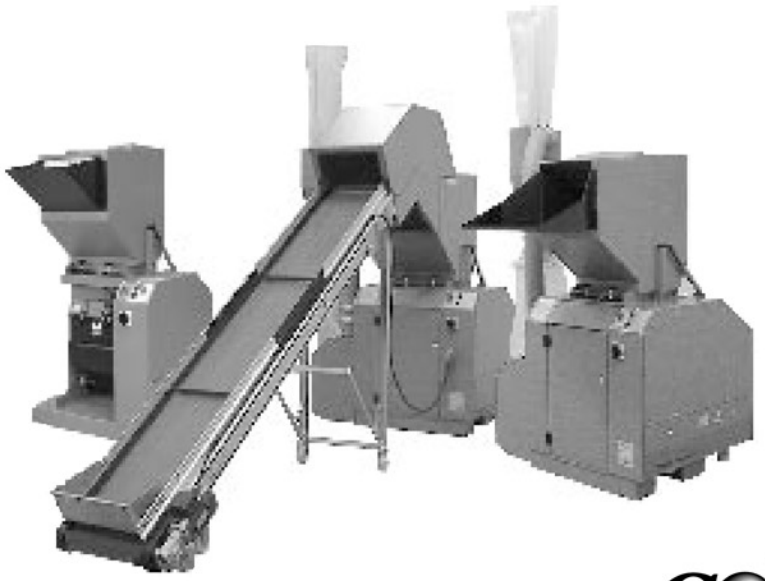
User Guide

CF Tangential Feed Granulators

Models CF-810, CF-814 and CF-819



Installation

Maintenance

Operation

Troubleshooting

Instant Access
Parts and Service
(800) 458-1960
(814) 437-6861

www.conairnet.com

The Conair Group, Inc.
One Conair Drive
Pittsburgh, PA 15202
Phone: (412) 312-6000
Fax: (412)-312-6320

UGG003/0398

⚠ **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This manual is out-of-date and is provided only for its technical information, data and capacities.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containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.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: UGG003/0398
Serial number(s):
Model number(s):

DISCLAIMER: The Conair Group, Inc., shall not be liable for errors contained in this User Guide or for incidental, consequential damages in connection with the furnishing, performance or use of this information. Conair makes no warranty of any kind with regard to this information, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

Contents

1. Introduction

This manual applies to theCF series of Conair granulators.

Model nos. CF-810, CF-814 and CF-819 specify the size of the cutting chamber.

Supplementary designations specify:

K	–	Noise encapsulated machine
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.**

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

These Conair granulators are designed for granulating injection molded, blow molded and extruded plastic parts and scrap.

The size and performance of the granulators are 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.

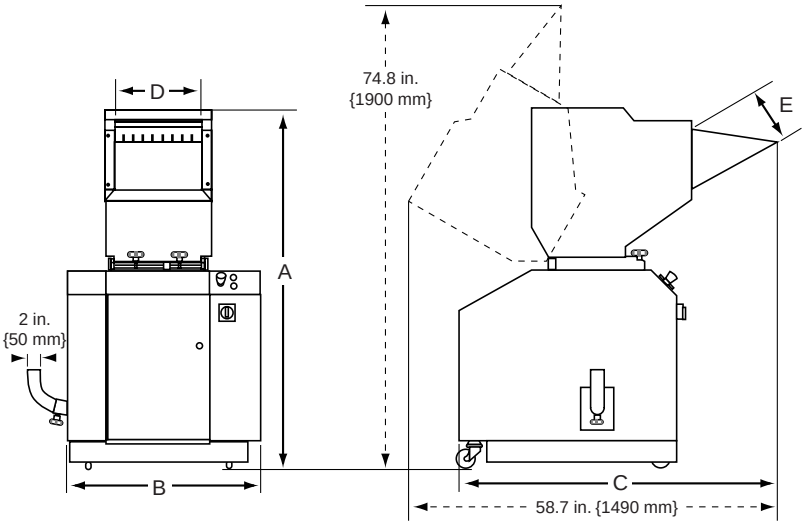
The granulators are delivered with an Instruction Manual and touch-up paint.

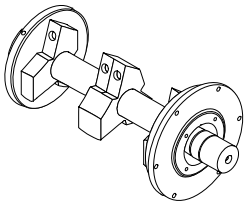
Any modifications or conversions of the machines must be approved by Conair. This is to prevent injuries. The machine warranty and product assurance would otherwise be rendered void.

