User Guide

CB Beside-the-Press Granulators

Models CB-1012, CB-1018 and CB-1024

Installation

Operation

Maintenance

Troubleshooting

Instant Access
Parts and Service
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CONAIR™

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UGG008/0403

⚠ **WARNING - Reliance on this Manual Could Result in Severe Bodily Injury or Death!**

This manual is out-of-date and is provided only for its technical information, data and capacities. Portions of this manual detailing procedures or precautions in the operation, inspection, maintenance and repair of the product forming the subject matter of this manual may be inadequate, inaccurate, and/or incomplete and cannot be used, followed, or relied upon. Contact Conair at info@conairgroup.com or 1-800-654-6661 for more current information, warnings, and materials about more recent product manuals containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

Please record your equipment's model and serial number(s) and the date you received it in the spaces provided.

It's a good idea to record the model and serial number(s) of your equipment and the date you received it in the User Guide. Our service department uses this information, along with the manual number, to provide help for the specific equipment you installed.

Please keep this User Guide and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date:
Manual Number: UGG008/0403
Serial number(s):
Model number(s):

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CONAIR

Contents

1. Introduction

This manual applies to the Conair CB granulators.

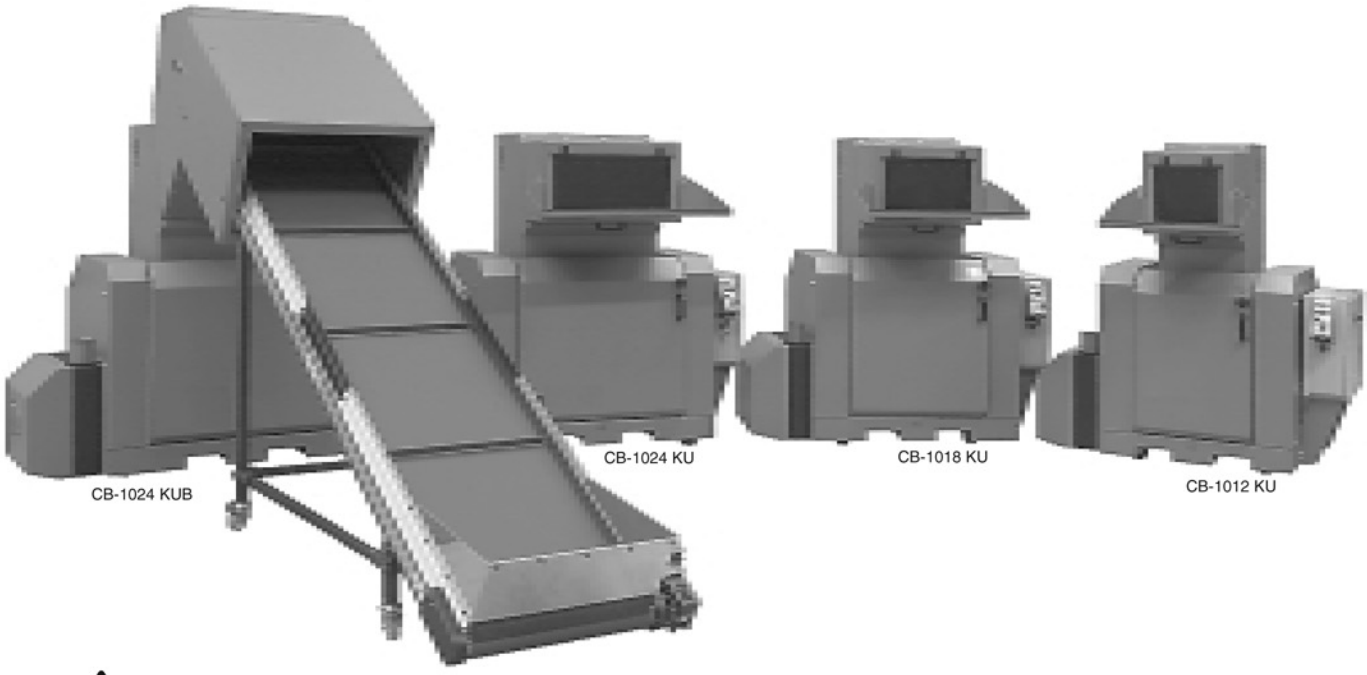
Model nos. CB-1012, CB-1018, and CB-1024 refer to the size of the cutter housing.

Supplementary designations specify:

U	–	Machine with extraction fan
KU	–	Noise encapsulated machine with extraction fan
KUB	–	Noise encapsulated machine with conveyor
KUP	–	Noise encapsulated machine for sheet material/profiles

Read the Manual before installing and using the machine.

Note! The text and illustrations in the text mainly refer to the CB-1018. Illustrations of other models are only included if the technical function, safety function and design do not coincide with the CB1018.



Be careful when the knives are accessible, they are sharp, and can cause personal injury!

These granulators are designed for granulating injection molded, blow molded and extruded plastic waste. The size and performance of the granulator is designed to suit the type of waste material.

Approval must be obtained from Conair for granulating other products and materials for the warranty conditions to apply. The granulators are designed so that maintenance and cleaning can be done quickly and easily, both routine maintenance and changing of materials. All service must be done by trained service personnel.

This Manual contains instruction for both handling and service. Chapter 7 contains instructions directed towards service personnel. Chapter 11 contains accessory equipment for the machine. Other chapters contain instructions for the operator.

In the delivery of CB granulator is included:

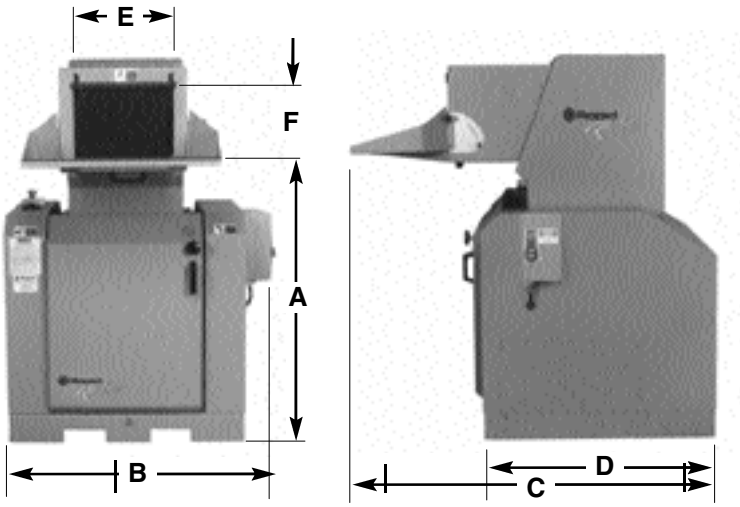
- One instruction manual.
- One fixed 10 mm angled spanner for knife setting, one 0.20 mm feeler gauge and touch-up paint.

Any modifications or conversions of the machines must be approved by Conair. This is to prevent injuries. The machine warranty and product assurance would otherwise be rendered void.

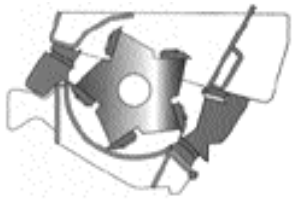
Please address any questions to the local Conair representative or Conair customer service.

2. Technical specifications

GRANULATOR WITH STANDARD ROBOT/HAND FEED HOPPER



3-BLADE OPEN ROTOR



5-BLADE OPEN ROTOR

MODELS	CB-1012				CB-1018			CB-1024		
Performance characteristics										
Maximum throughput* lb/hr {kg/hr}	440 {200}				660 {300}			1100 {500}		
Cutter chamber opening in. {cm}	10 x 12 {25 x 30}				10 x 18 {25 x 46}			10 x 24 {25 x 61}		
Rotor speed rpm	715				715			715		
Motor power† Hp {kW}	5, 7.5, 10, 15				7.5, 10, 15			7.5, 10, 15		
	{3.7, 5.6, 7.5, 11.2}				{5.6, 7.5, 11.2}			{5.6, 7.5, 11.2}		
Rotor type	3-blade rotor, 5-blade rotor									
Screen hole sizes in. {mm}	1/4, 5/16, 3/8, 1/2, 3/4, 1 {6, 8, 10, 13, 19, 25}									
Knives										
Number of rotating knives	3, 5									
Number of fixed knives	2 (standard), 3 (optional)									
Dimensions inches {cm}										
A - Height to hopper infeed	49 {124}				49 {124}			49 {124}		
B - Width	36 {91}				42 {107}			48 {122}		
C - Depth	39.5 {100}				39.5 {100}			39.5 {100}		
D - Feed chamber width	11.9 {30}				17.9 {45}			23.8 {60}		
E - Feed chamber height	10 {26}				10 {26}			10 {26}		
F - Overall height	65 {165}				65 {165}			65 {165}		
Weight lb {kg}										
Installed	1653 {750}				1984 {900}			2205 {1000}		
Shipping	2205 {1000}				2590 {1175}			2866 {1300}		
Voltages Total amps based on motor size										
	5	7.5	10	15	7.5	10	15	7.5	10	15
208V/3 phase/60 Hz	17.5	25	32	48	25	32	48	25	32	48
230V/3 phase/60 Hz	15.2	22	28	42	22	28	42	22	28	42
460V/3 phase/60 Hz	7.6	11	14	21	11	14	21	11	14	21
575V/3 phase/60 Hz	6.1	9	11	17	9	11	17	9	11	17
Noise level‡										
With standard soundproofing	80 to 85 dbA									

SPECIFICATION NOTES:

* Throughputs are provided as a capacity guideline only. Throughput will vary according to the size, shape, thickness and properties of the material to be cut, as well as the desired size of the granulate. Consult Conair for a material test or help determining the correct granulator model for your application.

† The chart lists standard motor selections. Additional motor sizes are listed under Motor Options.

‡ Noise level will vary according to material type being processed and the granulator configuration. These ranges are based on tests using SPI standards.

Specifications may change without notice. Check with a Conair representative for the most current information.

2. Technicals specification

Dimensions

Overall size of the machine

CB-1012 (l x w x h) ..... 1530 x 1550 x 1650 mm.

CB-1018 (l x w x h) ..... 1530 x 1700 x 1650 mm.

CB-1024 (l x w x h) ..... 1530 x 1850 x 1650 mm.

Data

Motor power CB-1012 standard ..... 5.5 kW
option ..... 7.5; 11.0; 15.0 kW
CB-1018 standard ..... 7.5 kW
option ..... 5.5; 11.0; 15.0 kW
CB-1024 standard ..... 7.5 kW
option ..... 5.5; 7.5; 15.0 kW

Drive belts 50 Hz motor: 5.5; 7.5; 11.0; 15.0; 18.5 kW ..... 3.
60 Hz motor: 5.5; 7.5; 11.0; 15.0; 18.5 kW ..... 3.

Cutter speed ..... 715 rpm.

Capacity CB-1012 ..... < 200 kg/h.
CB-1018 ..... < 300 kg/h.
CB-1024 ..... < 500 kg/h.

Note! The capacity depends of: type of plastic waste, sreen Ø, motor and blower.

Blower type F-7 (CB-1012 and CB-1018) ..... 0.55 kW
F-15 (CB-1012, CB-1018 and CB-1024) ..... 1.10 kW
F-25 (option) ..... 2.20 kW

Cutter house opening 2630 ..... 260 x 300 mm.
CB-1018 ..... 260 x 450 mm.
CB-1024 ..... 260 x 600 mm.

Rotating knives ..... 3.

Fixed knives ..... 2.

– Third fixed knife (option) ..... 1.

Screen Ø standard ..... 8 mm.
option ..... 6; 10; 12 mm.

Weight CB-1012 ..... approx. 750 kg.
CB-1018 ..... approx. 900 kg.
CB-1024 ..... approx. 1000 kg.

Sound level

Noise level at idle ..... -KU approx. 73 dBA

..... -KUB approx. 75 dBA

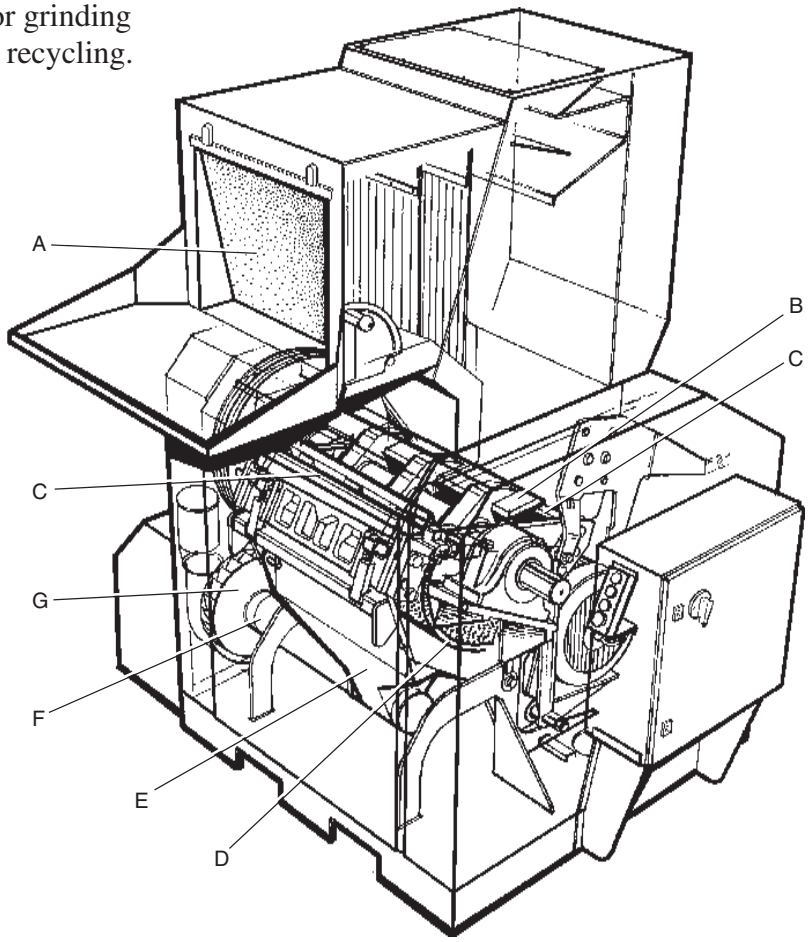
3. Function description

3.1 General

The granulator is designed for grinding plastic waste to granulate for recycling.

The plastic waste should be free from metal parts and contamination before granulating.

The granulator is controlled by start/stop controls on a control panel.



The plastics waste is fed into the hopper “A” and falls down into the cutter housing, where rotating knives “B” cut the plastics against fixed knives “C” into granules.

The perforated screen “D” determines the size of the granulate.

The screen is located in the lower section of the cutter housing and can easily be changed to give the desired granule size.

The granulate passes the screen and falls down through the granule bin “E” to the outlet pipe “F” for transport away from the granulator.

Granulators with designation “-U” are equipped with an extraction blower “G” which sucks the granulate out to a cyclone.

After this, the granulate is ready for re-use in the production machine, or for transport to a container for later use.

The granulator is easy to clean, with a folding hopper and easy access for maintenance.

On granulator models with designation “-B”, the hopper is equipped with a band conveyor. The conveyor can be equipped with a metal detector.

All the knives in the granulator can be re-sharpened. Grinding is done in a special grinding jig. (The grinding jig is an option which is not included in the machine delivery.)

3.2 Safety system

The granulator has a safety system to prevent access to dangerous components during operation.

The granulator has knives which rotate at high speed. The granulator is therefore equipped with a safety system to avoid personal injury.

The safety system must not be changed or modified under any circumstances.

If the safety system of the granulator is changed or modified, the machine can be dan-gerous to use, presenting a serious risk of personal injury.

All care and maintenance to the safety system of the granulator must be carried out by qualified personnel.

If the safety system of the granulator is modified in any way, Conair's responsibility under the Warranty ceases to apply.

Only Conair spare parts must be used to replace safety components.

Safety rules

Instructions and safety measures in this manual must be observed, to avoid personal injury and damage to machinery.

Emergency stop

The granulator has an emergency stop on the control panel. It can also be equipped with extra emergency stops.

The emergency stop is activated by pressing the button.

Resetting is effected by turning the button in the direction of the arrow (counter-clockwise).

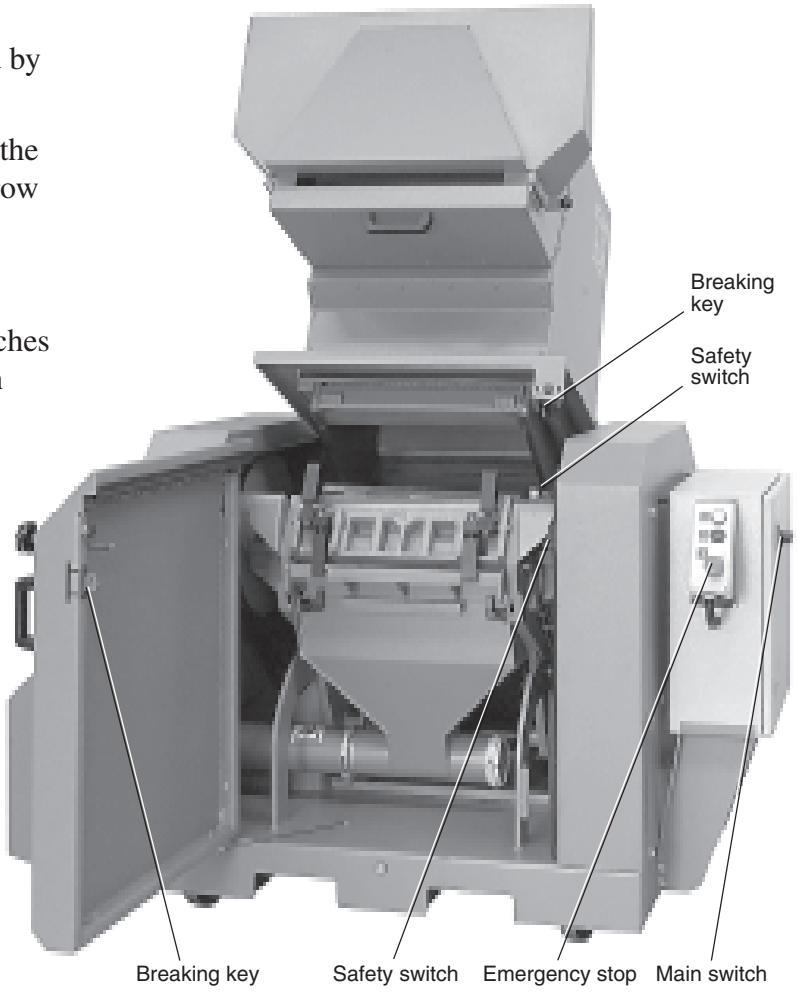
Safety switches

The granulator have safety switches of the position switch type, with breaking key.

The safety switches cut the control current in the granulator, so that the granulator stops if door or hopper changes position.

This granulator has 2 safety switches:

- at the hopper, between hopper and cutter housing.
- at the door, combined with the door lock.



The safety switch by the hopper senses that the hopper seals tightly against the cutter housing during operation.

If the hopper is opened or changes position, the granulator will stop.

The thread on the door lock knob is long. It should take such a long time to open the door with the knob (by unscrewing the lock knob), that the granulator has time to stop before the door can be opened.

Check the wiring diagram to see how many safety switches the granulator is equipped with.

Before the granulator can be started

- The hopper must be shut and locked.

  The safety switch senses that the hopper seal tightly against the cutter housing during operation.

- The door must be shut and the lock knob fully tightened to stop.

  The safety switch senses that the door is properly shut.

NOTE! The screen box and granule bin should be installed and properly shut.

4. Safety instructions

4.1 General

DANGER! High voltage!
This sign is on the door to the distribution box and the connection boxes.

DANGER! Cutting or pinch risk!
This sign is placed where there is a risk of being cut or pinched.

DANGER! Be careful!
This sign is located by all danger areas, where care and extra attention is required.

Conair granulators are designed for granulating injection molded, blow molded or extruded plastic waste.

Specific technical data, concerning power and performance etc. is described in detail in chapter 2.

The granulators are equipped with a safety system, which is described in chapter 3.2.

Follow the instructions in this manual to avoid personal injury and damage to machine components.

The following safety measures shall always be followed when handling the granulator:

All service must be carried out by trained personnel in order to avoid personal injury or damage to the machine.

- **Electrical installation must <u>only</u> be done by a <u>competent</u> <u>electrician</u>!**

- **The electrical cabinet of the machine contains hazardous high voltage. Contact can be fatal.**

- **Before the granulator is opened for service and maintenance. Always disconnect the power with both the main switch and the switch on the granulator.**

- **Never put any part of your body through the granulator openings, unless both the main switch and the switch on the granulator are in "Off" (0) position.**

- **The electrical cabinet shall always be securely closed and locked when the granulator is in operation!**

- **The key for the electrical cabinet is a safety component. The key must be kept by the person who is responsible for granulator safety, service and maintenance.**

- **The electrical cabinet must never be opened when the granulator is in operation.**

- **The granulator must not be used without the granule bin.**

  The granule bin is part of the safety devices on the granulator. The granule bin must always be installed during operation.

- **Never remove protective guards or pipes adjacent to the outlet/granule bin.**

- **The granulator should not be able to start before the hopper and door is properly closed.**

- **Granulator with band conveyor: Observe care so that conveyor belts with dogs do not grip clothing, or arms and feet.**

  During maintenance, disconnect the plug on the distribution box.

- **Observe care when opening or closing the hopper, screen box and granule bin, so as not to trap parts of the body.**

- **Use protective goggles when cleaning the granulator!**

- **The machine contains rotating knives. They are sharp and can cause personal damage even when they are not rotating.**

- **Be careful when you handle knives!**

- **Knives are sharp and can cause personal injury.**

- **If the rotor must be turned manually – do this with great care!**

- **NOTE! Conair knives are made from hardened steel.**

  Hardened steel knives are brittle and can crack if they are dropped or are handled carelessly.

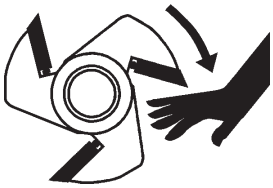
- **It requires skill & knowledge to grind knives, so please let a skilled, experienced craftsman to grind the knives.**

- **There is a pinch risk at inspection and adjustment of drive belts.**

  WARNING! Pinch risk between pulleys and drive-belts.

4.2 Knife changing

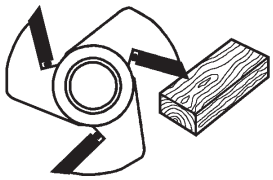
WARNING!



OBSERVE! The granulator cutter is balanced, therefore auto-rotates the cutter at installing of rotating knives.

The cutter auto-rotates when the center of gravity becomes unstable.

Therefore be very careful when changing knives, so as not to injure fingers or hands.

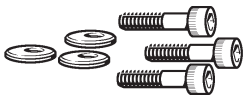


OBSERVE! <u>Never resort to help</u> when removing or installing rotating knives. Always carry out knife changing alone, so as to minimise the risk of injury to fingers or hands.

Lock the cutter to the cutter housing with a thick block of wood to avoid auto-rotation.

Be careful when handling the knives, they are sharp and can cause personal injury.

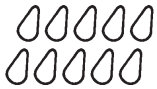
Use protective gloves!



Each time the set of knives is changed, the screws and washers which hold the knives must be replaced by new ones.

Every second time re-sharpened knives are installed, the screws and washers which hold the knives must be replaced by new ones.

Install all the rotating knives on the cutter, so that the cutter will be balanced.



Check the screen for wear when the knives are changed.
Change the screen when the holes begin to be pear shaped.

To change the knives

Open door and hopper. Remove the granule bin, the screen and screen box, – see the instruction manual chapter 5.

Tips for installation of knives:
Mark each knife, with a felt-tip pen when each task is carried out:

= The knife clearance is correctly set.

= The knife screws are torqued to the correct torque.

= The knife clearance has been rechecked and is correct.

Tips for installation of pre-set knives:
Mark each knife, with a felt-tip pen when each task is carried out:

= The knife clearance is correctly set in the knife fixture.

= The knife screws are torqued to the correct torque.

= The knife clearance has been rechecked and is correct.

5. Installation

Read through the whole of chapter 5 before installing the machine!

All instructions must be followed in the given order to avoid injury or damage.

Before lifting and moving the granulator, read chapter 12 in this instruction manual.

Be careful with the knives, they are sharp and can cause personal injury.

The granulator must only be connected to the mains by a competent electrician.

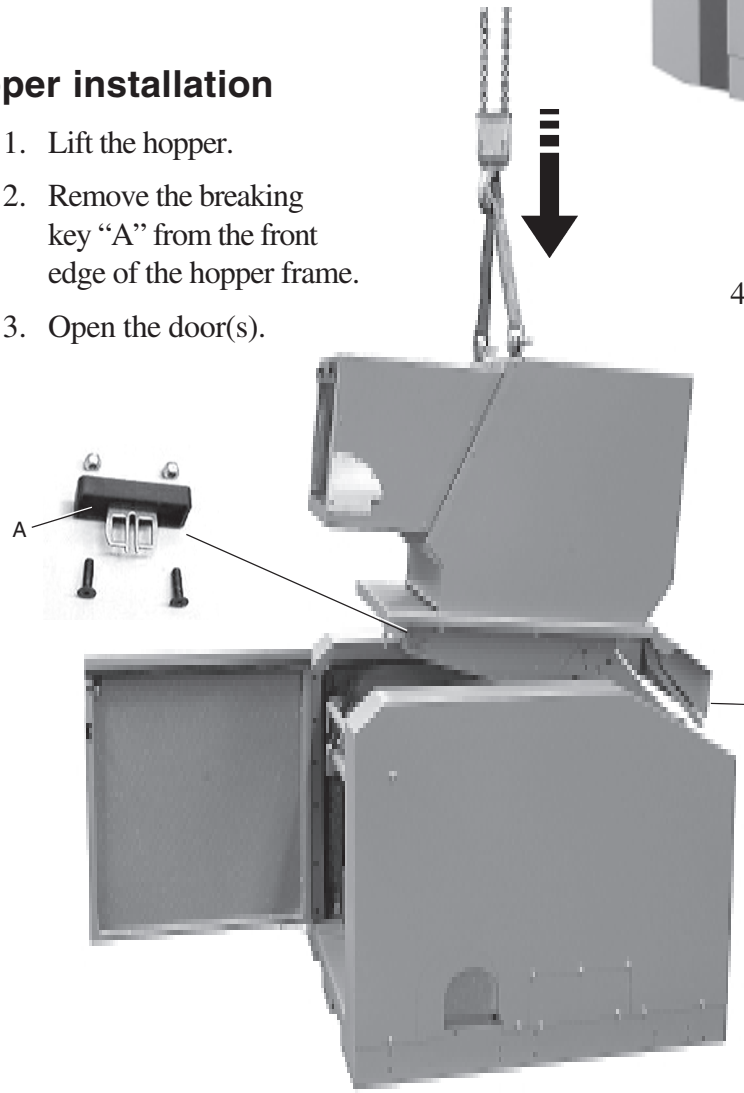
5.1 Measures before installation

The unpainted parts of the machine are protected with oil prior to delivery and transport

Clean the granulator from rust

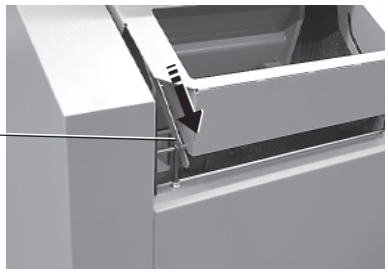
5.2 Hopper installation

1. Lift the hopper.
2. Remove the breaking key “A” from the front edge of the hopper frame.
3. Open the door(s).

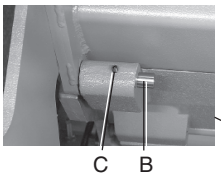


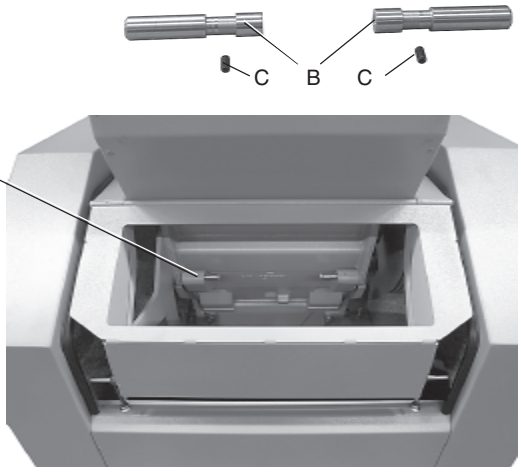
4. Lower the hopper and fit it against the granulator housing.

   Make sure that the shaft enters the groove when the rear cover frame mates up.



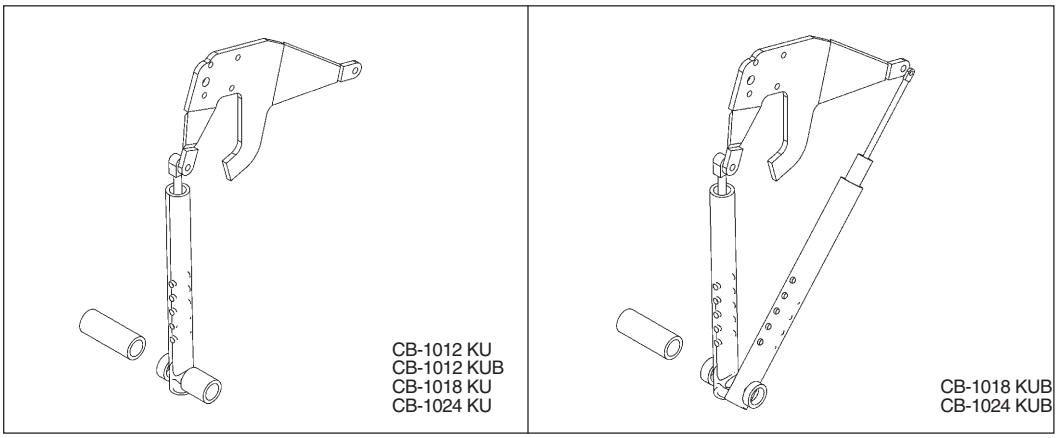
5. Install the pins “B” on the hopper hinges.





6. Lock the pins with grub screws “C”.
7. Install the gas spring(s) in the tube(s) to support the hopper.

   The illustrations below show the number of gas springs and installation procedure, see also spare parts in chapter 8.



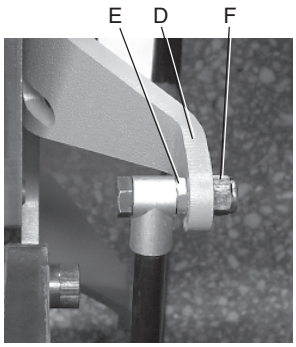
8. Open the hopper and install the gas spring(s) to the hopper bracket(s) “D”.

   NOTE! Install so that the screw is fixed in hopper bracket.

   – Tighten nuts “E” and “F” against each other.

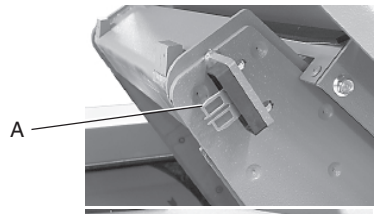
   – The gas spring should be free to move on the screw in upper bracket.

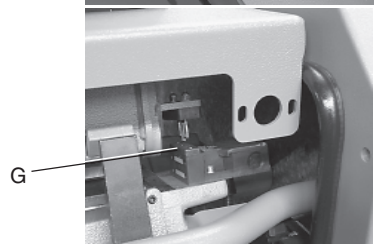
   The lower part of the gas spring should not be fixed, the lower part must be able to move freely in the sleeve.



9. Install breaking key “A”.

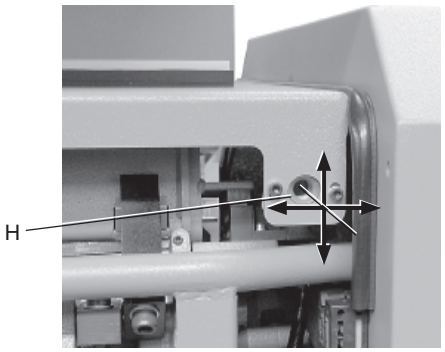
   Check that the breaking key fits in the safety switch “G”.





10. Close and fix the hopper.

11. Check the door lock “H” position in relation to the locking knob screw, adjust if necessary.



12. Install the rear upper panel.

13. Install the feed table.

5.3 Actions before the first start

- Check that the granulator is level.

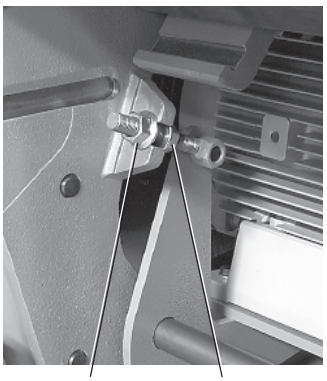
  IMPORTANT! Adjust so that all machine shoes take up load.
- Check the tightening torque of the knives retention screws.
  Check the tightening torque of the fixed knives:
  – rear, front and poss. third fixed knife ..... 220 Nm
  Check the tightening torque of the rotating knives:
  – granulator with 3-blade cutter 220Nm
  To check the knife clearance and the knives tightening torque, read chapter 7.1 “Knife changing”.
- Check the knife clearance with a feeler gauge. The clearance should be 0.20 - 0.30 mm, checked at outer edges of the knives.

NOTE! Sign the service schedule, chapter 13, when the installation is completed.

5.3.1 Two hours after first start

- Re-check the knife clearance and tightening torque of the knife retention screws. Check the screws on both the fixed and rotating knives.
- Check the granulator motor adjustment nuts.

  Check that the inner lock nuts are securely tightened, so that they lock the adjustment nuts, see chapter 7.3.



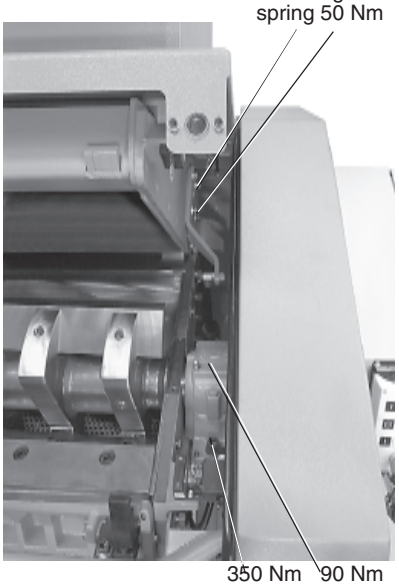
Adjustment nut Lock nut

NOTE! Sign the service schedule, chapter 13, when the check is completed.

5.3.2 20 - 30 hours after first start

The tension and condition of the drive-belts must be checked after 20 - 30 hours of operation at full load. Checking, adjustment and belt tension are described in this instruction manual, see chapter 7.3 “Transmission”.

- Check the tightening torque of the screws to the cutter shaft plummer blocks:
  – bearing caps hex. head screws ..... 90 Nm.
  – plummer block against cutter housing socket cap screws ..... 350 Nm.
- Check the tightening torque of the socket cap screws to the upper brackets for the hopper gas springs 50 Nm.



NOTE! Sign the service schedule, chapter 13, when the check is completed.

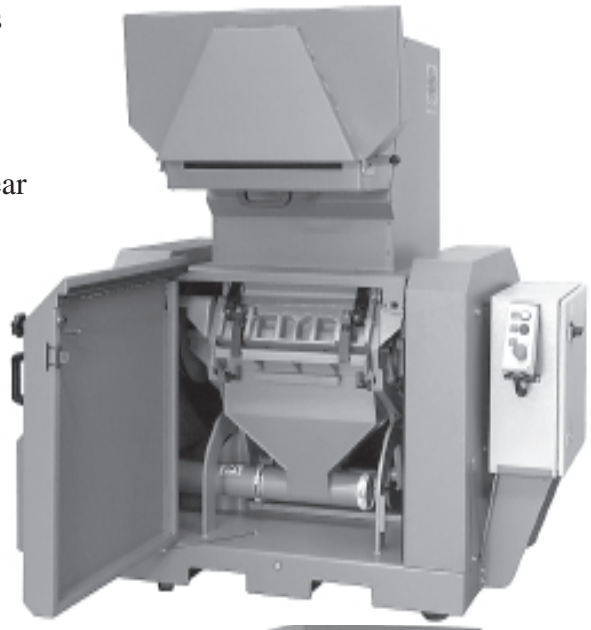
5.4 Electrical connection

The granulator must only be connected to the main power by a competent electrician.

- Connect the granulator to the main power. The wiring diagram indicates the machine's connection voltage (Volt) and fuse sizes (Amps).
- The granulator is when delivered is connected for clock-wise phase rotation.

  Check the main power phase sequence with a phase sequence indicator and connect the granulator to the main power with a main plug.

Check the direction of rotation of the granulator motor:



- Open the door and check that the hopper is properly closed.
- Close the door and tighten the lock knob properly to stop.
- Undo and remove the upper panel on the rear side of the granulator.
- Make sure that the main switch on distribution box is "On" (I).
- Check that the emergency stop is not activated.
- Start the granulator, press the "Start"-button and stop it again at once, press the "Stop"-button.
- Before the motor has had time to stop, check the direction of rotation of the granulator motor against the arrow on the pulley.

Check the direction of rotation of the blower motor

- Check that the direction of rotation of the blower corresponds with the arrow on the blower hood.

