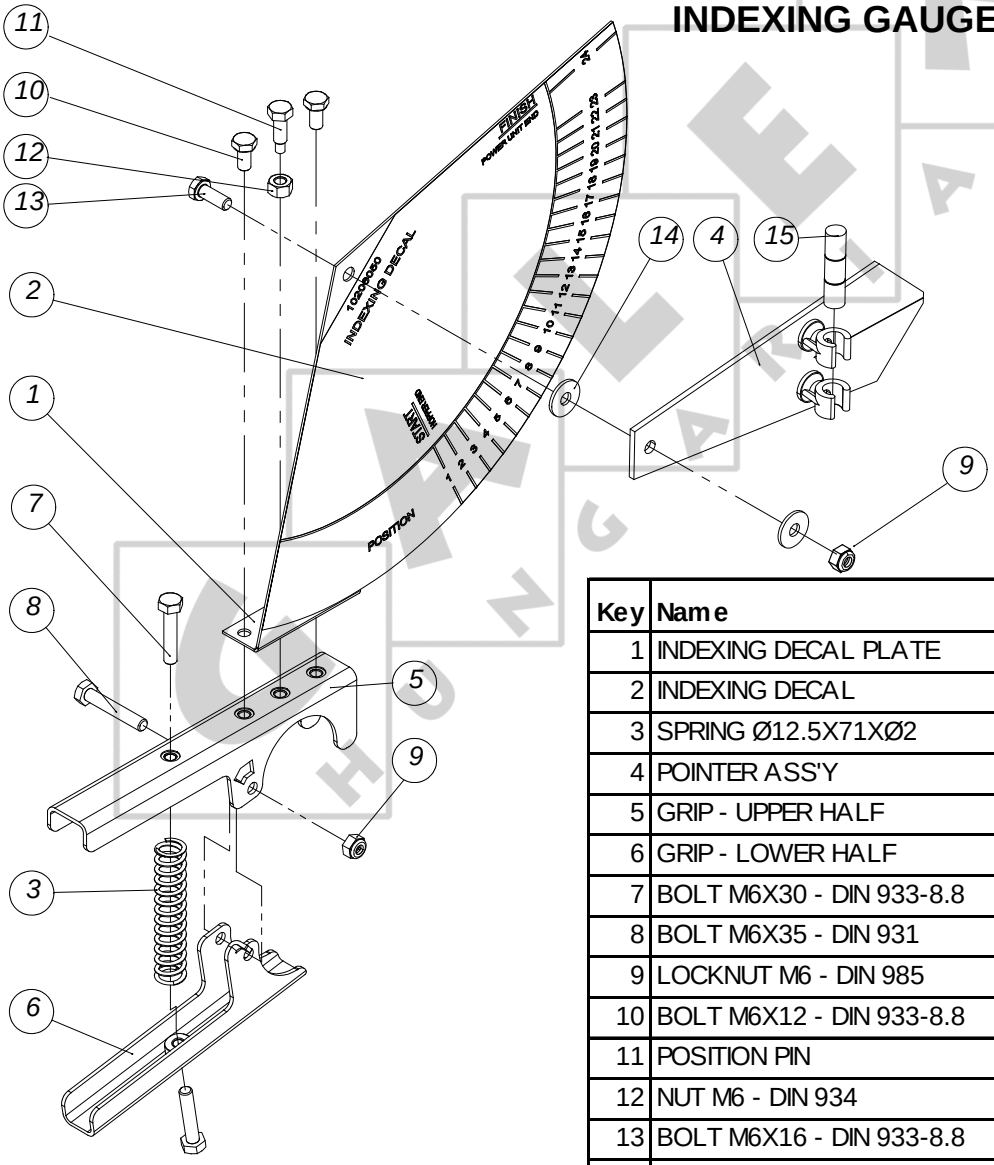
| System | In Line Systems |
|---|---|
| **Gearbox W/O F-Coupling** | 10103539 |
| **Ratio** | 5.1 |
| **Output speed** | 560 |
| **Construction size** | 71 |
| **Motor speed 50Hz(RPM)** | 3000 |
| **Motor speed 60Hz(RPM)** | 3600 |
| **Feed capacity kg** | |
| **3x230/400V 50Hz** | **00202226** |
| Motor | 10204188 (0,55kW) |
| **3x200/346V 50Hz** | **00201061** |
| Motor | 10203032 (0,55kW) |
| **1x230V 50Hz** | **00202234** |
| Motor | 10205185 (0,75kW) |
| **3x220/380V 60Hz** | **09910522** |
| Motor | 19911916 (0,66kW) |
| **3x200/346V 60Hz** | **00202184** |
| Motor | 10204048 (0,66kW) |
| **3x254/440V 60Hz** | **00202150** |
| Motor | 19915511 (0,66kW) |
| **1x220V 60Hz** | **00205062** |
| Motor | 10205755 (0,66kW) |

# INDEXING CHARTS - 00205823



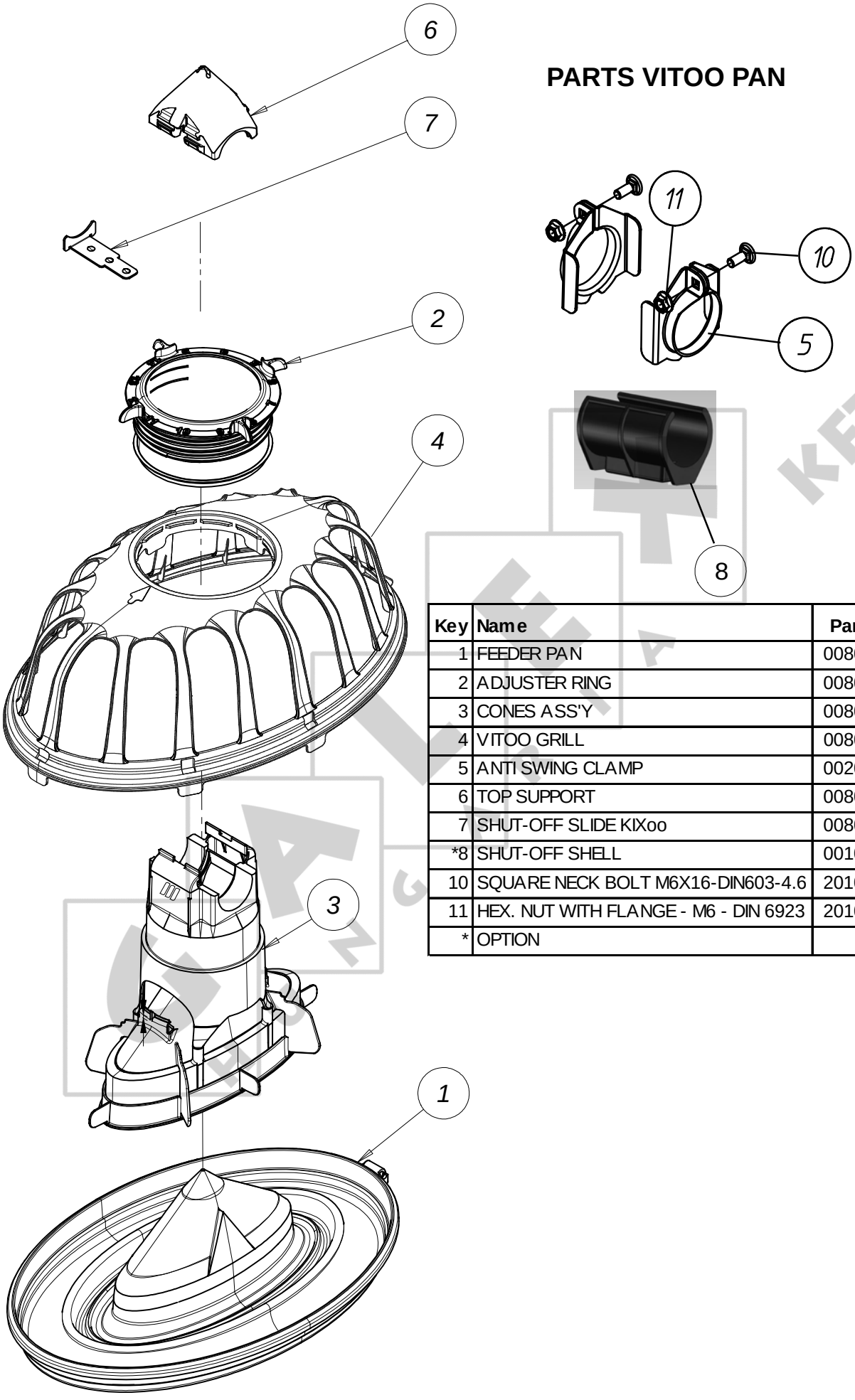

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 2 | 1 PANS TUBE CHART - 32/50TUBES | 10206068 | 1 |
| 3 | 1/1-2 PANS TUBE CHART - 10/31TUBES | 10206076 | 1 |
| 4 | 2 PANS TUBE CHART - 32/50TUBES | 10206084 | 1 |
| 5 | 2/1-2 PANS TUBE CHART - 32/50TUBES | 10206092 | 1 |
| 6 | 3 PANS TUBE CHART - 10/42TUBES | 10206100 | 1 |
| 7 | 3-4/4 PANS TUBE CHART - 10/33TUBES | 10206118 | 1 |

# INDEXING GAUGE - 00200097




| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | INDEXING DECAL PLATE | 10205797 | 1 |
| 2 | INDEXING DECAL | 10206050 | 1 |
| 3 | SPRING Ø12.5X71XØ2 | 10205805 | 1 |
| 4 | POINTER ASS'Y | 10202505 | 1 |
| 5 | GRIP - UPPER HALF | 10205763 | 1 |
| 6 | GRIP - LOWER HALF | 10205789 | 1 |
| 7 | BOLT M6X30 - DIN 933-8.8 | 20100194 | 2 |
| 8 | BOLT M6X35 - DIN 931 | 20102307 | 1 |
| 9 | LOCKNUT M6 - DIN 985 | 20100400 | 2 |
| 10 | BOLT M6X12 - DIN 933-8.8 | 20100160 | 2 |
| 11 | POSITION PIN | 10202521 | 1 |
| 12 | NUT M6 - DIN 934 | 20100210 | 1 |
| 13 | BOLT M6X16 - DIN 933-8.8 | 20100178 | 1 |
| 14 | WASHER 6.4X18X1.5 - DIN 9021 | 20100756 | 2 |
| 15 | LEVEL GLASS | 13301601 | 1 |

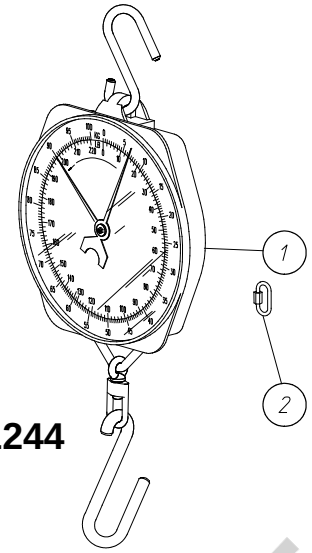
## PARTS VITOO PAN



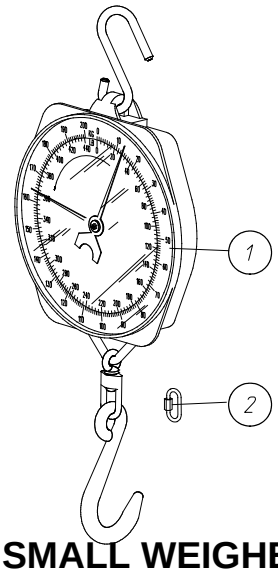

| Key | Name | Part Nr. |
|---|---|---|
| 1 | FEEDER PAN | 00806000 |
| 2 | ADJUSTER RING | 00801886 |
| 3 | CONES ASS'Y | 00802207 |
| 4 | VITOO GRILL | 00800680 |
| 5 | ANTI SWING CLAMP | 00203208 |
| 6 | TOP SUPPORT | 00800565 |
| 7 | SHUT-OFF SLIDE KIXoo | 00800086 |
| *8 | SHUT-OFF SHELL | 00105262 |
| 10 | SQUARE NECK BOLT M6X16-DIN603-4.6 | 20101937 |
| 11 | HEX. NUT WITH FLANGE - M6 - DIN 6923 | 20104105 |
| * | OPTION | |

## SPRING TYPE WEIGHER 100 KG – 00201020

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | WEIGHER - 100KG | 10202992 | 2 |
| 2 | SCREW LINK Ø3.5 | 10203156 | 2 |



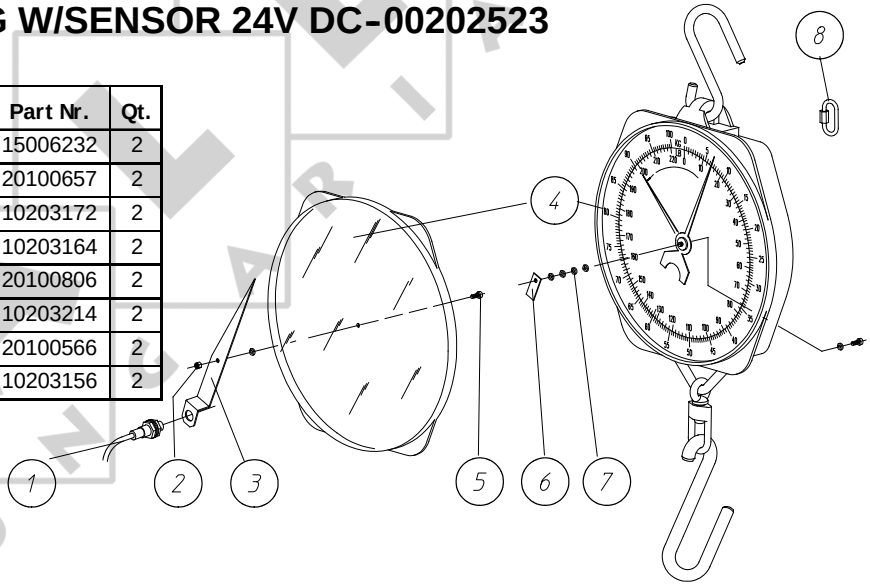

## SMALL WEIGHER 200 KG – 00201244




| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | WEIGHER 200 KG | 10203255 | 1 |
| 2 | SCREW LINK Ø3.5 | 10203156 | 1 |

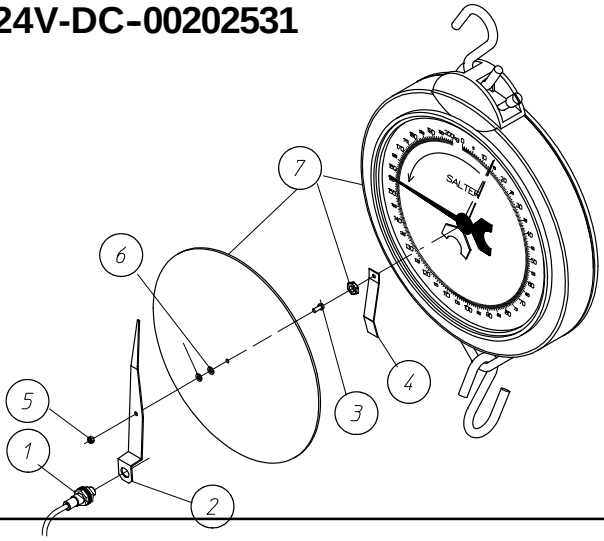
## SMALL WEIGHER 100KG W/SENSOR 24V DC–00202523

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | PROXIMITY SWITCH E2E-X8MD1 24V | 15006232 | 2 |
| 2 | LOCKNUT M4 - DIN 985 | 20100657 | 2 |
| 3 | ADJUSTING ARROW 100 Kg | 10203172 | 2 |
| 4 | WEIGHER W/HOLES | 10203164 | 2 |
| 5 | SCREW M4X10-DIN 84 - 4.8 | 20100806 | 2 |
| 6 | SENSOR ACTUATOR ASS'Y 100 Kg | 10203214 | 2 |
| 7 | WASHER 4.3X9X0.8 | 20100566 | 2 |
| 8 | SCREW LINK Ø3.5 | 10203156 | 2 |



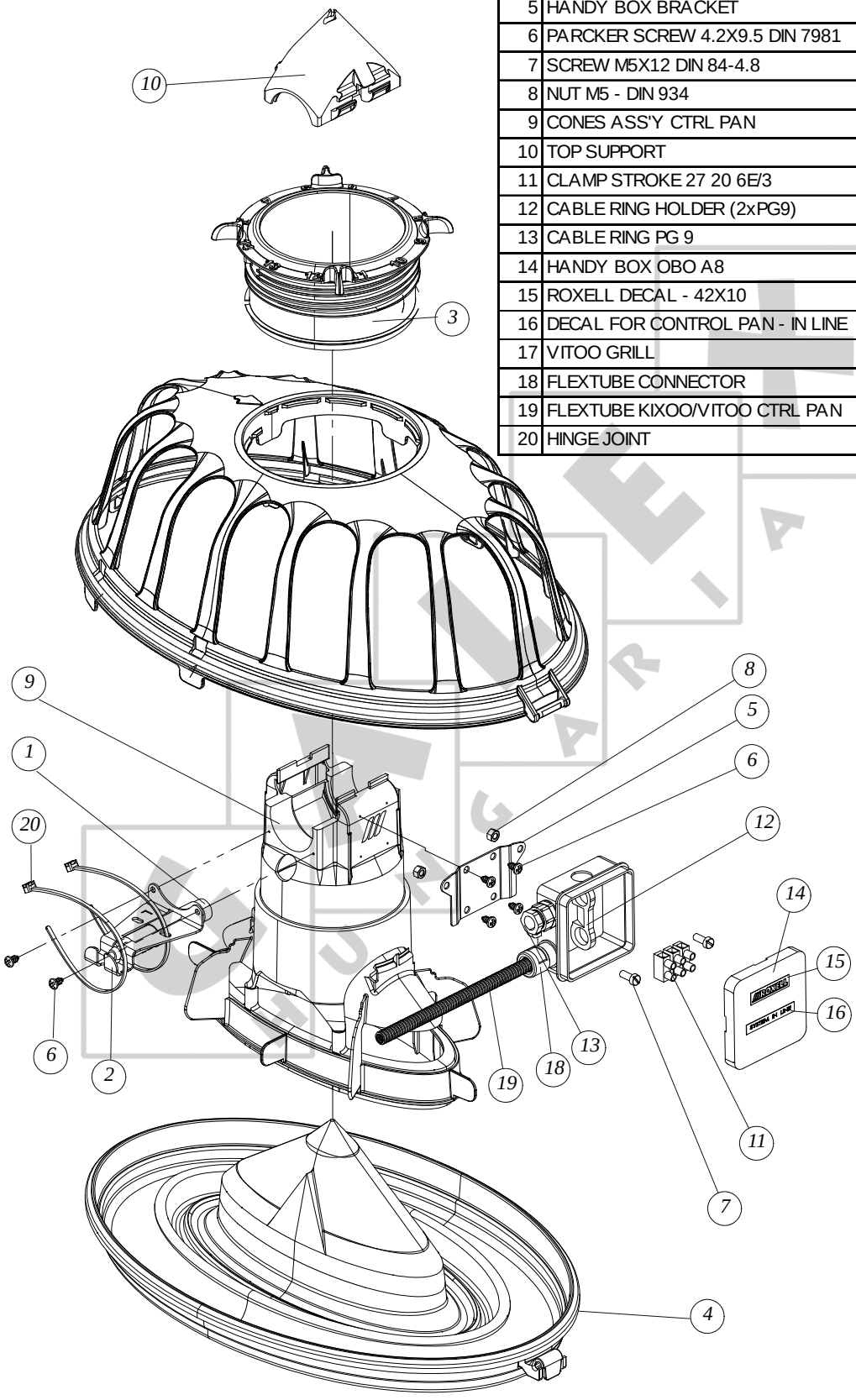

## SMALL WEIGHER 200KG W/SENSOR 24V-DC–00202531

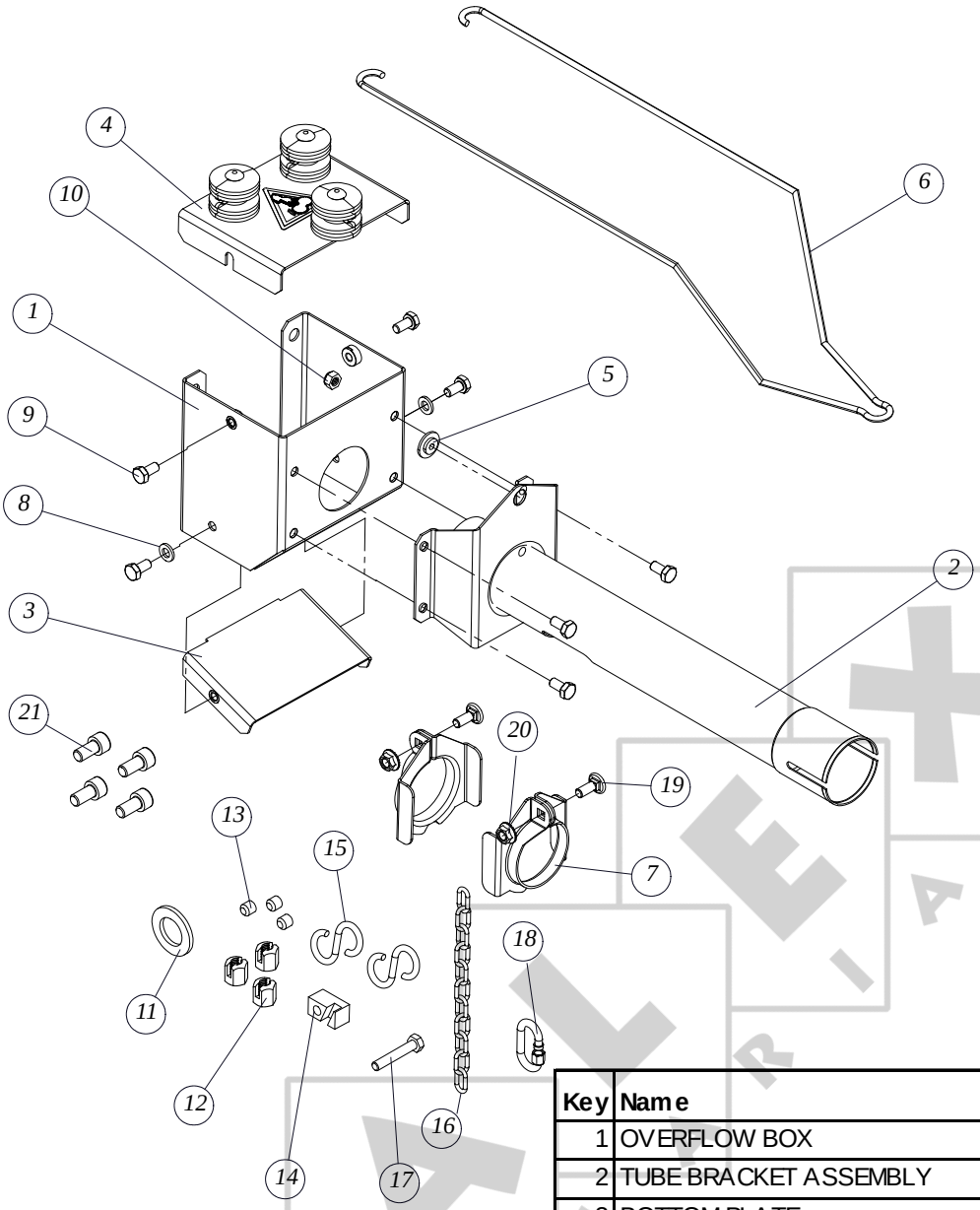
| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | PROXIMITY SWITCH E2E-X8MD1 24V | 15006232 | 2 |
| 2 | ADJUSTING ARROW - 200KG | 10203479 | 2 |
| 3 | SCREW M4X10-DIN 84 - 4.8 | 20100806 | 2 |
| 4 | SENSOR ACTUATOR PLATE 200 KG | 10203487 | 2 |
| 5 | LOCKNUT M4 - DIN 985 | 20100657 | 2 |
| 6 | WASHER 4.3X9X0.8 | 20100566 | 2 |
| 7 | WEIGHER W/HOLE - 200 KG | 10203495 | 2 |



# CONTROL PAN VITOO IN LINE - 00802975

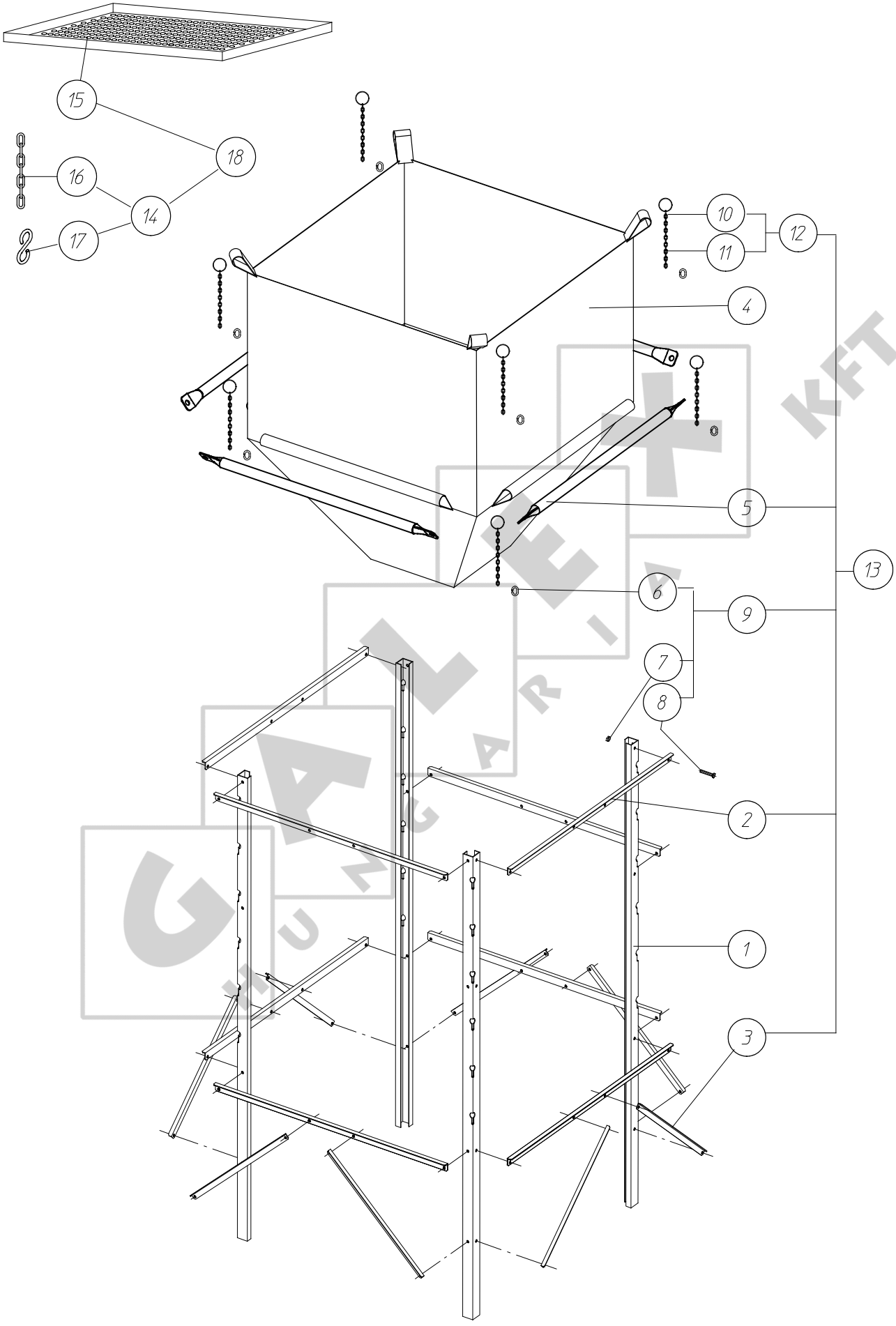
| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | SENSOR CA18CLN12TC1547-2-HIS(KIXOO LIN.) | 10800704 | 1 |
| 2 | SENSOR SUPPORT KIXOO/VITOO LINE | 10800738 | 1 |
| 3 | ADJUSTER RING | 00801886 | 1 |
| 4 | FEEDER PAN | 00806000 | 1 |
| 5 | HANDY BOX BRACKET | 10800043 | 1 |
| 6 | PARCKER SCREW 4.2X9.5 DIN 7981 | 20102745 | 6 |
| 7 | SCREW M5X12 DIN 84-4.8 | 20101135 | 2 |
| 8 | NUT M5 - DIN 934 | 20100152 | 2 |
| 9 | CONES ASS'Y CTRL PAN | 00803015 | 1 |
| 10 | TOP SUPPORT | 00800565 | 1 |
| 11 | CLAMP STROKE 27 20 6E/3 | 10103109 | 1 |
| 12 | CABLE RING HOLDER (2xPG9) | 15010119 | 1 |
| 13 | CABLE RING PG 9 | 15001472 | 1 |
| 14 | HANDY BOX OBO A8 | 15000037 | 1 |
| 15 | ROXELL DECAL - 42X10 | 13600598 | 1 |
| 16 | DECAL FOR CONTROL PAN - IN LINE | 10800134 | 1 |
| 17 | VITOO GRILL | 00800680 | 1 |
| 18 | FLEXTUBE CONNECTOR | 15009319 | 1 |
| 19 | FLEXTUBE KIXOO/VITOO CTRL PAN | 15010556 | 1 |
| 20 | HINGE JOINT | 00101105 | 2 |






| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | OVERFLOW BOX | 10204998 | 1 |
| 2 | TUBE BRACKET ASSEMBLY | 10800092 | 1 |
| 3 | BOTTOM PLATE | 10204980 | 1 |
| 4 | TOP COVER ASS'Y | 10205029 | 1 |
| 5 | NYLON INSULATION SLEEVE M4 | 10205045 | 1 |
| 6 | ANTI ROOST GUARD | 10107860 | 1 |
| 7 | ANTI SWING CLAMP | 00203208 | 2 |
| 8 | WASHER Ø6.6X12X1.6 - DIN 126 | 20100459 | 2 |
| 9 | BOLT M6X10 - DIN 933-8.8 | 20100160 | 8 |
| 10 | LOCKNUT M6 - DIN 985 | 20100400 | 4 |
| 11 | WASHER Ø34X20X3 - DIN 126 | 20100483 | 1 |
| 12 | CABLE CLAMP BODY | 00101386 | 3 |
| 13 | SET SCREW M8X8 | 00101394 | 3 |
| 14 | DRIVE BLOCK | 10100782 | 1 |
| 15 | "S" HOOK | 05000013 | 2 |
| 16 | CHAIN Ø2.5 LG=149MM | 10107449 | 1 |
| 17 | BOLT M6X35 - DIN 931 | 20102307 | 1 |
| 18 | SCREW LINK Ø3.5 | 10203156 | 1 |
| 19 | SQUARE NECK BOLT M6X16-DIN603-4.6 | 20101937 | 2 |
| 20 | HEX. NUT WITH FLANGE - M6 - DIN 6923 | 20104105 | 2 |
| 21 | SOCKET CAP SCREW M8X16 - 8.8 | 20103891 | 4 |

# BAG HOPPER PARTS

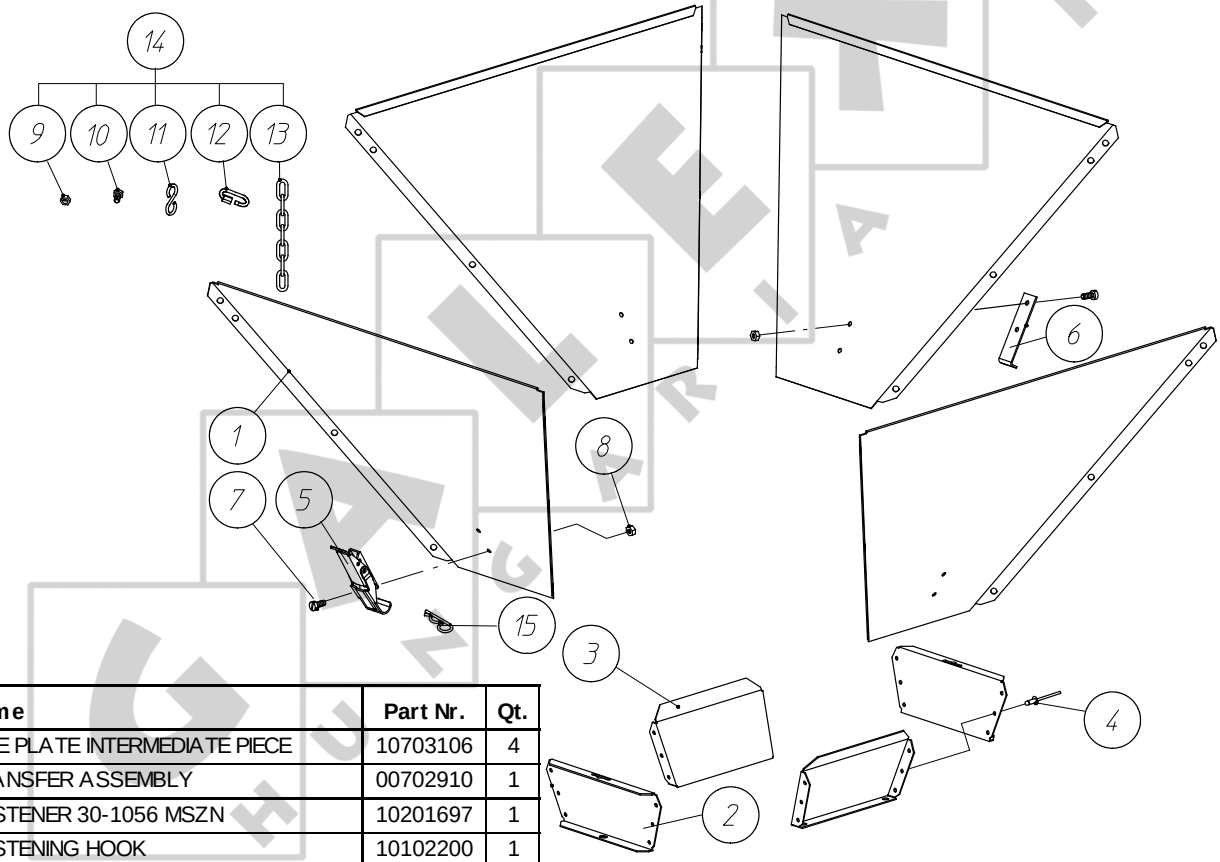


# BAG HOPPER PARTS

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | LEG | 00702944 | 4 |
| 2 | HOPPER BRACE | 10701118 | 8 |
| 3 | REINFORCEMENT BRACE | 10701126 | 8 |
| 4 | BAG HOPPER 350KG | 00704338 | 1 |
| 5 | SUSPENSION TUBE - L = 893 MM | 10701100 | 4 |
| 6 | SCREW LINK Ø3.5 | 10203156 | 8 |
| 7 | NUT M8 - DIN 934 | 20200028 | 32 |
| 8 | BOLT M8X16 - DIN 933-8.8 | 20100228 | 32 |
| 9 | HARDWARE KIT | 10701159 | 1 |
| 10 | SPLITRING D.30X35-NICKELPLATED | 13100557 | 8 |