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

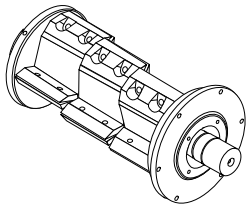
2. Technical specifications

GRANULATOR WITH STANDARD ROBOT/HAND FEED HOPPER





STANDARD OPEN ROTOR
with scissor-cutting, slant knives



OPTIONAL STAGGERED ROTOR
with disposable, cassette knives

MODELS	CF-810	CF-814	CF-819
Performance characteristics			
Maximum throughput* lbs/hr {kg/hr}	330 {150}	330 {150}	330 {150}
Cutter chamber opening in. {mm}	8.7 x 9.5 {220 x 240}	8.7 x 14.2 {220 x 360}	8.7 x 18.9 {220 x 480}
Low speed rotor rpm	312	312	312
High speed rotor rpm	487	487	487
Motor power† Hp	5	7.5	7.5
Rotor type	open rotor, standard (staggered rotor, optional)		
Screen mesh sizes	0.16, 0.24, 0.31, 0.39, 0.47 and 0.67 in. {4, 6, 8, 10, 12 and 17 mm}		
Dimensions inches {mm}			
A - Height	58.3 {1480}	58.3 {1480}	58.3 {1480}
B - Width	26.8 {680}	31.5 {800}	36.2 {920}
C - Depth	53.1 {1350}	53.1 {1350}	53.1 {1350}
D - Feed chamber width	9.4 {240}	14.2 {360}	18.9 {480}
E - Feed chamber height	8 {203}	8 {203}	8 {203}
Weight lbs {kg}			
Installed	925 {420}	1015 {460}	1158 {525}
Shipping			
Blades			
Number of rotating knives	3 x 2	3 x 3	3 x 4
Number of fixed knives	2	2	2

Voltages Total amps based on cutter speed‡	CF-810 low	CF-810 high	CF-814 low	CF-814 high	CF-819 low	CF-819 high
208V/3 phase/60 hz	17.0	16.0	27.6	21.5	27.6	21.5
230V/3 phase/60 hz	15.8	14.0	25.0	20.0	25.0	20.0
460V/3 phase/60 hz	7.9	7.0	12.5	10.0	12.5	10.0
575V/3 phase/60 hz	6.3	5.6	9.9	8.0	9.9	8.0

Noise level§	
With no soundproofing	90 to 95 dbA
With standard soundproofed hopper	85 to 90 dbA
With optional soundproofed base	80 to 85 dbA

MOTOR OPTIONS ●=standard o=optional	CF-810	CF-814	CF-819
5 Hp, low speed	●	N/A	N/A
7.5 Hp, low speed	o	●	●
5 Hp	o	o	o
7.5 Hp	o	o	o
10 Hp	o	o	o
15 Hp	o	o	o

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.

‡ Amp loads are based on standard motor and cutter speeds. For other configurations, consult Conair.

§ 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.

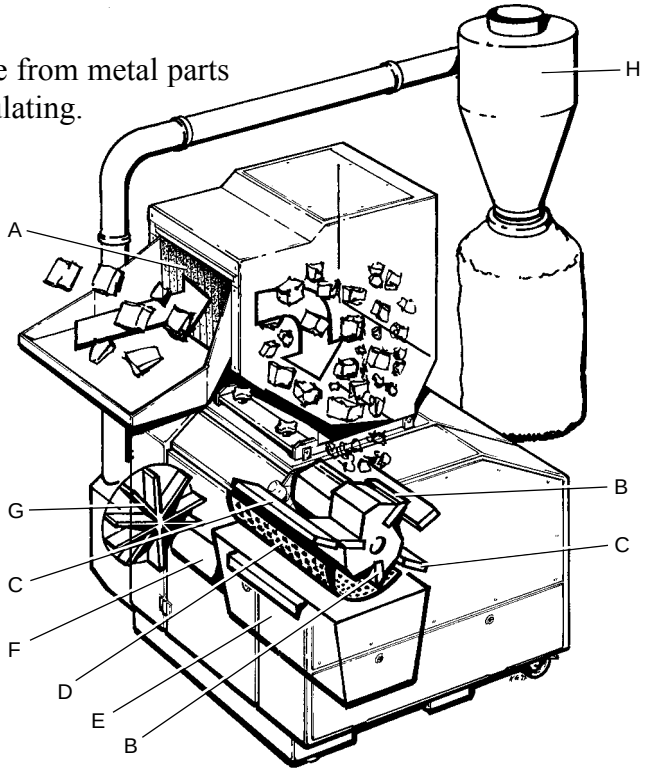
3. Function description

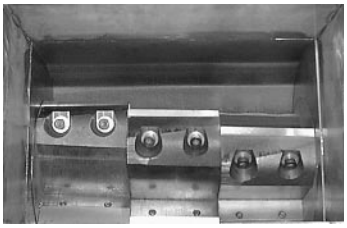
3.1 General

The granulator is designed for grinding plastic waste to 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.





Standard cutter

Open cutter

The plastics waste is feed into the hopper (A) and falls down into the cutter housing, where rotating knives (B) cut the plastics waste against fixed knives (C) to granulate.

A perforated screen (D) determines the size of the granulate. The screen is located in the lower section of the cutting chamber and can easily be changed to give the desired granulate size.

The granulate passes the screen and falls down through the outlet chute/granule bin (E) to the outlet pipe (F) for onwards transport.

Granulators with designation “U” are equipped with an extraction blower (G) which sucks the granulate out to a cyclone (H) for separation of air. On granulator models with designation “B”, the hopper is equipped with a conveyor belt. The conveyor can be equipped with a metal detector.

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

The granulator is easy to clean, with a folding hopper and also good accessibility for maintenance. Knives on the staggered rotor are disposable and should be replaced when necessary. The rotating knives on an open rotor can be re-sharpened. Grinding is done in a special grinding jig. (The jig is not included when the granulator is delivered, but is a very practical accessory.)