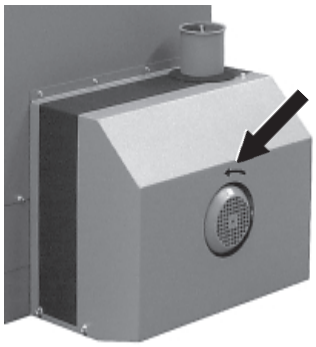
NOTE! The blower blows even if the direction of rotation is wrong but the capacity will be less than 25%.

Tip! Start the motor and stop it again at once.

Before the blower motor has had time to stop completely, carefully insert a cable tie into the rear of the motor housing and carefully feel the direction of rotation of the motor.

- For a granulator with band conveyor, – check the direction of the conveyor belt.

If any direction of rotation is incorrect:



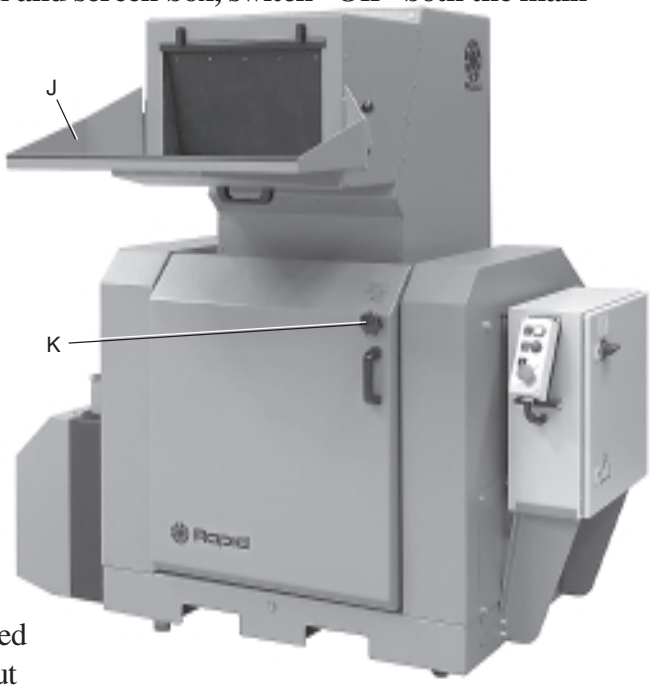
- Stop the granulator, press the "Stop" button.
- Turn the main switch to position "Off" (0) and pull the mains plug out of the main power outlet.
- Transpose two of the incoming phases in the main plug.

NOTE! Sign the service schedule, chapter 13, when the installation is completed.

5.5 Opening of hopper, granule bin and screen box

Before opening the hopper, granule bin and screen box, switch "Off" both the main power switch and granulator switch.

Be careful when the knives are accessible. They are sharp and can cause personal injury.



Opening the hopper

1. Check that the hopper is empty, then stop the granulator.
2. Fold up the feed table "J".
3. Open the door, unscrew, undo the lock knob "K" and open the door.
4. Switch "Off" the main switch.
5. Undo and fold out the lock clamps "L" of the hopper.
6. Open/fold the hopper backwards.

NOTE! The hopper is counter-balanced by gas springs so that it does not fall out of control.

Opening the granule bin and screen box

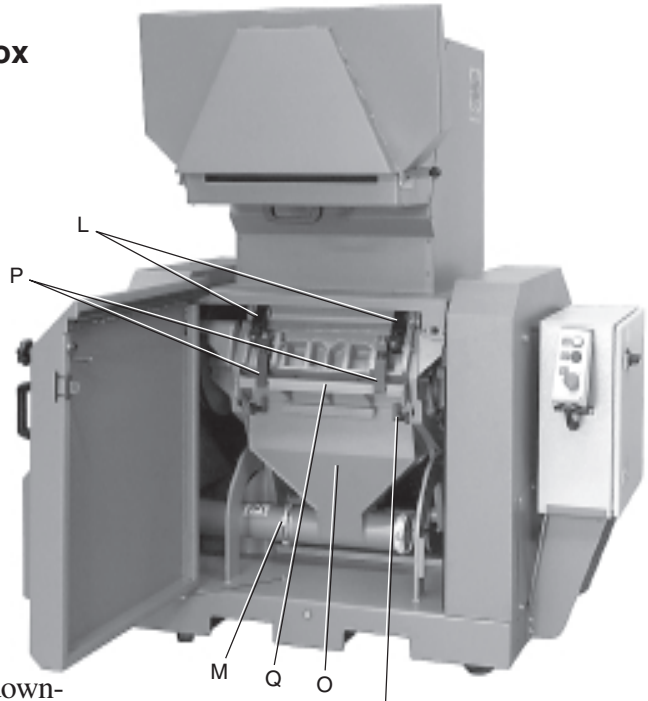
7. Check that the hopper is empty, then stop the granulator.
8. Fold up the feed table.
9. Open the door.
10. Switch "Off" the main switch.
11. Undo the quick coupling "M" on the outlet pipe stub and move it to the side.
12. Undo the granule bin catch. Fold the spring-loaded lock arms "N" upwards.

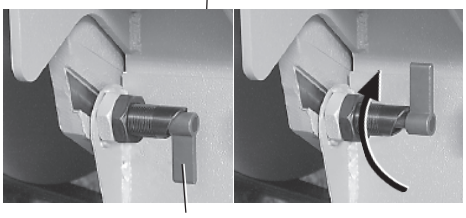
NOTE! Hold the granule bin´s handle at the same time, so that it does not fall down out of control.

13. Fold the front edge of the granule bin downwards and pull the granule bin "O" forward.

    Keep holding the granule bin handle and grasp the rear of the granule bin.

    Lift the granule bin forwards, upwards and out.
14. Undo and fold out the lock clamps "P" for the screen box "Q".





NOTE! Hold the screen box at the same time, so that it does not fall down out of control.

15. Fold the screen box down.

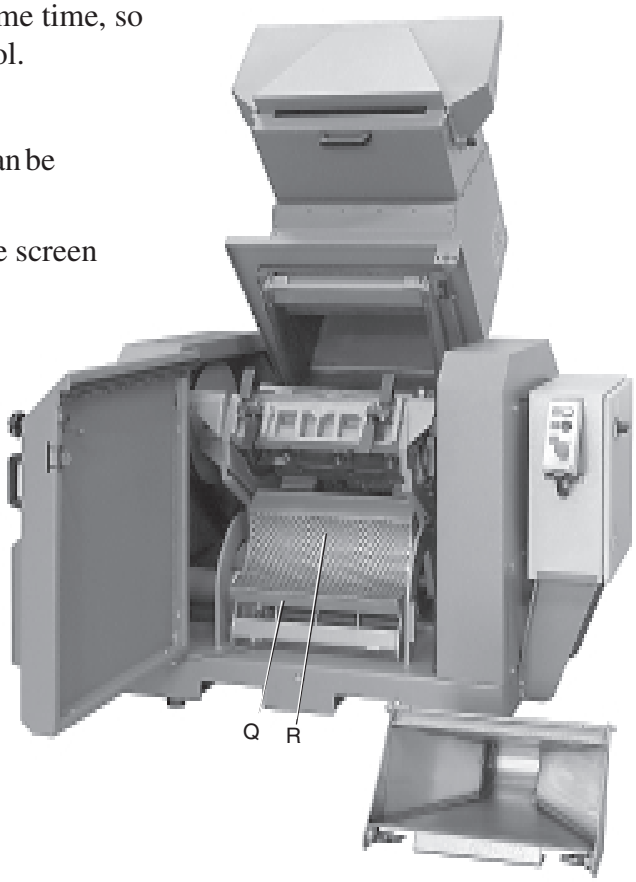
    The screen "R" is now accessible and can be lifted out, for changing or cleaning.

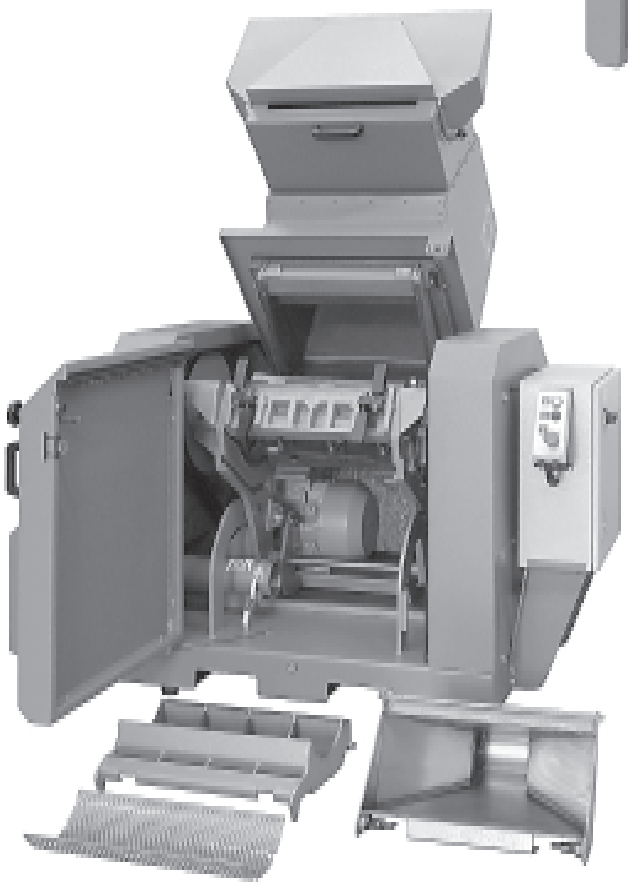
16. Lift the screen box handle and pull the screen box "Q" outwards.

17. Grasp the screen box handle firmly.

    Keep holding the screen box handle and grasp the screen arches in the screen box.

    Lift the rear edge of the screen box forwards, upwards and out.





5.6 Closing of screen box, granule bin and hopper

NOTE! Before closing, make sure that the mating surfaces are clean! There is a pinch risk during closing, be careful.

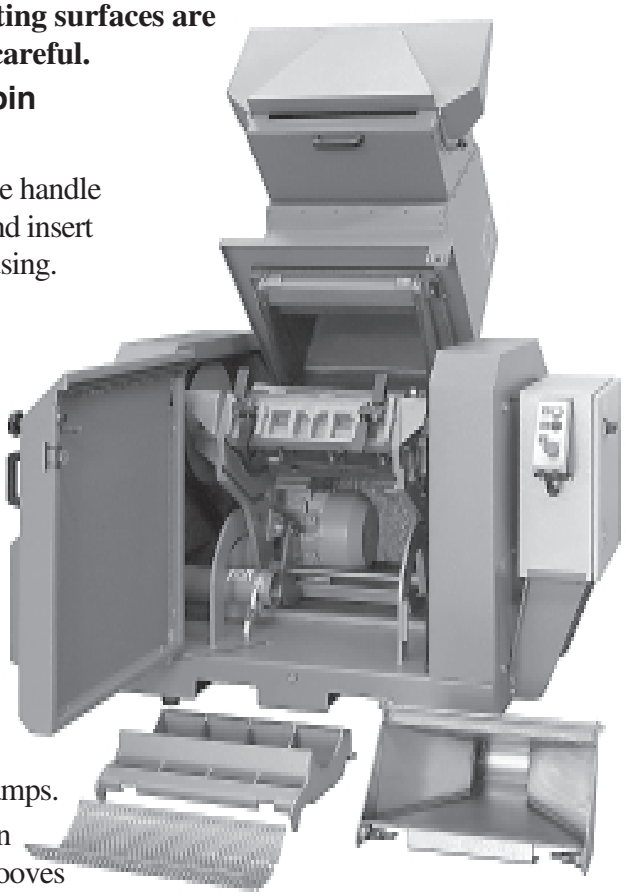
Close the screen box and install the granule bin

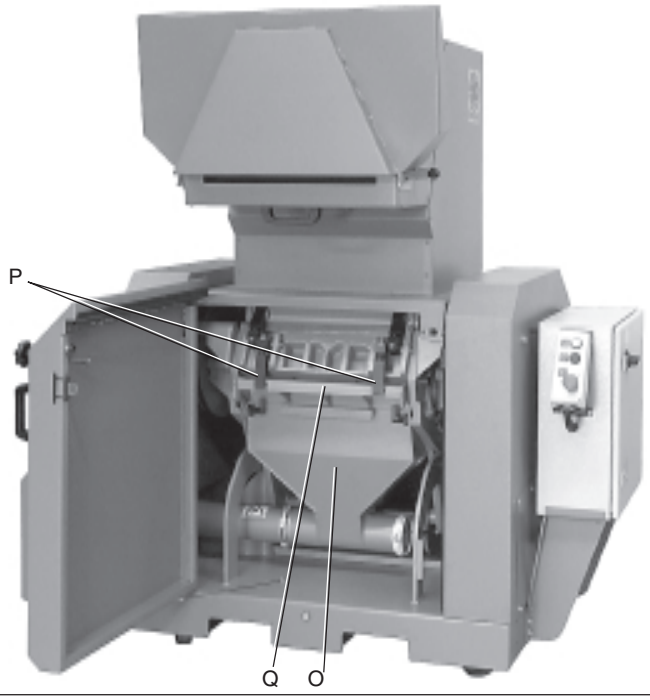
1. Install the screen box “Q”.

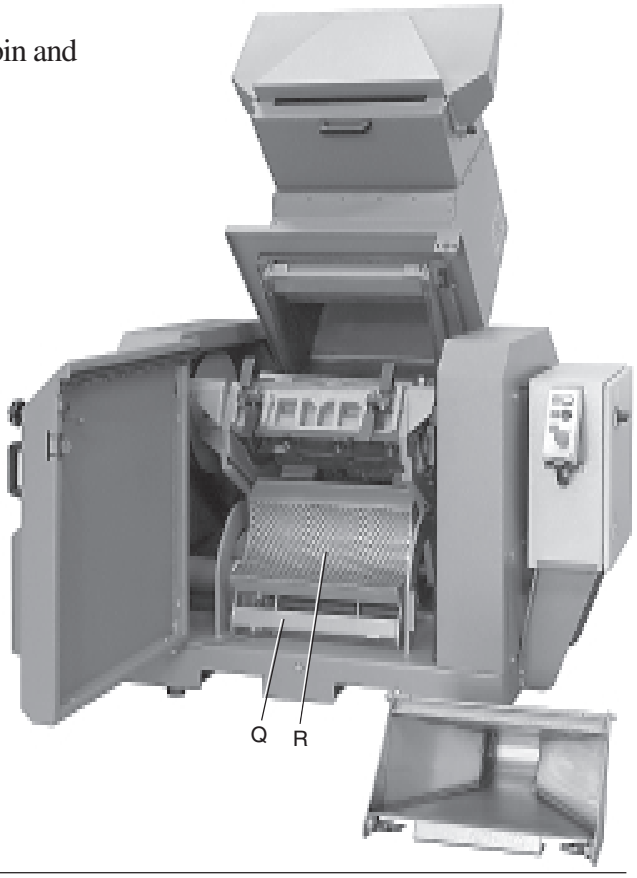
   Hold the screen arches of the screen box and the handle firmly. Lift up the rear edge of the screen box and insert the guide heels into the grooves in the cutter housing.

   Carefully lower the rear edge of the screen box.
2. Lift the screen box handle and slide the screen box in until it stops.
3. Fold down the screen box and install the screen “R” in the screen box. Center and make sure that the cutout on the screen fits against the pins on the outer screen arches.
4. Hold the handle and lift the front edge of the screen box up towards the cutter housing.
5. Fold in the lock clamps “P” against the screen box. Fix the screen box with the lock clamps.
6. Install the granule bin “O”. Lift up the granule bin and insert the guide heels on the rear into the grooves in the cutter housing.

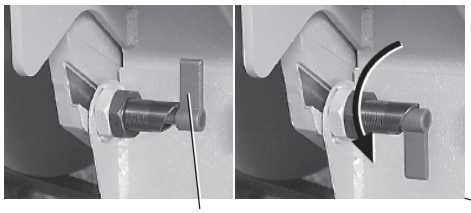
   Carefully lower the rear edge of the granule bin and slide the bin in until it stops.



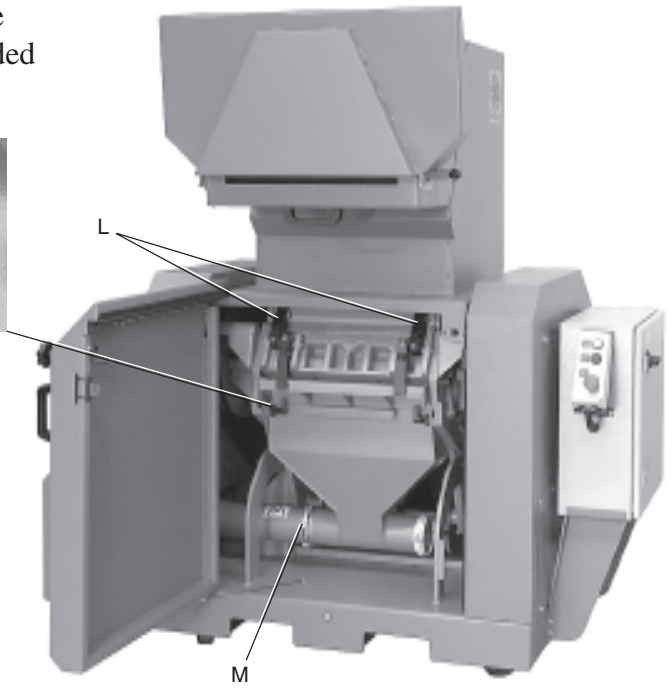




7. Lift up the front edge of the granule bin and lock it. Fold the spring-loaded lock arms “N” downwards.



8. Install the quick coupling “M” on the outlet pipe stub.



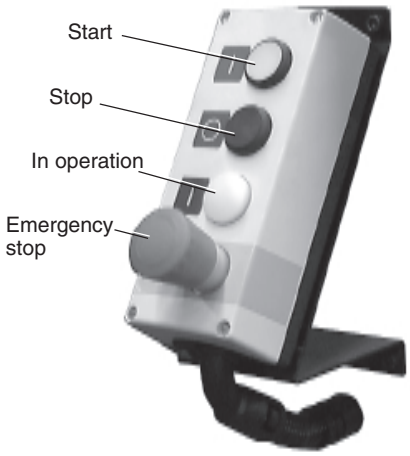
Close the hopper

NOTE! The door must be opened, otherwise it will not be possible to close the hopper.

9. Check and make sure that no granulate lies on the mating surfaces or flanges.
10. Close/fold the hopper forwards.
11. Fold the locking clamps “L” in and fix the hopper.
12. Close the door and tighten the lock knob “K” properly to stop.
13. Fold down the feed table “J”.
14. Check that the hopper is empty.
15. Switch “On” the main switch.
16. Start the granulator.

6. Operation and daily maintenance

6.1 Starting and stopping



The main switch is located on the distribution box.

Starting and stopping is controlled by push buttons on the control panel.

NOTE! Never stop the granulator before all material in the hopper and cutter housing is completely granulated.

Residual material will clog the rotor in the granulator during re-start. The motor will be overloaded and the overloading protection will trigger.

6.2 Inspection

There must be no plastic material left in the granulator when inspection is carried out.

NOTE! All servicing must be done by trained personnel in order to avoid personal injury and damage to the machine.

Daily inspection

Flaps in the hopper. Check that the flaps are undamaged. Replace damaged flaps at once. Damaged flaps can drop down into the cutter housing and damage the knives. Damaged flaps can result in the risk of material ejection.

Emergency stop. Check the emergency stop function.
Start the granulator and stop it with the emergency stop(s).

Reset. Turn the stop button in the direction of the arrow (counterclockwise).

Weekly inspection

Cables. Check the electric cables of the machine for wear or other damage. Replace damaged cables at once.

Safety switches. Check the safety switch functions.

The granulator has 2 safety switches:

- at the hopper, between the hopper and cutter housing.
- at the door, combined with the door lock.

Check the hopper´s safety switch.

Open the door, undo and fold out the lock clamps for the hopper. Close the door and try to start the granulator.

It should not be possible to start the granulator before the hopper has been properly closed and the lock clamps are tightened.

Check the door´s safety switch.

Undo the door´s lock knob a few turns and try to start the granulator.

It should not be possible to start the granulator before the door has been closed and the lock knob are properly tightened to stop.

NOTE! Sign the service schedule, chapter 13, when the check is completed.

Monthly inspection

Check that the drive belts are undamaged.

NOTE! Sign the service schedule, chapter 13, when the check is completed.

Inspection every 6 month or 1000 running hours

Check the drive belt tension every 6 months, see chapter 7.3 “Transmission”.

Lubricate the cutter shaft bearings, 2 nipples one nipple on each plummer block.

Check the tightening torque of the screws to the cutter shaft plummer blocks:

- hex. head screws bearing caps ..... 90 Nm
- socket cap screws plummer blocks against cutter housing ... 350 Nm

Check the tightening torque of the socket cap screws to the upper brackets for the hopper gas springs: – socket cap screws ..... 50 Nm

NOTE! Sign the service schedule, chapter 13, when the check is completed.

6.3 Stoppage and overloading of granulator

NOTE! Before troubleshootingbor attending to mechanical faults and maintenance work, switch off the granulator main switch and disconnect the main power supply to the granulator and the granulator optional fittings.

Stoppage in cutter housing

Cutter stoppage

If the granulator is overloaded so that the cutter has jammed.

Open the hopper carefully, then undo and remove the granule bin and screen box. Opening see chapter 5.5.

If the cutter has jammed, use a wooden pole and carefully try to release the cutter in reverse rotational direction.

NOTE! Never use metal objects to try and release a jammed cutter. This can damage the cutter, knives, knife positions, support rules, cutter housing and screen.

Clean the hopper, cutter housing, screen box, granule bin and screen.

Reset the granulator motor’s overload protector in the distribution box – see chapter 6.6 “Fault-finding”.

Overfilling in cutter housing

Look for and attend to the cause of overfilling in the granulator.

- Check hopper and outfeed (blower, transport pipe, cyclone filter etc.)
- Check the knives and knife tolerance. If the granulator knives are blunt and un-sharpened, or if the knife clearance is incorrect, this can cause overfilling in the cutter housing.

  Check the knives. Sharpen or replace the knives, or adjust the knife clearance, see chapter 7.2 ”Sharpening of knives”.
- Check the drive belts. If the tension of drive belts is too low the transmission will slip and the cutter’s rotational speed will drop too low – this can cause overfilling in the cutter housing.

Clean the hopper, cutter housing, screen box, granule bin and screen.

Reset the granulator motor's overload protector in the distribution box – see chapter 6.6 "Fault-finding".

- Check the granulator's screen. The dimensions of the holes in the granulator's screen must be appropriate to the material being granulated, and if the size of the holes is wrong this can lead to overfilling in the cutter house.

  Contact your local Conair representative.

Hardened lumps in the cutter housing, screen box and granule bin

If the cutter housing, screen box, screen and granule bin are filled with compacted stiffened/hardened plastic.

Contact your local Conair representative.

By heat-treating the cutter housing and screen box the plastic can be melted away.

In order to be able to apply heat treatment, the cutter housing and screen box must be removed from stand, hopper and enclosure.

This is work which can be carried out by Conair's service department.

A change of bearings is always necessary after heat treatment.

The granule bin must be changed. To dismantle the cutter housing and screen box, the granule bin must be removed. A granule bin filled with stiffened/hardened plastic can in most cases only be removed by means of cutting treatment.

A granule bin filled with stiffened/hardened plastic cannot be heat-treated without the fit changing. A granule bin with a poor or altered fit will leak out granules from the granulator, both internally and externally.

An alternative way of removing hardened plastic is by means of mechanical treatment. Removing hardened/stiffened plastic mechanically is very time-consuming. Furthermore, there is a big risk of damaging the rotor, knives, knife positions, support rules, cutter housing and screen.

Stoppage in blower

Look for and attend to the cause of the stoppage in the blower.

- Check there is no stoppage in the transport pipes, cyclone, dust filter and collecting container.

  Clean and empty transport pipes, cyclone, dust filter and collecting container.
- Check that the blower rotational direction is in accordance with the arrow on the blower hood.

NOTE! The blower blows even if the rotational direction is wrong, but capacity will be less than 25%.

Stoppage in hopper

Look for and attend to the cause of the stoppage in the hopper.

- The hopper feed speed is too high or pieces too large.

  Clean the hopper and lower the feed speed.

- The cutter housing is overfilled.

  Look for and attend to the cause of the overfilling in the cutter housing – see previous chapter.

Stoppage in material conveyance system

Look for and attend to the cause of the stoppage in the material conveyance system.

- Overfilling or stoppage in transport pipes, cyclone, dust filter or collecting container.

  Clean and empty transport pipes, cyclone, dust filter and collecting container.

- Check that the blower's rotational direction is in accordance with the arrow on the blower hood.

NOTE! The blower blows even if the rotational direction is wrong, but capacity will be less than 25%.

Smell of melted plastic and smoke formation

- Overfilling or stoppage in transport pipes, cyclone, dust filter or collecting container.

  The blower functions easily and the granulator grinds plastic into powder and subsequently into a hot mass.

WARNING! If the granulator is turned off, the result will be hardened lumps in the cutter house. Read the section on hardened lumps in the cutter housing.

WARNING! Risk of fire in the cutter house.

NOTE! Do NOT turn off the granulator. Try to attend to, release and evacuate the stoppage in transport pipes, cyclone, dust filter or collecting container.

Then clean and empty transport pipes, cyclone, dust filter and collecting container.

6.4 Cleaning

Clean at color change, monthly or at least once every 300 hours.

Be careful when the hopper has been opened.
The knives are now accessible, they are sharp and can cause personal injury.

Read the chapter 5.5 “Opening of hopper, screen box and granule bin” which describes how to open the granulator. Then follow the points below.

1. Check that the hopper is empty, then stop the granulator.
2. **Switch off the main power switch.**
3. Clean the outside of the hopper.
4. Clean the flaps in the hopper.

   Clean the flaps with a vacuum cleaner.

   -KU: Fold up the expanding catches and pull the flap package straight out.

   -KUB: Pull out the outer flaps and the inner flap.

5. Fold up the feed table.
6. Open the door.
7. Undo and fold out the lock clamps for the hopper, open/fold the hopper backwards.

   NOTE! The hopper is counterbalanced with gas springs so that it does not fall out of control.

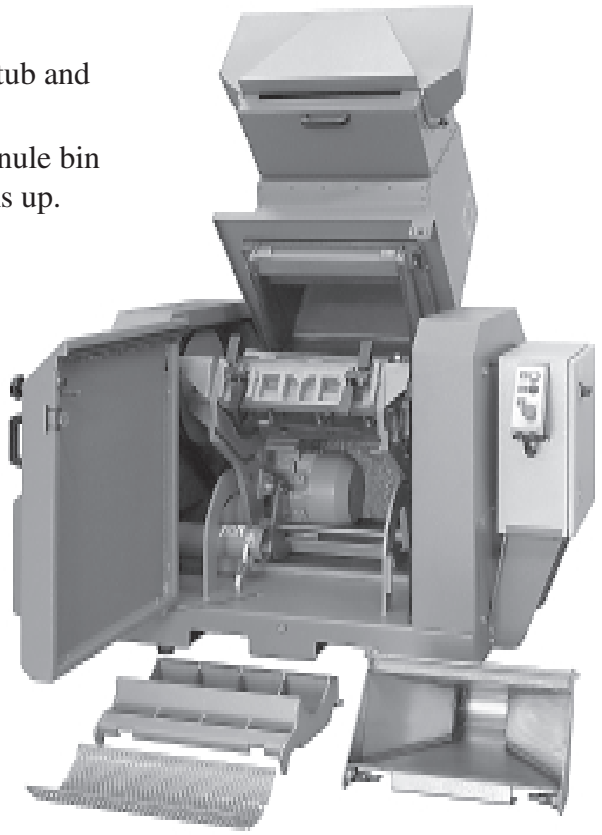
8. Clean the inside of the hopper.
9. Undo the quick coupling on the pipe stub and move it to the side.
10. Remove the granule bin. Undo the granule bin catch. Fold the spring-loaded lock arms up.

    NOTE! Hold the granule bin´s handle at the same time, so that it does not fall down out of control.

    Fold the front edge of the granule bin downwards and pull the granule bin forwards.

    Keep holding the granule bin handle and grasp the rear of the granule bin.

    Lift the granule bin forwards, upwards and out.



11. Remove the screen box. Undo and fold out the lock clamps for the screen box.

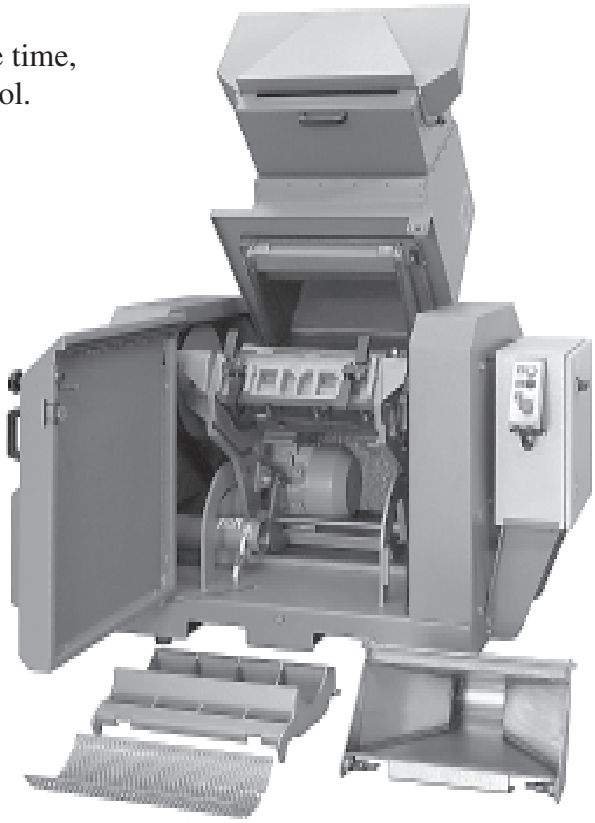
    NOTE! Hold the screen box at the same time, so that it does not fall down out of control.

    Fold the screen box down.

12. Lift out the screen.
13. Lift the screen box handle and pull the screen box outwards.

    Keep holding the screen box handle and grasp the screen arches in the screen box.

    Lift the rear edge of the screen box forwards, upwards and out.



14. Clean the granule bin, screen box and screen.
15. Clean the cutter housing inside and outside.
16. Clean any transport pipes, blower and cyclone.

    NOTE! If the cutter must be turned manually, do this with great care!

    The knives are sharp and can cause personal injury.

    NOTE! Use protective goggles and make sure that no material blows into the safety switches!

17. Granulator with band conveyor. Clean the belt using a light cleaning agent.

Re-install

NOTE! There is a pinch risk during closing, be careful.

1. Install the screen box. Hold the screen arches on the screen box and the handle firmly. Lift up the rear edge of the screen box and insert the guide heels into the grooves in the cutter housing. Then carefully lower the rear edge of the screen box.
2. Lift the screen box handle and slide the screen box in until it stops.
3. Fold down the screen box and install the screen in the screen box. Center and make sure that the cutout on the screen fits against the pins on the outer screen arches.
4. Hold the handle and lift the front edge of the screen box up towards the cutter housing. Fold in the locking clamps against the screen box and fix the screen box with the locking clamps.
5. Install the granule bin. Lift up the granule bin and insert the guide heels on the rear into the grooves in the cutter housing.

   Carefully lower the rear edge of the granule bin and slide it in until it stops. Lift up the front edge and lock it with the spring-loaded lock arms (downwards).

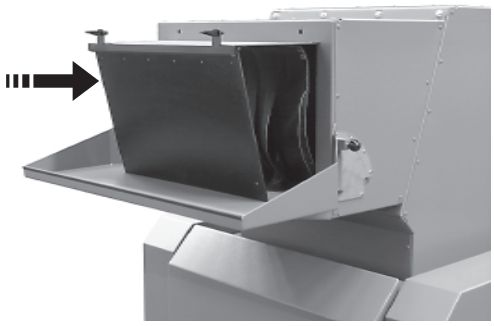
6. Install the quick coupling on the outlet pipe stub.
7. Shut/fold the hopper forwards.

NOTE! The door must be opened, otherwise it will not be possible to close the hopper.

Check and make sure that no granulate lies on the mating surfaces or flanges.

Fold in and fix the hopper with the lock clamps.

8. Install the flaps in hopper.
   - KU: Slide the flap package straight in and fold the expanding catches down.
   - KUB: Install the inner flap and the outer flaps.
9. Close the door and tighten the lock knob properly to stop.
10. Fold down the feed table.
11. Check that the hopper is empty.
12. Switch “On” the main switch.



6.5 Troubleshooting

The granulator does not start

- Check that the emergency stop is not activated.
  Reset by turning the button(s) in the direction of the arrow (anti-clockwise).
- Check that the door is properly closed.

  The granulator will not start if the door is not properly closed.
  Close the door properly.
- Check that the hopper is properly closed.

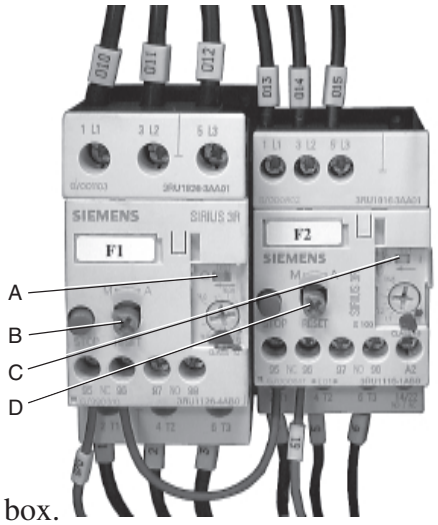
  The granulator will not start if the hopper not is properly closed.
  Open the door(s) and check that the lock clamps are properly tightened.
- Check the overload circuit breaker for the motor.

  The motor has an overload circuit breaker, F1, in the distribution box, which trips if you jam or overload the granulator.

  This is indicated in the window “A” which shows “0”.

  Reset: – press the “Reset” button “B”.

  Check that there is no material left in the granulator before restarting.



- Granulator with blower: check the overload circuit breaker for the blower motor.

  The granulator will not start if the blower does not start.

  Check the overload circuit breaker F2 in distribution box.

  If the overload circuit breaker has switched “Off”, this is indicated in the window “C” which shows “0”.

  Reset: press the “Reset” button “D”.

  Check that there is no material left in the granulator before restarting.
- Granulator with band conveyor: if the band conveyor does not start, check the band conveyor overload circuit breaker.

  The band conveyor has an overload circuit breaker F3 in the distribution box, which trips if you jam or overload the conveyor belt.

  If the overload circuit breaker has switched “Off”, this is indicated in the small window which shows “0”.

  Reset: press the “Reset” button.

  Check that there is no material left on the conveyor belt before restarting.
- Check the granulator knives and knife tolerance.

  If the granulator knives are blunt and unsharpened, or if the knife clearance is incorrect, this can result in stoppage. The granulator motor overload circuit breaker will trip.

  Check the knives. Sharpen or replace the knives, or adjust the knife clearance, see next chapter.

The granulator stops for some unaccountable reason

- If the drive belts tension not is enough, the transmission will slip and the granulator motor overload protection trips.

  Check and adjust the drive belt tension, see chapter 7.3 “Transmission”.

- At a bad or loose contact in connection to a safety switch/limit switch, the granu-lator will stop.

Call for an qualified electrician for troubleshooting and appropriate measures.

NOTE! Never bypass a safety switch or limit switch.

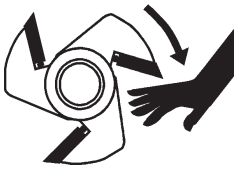
Check also the wiring diagram, supplements and deviations may be applicable.

7. Service

All service must be carried out by trained personnel in order to avoid personal injury or damage to the machine.

7.1 Knife changing

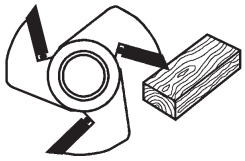
WARNING!



OBSERVE! The granulator cutter is balanced, therefore auto-rotates the cutter at installing of rotating knives.

The cutter auto-rotates when the center of gravity becomes unstable.

Therefore be very careful when changing knives, so as not to injure fingers or hands.

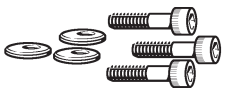


OBSERVE! Never resort to help when removing or installing rotating knives. Always carry out knife changing alone, so as to mini-mise the risk of injury to fingers or hands.

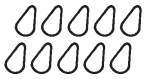
Lock the cutter to the cutter housing with a thick block of wood to avoid auto-rotation.

Be careful when handling the knives, they are sharp and can cause personal injury.

Use protective gloves!



Each time the set of knives is changed, the screws and washers which hold the knives must be replaced by new ones.



Every second time re-sharpened knives are installed, the screws and washers which hold the knives must be replaced by new ones.

Check the screen for wear when the knives are changed.
Change the screen when the holes begin to be pear shaped.

To change the knives

Open the door and hopper.

Remove the granule bin, screen and screen box, – see chapter 5.5.