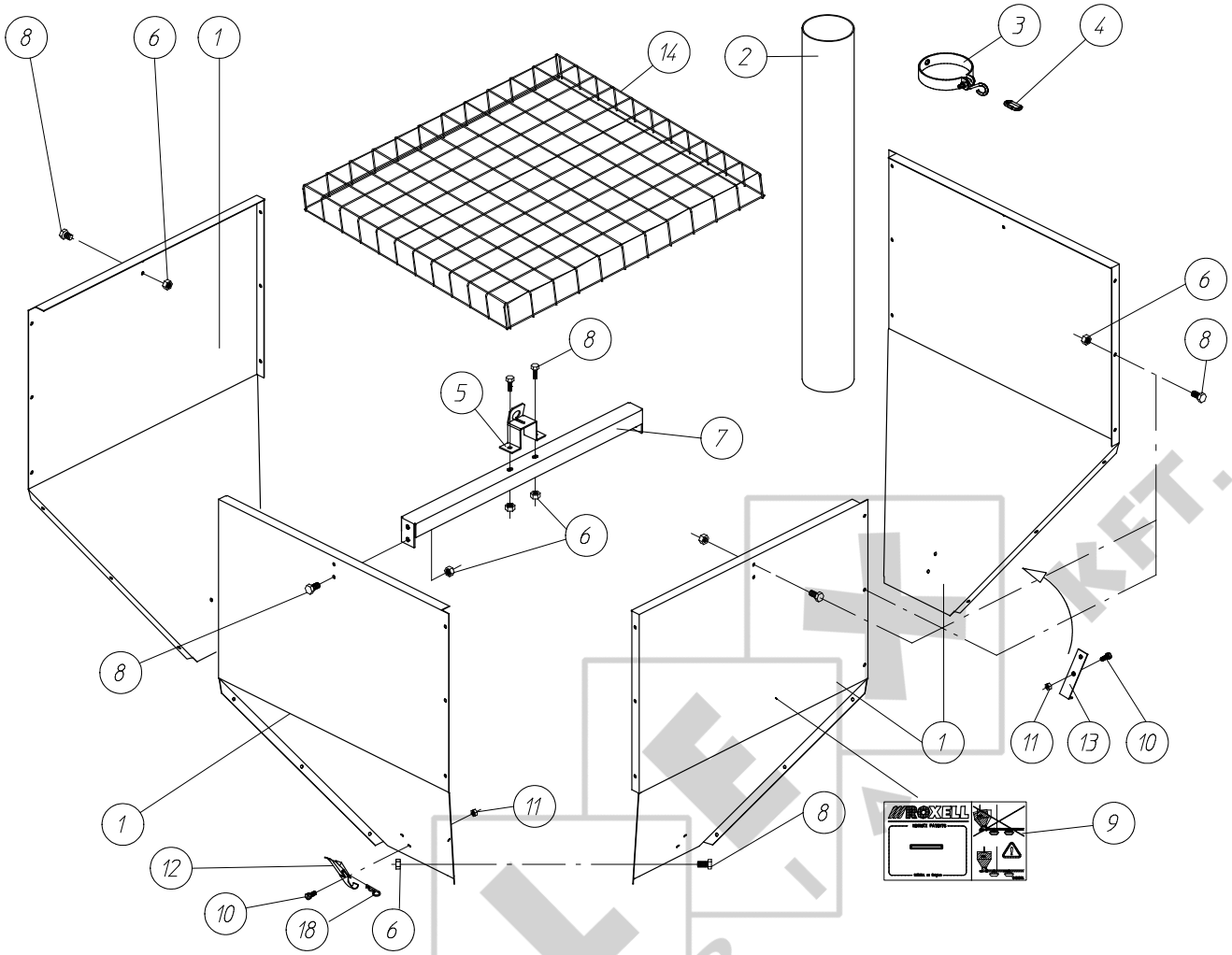
| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 11 | CHAIN Ø3.5 - LG=400 | 10701142 | 8 |
| 12 | CHAIN ASS'Y | 10701134 | 8 |
| 13 | HOPPER BRACES + HARDWARE + SUSPENSION | 00702951 | 1 |
| 14 | HARDWARE KIT | 10701373 | 1 |
| 15 | SCREEN | 10701365 | 1 |
| 16 | CHAIN Ø3.5 - LG=400 | 10701142 | 4 |
| 17 | "S" HOOK | 05000013 | 8 |
| *18 | ASSEMBLY KIT FOR FEED SCREEN | 00703041 | 1 |
| | | | |
| * | OPTION | | |

## INTERMEDIATE PIECE FOR 1 INTAKE BOOT - 00704346



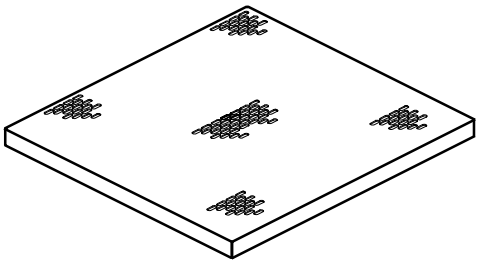

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | SIDE PLATE INTERMEDIATE PIECE | 10703106 | 4 |
| 2 | TRANSFER ASSEMBLY | 00702910 | 1 |
| 5 | FASTENER 30-1056 MSZN | 10201697 | 1 |
| 6 | FASTENING HOOK | 10102200 | 1 |
| 7 | SCREW M4X10-DIN 84 - 4.8 | 20100806 | 8 |
| 8 | NUT M4 | 20100681 | 8 |
| 9 | NUT M6 - DIN 934 | 20100210 | 16 |
| 10 | BOLT M6X10 - DIN 933-8.8 | 20100160 | 18 |
| 11 | S-HOOK | 15000013 | 4 |
| 12 | SCREW LINK Ø3.5 | 10203156 | 4 |
| 13 | CHAIN Ø3.5 - LG=400 | 10701142 | 4 |
| 14 | HARDWARE KIT F/INTERMEDIATE PIECE | 10702793 | 1 |
| *15 | SPRING COTTER Ø2 | 20100749 | 1 |

# 100KG HOPPER - 00100602

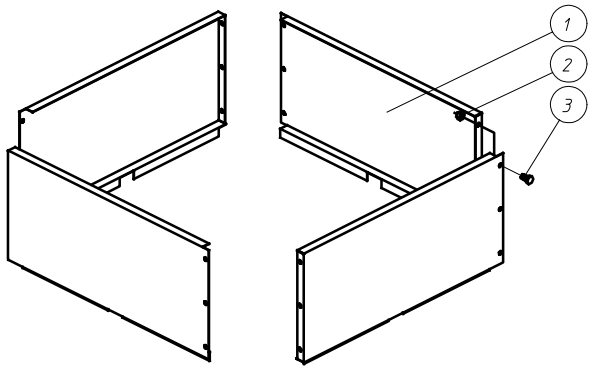



| Key | Name | Part Nr. | Qt. | Key | Name | Part Nr. | Qt. |
|---|---|---|---|---|---|---|---|
| 1 | HOPPER SIDE | 10102259 | 4 | 9 | PATENT DECAL | 10103893 | 1 |
| 2 | PVC TUBE Ø90 - L = 700 MM | 10102382 | 1 | *10 | SCREW M4X10-DIN 84 - 4.8 | 20100806 | 8 |
| *3 | TUBE SUPPORT ASS'Y | 10102390 | 1 | *11 | NUT M4 | 20100681 | 8 |
| *4 | SCREW LINK Ø3.5 | 10203156 | 1 | *12 | FASTENER 30-1056 MSZN | 10201697 | 1 |
| *5 | HOPPER HOOK | 10105393 | 1 | *13 | FASTENING HOOK | 10202200 | 1 |
| *6 | NUT M6 - DIN 934 | 20100210 | 34 | 14 | HOPPER COVER GRILL | 10103075 | 1 |
| 7 | HANGER | 10102291 | 1 | *18 | SPRING COTTER Ø2 | 20100749 | 1 |
| *8 | BOLT M6X12 - DIN 933-8.8 | 20100160 | 34 | * | HARDWARE KIT | 10102341 | 1 |

# STRAINER FOR 100KG HOPPER - 00100982

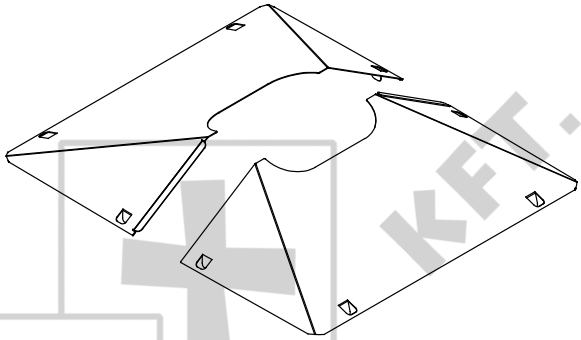


## HOPPER EXTENSION - 00101238

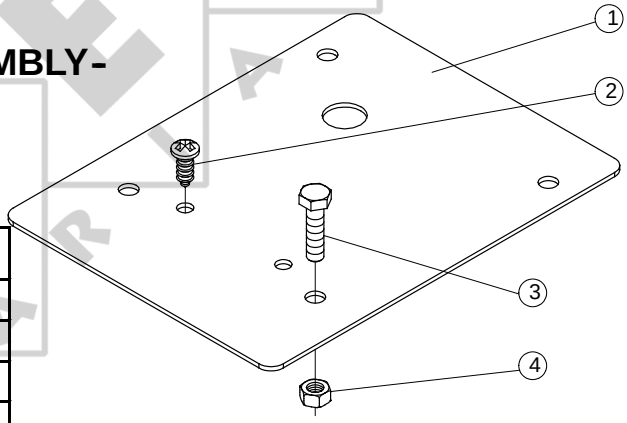



| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | HOPPER EXTENSION SIDE | 10104719 | 4 |
| 2 | NUT M6 - DIN 934 | 20100210 | 12 |
| 3 | BOLT M6X10 - DIN 933-8.8 | 20100160 | 12 |

## HALF COVER FOR 100KG HOPPER - 10102267

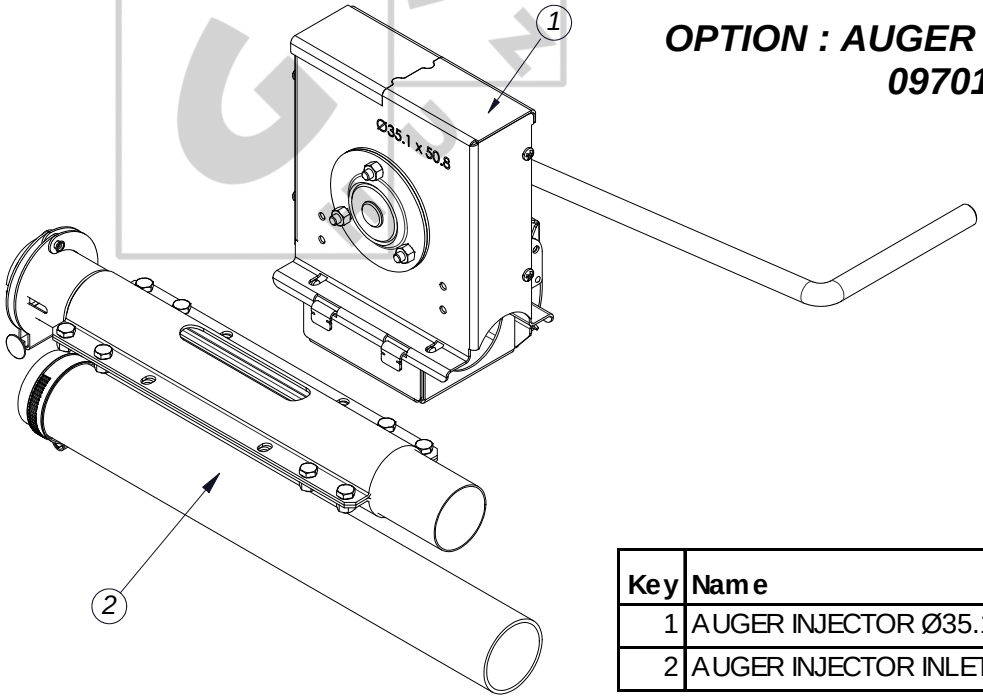


## ASSEMBLY KIT FOR SWITCH ASSEMBLY- 00703025



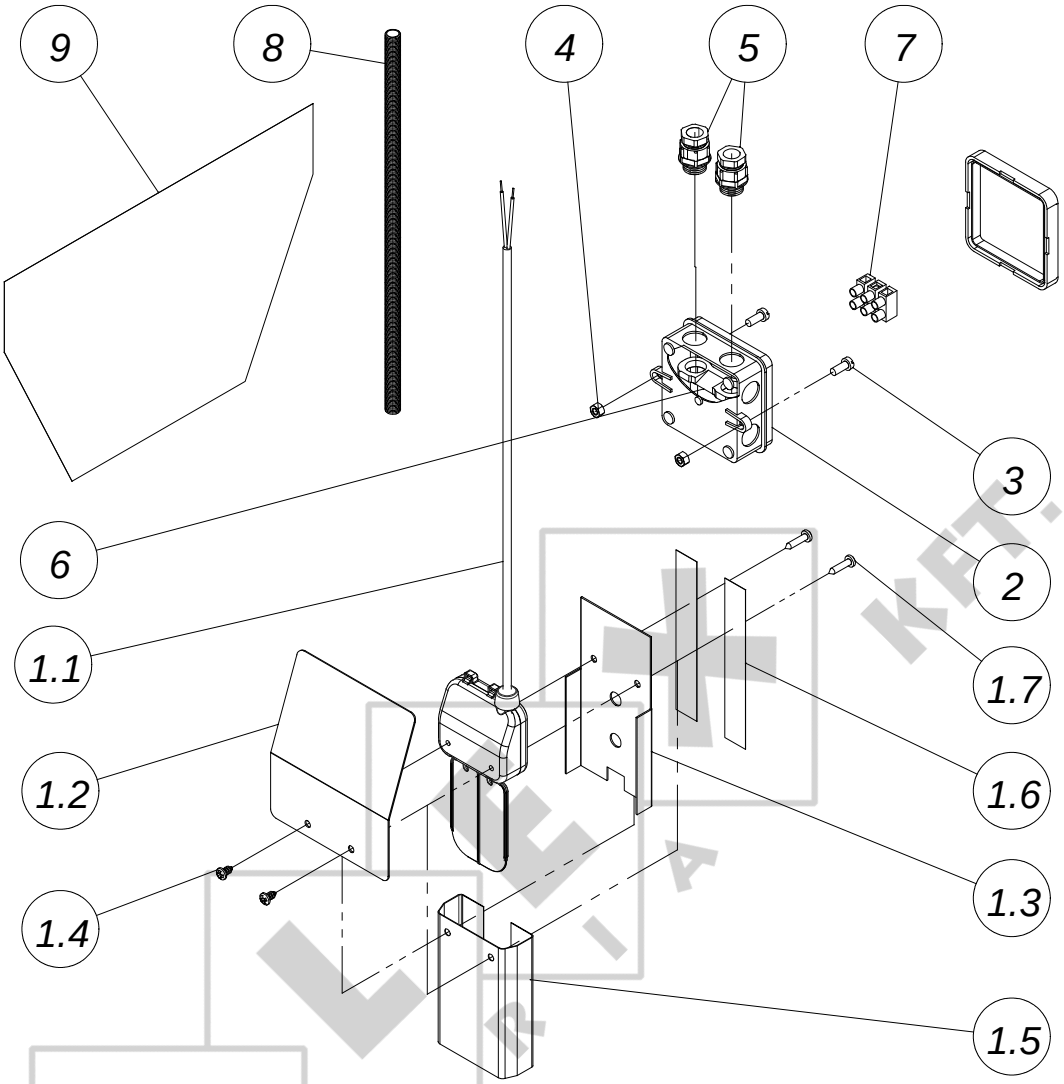

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | SWITCH MOUNTING PLATE | 10701324 | 1 |
| 2 | PARCKER SCREW 4.2X16 - DIN 7981 | 20102331 | 2 |
| 3 | BOLT M5X20-DIN 933-8.8 | 20100137 | 4 |
| 4 | NUT M5 - DIN 934 | 20100152 | 4 |

## *OPTION : AUGER INJECTOR KIT - 09701905*



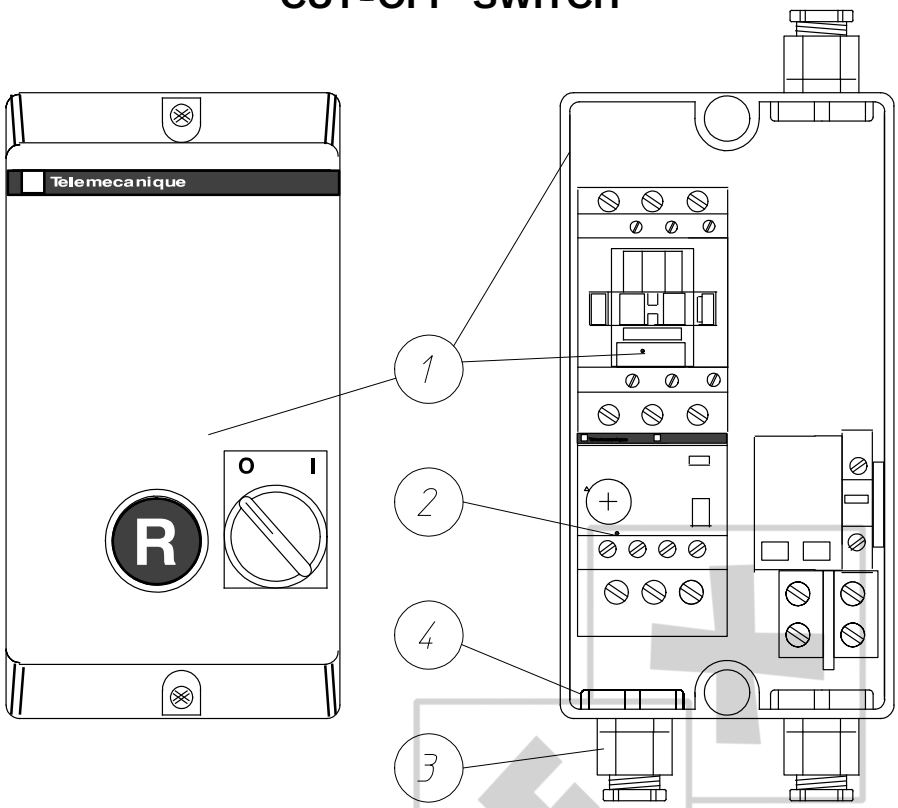

| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | AUGER INJECTOR Ø35.1X50.8 | 19700749 | 1 |
| 2 | AUGER INJECTOR INLET | 19700673 | 1 |

# MINIMUM SWITCH - 00201145




| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | MINIMUM SWITCH COMPLETE | 10206043 | 1 |
| 1.1 | MINIMUM SWITCH ASS'Y | 10203073 | 1 |
| 1.2 | SWITCH COVER | 10206035 | 1 |
| 1.3 | SWITCH SUPPORT | 10203107 | 1 |
| 1.4 | PARCKER SCREW 4.2X9.5 DIN 7981 | 20102745 | 2 |
| 1.5 | MINIMUM SWITCH SHIELD | 10203115 | 1 |
| 1.6 | ADHESIVE TAPE 19X0.23-2SIDE | 30800726 | 2 |
| 1.7 | PARKER SCREW 4.2X19 DIN 7981 | 20104535 | 2 |
| 2 | HANDY BOX OBO A8 | 15000037 | 1 |
| 3 | SCREW M5X12 DIN 84-4.8 | 20101135 | 2 |
| 4 | NUT M5 - DIN 934 | 20100152 | 2 |
| 5 | CABLE RING PG 9 | 15001472 | 2 |
| 6 | CABLE RING HOLDER (2xPG9) | 15010119 | 1 |
| 7 | CLAMP STROKE 27 20 6E/3 | 10103109 | 1 |
| 8 | SWITCH CORD GUARD | 13104518 | 1 |
| 9 | DRILL DECAL MINIMUM SWITCH | 10203149 | 1 |

# CUT-OFF SWITCH

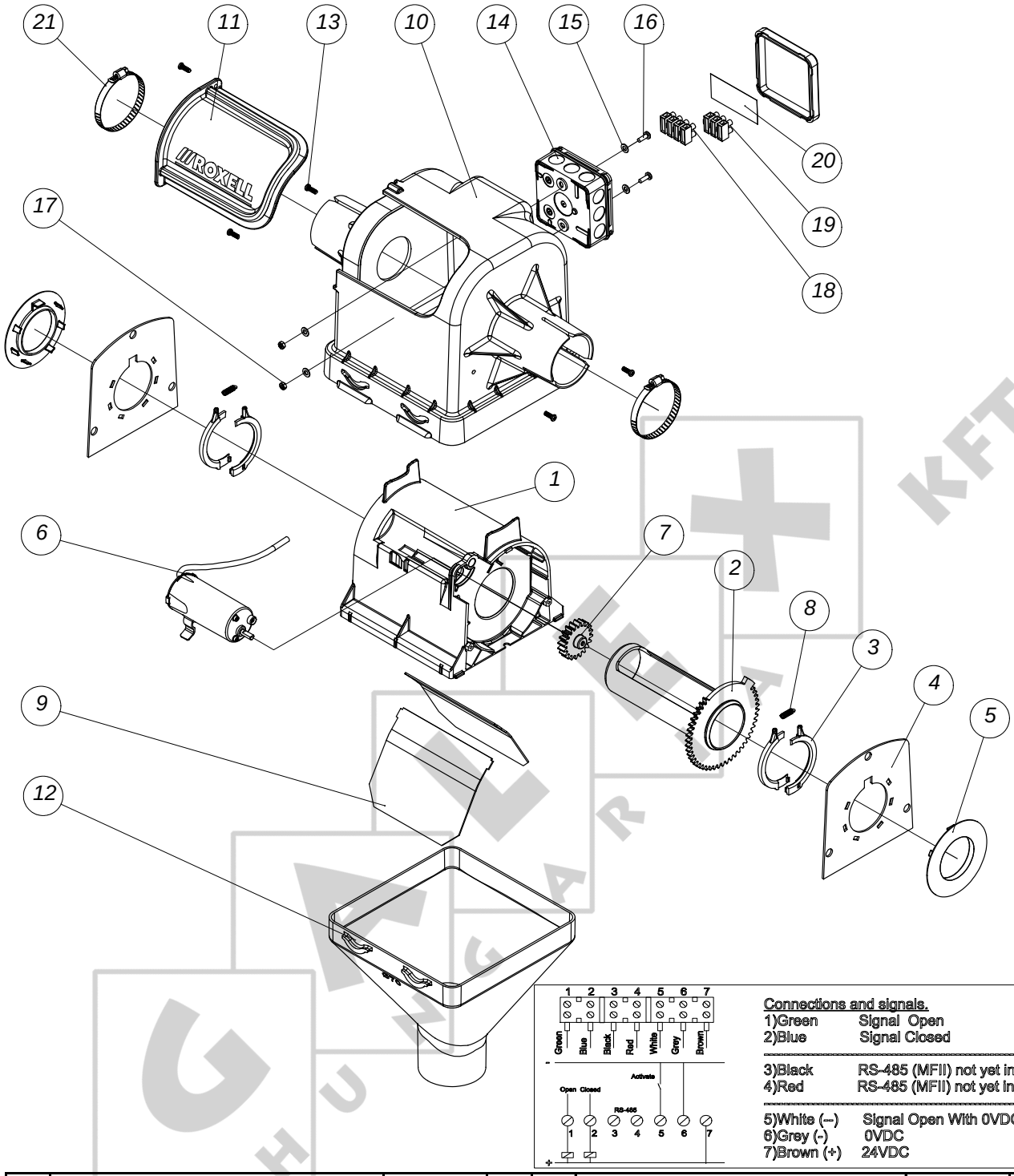



| Key | Name | Part Nr. | Qt. |
|---|---|---|---|
| 1 | BOX LE1D09 P7 A13 T | 15009657 | 1 |
| 2 | THERMIC PROTECTION | See : where used | 1 |
| 3 | CABLE RING PG 13.5 | 10100642 | 3 |
| 4 | CABLE RING NUT PG 13.5 | 10102960 | 3 |

| CUT-OFF SWITCHES USED FOR : | | | | |
|---|---|---|---|---|
| MOTOR RATING | | SUPPLY VOLTAGE | | |
| 50Hz | 60Hz | 3-PH. 200-240V | 3-PH. 380-415V | 1-PH. 240V |
| 0.55KW (3000RPM) | 0.66KW (3600RPM) | 05000658 | 05000609 | 05000674 |
| 0.75KW (3000RPM) | | | | |

| | THERMIC PROTECTION : WHERE USED | | |
|---|---|---|---|
| CUT-OFF SWITCH | 05000609 | 05000658 | 05000674 |
| THERM. PROTECT. | 15009400 | 15009418 | 15009434 |
| TELEMECAN. REF. | LRD 06QT | LRD 07QT | LRD 10QT |
| STRENGTH OF CURRENT | 1-1,6A | 1,6-2,5A | 4-6A |

# AUTOMATIC OUTLET DROP ASS'Y - 04906954 - DIA. 56 (24VDC)





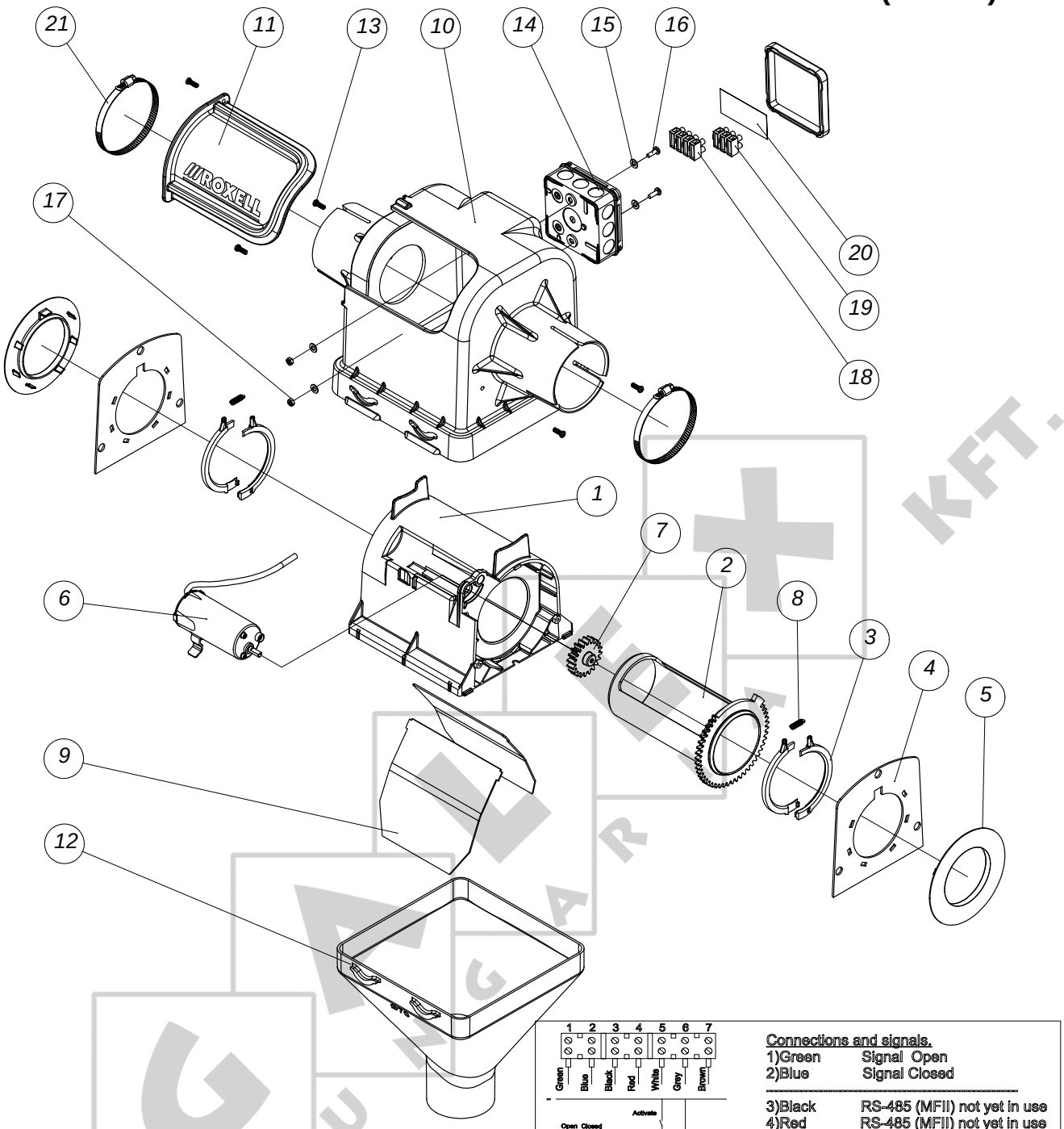


Connections and signals.

| | |
|---|---|
| 1)Green | Signal Open |
| 2)Blue | Signal Closed |
| 3)Black | RS-485 (MFII) not yet in use |
| 4)Red | RS-485 (MFII) not yet in use |
| 5)White (--) | Signal Open With 0VDC |
| 6)Grey (-) | 0VDC |
| 7)Brown (+) | 24VDC |

| Key | Name | Part Nr. | Qt. | Key | Name | Part Nr. | Qt. |
|---|---|---|---|---|---|---|---|
| 1 | INNER HOUSING Ø56 | 14905566 | 1 | 12 | DROP FOR DROP TUBE Ø70 | 13502174 | 1 |
| 2 | OUTLET TUBE WITH GEAR Ø56 | 14905533 | 1 | 13 | THREAD FORMING SCREW 4X12-A2 | 12502043 | 5 |
| 3 | FLEXIBLE CLOSING RING Ø56 | 14905509 | 4 | 14 | HANDY BOX IPW AX4-IP55 | 15009814 | 1 |
| 4 | REINFORCEMENT PLATE Ø56 | 14915052 | 2 | 15 | WASHER 5.3X10X1 - DIN 125 - A2 | 20102315 | 4 |
| 5 | BEARING RING Ø56 | 14915029 | 2 | 16 | HEAD SCREW M4X12 DIN7985Z-A4-70 | 20109567 | 2 |
| 6 | MOTOR SET F/AUTOMATIC OUTLET (I) | 04906715 | 1 | 17 | NUT M4 DIN 934 - A2 | 20102646 | 2 |
| 7 | GEARWHEEL 2M 20T 20PA | 14905459 | 1 | 18 | CLAMP STROKE 6E/4 | 10110799 | 1 |
| 8 | SPRING Ø5x20.2 | 14905624 | 2 | 19 | CLAMP STROKE 27 20 6E/3 | 10103109 | 1 |
| 9 | CLOSING PLATE Ø56 1.5MM | 14905673 | 2 | 20 | CONNECTING SCHEME NEW OUTLET | 14905772 | 1 |
| 10 | HOUSING - AUTO OUTLET Ø56 | 14905616 | 1 | 21 | TUBE CLAMP Ø50/70MM | 13600622 | 2 |
| 11 | WINDOW | 13000500 | 1 | | | | |

# AUTOMATIC OUTLET DROP ASS'Y - 04906962 - DIA. 75 (24VDC)

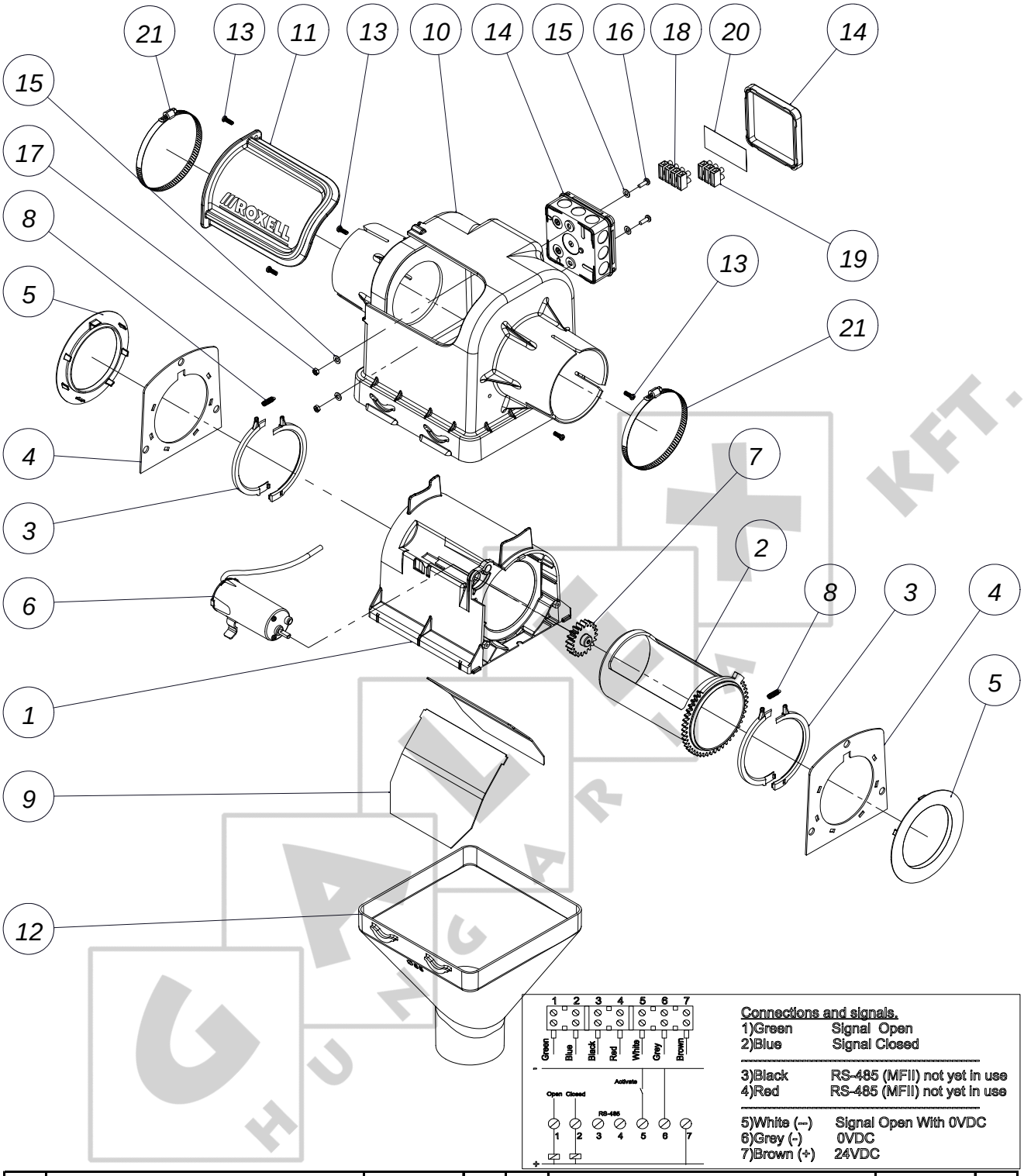






| Key | Name | Part Nr. | Qt. | Key | Name | Part Nr. | Qt. |
|---|---|---|---|---|---|---|---|
| 1 | INNER HOUSING Ø75 | 14905574 | 1 | 12 | DROP FOR DROP TUBE Ø70 | 13502174 | 1 |
| 2 | OUTLET TUBE WITH GEAR Ø75 | 14905541 | 1 | 13 | THREAD FORMING SCREW 4X12-A2 | 12502043 | 5 |
| 3 | FLEXIBLE CLOSING RING Ø75 | 14905517 | 4 | 14 | HANDY BOX IPW AX4-IP55 | 15009814 | 1 |
| 4 | REINFORCEMENT PLATE Ø75 | 14915060 | 2 | 15 | WASHER 5.3X10X1 - DIN 125 - A2 | 20102315 | 4 |
| 5 | BEARING RING Ø75 | 14915037 | 2 | 16 | HEAD SCREW M4X12 DIN7985Z-A4-70 | 20109567 | 2 |
| 6 | MOTOR SET F/AUTOMATIC OUTLET (I) | 04906715 | 1 | 17 | NUT M4 DIN 934 - A2 | 20102646 | 2 |
| 7 | GEARWHEEL 2M 20T 20PA | 14905459 | 1 | 18 | CLAMP STROKE 6E/4 | 10110799 | 1 |
| 8 | SPRING Ø5x20.2 | 14905624 | 2 | 19 | CLAMP STROKE 27 20 6E/3 | 10103109 | 1 |
| 9 | CLOSING PLATE Ø90 1.0MM | 14905681 | 2 | 20 | CONNECTING SCHEME NEW OUTLET | 14905772 | 1 |
| 10 | HOUSING - AUTO OUTLET Ø75 | 14905608 | 1 | 21 | HOSE CLAMP Ø80 - 100MM | 03200250 | 2 |
| 11 | WINDOW | 13000500 | 1 | | | | |

# AUTOMATIC OUTLET DROP ASS'Y - 04906913 - DIA. 89 (24VDC)







| Key | Name | Part Nr. | Qt. | Key | Name | Part Nr. | Qt. |
|---|---|---|---|---|---|---|---|
| 1 | INNER HOUSING Ø89 | 14905582 | 1 | 12 | DROP FOR DROP TUBE Ø85 | 13203815 | 1 |
| 2 | OUTLET TUBE WITH GEAR Ø89 | 14905558 | 1 | 13 | THREAD FORMING SCREW 4X12-A2 | 12502043 | 5 |
| 3 | FLEXIBLE CLOSING RING Ø89 | 14905525 | 4 | 14 | HANDY BOX IPW AX4-IP55 | 15009814 | 1 |
| 4 | REINFORCEMENT PLATE Ø89 | 14914972 | 2 | 15 | WASHER 5.3X10X1 - DIN 125 - A2 | 20102315 | 4 |
| 5 | BEARING RING Ø89MM | 14914964 | 2 | 16 | HEAD SCREW M4X12 DIN7985Z-A4-70 | 20109567 | 2 |
| 6 | MOTOR SET F/AUTOMATIC OUTLET (I) | 04906715 | 1 | 17 | NUT M4 DIN 934 - A2 | 20102646 | 2 |
| 7 | GEARWHEEL 2M 20T 20PA | 14905459 | 1 | 18 | CLAMP STROKE 6E/4 | 10110799 | 1 |
| 8 | SPRING Ø5x20.2 | 14905624 | 2 | 19 | CLAMP STROKE 27 20 6E/3 | 10103109 | 1 |
| 9 | CLOSING PLATE Ø90 1.0MM | 14905681 | 2 | 20 | CONNECTING SCHEME NEW OUTLET | 14905772 | 1 |
| 10 | HOUSING - AUTO OUTLET Ø89 | 14905590 | 1 | 21 | HOSE CLAMP Ø80 - 100MM | 03200250 | 1 |
| 11 | WINDOW | 13000500 | 1 | | | | |

# PART III

# INSTALLATION INSTRUCTIONS

# NOTES

GALEX HUNGARIA KFT.