3.2 Safety system

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

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

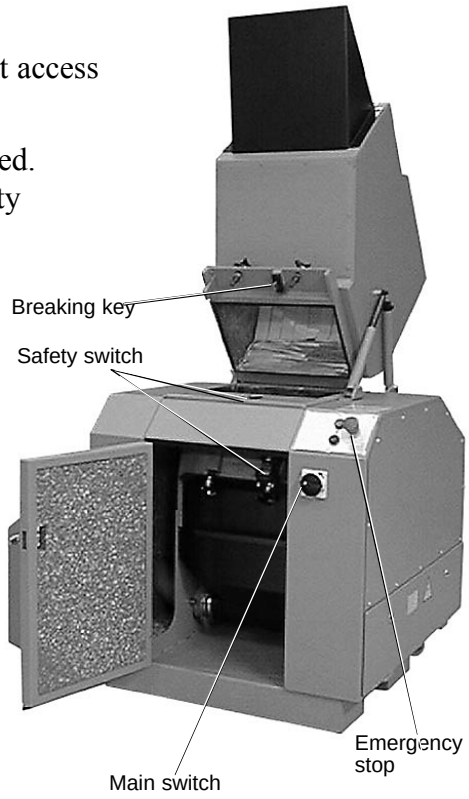
The safety system must not be changed or modified under any circumstances.

If the safety system of the granulator is changed or modified, the machine can be dangerous 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 personnel with the necessary knowledge.

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

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



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. Reset by turning the button in the direction of the arrow (counterclockwise).

Safety switch

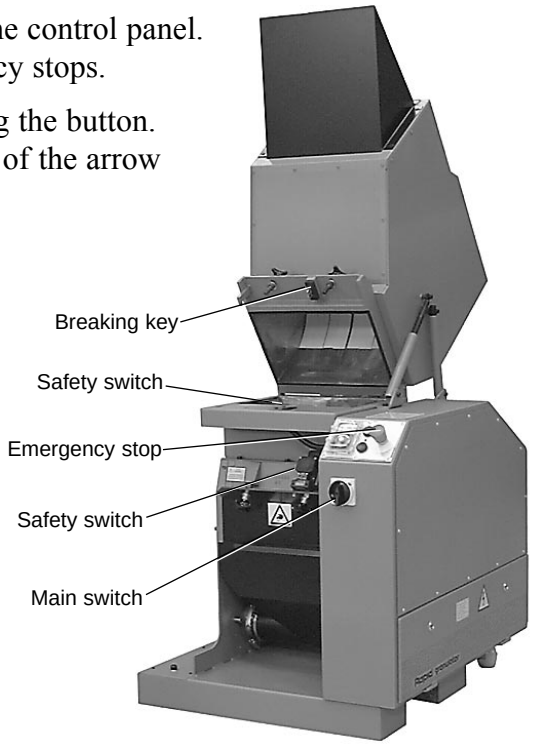
The granulator has safety switches of the position switch type with breaking key:

– If a secured position is changed or when a breaking key is undone, it will break the current and the granulator stops.

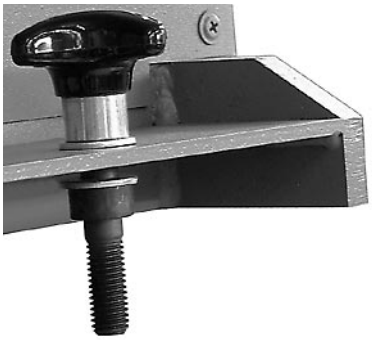
This granulator has 2 safety switches:

1 at the hopper and 1 at the screen box

Check the wiring diagram (chapter 9) to see how many safety switches the granulator is equipped with.



Star knob



The star knob for the hopper and screen box is a very important component in the safety system of the granulator.

It should take such a long time for the knob/screw to be undone, that the cutter has stopped before the granulator can be opened.

NOTE! The length of the screw must never be changed.

NOTE! The screw can not be removed.
The screen is hardened and the knob is permanently attached.

- To change a star knob, please contact Conair.
- **NOTE!** If the star knob is modified in any way, Conair's responsibility under the Machinery Directive ceases to apply.

Before starting:

The star knobs on the hopper and screen box must be fully tightened to stop.

The granulate bin should be installed and the door shut and locked.

4. Safety instructions

Conair granulators are designed for granulating injection moulded, blow moulded and extruded plastic waste.

The specific technical data for this machine, concerning power and perfor-mance etc. is described in detail in chapter 2.

The granulator is equipped with safety switches, which are described in chapter 3.2.

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

Always follow these safety measures when handling the granulator.

- **Electrical installation must only be done by a competent electrician!**
- **Before the granulator is opened for servicing 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) posi-tion.**

- **Be careful with the knives, they are sharp and can cause personal injury.**
- **If the rotor must be turned manually – do this with great care!**

- **Observe care when opening or closing the hopper and screenbox, so as not to trap parts of the body.**
- **The granulator should not be able to start before the hopper and screen box are properly closed.**

- **Never remove protective guards or pipes adjacent to the outlet/granule bin.**
- **Granulators with belt conveyors! Observe care so that conveyor belts with dogs do not grip clothing, or arms and feet.**

- **During maintenance, pull out the plug on the distribution box.**

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.

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.