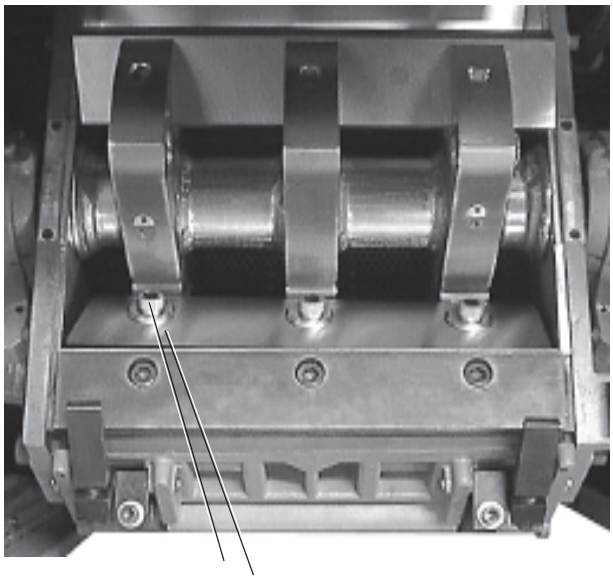
7.1.1 Removing the knives

Removing rotating knives

NOTE! Lock the cutter to the cutter housing with a thick block of wood to avoid auto-rotation.

1. Undo and remove the screws “A” and washers “B”.

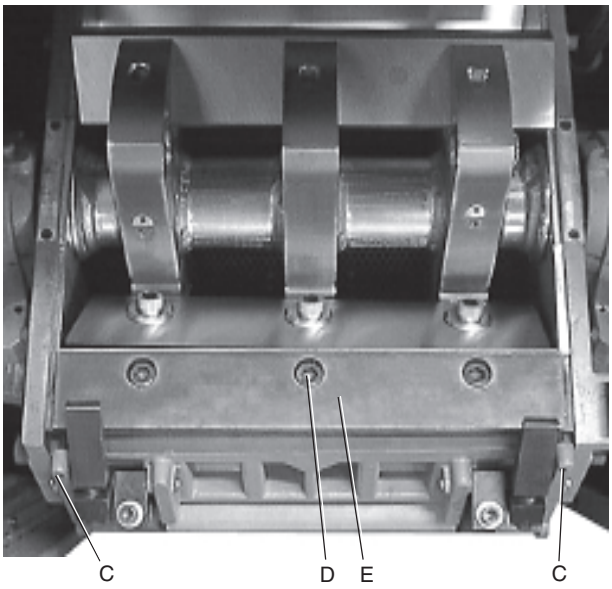
   The knives are now loose.
2. Lift out the rotating knives.
3. Clean the surfaces where the knives were located.

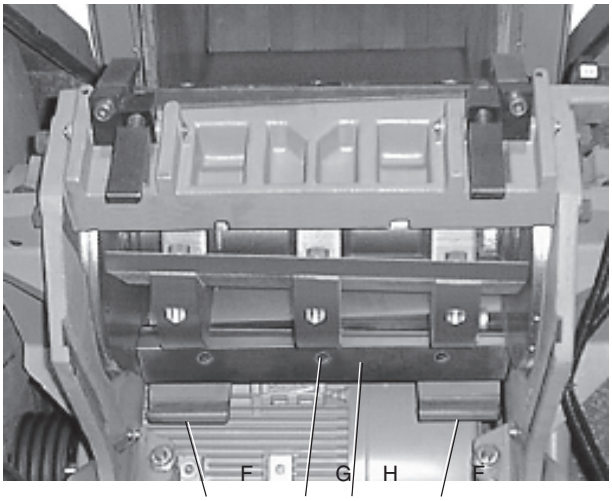


Removing of fixed knives

4. Undo the adjustment screws “C” for the front fixed knife a few turns.
5. Undo and remove the socket cap screws “D” on the front fixed knife support rule “E”.
6. Lift out the fixed knife together with the support rule.
7. Clean the knife attachment.
8. Undo the adjustment screws “F” for the rear fixed knife a few turns.

   The screws are undone from the rear of the two heels which come down from the cutter housing.
9. Undo and remove the socket cap screws “G” for the rear fixed knife support rule “H”.





NOTE! Hold both the support rule and the fixed knife, when the last screw for the knife is undone and removed.

10. Lift out the fixed knife together with the support rule.
11. Clean the knife attachment.

7.1.2 Installing the knives

The knife attachment for both the fixed and rotating knives must be properly cleaned.

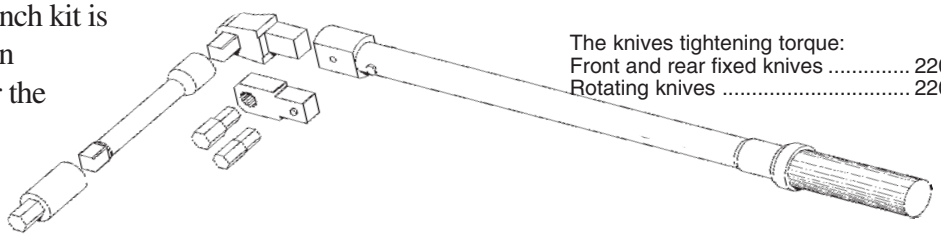
NOTE! Each time the set of knives is changed, the screws and washers which hold the knives must be replaced by new ones.

NOTE! Every second time re-sharpened knives are installed, the screws and washers which hold the knives must be replaced by new ones.

The screws which retain the knives are of high strength class. Only screws supplied by Conair may be used for installing knives. It is very important that the screws for the knives are torqued to correct tightening torque.

To install the fixed and rotating knives a torque wrench is needed.

A torque wrench kit is available as an accessory for the granulator.



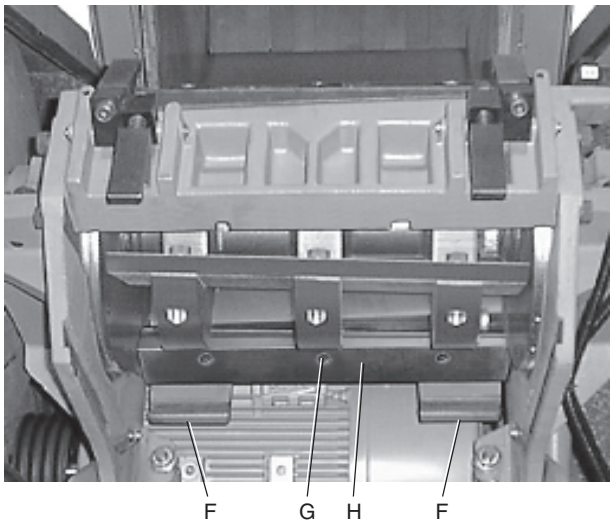
The knives tightening torque:
Front and rear fixed knives ..... 220 Nm
Rotating knives ..... 220 Nm

The torque wrench kit, art. no. 3-39561 contains a torque wrench, with driving plug 1/2", socket cap hex 14 mm, extension, bit holder and two bits hex 12 and 14 mm.

Installing the fixed knives

The front and rear fixed knives settings determines by cutouts in the cutter housing side inserts.

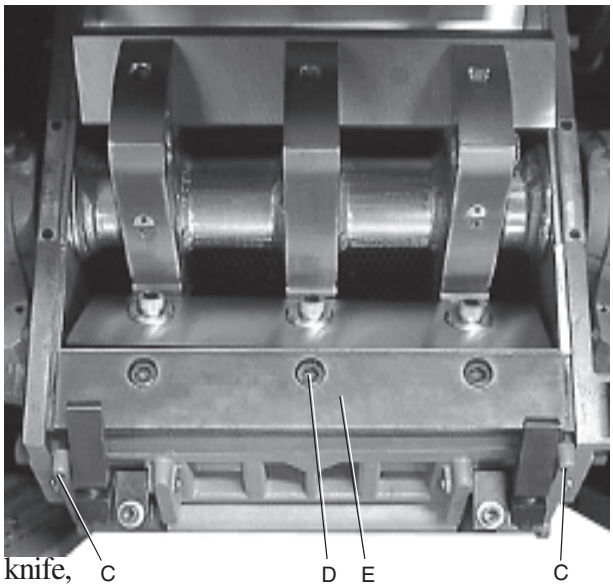
Install the rear fixed knife



1. Install the knife with support rule "H" in the knife attachment.
2. Install the socket cap screws "G" so that the support rule "H" lightly support the knife.
3. Adjust the knife forwards with the adjustment screws "F" – adjust to stop.

   The cutouts in the cutter housing side inserts determines the knife setting.
4. Tighten the knife with the socket cap screws "G" torque 220 Nm.

Install the front fixed knife



5. Install the knife with support rule "E" in the knife attachment.
6. Install the socket cap screws "D" so that the support rule "E" lightly support the knife.
7. Adjust the knife forwards with the adjustment screws "C" – adjust to stop.

   The cutouts in the cutter housing side inserts determines the knife setting.
8. Tighten the knife with the socket cap screws "D" torque 220 Nm.

Third fixed knife (option)

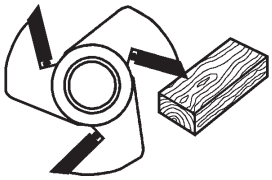
If the granulator is equipped with a third fixed knife, it should be installed last, after that the rotating knives are installed, see chapter 11.2.

Installing rotating knives

CAUTION! The granulator cutter is balanced, and therefore auto-rotates the cutter when installing the rotating knives.

The cutter auto-rotates when the center of gravity becomes unstable.

Therefore be very careful when changing knives, so as not to injure fingers or hands.

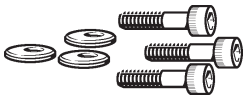


OBSERVE! <u>Never resort to help</u> when removing or installing rotating knives. Always carry out knife changing alone, so as to minimize the risk of injury to fingers or hands.

Lock the cutter to the cutter housing with a thick block of wood to avoid auto-rotation.

Be careful when handling the knives, they are sharp and can cause personal injury.

Use protective gloves!



Each time the set of knives is changed, the screws and washers which hold the knives must be replaced by new ones.

NOTE! Every second time re-sharpened knives are installed, the screws and washers which hold the knives must be replaced by new ones.

OBSERVE! Install all the rotating knives on the cutter, so that the cutter will be balanced.

Your granulator is delivered with one fixed 10 mm angled spanner and a 0.20 mm feeler gauge for setting the rotating knives clearances.

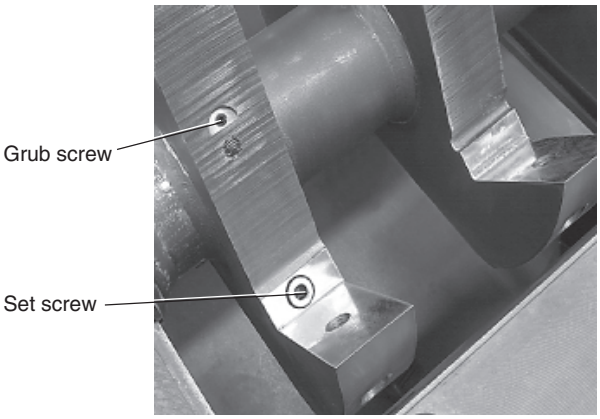
Pre-setting fixture for setting the rotating knives clearances before installation, is available as a practical option. The pre-setting fixture makes the knife installation simpler and quicker. The setting screws in the cutter knife seats are fixed and locked when the granulator is manufactured, so that a pre-setting fixture can be used for the rotating knives.

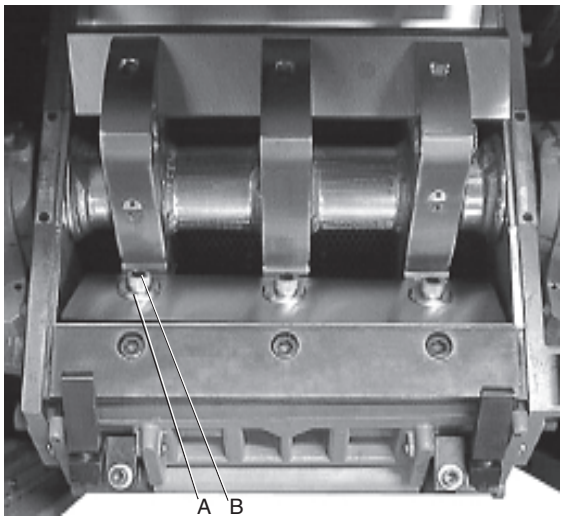
NOTE! The set screws settings in the cutter knife seats are locked with grub screws!

The grub screws are locked and bonded in place!

The set screws settings must never be changed!

9. Screw in the adjustment screws on the rotating knives a few turns.
10. Install all knives on the cutter with screws “A” and washers “B”.
11. Press the knives back so that the adjustment screws butt up properly against the set screws at the rear of the knives attachments.
12. Turn the washers “B” so that they fully cover the screw holes in the knives.
13. Tighten so that the screws lightly support the knives.





14. Check very carefully, that all the rotating knives can pass the front and rear fixed knives freely.

    If the rotating knives can not pass the front and rear fixed knives freely. Screw in the adjustment screws on the rotating knives a few more turns.

    Press the knives back so that the knife adjustment screws butt up properly against the set screws at the rear of the knive attachment.

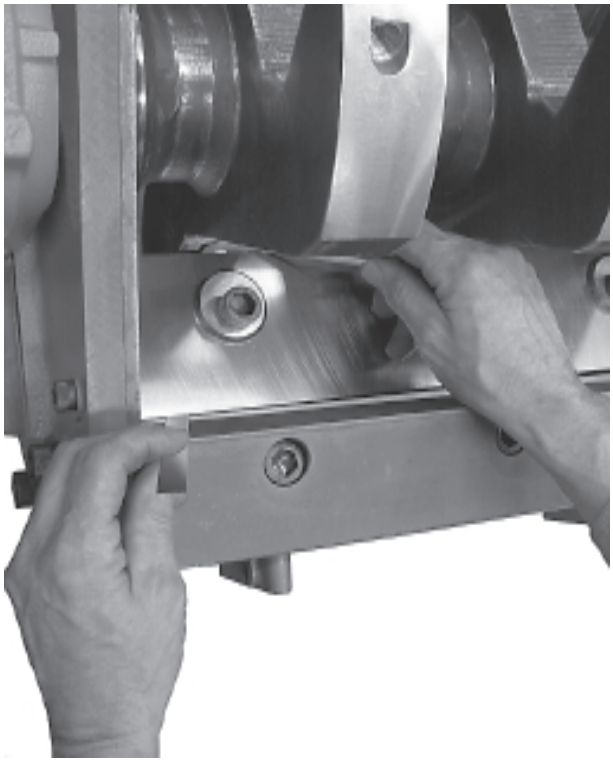
Tips for installation of knives:
Mark each knife, with a felt-tip pen when each task is carried out:

= The knife clearance is correctly set.

= The knife screws are torqued to the correct torque.

= The knife clearance has been re-checked and is correct.

15. Set the knife clearance. Use a feeler gauge 0.20 mm. Put the feeler gauge alternately on right and left side, between the fixed knife and the edge of the rotating knife.
16. Unscrew the adjustment screws out from the rotating knife until the feeler gauge begins to bind. The setting is then completed.
17. Check the knife clearance against the rear fixed knife.
18. Tighten the screws “A” with an alternated increased torque to 220 Nm.
19. After tightening, check against the front fixed knife so that the knife clearance has not changed. The knife clearance should be 0.15 - 0.30 mm.



Check the knife installation

1. Re-check the tightening torque for the fixed knives 220 Nm.

   Re-check the tightening torque both the front and rear fixed knives.
2. Re-check the tightening torque of each rotating knife 220 Nm.
3. Re-check the knife clearance of each rotating knife. Use a feeler gauge, the clea-rance should be 0.15 - 0.30 mm. Check at the outer edges of the knives.

NOTE! Check against both the front and rear fixed knives.

NOTE! The screws in the cutter knife seats are bonded in place, no adjustment may be done.

If the knife clearance not is correct, undo the screws and press the rotating knife firmly into the knife attachment to stop.

NOTE! Sign the service schedule, chapter 13, when knife changing is completed.

5 - 6 hours after knife changing.

1. Check the tightening torque of each rotating knife.
2. If the tightening torque of any of the rotating knives needs to be adjusted, the knife clearance of this rotating knife must also be checked.

7.2 Knife grinding

NOTE! The instruction for knife grinding refers to 3 different knives.

- rotating knives
- front and rear fixed knives.
- third fixed knife (option).

All knives must be ground precisely, to give the correct cutting and relief angles. Otherwise the granulator loses its efficiency.

Be careful when you handle knives!

Knives are sharp and can cause personal injury.

Only grind the marked surfaces, and respect the specified dimensions!

NOTE! Conair knives are made from hardened steel. Hardened steel knives are brittle and can crack if they are dropped or are handled carelessly.

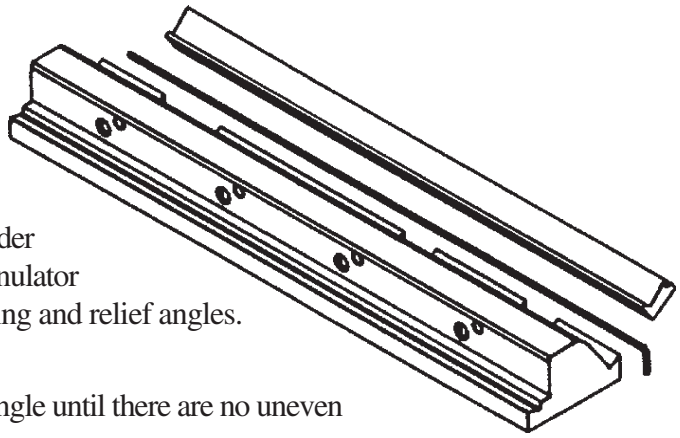
It requires skill & knowledge to grind knives, so please let a skilled, experienced craftsman to grind the knives.

Cool the knives when you grind them

Heat is developed during grinding, so the knives must be cooled when they are being ground. Knives which are exposed to excessive heat, are burned or blued, lose their hardness, strength and durability.

Knives which are burned, blued, or exposed to excessive heat, can not be repaired by grinding away the blued or burned color.

Blued or burned knives are useless.



Grinding fixture (option).

For CB Granulators use the Conair grinding fixture art.no. 3-29280

Using the grinding fixture and a surface grinder with magnetic table, all the knives in the granulator can be ground with the precise, correct cutting and relief angles.

First grind the relief angle

Grind the relief angle first. Grind the relief angle until there are no uneven spots on the knife edge.

Cool the knives when you grind them, grind slowly and make sure that no heat is generated.

NOTE! If a knife is blued or burned, it is useless.

Then grind the cutting angle on the knife edge

When the relief angle has been ground and there are no uneven spots on the knife edge, you can grind the cutting angle on the knife edge. The knife is “sharpened” and is given a knife edge in new, fresh steel.

Cool the knives when you grind them, grind slowly and make sure that no heat is generated.

NOTE! If the knife edge is blued or burned, the knife is useless.

Grinding rotating knives

The rotating knives consist of a set of several knives.

Keep the complete set of knives together, as one unit.

Balancing

The cutter in the granulator is balanced during manufacture. To retain balance in the cutter, all the rotating knives must have exactly the same weight.

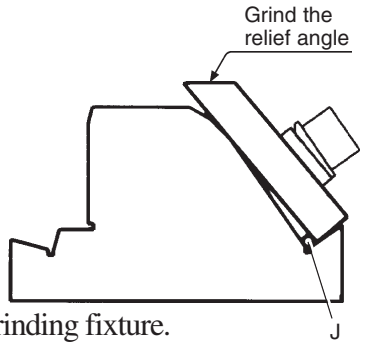
All rotating knives in a set of knives must therefore be ground exactly the same. After grinding, the knives must all have the same weight, to within a gram.

Follow the instruction and use the grinding fixture and surface grinder with magnetic table, to make all the rotating knives exactly the same weight, cutting and relief angle.

Grinding

Grind the worst knife first.

The adjusting screws on the knives do not need to be removed.
The grinding fixture has cutouts for the adjusting screws.



Grind the relief angle on the worst knife first

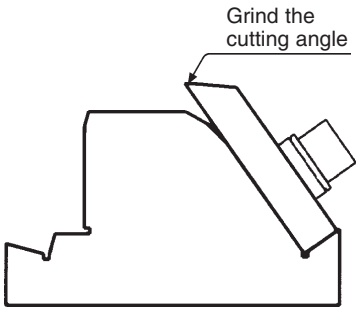
Relief angle 40°.

- Install the knife in the fixture as shown in the illustration, with the spacer "J" which belongs to the grinding fixture.

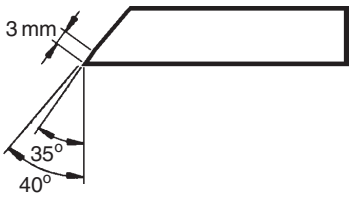
  Put the spacer under the rear of the knife, as in the illustration.
- Fix the knife, use the spherical washers which belongs to the grinding fixture.
- Grind the relief angle until the knife edge does not have any irregularities.
- **NOTE! Retain the settings on the surface grinder** and grind the relief angles on **all the rotating knives** exactly the same.

Grind the cutting angle on the knives

Cutting angle 35°.



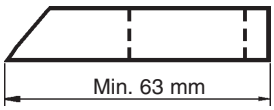
- Install the knife in the fixture as shown in the illustration, without spacer under the rear of the knife.
- Fix the knife, use the spherical washers which belong to the grinding fixture.
- Grind the cutting angle until the knife edge is exactly 3 mm wide.
- **NOTE! Retain the settings on the surface grinder** and grind the cutting angles on **all the rotating knives** exactly the same.



Minimum knife dimensions

- The knives can be ground down to the dimensions in the adjacent illustration.

  After that, the knives are used up and must be replaced by new ones.



Grinding the front and rear fixed knives

The front and rear fixed knives are identical.

The knives have two cutting sides and are reversible.

Grind each knife with two cutting sides.

This means that the knives can be turned over and used again before they have to be re-ground.

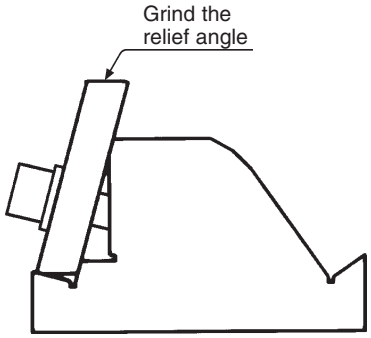
The front and rear knives do not need to be ground to the same dimensions.

Follow the instruction and use the grinding fixture and surface grinder with magnetic table. The grinding fixture gives the front and rear fixed knives the precise, correct cutting and relief angles.

Grinding

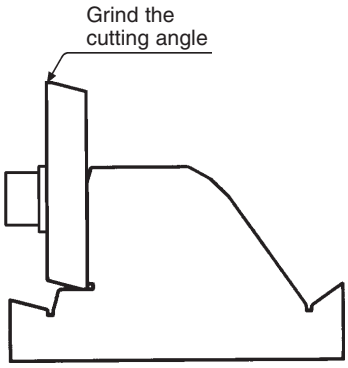
Grind one knife at a time.

First grind the relief angle and then the cutting angle



Relief angle 15°.

- Install the knife in the fixture as shown in the illustration.
- Fix the knife, use the flat hardened washers which belong to the grinding fixture.
- Grind the relief angle until the knife edge does not have any irregularities.

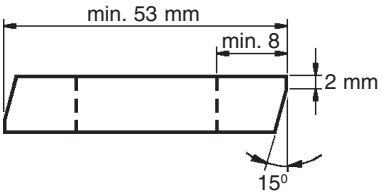


Cutting angle 90°.

- Undo and install the knife so that you can grind the cutting angle on the side where the relief angle was ground.
- Fix the knife, use the flat hardened washers which belong to the grinding fixture.
- Grind the cutting angle on the cutting side where you have ground the relief angle, until the knife edge is exactly 2 mm wide.

Turn the knife over and grind the other cutting side on the knife

First grind the relief angle and then the cutting angle as described above.



Minimum knife dimensions

- The knives can be ground down to the dimensions in the adjacent illustration.

  After that, the knives are used up and must be replaced by new ones.

Grinding the third fixed knife

Grind the third fixed knife on the grinding fixture in the same way as the rotating knives.

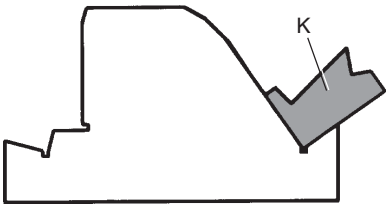
Use the spacer which belongs to the grinding fixture to grind the knife.

Follow the instruction and use the grinding fixture and surface grinder with magnetic table. The grinding fixture gives the front and rear fixed knives the precise, correct cutting and relief angles.

Grinding

First grind the relief angle on the knife

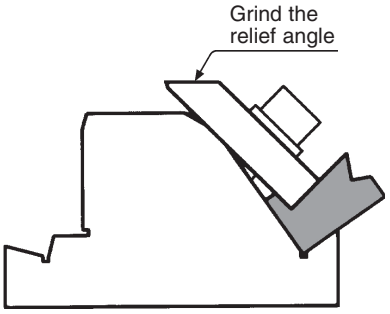
Relief angle 45°.



- Install spacer "K" as shown in the illustration.
- Install the knife in the fixture as shown in the illustration, with spacer "K" under the rear of the knife.

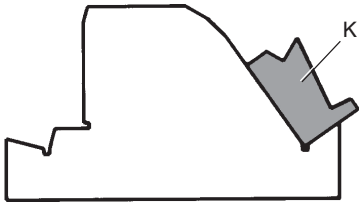
  The spacer belongs to the grinding fixture.

  NOTE! The spacer must lie under the rear of the knife and aligned as shown in the illustration.
- Fix the knife, use the flat hardened washers which belong to the grinding fixture.
- Grind the relief angle until the knife edge does not have any irregularities.



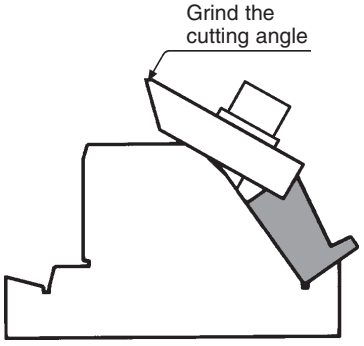
Then grind the cutting angle on the knife

Cutting angle 30°.



- Undo and remove the knife from the position where the relief angle was ground.
- Turn spacer "K" over and install it in the fixture as shown in the illustration.
- Turn the knife and install it in the fixture, as shown in the illustration, with spacer "K" under the rear of the knife.

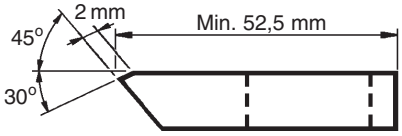
  NOTE! The spacer must lie under the rear of the knife and shall be aligned as shown in the illustration.
- Fix the knife, use the flat hardened washers which belong to the grinding fixture.
- Grind the cutting angle on the cutting side where you have ground the relief angle, until the knife edge is exactly 2 mm wide.



Minimum knife dimensions

- The knife can be ground down to the dimensions in the adjacent illustration.

  After that, the knife is used up and must be replaced by a new one.



7.3 Transmission

Drive belts, inspection and adjustment

The machine is driven by 3 V-belts.

Checking the drive belts

The tension and condition of the drive belts must be checked after 20 - 30 hours of operation at full load.

After this, check the drive belts for damage once a month.

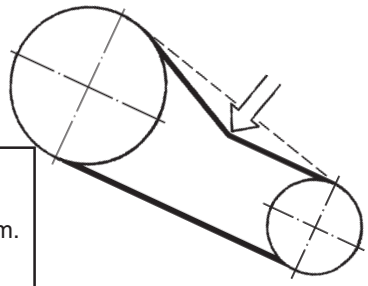
Check the belt tension every 6 months.

- Undo and remove the upper panel on the rear side of the granulator.
- Rotate the drive belts a few turns.

  Check that the belts are intact, undamaged and uncracked.

WARNING! Pinch risk between pulleys and drive-belts.

- Check the belt tension and adjust when necessary.
- Check belt tension by loading the V-belts and measuring the deflection at the same time.
- The belt tension is determined by the size of the granulator motor.
- Check the motor frequency Hertz (Hz) in the wiring diagram.
- Load each one of the drive belts midway between the cutter and motor pulleys with 75 N (Newton).



Motor 50 Hz

When installing new drive-belts
it should by loading with 75 N and be able to deflect the drive-belts max .... 14 mm.

When re-checking the drive-belts
it should by loading with 75 N and be able to deflect the drive-belts max .... 16 mm.

Motor 60 Hz

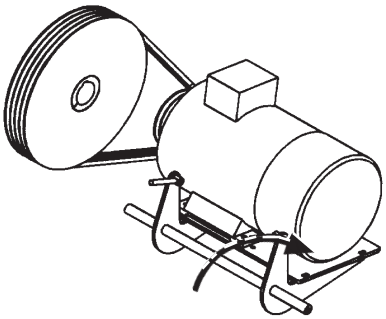
When installing new drive-belts
it should by loading with 75 N and be able to deflect the drive-belts max .... 14 mm.

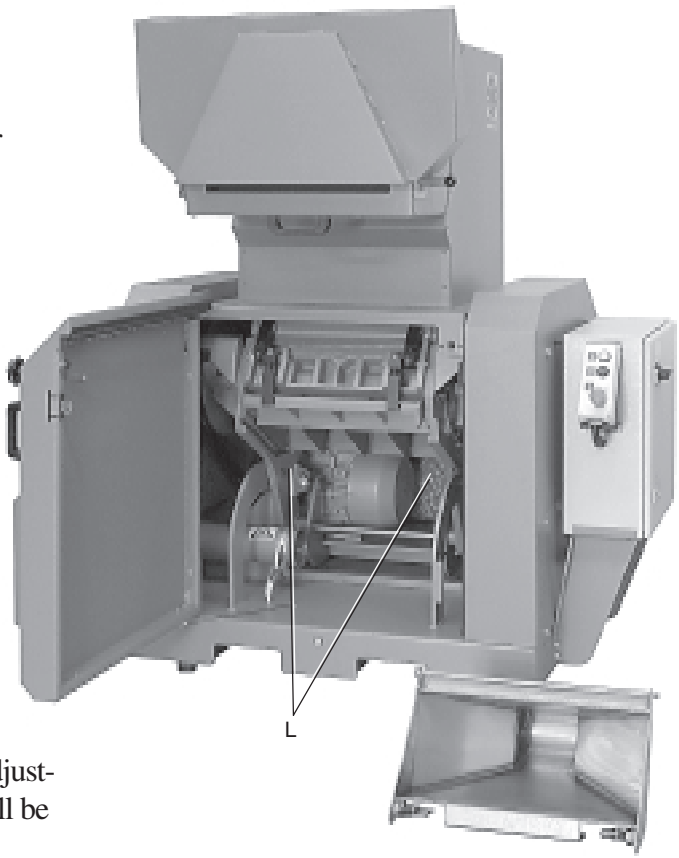
When re-checking the drive-belts
it should by loading with 75 N and be able to deflect the drive-belts max .... 18 mm.

Drive belt adjustment

- Remove the upper panel on the rear side of the granulator.
- Fold up the feed table.
- Open the door.

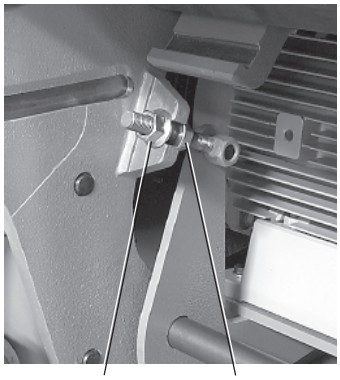
- Undo the quick coupling for the outlet pipe stub and remove the granule bin.
- Adjust the belt tension by increasing/-reducing the distance between the motor and the cutter pulley, using the motor adjustment flange nuts "L", two places.





- Lock the adjustment nuts settings.

  Tighten the inner lock nuts against the adjustment nuts, so that the adjustment nuts will be properly locked.



NOTE! Note belt tension adjustments in the machine service schedule.

- If the drive belt tension is adjusted, the belt need to be re-checked after 20 - 30 hours at full load.

  Check the adjustment nuts for the granulator motor.

  Check that the inner locknuts are securely tightened, so that they lock the adjustment nuts.

NOTE! Sign the service schedule, when the re-check is completed.

7.4 Lubrication

The granulator is lubricated on delivery, with Castrol Spheerol APS 2.

Conair recommends the following, at installation and lwhen lubricating bearings.

Plummer block: SKF SNL 213

Bearing: SKF 2213 ETN9/C3

Grease quantity: 190 g of grease for bearing change.
app. 20 g of grease per bearing/grease nipple for re-greasing.

Lubricants: Suitable lubricants:

- SKF; SKF Grease LGEP 2
- BP; BP Grease XRB2-EP
- Chevron; Dura-lith Grease EP2
- Chevron; Alexol HMP 1 EP, Alexol HMP 2 EP
- ESSO; Beacon EP1, Beacon EP2
- FINA; Marson HFF 2 EP
- Mobil; Mobilux EP2
- Nynäs; L 62 EP
- OK; Oktosol Grease EP2
- Shell; Shell Alvania EP2
- Texaco; Multifak EP2, Novotex Grease EP2

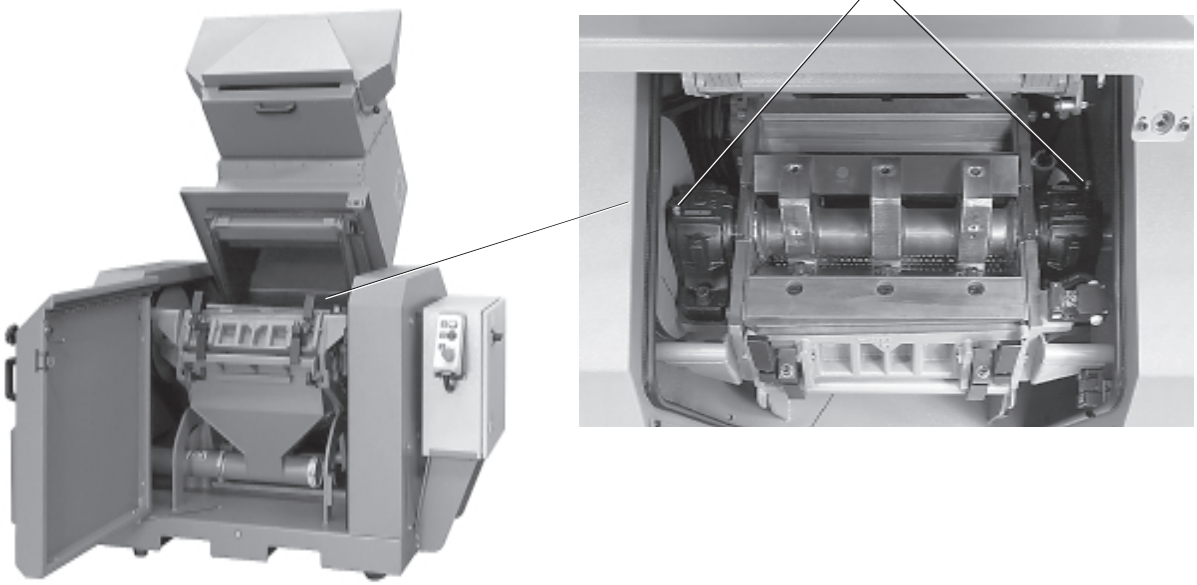
Grease interval: 1000 running hours or each 6 month.

NOTE! Sign the service schedule, when the lubrication is completed.

Lubrication points: **Cutter housing:**

2 grease nipples “M” to the cutter shaft bearings, one nipple to each plummer block.

NOTE! Wipe off any surplus grease. Also wipe the drain hole on the lower side of the plummer blocks.



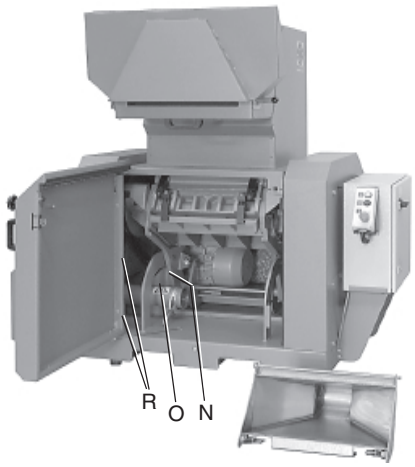
7.5 Cutter pulley/Motor pulley

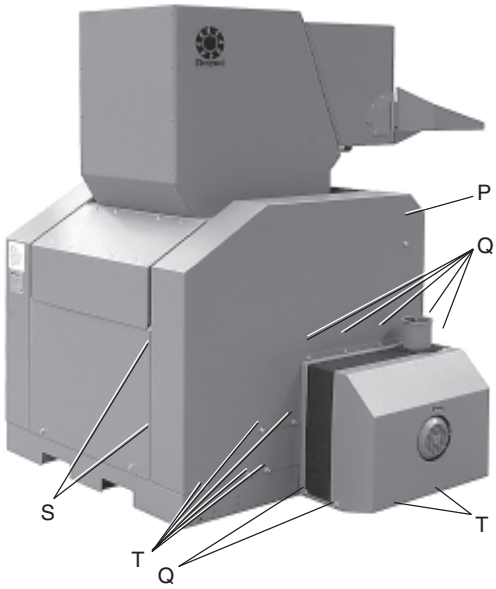
The cover on the left-hand side of the granulator must be removed to remove/install the cutter or motor pulleys. For a granulator with a blower, undo and remove the blower.

1. Fold up the feed table and open the door.
2. Remove the granule bin.
3. Remove the quick coupling for the outlet pipe stub.
4. Undo the screw “N” which hold the outlet pipe stub “O” and remove the pipe stub.
5. Undo and remove the screw “P” to the support for side cover.
6. Undo and remove the 7 screws “Q” which hold the blower housing (4 smaller and 3 larger screws). Lift the blower housing away.
7. Remove the 10 screws which hold the left side cover:
   - the two lower socket cap screws “R” for the door hinge.
   - 2 screws “S” against the rear/lower protective cover (on the inside).
   - 6 screws “T” at the lower edge of the side cover.
8. Lift the side cover away.