# GENERAL SAFETY RULES

## LINE SYSTEMS

DANGER

## IMPORTANT

**Carefull read the following instructions before you INSTALL the system**

1. Be **CAREFUL** when handling the **ROLLS OF AUGER**.
   - When you release the **BINDING WIRE,** it is possible that the auger **UNROLLS**. This can cause injuries.
   - **ALWAYS** use **SAFETY GLOVES** when you slide the auger into the tube.
   - **ALWAYS** see that the auger **CANNOT SPRING BACK** (by using clamps) when you put it under tension .
2. Check all **TUBE CONNECTIONS** and all **TUBE CLAMPS** on control units, feed intake boots and bearings for **PROPER CLAMPING.** Tighten all tube clamps with a **TORQUE** of min. : 10Nm.
3. **TEST** the **SUSPENSION SYSTEM** for safe operation :
   - Firmly fasten the **WINCH** and the **SUSPENSION POINTS**. Firmly tighten **ALL CABLE CLAMPS**.
   - **WINCH UP THE FEEDER LINES THREE TIMES** and lower them again (full course). **NEVER STAND UNDERNEATH THE SYSTEM** when doing this.
   - Winching up and lowering must proceed **WITHOUT ANY HITCH**.
4. At the **FIRST START UP,** make sure that, if the auger **HITCHES** or **BLOCKS**, you can **IMMEDIATELY SWITCH OFF** the system with the main switch on the control panel.

This **SYMBOL** will be used to draw your attention to matters that are of **GREAT IMPORTANCE** for your **SAFETY**.
It means : **WARNING** - follow the safety instructions : disconnect the current - re-read the safety rules.
In short : **BE ALERT**. IGNORING these instructions can cause SERIOUS INJURIES or even DEATH.

# TOOLS

1. LOCK GRIP PLIERS

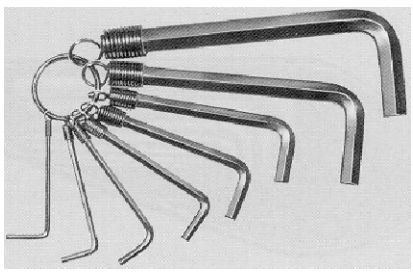
2. HEAVY HAMMER, LIGHT HAMMER

3. MULTIGRIP PLIERS

4. DRILLING MACHINE

5. SCREW DRIVER WITH BATTERY (SLOT & CROSS) + NUT TIGHTENER

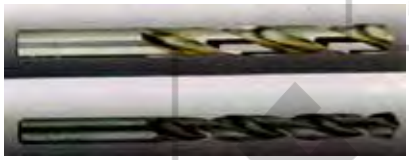
6. SET OF HEX WRENCHES



7. SET OF FLAT OPEN END WRENCHES AND RING WRENCHES (6–22MM)

8. CABLE CUTTING PLIERS

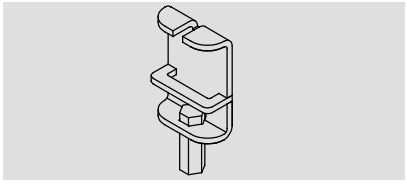
9. SET OF DRILLS (METAL∅ 3–13) & CONCRETE



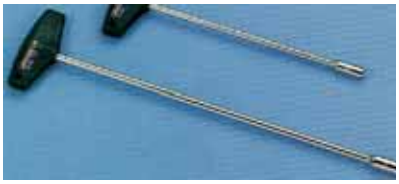
10. GRINDING MACHINE

11. SET OF SOCKET WRENCHES W/ RATCHET & EXTENSION

12. DRIVER FOR SCREW HOOKS DIA. 6MM – 09700220



13. SOCKET SCREW DRIVERS – 19700236

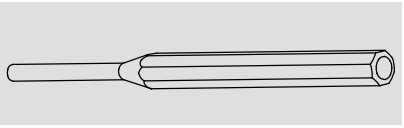


14. HOLE SAW DIA 32–09701699 (SENSOR)

- Ø40 – 09700022 (MODEL 55),
- Ø51 – 09700030 (MODEL 75),
- Ø70 – 09700048 (MODEL 90),
- Ø108 – 09700055 (MODEL 125)
- Ø130MM (Holes in wall)

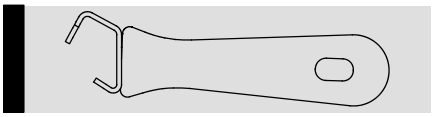
15. HOLE SAW HOLDER – 09700071

17. DRIFT PUNCH



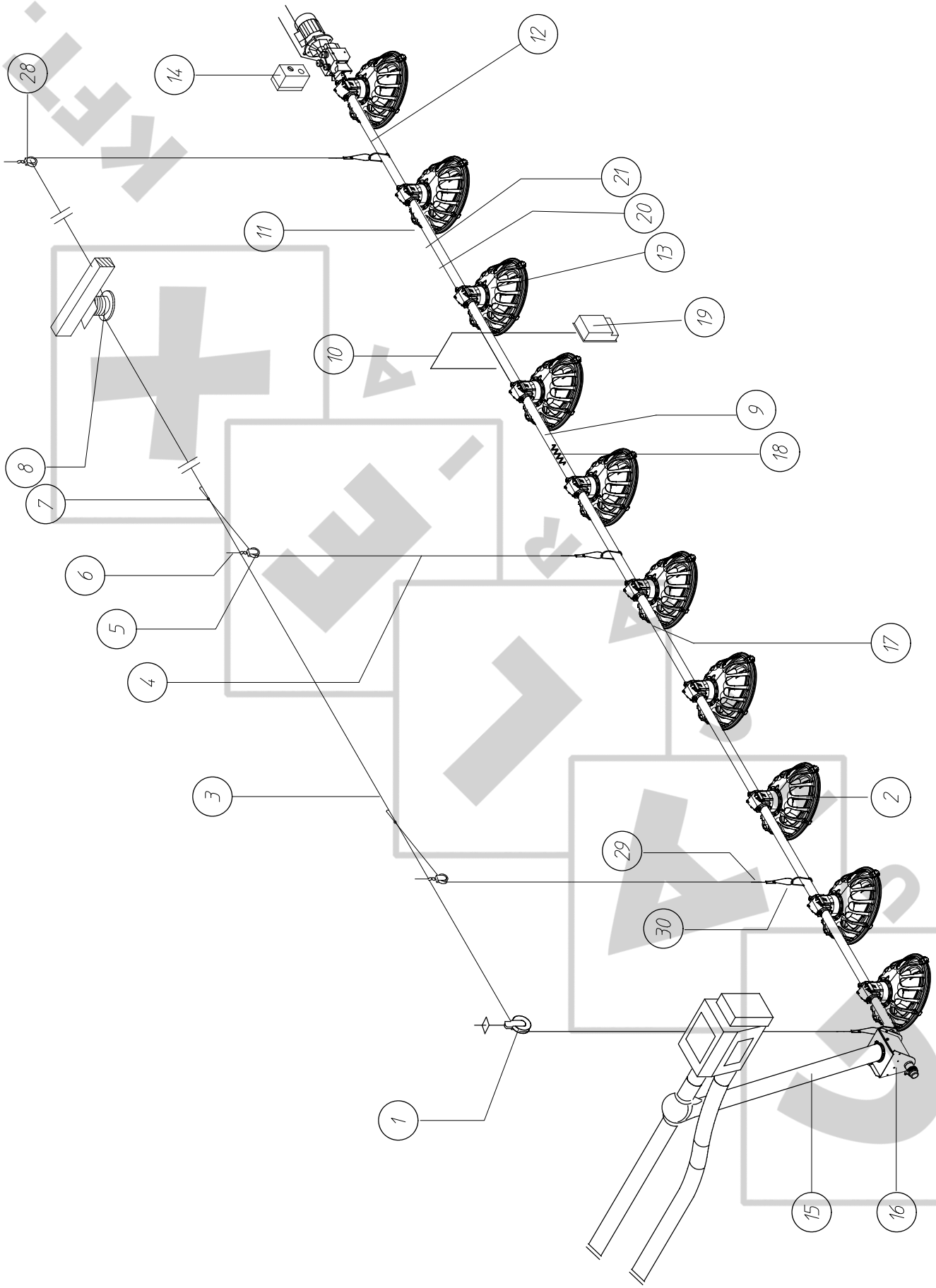
18 KNIFE


19. PAN REMOVER 09701749



20. ELECTRICAL HEATED KNIFE (OPTIONAL)

# GENERAL LAY-OUT



# COMPONENT NUMBERS

| Key | Description | Number |
|---|---|---|
| 1 | HEAVY DUTY PULLEY | 00100412 |
| 2 | FEEDER PAN | PARTS |
| 3 | CABLE DIA. 5MM | 00100388 |
| 4 | CABLE DIA. 2.5MM | 00600205 |
| 5 | SMALL PULLEY W/ METAL HOOK | 00101527 |
| 6 | SCREW HOOK 90MM | 05000872 |
| | SCREW HOOK 160MM | 05000237 |
| 7 | CABLE CLAMP N_5 | 00100545 |
| 8 | HAND OPERATED CENTR. WINCH | 00102368 |
| 9 | TUBE 3.05M W/2 TRIANG. HOLES | 00102467 |
| | TUBE 3.05M W/3 TRIANG. HOLES | 00102459 |
| | TUBE 3.05M W/4 TRIANG. HOLES | 00102442 |
| 10 | CABLE F/POULTRY PERCH GUARD | 01001254 |
| 11 | SPRING | 00400077 |
| 12 | POWER UNIT | SEVERAL |
| 13 | CONTROL PAN VITOO IN LINE | 00802975 |
| 14 | CUT – OFF SWITCH | SEVERAL |
| 15 | TEL..DROP TUBE D.100–1m | 07400153 |
| 16 | FEED INTAKE BOOT POULTRY | 00106500 |
| 16* | POULTRY INTAKE BOOT WITH SENSOR (OPTION) | 00106526 |
| 17 | TUBE CLAMP ASS4Y DIA. 45MM | 00102921 |
| 18 | AUGER | 00200873 |
| 19 | POULTRY PERCH GUARD | 00105692 |
| 20 | CABLE DIA. 1.5MM | 00100149 |
| 21 | CABLE CLAMP BODY | 00101386 |
| 28 | SINGLE EYE PULLEY | 00100420 |
| 29 | ADJUSTMENT LEVELER | 00602060 |
| 30 | HANGER | 00100354 |
| * | ANCHOR BRACKET LOW | 00102681 |
| * | (NOT SHOWN) | |

GALEHUNGARIA KFT.

# DIFFERENT COMBINATIONS POSSIBLE

**1.** Filling of the hopper w/Flex-Auger

Choose the hopper (150kg or 350kg) accordingly ; the hopper must be able to contain the daily ration per line. Use Flex-Auger 90 w/power unit 0,75KW to fill the hoppers. Use automatic outlets to distribute the feed evenly over the hoppers. Number of automatic outlets = number of lines minus one. The distribution of feed portions to the different hoppers is controlled by a central control panel.

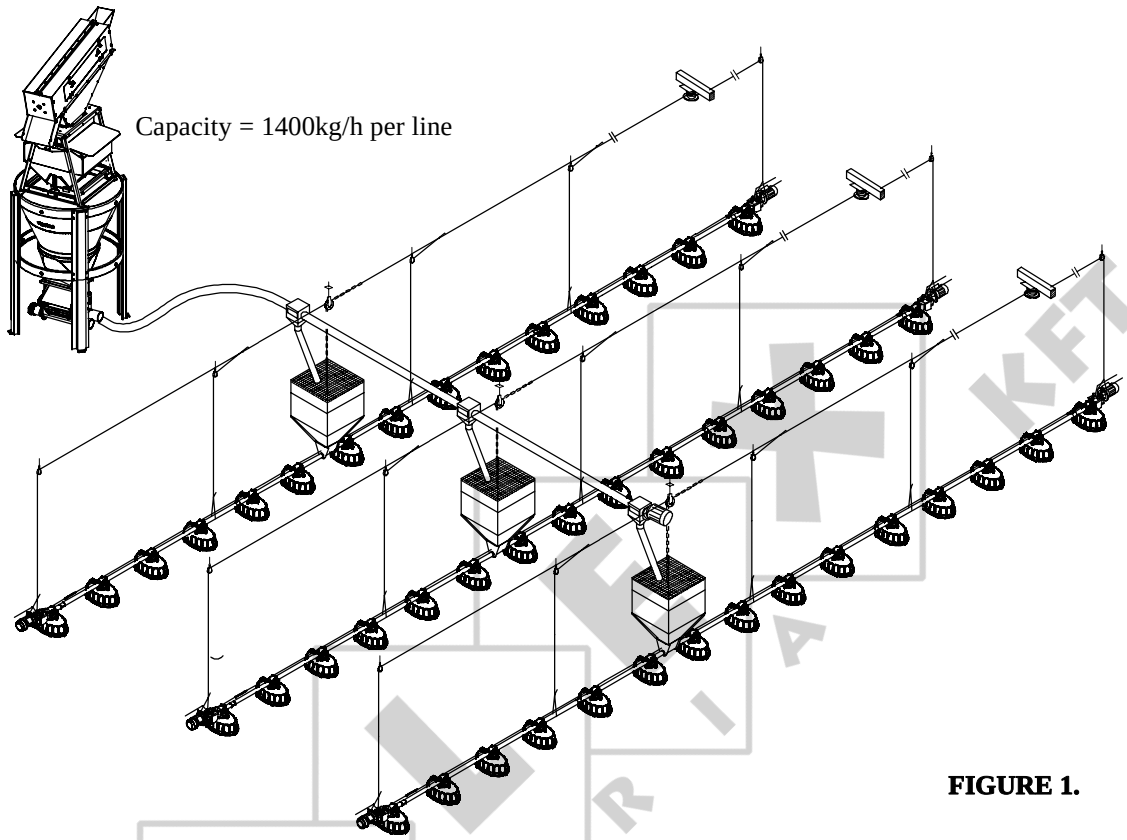



**FIGURE 1.**

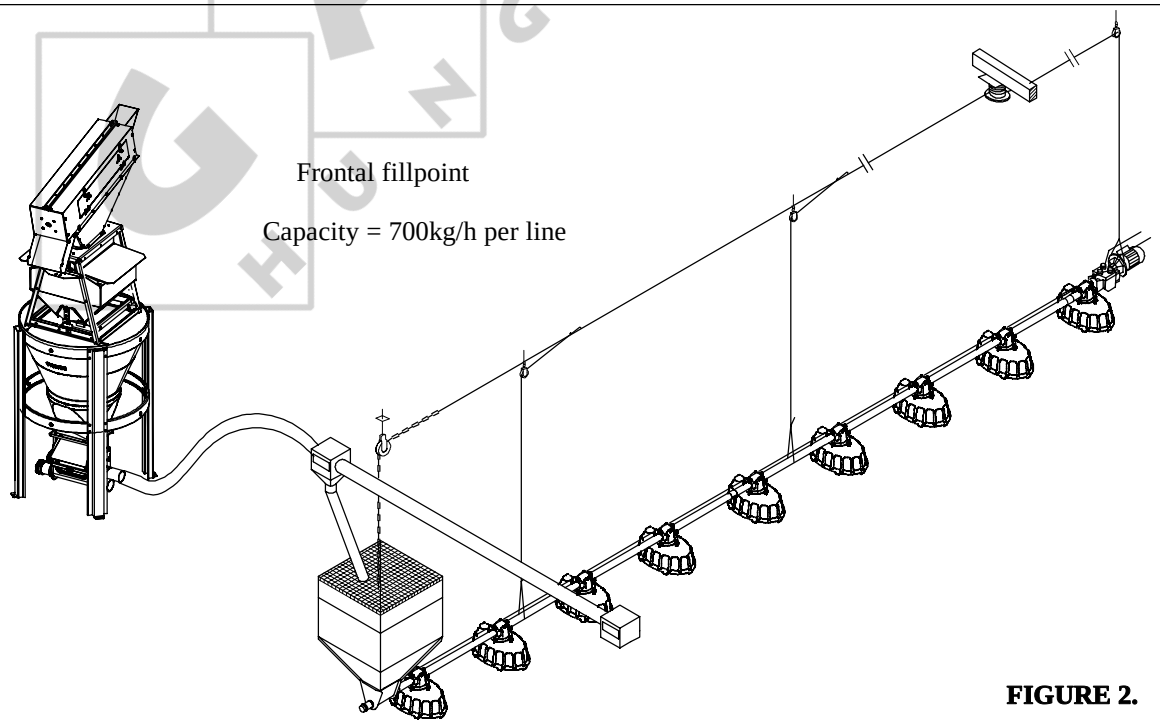



**FIGURE 2.**

**2.** With a circulating delivery system (CDS).

Choose the right Flex–Auger CDS depending on the number of lines. Capacity CDS = total capacity of the feeder lines :

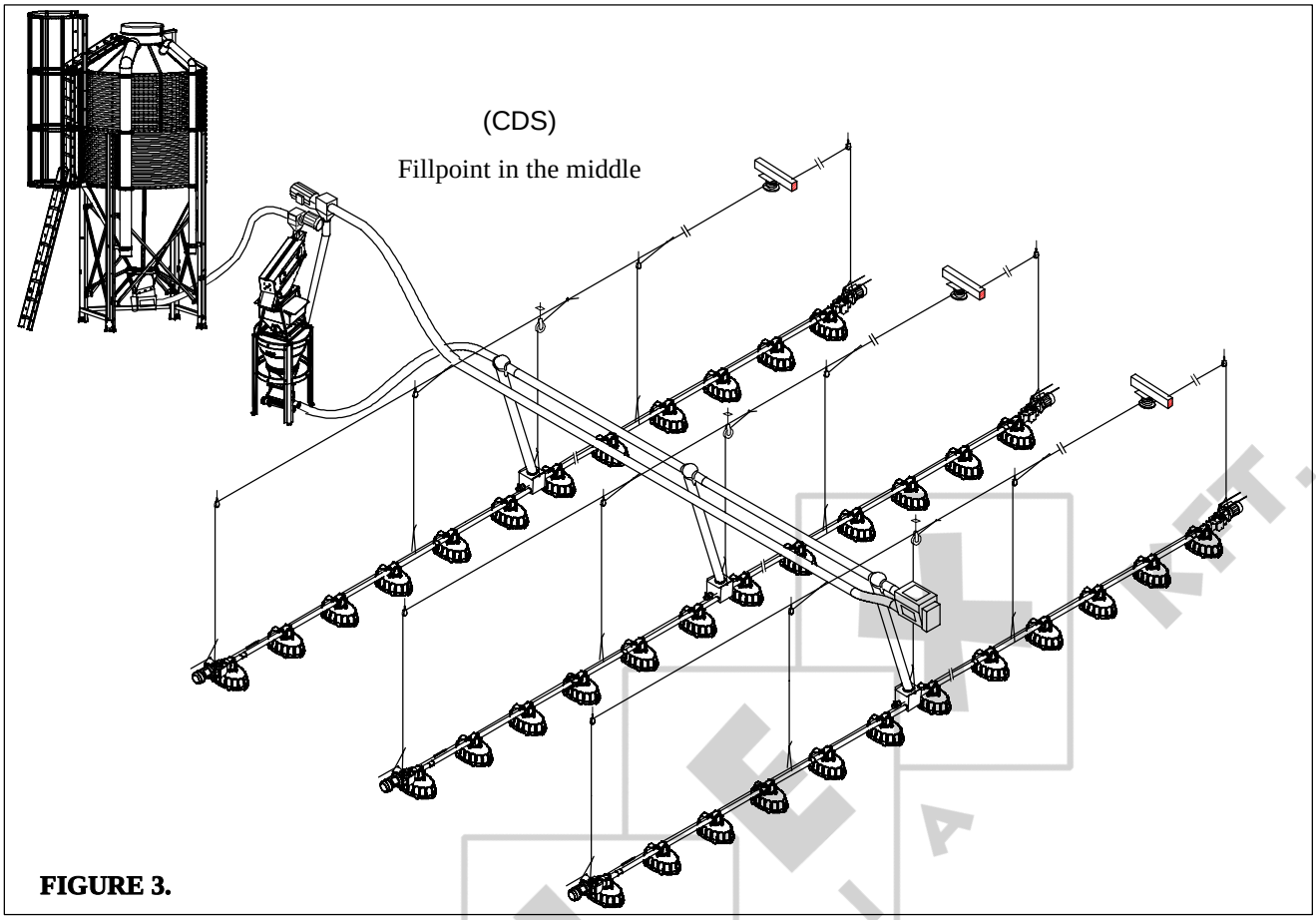



**FIGURE 3.**

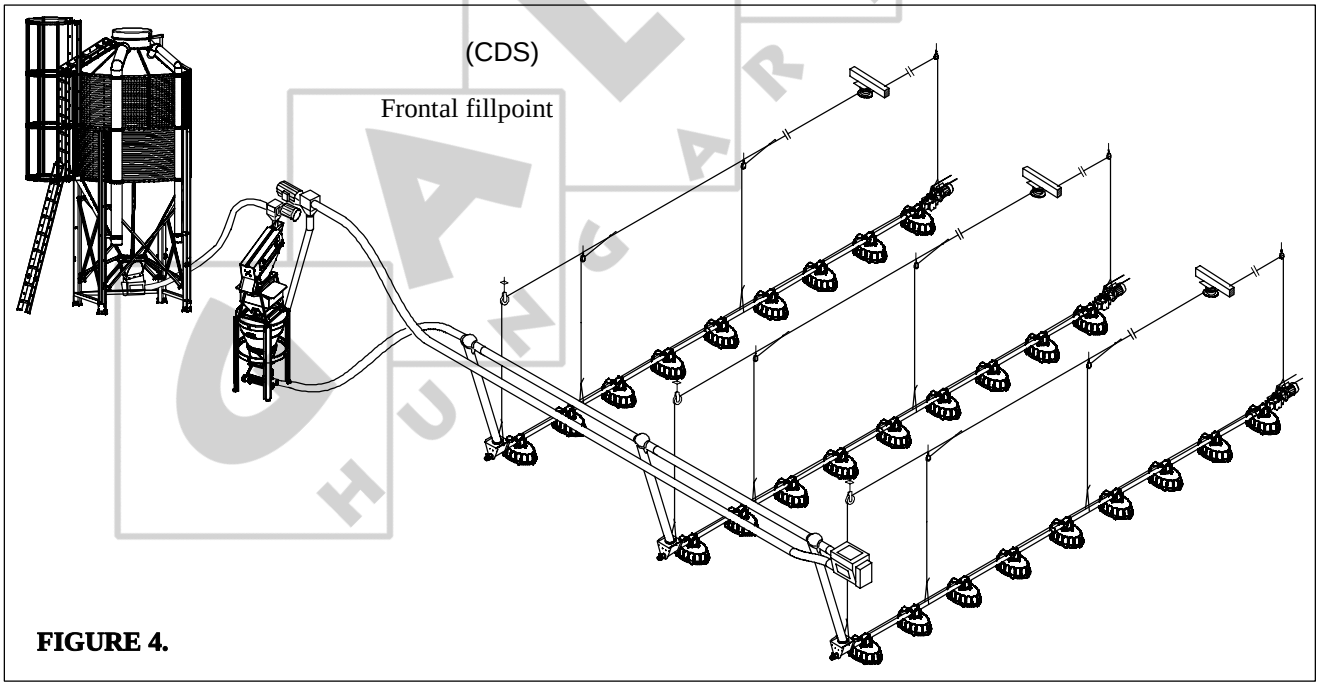



**FIGURE 4.**

| Nr. of feeder lines | Fillpoint frontal | Fillpoint central |
|---|---|---|
| 1 | CDS90 | CDS90 |
| 2 | CDS90 | CDS90 |
| 3 | CDS90 | CDS125 |
| 4 | CDS90 | - |
| 5 | CDS125 | - |
| 6 | CDS125 | - |

- Capacity CDS 90 = 3.350kg/h.
- Capacity CDS 125 = 4.500kg/h.
- Capacity line :
  - Fillpoint frontal : 700kg/h
  - Fillpont central : 1400kg/h.
- Capacity mechanical weigher : 6000kg/h
  Capacity mechanical weigher with feed screen : 5000kg/h

# ELECTRICITY .... WATCH OUT !

**LEAVE CONNECTIONS TO THE SYSTEM TO A QUALIFIED ELECTRICIAN !**

- Wire the system with the utmost care and attention.
- Always provide a solid earthing.
- Check all connections before you switch on.
- Always follow the wiring diagrams included in the control panels.
- Compare setting of the thermic protection with the data on the motor label. Thermic protections are set at minimum by the manufacturer.
- If you do not use a Roxell control panel, make sure to provide the necessary thermic protections.
- Compare motor label plate and motor connection with local voltage :

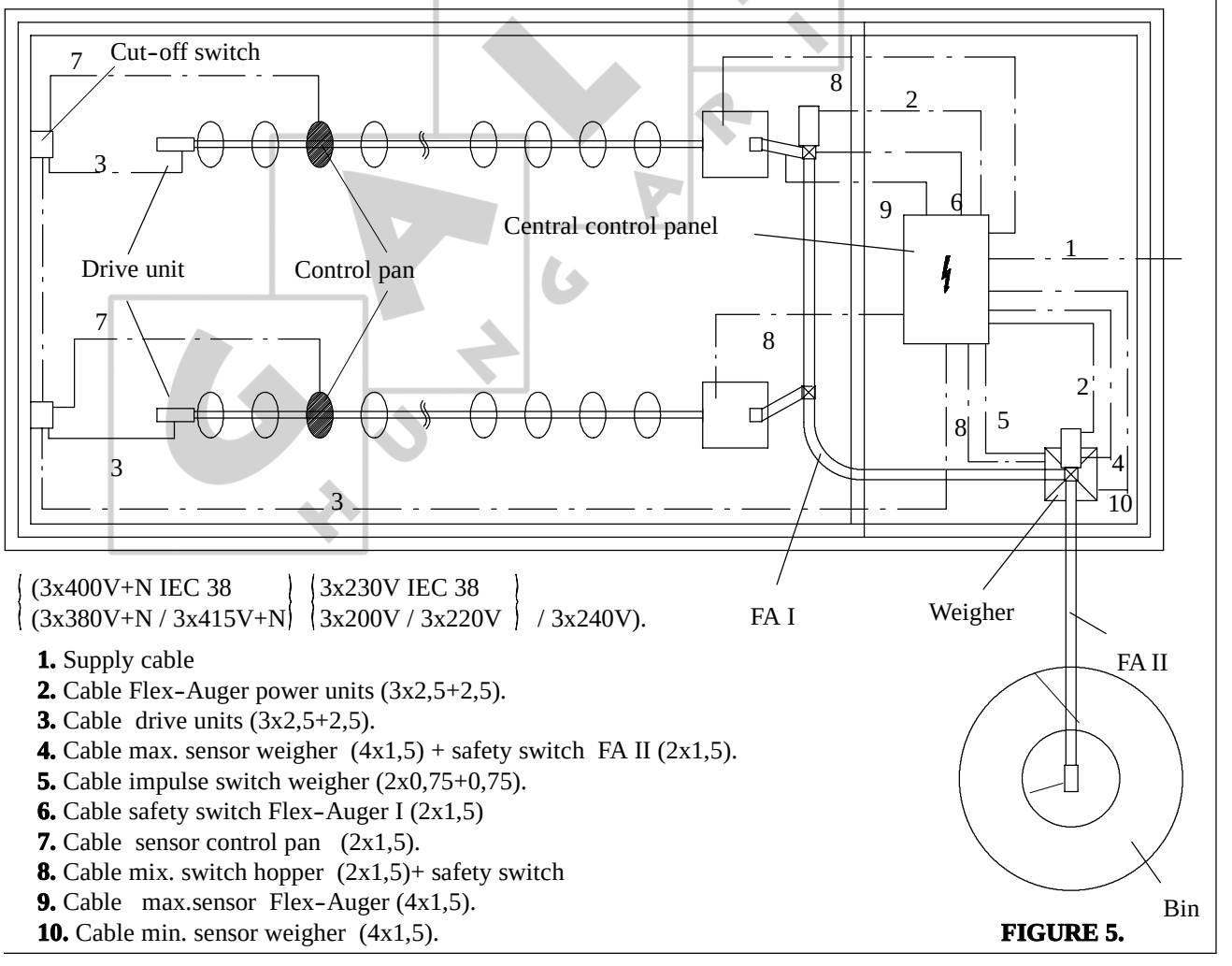
Y 3x380V+N / 3x415V+N } (IEC38-3x400V+N)

Δ 3x220V / 3x240V / 3x200V } (IEC38-3x230V)

# ELECTRICAL WIRING DIAGRAM

**SEALED PARTS IN CONTROL PANELS MUST <u>UNDER NO CONDITION</u> WHATSOEVER BE UN-SEALED !**

**ONLY THE CONNECTION DIAGRAM IS SHOWN IN THE ASSEMBLY GUIDE. WIRING DIAGRAMS ARE ALWAYS SUPPLIED WITH THE CONTROL PANELS.**




{(3x400V+N IEC 38 / (3x380V+N / 3x415V+N} {3x230V IEC 38 / 3x200V / 3x220V} / 3x240V).

**1.** Supply cable
**2.** Cable Flex-Auger power units (3x2,5+2,5).
**3.** Cable drive units (3x2,5+2,5).
**4.** Cable max. sensor weigher (4x1,5) + safety switch FA II (2x1,5).
**5.** Cable impulse switch weigher (2x0,75+0,75).
**6.** Cable safety switch Flex-Auger I (2x1,5)
**7.** Cable sensor control pan (2x1,5).
**8.** Cable mix. switch hopper (2x1,5)+ safety switch
**9.** Cable max.sensor Flex-Auger (4x1,5).
**10.** Cable min. sensor weigher (4x1,5).