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 Pre-start checks

- The unpainted parts of the machine are protected with oil prior to delivery and transport Clean the granulator from rust protection agent before it is used.
- Check the knife clearance and tightening torque on the bolts for the knives. Refer to installation of knives in chapter 7.

5.1.1 Two hours after first start

Check the knife clearance again and the tightening torque of the knife retentio screws. Check the screws for both the fixed and rotating knives.

5.2 Electrical connection

The granulator should be connected by a competent electrician.

- Connect the granulator to the main power supply. The wiring diagram indicates the fuse sizes, see chapter 9.

- The granulator is delivered with electrical equipment connected for clock-wise phase rotation. Check with a phase sequence indicator and connect the granulator with clockwise phase rotation.

Check the direction of rotation of the granulator motor:

- Make sure that the main switch beneath the control panel is “On” (1).
- Check that the emergency stop is not activated.
- Check that the star knobs on the hopper and screen box locks are fully tightened to stop.
- Undo and remove the upper panel on the right hand side of the granulator.
- Press “Start”
- Check that the granulator motor rotates in the direction indicated by the arrow on the cutter pulley.
- Granulator with blower, – check that the direction of rotation of the blower corresponds with the arrow on the cover.

  NOTE! The blower blows even if the direction of rotation is wrong.
- Granulator with conveyor belt, – check the direction of the conveyor belt.

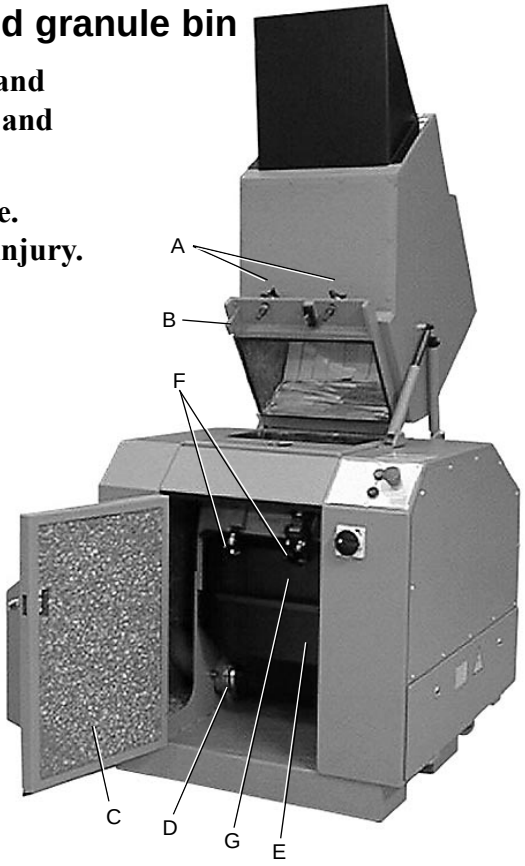
If any direction of rotation should be incorrect:

- Press the stop button.
- Switch off the main switch.
- Switch two incoming phases.

5.3 Opening of hopper, screen box and granule bin

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

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. Undo the star knobs (A) on the hopper.
3. Undo the tip catch (B).

NOTE! The hopper is counter-balanced with one alternative two gas springs, but hold the hopper at the same time, so that it does not fall down out of control.

4. Open/fold the hopper backwards.

Opening the screen box

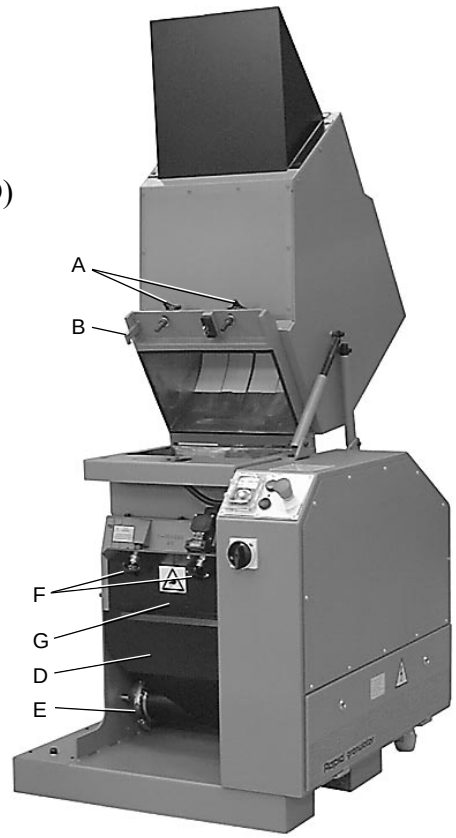
1. Open the door (C).
2. Undo and pull out the extraction pipe from the left-hand side of the granulator.