NOTE! Be careful with the electric cable for the blower.

The cutter and motor pulleys are now accessible.





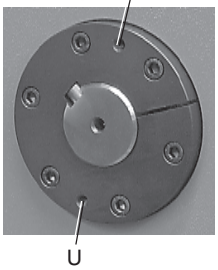
Removal

Release the V-belt tension and remove the V-belts, see chapter 7.3.

Cutter pulley

The pulley is mounted with a compression bush.

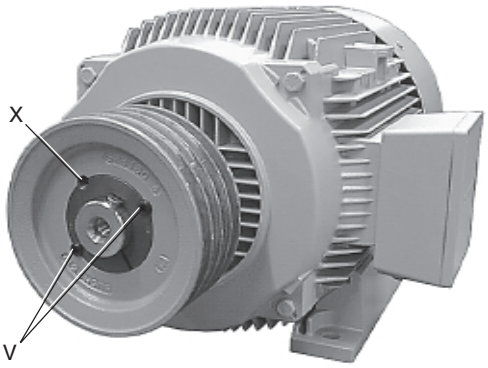
- Undo all screws a few turns (6 st).
- Remove two screws.
- Put a drop of oil into the extractor hole “U” and insert the two screws.
- Tighten the screws, using progressively increased torque until the compression bush comes away from the shaft.
- Lift off the cutter pulley, complete with the compression bush, from the shaft.



Motor pulley

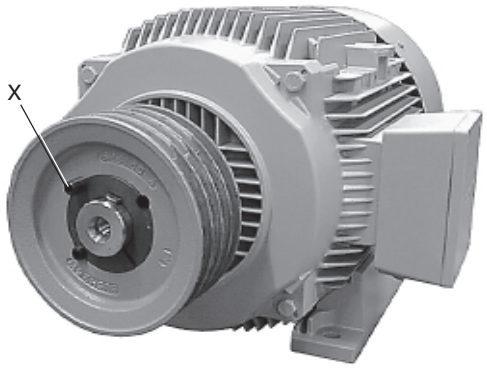
The pulley is mounted with a compression bush.

- Undo and remove the two screws “V”.
- Put a drop of oil into the extractor hole “X” (the hole with a half thread in the bush). Screw in a screw and tighten – the compression bush will then come undone.
- Lift off the compression bush and pulley from the shaft by hand, without tools, blows etc.



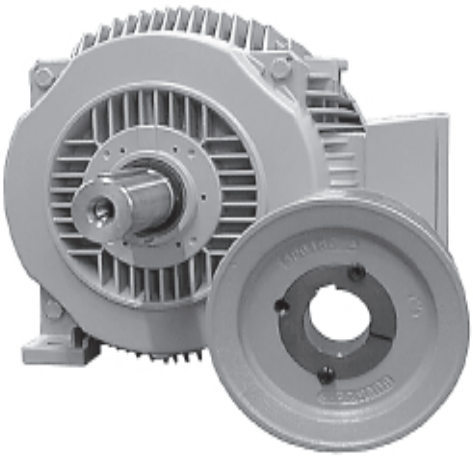
Installing

The left-hand side cover must be removed to install the motor and cutter pulleys.



Motor pulley

- Clean and degrease the motor pulley.
- Oil the motor shaft.
- Oil the screws and fit the compression bush lightly on the pulley.
- Fit the key to the motor shaft.
- Lift the pulley on to the motor shaft. Make sure that the key fits into the compression bush.
- Tighten the screws in the compression bush. Tighten the screws alternately with same torque, progressively increasing the torque to 25 Nm.
- Tap the compression bush between the shaft and the screws. Use a block of wood or plastic.
- Tighten the pulley with the compression bush. Tighten the screws with alternating increased torque to 50 Nm.



Cutter pulley

The pulley is fitted with a compression bush.

- Clean and degrease the cutter pulley.
- Oil the cutter shaft.
- Oil the screws and fit the compression bush lightly on the pulley.
- Fit the key to the cutter shaft.
- Lift the pulley on to the cutter shaft.
  Make sure that the key fits into the compression bush.
- Adjust the pulley axially, so it lines up with the motor pulley.

- Tighten the screws in the compression bush. Tighten the screws alternately with same torque, progressively increasing the torque to 25 Nm.
- Tap the compression bush between the shaft and the screws. Use a block of wood or plastic.
- Tighten the pulley with the compression bush.

  Tighten the screws with alternating increased torque to 50 Nm.
- Install the V-belts and adjust the belt tension, see chapter 7.3.

Replace the left-hand side cover.

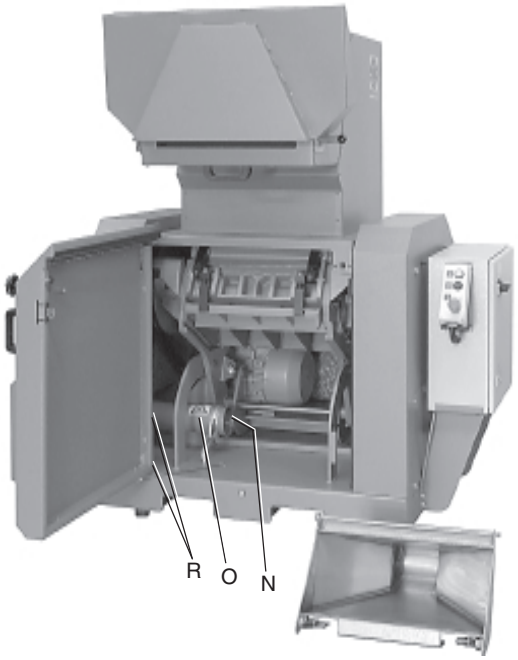
1. Lift the side cover into place.

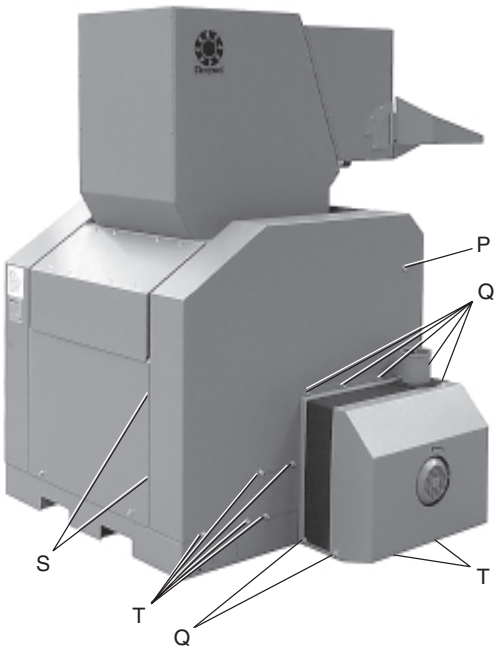
NOTE! Be careful with the electric cable for the blower.

2. Fit and tighten the 10 screws which hold the left-hand side cover:
   - 6 screws “T” at the lower edge of the side cover.
   - 2 screws “S” against the rear/lower protective cover (on the inside).
   - 2 lower socket cap screws “R” for the door hinge.
3. Replace the blower housing. Tighten the 7 screws “Q” which hold the blower housing (4 smaller and 3 larger screws).
4. Fit and tighten the screw “P” to the support for side cover.
5. Install the outlet pipe stub “O”, one screw “N”.
6. Install the granule bin.

   Fit the quick coupling for the outlet pipe stub.
7. Close the door and fold down the feed table.

NOTE! Sign the service schedule, when the service is completed.





8. Spare parts CB Granulators

Overview

All spare parts to the granulator are divided in complete modules and units:

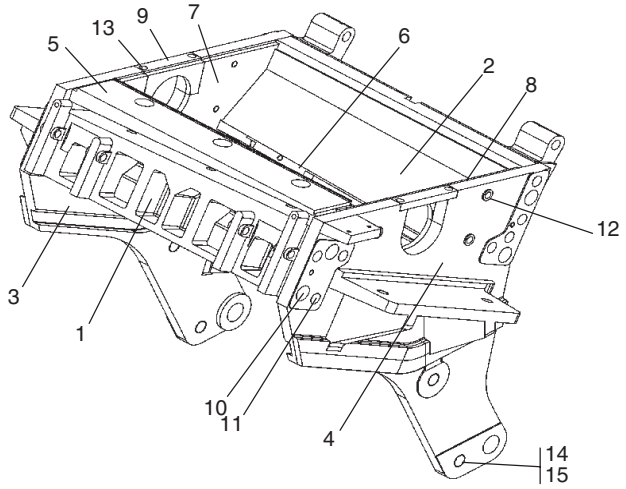
Only use spare parts from Conair when replacing machine parts.

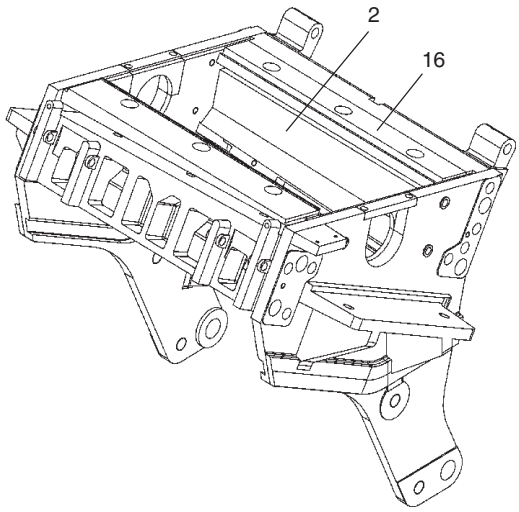
Orders should go to the representative in the country where the machine was purchased.

When ordering, the following should be specified:

- Machine designation, as specified on the machine plate.
- Serial number, as specified on the machine plate.
- Part number, as specified in the spare parts list.
- Quantity, as specified in this spare parts list.

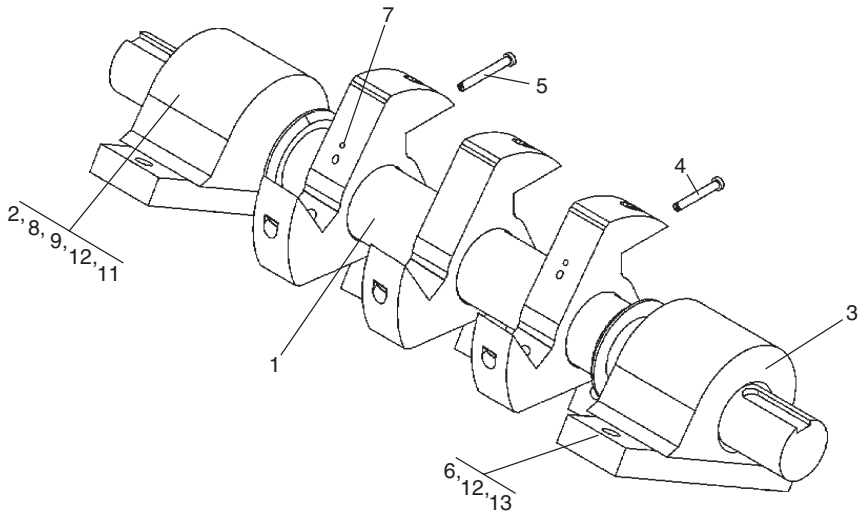
8.1 Cutter house





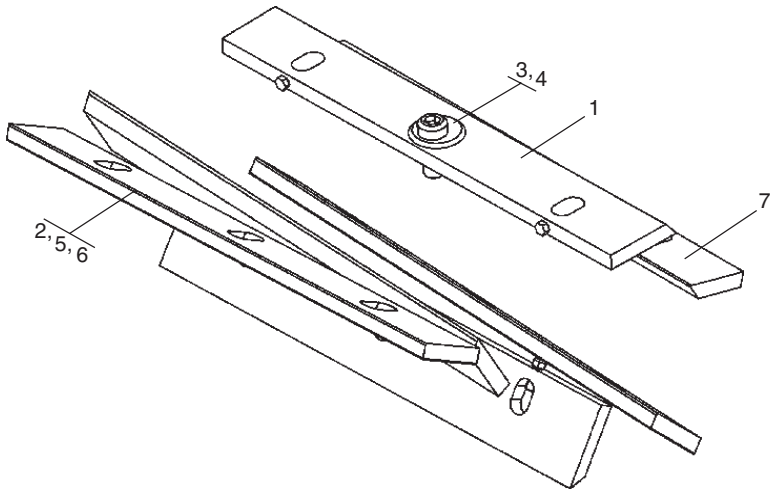
Pos	Qty.												Art. no.	Description
	⌐												3-38011	CB-1012 Cutter house
		⌐											3-38013	CB-1012 Cutter house hardened
			⌐										3-38012	CB-1012 Cutter house knife fixed third
				⌐									3-38014	CB-1012 Cutter house knife fixed third, hardened
					⌐								3-38024	CB-1018 Cutter house
						⌐							3-38026	CB-1018 Cutter house hardened
							⌐						3-38025	CB-1018 Cutter house knife fixed third
								⌐					3-38027	CB-1018 Cutter house knife fixed third, hardened
									⌐				3-38000	CB-1024 Cutter house
										⌐			3-38002	CB-1024 Cutter house hardened
											⌐		3-38001	CB-1024 Cutter house knife fixed third
												⌐	3-38003	CB-1024 Cutter house knife fixed third, hardened
1	1	-	1	-	-	-	-	-	-	-	-	-	1-38015	Front side
	-	-	-	-	1	-	1	-	-	-	-	-	1-23513	– ” –
	-	-	-	-	-	-	-	-	1	-	1	-	1-38004	– ” –
	-	1	-	1	-	-	-	-	-	-	-	-	4-38016	Front side, hardened
	-	-	-	-	-	1	-	1	-	-	-	-	4-23516	– ” –
	-	-	-	-	-	-	-	-	-	1	-	1	4-38005	– ” –
2	1	-	-	-	-	-	-	-	-	-	-	-	1-38017	Back side
	-	-	-	-	1	-	-	-	-	-	-	-	1-38035	– ” –
	-	-	-	-	-	-	-	-	1	-	-	-	1-38006	– ” –
	-	1	-	-	-	-	-	-	-	-	-	-	4-38018	Back side, hardened
	-	-	-	-	-	1	-	-	-	-	-	-	4-38036	– ” –
	-	-	-	-	-	-	-	-	-	1	-	-	4-38007	– ” –
	-	-	1	-	-	-	-	-	-	-	-	-	1-38019	Back side for third fixed knife
	-	-	-	-	-	-	1	-	-	-	-	-	1-38037	– ” –
	-	-	-	-	-	-	-	-	-	-	1	-	1-38008	– ” –
	-	-	-	1	-	-	-	-	-	-	-	-	4-38020	Back side for third fixed knife, hardened
	-	-	-	-	-	-	-	1	-	-	-	-	4-38038	– ” –
	-	-	-	-	-	-	-	-	-	-	-	1	4-38009	– ” –
3	1	1	1	1	1	1	1	1	1	1	1	1	1-32044	Side left
4	1	1	1	1	1	1	1	1	1	1	1	1	1-32045	Side right
5	1	1	1	1	-	-	-	-	-	-	-	-	3-38021	Support rule, front
	-	-	-	-	1	1	1	1	-	-	-	-	3-21502	– ” –
	-	-	-	-	-	-	-	-	1	1	1	1	3-29018	– ” –
6	1	1	1	1	-	-	-	-	-	-	-	-	3-38022	Support rule, rear
	-	-	-	-	1	1	1	1	-	-	-	-	3-18875	– ” –
	-	-	-	-	-	-	-	-	1	1	1	1	3-38010	– ” –
7	1	-	1	-	1	-	1	-	1	-	1	-	2-21506	Side inner, right
	-	1	-	1	-	1	-	1	-	1	-	1	4-23522	– ” – right, hardened
8	1	-	1	-	1	-	1	-	1	-	1	-	2-21508	– ” – left
	-	1	-	1	-	1	-	1	-	1	-	1	4-23521	– ” – left, hardened
9	2	2	2	2	2	2	2	2	2	2	2	2	3-21503	Sealing upper
10	8	8	8	8	8	8	8	8	8	8	8	8	950607	Parallel pin
11	14	14	14	14	14	14	14	14	14	14	14	14	940134	Socket cap screw M16
12	8	8	8	8	8	8	8	8	8	8	8	8	940005	– ” – M10
13	4	4	4	4	4	4	4	4	4	4	4	4	940039	– ” – M6
14	4	4	4	4	4	4	4	4	4	4	4	4	940733	– ” – M20
15	4	4	4	4	4	4	4	4	4	4	4	4	940167	Washer pressed
16	-	-	1	1	-	-	-	-	-	-	-	-	3-38023	Suport for third fixed knife
	-	-	-	-	-	-	1	1	-	-	-	-	3-21107	– ” –
	-	-	-	-	-	-	-	-	-	-	1	1	3-29019	– ” –

8.2 Cutter



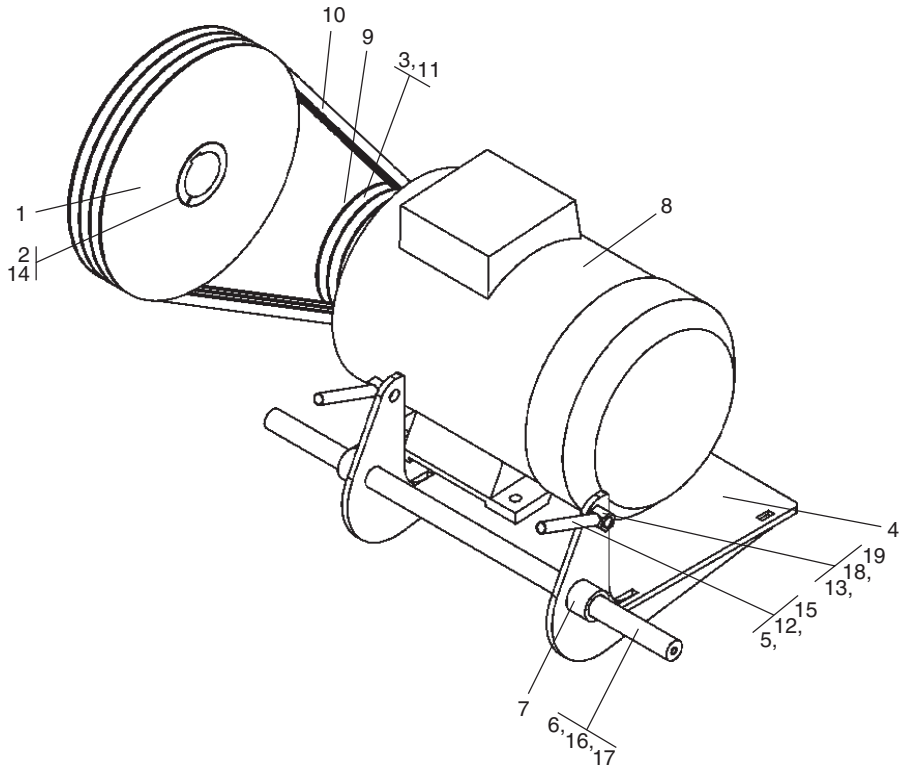
Pos	Qty.			Art. no.	Description
	⌜			3-38039	CB-1012 Cutter 3-blade
		⌜		3-25144	CB-1018 Cutter 3-blade
			⌜	3-38042	CB-1024 Cutter 3-blade
1	1	-	-	1-38040	Cutter 3-blade
	-	1	-	1-23018	– ” –
	-	-	1	1-38043	– ” –
2	2	2	2	960207	Bearing housing
3	2	2	2	4-12892	Bearing ring
4	3	3	3	4-20282	Screw, segment, right
5	3	3	3	4-20284	– ” – , left
6	4	4	4	950458	Parallel pin
7	6	6	6	940696	Grub screw
8	2	2	2	960063	Ball bearing
9	2	2	2	950062	Lubricant nipple
10	2	2	2	960064	Bearing guide
11	2	2	2	960110	Bearing sealing
12	4	4	4	940506	Socket cap screw M16
13	4	4	4	940435	Washer, pressed

8.3 Knives



Pos	Qty.												Art. no.	Description	Note
	⌜												3-38030	CB-1012 Knife set	
		⌜											3-40402	CB-1012 Knife set, hard metal	
			⌜										3-38031	CB-1012 Knife set with third fixed knife	
				⌜									3-40401	CB-1012 Knife set with third fixed knife, hard metal	
					⌜								3-25142	CB-1018 Knife set	
						⌜							-	CB-1018 Knife set, hard metal	
							⌜						3-25143	CB-1018 Knife set with third fixed knife	
								⌜					-	CB-1018 Knife set with third fixed knife, hard metal	
									⌜				3-38028	CB-1024 Knife set	
										⌜			-	CB-1024 Knife set, hard metal	
											⌜		3-38029	CB-1024 Knife set with third fixed knife	
												⌜	-	CB-1024 Knife set with third fixed knife, hard metal	
1	3	-	3	-	-	-	-	-	-	-	-	-	3-38034	Knife rotating	
	-	-	-	-	3	-	3	-	-	-	-	-	3-23025	– ” –	
	-	-	-	-	-	-	-	-	3	-	3	-	3-34869	– ” –	
	-	3	-	3	-	-	-	-	-	-	-	-	3-40400	Knife rotating, hard metal	
2	2	-	2	-	-	-	-	-	-	-	-	-	3-38032	Knife fixed	
	-	-	-	-	2	-	2	-	-	-	-	-	3-18878	– ” –	
	-	-	-	-	-	-	-	-	2	-	2	-	3-29033	– ” –	
	-	2	-	2	-	-	-	-	-	-	-	-	3-40398	Knife fixed, hard metal	
3	6	6	6	6	9	-	9	-	12	-	12	-	4-16859	Socket cap screw M16	rotating knives, high strength class
4	6	6	6	6	9	-	9	-	12	-	12	-	4-11835	Washer	rotating knives
5	4	4	6	6	6	-	9	-	12	-	12	-	940134	Socket cap screw M16	fixed knives, high strength class
6	4	4	6	6	4	-	6	-	4	-	6	-	940245	Grub screw M8	fixed knives, settings
7	-	-	1	-	-	-	-	-	-	-	-	-	3-38033	Third fixed knife	
	-	-	-	-	-	-	1	-	-	-	-	-	3-21108	– ” –	
	-	-	-	-	-	-	-	-	-	-	1	-	3-29034	– ” –	
	-	-	-	1	-	-	-	-	-	-	-	-	3-40399	Third fixed knife, hard metal	

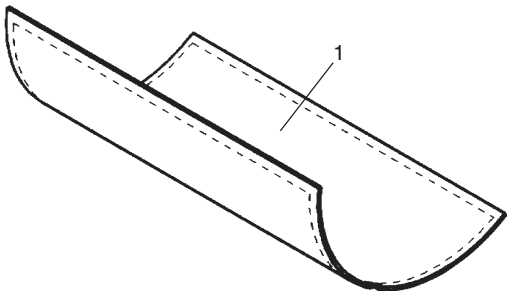
8.4 Transmission



Pos	Qty.						Art. no.	Description	Note.
	⌐						3-38388	CB-1012 Transmission 5.5-7.5 kW 50 Hz	standard
		⌐					3-38390	CB-1012 Transmission 11.0-15.0 kW 50 Hz	option
			⌐				3-38392	CB-1018 Transmission 5.5-7.5 kW 50 Hz	standard
				⌐			3-38394	CB-1018 Transmission 11.0-15.0 50 Hz	option
					⌐		3-38425	CB-1024 Transmission 5.5-7.5 kW 50 Hz	option
						⌐	3-38427	CB-1024 Transmission 11.0-15.0 50 Hz	standard
1	1	1	1	1	1	1	2-06306	Pulley cutter	
2	1	1	1	1	1	1	2-15659	Flange bushing	
3	1	1	1	1	1	1	3-06344	Pulley motor	
4	1	1	-	-	-	-	3-39801	Motor mounting	
	-	-	1	1	-	-	3-39800	– ” –	
	-	-	-	-	1	1	3-38122	– ” –	
5	2	2	2	2	2	2	950633	Eye bolt M16	
6	1	1	-	-	-	-	3-39807	Shaft, motor mounting	
	-	-	1	1	-	-	3-29052	– ” –	
	-	-	-	-	1	1	3-29056	– ” –	
7	2	2	2	2	2	2	4-32141	Distance	
8	1	-	1	-	-	-	911240	Motor 5.5 kW 50 Hz 220-240V/50Hz	Direct on-line; Auto star/delta
	or	-	or	-	-	-	911171	– ” – 5.5 kW 50 Hz 380-420V/50Hz	Direct on-line; Auto star/delta
	or	-	or	-	-	-	911173	– ” – 7.5 kW 50 Hz 220-240V/50Hz	Direct on-line; Auto star/delta
	or	-	or	-	-	-	911172	– ” – 7.5 kW 50 Hz 380-420V/50Hz	Direct on-line; Auto star/delta
	-	or	-	or	or	1	911253	– ” – 11.0 kW 50 Hz 220-240V/50Hz	Auto star/delta
	-	or	-	or	or	or	911177	– ” – 11.0 kW 50 Hz 380-420V/50Hz	Auto star/delta
	-	or	-	or	or	or	992281	– ” – 15.0 kW 50 Hz 220-240V/50Hz	Auto star/delta
	-	or	-	or	or	or	911181	– ” – 15.0 kW 50 Hz 380-420V/50Hz	Auto star/delta
9	1	1	1	1	1	1	930118	Taper-lock	
	-	1	-	1	-	1	930119	– ” –	NOTE! For 15.0 kW motors
10	3	3	3	3	3	3	930130	Vee-belt	
11	1	1	1	1	1	1	950182	Key	round end
12	4	4	4	4	4	4	940148	Flange nut	
13	2	2	2	2	2	2	940074	Socket cap screw M16	
14	6	6	6	6	6	6	940005	Socket cap screw M10	
15	4	4	4	4	4	4	940306	Hex head screw M12	
16	2	2	2	2	2	2	940043	Washer	
17	2	2	2	2	2	2	940037	Socket cap screw M10	
18	4	4	4	4	4	4	940035	Washer	
19	2	2	2	2	2	2	940078	Nut, locking M16	

NOTE! Transmission with alternative motor 60 Hz, contact Conair.

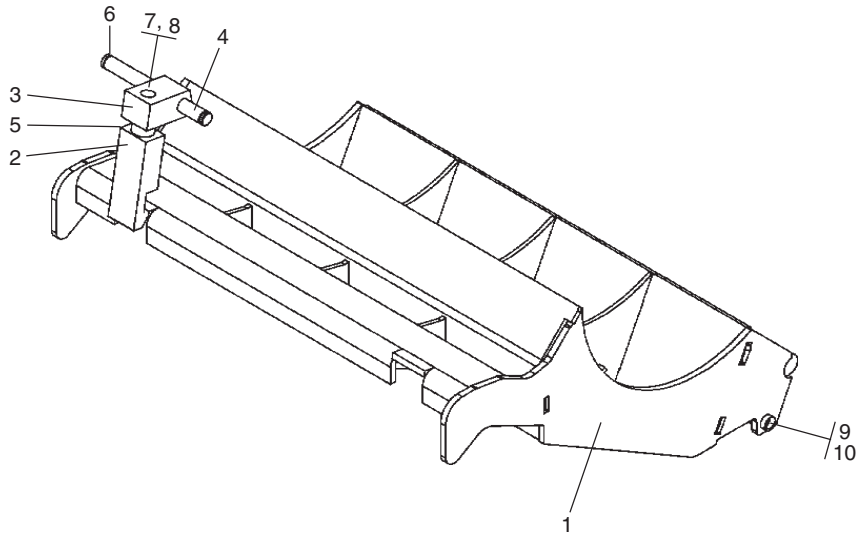
8.5 Screen



Pos	Qty. ⌜	⌜	⌜	Art. no.	Description
					Granulator CB-1012
					Granulator CB-1018
					Granulator CB-1024
1	1	-	-	3-38048	Screen
	-	1	-	2-18896	– ” –
	-	-	1	3-38052	– ” –
	1	-	-	4-38049	Screen hardened
	-	1	-	4-38050	– ” –
	-	-	1	4-38053	– ” –

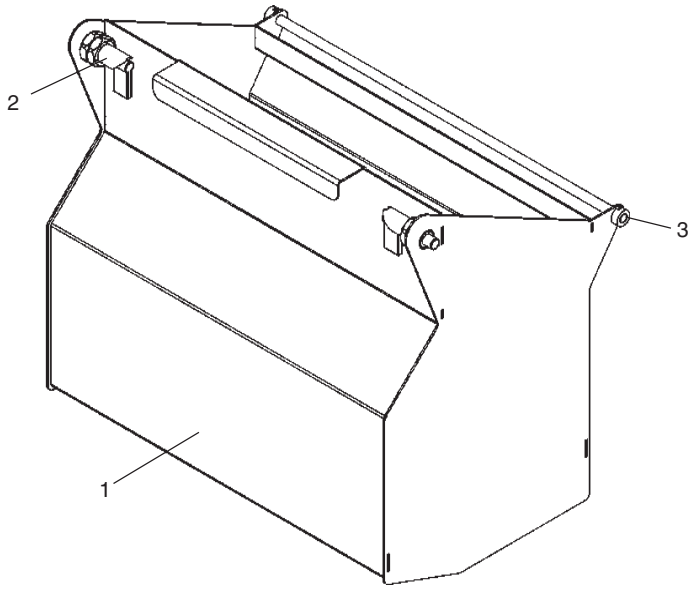
NOTE! Specify granulator, screen or hardened screen and required hole diameter Ø 4, 6, 8, 10 or 12 mm.

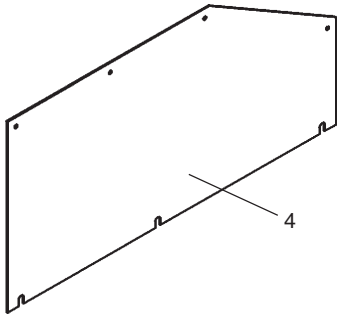
8.6 Screen box

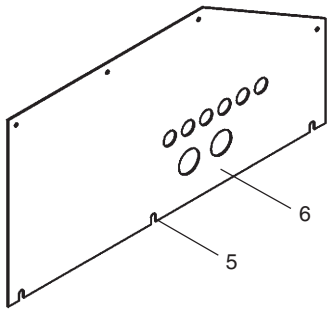


Pos	Qty. ⌜	⌜	⌜	Art. no.	Description
				3-38088	Screen box CB-1012
				3-38083	Screen box CB-1018
				3-38059	Screen box CB-1024
1	1	-	-	2-38089	Screen box
	-	1	-	2-38084	– ” –
	-	-	1	2-38054	– ” –
2	2	2	2	4-18937	Latch screen
3	2	2	2	4-18938	Locking arm
4	2	2	2	4-06390	Shaft
5	2	2	2	4-02789	Compression spring
6	4	4	4	950025	Retaining ring SGA
7	2	2	2	940301	Washer spring
8	2	2	2	940046	Socket cap screw M12
9	2	2	2	940032	Socket cap screw M8
10	2	2	2	4-38051	Distance

8.7 Outfeed, granule bin manual

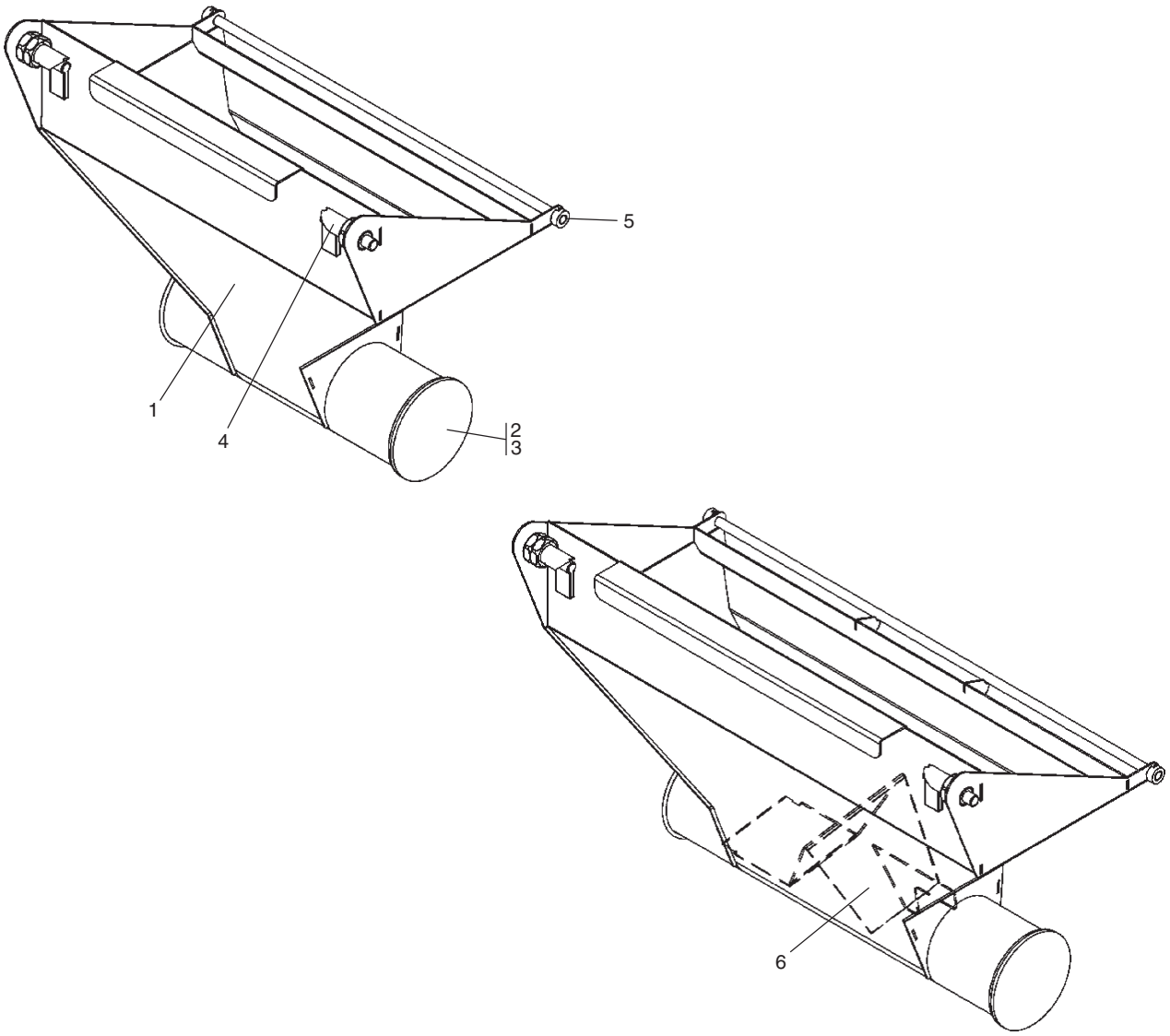






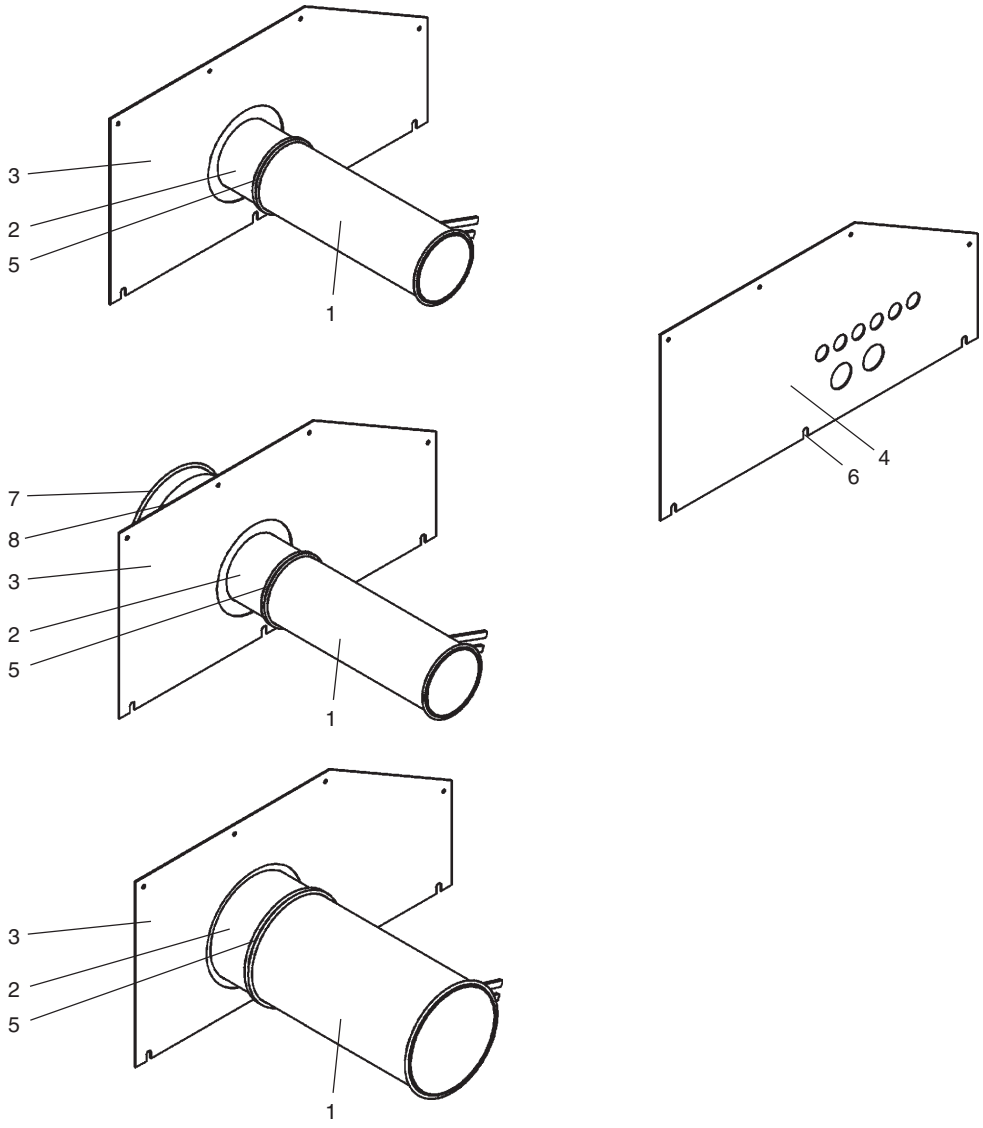
Pos	Qty.			Art. no.	Description
	⌐			3-39623	CB-1012 Granule bin, manual 25 lit.
		⌐		3-39409	CB-1018 Granule bin, manual 40 lit.
			⌐	3-39405	CB-1024 Granule bin, manual 50 lit.
1	1	-	-	2-39412	Granule bin
	-	1	-	2-39408	– ” –
	-	-	1	2-39401	– ” –
2	2	2	2	950547	Positioning bolt
3	2	2	2	940785	Slotted round nut
4	1	1	1	2-25540	Cover plate
5	1	1	1	2-32113	Cover plate
6	14	14	14	940750	Self tapping screw