**FIGURE 5.**

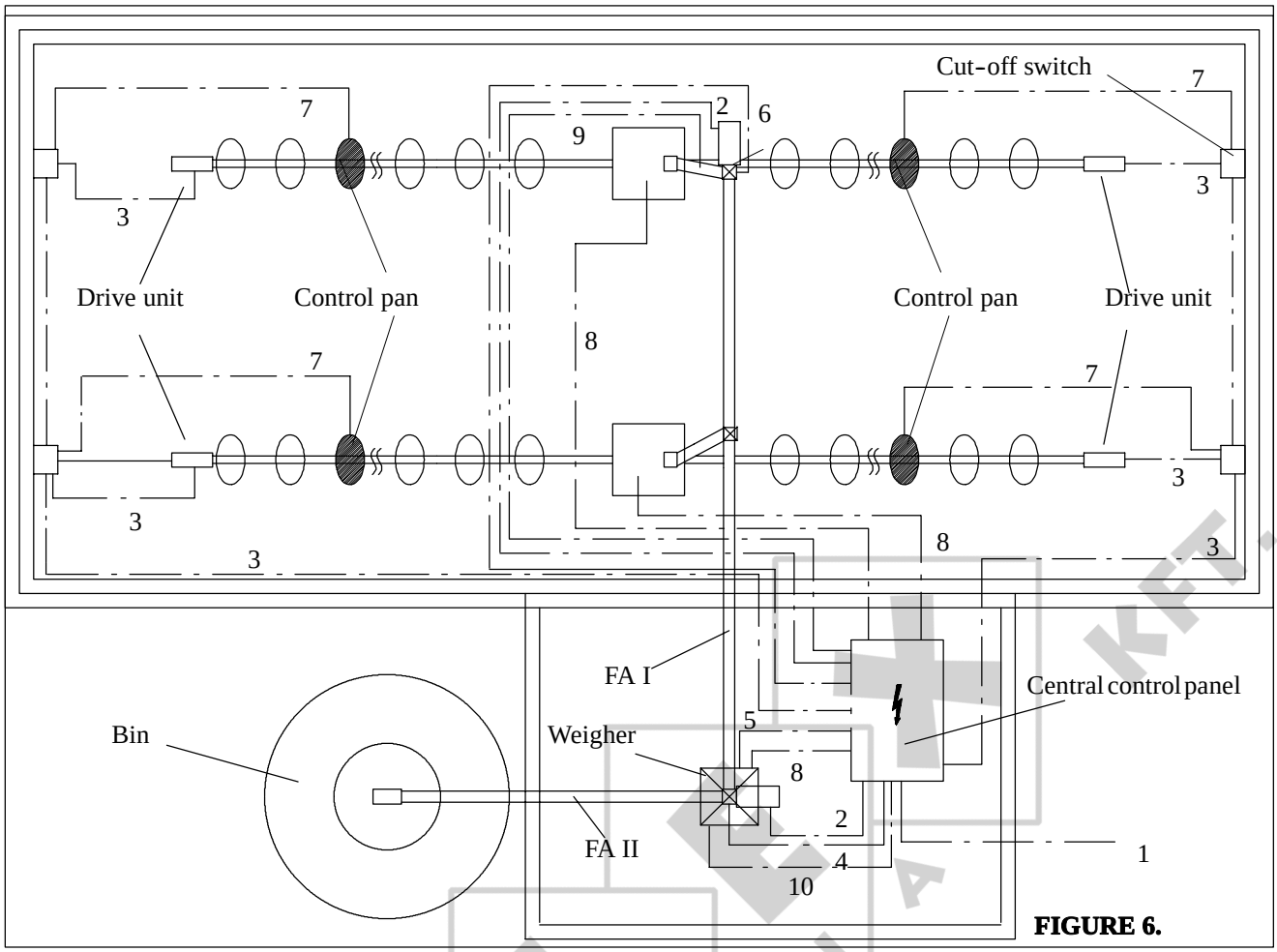
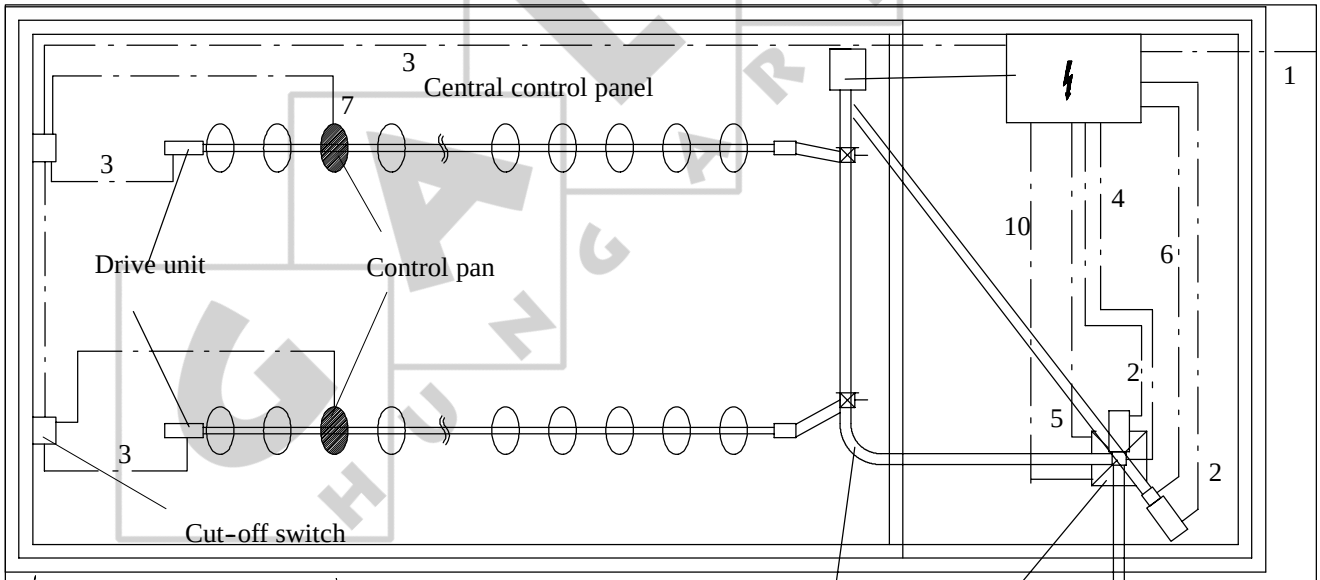


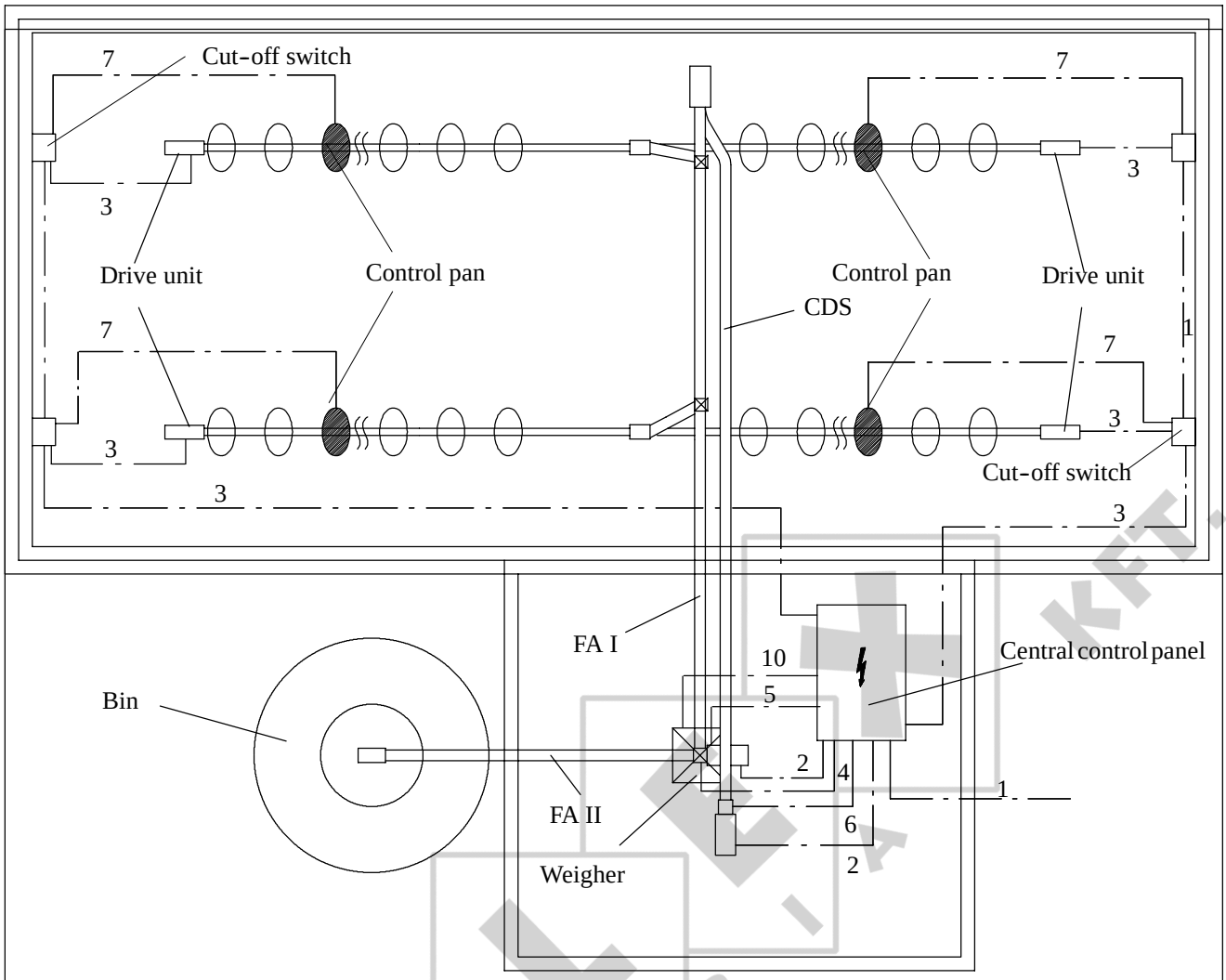

**FIGURE 6.**




{(3x400V+N IEC 38 / 3x380V+N / 3x415V+N) {3x230V IEC 38 / 3x200V / 3x220V} / 3x240V).

**1.** Supply cable
**2.** Cable Flex–Auger power units (3x2,5+2,5).
**3.** Cable drive units (3x2,5+2,5).
**4.** Cable max. sensor weigher (4x1,5) + safety switch FA II (2x1,5).
**5.** Cable impulse switch weigher (2x0,75+0,75).
**6.** Cable safety switch Flex–Auger I (2x1,5)
**7.** Cable sensor control pan (2x1,5).
**8.** Cable mix. switch hopper (2x1,5)+ safety switch
**9.** Cable max.sensor Flex–Auger (4x1,5).
**10.** Cable min. sensor weigher (4x1,5).

**FIGURE 7.**




{(3x400V+N IEC 38 / 3x380V+N / 3x415V+N) {3x230V IEC 38 / 3x200V / 3x220V} / 3x240V).

**1.** Supply cable
**2.** Cable Flex-Auger power units (3x2,5+2,5).
**3.** Cable drive units (3x2,5+2,5).
**4.** Cable max. sensor weigher (4x1,5) + safety switch FA II (2x1,5).
**5.** Cable impulse switch weigher (2x0,75+0,75).
**6.** Cable safety switch Flex-Auger I (2x1,5)
**7.** Cable sensor control pan (2x1,5).
**8.** Cable mix. switch hopper (2x1,5)+ safety switch
**9.** Cable max.sensor Flex-Auger (4x1,5).
**10.** Cable min. sensor weigher (4x1,5).

**FIGURE 8.**

# IMPORTANT MEASURES – INDICATIVE.

**THESE MEASURES ARE A GUIDELINE ! CONSULT THE TECHNICAL ADVISOR OF THE HATCHERY.**

**DIMENSIONS BIRD/PAN**

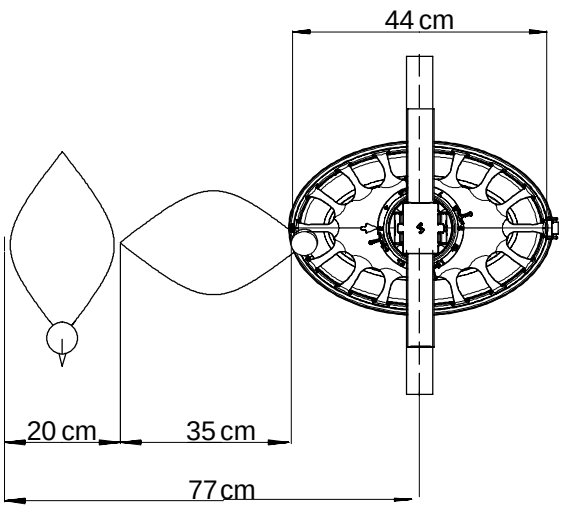



**FIGURE 9.**

**DIMENSIONS BIRD/PAN**

Drinking lines not less than 50cm and not more than 60cm off the laying nests.

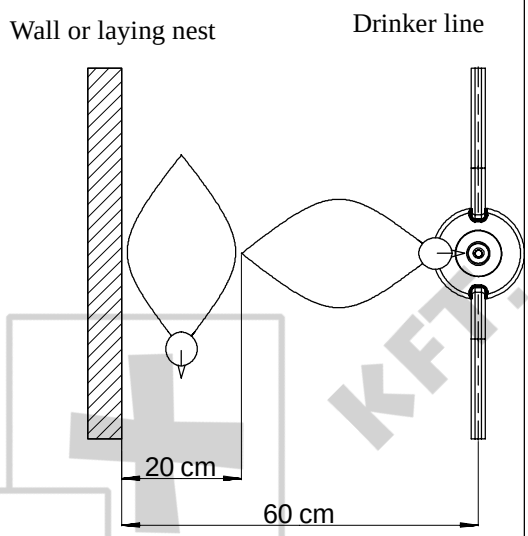



**FIGURE 10.**

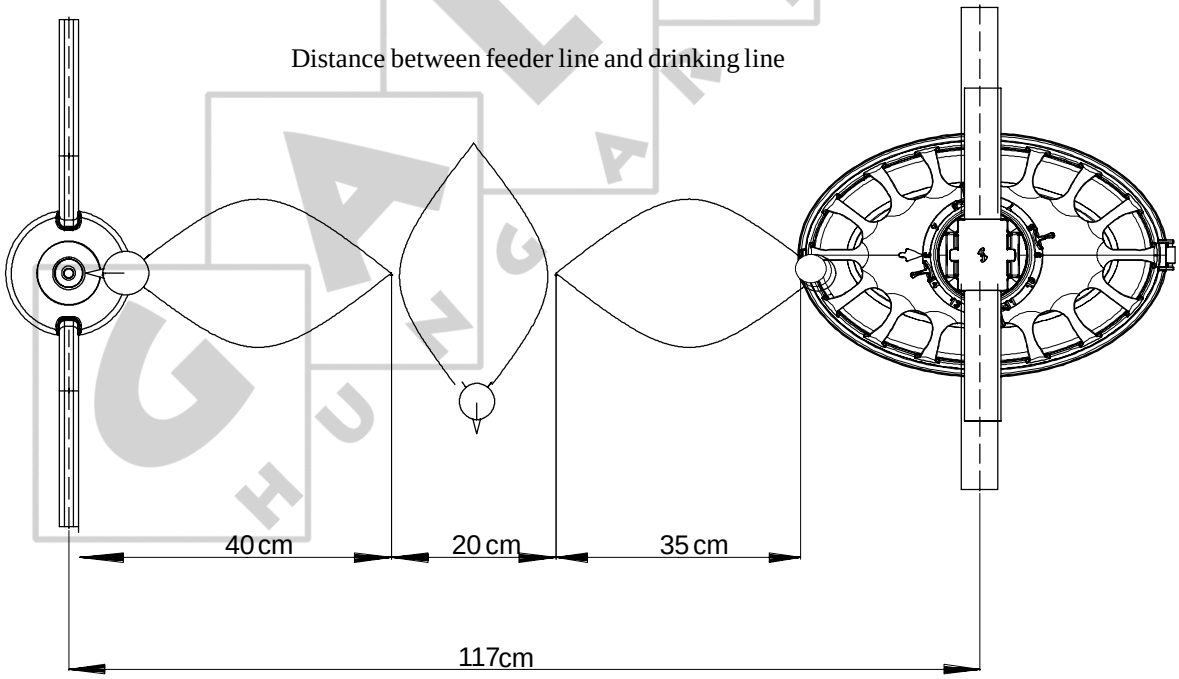



**FIGURE 11.**

# THE SUSPENSION

**THE SUSPENSION OF THE SYSTEM IS VERY IMPORTANT : IT MUST BE DONE CAREFULLY AND ACCURATELY ! CLOSELY STUDY THE INSTRUCTIONS BEFORE STARTING THE SUSPENSION.**

- **IMPORTANT : IF THERE IS A LAYER OF INSULATION, FIRST INSTALL THE NECESSARY REINFORCEMENTS !!**

- **EACH SUSPENSION POINT (SMALL PULLEY) SHOULD BE ABLE TO HOLD A 100KG BURDEN**
- **EACH FIXING OF THE HEAVY DUTY PULLEY SHOULD BE ABLE TO HOLD A BURDEN OF 3 X F. YOU CAN EASILY DETERMINE THE WINCH LOCATION BY MEANS OF FORCES :**

**- ON STANDARD PULLEY**

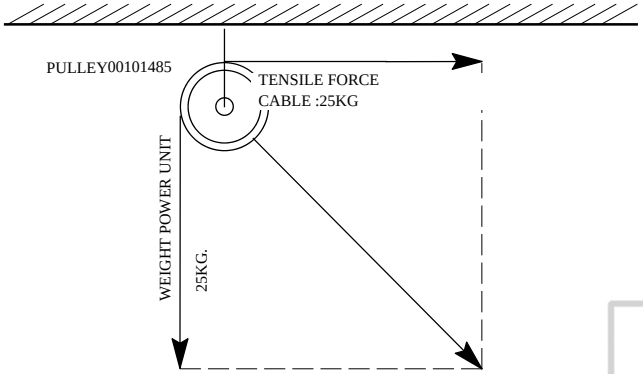



**FIGURE 12.**

**- ON POWER UNIT SUSPENSION**

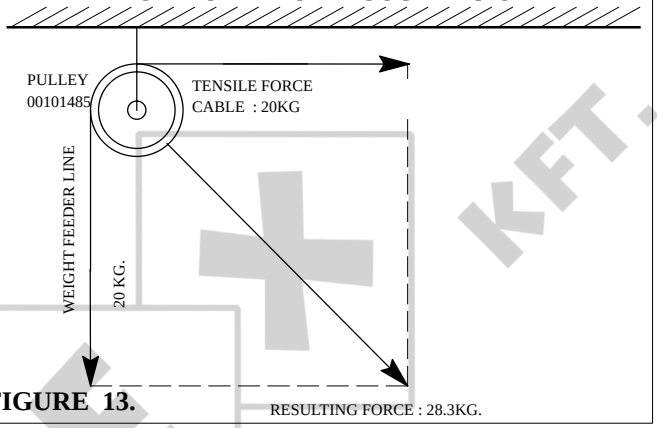
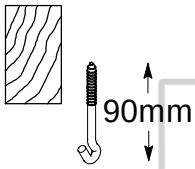



**FIGURE 13.**

## SUSPENSION COMPONENTS

**IN A WOODEN BEAM :**



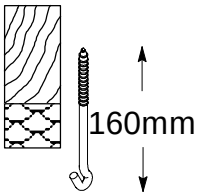

**05000872** Screw hook 90mm

**FIGURE 14.**

**WOOD : + INSULATION**

Drill a small hole in HARD WOOD.
This will prevent screw hooks from breaking off.

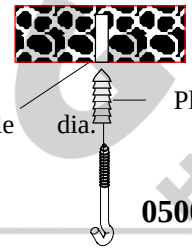
Use a drilling machine with our special driver forscrew hooks. (See page 3).




**05000237** Screw hook 160mm

**FIGURE 15.**

**IN A CONCRETE BEAM :**



Drill a hole dia. 10mm

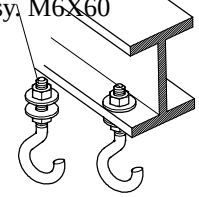
Plug dia. 10mm. **20102034**

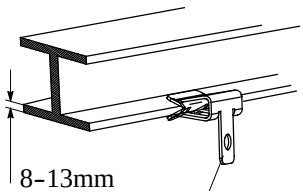
**05000872**
Screw hook 90mm

**FIGURE 16.**

**IN METAL I GIRDER**

**05000302**
Suspension hook assy. M6X60

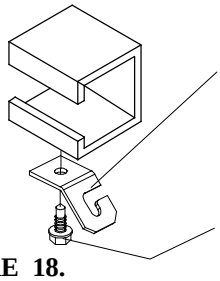





**20104220**
Caddy clip

**FIGURE 17.**

**IN A METAL GIRDER :**

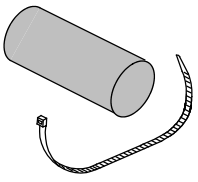


**00103069**
Suspension plate

**00103077**
Self drilling screw

**FIGURE 18.**

**CONCRETE STEEL OR METAL TUBE :**



**04001137**
Cable tie

**FIGURE 19.**

# DRAWINGS OF SUSPENSION SYSTEM WITH CENTRAL WINCH

**FOR YOUR SAFETY : NEVER MAKE THE INSTALLATIONS LONGER THAN THE RECOMMENDED LENGTH.**

## 31 – 86M (MAX. 288KG )

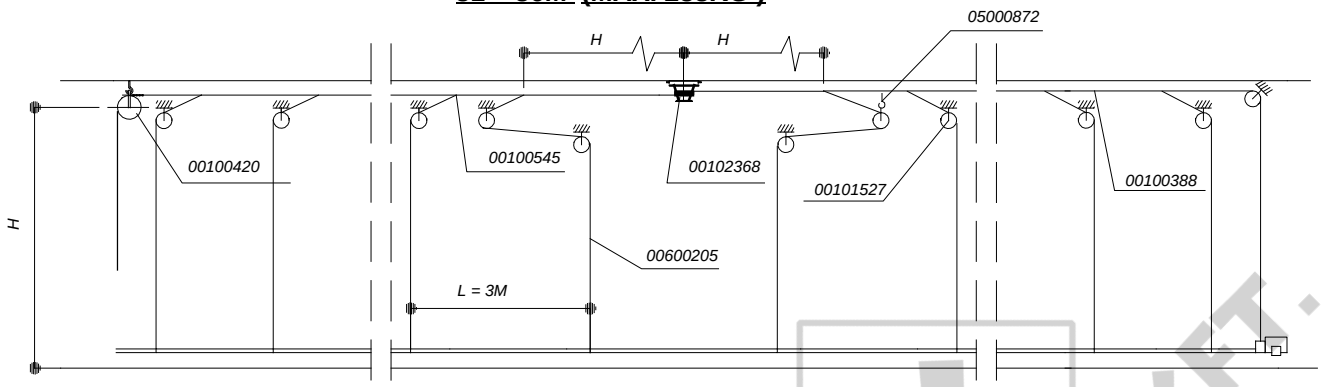



**FIGURE 20.**

## 86 – 129M (MAX. 400KG)

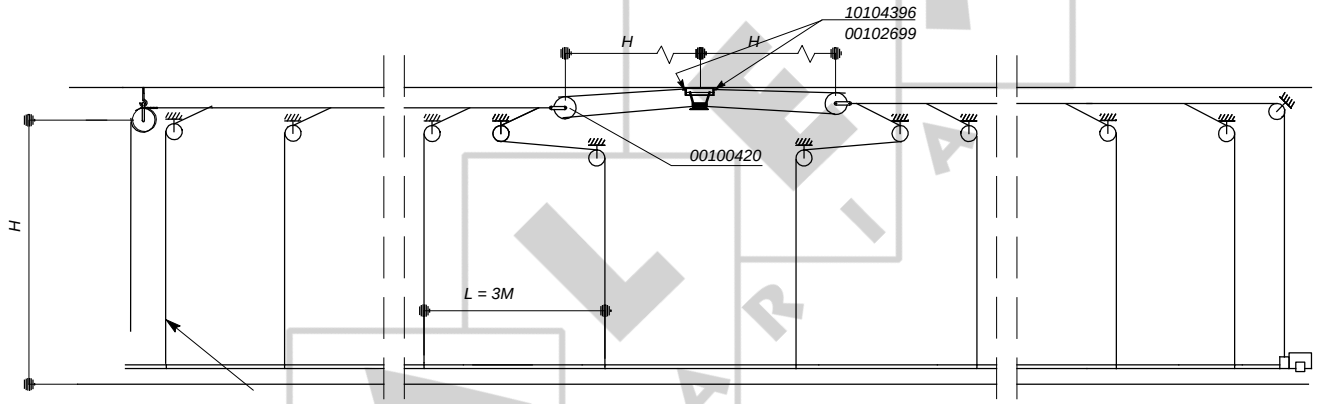


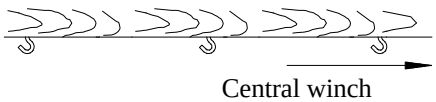

**FIGURE 21.**

| | |
|---|---|
| 00101527 | SMALL PULLEY WITH METAL HOOK |
| 00102368 | CENTRAL WINCH (HAND OPERATED) |
| 05000872 | SCREW HOOK 90MM |
| 00600205 | CABLE 3/32” |
| 00100420 | SINGLE EYE PULLEY |

**SUSPEND THE CONTROL UNIT AT LEAST 3M FROM THE HOUSE END WALL !**

**PROCEDURE :**

- First determine the position of the feeder lines.
- Then measure the distance from the wall to the first feeder line.
- Mark from this spot the suspension points on the ceiling over the whole length of the line.




Alternatives : see page 12 .

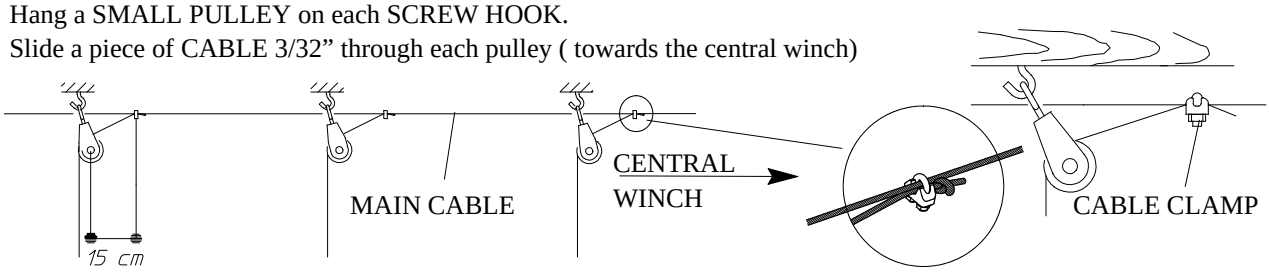
Fix the suspension points ***(well aligned !)*** every 3m. Hook openings point away from the central winch.

**FIGURE 22.**

# SUSPENSION FOR FEEDER LINE

**MAKE SURE THAT THE CABLE 3/16" DOES NOT HANG IN, BUT BESIDE THE SCREW HOOKS AND PULLEYS !**

Hang a SMALL PULLEY on each SCREW HOOK.
Slide a piece of CABLE 3/32" through each pulley ( towards the central winch)




Fix this cable at 15cm from the pulley to the main cable 3/16" with a cable clamp.

**FIGURE 23.**

Start suspension from the central winch. Proceed to both ends until the preparation of the suspension is finished.

Determine the length of cable to be cut as follows :

- pull the cable downward under slight tension until it touches the tube.
- Add 10cm.
- Cut here.

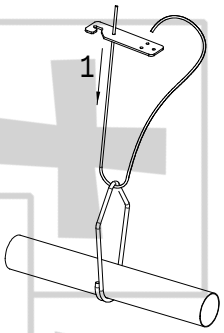
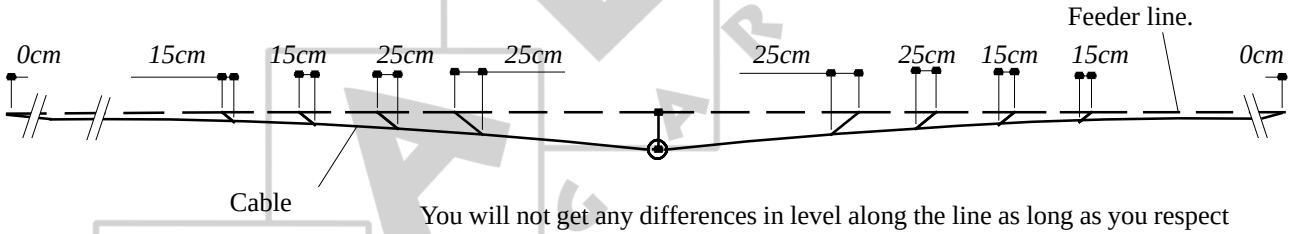



**FIGURE 24.**

If lifting height is more than 3m, you can install the central winch somewhat out of line. So the pulleys will not touch the cable clamps. (Alternative system : see Fig. 26.)




You will not get any differences in level along the line as long as you respect the distances at the first two cable attachments.

**FIGURE 25.**

If winching-up height (H) exceeds 3m, place suspension hooks crosswise off the beam center line. So the cable clamps will not touch the pulleys when you wind up the line.

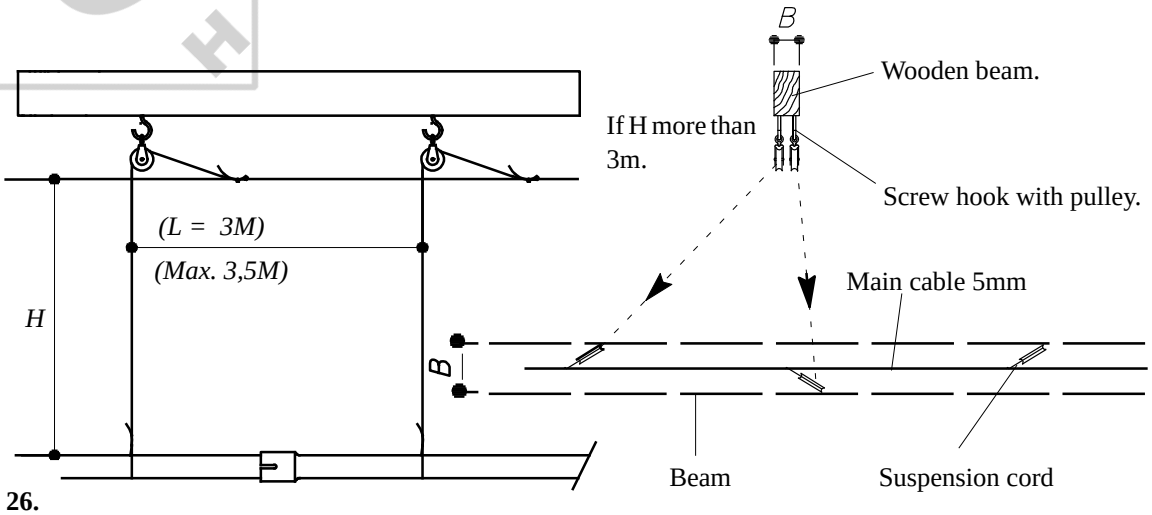


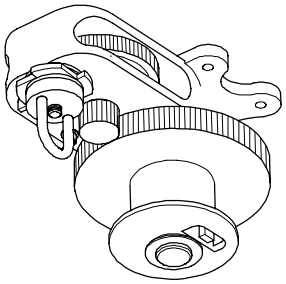

**FIGURE 26.**

# CENTRAL WINCH INSTALLATION

**IMPORTANT : INSTALL WINCH ABOUT IN THE MIDDLE, AT THE FIRST FIXATION IN THE DIRECTION OF THE 100KG HOPPER*, NOT AT THE END OF A LINE ! MAXIMUM LIFTING POWER : 800KGS.**

**THE TRACTION OF THE WINCH IS 800 KG. INSTALL THE WINCH AT A SOLID SPOT IN THE ROOF CONSTRUCTION. REINFORCE WHEN NECESSARY.**

☞ **= HAND OPERATED CENTRAL WINCH.**



Roxell supplies the hand operated winch without mounting plate and bolts/nuts.

Fix the winch directly to a SOLID CEILING.

If you want to use a mounting plate : see drawing.
You can install plate & winch in any direction.

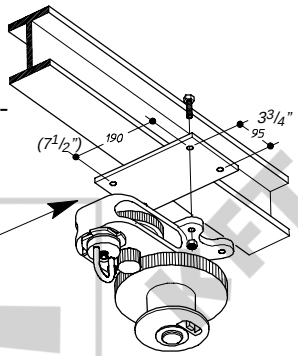
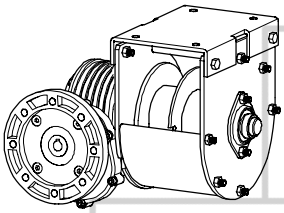



**FIGURE 27.**

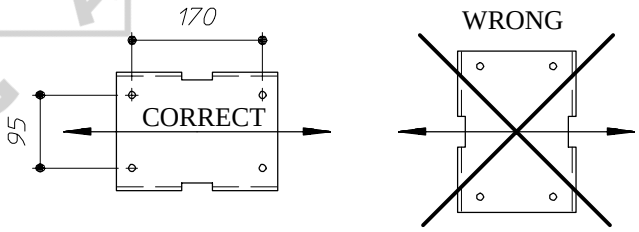
Winching up speed :
1m/minute.

**= CENTRAL WINCH W/GEARBOX (MOTOR OPERATED), supplied with MOUNTING PLATE.**



Install the motor after finishing the installation.

Fix this plate to the ceilings before the insulation. Pay attention to the correct direction.



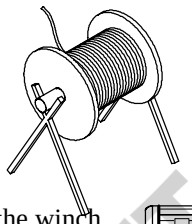

Fix the winch to the plate with bolts and locknuts.

**FIGURE 28.**

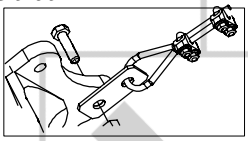
# TO INSTALL THE MAIN CABLE

**CONSIDER THE DOUBLE DIVERSION !! ONLY THEN INSTALL THE CABLE. YOU CAN HANG THE MAIN CABLE IN THE SCREW HOOKS FOR THE TIME BEING.**

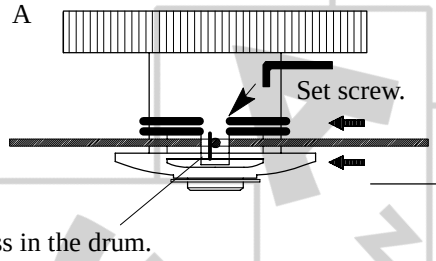
- Start at the end of the circuit.
- Hang the roll of cable in a support to prevent torsion when unrolling the cable.
- Pull the cable through the first pulley.
- Unroll the cable towards the winch until you have the required length.



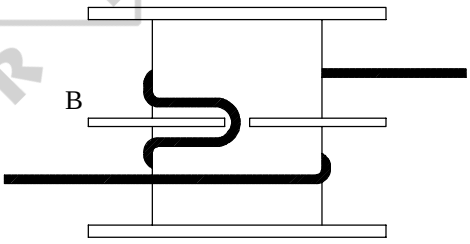
- Pull the main cable through the bottom hole of the drum.
- **Always** connect the main cable with **two** cable clamps.
- Hook the cable over the recess in the drum (if necessary use a screw driver and a light hammer).
- Fix the cable with a set screw. See that you ***do not damage*** the cable by tightening too much.
- Make **4 full turns** on the drum, guide the cable against the drum flange and make sure that windings touch each other.
- **Always** fix the main calble with **two** cable clamps.



- Stretch the main cable by using counterweights (e.g. : power units).




- Guide the main cable through the winch.
- Hook the cable on the drum flange.
- Make **4 full turns** on the drum, guide the cable against the drum flange and make sure that windings touch each other.




- Now you can start the complete suspension of the system

**FIGURE 29.**

**AFTER INSTALLING THE SUSPENSION CABLES, MAKE SURE THAT THE CABLE RUNS ALONGSIDE (NOT THROUGH) THE SCREW HOOKS AND THE PULLEYS. THE MAIN CABLE RUNS ONLY THROUGH THE HEAVY DUTY PULLEYS AND THE PULLEYS AT BOTH ENDS OF THE CIRCUIT.**

SINGLE DIVERSION (OVER 86M)

**SINGLE DIVERSION**

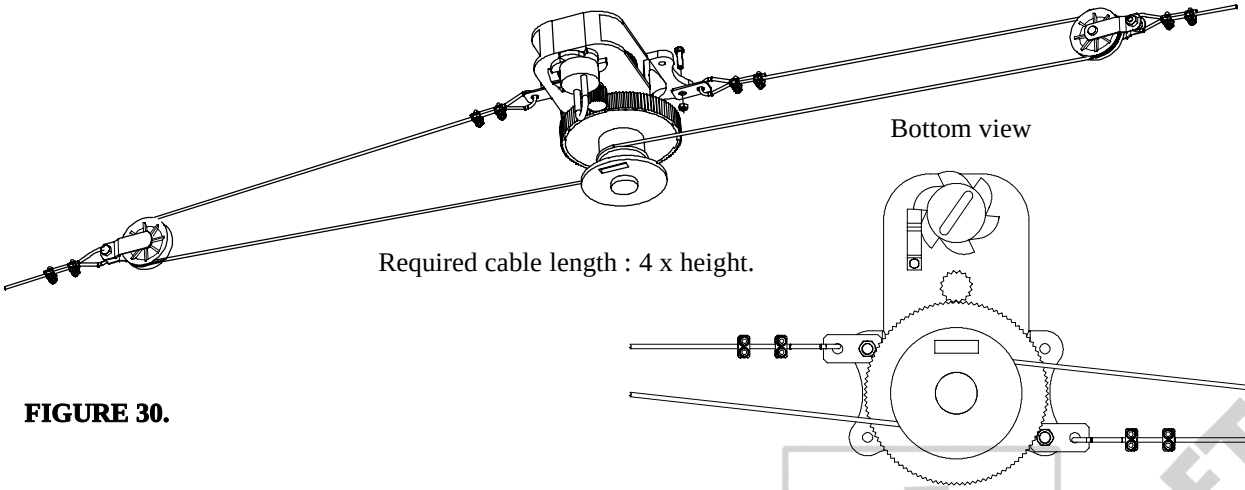



**FIGURE 30.**

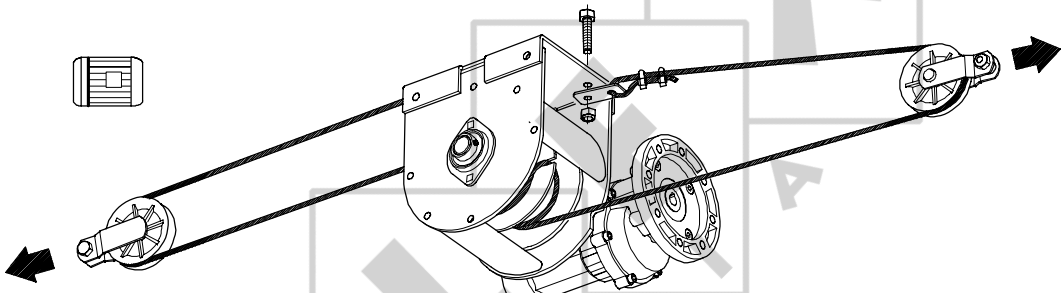


**FIGURE 31.**

# TO INSTALL THE CIRCUIT

## ORGANIZATION ASSEMBLY PLACE

The assembly time of the pan, including fastening the pan at the tubes is about 8 to 16 pans per hour per operator.