   Alt. CF series-U, undo the quick coupling (D) on the outlet pipe stub.
3. Remove the granule bin (E).
4. Undo the star knobs (F) for the screen box (G)

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

5. Fold the screen box down.

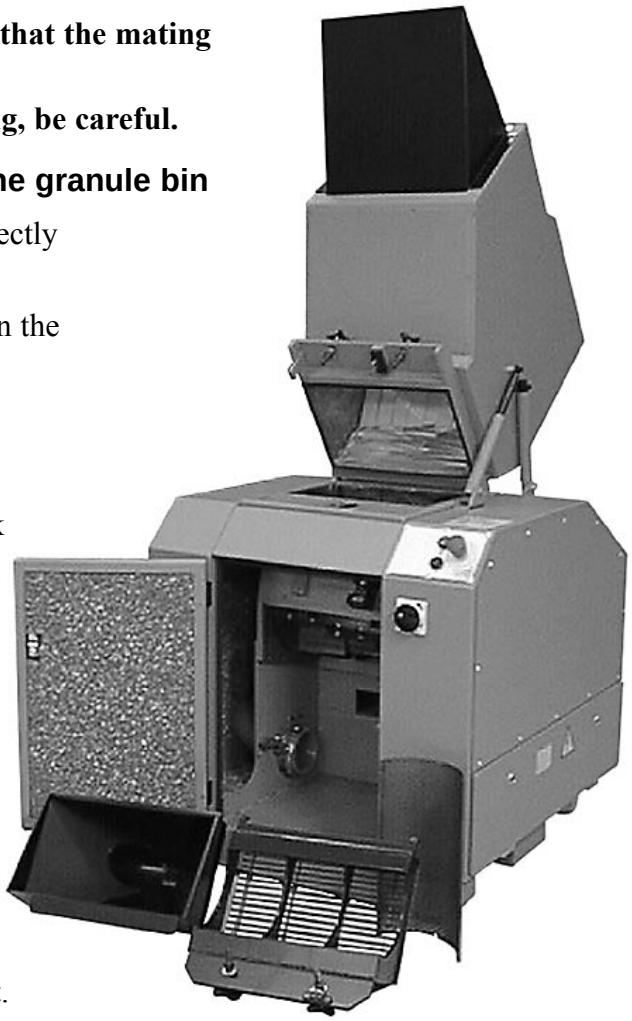
The screen is now accessible and can be lifted out for changing or cleaning.



5.4 Closing the 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. Make sure that the screen is correctly positioned in the screen box.
2. Lift the screen box up and tighten the star knobs properly to stop.
3. Install the granule bin.
4. Install the extraction pipe.

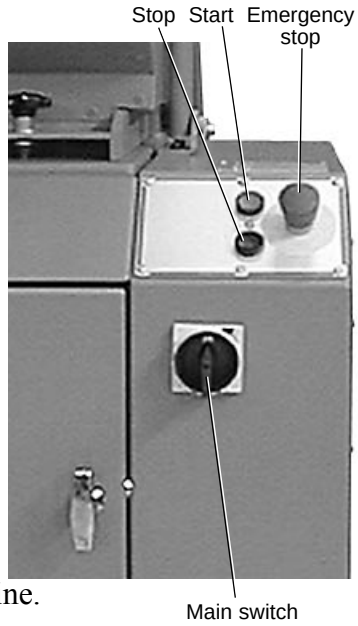
   Alt. CF series-U, do up the quick coupling (D) on the outlet pipe stub.
5. Close the door.

Close the hopper

1. Check and make sure that no granulate lies on the mating surfaces or flanges.
2. Shut/fold back the hopper.
3. Open and make sure that the tipping catch falls into the cutout.
4. Lock the hopper with the star knobs, tighten the star knobs properly to stop.
5. Switch the main switch “On”.
6. Start the granulator.

6. Operation and daily maintenance

6.1 Starting and stopping



The main switch is located beneath the control panel on the front of the granulator.

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 also entail 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 (anticlockwise).

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.

This granulator has 2 safety switches:

1 at the hopper

1 at the screen box

Check the hopper´s safety switch.

Undo the star knobs on the hopper, and try to start the granulator.

The granulator should not be possible to start before the hopper has been closed and the star knobs are properly tightened to stop.

Check the screen box safety switch.

Undo the star knobs on the screen box and try to start the granulator.

The granulator should not be possible to start before the screen box has been closed and the star knobs are properly tightened to stop.

NOTE! The granule bin should be installed, and the door closed and locked.

Monthly inspection

Check that the V-belts are undamaged.

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

6.3 Cleaning

Clean at colour change, monthly or at least once/300 hours.

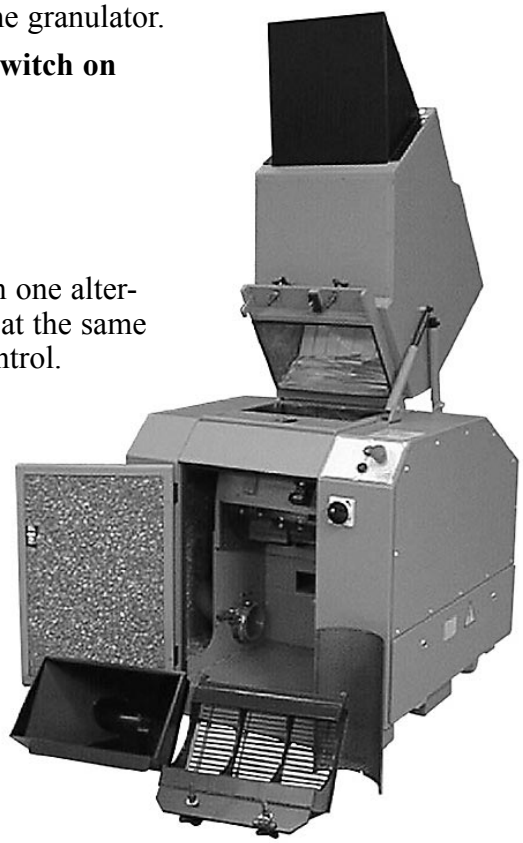
Be careful when the hopper have been opened. The knives are now accessible, they are sharp, and can cause personal injury.