8.8 Outfeed, granule bin



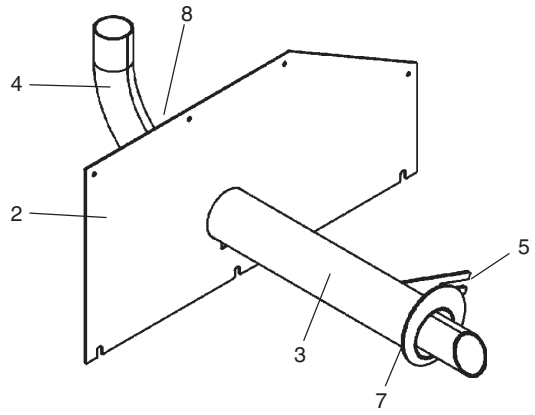
Pos	Qty.				Art. no.	Description
	⌜				3-39400	CB-1012 Outfeed, granule bin, pipe OK100
		⌜			3-39394	CB-1018 Outfeed, granule bin, pipe OK100
			⌜		3-38060	CB-1024 Outfeed, granule bin, pipe OK100
				⌜	3-39631	CB-1024 Outfeed, granule bin, pipe OK160
1	1	-	-	-	2-39399	Granule bin
	-	1	-	-	2-39393	– ” –
	-	-	1	-	2-38061	– ” –
	-	-	-	1	2-39624	– ” –
2	1	1	1	-	4-29085	Cover
	-	-	-	1	4-29084	– ” –
3	1	1	1	-	920729	Bolt coupling
	-	-	-	1	920203	– ” –
4	2	2	2	2	950547	Positioning bolt
5	2	2	2	2	940785	Slotted round nut
6	-	-	1	-	3-39653	Dividing plate Note! Only CB-1024

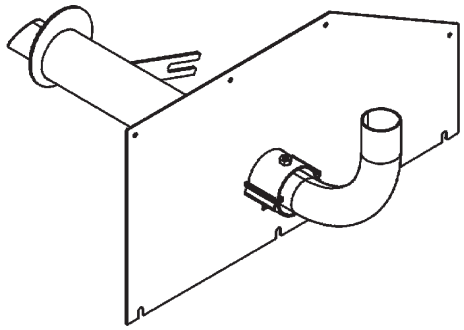
8.9 Outfeed, outlet pipe stub

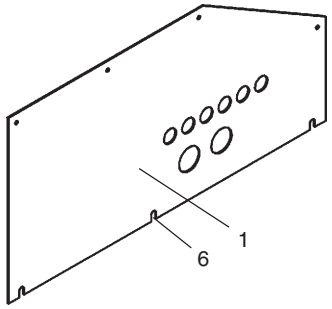


Pos	Qty.			Art. no.	Description
	⌐			3-39655	CB-1012, CB-1018, CB-1024 Outfeed, outlet pipe stub OK100
		⌐		3-32266	CB-1012, CB-1018, CB-1024 Outfeed, outlet pipe stub OK100 - OK160
			⌐	3-39652	CB-1024 Outfeed, outlet pipe stub OK160
1	1	1	-	3-36927	Flanged pipe OK100
	-	-	1	3-39649	– ” – OK160
2	1	1	-	3-32269	Flanged pipe lead-through OK100
	-	-	1	3-39650	– ” – OK160
3	1	1	-	3-32270	Cover plate
	-	-	1	3-39651	– ” –
4	1	1	1	2-32113	Cover plate
5	2	2	-	920415	Quick action ring OK100
	-	-	2	920107	– ” – OK160
6	12	12	12	940750	Self tapping screw
7	-	1	-	920445	Reducer OK160 - OK100
8	-	1	-	920729	Bolt coupling

8.10 Outfeed, vacuum suction



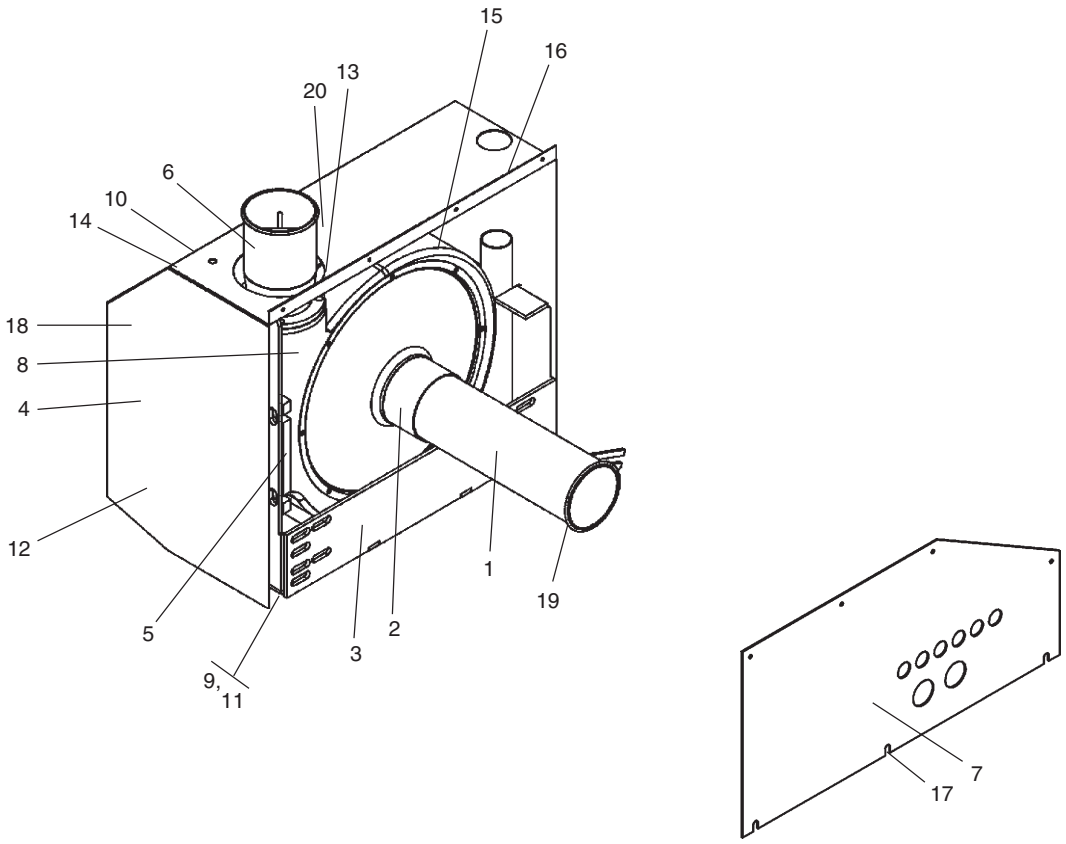




Pos	Qty.				Art. no.	Description
	⌜				3-39939	CB-1012 Vacuum suction, left
		⌜			3-39971	CB-1012 Vacuum suction, right
			⌜		3-39944	CB-1018 Vacuum suction, left
				⌜	3-39972	CB-1018 Vacuum suction, right
1	1	1	1	1	2-32113	Cover plate
2	1	1	1	1	3-39940	Cover plate
3	1	-	1	-	3-39941	Flanged pipe outlet, left
	-	1	-	1	3-39970	– ” – , right
4	1	1	-	-	3-39942	Suction pipe
	-	-	1	1	3-39943	– ” –
5	1	1	1	1	940444	Hex head screw M8
6	8	8	8	8	940147	Self tapping screw
7	1	1	1	1	920415	Quick action ring
8	1	1	1	1	950413	Star knob

NOTE! Vacuum suction can not be used for CB-1024.

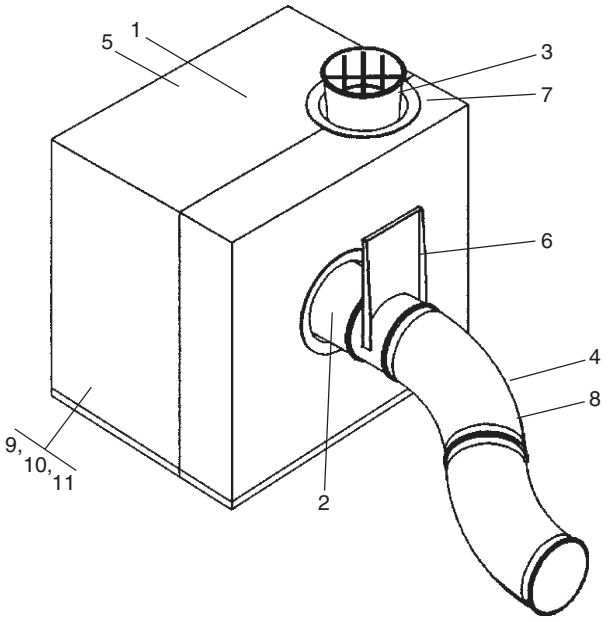
8.11 Outfeed, blower F7 and F15



Pos	Qty.		Art. no.	Description
	⌜		3-38429	Blower F7
		⌜	3-38430	Blower F15
1	1	1	3-40090	Flanged pipe, granule bin
2	1	1	3-14771	Flanged pipe, inlet
3	1	1	1-22825	Holder, fan
4	1	1	1-22824	Cover, fan
5	1	1	4-24655	Holder, fan
6	1	-	3-13138	Flanged pipe, outlet
	-	1	3-10332	– " –
7	1	1	2-32113	Cover plate
8	1	-	920877	Blower 0.55 kW 200-220V/50Hz *)
	or	-	920206	– " – 0.55 kW 220-240V/380-420V/50Hz *)
	-	1	920879	– " – 0.90 kW 200-220V/50Hz *)
	-	or	920421	– " – 0.90 kW 220-240V/380-420V/50Hz *)
9	4	4	940155	Washer BRB
10	4	4	940592	Washer BRB
11	4	4	940306	Hex. head screw M12
12	4	4	940004	Socket cap screw M10
13	4	4	940005	Socket cap screw M10
14	4	4	940426	Hex. head screw M8
15	8	8	940039	Socket cap screw M6
16	8	8	940750	Self tapping screw
17	1	1	940444	Hex. head screw M8
18	6	6	940015	Nut, locking M10
19	1	1	920415	Quick action ring
20	1	1	970152	Sealing ring

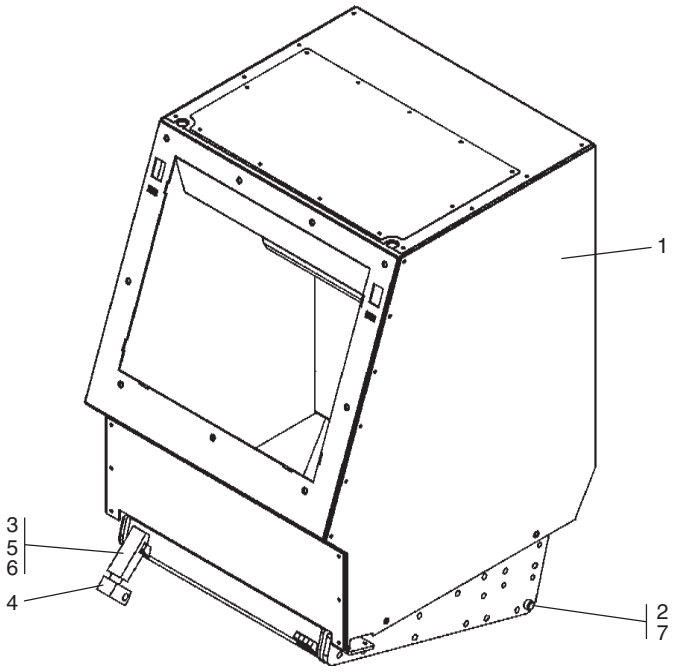
NOTE! For Blower with alternative motor 60 Hz, contact Conair.

8.12 Outfeed, blower F25



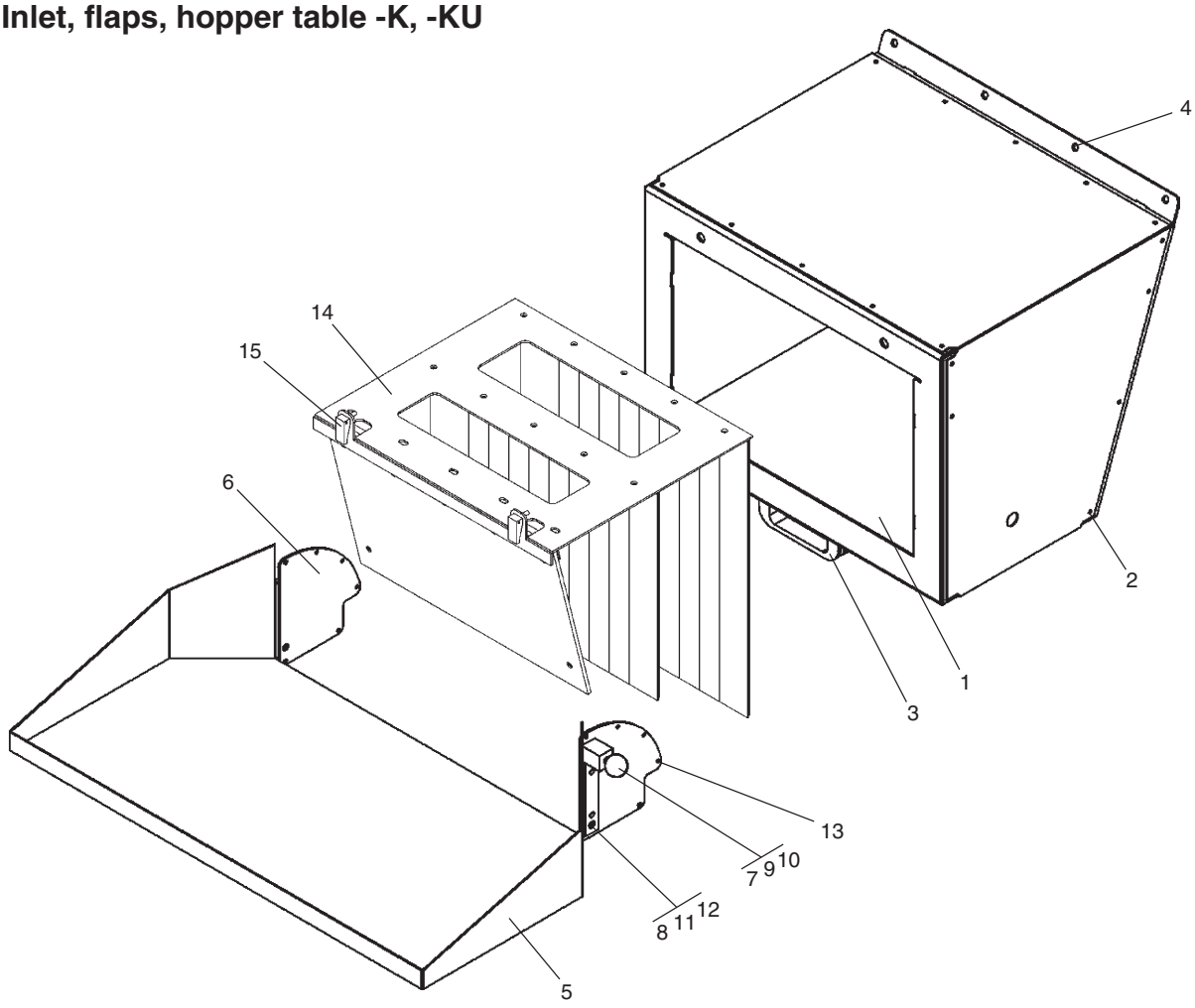
Pos	Qty.	Art. no.	Description
		3-29249	Blower F25
1	1	2-06036	Sound hood
2	1	2-08679	Flanged pipe, inlet OK160
3	1	2-08684	Flanged pipe, outlet OK160
4	2	4-17781	Pipe bend OK160 45°
5	1	920210	Blower F25 2,2 kW
6	1	920197	Shutter OK160
7	2	970153	Sealing ring
8	4	920107	Quick action ring
9	12	940022	Hex. head screw M12
10	16	940155	Washer BRB
11	12	940207	Nut M12

8.13 Hopper front -K, -KU



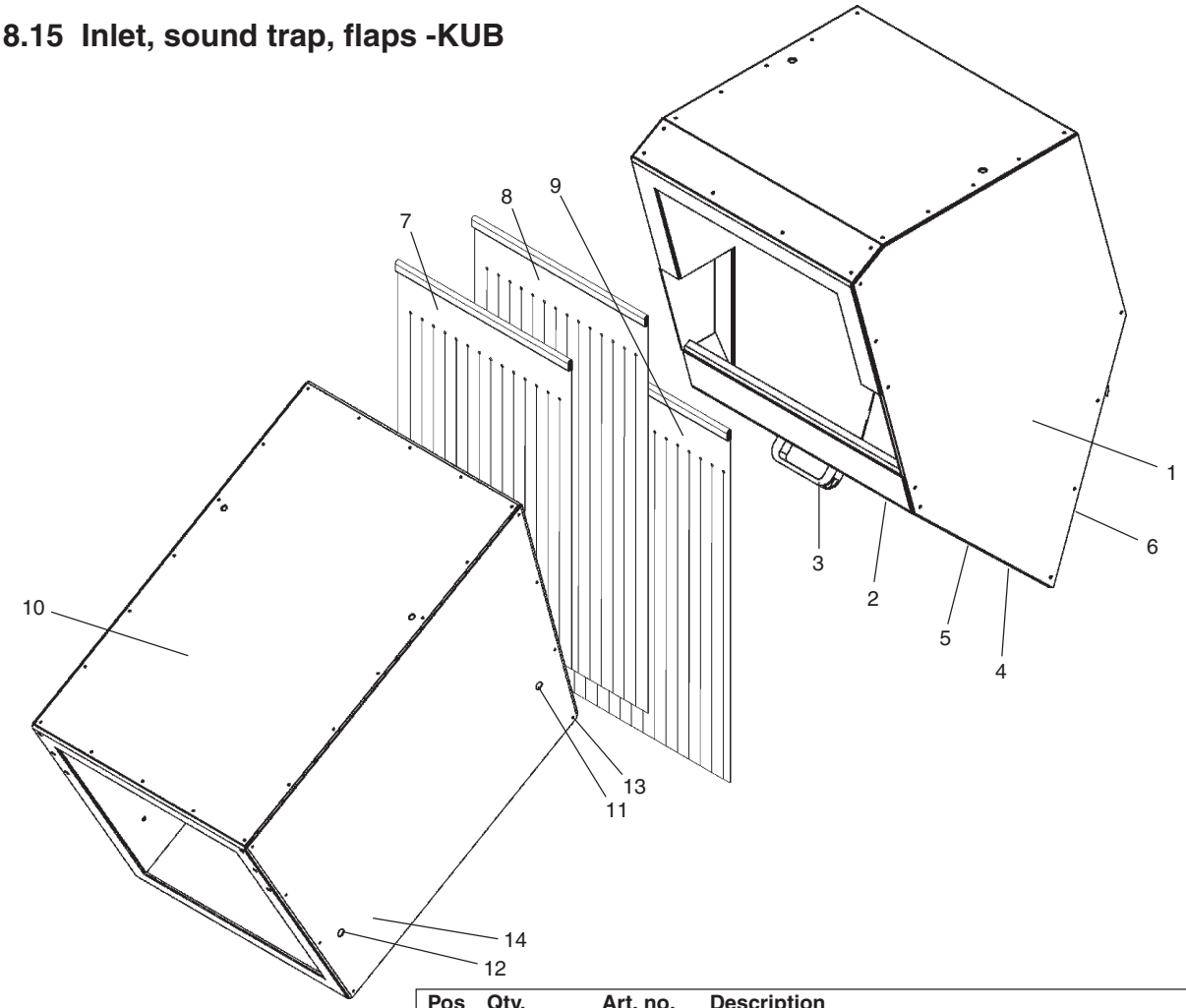
Pos	Qty.												Art. no.	Description
	⌜												3-38231	CB-1012 Hopper front KU
		⌜											3-40094	– ” – , hardened
			⌜										3-38489	– ” – , knife fixed third
				⌜									3-40283	– ” – , knife fixed third, hardened
					⌜								3-40063	CB-1018 Hopper front KU
						⌜							3-40098	– ” – , hardened
							⌜						3-38493	– ” – , knife fixed third
								⌜					3-40287	– ” – , knife fixed third, hardened
									⌜				3-40064	CB-1024 Hopper front KU
										⌜			3-40102	– ” – , hardened
											⌜		3-38497	– ” – , knife fixed third
												⌜	3-40396	– ” – , knife fixed third, hardened
1	1	-	-	-	-	-	-	-	-	-	-	-	2-38228	Hopper front
	-	1	-	-	-	-	-	-	-	-	-	-	2-40095	– ” –
	-	-	1	-	-	-	-	-	-	-	-	-	2-38490	– ” –
	-	-	-	1	-	-	-	-	-	-	-	-	2-40282	– ” –
	-	-	-	-	1	-	-	-	-	-	-	-	2-40055	– ” –
	-	-	-	-	-	1	-	-	-	-	-	-	2-40099	– ” –
	-	-	-	-	-	-	1	-	-	-	-	-	2-38494	– ” –
	-	-	-	-	-	-	-	1	-	-	-	-	2-40286	– ” –
	-	-	-	-	-	-	-	-	1	-	-	-	2-40056	– ” –
	-	-	-	-	-	-	-	-	-	1	-	-	2-40103	– ” –
	-	-	-	-	-	-	-	-	-	-	1	-	2-38498	– ” –
	-	-	-	-	-	-	-	-	-	-	-	1	2-40395	– ” –
2	2	2	2	2	2	2	2	2	2	2	2	2	4-29427	Shaft
3	2	2	2	2	2	2	2	2	2	2	2	2	4-18937	Latch
4	2	2	2	2	2	2	2	2	2	2	2	2	4-18938	Locking arm
5	2	2	2	2	2	2	2	2	2	2	2	2	4-02789	Compression spring
6	2	2	2	2	2	2	2	2	2	2	2	2	940046	Socket cap screw M12
7	4	4	4	4	4	4	4	4	4	4	4	4	940102	Grub screw M6

8.14 Inlet, flaps, hopper table -K, -KU



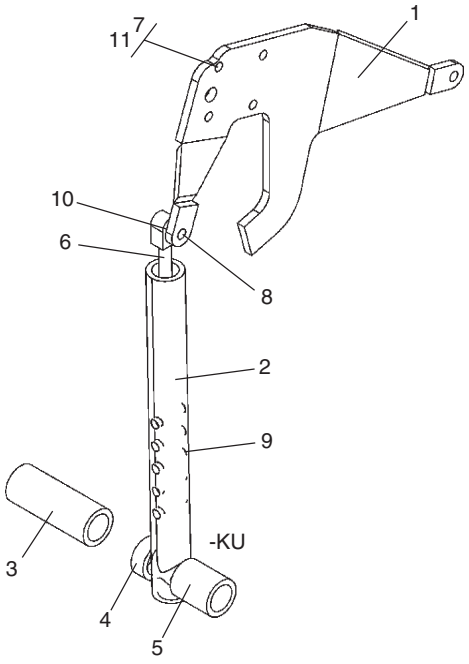
Pos	Qty.			Art. no.	Description
	⌐			3-38268	CB-1012 Inlet
		⌐		3-40088	CB-1018 – ” –
			⌐	3-40089	CB-1024 – ” –
1	1	-	-	2-38276	Inlet 305x260
	-	1	-	2-40076	– ” – 455x260
	-	-	1	2-40077	– ” – 605x260
2	1	1	1	992455	List
2	1	1	1	991984	Stirrup handle
4	5	6	6	940070	Socket cap screw M8
	⌐			3-38487	CB-1012 Hopper table
		⌐		3-29275	CB-1018 Hopper table
			⌐	3-29276	CB-1024 Hopper table
5	1	-	-	2-38484	Hopper table
	-	1	-	1-18975	– ” –
	-	-	1	1-29144	– ” –
6	2	2	2	3-27081	Holder, hopper
7	1	1	1	4-11013	Shaft
8	2	2	2	4-06369	Bushing
9	1	1	1	4-08831	Spring, lock
10	1	1	1	950278	Manuel ball, locking
11	6	6	6	940348	Socket cap screw M6
12	2	2	2	950241	Nut, blind rivet M6
13	12	12	12	940261	Pop-rivet
	⌐			3-38483	CB-1012 Flaps
		⌐		3-38474	CB-1018 Flaps
			⌐	3-38404	CB-1024 Flaps
14	1	-	-	2-38482	Flap parcel, inlet
	-	1	-	2-38473	– ” –
	-	-	1	2-38407	– ” –
15	2	2	2	950593	Latch swell

8.15 Inlet, sound trap, flaps -KUB



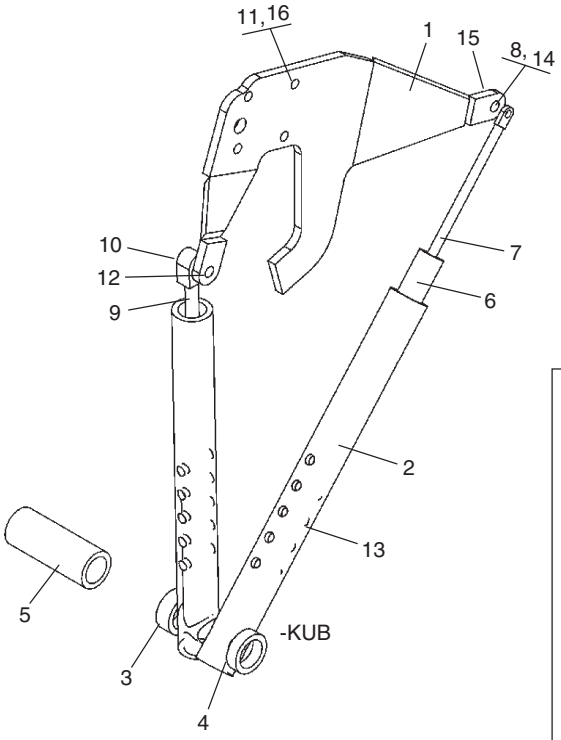
Pos	Qty.			Art. no.	Description
	⌜			3-40253	CB-1012 Inlet belt
		⌜		3-38501	CB-1018 – ” –
			⌜	3-38279	CB-1024 – ” –
1	1	-	-	2-40254	Inlet belt, encapsulation
	-	1	-	2-38502	– ” –
	-	-	1	2-38280	– ” –
2	1	-	-	3-40256	Under plate, encapsulation
	-	1	-	3-40107	– ” –
	-	-	1	3-38290	– ” –
3	1	1	1	991984	Stirrup handle
4	5	5	6	940070	Socket cap screw M8
5	14	16	18	940750	Self tapping screw
6	1	1	1	992455	List
	⌜			3-40272	CB-1012 Flaps
		⌜		3-40271	CB-1018 – ” –
			⌜	3-40270	CB-1024 – ” –
7	1	-	-	3-40267	Flap 304 x 700
	-	1	-	3-40265	– ” – 454 x 700
	-	-	1	3-40263	– ” – 604 x 700
8	1	-	-	3-40269	Flap 304 x 900
	-	1	-	3-40266	– ” – 454 x 900
	-	-	1	3-40264	– ” – 604 x 900
9	1	-	-	3-40268	Flap 304 x 800
	-	1	-	3-20895	– ” – 454 x 800
	-	-	1	3-29254	– ” – 604 x 800
	⌜			3-40615	CB-1012 Sound trap
		⌜		3-40606	CB-1018 – ” –
			⌜	3-38413	CB-1024 – ” –
10	1	-	-	2-40612	Sound trap
	-	1	-	2-40603	– ” –
	-	-	1	2-38414	– ” –
11	2	2	2	991887	Draw latch
12	4	4	4	940032	Socket cap screw M8
13	10	10	10	940263	Pop-rivet
14	4	4	4	950430	Sealing end

8.16 Hopper device -KU and CB-1012-KUB



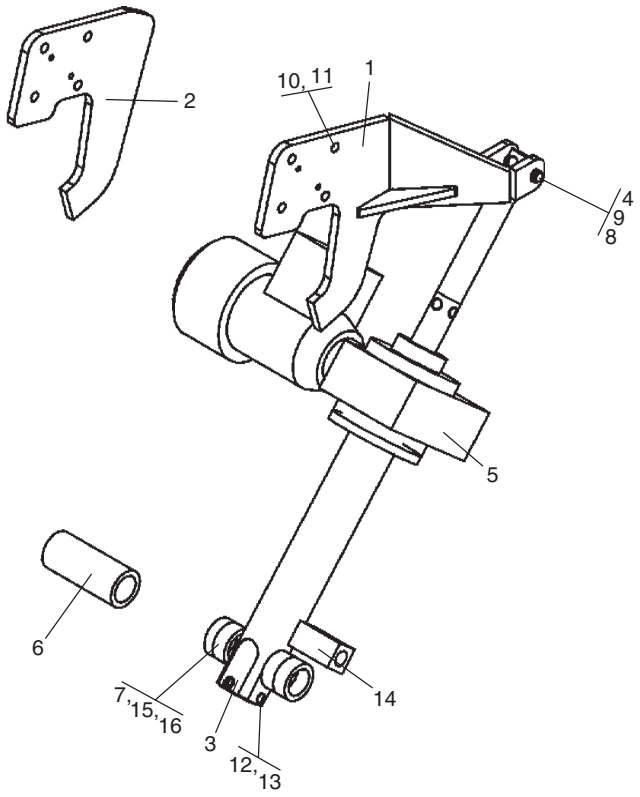
Pos	Qty.				Art. no.	Description
	⌐				3-38237	CB-1012 Hopper device -KU
		⌐			3-38238	CB-1012 Hopper device -KUB
			⌐		3-38239	CB-1018 Hopper device -KU
				⌐	3-38233	CB-1024 Hopper device -KU
1	1	1	1	1	2-38235	Bracket, gas spring
2	1	1	1	1	3-29421	Sleeve
3	1	1	1	1	4-29422	Distance
4	1	1	1	1	4-29424	Distance
5	1	1	1	1	4-29423	Distance
6	1	-	-	-	920773	Gas spring
		1	-	-	920656	– ” –
	-		1	1	991247	– ” –
7	4	4	4	4	940876	Socket cap screw M10
8	2	2	2	2	940467	Hex head screw M10
9	1	1	1	1	940015	Nut, locking M10
10	2	2	2	2	940042	Nut M10
11	4	4	4	4	940875	Washer SS, support ring

8.17 Hopper device -KUB



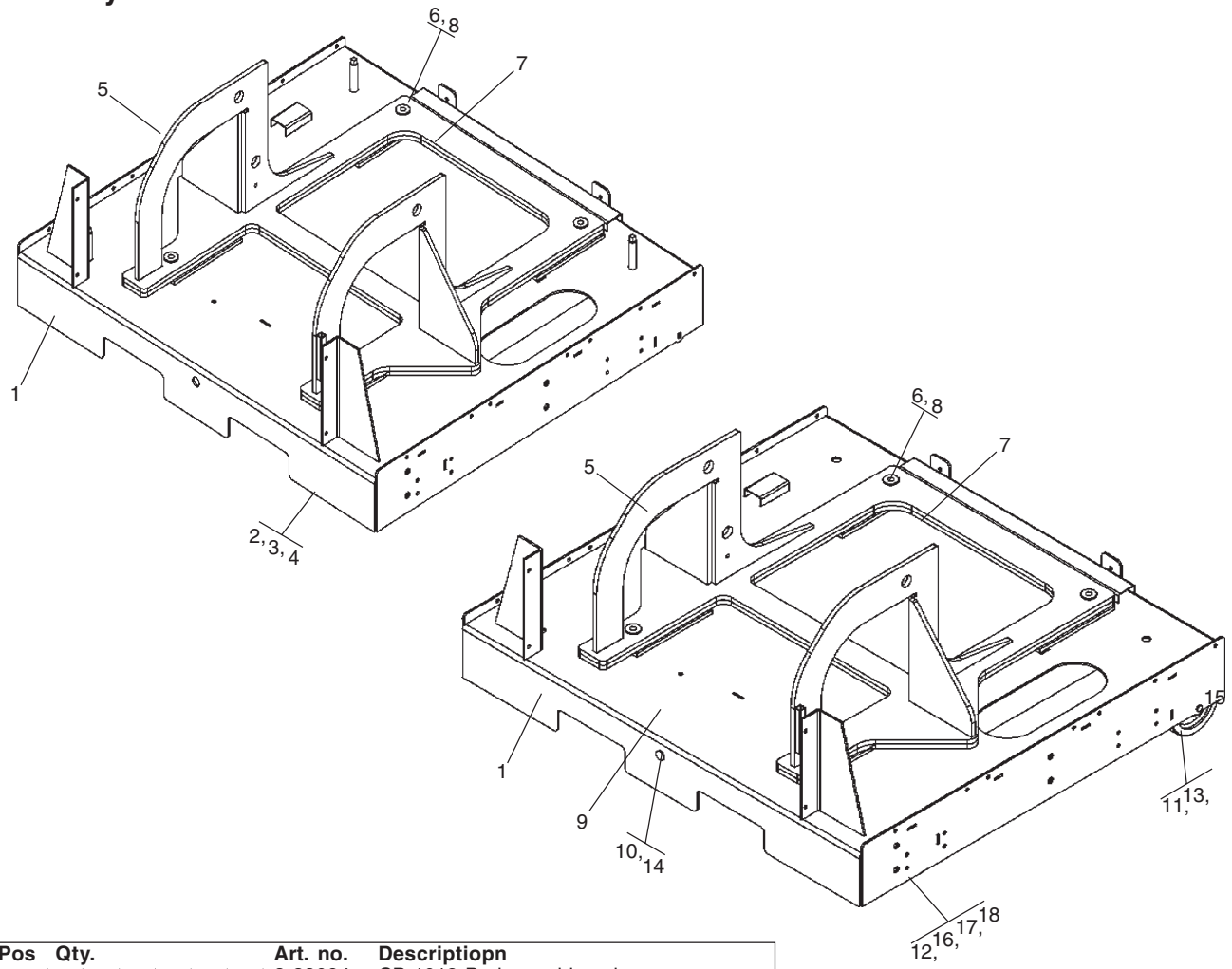
Pos	Qty.		Art. no.	Description
	⌐		3-38240	CB-1018 Hopper device -KUB
		⌐	3-38234	CB-1024 Hopper device -KUB
1	1	1	2-38235	Bracket, gas spring
2	2	2	3-29421	Sleeve
3	1	1	4-29424	Distance
4	1	1	4-29425	Distance
5	1	1	4-29422	Distance
6	1	1	4-29390	Sleeve
7	1	1	920801	Gas spring
8	1	1	960202	Plain bearing
9	1	1	991247	Gas spring
10	3	2	940042	Mutter M10
11	4	4	940876	Socket cap screw M10
12	3	3	940467	Hex head screw M10
13	2	2	940015	Nut, locking M10
14	1	1	940423	Hex head screw M8
15	3	3	940016	Nut M8
16	4	4	940875	Washer SS, support ring