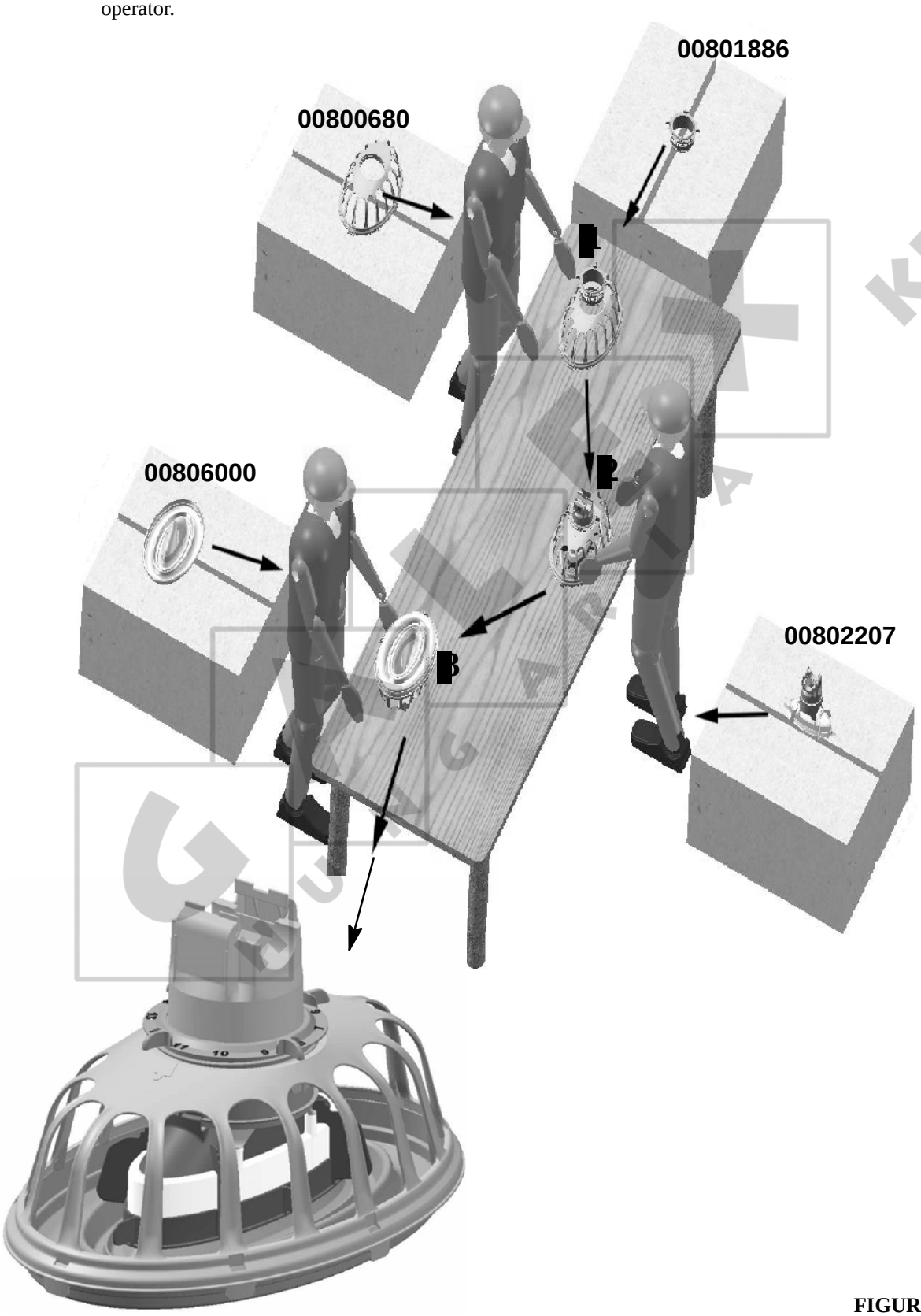
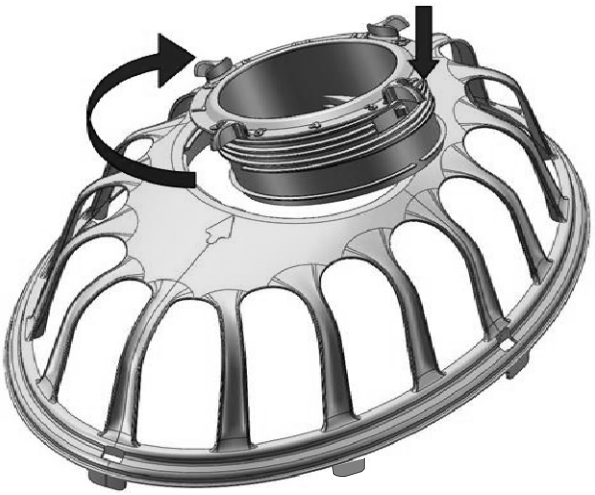
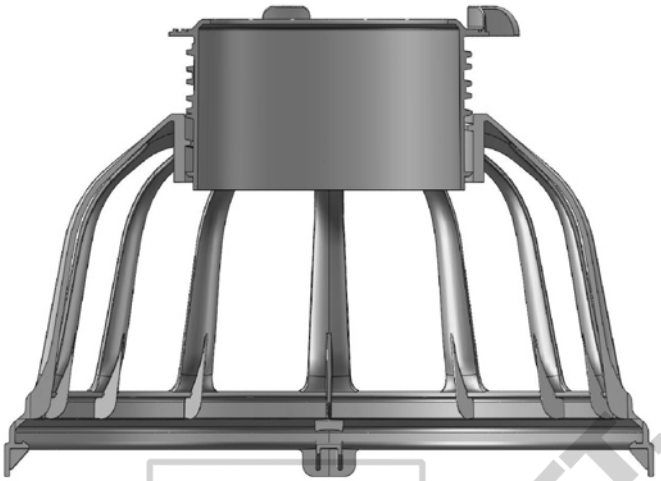



**FIGURE 32.**

# TO INSTALL THE FEEDER PANS

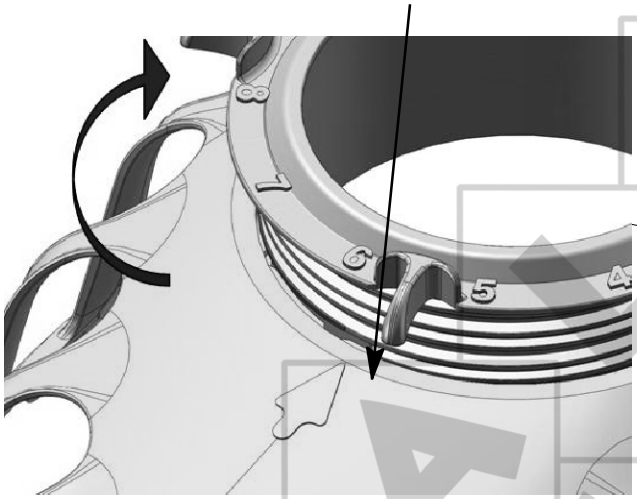
**1** Push the lowest edge of the adjuster ring with a turning movement in the screw thread of the grill.





Turn the adjuster ring into the grill.

Position the entry of the screw thread of the adjuster ring (below position 6) at the entry of the screw thread of the grill.



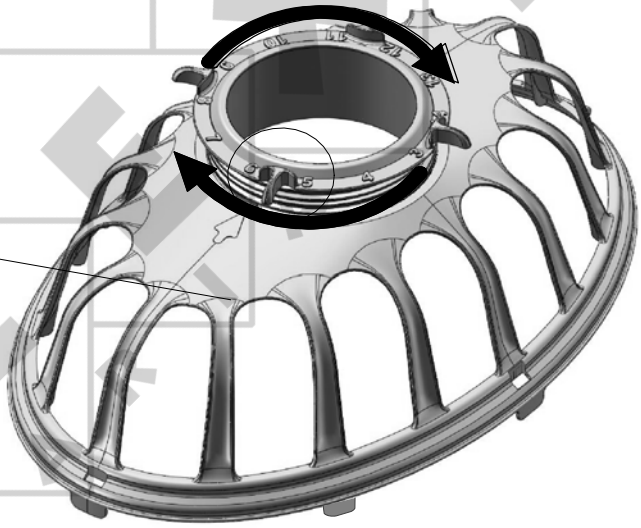



**FIGURE 33.**

Turn the ring 1 tour until the click begins to work.

*CLICK* *CLICK*


Turn each adjuster ring to the desired position depending on the house length, kind of feed, breed, age of animals. See also figures NO TAG-4. pages NO TAG & I-7.

Put in position 10 if you cannot determine the correct position.

**FIGURE 34.**

**2**

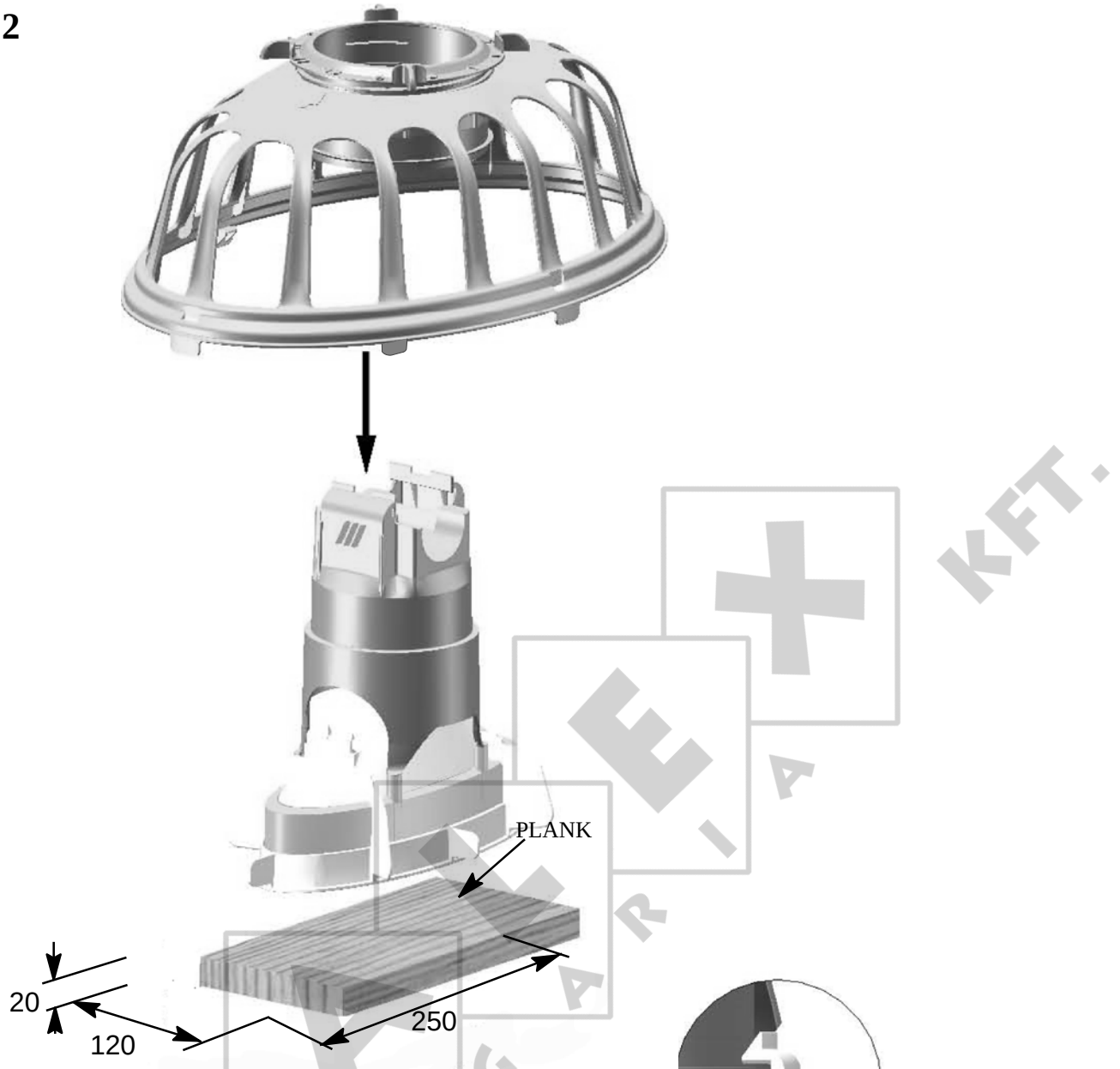
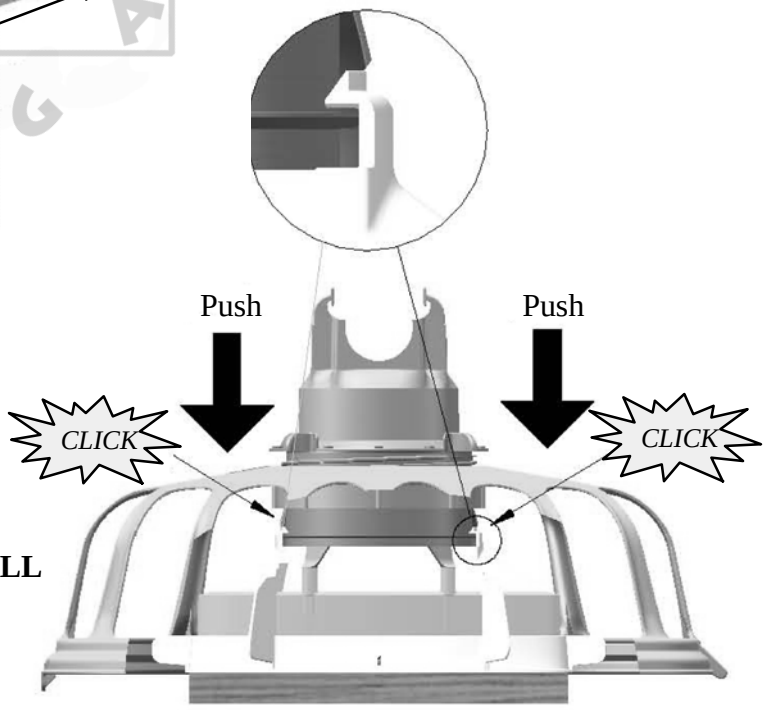



**FIGURE 35.**

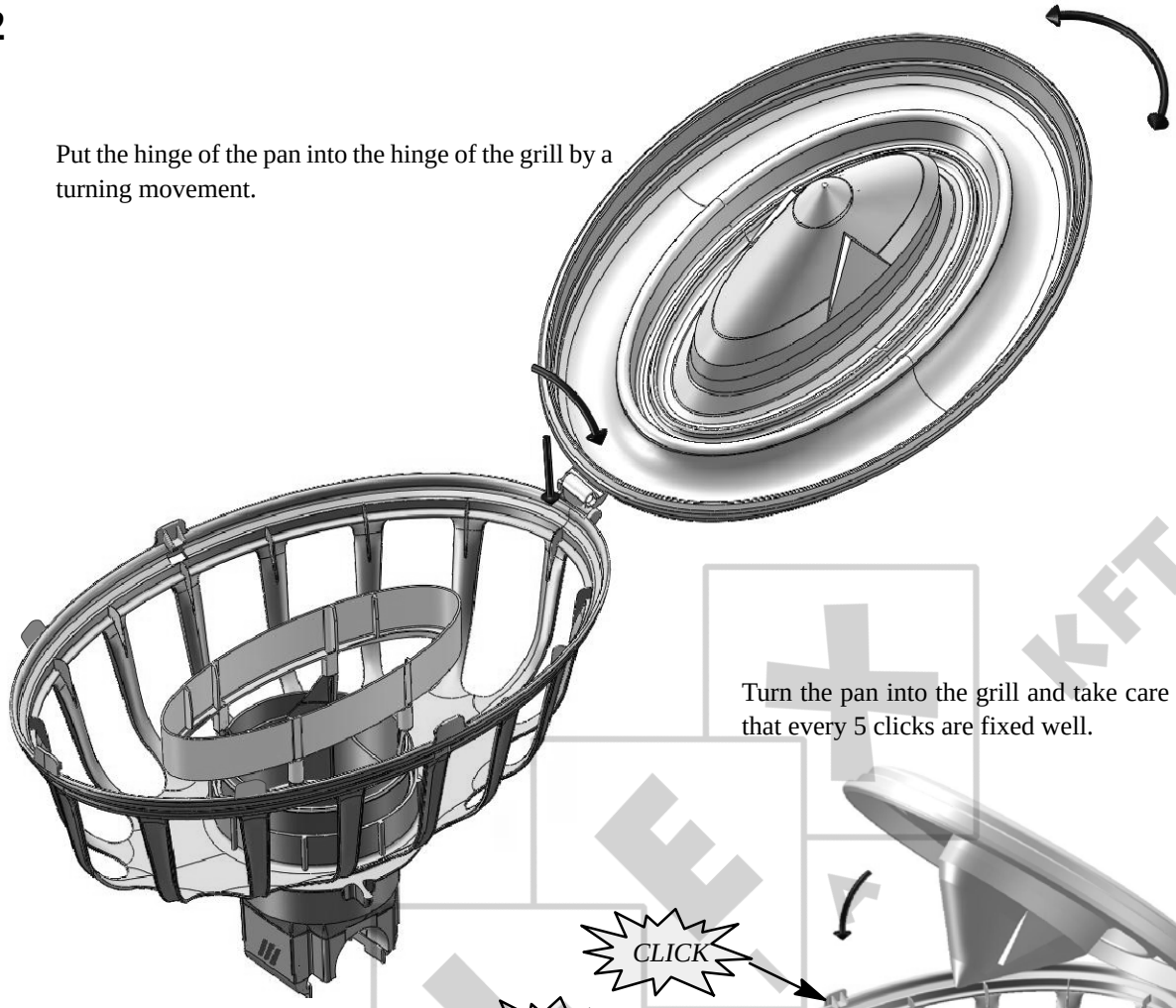



**ATTENTION: CHECK THAT ALL KLIKS ARE FIXED WELL !**

**FIGURE 36.**

## 2

Put the hinge of the pan into the hinge of the grill by a turning movement.



Turn the pan into the grill and take care that every 5 clicks are fixed well.

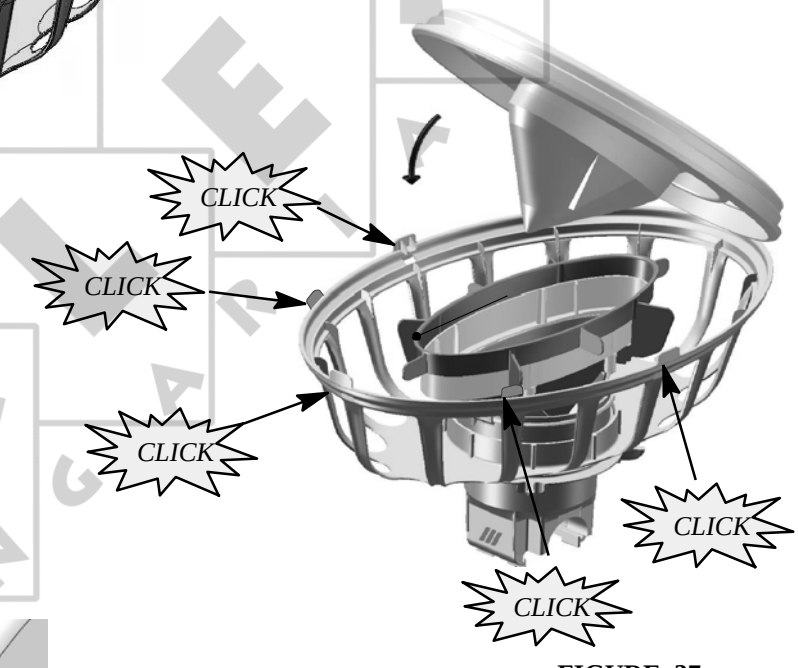



**FIGURE 37.**

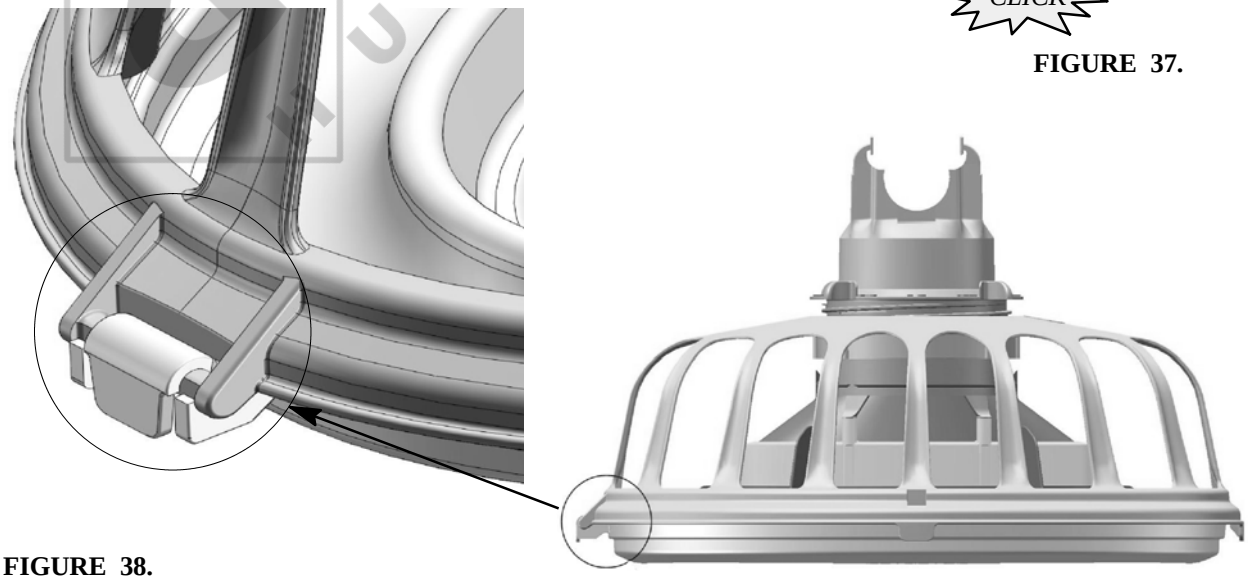


**FIGURE 38.**

# TO INSTALL THE PANS ON TUBES

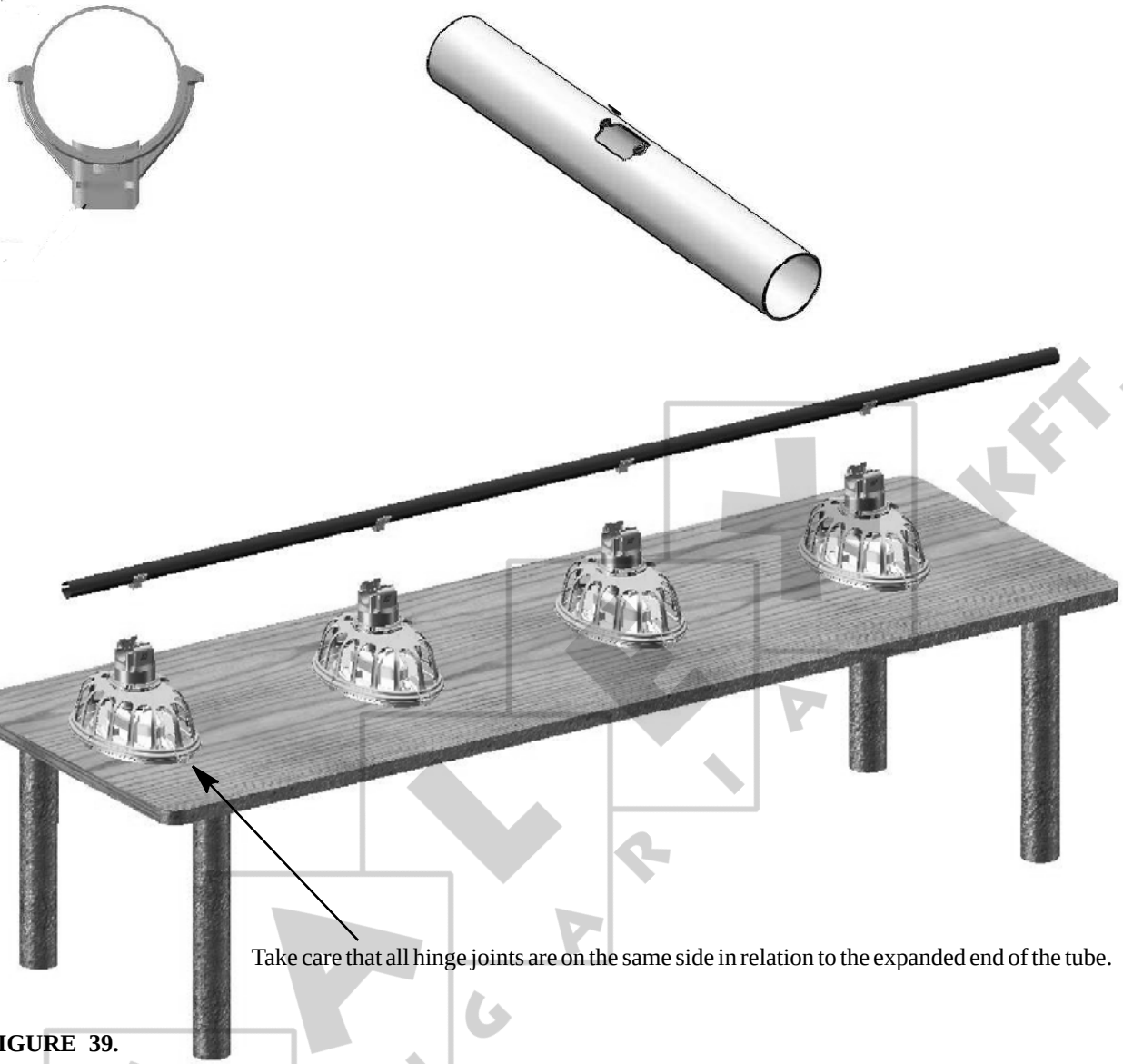



**FIGURE 39.**

# ASSEMBLY TOP SUPPORT

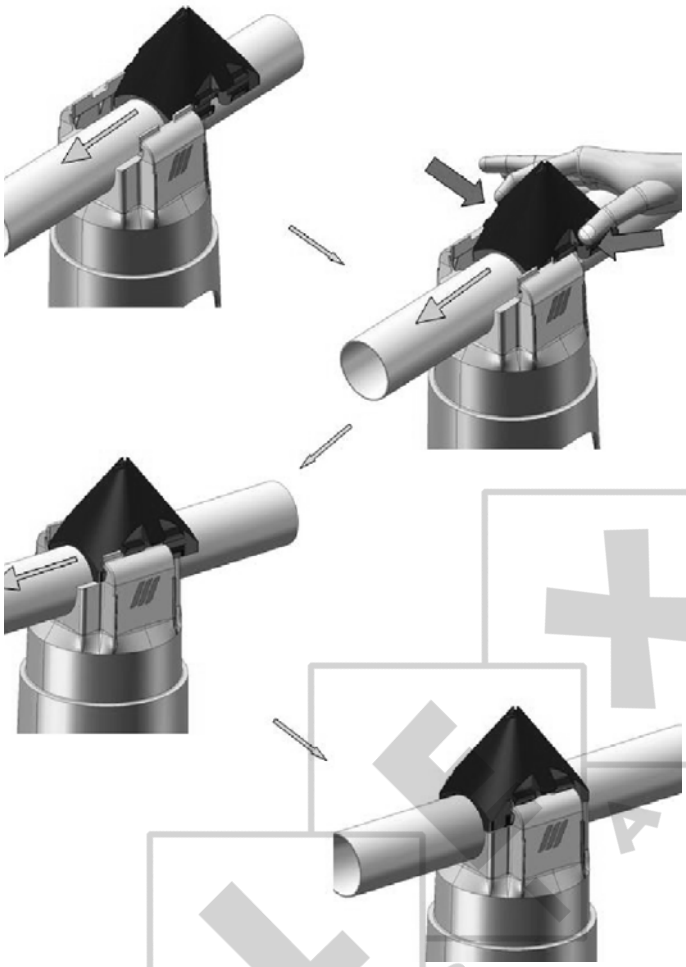


**FIGURE 41.**

***<u>OPTIONAL</u> : TO INSTALL THE SHUT-OFF-SHELL.***

*Put shut-off-shell underneath the drop hole in the tube.*

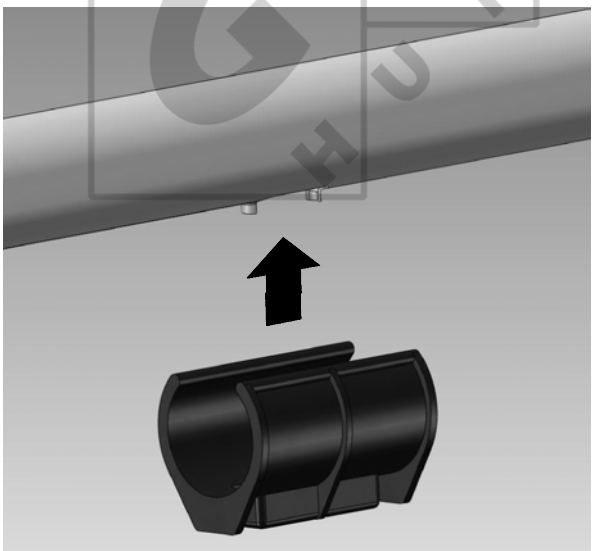


**FIGURE 42.**

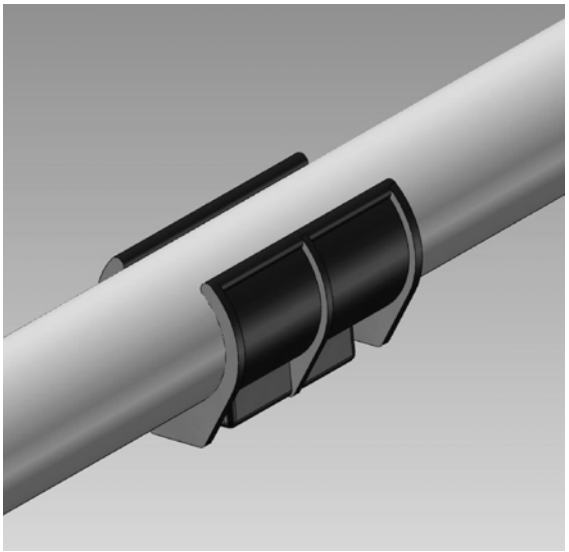
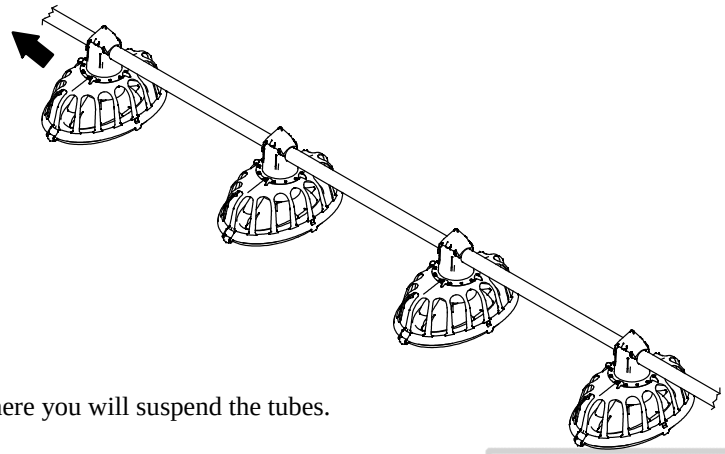


**FIGURE 43.**

## TO INSTALL THE FEEDER LINE

Put the tubes with the pans on the floor. Expanded ends pointed towards the 100kg hopper.

100kg hopper.
Expanded end



Make a row at the spot where you will suspend the tubes.

Connect the tubes : push each tube as far as possible into the socket of the next tube.
ATTENTION : All holes pointing straight downwards ! (Welding seams upside).

**FIGURE 43.**

## TO INSTALL THE INTAKE BOOT

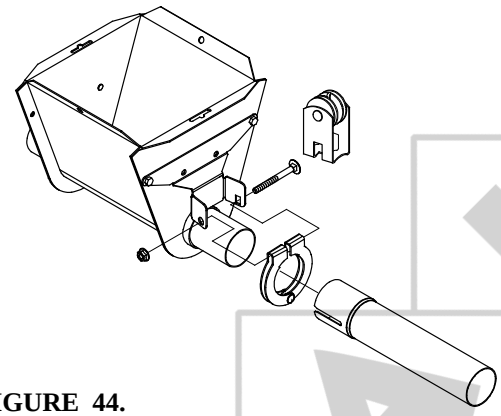


**FIGURE 44.**

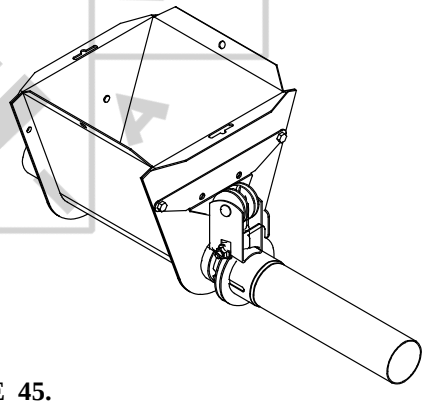


**FIGURE 45.**

## FEEDER LINE SUSPENSION

Start suspension from the central winch. Proceed to both ends until the preparation of the suspension is finished.