1. Check that the hopper is empty, then stop the granulator.

Switch “Off” both the main switch and the switch on the granulator.

2. Clean the outside of the hopper.
3. Undo the star knobs on the hopper.
4. Undo the tip chatch.

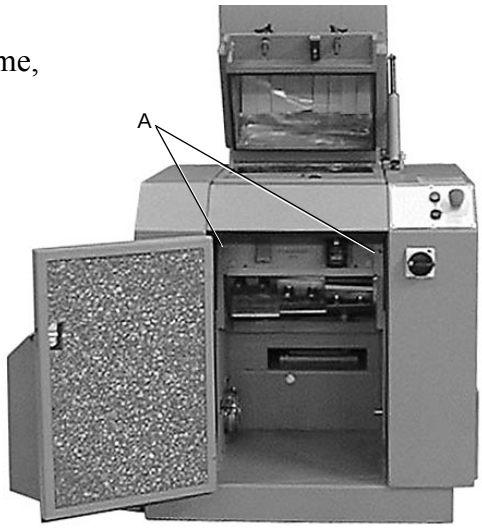
NOTE! The hopper is counterbalanced with one alternative two gas springs, but hold the hopper at the same time, so that it does not fall down out of control.



5. Open/fold the hopper backwards.
6. Clean the hopper´s opening.
7. Lift out and clean the inner and outer flaps.
8. Open the door.
9. Undo and pull out the extraction pipe from the left-hand side of the granulator.

   Alt. U model, undo the quick coupling on the outlet pipe stub.
10. Remove the granule bin.
11. Undo the star knobs for the screen box.

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



12. Fold the screen box down.
13. Undo and clean the screen.
14. Undo and remove the blue screws (A) for the bearing cleaning holes.
15. Blow through the holes with compressed air and rotate the cutter at least one turn.

NOTE! When the cutter is rotated manually, do this with great care. The knives are sharp and can cause personal injury.

6.3 Cleaning (continued)

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

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

Re-install after cleaning

1. Install the blue screws.
2. Install the screen in the screen box.
3. Lift up the screen box and and tighten the star knobs to stop.
4. Install the granule bin.
5. Install the extraction pipe.
   Alt. CF series-U, do up the quick coupling on the outlet pipe stub.
6. Close the door.
7. Close the hopper. Check and make sure that no granulate remains on the mating flanges or surfaces.
8. Open and make sure that the tipping catch falls into the cutout.
9. Lock the hopper with the star knobs, tighten the knobs properly to stop.

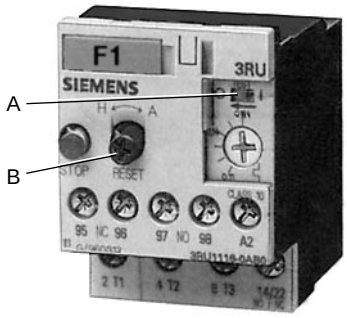
6.4 Fault-finding

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 (counterclockwise).
- Check that the hopper is properly closed.

  The granulator will not start if the hopper not is properly closed.
  Tighten the star knobs properly to stop.
- Check that the screen box is properly closed.

  The granulator will not start, if the screen box not is properly closed.
  Tighten the star knobs properly to stop.
- 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 motor.

  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 (CF series-U). Check the blower overload circuit breaker.

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

  The blower motor has an overload circuit breaker, F2, in the distribution box, which trips if you jam or overload the blower.

  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 re-starting.
- Granulator with conveyor belt (CF series-KUB), if the conveyor belt does not start – check the conveyor belt overload circuit breaker.

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

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

  Reset, press the “Reset” button (B).

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

Check also the wiring diagram in chapter 9; 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 Changing knives

Removing the knives

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

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

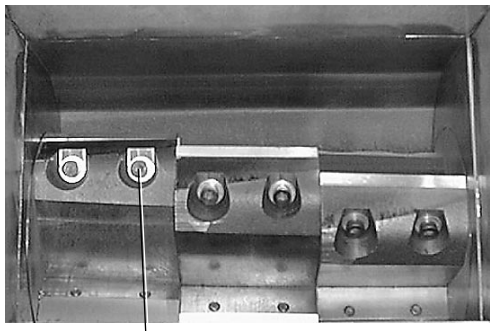
Each time the knives are changed, the knife fastening screws must be replaced by new ones.

Changing the knives.

Open the hopper and any door. Remove the granule bin, then fold the screen box down and lift it out – see chapter 5.3.