8.18 Hopper device screw jack



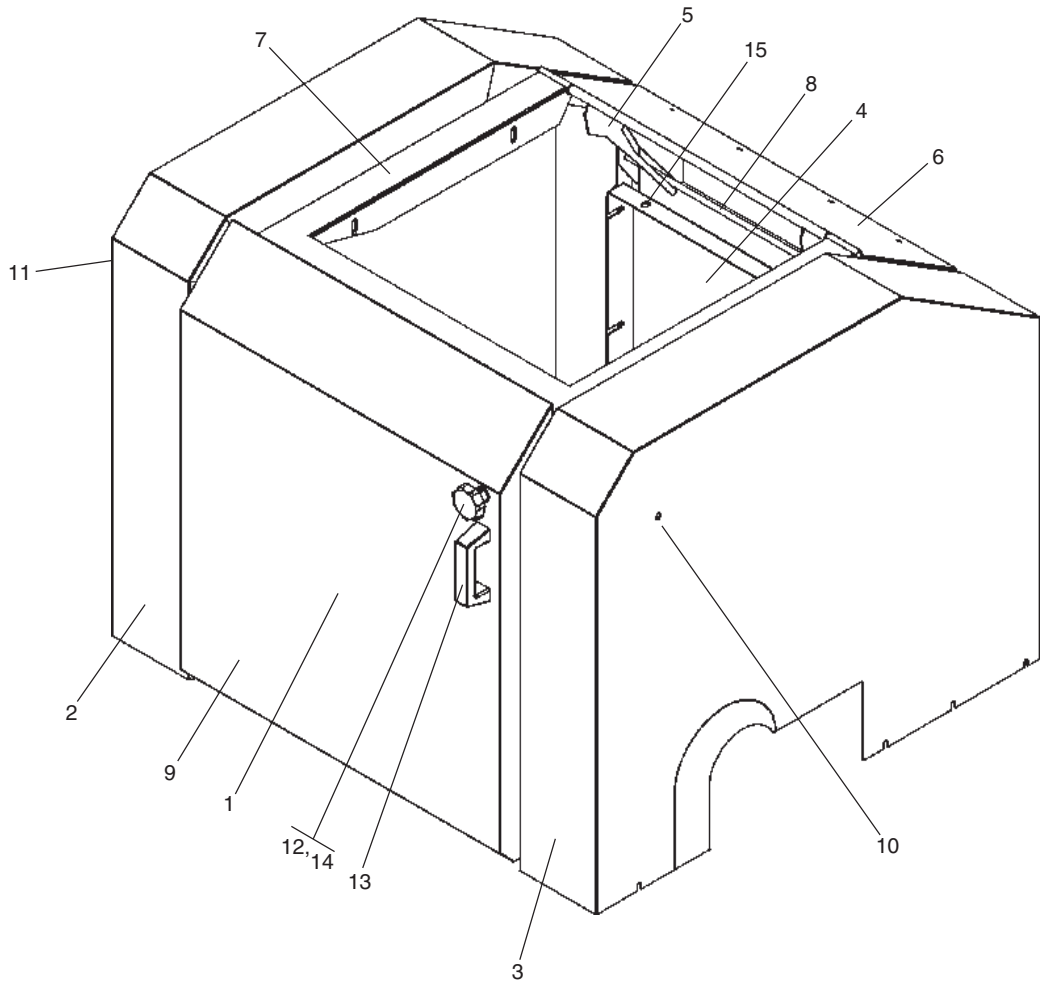
Pos	Qty.	Art. no.	Description
		3-38077	Hopper device screw jack CB-1012, CB-1018 and CB-1024
1	1	3-38078	Bracket, screw jack
2	1	3-32277	Bracket, stop
3	1	4-39100	Bracket lower, screqw jack
4	1	4-32278	Shaft
5	1	992360	Screw jack
6	1	4-34982	Distance
7	1	950579	Compression spring
8	2	950025	Retaining ring SGA
9	2	940155	Washer BRB
10	8	940037	Socket cap screw M10
11	4	950388	Parallel pin
12	1	940179	Socket cap screw M10
13	1	940015	Nut, locking M10
14	1	911359	Switch
15	3	4-29424	Distance
16	1	4-29425	Distance

8.19 Body



Pos	Qty.						Art. no.	Descriptiopn
	⌜						3-38094	CB-1012 Body machine shoe
		⌜					3-38093	CB-1012 Body wheel
			⌜				3-38096	CB-1018 Body machine shoe
				⌜			3-38095	CB-1018 Body wheel
					⌜		3-38079	CB-1024 Body machine shoe
						⌜	3-38066	CB-1024 Body wheel
1	1	1	-	-	-	-	1-38442	Bottom plate
	-	-	1	1	-	-	1-38209	– ” –
	-	-	-	-	1	1	1-38444	– ” –
2	4	-	4	-	4	-	4-26698	Sleeve
3	4	-	4	-	4	-	950308	Machine shoe
4	2	-	2	-	2	-	3-38460	Stiffening
5	1	1	-	-	-	-	2-38219	Stand
	-	-	1	1	-	-	2-38211	– ” –
	-	-	-	-	1	1	2-38220	– ” –
6	4	4	4	4	4	4	4-18925	Damper stand
7	4	4	4	4	4	4	4-18941	Vibrations damper
8	4	4	4	4	4	4	940154	Socket cap screw M12
9	-	1	-	-	-	-	3-38107	Rail, holder
	-	-	-	1	-	-	3-38108	– ” –
	-	-	-	-	-	1	3-38074	– ” –
10	-	1	-	1	-	1	4-18936	Shaft
11	-	2	-	2	-	2	4-18942	Shaft
12	-	2	-	2	-	-	950056	Wheel, turnable
	-	-	-	-	-	2	950618	– ” –
13	-	2	-	2	-	2	950619	Wheel
14	-	2	-	2	-	2	950024	Retaining ring SGA
15	-	4	-	4	-	4	950025	Retaining ring SGA
16	-	2	-	2	-	-	940571	Socket cap screw M12
	-	-	-	-	-	8	940347	Socket cap screw M10
17	-	2	-	2	-	-	920015	Nut, locking M12
	-	-	-	-	-	8	940015	Nut, locking M10
18	-	2	-	2	-	-	4-38109	Distance

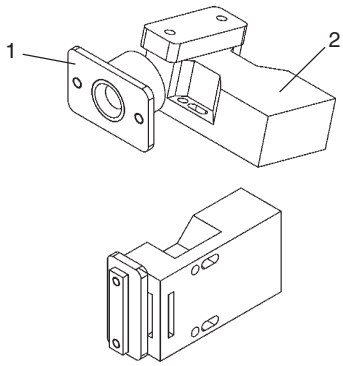
8.20 Enclosure



Pos	Qty.			Art. no.	Description
	⌜			3-38155	CB-1012 Enclosure
		⌜		3-38162	CB-1018 Enclosure
			⌜	3-38124	CB-1024 Enclosure
1	1	-	-	1-38156	Door
	-	1	-	1-38163	– ” –
	-	-	1	1-38125	– ” –
	1	-	-	3-38157	Back plate, door
	-	1	-	2-22839	– ” –
	-	-	1	3-38126	– ” –
2	1	1	1	1-32109	Cover, left
3	1	1	1	1-32110	Cover, right
4	1	-	-	2-38158	Cover back, lower
	-	1	-	2-38165	– ” –
	-	-	1	2-38127	– ” –
5	1	-	-	2-38159	Frame, cover back upper
	-	1	-	2-38166	– ” –
	-	-	1	2-38128	– ” –
6	1	-	-	2-38160	Cover back, upper
	-	1	-	2-38167	– ” –
	-	-	1	2-38129	– ” –
7	1	-	-	2-38161	Frame, sealing
	-	1	-	1-22826	– ” –
	-	-	1	2-38130	– ” –
8	2	-	-	4-38168	Shaft
	-	2	-	4-23005	– ” –
	-	-	2	4-29089	– ” –
9	1	1	1	3-26316	Stop, door

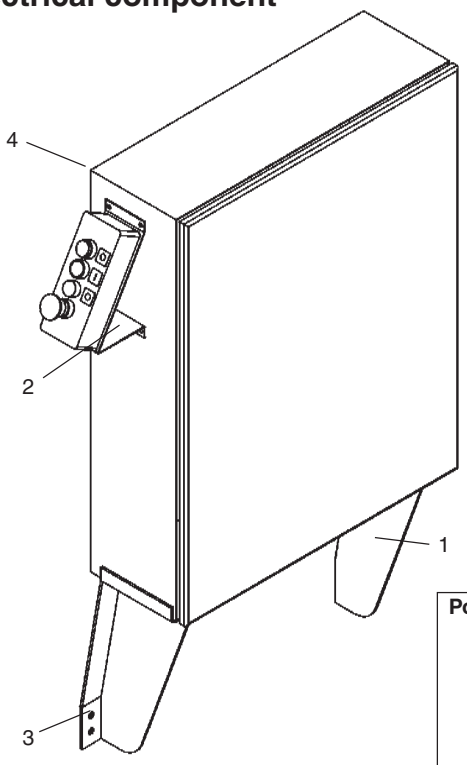
Pos	Qty.			Art. no.	Description
	⌜				CB-1012 Enclosure
		⌜			CB-1018 2Enclosure
			⌜		CB-1024 Enclosure
10	1	1	1	3-32264	Stay, cover right
11	1	1	1	3-32265	– ” – left
	1	-	-	4-22841	Shaft
	-	1	1	4-40671	– ” –
12	1	1	1	4-26706	Star knob
13	1	1	1	950235	Stirrup handle
	1	1	1	950502	Absorber element
14	1	1	1	940696	Grub screw M6
	10	10	10	940579	Hex head screw M8
	1	1	1	940750	Selt tapping screw
	12	12	12	940432	Pop-rivet steel
	1	1	1	960176	O-ring
	1	1	1	970038	Noise absorber
	4	4	4	940030	Nut M10
	10	10	10	940444	Hex head screw M8
	4	4	4	940057	Hex head screw M8
	6	8	8	940552	Hex head screw M6
	6	6	6	940225	Socket cap screw M8
	1	1	1	970040	Clip list
	2	2	2	970156	Clip list, side
	1	1	1	970003	List
15	2	2	2	950328	Eye bolt M10
	2	2	-	940155	Washer BRB
	2	2	-	940028	Hex head screw M10

8.21 Security



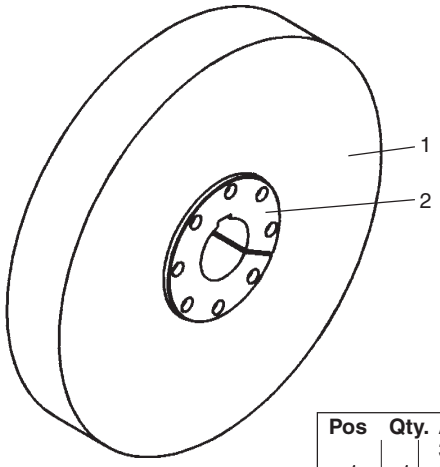
Pos	Qty.			Art. no.	Description
	⌐			3-38101	Security CB-1012
		⌐		3-40665	Security CB-1018 and CB-1024
			⌐	3-38100	Security CB-1018 and CB-1024 with hopper device screw jack
1	1	1	1	4-22844	Bracket shaft locking
	2	2	2	940394	Hex head screw
	2	2	2	940169	Washer BRB
2	2	2	-	911002	Switch
	-	-	2	910697	– ” –
	1	1	1	911004	Key, switch
	1	1	1	911003	Key, switch
	1	1	1	4-24329	Holder, key
	6	6	6	911005	Coverplug switch
	4	4	4	940250	Socket cap screw M5
	4	4	4	940206	Socket cap screw M5
	2	2	2	940267	Nut locking M5
	2	2	2	940243	Washer BRB

8.22 Electrical component



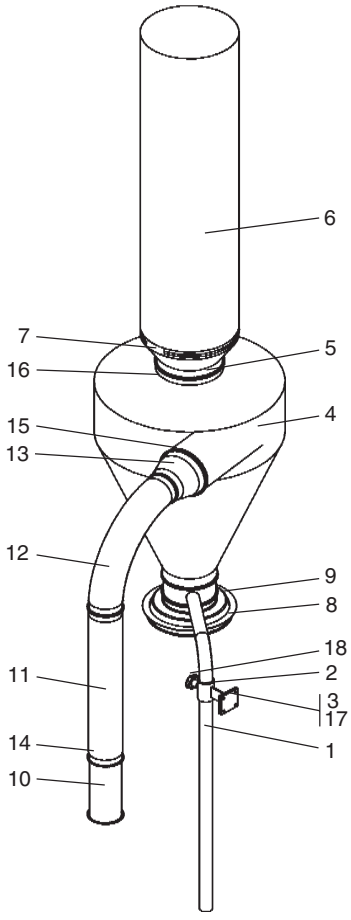
Pos	Qty.	Art. no.	Description
		3-37975	Electrical component
1	1	2-22829	Bracket electrical cabinet, right
	1	2-22830	Bracket electrical cabinet, left
2	1	3-20942	Bracket, start panel
	2	910855	Clip
	4	910853	Clip
3	4	940008	Hex head screw M10
	2	950241	Nut, blind rivet M6
	4	940316	Nut locking M6
	6	940104	Socket cap screw M6
	4	940638	Sockwet cap screw M4
	4	940027	Nut M6
4	2	950055	Vibration damper
	2	940552	Hex head screw M6
	4	940071	Socket cap screw M5

8.23 Flywheel



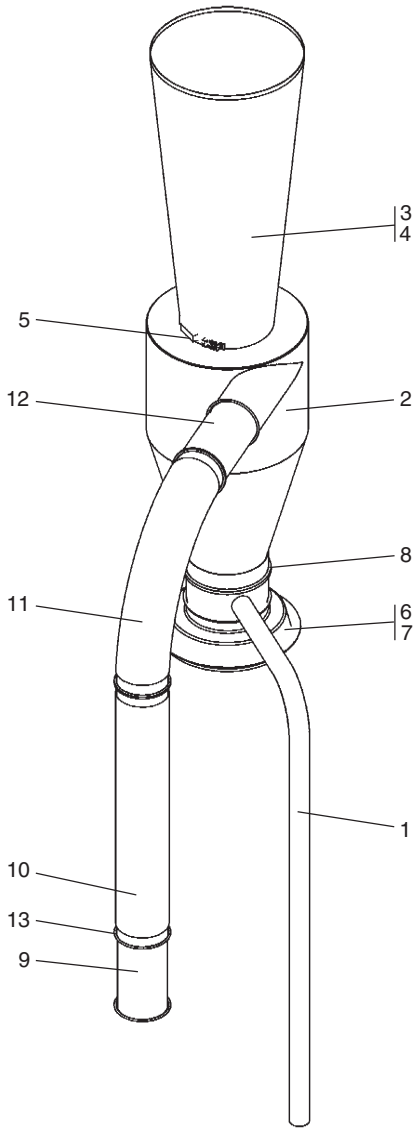
Pos	Qty.	Art. no.	Description
		3-39802	Flywheel
1	1	2-06347	Flywheel
2	1	2-15659	Flange bushing
	1	950182	Key
	8	940005	Socket cap screw M10

8.24 Cyclone RC12



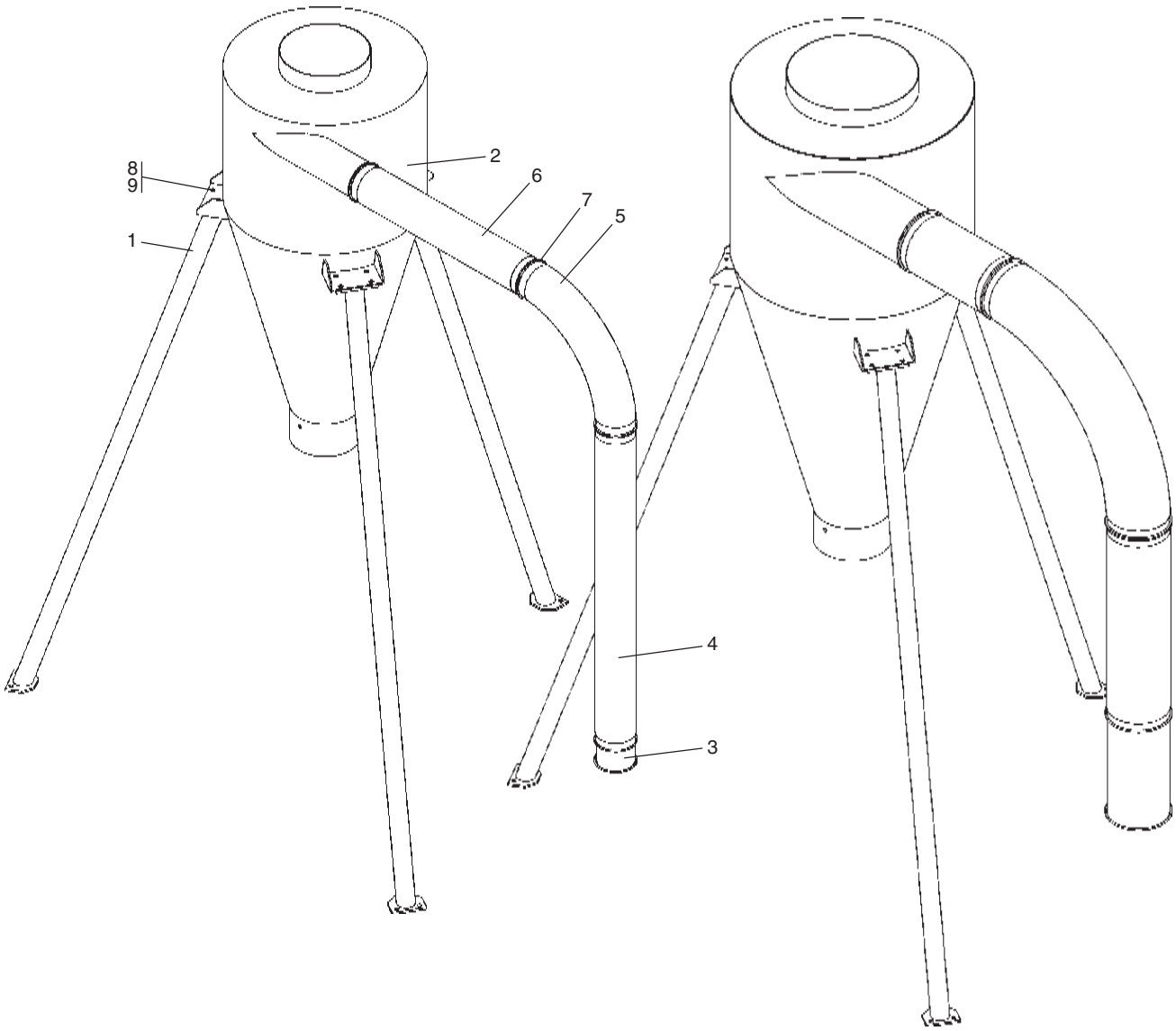
Pos	Qty.	Art. no.	Description
		3-29301	Cyclone, filter, sack holder, cyclone holder
1	1	1-20285	Holder, cyclone
2	1	3-30535	Stay, holder
3	1	4-30536	Bracket, stay
4	1	4-17820	Cyclone 31 000 047
5	1	3-10967	Filter frame
6	1	4-10968	Filter
7	1	3-10592	Tightening strap
8	1	3-10787	Sack holder
9	1	4-10790	Ring sack holder
10	1	920423	Pipe, telescopic
11	1	4-11762	Pipe, OK100 x 600
12	1	4-11768	Pipe bend OK100 90°
13	1	4-17784	Reducer OK100-160
14	4	920415	Quick action ring D100
15	3	920107	Quick action ring D160
16	1	920540	Quick action ring D200
17	4	940039	Socket cap screw M6
18	1	950095	Star knob M8

8.25 Cyclone AX7,5



Pos	Qty.	Art. no.	Description
		3-25860	Cyclone, filter, sack holder, cyclone holder
1	1	1-20285	Holder, cyclone
2	1	3-11770	Cyclone OK100
3	1	2-10594	Filter frame
4	1	3-10595	Filter
5	1	3-10590	Tightening strap
6	1	3-10787	Sack holder
7	1	4-10790	Ring sack holder
8	2	920107	Quick action ring D160
9	1	920423	Pipe, telescopic
10	1	4-11762	Pipe, OK100 x 600
11	1	4-11768	Pipe bend OK100 90^{o}
12	1	3-12733	Pipe OK100 x 180
13	5	920415	Quick action ring D100

8.26 Cyclone AX12 and AX16



Pos	Qty.		Art. no.	Description	
	⌜		3-25861	Cyclone AX12	
		⌜	3-25862	Cyclone AX16	
1	3	-	4-00487	Leg	D=48x1650
	-	3	4-00488	– ” –	D=48x1750
2	1	-	2-12174	Cyclone	OK100
	-	1	3-03037	– ” –	OK160
3	1	-	920423	Pipe, telescopic	
	-	1	920105	– ” –	
4	1	-	4-17761	Pipe	OK100 x 975
	-	1	4-17766	– ” –	OK160 x 600
5	1	-	4-11768	Pipe bend	OK100 90°
	-	1	4-11769	– ” –	OK160 90°
6	1	-	4-17762	Pipe	OK100 x 600
	-	1	4-17767	– ” –	OK160 x 300
7	5	-	920415	Quick action ring	D=100
	-	5	920107	Quick action ring	D=160
8	12	12	940028	Hex head screw M10	
9	12	12	940030	Nut M10	

9. Wiring diagram

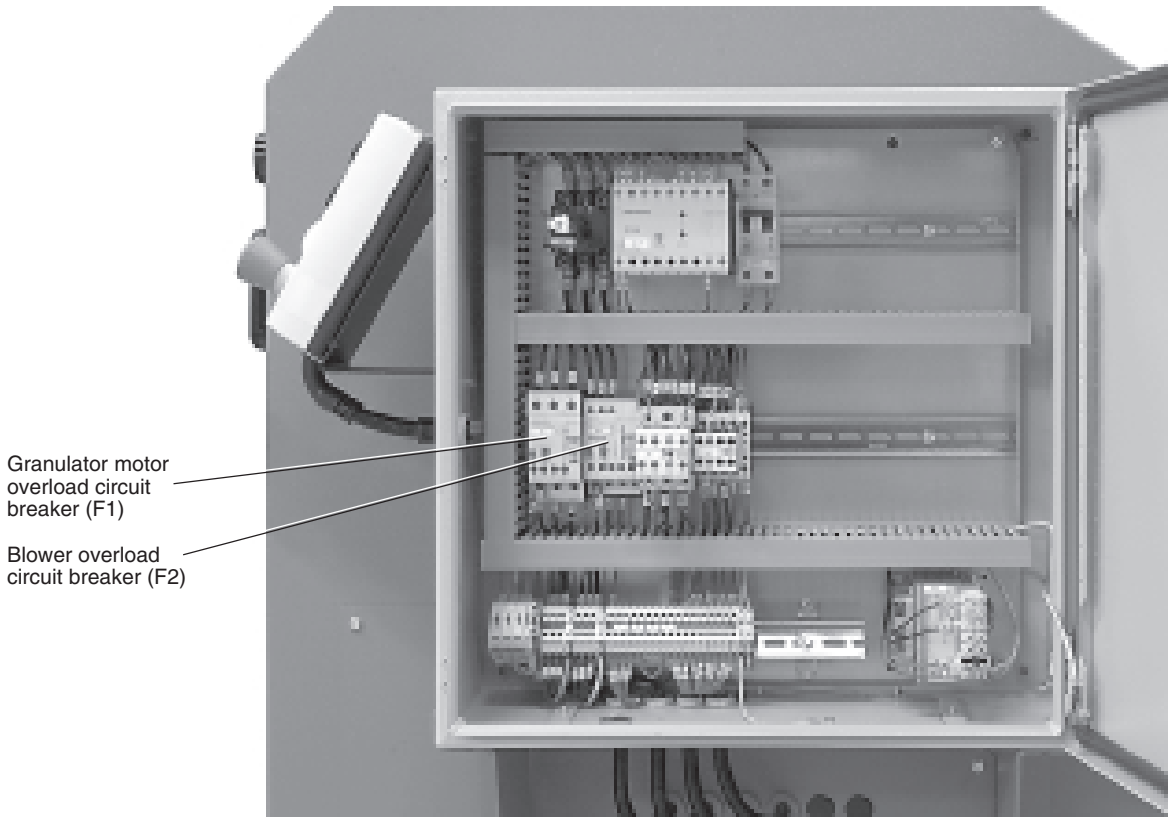
Never change or modify the basic electrical settings of the granulator, without first obtaining permission from Conair.

If the granulator settings are changed, the machine can be seriously damaged.

All Warranties and Conair's Product Liability will be void, if the basic settings of the granulator are changed.

All maintenance and service work must be done by trained and competent personnel!

Electrical installation must only be done by a competent electrician!



9.1 Current sensing relay

The granulator can be equipped with an optional current sensing relay to control the feed equipment.

The current sensing relay detects the granulator motor current consumption and can temporarily stop accessories such as conveyors, roller feeders etc., to avoid putting further material into the hopper, when the granulator is running under heavy loading.

The relay stops and re-starts accessory equipment automatically, without re-setting.

Relay functions and normal settings:

T1 – Reaction time, time delay which prevents the relay from opening during an intermittent high loading (0.1 - 3 sec.).

Default reaction time is 3.0 seconds.

T2 – Time delay on starting, which prevents the relay from opening when the granulator is started (0.1 - 10 sec.).

The default start delay is 0.1 seconds.

A – Limit value, adjustable between 0 - 100%.

Default setting depends on the current transformer size.

Check the current transformer size and then check the default setting for this granulator.

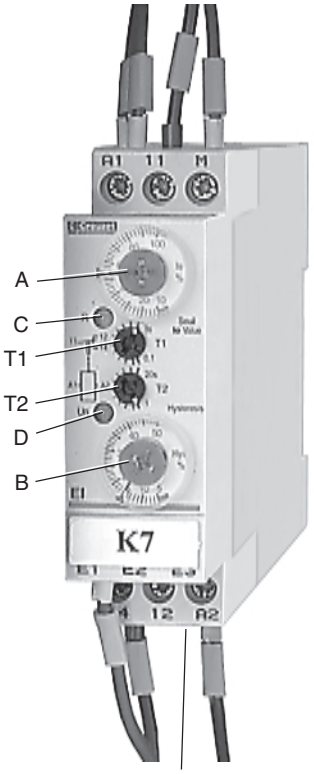
B – Hysteresis, adjustable between 5 - 50% of the set limit.

Default hysteresis is 20%.

C – Yellow LED, relay status indication.

- Lit when everything is OK, i.e. when the current is below the limit value.
- Goes out if there is an alarm.

D – Green LED, indication for control current OK.



Function choice
with or without memory

Connection

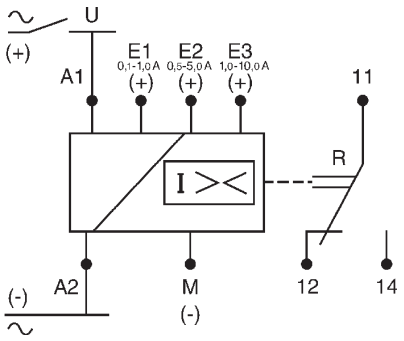
The current sensing relay is connected in series with the granulator motor via a current transformer.

The transformer is connected between M and E1/E2/E3 depending on the secondary current.

(For transformers with transformation to 1A, this is connected to E2.)

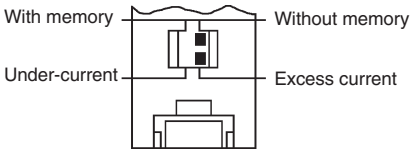
Set function choice – with or without memory.

– with under-current or excess current.



Setting

The limit value is set with "A" for the upper % setting.
The current value at which you want the relay to open.
Note that the percentage knob depends on current transformer size and the measurement input used, E1, E2 or E3.



A simple way to find the correct limit value for your granulator is to have the granulator motor in normal operation, then turn the knob back from 100% until the relay drops. Then turn the knob forwards until the limit is just above this level.

The lower % setting, "B", is used to set the hysteresis-in level. The level after alarm when the relay should re-start the feed equipment/conveyor. If the hysteresis knob is set at 20%, the relay will re-start the feed equipment when the current has gone down to the limit value plus the hysteresis value of 20%.

"T1" is a time delay, which determines the time that the granulator motor can exceed the set limit value before the relay drops.

"T2" is a time delay, which is only activated when the granulator starts. This time delay prevents the relay from dropping when the granulator is started and when the current usually exceeds the set limit value for the relay.

Function setting with or without memory. When you use the "With memory" setting, the relay does not re-start the feed equipment of the granulator when the current has fallen to the limit value plus the hysteresis value. The relay memory setting must be re-set manually first.

The default setting of this function choice is "Without memory".

Function selection, with under-current or excess current. We measure the current used by the granulator, so the selector should be in the "Excess current" position.

Default setting for this granulator:

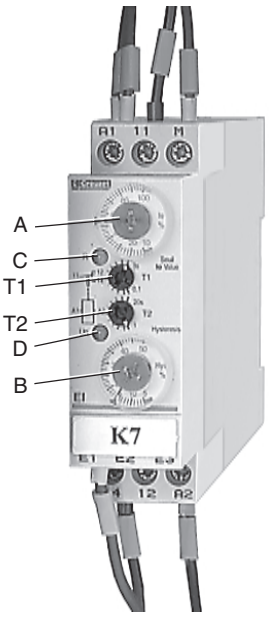
Granulator motor, rated current: ..... $\sqrt{3}$ ..... = A
Current transformer: ..... /1A
Time delay reaction time T1: 3.0 sec. ☐ other value: .....
Time delay at start T2: 0.1 sec. ☐ other value: .....
Limit values: % ..... = ... A
Hysteresis: % ..... = ... A
Function choice: ☐ with memory ☐ without memory ☐ under-current ☐ excess current

Example

The granulator is equipped with a current sensing relay to control a conveyor.

A motor of 7.5 kW has a rated current of about 15 A.

When this star/delta is started, it pulls about 15 A/$\sqrt{3}$ i.e. about 9 A per phase.



Relay setting:

Motor size 15 A/$\sqrt{3}$ = 8.7 A per phase

T1 – Set reaction time is 3.0 seconds.

T2 – Set start delay is 0.1 second.

A – Limit value 30 %.

B – Hysteresis 20 %.

C – Yellow LED is lit, current is below the limit value.

D – Green LED is lit.

Function selection in mode without memory.

The current transformer size is 30/1A.

The current transformer is connected to E2 (1 A).

On a current sensing relay with a transformation ratio of 30/1, the limit value “A” should be set to 30% or 9 A (30 A = 100%).

The current sensing relay detects the current consumption of the granulator motor and stops the conveyor, when the granulator motor consumption exceeds 9 A for 3 seconds, to prevent further material from being fed into the hopper.

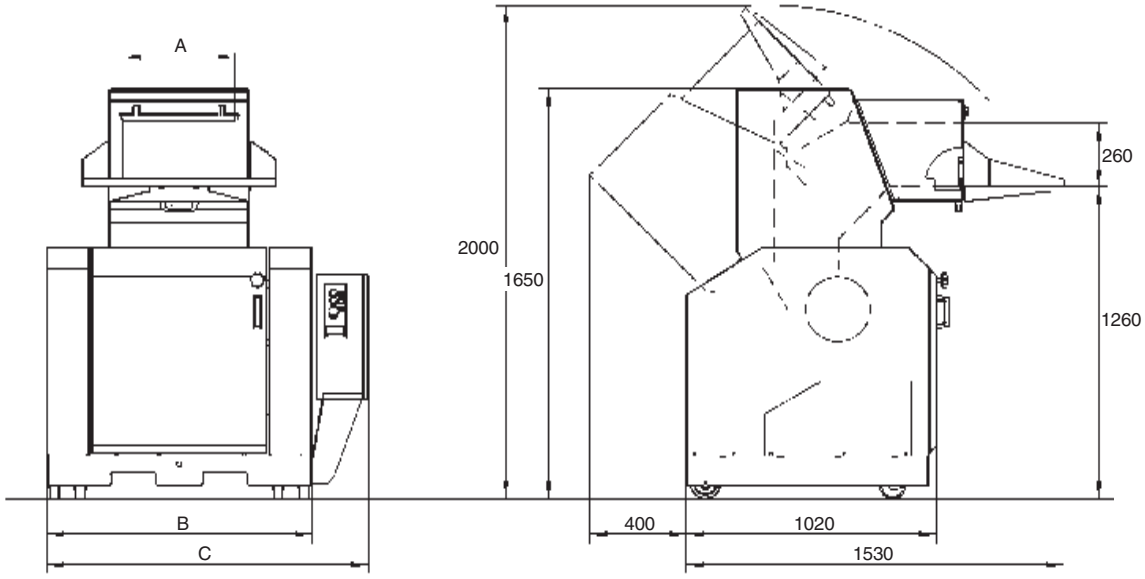
The Yellow LED flashes when the current exceeds the set limit value, and goes out when the conveyor stops. The Green LED is lit.

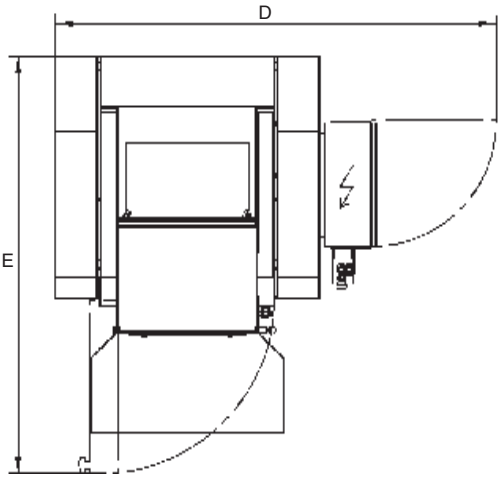
The relay re-starts the conveyor automatically when the granulator motor consumption has fallen 20 % below 9 A, i.e. to 7 A without a time delay. The Yellow and Green LEDs are lit.