Fix the suspension cable as follows :

**TO START, SUSPEND ALL CABLES UNDER SLIGHT TENSION.**

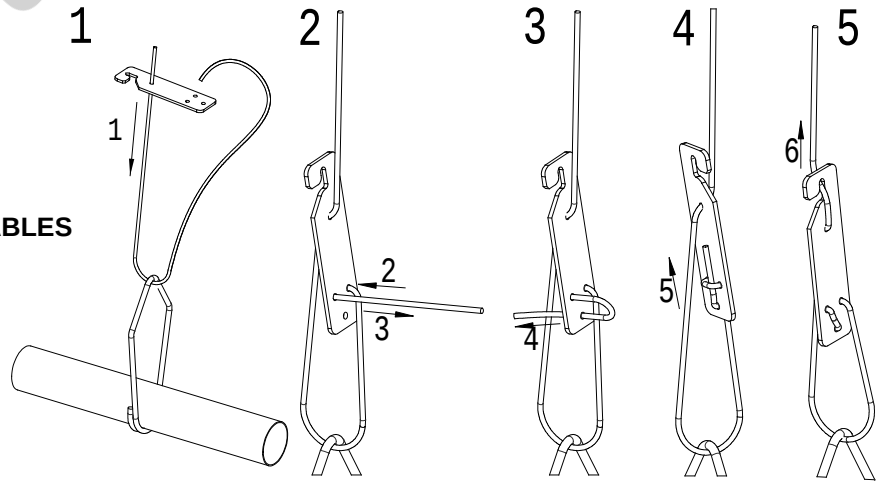



**FIGURE 46.**

## TO INSTALL THE CONTROL PAN

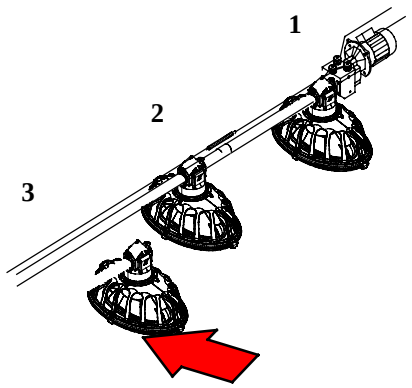
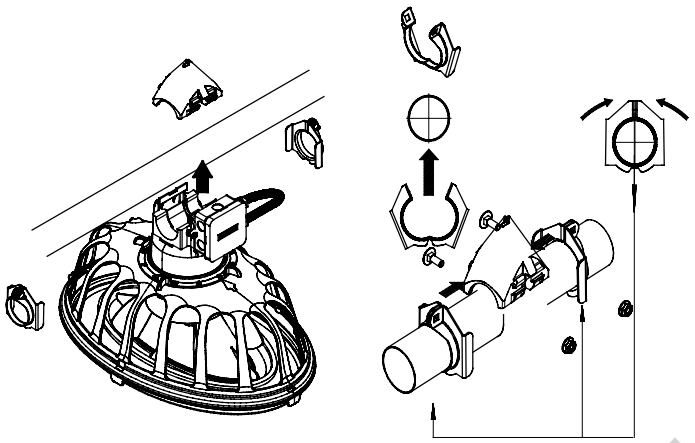



FIGURE 48.



Tighten the clamp with the supplied bolts and nuts.

FIGURE 49.

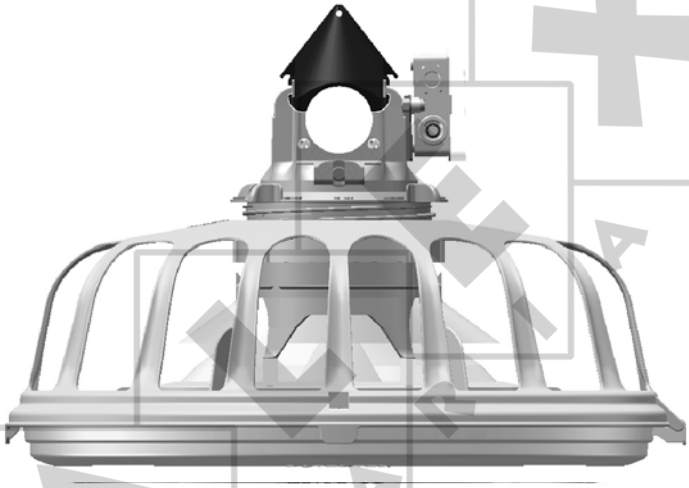


FIGURE 50.

## TO SUSPEND THE POWER UNIT

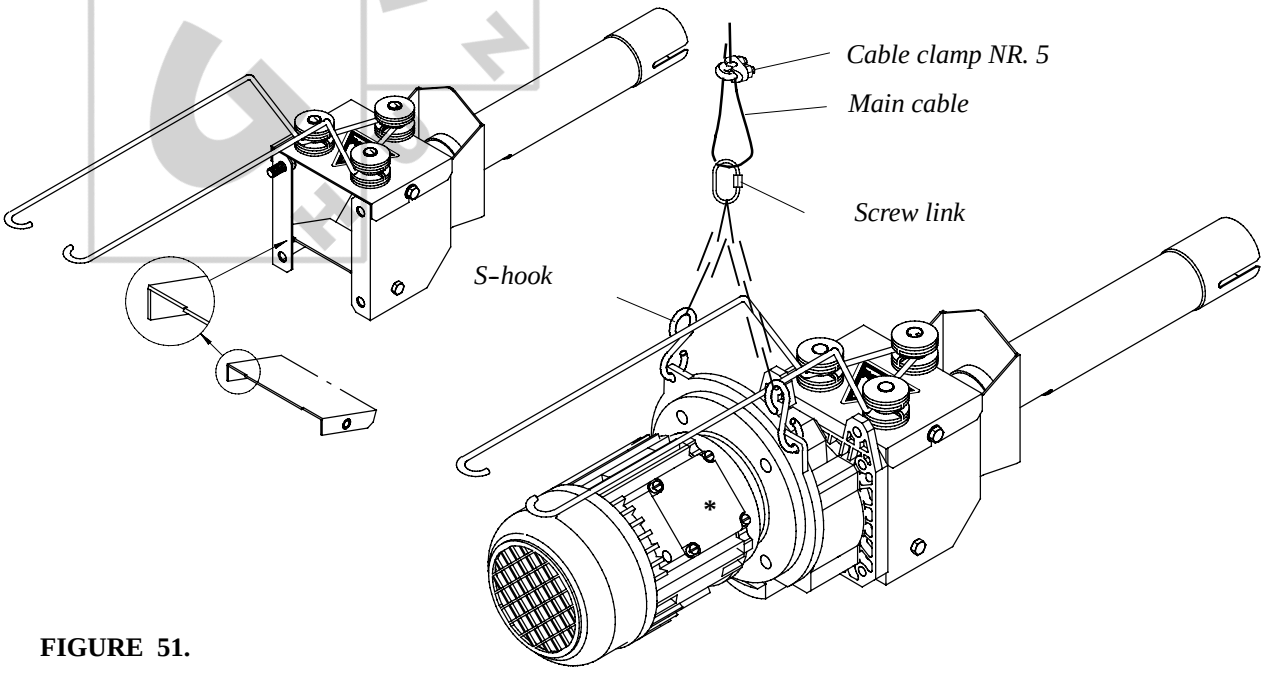


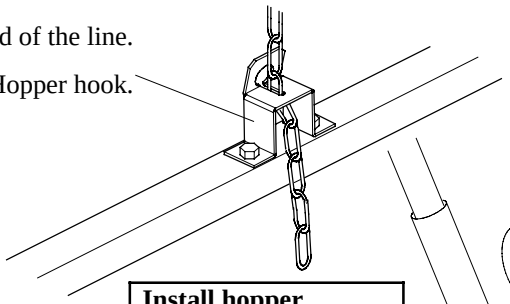

FIGURE 51.

# TO INSTALL THE 100KG HOPPER W/SMALL WEIGHER & MINIMUM SWITCH

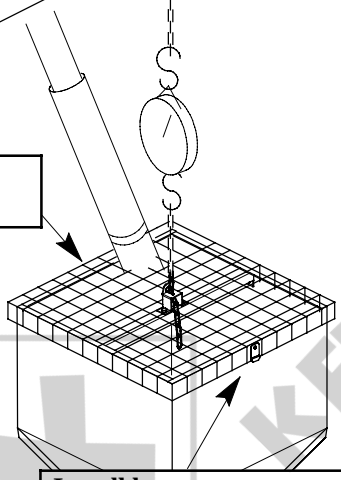
Install the feed intake boot at the opposite end of the line.

Hopper hook.

Chain 3,5mm.



**Install hopper cover lock.**



Roxell supplies the 100Kg hopper unassembled.

Use drawing page II-19 as an assembly guideline.

**Install hopper cover lock.**

**FIGURE 52.**

## HEIGHT ADJUSTMENT OF THE 100KG HOPPER

1. Pull chain backwards.

winch up
or
descend

the hopper to the desired height

2. Disengage the chain. It is locked while dropping into the slot.
3. Pull the chain through the hopper hook.

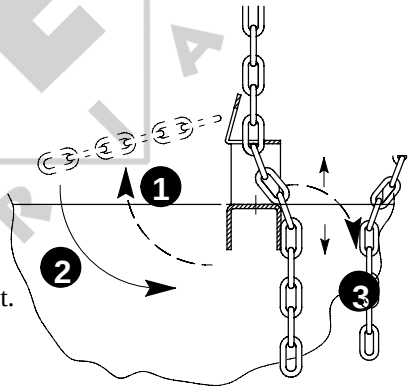
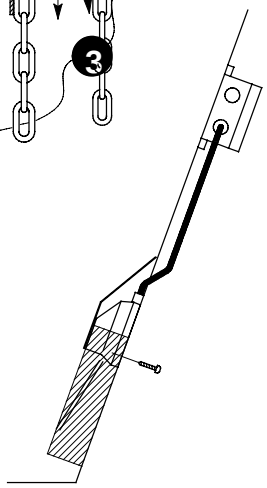
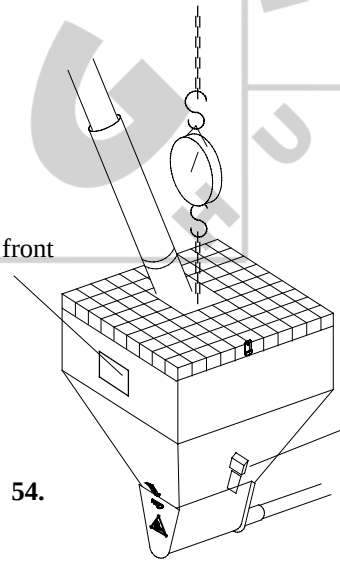



**FIGURE 53.**

Minimum switch at feeder tube side !



Decal in front



Drill holes.

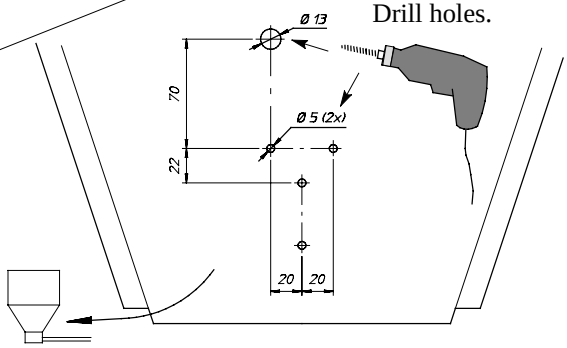



**FIGURE 54.**

After suspending the hopper : fix it to the feed intake boot with a clamp, hook and spring cotter.

# ELECTRICAL SYMBOLS

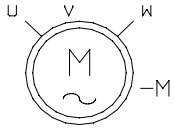
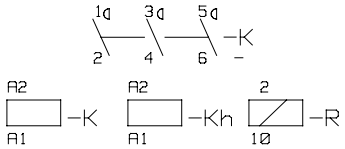
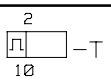
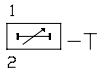
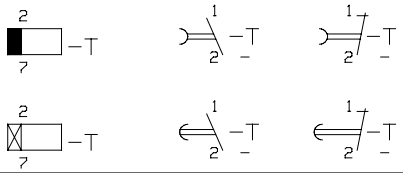
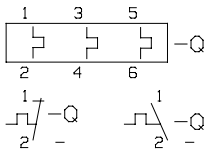
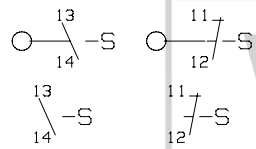
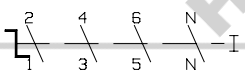
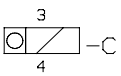
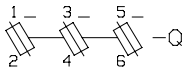
| | |
|---|---|
|  | MOTOR |
|  | - K = CONTACT<br>- Kh= RELAY<br>- R = AUXILIARY RELAY |
|  | TIME RELAY (W/ IMPULSE CONTACT) |
|  | ADJUSTABLE TIME RELAY W/O CONTACT |
|  | OFF-DELAY CONTACT<br>ON-DELAY CONTACT |
|  | OVERLOAD RELAY |
|  | SIGNAL LAMP : VOLTAGE (WHITE)<br>SIGNAL LAMP : ON (RED)<br>SIGNAL LAMP : FAILURE (ORANGE-YELLOW)<br>SIGNAL LAMP : END OF CYCLE |
|  | LEVEL OR END SWITCH |
|  | ON-OFF SWITCH |
|  | PUSH BUTTON |
|  | MAIN SWITCH |
|  | TIME CLOCK |
|  | COUNTER |
|  | FUSES |

**FIGURE 55.**

# ELECTRICAL CONNECTION OF THE WINCH MOTOR (3-PHASE)

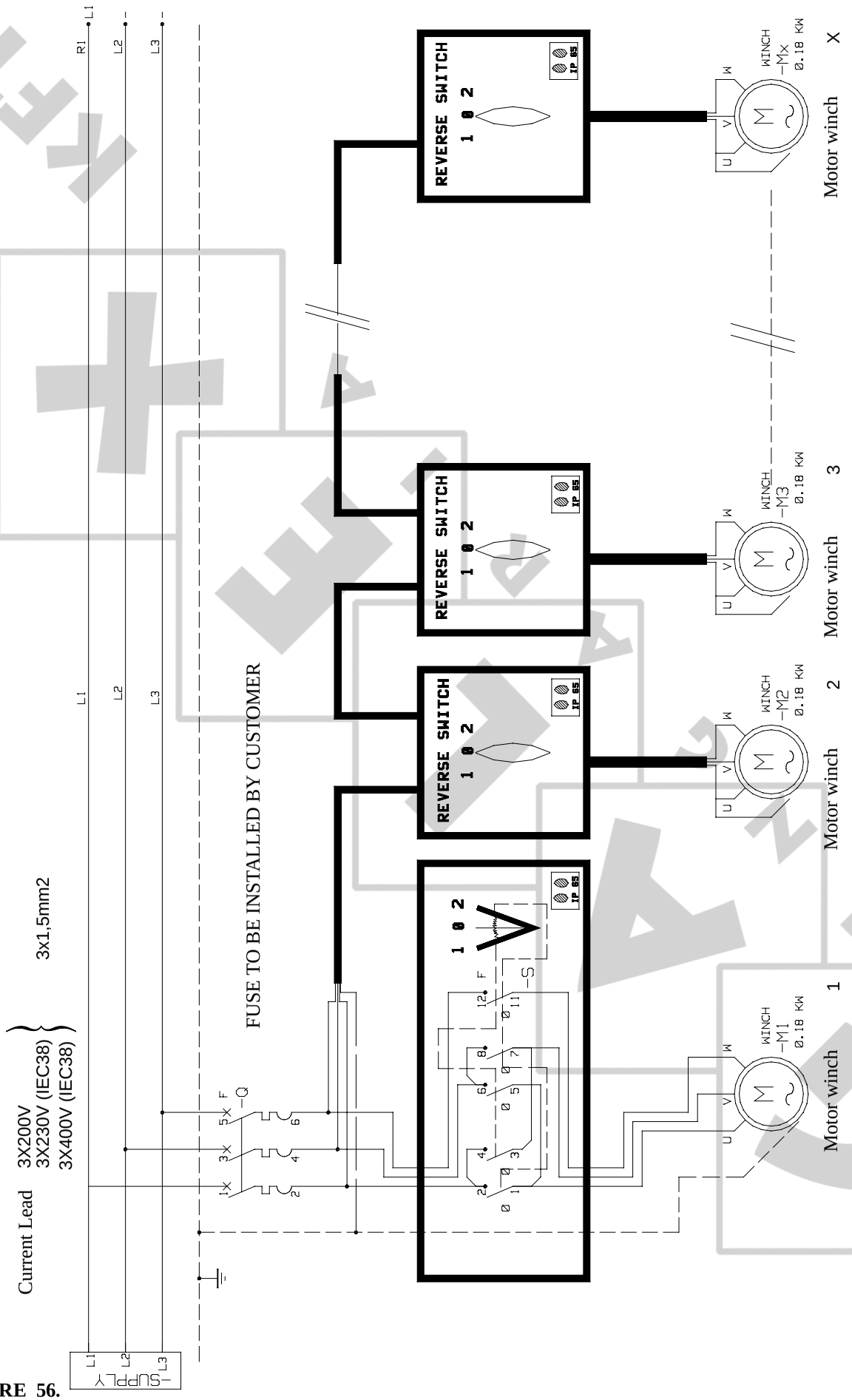



**FIGURE 56.**

# ELECTRICAL CONNECTION OF THE WINCH MOTOR (3-PHASE)

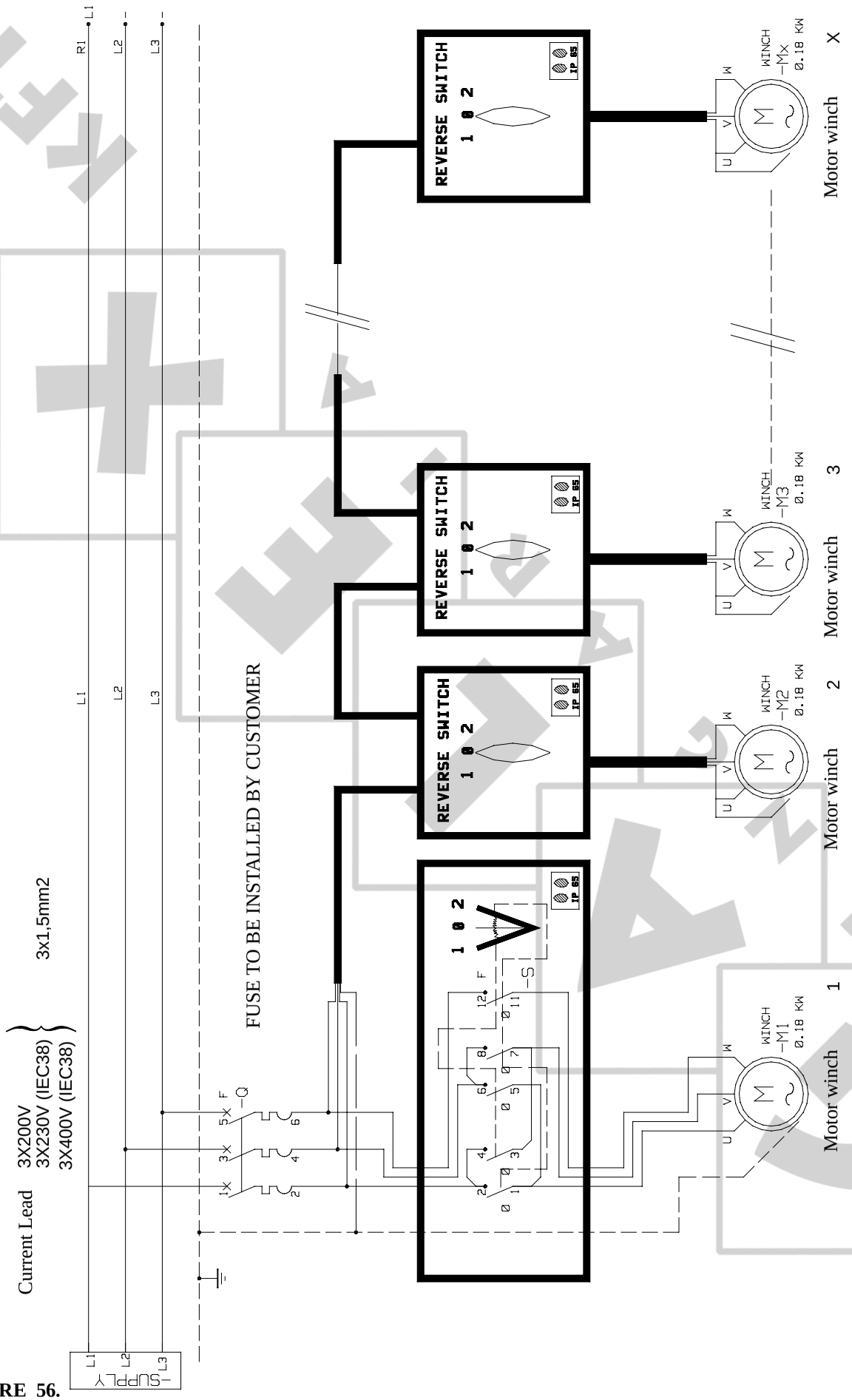



**FIGURE 56.**

## INDEXING TABLE FOR TUBES WITH 2 PANS

10206092

| Tube no.. | NUMBER OF TUBES | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 |
| 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 |
| 2 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 |
| 3 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 |
| 4 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 |
| 5 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 |
| 6 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 |
| 7 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 |
| 8 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 |
| 9 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 |
| 10 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 |
| 11 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 |
| 12 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 |
| 13 | 7 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 |
| 14 | 7 | 7 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 |
| 15 | 8 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 |
| 16 | 8 | 8 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 |
| 17 | 9 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 |
| 18 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 |
| 19 | 10 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 |
| 20 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 |
| 21 | 11 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 |
| 22 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 |
| 23 | 12 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 |
| 24 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 |
| 25 | 13 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 |
| 26 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 |
| 27 | 14 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 |
| 28 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 |
| 29 | 15 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 |
| 30 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 |
| 31 | 16 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 |
| 32 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 |
| 33 | 17 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | |
| 34 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | |
| 35 | 18 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | |
| 36 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | |
| 37 | 19 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | | |
| 38 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | | | |
| 39 | 20 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | | | | |
| 40 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | | | | | |
| 41 | 21 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | | | | | | |
| 42 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | | | | | | | |
| 43 | 22 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | | | | | | | | |
| 44 | 22 | 22 | 23 | 23 | 24 | 24 | 24 | | | | | | | | | | | | |
| 45 | 23 | 23 | 23 | 24 | 24 | 24 | | | | | | | | | | | | | |
| 46 | 23 | 23 | 24 | 24 | 24 | | | | | | | | | | | | | | |
| 47 | 23 | 24 | 24 | 24 | | | | | | | | | | | | | | | |
| 48 | 24 | 24 | 24 | | | | | | | | | | | | | | | | |
| 49 | 24 | 24 | | | | | | | | | | | | | | | | | |
| 50 | 24 | | | | | | | | | | | | | | | | | | |

**FIGURE 57.**

## INDEXING TABLE FOR TUBES WITH 3 PANS

10206100

### NUMBER OF TUBES

| Tube no.. | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 |
| 8 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 |
| 9 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 |
| 10 | 8 | 9 | 9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 |
| 11 | 9 | 9 | 10 | 10 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | |
| 12 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | |
| 13 | 10 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | |
| 14 | 10 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 14 | 14 | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | |
| 15 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 15 | 15 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | |
| 16 | 11 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 16 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | |
| 17 | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | |
| 18 | 12 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | |
| 19 | 13 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | |
| 20 | 13 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | |
| 21 | 14 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | |
| 22 | 14 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | |
| 23 | 15 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | |
| 24 | 15 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | |
| 25 | 16 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | |
| 26 | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | |
| 27 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | |
| 28 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | |
| 29 | 18 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | |
| 30 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | |
| 31 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | |
| 32 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**FIGURE 58.**

## INDEXING TABLE FOR TUBES : ALTERNATELY 3 & 4 PANS/TUBE AND 4 PANS/TUBE

10206118

| Tube no.. | NUMBER OF TUBES | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 |
| 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | |
| 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | | |
| 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | | | |
| 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | | | | |
| 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | | | | | |
| 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | | | | | | |
| 17 | 16 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | | | | | | | |
| 18 | 17 | 17 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | | | | | | | | |
| 19 | 17 | 18 | 18 | 19 | 19 | 19 | 19 | 19 | 19 | 20 | 21 | 22 | 23 | 24 | 24 | | | | | | | | | |
| 20 | 18 | 18 | 19 | 19 | 20 | 20 | 20 | 20 | 20 | 21 | 22 | 23 | 24 | 24 | | | | | | | | | | |
| 21 | 18 | 19 | 19 | 20 | 20 | 21 | 21 | 21 | 21 | 22 | 23 | 24 | 24 | | | | | | | | | | | |
| 22 | 19 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 22 | 23 | 24 | 24 | | | | | | | | | | | | |
| 23 | 19 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | |
| 24 | 20 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | |
| 25 | 20 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | |
| 26 | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | |
| 27 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | |
| 28 | 22 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | |
| 29 | 22 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | |
| 30 | 23 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | |
| 31 | 23 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | |
| 32 | 24 | 24 | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 24 | | | | | | | | | | | | | | | | | | | | | | | |

**FIGURE 59.**

# TO INDEX THE FEEDER TUBES

Turn the feed intake boot 180 °Let it rest on a support, so that the pans do not touch the floor. This allows you to index the tubes in the correct way. Winch up the line to level it.

Take care to secure the feed intake boot firmly, so that it ***does not*** come loose from the support.

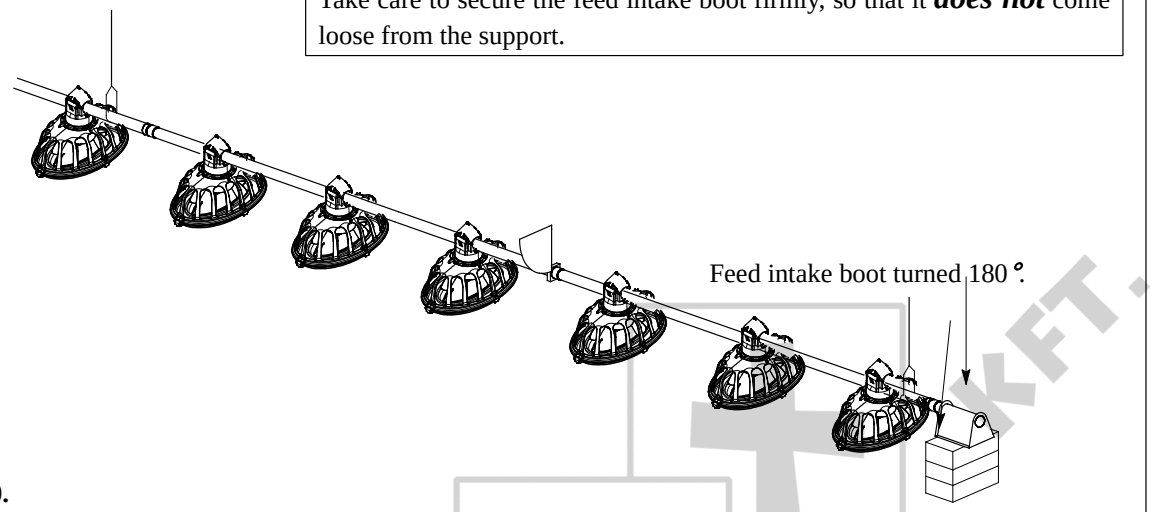



**FIGURE 60.**

***<u>Attention</u> : do not change the indexing when resetting the feed intake boot at 0 °. or when tightening the clamps (e.g. the tubes must not turn).***

Always proceed in the same way to put the indexing gauge on the tube, e.g. : by putting the bolt always down into the slot of the expanded end.

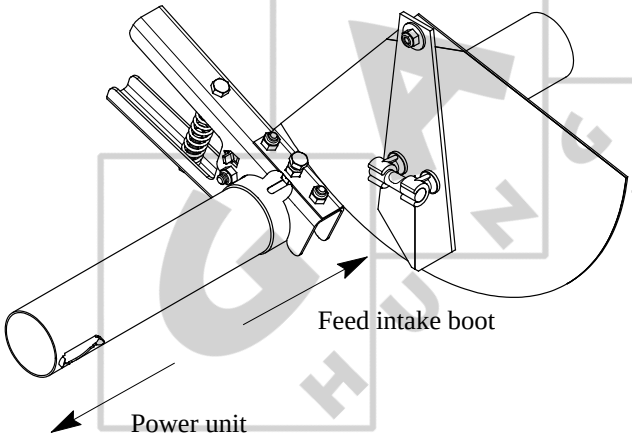



**FIGURE 61.**

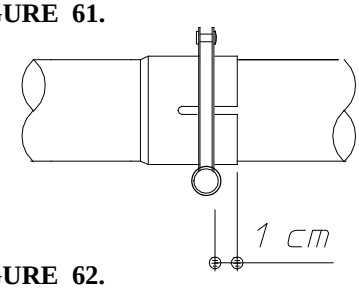



**FIGURE 62.**

1. ***<u>Always</u>*** start indexing at the boot.
2. Place the indexing gauge on the expanded end of the tube, as indicated on fig., with indexing disc upwards
3. Choose the correct chart according to the number of pans per tube (e.g. 1 pan/tube)
4. Use the indexing chart. You will find a series of cipher and letter combinations which correspond to the decal on the indexing gauge. In the chart column which corresponds to the length (i.e. the number of tubes) of the line, you will find the indexing positions tube by tube. No. 1 starts at the 100 kg hopper.
5. Turn the tube until the air bubble in the level glass gets exactly between the 2 dashes.
6. Turn the tubes separately/one by one by means of multigrip pliers, not by means of the indexing gauge. See to it that the outlet holes are at the right side of the tube. (The V-shaped opening is pointing downwards !)
7. Tighten the tube clamp firmly on the expanded end. Respect the indicated distance (= 1cm ). Do not deform the tubes.
8. When turning the next tube, hold the previous one already indexed, to avoid that it turns along.

***Very important*** : it is highly recommended to mark each expanded end of the indexed couple of tubes, and to indicate the number of the tube :

- In order to make it easier to keep the exact number on the scale with the exact tube.
- In order to check after the indexing whether the tubes have not turned separately. This check is still possible at any later time.

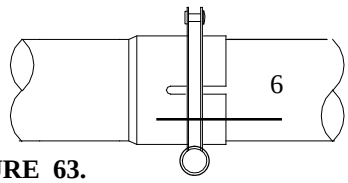



**FIGURE 63.**

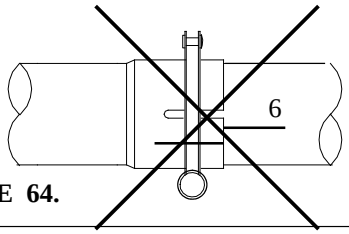



**FIGURE 64.**

## SOME PRACTICAL TIPS :

- Walk along the lines during the first feedings, to see whether no irregularities have occurred in the indexing. (Parts of the line which get more or less feed.)
- Due to diversity in the kinds of feed, it is possible that in the front of at the back of the feeder line, too much (or too little) feed accumulates because of the position of the feed in the tube.

Proceed as follows : loosen the tube clamps at the feed intake boot and control unit.

If too much feed in front (too little in the back) : turn the tubes a bit higher.

If too little feed in front (too much in the back) : turn the tubes somewhat lower.

After correction, put all feeder pans back into horizontal position (when needed).

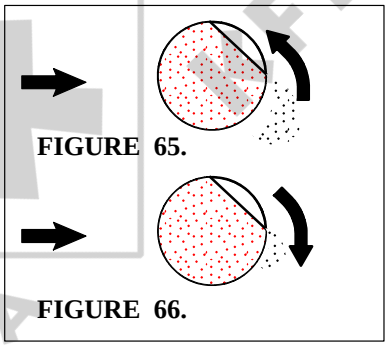


**FIGURE 65.**

**FIGURE 66.**

# TO INSTALL THE AUGER

**ALWAYS USE SAFETY GLOVES WHEN YOU WORK ON THE AUGER !**

Remove all wires, labels etc.. from the auger.

**TAKE CARE THAT THE AUGER DOES NOT UNROLL !**

If the auger is kinked or bent: straighten it by plying it over the upper leg.

**FIGURE 67.**

Remove the anchor from the feed intake boot.

**FIGURE 68.**

Put the auger coil about 4m from the feed intake boot. One person Gradually unrolls the auger while a second person gives **short pushes (MAX 40cm to avoid bending and kinking**) to slide the auger into the tube.

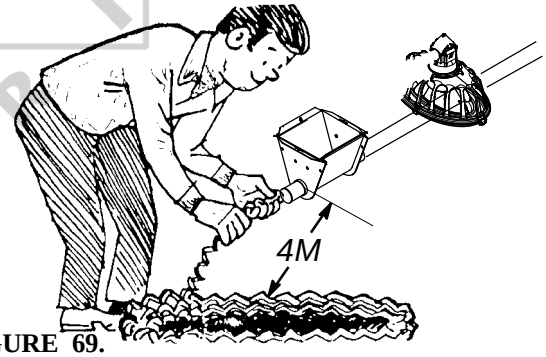



**FIGURE 69.**

## *OPTION : USE OF THE AUGER INJECTOR KIT : SEE PAGE III-44*

Fix the auger to the drive shaft of the gearhead with the drive block.

Put the thin edge towards the gearbox.

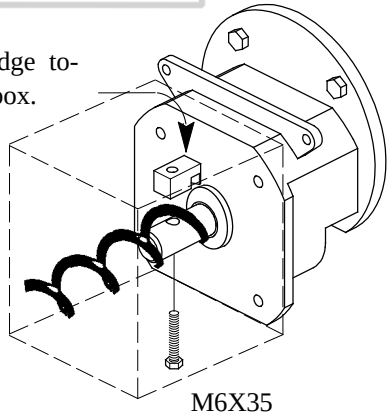



**FIGURE 70.**

Pull the auger until it stretches, then let it relax. Mark the auger at the edge of the feed intake boot.

Feed intake boot.

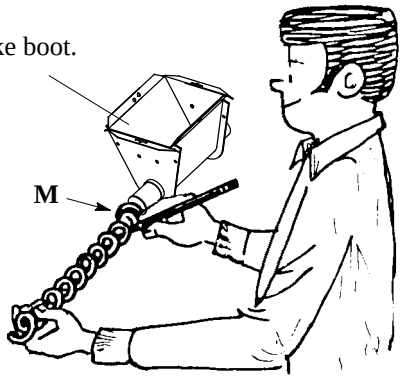
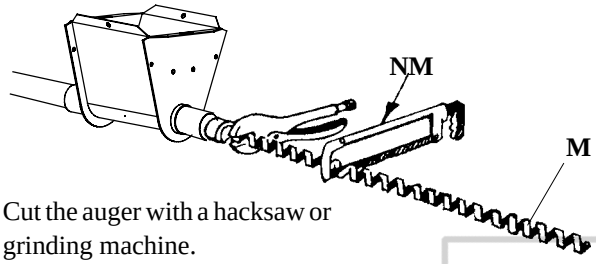



**FIGURE 71.**

**ALWAYS SEE THAT THE AUGER CANNOT SPRING BACK (BY USING CLAMPS) WHEN YOU PUT IT UNDER TENSION.**

Stretch the auger **1,7cm per 3m tube.** Measure the required stretch from Mark **M** to the feed intake boot. Here you put a new mark **NM**

Now put a pliers past this mark **NM** Let the auger slide back into the tube until the pliers rest against the feed intake boot.




Cut the auger with a hacksaw or grinding machine.

**FIGURE 70.**

Slide the anchor into the auger until the auger touches the anchor end.

Firmly tighten the set screw in the middle of the anchor, so it will expand and clamp the auger.

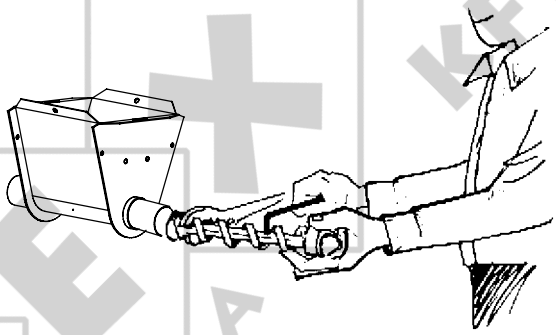


**FIGURE 71.**

Slide the auger slowly back into the tube. Reinstall the bearing holder and fix with a tube clamp.