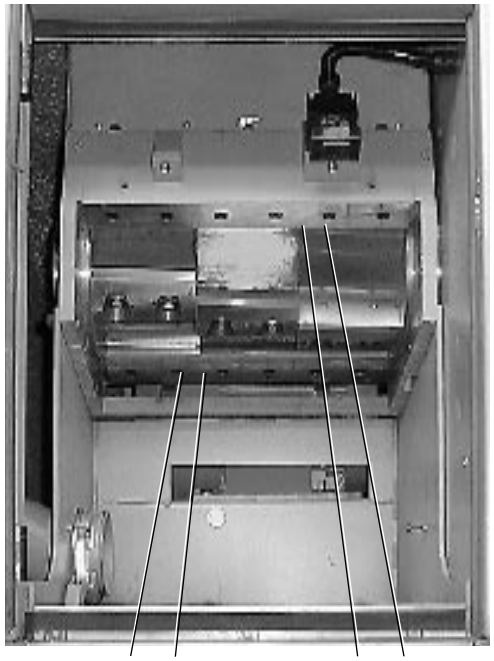
Removing the rotating knives.

1. Remove the screws (A) and washers (B), 2 each per knife. The knives are now loose.
2. Lift out the rotating knives.
3. Clean the surfaces where the knives were located.



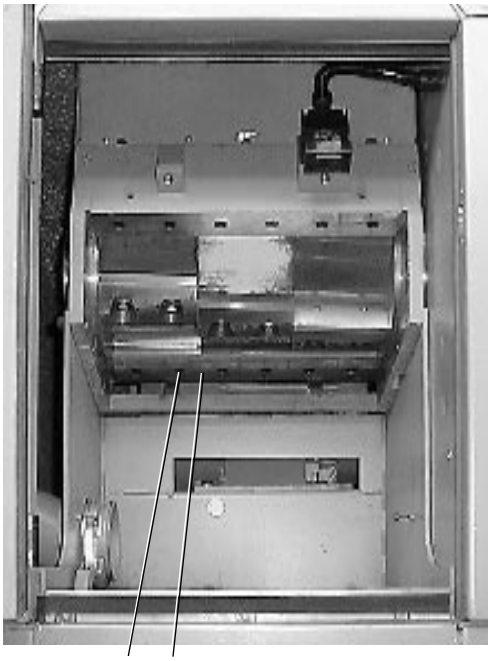
Removing the fixed knives.

4. Undo the socket cap screws (C) on the front knife support rule (D).
5. **NOTE!** Hold the fixed knife and support rule before removing the last screw.
6. Lift out the fixed knife together with the support rule.
7. Clean the knife location.
8. Put the support rule back loosely.
9. Undo and remove the socket cap screws (E) on the rear knife support rule (F).
10. **NOTE!** Hold the fixed knife and support rule before removing the last screw.
11. Lift out the fixed knife together with the support rule.
12. Clean the knife location.
13. Put the support rule back loosely.



Installing knives

The knife attachments for both the fixed and rotating knives must be carefully cleaned.



First install the rear, fixed knife

1. Install the rear fixed knife on the knife attachment.
2. Screw in the socket cap screws (E), so that the support rule (F) lightly supports the knife.
3. Press the knife firmly into the knife attachment to bed it down.

NOTE! The screws in the rear of the knife attachment are bonded in place.

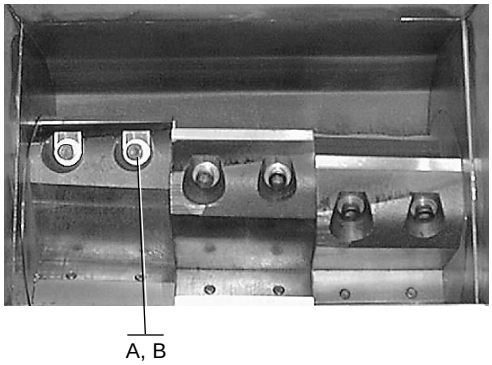
NOTE! The knife has a fixed position and no adjustment may be done.

4. Tighten screws (E), with alternating tightening torque to 40 Nm.

Install the rotating knives.

NOTE! When the rotating knives are installed in a granulator with open cutter, the knives must always be pre-set before installation!

Pre-setting of knives for a granulator with open cutter is best done in a special pre-setting jig. The jig is not included when the machine is delivered, but is a very practical accessory which can be ordered. The jig and knife pre-setting is described in chapter 11.



5. Install one rotating knife at a time on the knife attachment on the rotor.
6. Install screws (A) with washers (B), and tighten so that they hold the knife lightly.
7. Press the knife firmly into the knife attachment.

NOTE! The screws in the rear of the knife attachment are bonded in place.

NOTE! The knife has a fixed position and no adjustment may be done.

8. Tighten screws (A), with alternating tightening torque to 75 Nm.

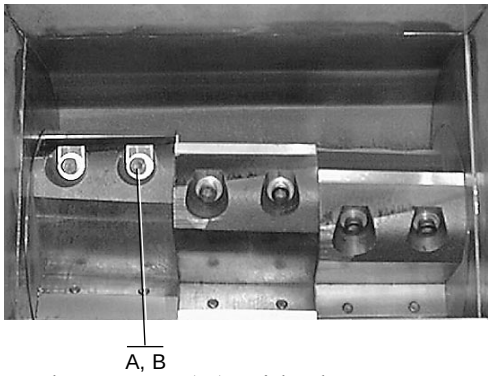
NOTE! Granulators with open cutter – tighten the screws (A) with alternating increased torque to 220 Nm.

9. Check that the rotating knife can pass the rear fixed knife freely.

   If the knife can not pass freely – undo screws (A) and press the rotating knife firmly into the knife attachment.

   Undo screws (E) and press the fixed knife firmly into the knife attachment.