10. Layout

CB Granulators K, Hopper front

3-38402

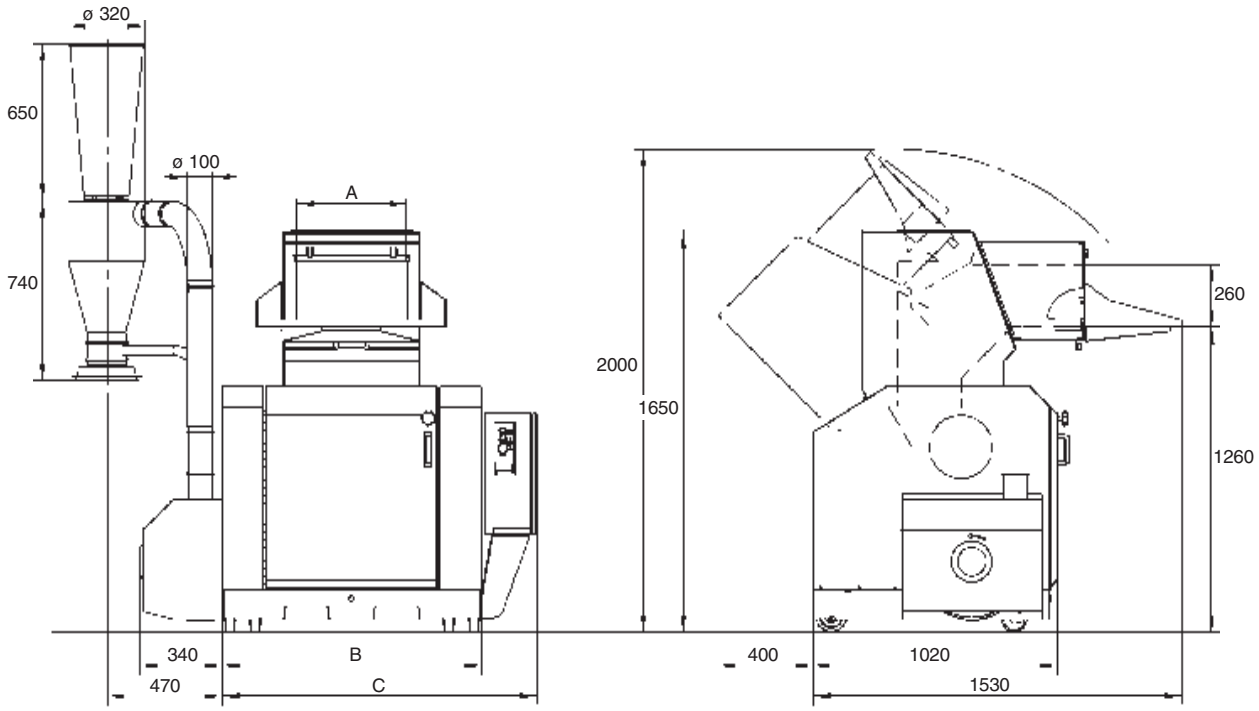


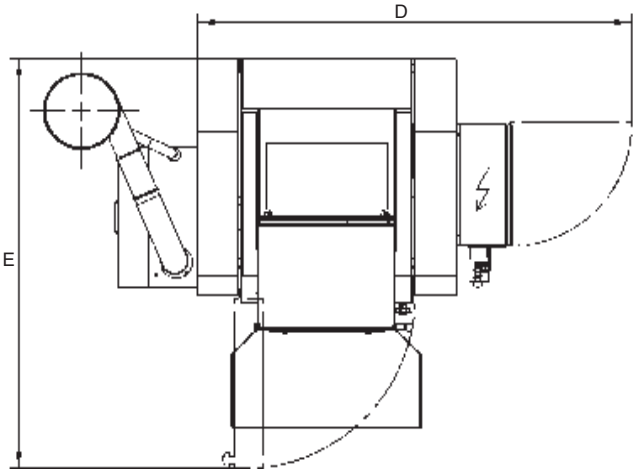


Model	CB-1012	CB-1018	CB-1024
A	300	450	600
B	940	1090	1240
C	1210	1360	1510
D	1630	1780	1930
E	1530	1680	1830

CB Granulators, Hopper front, blower F7, cyclone AX7,5

3-38398

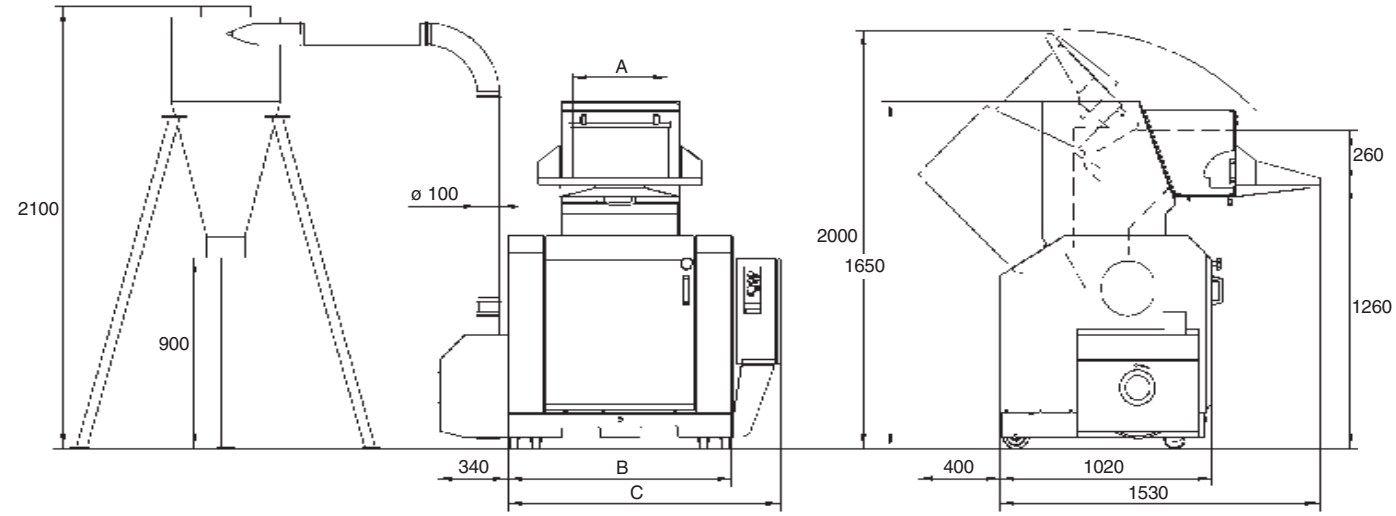


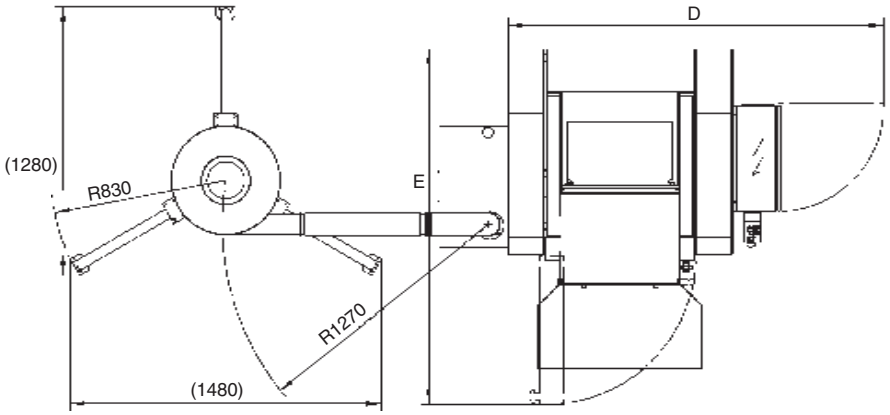


Model	CB-1012	CB-1018
A	300	450
B	940	1090
C	1210	1360
D	1630	1780
E	1530	1680

CB Granulators, Hopper front, blower F15, cyclone AX12

3-38399

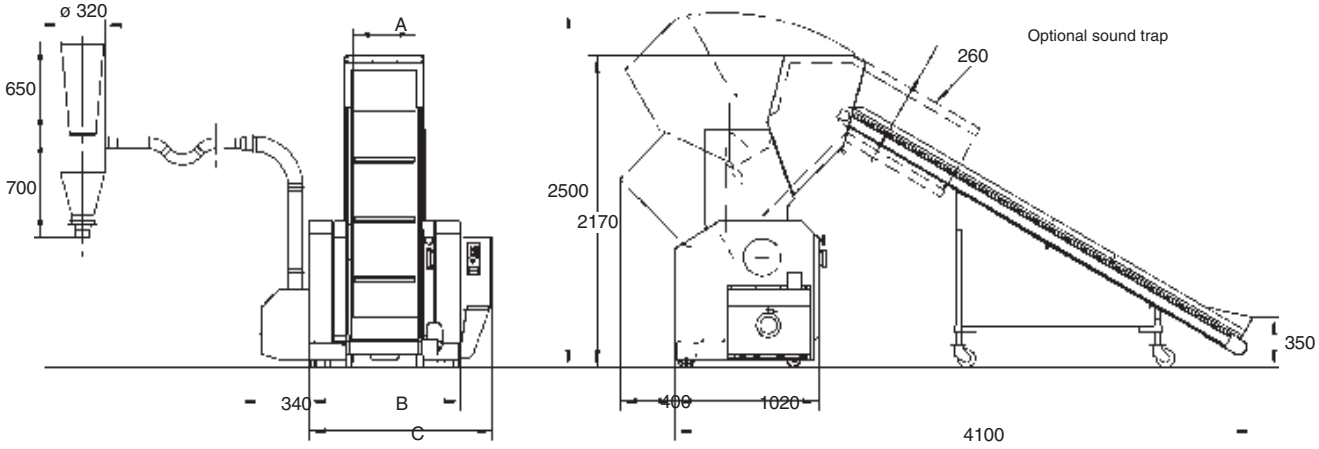


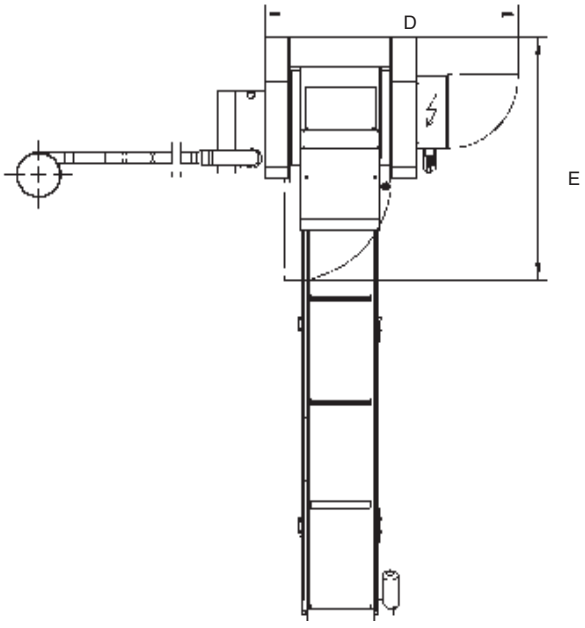


Model	CB-1012	CB-1018	CB-1024
A	300	450	600
B	940	1090	1240
C	1210	1360	1510
D	1630	1780	1930
E	1530	1680	1830

CB Granulators KUB, Band conveyor front, blower F7, cyclone AX7,5

3-38400

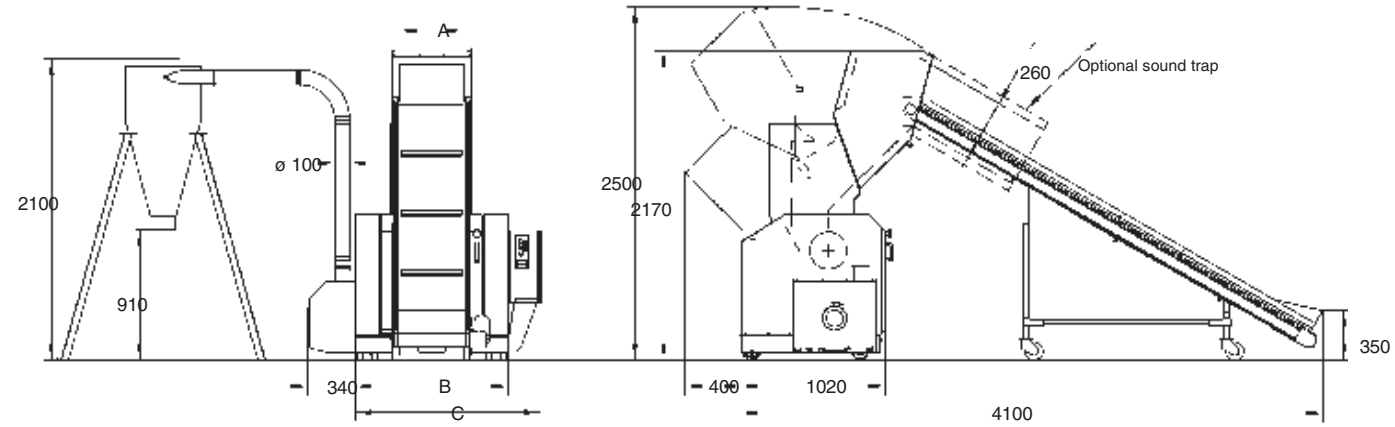


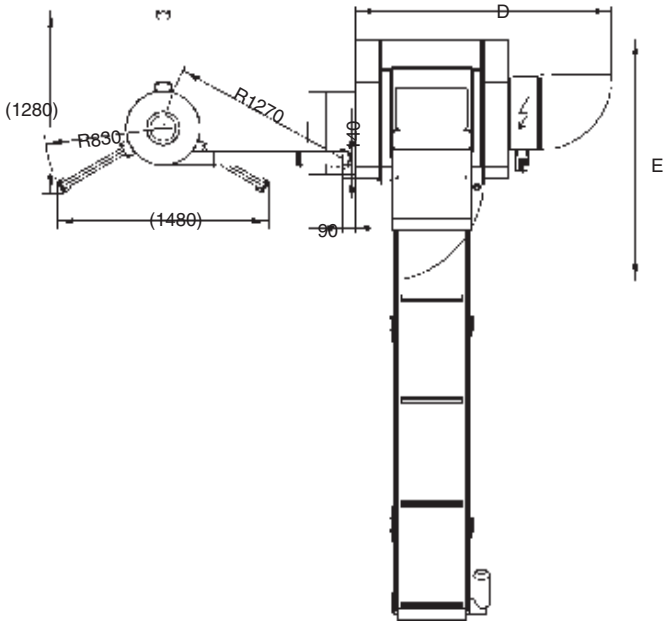


Model	CB-1012	CB-1018
A	300	450
B	940	1090
C	1210	1360
D	1630	1780
E	1530	1680

CB Granulators KUB, Band conveyor front, blower F15, cyclone AX12

3-38401





Model	CB-1012	CB-1018	CB-1024
A	300	450	600
B	940	1090	1240
C	1210	1360	1510
D	1630	1780	1930
E	1530	1680	1830

11. Options

Overview

The granulator´s accessories is divided into the following modules:

Ordering spare parts

Only use original Conair spare parts when replacing machinery components.

Orders should be sent to your Conair representative.

When ordering spare parts, please specify:

- Machine type/designation, on the machine´s rating plate.
- Serial number, on the machine´s rating plate.
- Part number, from this list of spare parts.
- Number of components.

11.1 Pre-setting fixture

Pre-setting of rotating knives

Installing of pre-set rotating knives is much simpler and makes also more faster.

Pre-setting fixtures are available for all CB granulators. Two models of fixtures are available, a compact fixture and a larger fixture.

The larger fixture offers a very exact pre-setting of the rotating knives clearances before installation.

NOTE! The knives must be sharpened before pre-setting.

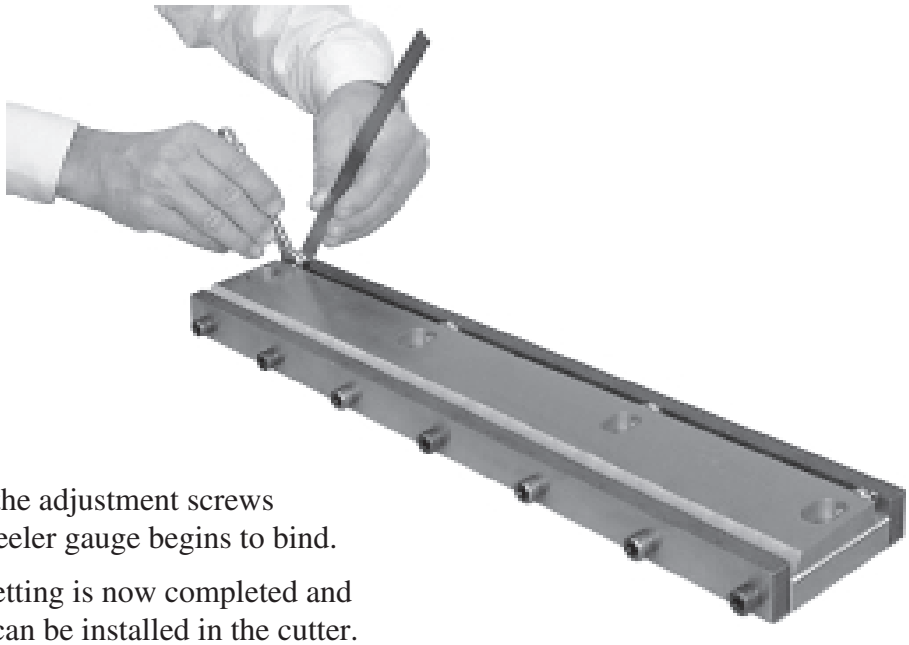
The fixture is calibrated against the fixed set screws in the granulator cutter, when delivered.

The jig gives the correct clearance of 0.15 - 0.30 mm.

Pre-setting of the rotating knives makes exacly by using the pre-setting fixture
art.no.3-38293 CB-1012
art.no.3-38104 CB-1018, CB-1024 or

with fixture compact model
art.no. 3-38102.

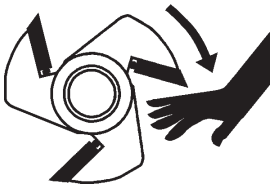
1. Screw the adjustment screws on a rotating knife in somewhat.
2. Put the knife in the fixture, with the edge downwards.
3. Put an 0.20 mm feeler gauge between the adjustment screws and the rear of the fixture.



4. Unscrew the adjustment screws until the feeler gauge begins to bind.
5. The pre-setting is now completed and the knife can be installed in the cutter.

Installing of pre-set rotating knives

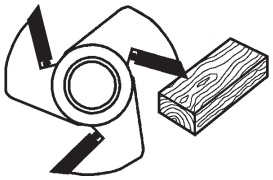
WARNING!



OBSERVE! The granulator cutter is balanced, therefore auto-rotates the cutter when installing rotating knives.

The cutter auto-rotates when the center of gravity becomes unstable.

Therefore be very careful when changing knives, so as not to injure fingers or hands.

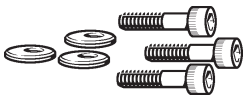


OBSERVE! <u>Never resort to help</u> when removing or installing rotating knives. Always carry out knife changing alone, so as to mini-mise the risk of injury to fingers or hands.

Lock the cutter to the cutter housing with a thick block of wood to avoid auto-rotation.

Be careful when handling the knives, they are sharp and can cause personal injury.

Use protective gloves!



Each time the set of knives is changed, the screws and washers which hold the knives must be replaced by new ones.

NOTE! Every second time re-sharpened knives are installed, the screws and washers which hold the knives must be replaced by new ones.

OBSERVE! Install all the rotating knives on the cutter, so that the cutter will be balanced.

Tips for installation of pre-set knives:

Mark each knife, with a felt-tip pen when each task is carried out:

= The knife clearance is correctly set in the knife fixture.

= The knife screws are torqued to the correct torque.

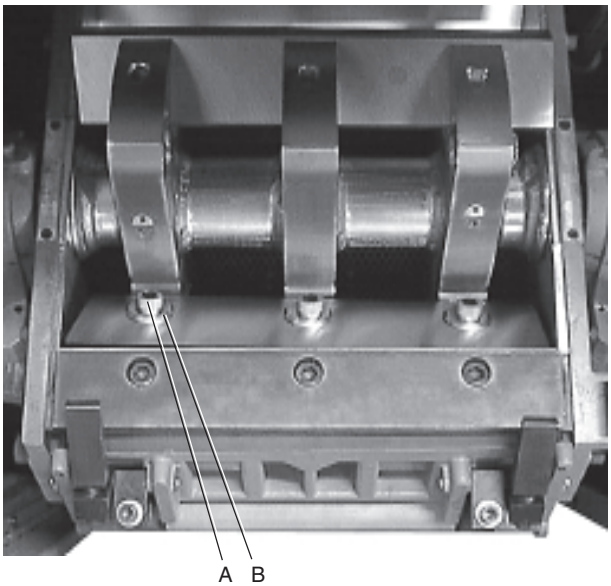
= The knife clearance has been rechecked and is correct.

NOTE! The set screws settings, in the cutter knife seats are locked with grub screws!

The grub screws are locked and bonded in place!

The set screws settings must never be changed!

1. Check that the knives attachments are peroperly cleaned.
2. Install all the knives with screws “A” and washers “B”. Tighten so that the screws lightly supports the knives.
3. Press the knives back so they butt up properly against the rear of the knives attachments.
4. Turn the washers “B” so that they fully cover the screw hole in the knives.



5. Tighten the screws“A” with an alternated increased torque to 220 Nm.
6. After tightening, check against the front fixed knife that the knife clearance has not changed.

   The knife clearance should be 0.15 - 0.30 mm.

Check the knife installation

1. Re-check the tightening torque for the fixed knives 220 Nm.

   Re-check the tightening torque both the front and rear fixed knives.
2. Re-check the tightening torque of each rotating knife 220 Nm.
3. Re-check the knife clearance of each rotating knife. Use a feeler gauge, the clearance should be 0.15 - 0.30 mm. Check at the outer edges of the knives.

NOTE! Check against both the front and rear fixed knives.

NOTE! The screws in the cutter knife seats are bonded in place, no adjustment may be done.

If the knife clearance not is correct – undo the screws and press the rotating knife firmly into the knife attachment to stop.

NOTE! Sign in the service schedule, chapter 13, when knife changing is completed.

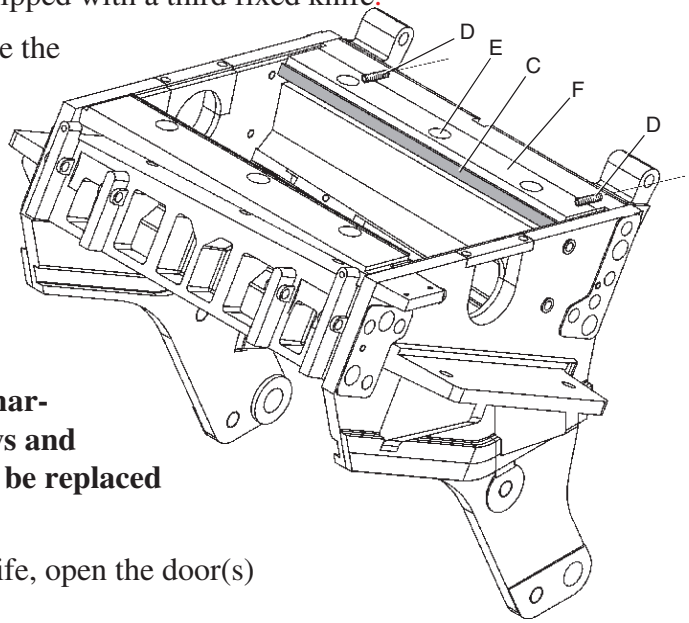
5 - 6 hours after knife changing.

1. Check the tightening torque of each rotating knife.
2. If the tightening torque of any of the rotating knives needs to be adjusted, the knife clearance of this rotating knife must also be checked.

11.2 Third fixed knife

As an option the granulator can be equipped with a third fixed knife.

The third fixed knife is used to increase the efficiency of the granulator and to granulate other types of products.



Be careful when handling the knives, they are sharp and can cause personal injury.

Use protective gloves!

Each time the set of knives is changed and every second time re-sharpened knives are installed, the screws and washers which hold the knives must be replaced by new ones.

To remove or install the third fixed knife, open the door(s) and hopper – see chapter 5.5.

Removal

1. Undo the adjustment screws “D” for the third fixed knife a few turns.

   The screws are undone from the rear side of the cutter housing.

2. Undo and remove the socket cap screws “E” for the support rule “F” for the third fixed knife.
3. Lift off the third fixed knife “C” together with the support rule.
4. Clean the knife seat.

Installation

Check that the knife seat is properly cleaned.

NOTE! The third fixed knife does not have any fixed setting positions in the side inserts of the cutter housing.

1. Install the knife “C” in the knife seat with the support rule “F”.
2. Fit the socket cap screws “E” so that the support rule lightly supports the knife.
3. Press the knife firmly back into the knife seat.
4. Check that the cutter with the rotating knives can pass freely.
5. Set the knife clearance against one rotating knife. Adjust the knife forward with the adjusting screws “D”. The clearance should be 0.15 - 0.30 mm.

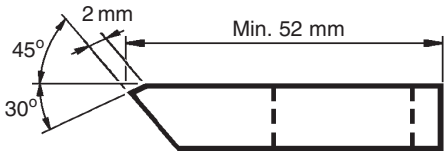
   Use a feeler gauge. Place the feeler gauge alternately to the right and left side between the fixed knife and one rotating knife. Screw in the adjusting screws until the feeler gauge begins to bind.

6. Tighten the socket cap screws “E” with an alternating increased torque to 220 Nm.
7. Check the knife clearance of all the rotating knives.

Grinding the third fixed knife

To grind the third fixed knife, read chapter 7.2 ”Knife grinding” and section ”Grinding the third fixed knife”.

The instructions consist grinding 3 different knives of the granulator: rotating knives, front and rear fixed knife, and third fixed knife.



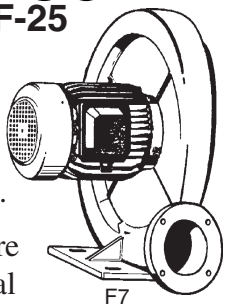
The third fixed knife must be grind precisely, to give the correct cutting and relief angles. Otherwise the granulator loses the third fixed knife´s efficiency.

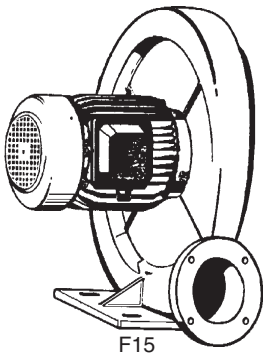
Follow the instruction and use the grinding fixture and surface grinder with magnetic table. The grinding fixture gives the third fixed knife, the precise correct cutting and relief angles.

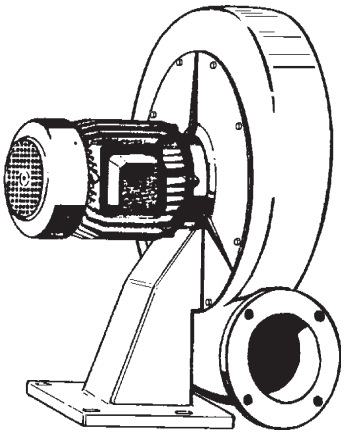
Grinding fixture (option).

For CB Granulators use the Conair grinding fixture art.no. 3-29280.

11.3 Blower F7, F15 and F-25


F7


F15


F25

Conair's blowers F7, F15 and F25 are intended for dust- and material conveying.

NOTE! The temperature of the conveyed material must never exceed 80°C.

It is not permitted to use the blowers in surroundings where the temperature exceeds 40°C or goes below -20°C.

It is not permitted to rebuilt, modify or use the blowers in explosive atmospheres.

F7, F15 and F25 are available with or without sound-insulated encapsulation.

Safety

The following safety advice must be observed, to avoid personal injury, damage to peripheral equipment and to the fan itself.

It is not permitted to use the blowers in humid environments or unprotected outdoors.

WARNING! F7 have high suction power. F15 and F25 have very high suction power.

Objects and clothing can easily be sucked in to the blower inlet and cause personal injury. Blowers F7, F15 and F25 must therefore never be used with an unprotected inlet opening.

WARNING! F7 produce a powerful stream of air at the discharge opening. F15 and F25 produce a very powerful stream of air at the discharge opening.

NOTE! The stream of air from the discharge opening is very powerful. Granulate and objects which have been sucked into the blower, will be thrown out at very high speed and can cause personal injury. Never put your hand directly in front of the blower discharge opening.

Electrical connection

Electrical connection must only be done by a competent electrician.

Sound level

The sound pressure level is not the same at different blower speeds. If a fan is used without a sound-damping housing, ear protectors should be used to prevent hearing damage.

Installation

Check that the fan does not have any transport damage before installation and commissioning.

Arrangements and mounting

The blower can be mounted horizontally or vertically.

It is not permitted to use the blowers in humid environments or unprotected outdoors.

Before the blower is taken into service, check that the blower impeller rotates freely and does not have any imbalance. Then install the blower so that it can not vibrate.

Install a protective grating on the exhaust opening.

Make sure that the electrical motor is provided with sufficient ventilation, the maximum permissible ambient temperature is 40°C.

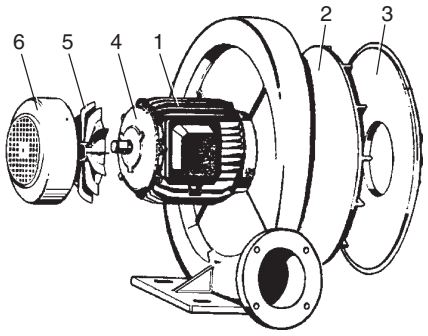
Maintenance

The blower has enclosed grooved ball bearings lubricated for life and can not be lubricated later on.

For any repair or maintenance please contact your Conair representative.

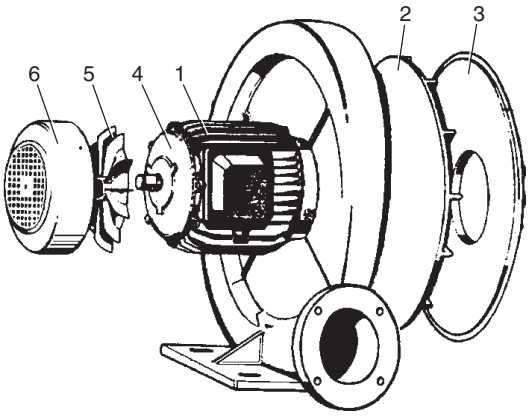
Spare parts

11.3.1 Blower F7



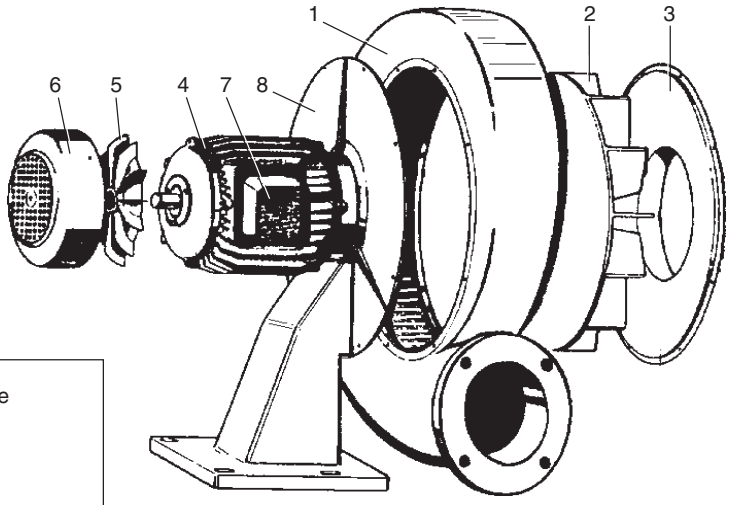
Pos	Qty.	Art. no.	Description
1			Blower F7, complete
2	1		Blower housing
3	1		Impeller
4	1		Housing cover lid
5	1		Motor
6	1		Motor cover

11.3.2 Blower F15



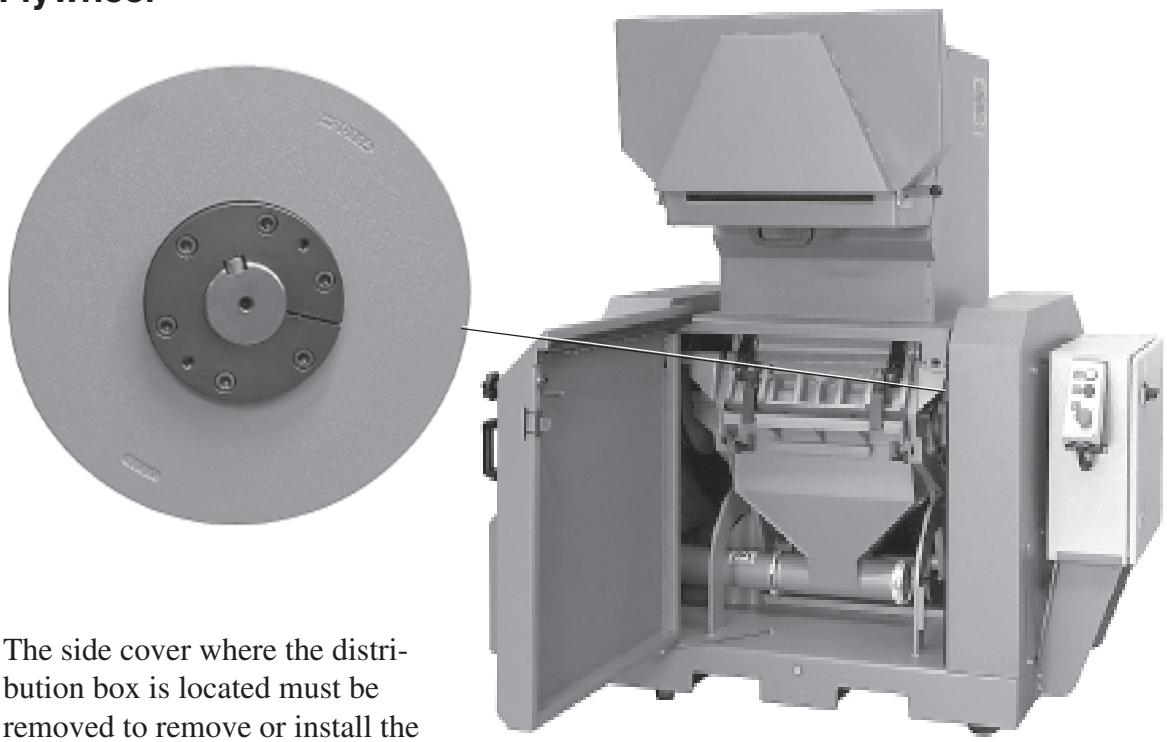
Pos	Qty.	Art. no.	Description
1			Blower F15, complete
2	1		Blower housing
3	1		Impeller
4	1		Housing cover lid
5	1		Motor
6	1		Motor cover

11.3.3 Blower F25



Pos	Qty.	Art. no.	Description
1			Blower F25, complete
2	1		Blower housing
3	1		Impeller
4	1		Housing cover lid
5	1		Motor
6	1		Motor cover
7	1		Lid, terminal box
8	1		Side with foot

11.4 Flywheel



The side cover where the distribution box is located must be removed to remove or install the flywheel.

This is a job which must be done by the Conair service department, because of the safety systems in the granulator.

Please contact your Conair representative.

The flywheel is mounted with the same type of compression bush as the cutter pulley. Please refer to chapter 7.5 “Cutter pulley/motor pulley”. No service is normally needed.

11.5 Paddle monitor

The granulator can be optionally equipped with one or several paddle monitors.

The paddle monitor is a level monitor which senses the granule level in the granule bin or outlet pipe stub.

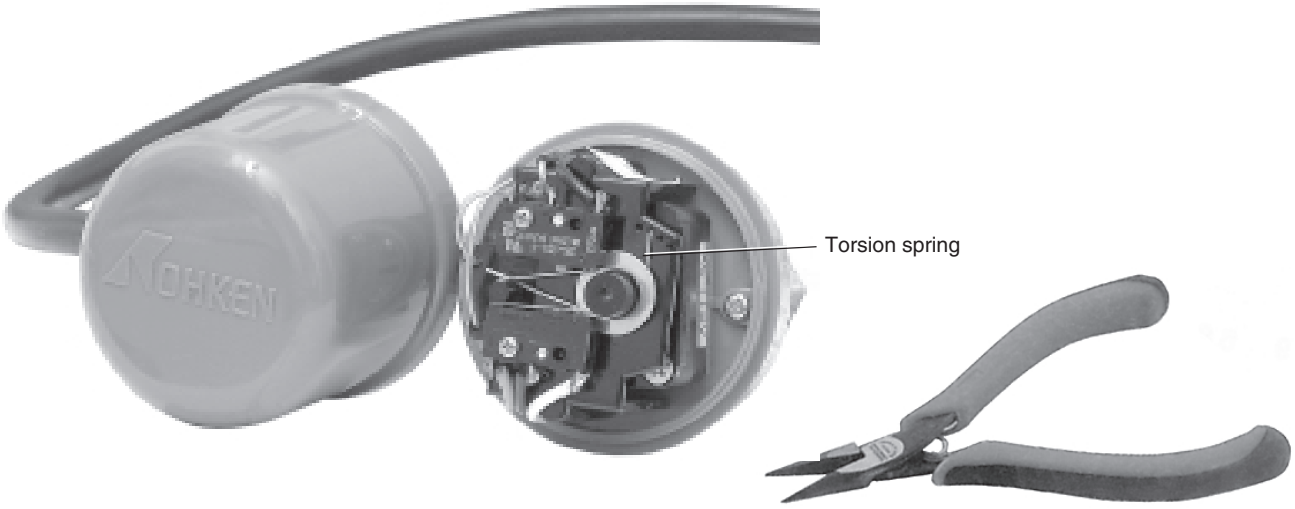
The paddle monitor senses and stops the granulator, or the granulator feed equipment, such as the band conveyor, roll feed etc., when the level in the granule bin/outlet pipe stub rises too high.

The paddle monitor stops and re-starts the granulator or the optional feed equipment without needing to be re-set.

Setting the paddle monitor sensitivity

The sensitivity of the paddle monitor is adjustable.

- Open, unscrew the cover over the microswitches in the paddle monitor.
- Adjust the position of the torsion spring.



Use a pair of needle-nosed pliers or tweezers to change the spring position.

The normal setting of the torsion spring is the second hole from the left.

Reducing the paddle monitor sensitivity:

(The paddle monitor breaks the connection more slowly)

– Turn the torsion spring to the left.

Increasing the paddle monitor sensitivity:

(The paddle monitor breaks the connection more quickly)

– Turn the torsion spring to the right.

11.6 Band conveyor

The band conveyor is designed for transporting plastic waste. The conveyor is constructed from steel beam. The frame pieces are assembled with cross sections and screws.

The conveyor can be fitted with a metal detector.

For instructions for the metal detector, see separate instruction manual.

Safety

When performing any work with the band conveyor, both the circuit-breaker and the main switch must be “Off”. Alternatively, the connector must be pulled out of the power point on the granulator’s distribution box!

The conveyor is designed for plastic waste. Do not use the conveyor for tasks other than it is intended for.

Nobody should be on the conveyor or step on it during operation.

If the conveyor has stopped due to an error, or if the emergency stop has been pressed, it must not be re-started until the cause has been established and the appropriate action has been taken.

Mobile conveyors must always be transported in a lowered position.

Warning! When using the conveyor belt with carriers: Be careful not to let the carriers catch your foot, arm, or article of clothing.

Installation

When installing, adjust so that the band conveyor is balanced diagonally.

If the floor of the installation site is very uneven, it should be made even before installation.

Electrical connection

The band conveyor should be connected up by an authorized electrician.

Connect the cable to distribution box according to the markings and the granulator’s wiring diagram. Alternatively, connect the band conveyor to the distribution box with a connector.

Switch on the main switch on the distribution box. Press the start button and check that the belt moves in the right direction.

If the belt moves in the wrong direction.

Shift the two phases in connection to the contactor for the band conveyor in the distribution box. Alternatively, shift the two phases in the connection to the connector.

Starting

When the band conveyor is started for the first time, the belt’s position on the rollers should be checked. The belt must not move obliquely.

If the belt moves obliquely.

To gain access to the adjusting screws, remove the hoods by the turning roller.

When the belt moves obliquely. Screw only one adjusting screw at a time. Only screw a 1/4 turn. Wait and let the belt move for a few minutes. Check, adjust, wait, and check again until the belt moves straight.

Belt tension.

The conveyor belt's length has 1% tolerance. Never tension the belt's adjusting screws with a greater tightening torque than 5 Nm.

When the belt has been adjusted. Stop the band conveyor and fit the hoods.

Maintenance

During all maintenance work on the band conveyor, both the circuit-breaker and the main switch must be "Off". Alternatively, the connector must be pulled out of the power point!

Regularly check the conveyor belt's wear and its position on the rollers.

The belt must not move obliquely! Adjust as necessary according to the instructions under "Starting - If the belt moves obliquely", see previous chapter.

Clean the belt using a light cleaning agent. Do not use any sharp objects, strong cleaning agents or chemicals which can damage the belt.

Troubleshooting

The band conveyor does not start

Check the band conveyor overload circuit breaker.