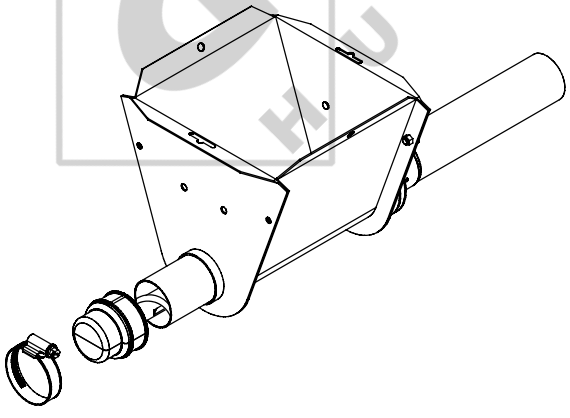


**FIGURE 72.**

Cautiously slide the cannon ball ∅75mm (option – if ordered) into the feed intake boot.

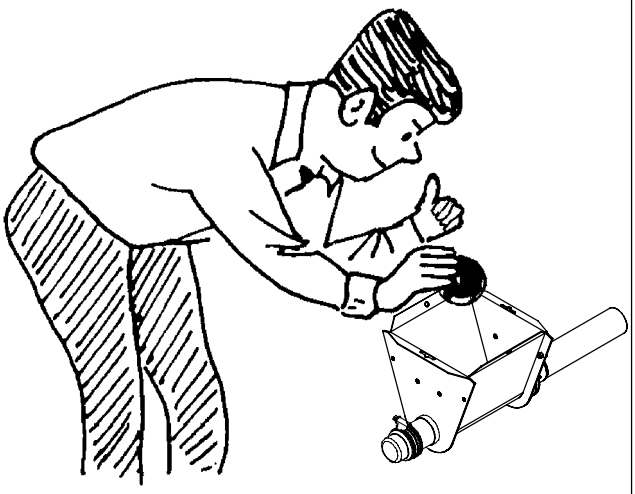


**FIGURE 73.**

# TO INSTALL THE THUMPER (OPTION)

**DO NOT USE THIS THUMPER WITH A DOUBLE FEED INTAKE BOOT !!!**

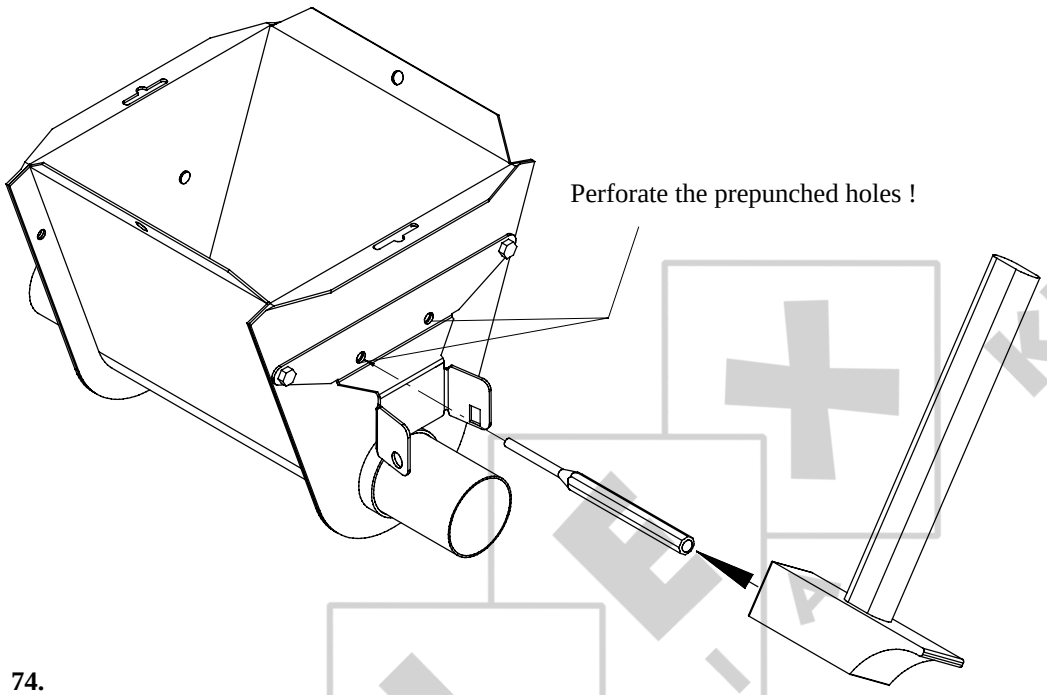



**FIGURE 74.**

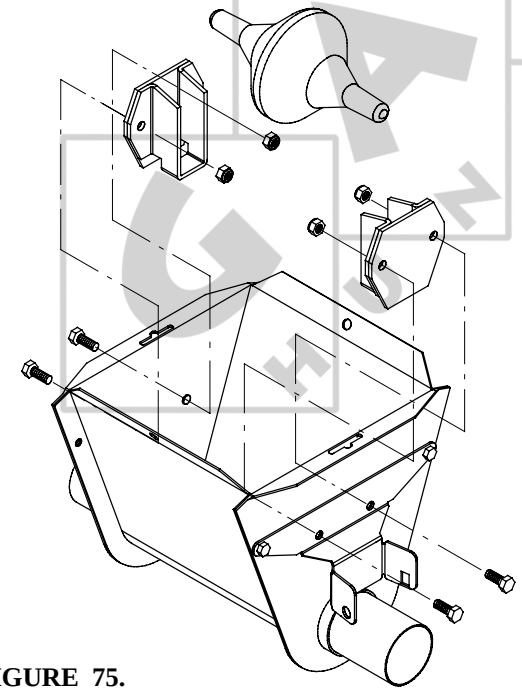


**FIGURE 75.**

SECTION

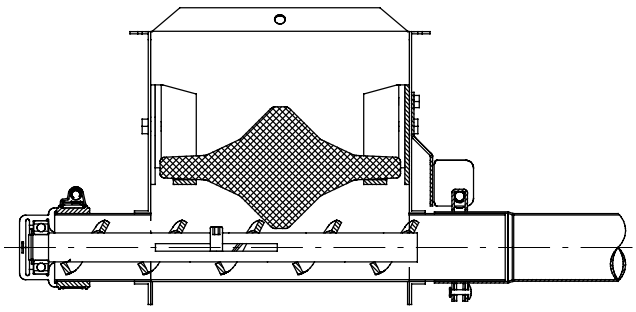


**FIGURE 76.**

# TO INSTALL THE ANTI–SWINGING CLAMP (AFTER INDEXING)

**YOU CAN ALSO FIX THE PANS AFTER INSTALLING AND INDEXING THE SYSTEM**

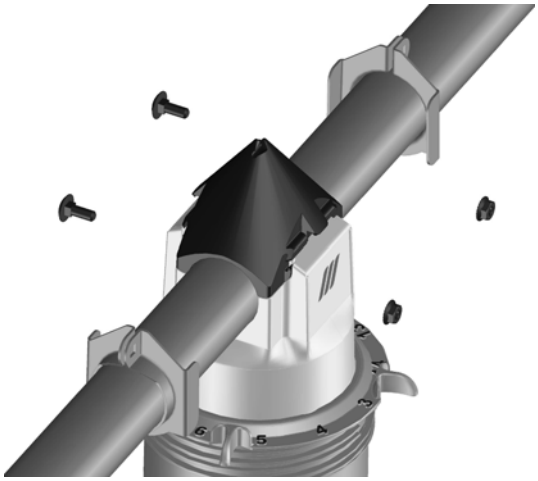


**FIGURE 77.**

Tighten the clamp with the supplied bolts and nuts.

**FIGURE 78.**

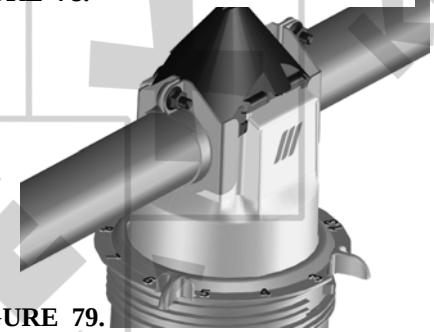


**FIGURE 79.**

# TO INSTALL THE POULTRY PERCH GUARD

Position of the anchor brackets.

every 3 feeder tubes when 3 or 4 pans/tube

every 2 feeder tubes when 1 or 2 pans/tube

next to the hopper

next to the control unit

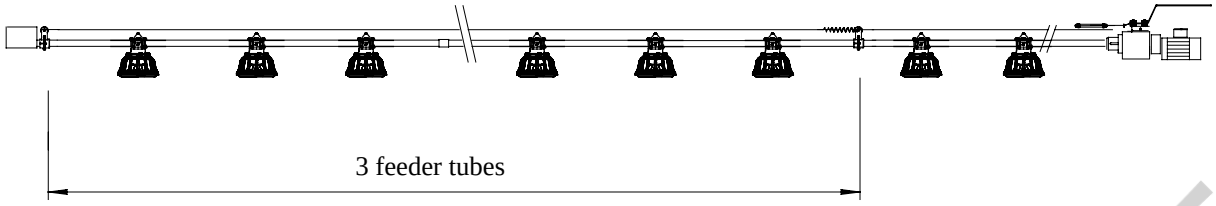



**FIGURE 80.**

Unroll the cable for poultry perch between 2 anchor brackets.

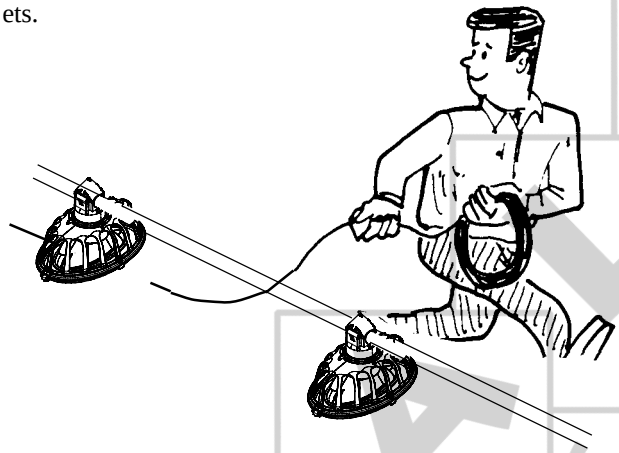
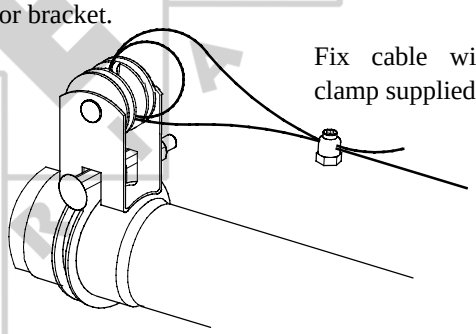


**FIGURE 81.**

**START NEXT TO THE HOPPER**

Make a double loop around the central notch of the anchor bracket.

Fix cable with the clamp supplied



*Click the cable into the upper cap of each pan up to the next cable connection.*

**FIGURE 82.**

Install a spring in the central notch of the second anchor bracket.

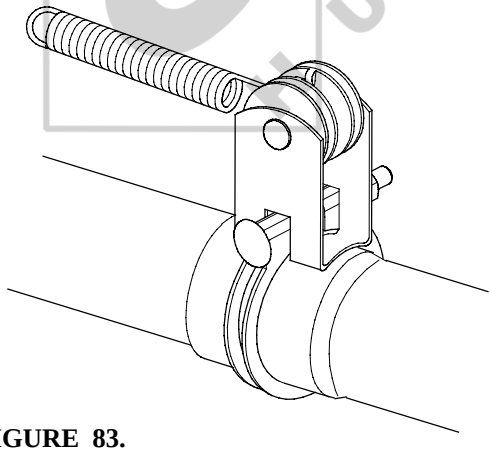


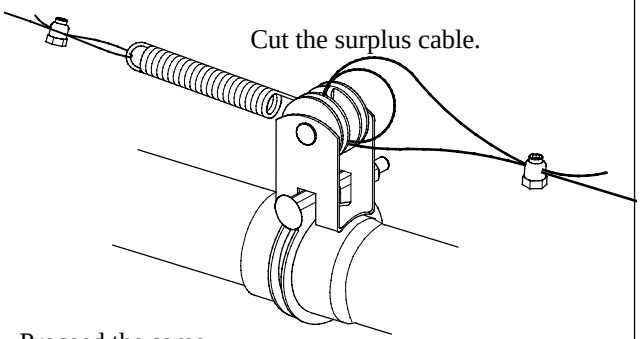
**FIGURE 83.**

**EVERY X FEEDER TUBES (See Im. 80.)**

Firmly tighten the cable.

Make a loop through the spring's eye. Clamp.

Cut the surplus cable.



Proceed the same way for the next tubes etc...

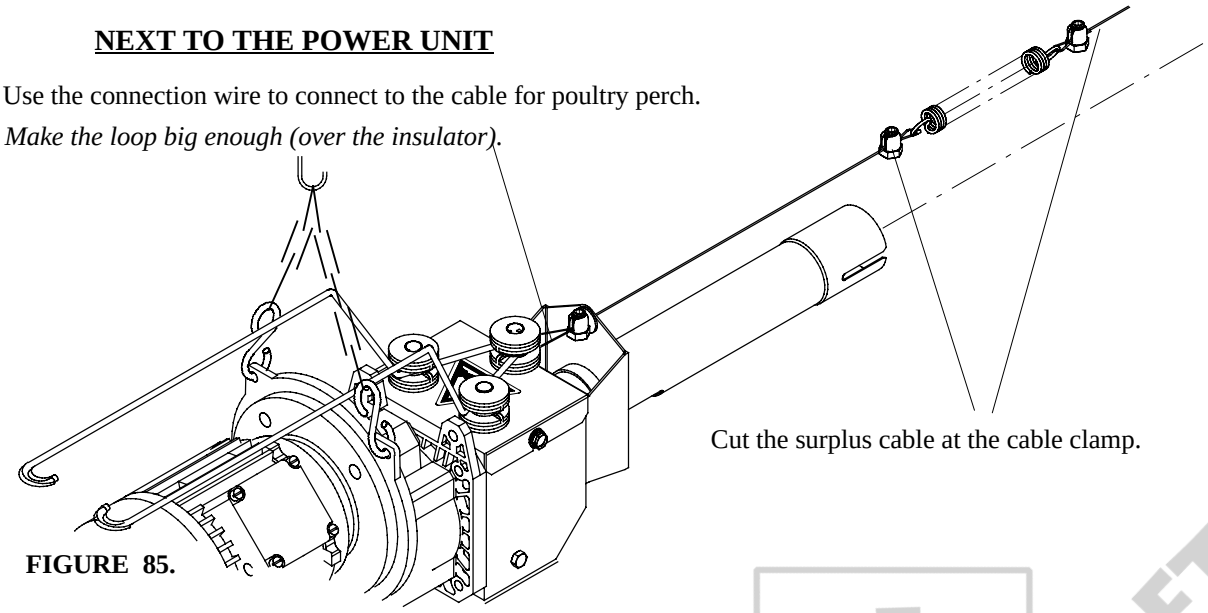
**FIGURE 84.**

**POULTRY PERCH GUARD AND FEEDER LINE MUST BE EARTHED !!!**

**NEXT TO THE POWER UNIT**

Use the connection wire to connect to the cable for poultry perch.

*Make the loop big enough (over the insulator).*



Cut the surplus cable at the cable clamp.

**FIGURE 85.**

After all cables for poultry perch have been installed, connect the electro-charger to the $^{1}/_{16}$" cable.

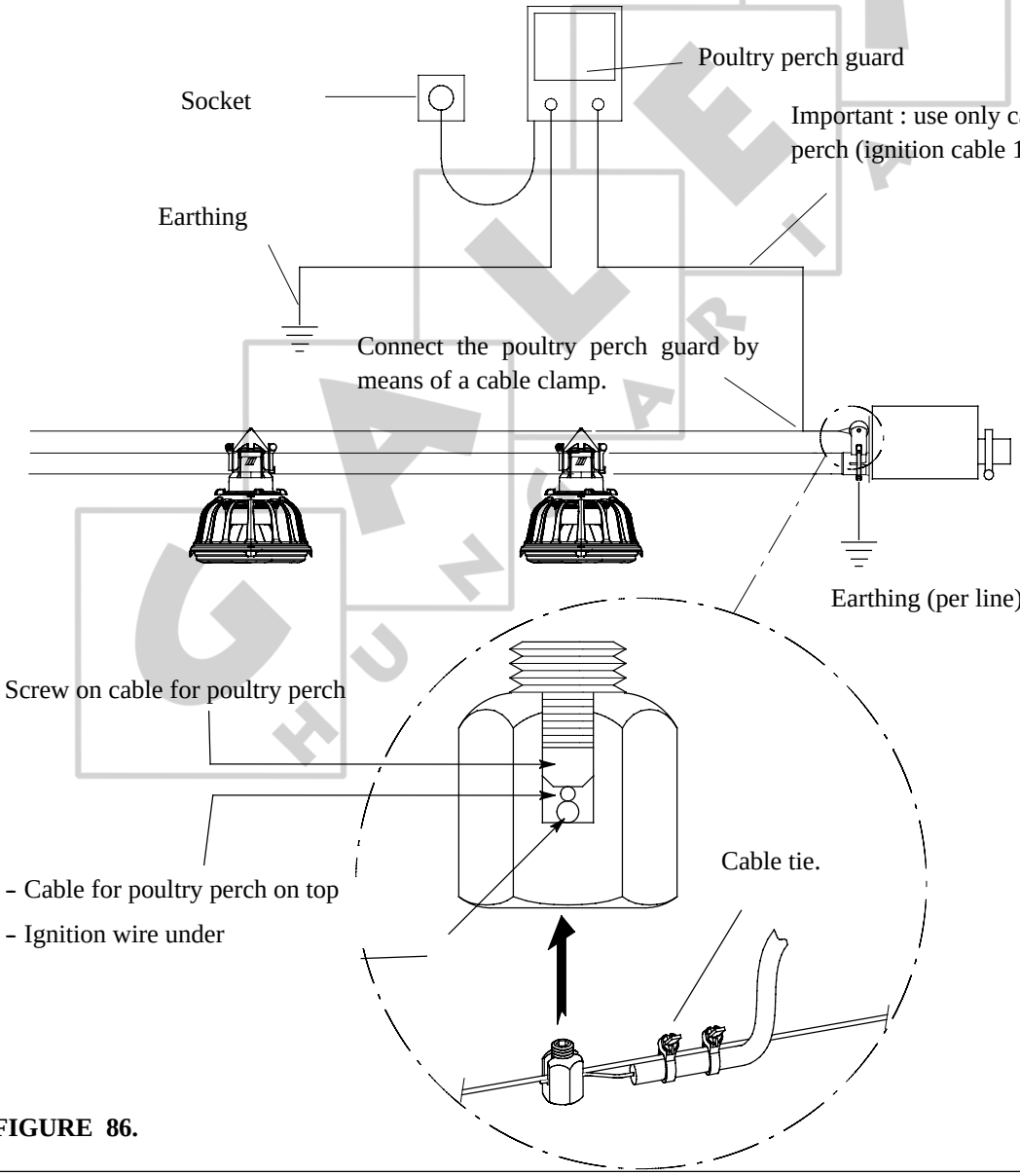



**FIGURE 86.**

# TO INSTALL THE TELESCOPICAL TUBE

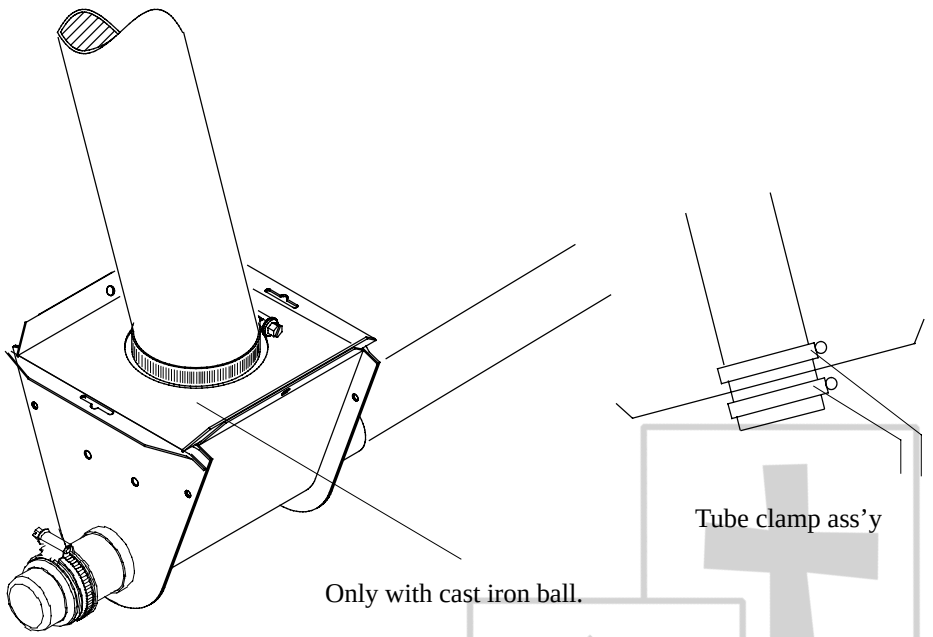



**FIGURE 87.**

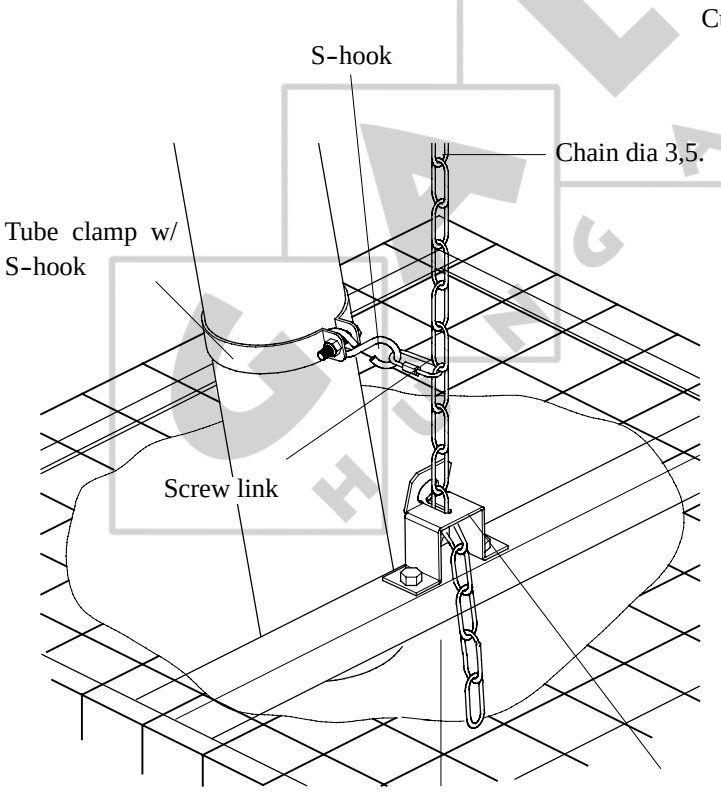



**FIGURE 88.**

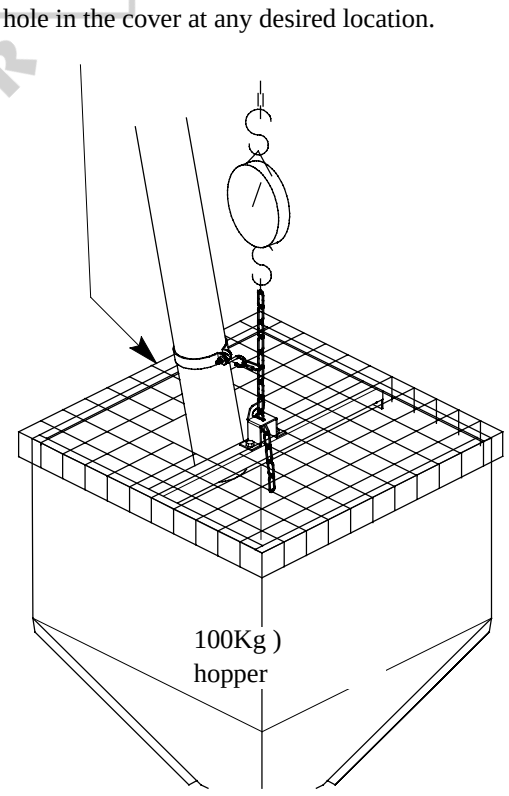



**FIGURE 89.**

## TO INSTALL THE AUTOMATIC OUTLET

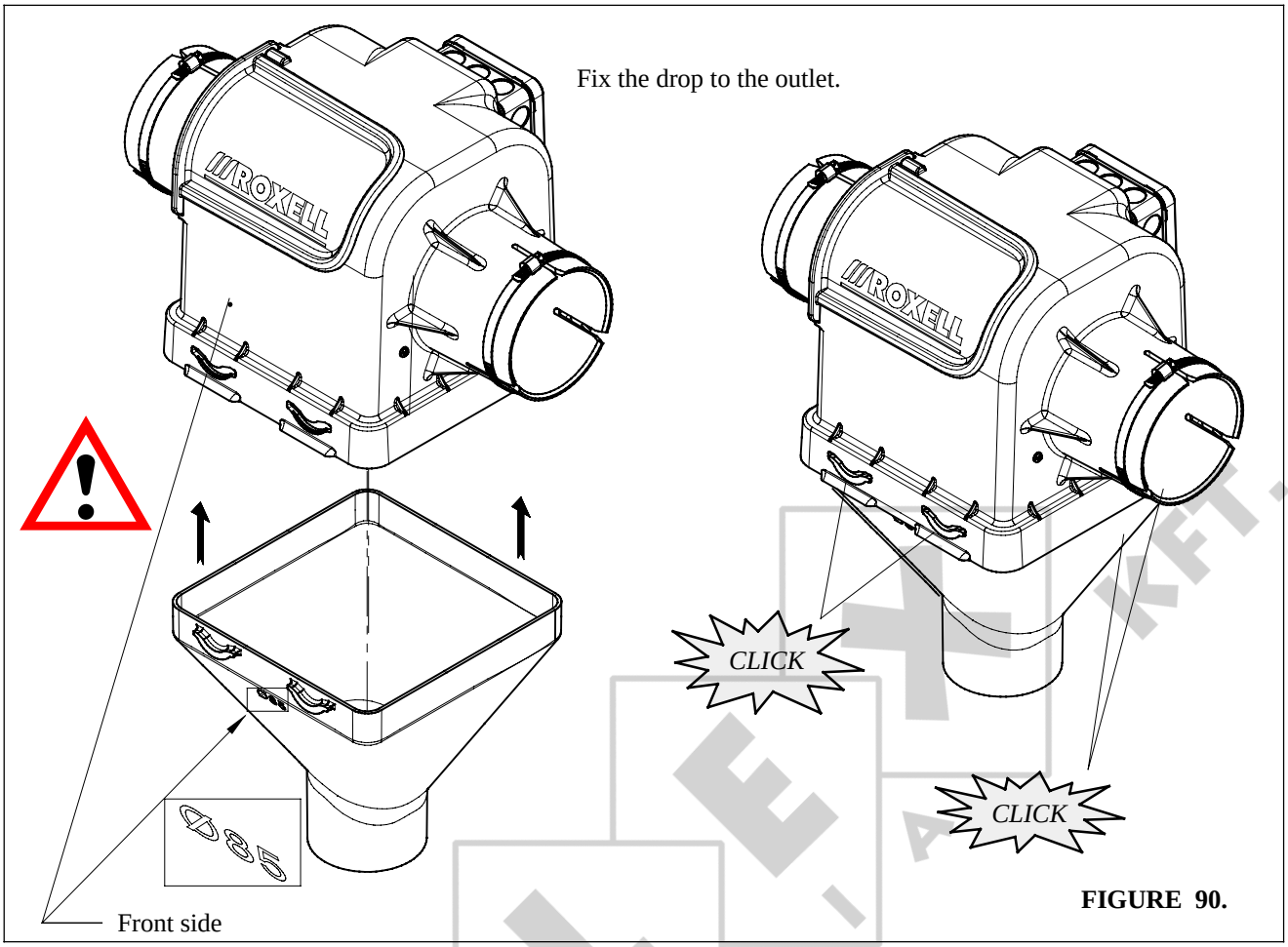



**FIGURE 90.**

## TO UNMOUNT THE AUTOMATIC OUTLET

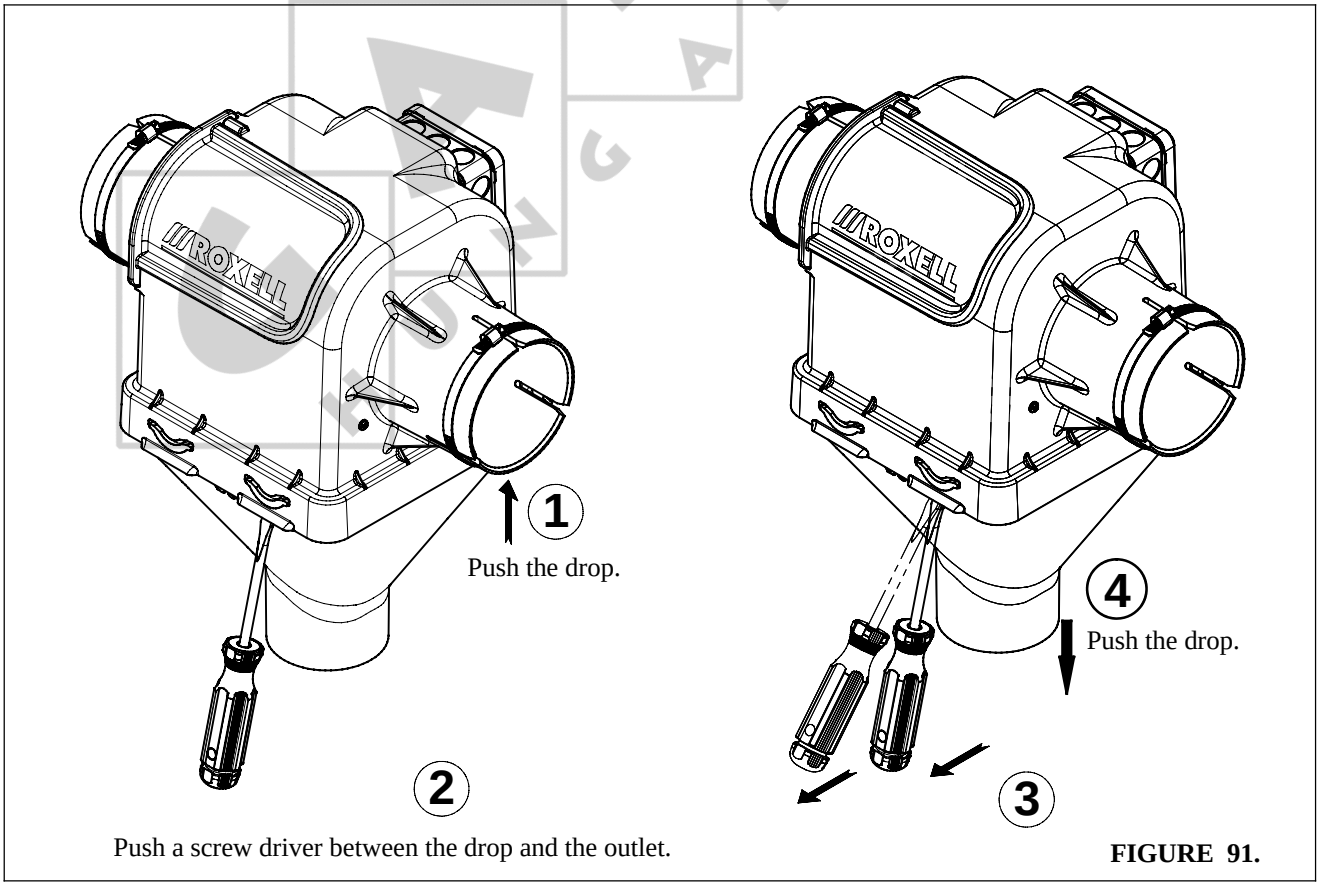



**FIGURE 91.**

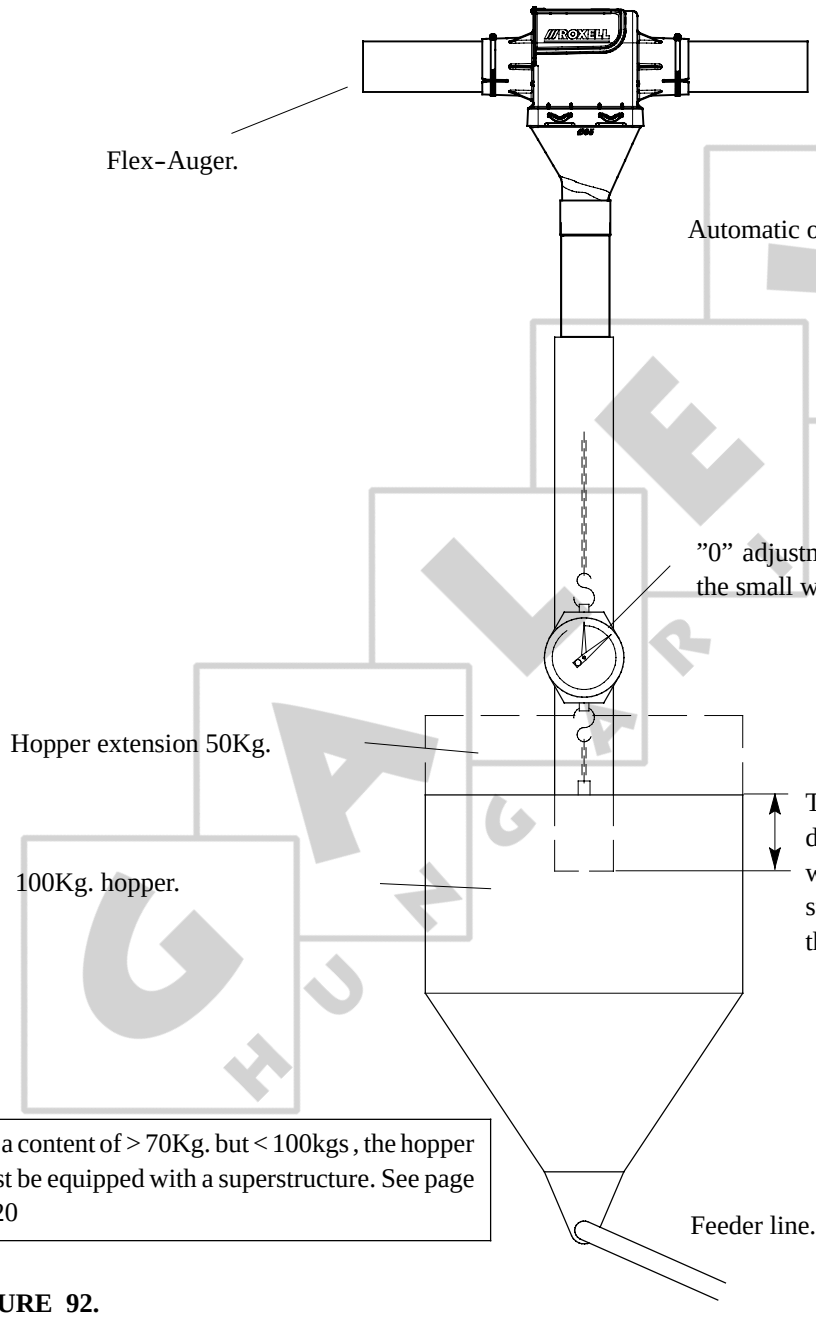
# TO INSTALL THE AUTOMATIC OUTLETS

**THE AUTOMATIC OUTLETS ARE AVAILABLE FOR FLEX-AUGER MODEL 55-75-90.**

The automatic outlet is operated electromagnetically by the sensor (NO) on the small weigher 100Kg. above the 100kg. hopper. The electromagnet is incorporated in the outlet.