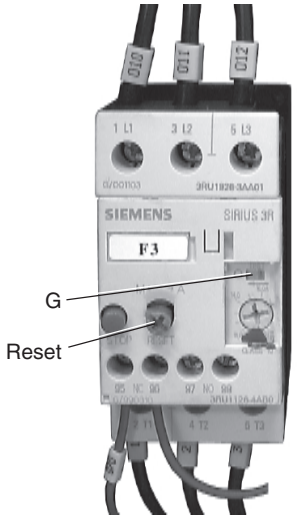
The band conveyor has an overload circuit breaker F3 in the distribution box, which trips if you jam or overload the conveyor belt.

If the overload circuit breaker has switched "Off", this is indicated in the small window "G" which shows "0".

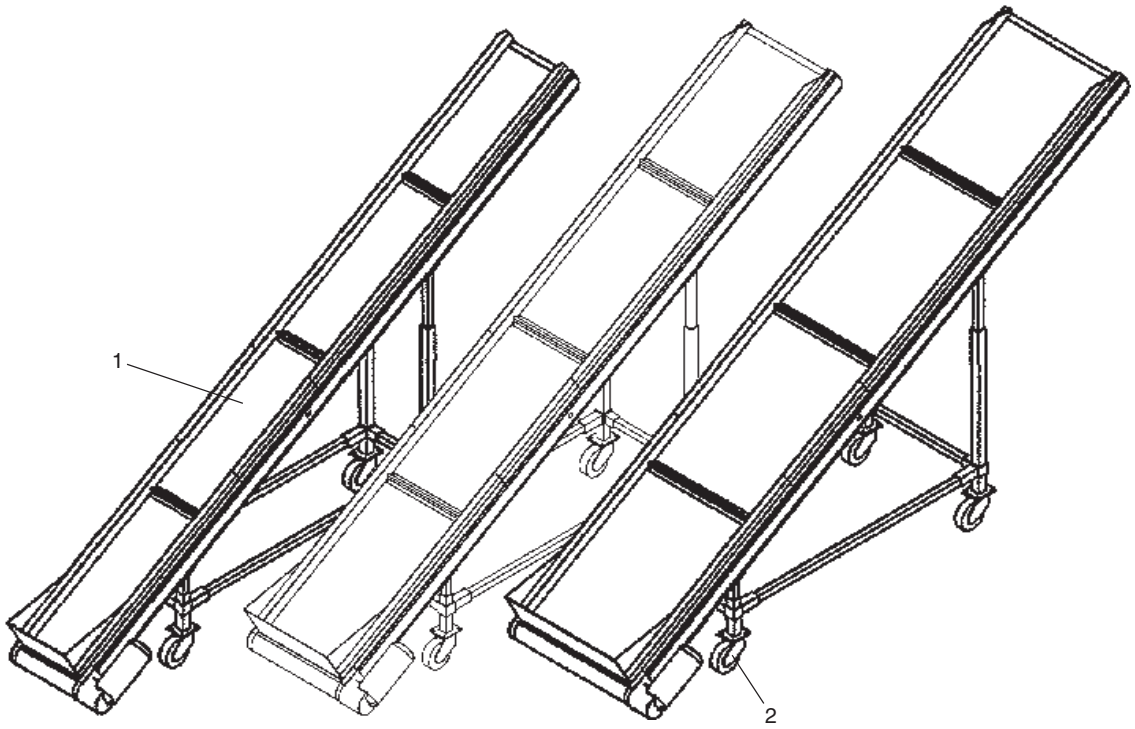
Reset: – press the "Reset" button.

Check that there is no material left on the conveyor belt before re-starting.

Also check the granulator´s wiring diagram, supplements and deviations may be applicable.

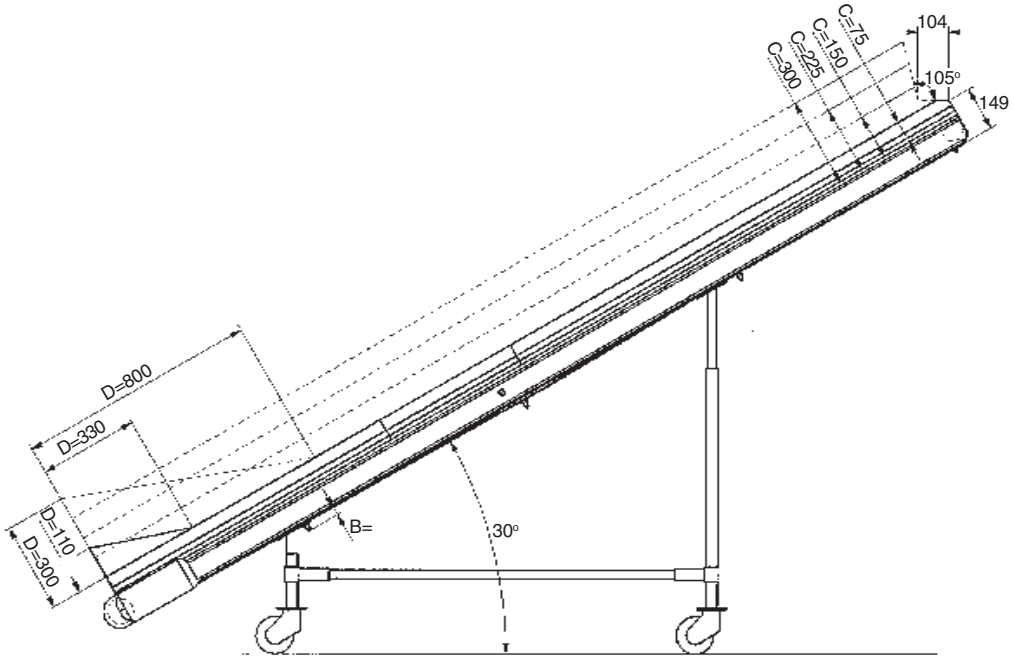


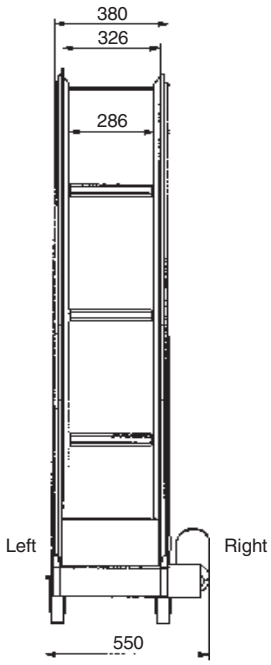
11.6.1 Spare parts for band conveyor



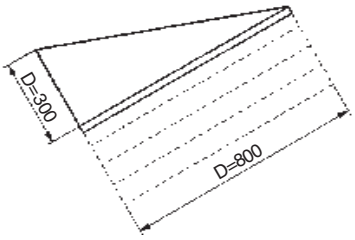
Pos	Qty.			Art. no.	Description
	⌜			3-38194	Band conveyor CB-1012, complete
		⌜		3-23962	Band conveyor CB-1018, complete
			⌜	3-29464	Band conveyor CB-1024, complete
1	1			2-38193	Band conveyor
		1		2-23962	Band conveyor
			1	2-29466	Band conveyor
2	4	4	4	9-92814	Wheel, turnable

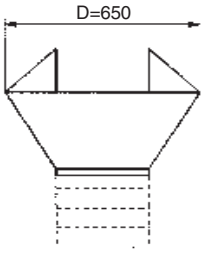
11.6.2 Layout band conveyor CB-1012





Funnel alternative 3



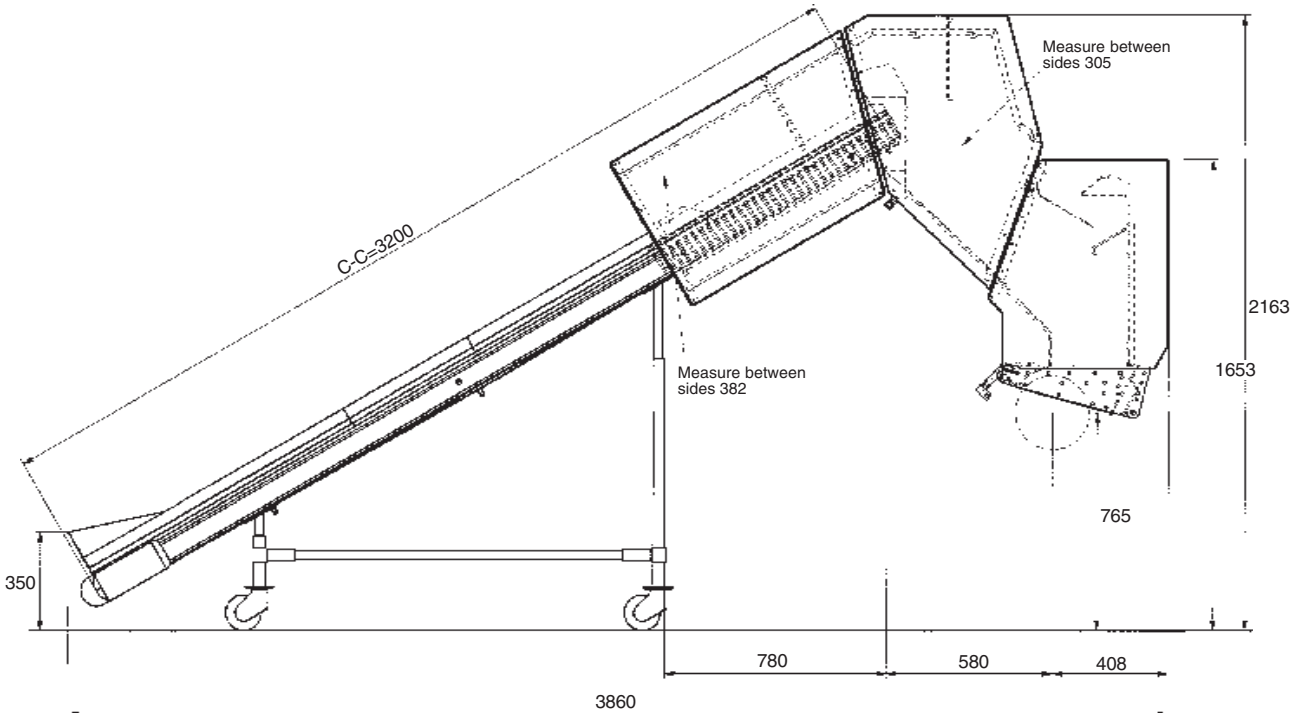


	A Belt quality	B Rib	C Side border	D Funnel	E Side motor	F Metal detector
1	PU	T20	75	110x330	right [1]	MD300
2	Heavy duty PU	T30	150	300x800	left [1]	
3	Heat resistant PU	T40	225	300x800x950	right [2]	
4	Heavy duty PU (LEER)	T50	300		left [2]	
5		A20/80				
6		A30/80				
7		A40/80				
8		A50/80				

1) 220-240V/50Hz 380-420V/50Hz 440-480V/60Hz
2) 200-220V/50Hz 200-220V/60Hz 380V/60Hz

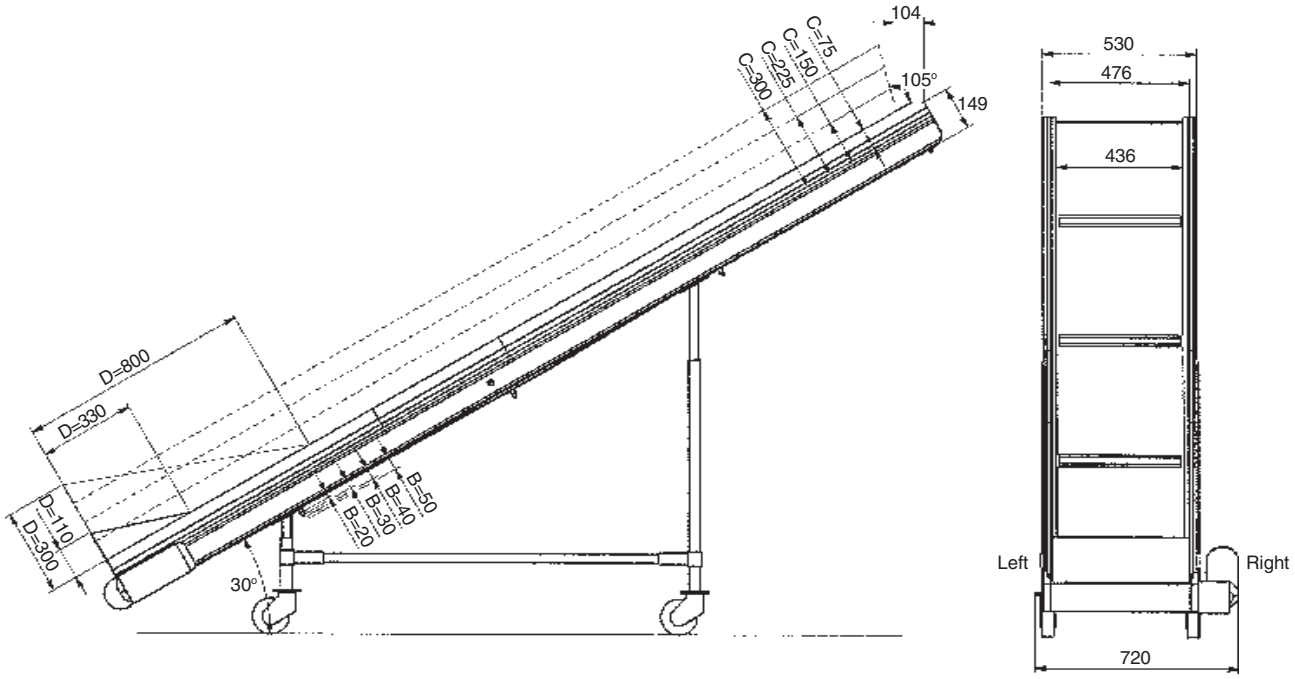
Example

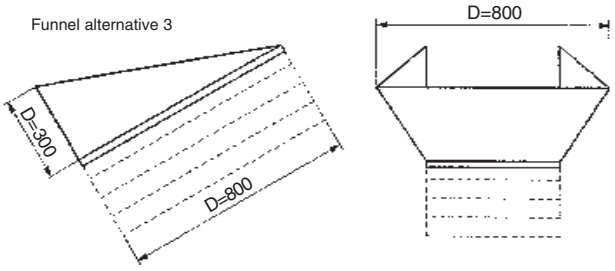
Art.nr.	ABCDEF	Module	Name
8338194-	12111	T-BTR	Belt conveyor C-C=3200



CB-1012-KUB
INM Hopper front 300x260
INM Inlet belt
T-LJF Sound trap

11.6.3 Layout band conveyor CB-1018



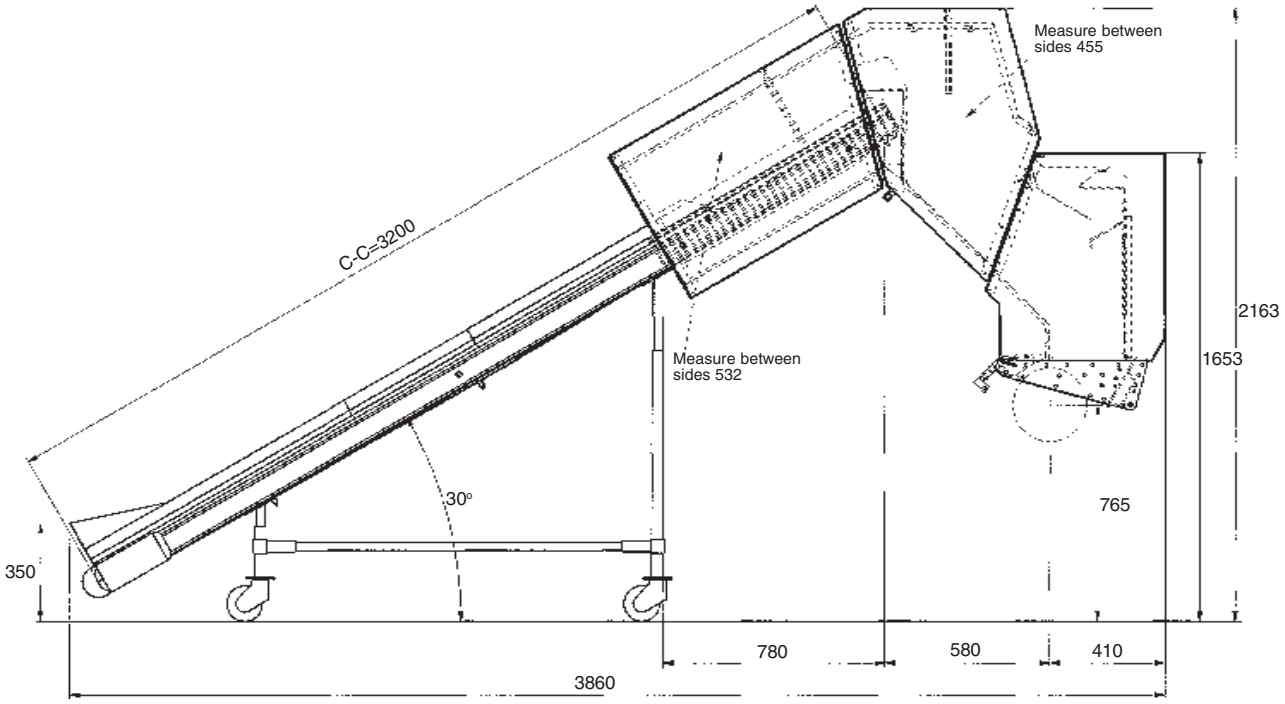


	A Belt quality	B Rib	C Side border	D Funnel	E Side motor	F Metal detector
1	PU	T20	75	110x330	right [1]	MD600
2	Heavy duty PU	T30	150	300x800	left [1]	
3	Heat resistant PU	T40	225	300x800x950	right [2]	
4	Heavy duty PU (LEER)	T50	300		left [2]	
5		A20/80				
6		A30/80				
7		A40/80				
8		A50/80				

1) 220-240V/50Hz 2) 200-220V/50Hz
380-420V/50Hz 200-220V/60Hz
440-480V/60Hz 380V/60Hz

Example

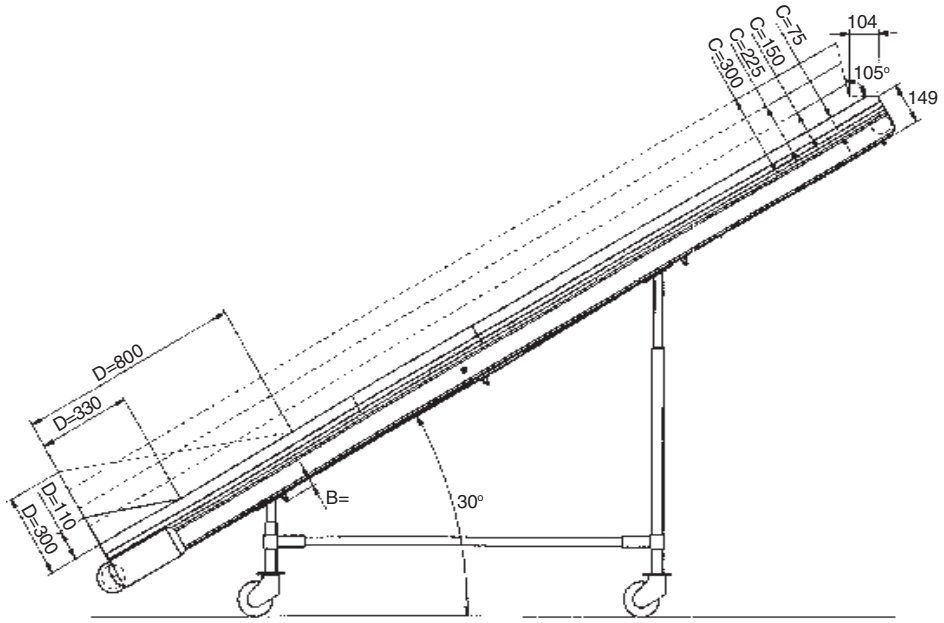
Art.nr.	ABCDEF	Module	Name
8323962-	12111	T-BTR	Belt conveyor C-C=3200

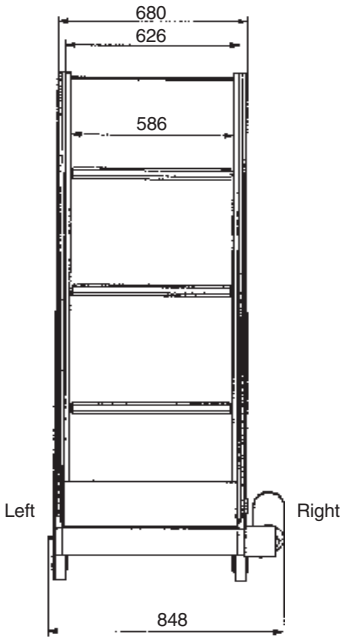


CB-1018-KUB

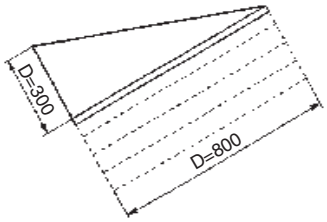
3-40063	INM	Hopper front 450x260
3-38501	INM	Inlet belt
3-	T-LJF	Sound trap L=800

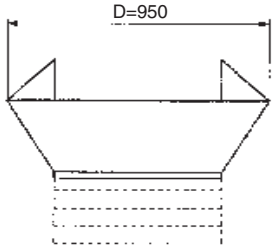
11.6.4 Layout band conveyor CB-1024





Funnel alternative 3



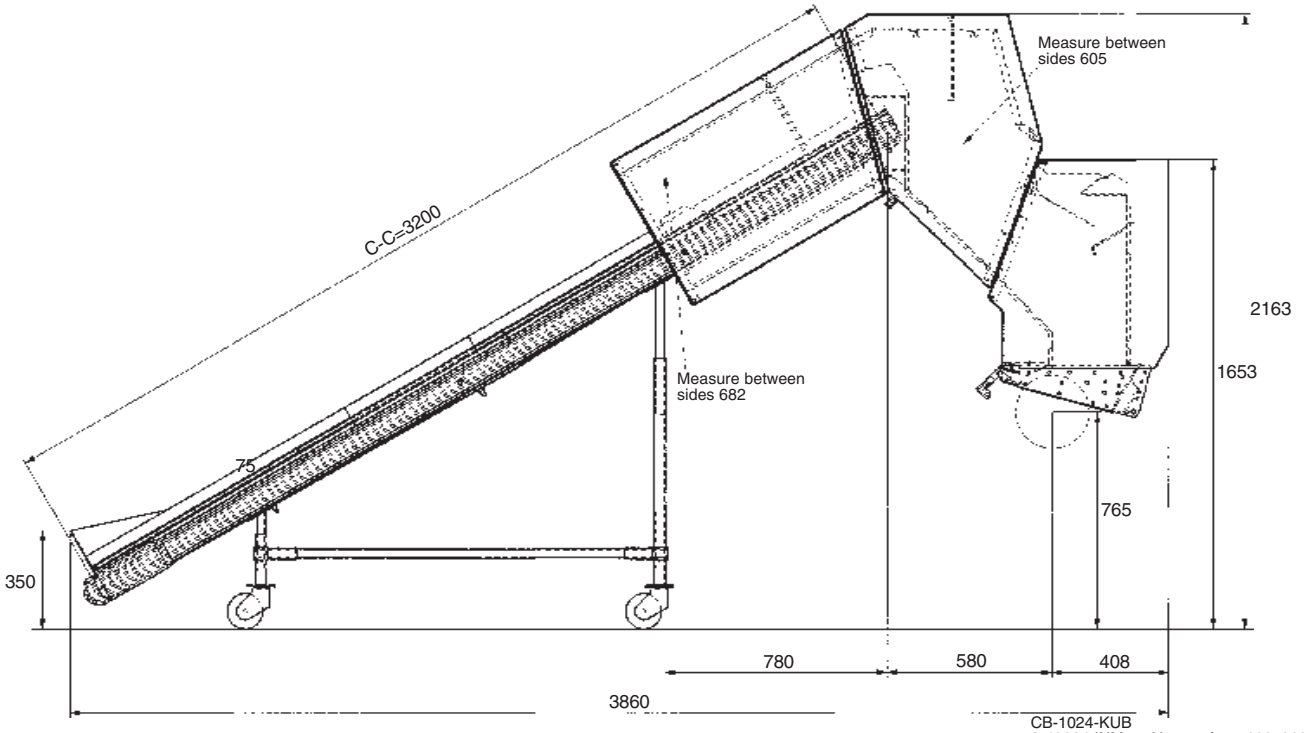


	A Belt quality	B Rib	C Side border	D Funnel	E Side motor	F Metal detector
1	PU	T20	75	110x330	right [1]	MD600
2	Heavy duty PU	T30	150	300x800	left [1]	
3	Heat resistant PU	T40	225	300x800x950	right [2]	
4	Heavy duty PU (LEER)	T50	300		left [2]	
5		A20/80				
6		A30/80				
7		A40/80				
8		A50/80				

1) 220-240V/50Hz 380-420V/50Hz 440-480V/60Hz
2) 200-220V/50Hz 200-220V/60Hz 380V/60Hz

Example

Art.nr.	ABCDEF	Module	Name
8329464-	12111	T-BTR	Belt conveyor C-C=3200

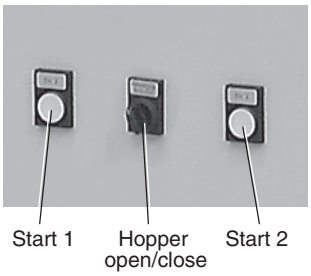


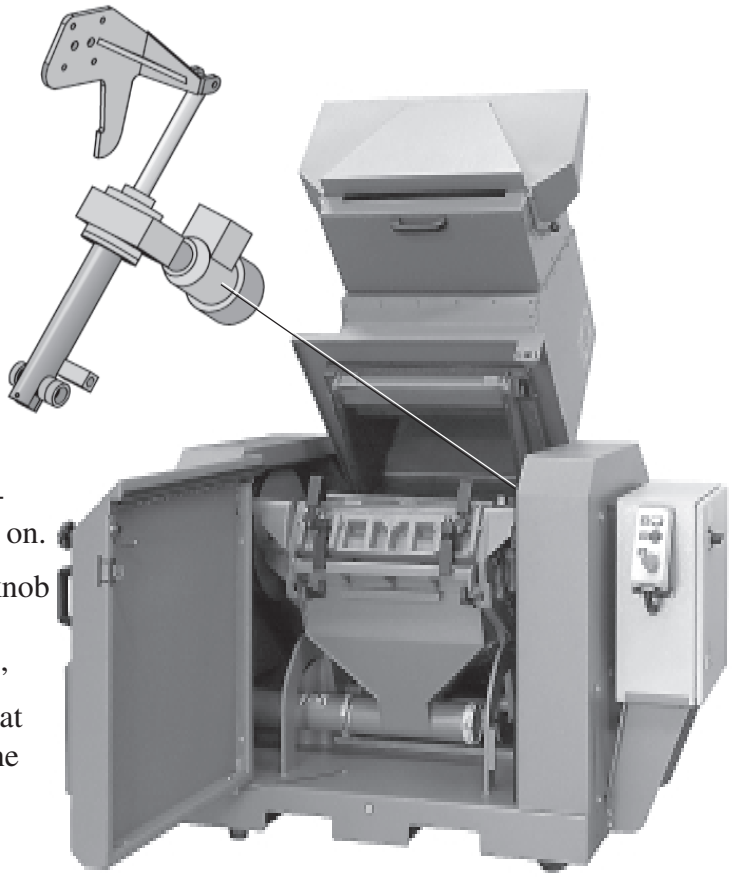
CB-1024-KUB
3-40064 INM Hopper front 600x260
3-38279 INM Inlet belt
3-38413 T-LJF Sound trap

11.7 Hopper device screw jack

As optional equipment the granulator can be equipped with a electrical screw jack, for opening and closing the hopper.

The operating buttons to open or close the hopper are on the distribution box.





Opening and closing is a two-hand operation for safety reasons.

When the lamp in the “Start 1”-button on distribution box goes on.

Choise open or close with the knob “Hopper open/close”.

Press the “Start 1” and “Start 2” buttons on the distribution box at the same time. Depending on the position of the knob, opened or closed, the hopper will close or open.

Keep the buttons pressed, until the hopper is completely opened/closed and the screw jack stops. Two limit switches stops the screw jack when the hopper is completely opened or closed.

NOTE! The door(s) must be completely opened, otherwise the hopper can not be opened or closed.

There is a pinch risk during opening and closing , be careful.

12. Transport and storage

General

The machine should be transported by trained personnel.

The machine is delivered packed in protective plastic foil, fixed to a pallet with straps.

Unpacking and checking

- Check that the machine has not been damaged during transport.
  NOTE! Report any damage to the delivery agent.
- Do not unpack the machine before it has been transported to where it is going to be used.
- Check with the delivery note that the delivery is complete.

Lifting and transport to place of use

The machine weighs incl. packaging, approx. 850 - 1100 kg.

Space requirements, see Layout, chapter 10.

The machine can be lifted and handled with a fork-lift truck.

The lower part of the machine has two openings which accommodate a fork-lift truck.

Make sure that the feed table is folded up, drive in a fork-lift truck as far as possible and then lift the machine.

Positioning in place of use

See Installation, chapter 5.

Storage

The machine is packed for transport to the place where it is to be used.

On delivery it is protected with Castrol DWX 22 anti-rust oil.

Long-term storage/Conservation

- Store the machine in a room with a stable, dry temperature.
- Treat the unpainted surfaces of the machine with rust preventer, such as Castrol DWX 22.

  DWX 22 will protect the machine up to 12 months. Alternatively,

  DWX 160 will provide protection for 24 - 36 months.

13. Service and maintenance schedule

Read the instruction manual before maintenance and service. All maintenance and service must be done by trained personnel. If you have any questions, please contact your Conair representative.

Machine data

Machine type: ..... Serial number: .... Year of manufacture: 20 .....
Motor: ..... V. ..... Hz. ..... kW Wiring diagram: .....

Safety, maintenance and service

Contact person responsible for granulator safety, maintenance and service

Name: ..... Phone: ..... Name: ..... Phone: .....
....
....

Installation

- ☐ The granulator has been cleaned from anti-rust oil.
- ☐ The granulator stands level and all machine shoes takes up equal load.
- ☐ The screws tightening torque to the front fixed knife have been checked ..... Nm.
- ☐ The screws tightening torque to the rear fixed knife have been checked ..... Nm.
- ☐ The screws tightening torque to the rotating knives have been checked ..... Nm.
- ☐ The screws tightening torque to the third fixed knife have been checked ..... Nm.
- ☐ The screws tightening torque to the fourth fixed knife have been checked ..... Nm.
- ☐ Knife clearance checked, knife clearance at the knives outer sides ..... and the knives center .....
- ☐ The lock nuts to the granulator motor adjustment nuts are properly tightened have been checked.
- ☐ The screws tightening torque which fastening the hopper have been checked.
- ☐ Oil level in worm gear to the roll feeder checked.

Electrical connection

- ☐ Voltage connection checked ..... Voltage. ..... Hz.
- ☐ Size of fuse controlled 1-phase ..... A. 3-phase 3 x ..... A.
- ☐ The phase sequence of the mains checked.
- ☐ The granulator have been connected to right-hand field phase sequence.
- ☐ The rotation direction of the granulator motor have been checked.
- ☐ The rotation direction of the blower motor have been checked.
- ☐ The direction of the band conveyor have been checked.
- ☐ Band conveyor, the band position on rollers have been checked.
- ☐ The direction of the roll feeder have been checked.
- ☐ Optional equipment, direction, function and connection have been checked.

Connection of compressed air

- ☐ Air pressure checked..... bar. ☐ Free quantity of air checked ..... l/min.
- ☐ The compressed air is filtered, checked.

The machine have been installed as per chapter 5 in this instruction manual **by**:

Date: ..... / ..... 20 ..... Name: .....
Responsible and qualified electrician: Name: .....

Two hours after first start

- ☐ Knife clearance re-checked, knife clearance at the knives outer sides ..... and the knives center .....
- ☐ The screws tightening torque to the front fixed knife have been re-checked ..... Nm.
- ☐ The screws tightening torque to the rear fixed knife have been re-checked ..... Nm.
- ☐ The screws tightening torque to the rotating knives have been re-checked ..... Nm.
- ☐ The screws tightening torque to the third fixed knife have been re-checked ..... Nm.
- ☐ The screws tightening torque to the fourth fixed knife have been re-checked..... Nm.

Inspection done by Date: ..... / ..... 20 ..... Name: .....

20 - 30 hours after first start

- ☐ The hex screws tightening torque to bearing caps for the cuttershaft plummer blocks checked ..... Nm.
- ☐ The socket cap screws tightening torque to plummer blocks against cutter housing checked ..... Nm.
- ☐ The socket cap screws tightening torque to upper bracket for gas spings on hopper checked ..... Nm.
- ☐ The drive belt condition have been checked.
- ☐ The drive belt tension have been checked. ☐ The drive belt tension have been adjusted.

Inspection done by Date: ..... / ..... 20 ..... Name: .....

Inspection

NOTE! All inspection of the machine must be done by trained personnel.

Daily inspection

Check the emergency stop function of the machine.

Check that the flap/flaps in the hopper is intact. Change a damaged flap at once.

Weekly inspection

Check all electrical cables on the machine. There must never be any damaged cables, loose cables, terminals or components. Call the person responsible for safety, maintenance and service at once.

Check the safety system of the machine. Check all the functions of the safety systems. Please refer to chapter 4 “Safety system” in the instruction manual.

Sign checks when they have been approved. If there are any notes or faults, contact the person responsible for safety, maintenance and service at once.

..... / ..... 20 ..... Sign: .... / ..... 20 ..... Sign: .... / ..... 20 ..... Sign: .... / ..... 20 ..... Sign: .....

..... / ..... 20 ..... Sign: .... / ..... 20 ..... Sign: .... / ..... 20 ..... Sign: .... / ..... 20 ..... Sign: .....

Monthly inspection

Check the drive belts condition.

Granulator with time delayed doorlock, opening of hopper and screen box. Check that the door(s), hopper and screen box not can be opened or operated, before 2-3 minutes after the granulator has stopped.

Granulator with band conveyor. Check the band's wear and its position on the rollers. The band must not move obliquely!

Granulator with pneumatic. Empty the water separator and check the oil level to poss. mist-lubrication.

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
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...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
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...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
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...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
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...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
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...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

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...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

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☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

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☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

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☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

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☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

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☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

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☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 tim
☐ Time delay OK ☐ Band conv. OK ☐ Water separator emptied ☐ Oil level OK Sign: ....

Every 6 month or 1000 running hours

Check the drive belts condition and belt tension.

Lubrication of the cutter shaft bearings, electrical motor, roll feeder and optional equipment.

Check the socket cap screws tightening torque to the cutter shaft plummer blocks.

Check the socket cap screws tightening torque, to the upper bracket for gas spings on hopper. Check the oil level in worm gear to the roll feeder. Check the lubrication of spindle to the hopper screw jack.

Check the screws tightening torque to friction clutch, cutter pulley and poss. flywheel. NOTE! The tightening torque depends of the granulator motor size.

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

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Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
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☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
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☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
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☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

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Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

...... / ..... 20 ...... ☐ Drive belt OK ☐ Drive belt worn ☐ Drive belt changed ☐ Drive belt re-checked 4 hours
Lubrication ☐ Cutter shaft ☐ Electric motor ☐ Roll feeder ☐ Optional equipment
Tightening torque ☐ Plummer block/cutter housing ☐ Bearing caps ☐ Bracket gas springs
☐ Oil level worm gear roll feed OK ☐ Lubrication of spindle to hopper screw jack OK
☐ Friction clutch cutter pulley OK ☐ Friction clutch cutter pulley adjusted
☐ Friction clutch flywheel OK ☐ Friction clutch flywheel adjusted Sign: ....

2000 hours (or annually)

Check the oil level in the worm gear to hopper screw jack . If the oil level need to be adjusted, see the instruction manual chapter 7: Lubrication for quality and quantity.

...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....
...... / ..... 20 ...... ☐ Oil level OK ☐ Oil level adjusted quality: .... Sign: ....

Knife changing

...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives ☐ New screws Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives ☐ New screws Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives ☐ New screws Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives ☐ New screws Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives ☐ New screws Note: .... Sign: ....
...... / ..... 20 ...... ☐ Rotating knives ☐ Fixed knives Note: .... Sign: ....
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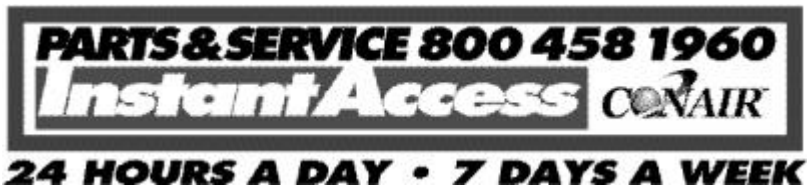
WE'RE HERE TO HELP

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

HOW TO CONTACT CUSTOMER SERVICE

To contact Customer Service personnel, call:



From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

BEFORE YOU CALL ...

If you do have a problem, please complete the following checklist before calling Conair:

- ❒ Make sure you have all model, serial and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- ❒ Make sure power is supplied to the equipment.
- ❒ Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- ❒ Check the troubleshooting guide of this manual for a solution.
- ❒ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- ❒ Check that the equipment has been operated as described in this manual.
- ❒ Check accompanying schematic drawings for information on special considerations.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Departments for a nominal fee.

EQUIPMENT GUARANTEE

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

PERFORMANCE WARRANTY

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

WARRANTY LIMITATIONS

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.