Install the first suspension behind the first tube, to avoid activating the small weigher

Suspend the hopper high enough : when filling up the hopper it will come down by the weight of the feed. The feeder pans must not touch the floor !




For a content of > 70Kg. but < 100kgs , the hopper must be equipped with a superstructure. See page II-20

**FIGURE 92.**

**AFTER COMPLETE INSTALLATION OF THE AUTOMATIC OUTLET :**

Adjust the needle of the weigher to zero by means of the adjustment button. So you eliminate the weight of the 100kg. hopper (+ superstructure if used).

Set the adjustment arrow on the weight of feed you want to distribute.

## *OPTION : TO INSTALL THE AUGER BY MEANS OF THE AUGER INJECTOR*

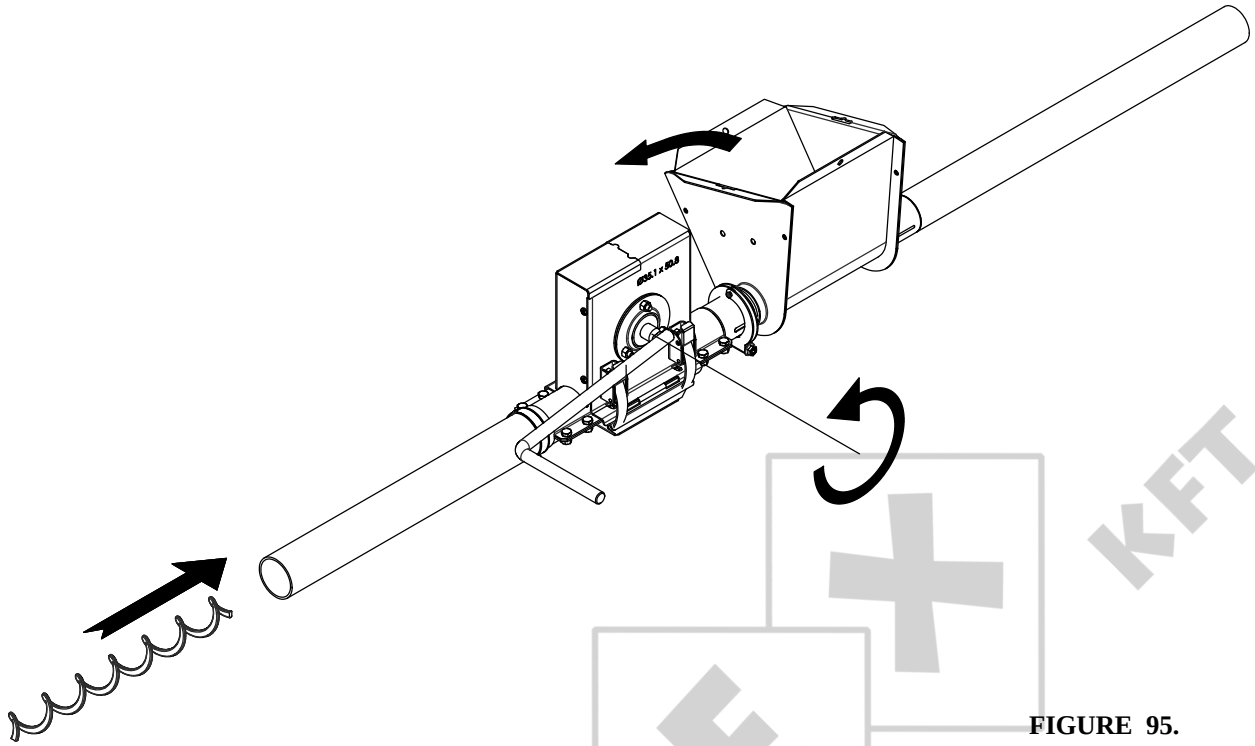


**FIGURE 95.**

GALEA HUNGARIA KFT.

# ELECTRICAL SYMBOLS

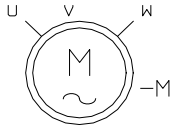
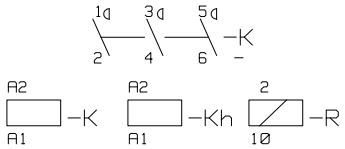
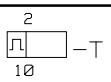
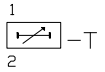
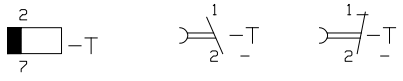
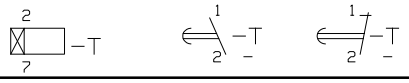
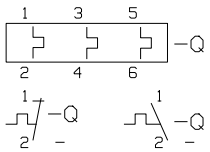
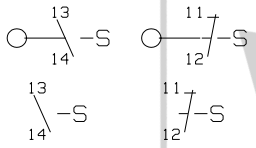
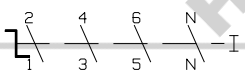
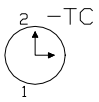
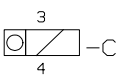
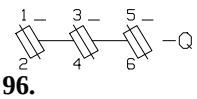
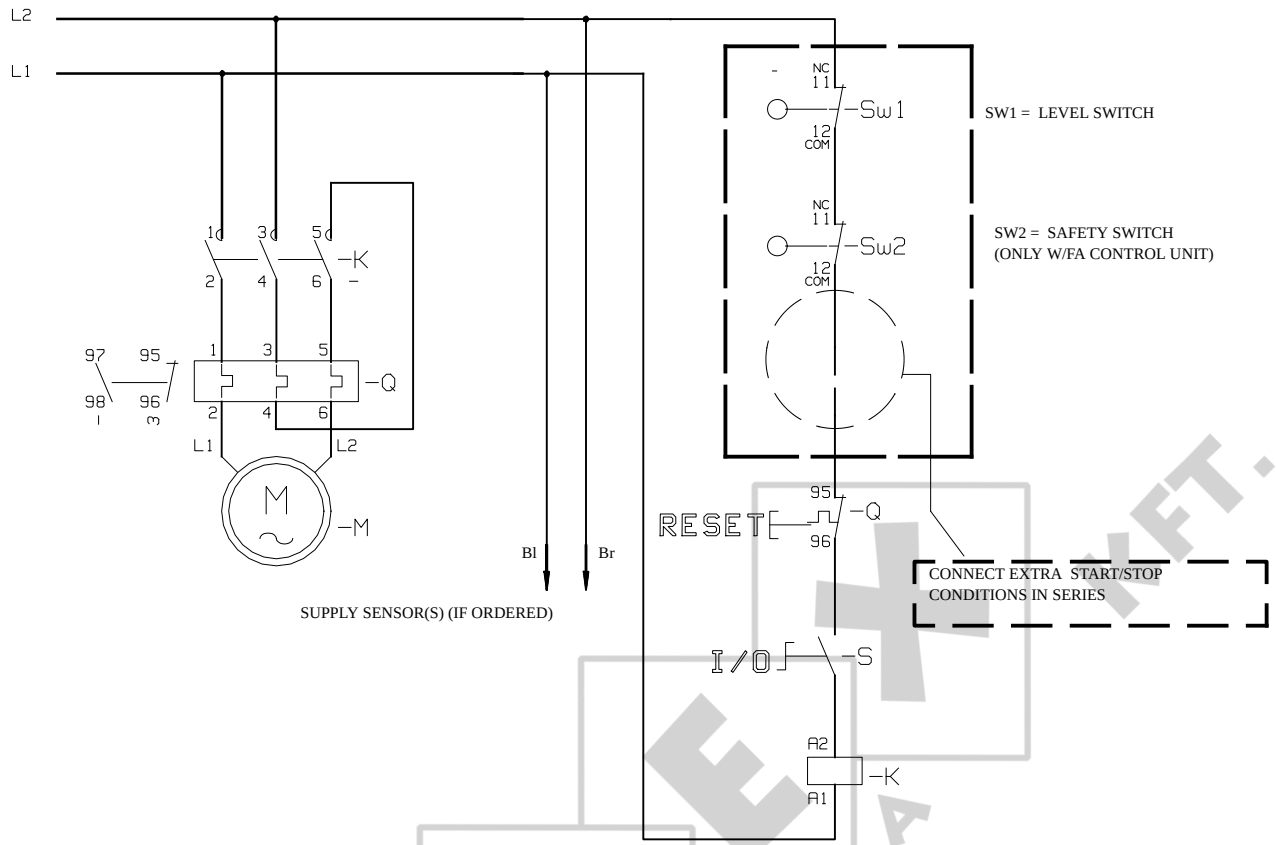
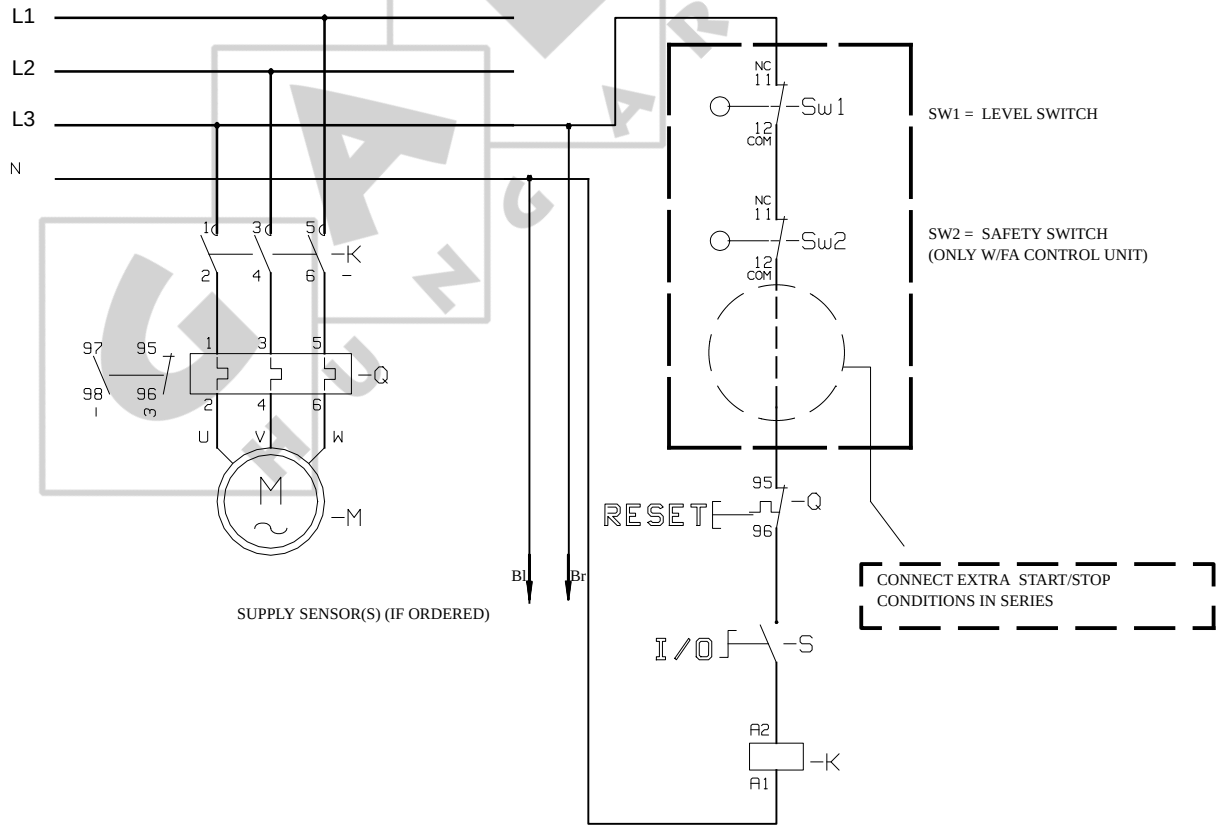
| | |
|---|---|
|  | MOTOR |
|  | - K = CONTACT<br>- Kh= RELAY<br>- R = AUXILIARY RELAY |
|  | TIME RELAY (W/ IMPULSE CONTACT) |
|  | ADJUSTABLE TIME RELAY W/O CONTACT |
|  | OFF-DELAY CONTACT |
|  | ON-DELAY CONTACT |
|  | OVERLOAD RELAY |
|  | SIGNAL LAMP : VOLTAGE (WHITE)<br>SIGNAL LAMP : ON (RED)<br>SIGNAL LAMP : FAILURE (ORANGE-YELLOW)<br>SIGNAL LAMP : END OF CYCLE |
|  | LEVEL OR END SWITCH |
|  | ON-OFF SWITCH |
|  | PUSH BUTTON |
|  | MAIN SWITCH |
|  | TIME CLOCK |
|  | COUNTER |
|  | FUSES |

**FIGURE 96.**

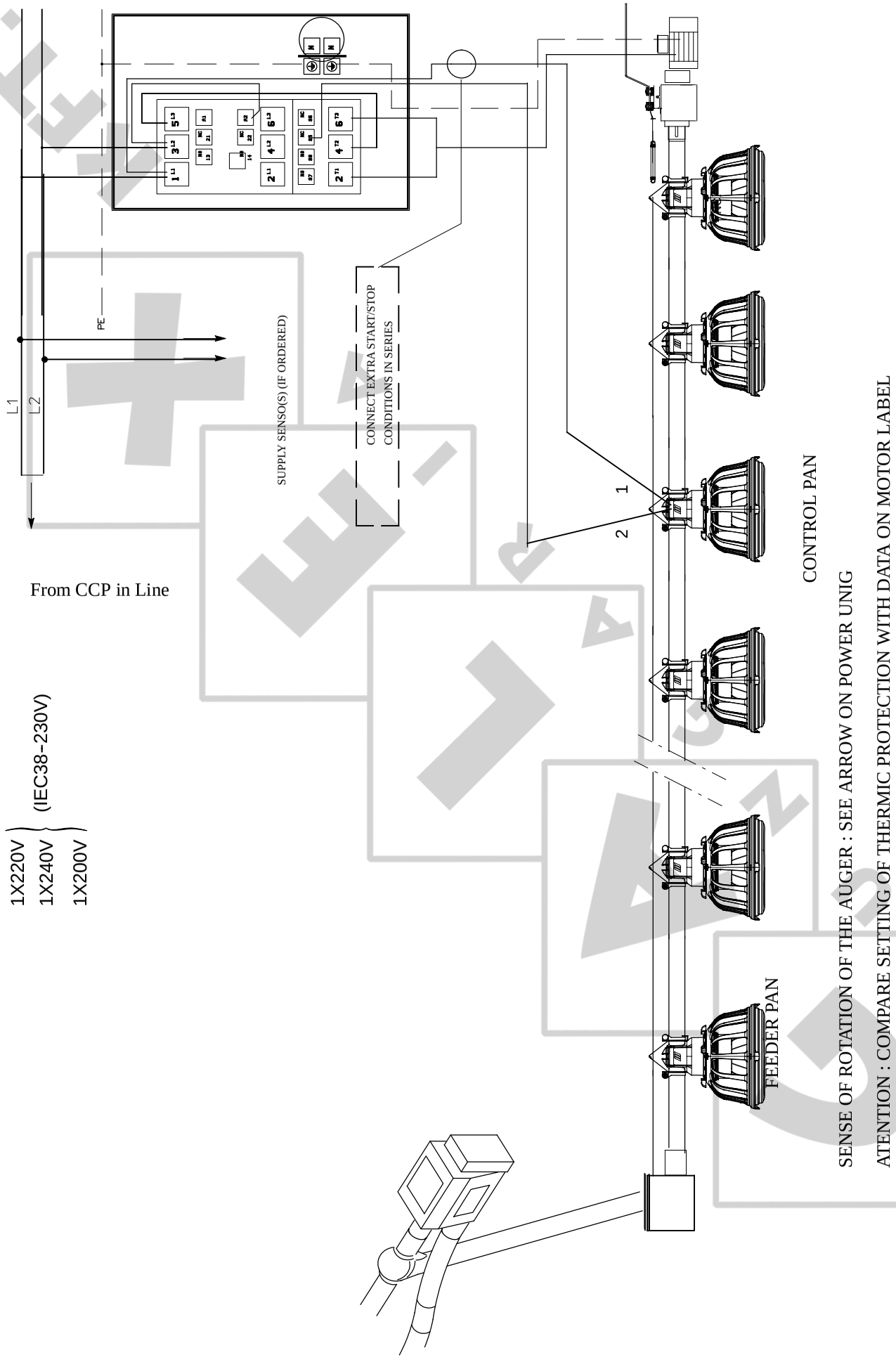
# WIRING DIAGRAM FOR SINGLE PHASE MOTORS




# WIRING DIAGRAM FOR THREE PHASE MOTORS



# GENERAL CONNECTION DIAGRAM (SINGLE PHASE)



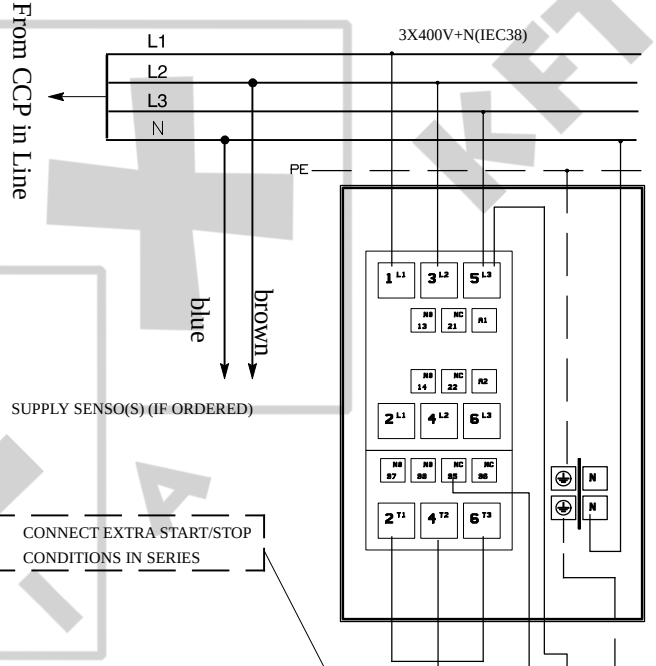
# GENERAL CONNECTION DIAGRAM (THREE PHASE)

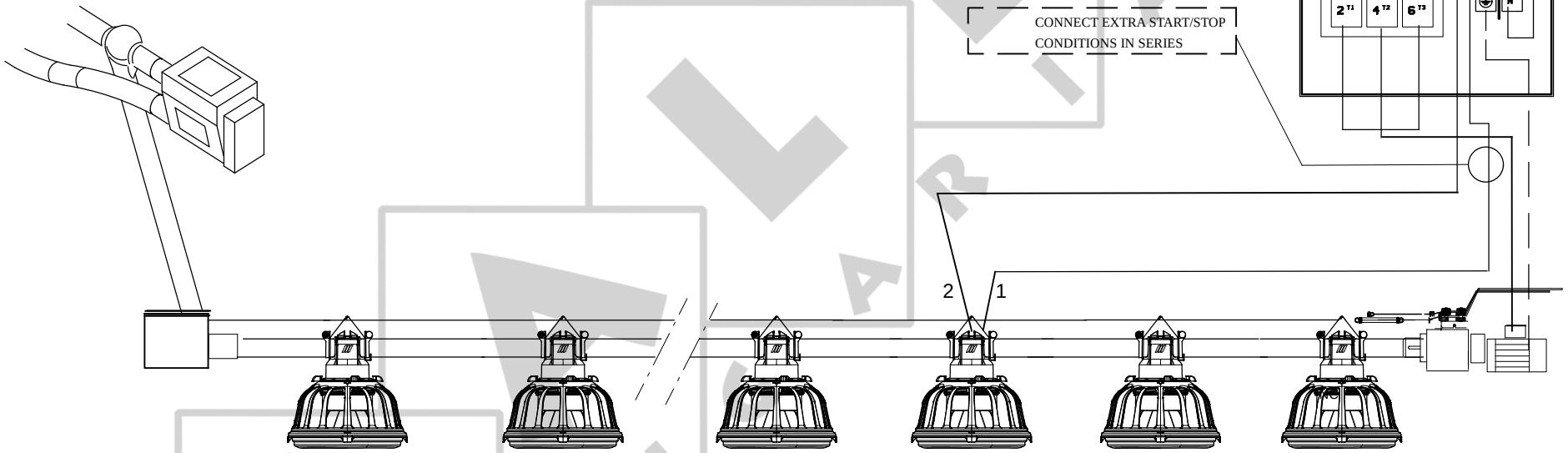
3X380V+N
3X415V+N } (IEC38-400V+N)

3X220V
3X240V } (IEC38-230V)

3X200V BRIDGE BETWEEN L3 AND N

See instructions included in Carton Cut-Off-Switch



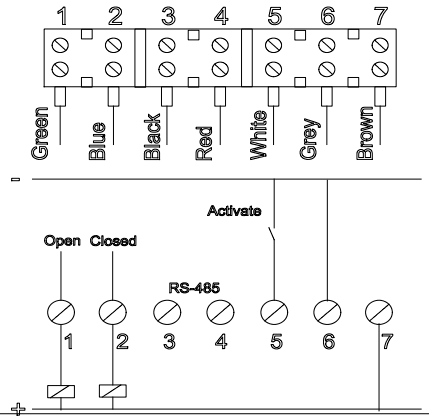

FEEDER PAN

CONTROL PAN

SENSE OF ROTATION OF THE AUGER : SEE ARROW ON POWER UNIT

ATENTION : COMPARE SETTING OF THERMIC PROTECTION WITH DATA ON MOTOR LABEL

# WIRING DIAGRAM AUTOMATIC OUTLET




Connections and signals.

1)Green Signal Open
2)Blue Signal Closed

3)Black RS-485 (MFII) not yet in use
4)Red RS-485 (MFII) not yet in use

5)White (--) Signal Open With 0VDC
6)Grey (-) 0VDC
7)Brown (+) 24VDC

## Feedback of OPEN/CLOSE signal by digital input or relay.

Both signals OPEN & CLOSE which come from the Automatic Drop can be connected to a 24 VDC relay.

In MFII application can the feedback be directly connected to a IDM.

## Declaration signalling LED

| | |
|---|---|
| 24VDC+Close | **LED Blue** |
| Motor OPEN | **LED Blue blink** |
| Motor Alarm | **LED Red** |
| Motor Calibration | **LED Green** |

## With blocking motor alarm LED Red

Remove DROP.

Remove possible blocked feed.

Switch 24VDC OFF.

Switch 24VDC ON.

Calibration starts automatically.

**LED Blue**

## Technical specifications

| | |
|---|---|
| Voltage | **24 VDC± 20%** |
| Motor Current Stand–by | **20 mA** |
| Motor Current OPEN/CLOSE | **150 mA** |
| Motor Current Alarm | **400 mA** |
| Relais output 24VDC | **100 mA** |
| Max. Cable Length | **200 M** |
| Min. Cable Section | **0.5mm$^2$ max.100 M** |
| Min. Cable Section | **0.75mm$^2$ max. 200 M** |

Remark

After interruption of voltage in “OPEN position, one don’t look for 15 sec. the input, so the “OPEN position” re-tains.

**DANGER**

**THE AUTOMATIC OUTLET STARTS AUTOMATICALLY. NEVER PUT YOUR HANDS IN THE OUTLET OR IN THE DROP HOLE BEFORE MAKING SURE THAT THE CURRENT IS SWITCHED OFF.**

**ATTENTION : Contact ROXELL for professional advice when using following feeds:**

**CCM (Corn Cob Mix).**
**Feed mixed with CCM.**
**Soya.**
**Soya lumps.**
**Wet feed.**

**Without explicite authorization, all our warranties will expire and no claims will be accepted.**

**Also contact Roxell if you want to use strongly grating feeds like hen feed etc...**

## General terms and conditions of sale :

*Article 1. GENERAL*

These General Terms and Conditions shall apply, subject to any modifications explicitly agreed upon in writing by both Parties hereto.

1.1. We reserve the right to discontinue the production of certain goods or to make alterations to the same in order to improve their quality and functionality.

1.2. The Seller shall at all times have the right to demand additional terms of payment, including a bank guarantee, without being obliged to give any reasons whatsoever for doing so. Should such guarantee not be provided within a period of one month, the sale shall be cancelled at the Seller's request at the charge of the Purchaser, subject to the damages provided for in article 5.5.

*Article 2. CONCLUSION OF AGREEMENT*

The Sale shall be concluded only after a written confirmation by the Seller of the order form signed by the Purchaser.

*Article 3. WARRANTY*

Roxell N.V. shall warrant to the original purchaser that insofar as any product manufactured by Roxell N.V. shows a material or construction defect within one year from the date of shipment thereof, Roxell N.V. shall, at its own option:
(A) repair or exchange such product, free of charge, 'ex works' or
(B) refund the original purchaser the original purchase price, in lieu of such repair or exchange.
In such event, the original purchaser shall enjoy additional extended warranties, as follows:

1. Any and all augers for ten years from the date of shipment pro-rated after two years*.
2. Any and all such plastic poultry feeder pans as become unusable within 10 years from their date of delivery pro-rated after 2 years*
3. Feed silos parts having rusted through from inside within five years.
4. A three-year warranty on SPARK nipples leaking continuously, with a prescribed water quality and maintenance management.

Conditions and Restrictions:

1. The Product must be installed and operated in accordance with the instructions given by Roxell N.V.
2. The warranty shall be void if not all parts of the system are supplied by Roxell N.V.
3. The Product must be purchased from and installed by an authorised Roxell N.V. distributor or under the supervision of Roxell N.V. personnel.
4. Failures or defects resulting from misuse, abuse, negligence, alterations, accident or lack of proper maintenance shall not be covered.
5. Any inconvenience, loss of time, production losses, lower results or animal losses, or any other consequential damage or loss, or any such working hours as are to be charged for the replacement of a defective part shall not be covered by the warranty.
6. This warranty shall apply only to poultry and pig systems.
7. Cleansing agents and disinfectants may be used only in accordance with the instructions from the supplier(s) and insofar as they are not excluded in the alterations of use.
8. Any and all plastic poultry feeder pans: the 10-year warranty (see *) shall not apply to non de-beaked animals, geese and rationed ducks.
9. Any and all transport shall be payable by the customer.
10. Atex:
    a) Upon the sale of machines and machine components developed and built by Roxell, Roxell will specify which machine components comply with the Atex directive or not.
    b) However, Roxell will always proceed on the principle that the equipment does not have to be built in conformity with the Atex directive.
    c) If the equipment must be in conformity with the Atex directive, because of the area where the machine will be built or because of the sensibility to explosion of the products to be stored, it will be the customer's task to mention this in writing.

THE ABOVE CONSTITUTES ROXELL N.V.'S SOLE WARRANTY. THERE ARE NO WARRANTIES OF MERCHANTABILITY AND NO WARRANTIES WHICH EXTEND BEYOND WHAT IS MENTIONED HERE.
Any exceptions to this warranty must be approved in writing by an attorney of the Company. Roxell N.V. shall reserve the right to freely change models and technical specifications at any time without prior notice or without the obligation to improve previous models.

*(*) Roxell N.V. auger and (plastic poultry) feeder pans pro-rated warranty schedule.*

| Year from date of shipment during which plastic poultry feeder pans and auger become unusable | Charges payable by the Purchaser in case of replacement |
|---|---|
| 1 | No charge |
| 2 | No charge |
| 3 | 20 % of the current list price |
| 4 | 30 % of the current list price |
| 5 | 40 % of the current list price |
| 6 | 50 % of the current list price |
| 7 | 60 % of the current list price |
| 8 | 70 % of the current list price |
| 9 | 80 % of the current list price |
| 10 | 90 % of the current list price |



Roxell nv, Industrielaan 13, B-9990 Maldegem (Belgium)
Tel. +32 50 72.91.72 - Fax. +32 50 71.67.21 - E-mail
roxell@roxell.com - Website www.roxell.com

*Article 4. DELIVERY – PASSING OF RISK*

4.1. The goods shall be deemed to have been sold and definitively taken delivery of at the Seller's works, even if they have to be dispatched carriage paid.

4.2. The Purchaser must collect the goods himself and take delivery of the same not later than 5 working days from the advice of availability.

4.3. Should the Seller have acted as an intermediary for a means of transport for the Purchaser, the Seller cannot be held liable on account thereof; any and all expenses arising there from shall be charged to the Purchaser at cost price. Unless otherwise agreed, any and all goods shall travel at the Purchaser's sole risk.

4.4. Any complaints in connection with any such deliveries as are not in conformity with the order placed or in connection with visually defective parts must be lodged in writing with Roxell within 5 working days from the receipt of the goods.

4.5. The supervision during the assembly shall never form part of the agreement. The Seller may, however, agree to put specialized workers or assemblers at the Purchaser's disposal at the latter's request under special conditions. In such case the work performed by such workers or assemblers shall take place under the supervision, at the expense and under the responsibility of the Purchaser, who shall bear the insurance charges on account thereof.

4.6. The purchaser agrees to inform the user about the safety and usage in accordance with the instructions of Roxell.

*Article 5. DELIVERY PERIOD*

5.1. Unless otherwise agreed in writing, the delivery period shall run from the latest of the following dates:
a) the date of the formation of the agreement as set forth in article 2.
b) the date on which the Seller receives an instalment, or as specified in the agreement.

5.2. Unless otherwise agreed in writing, the terms of delivery shall be indicative only. Should the delivery period be exceeded for any reason whatsoever, the Purchaser shall not be entitled:
a) to claim compensation and/or demand the termination of the agreement.
b) not to meet his obligations under the agreement.

5.3. Shall be regarded as releasing circumstances: labour conflicts, fire, mobilisation, seizure, embargo, foreign exchange transfer prohibition, uprising, shortage of transport means, general scarcity of raw material, limitation of energy consumption, natural disasters. The party invoking the above circumstances must notify the other party of the occurrence and end of such circumstances immediately by registered letter.

5.4. Should the Seller have undertaken to observe a special term of delivery, as provided for in article 5.2, and if the Seller does not observe such term of delivery for any reasons other than those set forth under 5.3., the Purchaser must give the Seller notice of default in writing by registered letter. Should no action have been taken on such notice of default after 4 weeks, the Purchaser shall be entitled to cancel the order without, however, being allowed to claim damages on account thereof.

5.5. In the event of dissolution of the sale at the charge of the Purchaser, fixed damages amounting to 30% of the purchase price shall be payable by the Purchaser.
Such indemnity shall amount to 75 % of the purchase price if the products were "tailor-made" according to the specifications received from the Purchaser.

*Article 6. INTELLECTUAL PROPERTY*

Roxell shall retain the exclusive rights to the intellectual property of plans, concepts, drawings, assembly instructions, etc. as far any and all goods delivered by Roxell are concerned.

*Article 7. PRICES*

7.1. Any and all prices stated are ex works Maldegem Belgium, including packaging (except for seaworthy packaging), and exclusive of VAT.

7.2. The prices shall be calculated on the basis of the current price of the raw material, wages and social security charges. Unless otherwise provided for, the prices shall be revised applying the following price revision formula:

$$p = P_o\left(a\frac{M}{M_o} + b\frac{S}{S_o} + c\right)$$

wherein:
- $P_o$ and P are the prices respectively at the moment of order ($P_o$) and after any change of the prices of the materials concerned and of the wages, the latter increased by social security charges and insurances (P);
- $M_o$ and M represent the prices of the main raw material at the time of order ($M_o$) and after any change (M);
- $S_o$ and S represent the wages, increased by the social security charges and insurance as they were at the time of order ($S_o$) and as they are after any change (S).

*Article 8. INVOICING CONDITIONS*

8.1. In order to be acceptable, any complaints about our invoices must be lodged by registered letter within eight working days from the date of receipt of the invoice concerned.

8.2. Our invoices shall be payable in cash in Belgium on the date of invoice or on the due date mentioned on our invoices. The payment thereof cannot be postponed on account of a delay in the assembly or putting into service of the delivered equipment or on account of alleged faulty or incomplete deliveries or for any other reason whatsoever.

8.3 In the event of late payment, the invoice amount shall be increased *ipso jure* and without any demand for payment by 1 % interest per month started.

8.4. As long as the purchase price has not been fully paid, the Seller shall remain the owner of the delivered goods. The transfer of ownership to the Purchaser shall take place as soon as the total purchase price has been paid. The Purchaser shall be liable for any damage caused to any such delivered goods as of which the Seller is still the owner.

8.5. In default of payment of an invoice on its due date on purpose or by negligence and after a demand for payment within eight working days sent by registered letter has not been complied with, the invoice amount shall be increased *ipso jure* by 15 %, € 120 being the minimum.

*Article 9. COMPETENT COURTS – GOVERNING LAW*

9.1. In the event of any dispute, the Ghent Courts shall have exclusive jurisdiction.

9.2. The sales agreement shall be governed by the laws of Belgium.



Roxell nv, Industrielaan 13, B-9990 Maldegem (Belgium)
Tel. +32 50 72.91.72 - Fax. +32 50 71.67.21 - E-mail
roxell@roxell.com - Website www.roxell.com

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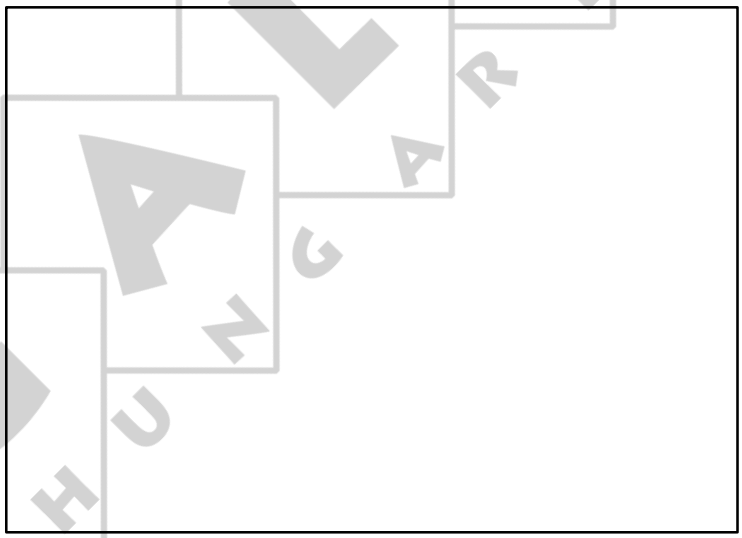

ROXELL®

ROXELL NV Belgium, Industrielaan 13, 9990 Maldegem, Belgium
Tel: +32 50 72 91 72 - fax: +32 50 71 67 21 - E-mail: roxell@roxell.com - www.roxell.com

ROXELLL - Millenium House, 5th Floor, Ul. Trubnaya 12, 107045 Moscow, Russian Federation
Tel. +7 495 795 06 57 - Fax +7 495 795 06 32 - E-mail: info.russia@roxell.com - www.roxell.ru

ROXELL Malaysia, No. 12 Jalan Anggerik Mokara31/48, Kota Kemuning Industrial Park,
40460 Shah Alam, Selangor, Malaysia
Tel: +603-5121 7150 - Fax: +603-5121 7146 - Email: info@roxell.com.my - www.roxell.com.my