10. Check the knife clearance with a feeler gauge. The clearance should be 0.20 - 0.30 mm, check at the outer edges of the knives.
11. Install all the rotating knives.
12. Press the knife firmly into the knife attachment.
13. Tighten the screws (A) with alternating increased torque to 75 Nm.



NOTE! Granulators with open cutter – tighten the screws (A) with alter-nating increased torque to 220 Nm.

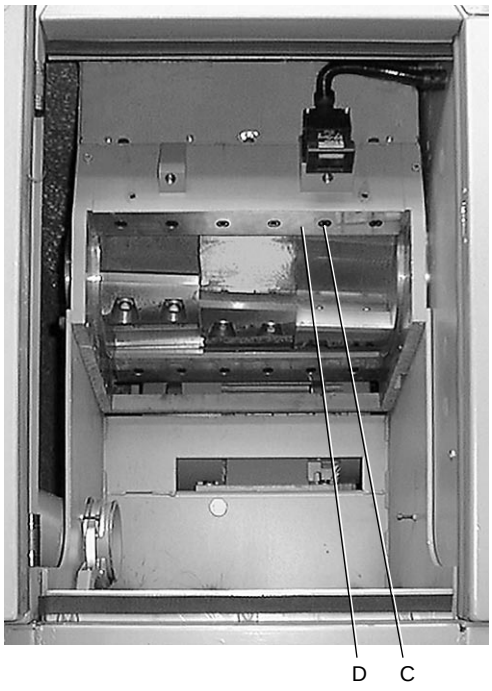
14. Check that each rotating knife can pass the rear fixed knife freely.

    If any rotating knife can not pass freely – undo the screws (A) and press the knife firmly into the knife attachment.

15. Check the clearance of each rotating knife with a feeler gauge The clearance should be 0.20 - 0.30 mm, check at the outer edges of the knives.

Then install the front, fixed knife

16. Install the knife in the knife attachment.
17. Screw in the socket cap screws (C) and tighten so that the support rule (D) lightly supports the knife.
18. Press the knife firmly into the knife attachment.



NOTE! The screws in the rear of the knife attachment are bonded in place.

NOTE! The knife has a fixed position and no adjustment may be done.

19. Tighten the screws (C), with alternating tightening torque to 40 Nm.
20. Carefully check that all rotating knives can pass the front fixed knife.

    If any knife can not pass the front fixed knife freely

    – undo the screws (C) and press the knife firmly into the knife attachment.

21. Check the clearance of each rotating knife with a feeler gauge The clearance should be 0.20 - 0.30 mm, check at the outer edges of the knives.
22. Re-check the tightening torque of all rotating knives (75 Nm; granulator with open cutter 220 Nm).
23. Re-check the tightening torque of the front and rear fixed knives (40 Nm).

7.2 Sharpening knives

NOTE! Only rotating knives for granulators with an open rotor can be sharpened. Other knives are disposable and are replaced when necessary.

Sharpening knives - granulators with open cutter

Keep the complete set of knives together as one unit.

NOTE! To avoid unbalance, all the knives belonging to the cutter must be ground exactly the same.

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

NOTE! Get an experienced craftsman to sharpen the knives.

Only sharpen the marked surfaces and respect the given dimensions!

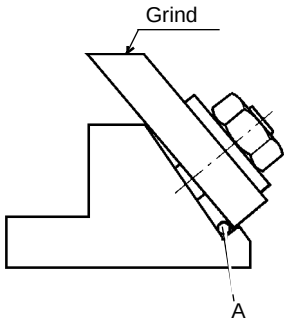
The knives must be sharpened exactly, to get the correct cutting and relief angles. Otherwise the efficiency of the granulator will be impaired.

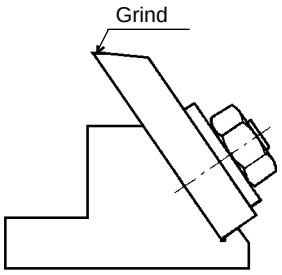
The knife must be cooled during sharpening. The knives must not be burned or blued under any circumstances, otherwise they will loose their hardness and durability.

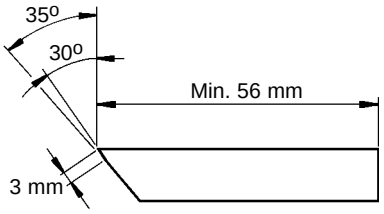
If the knife is blued or burned, they can not be repaired by grinding down the blued or burned area. The hardened knife is then completely spoiled and has lost all its hardness and durability.

Use the Conair grinding jig SF-20 (accessory, art no. 3-030324) and a surface grinder with magnetic table. The jig gives exact correct cutting and relief angles.

- Remove the knives adjustment screws.
- Grind the worst knife to make the relief angle 35°.
- Tighten the knife in the right-hand position in the jig, using spacer “A” beneath the rear of the knife (see illustration).
  Spherical washers should be used when tightening the knife.
- Grind until all the irregularities on the knife edge have disappeared.
- Retain the settings of the surface grinder and grind all the other knives exactly the same.
- Grind the cutting angle of the knives to 30°
- Remove spacer “A” beneath the knife.
- Tighten the knife and grind until the cutting edge is 3 mm wide.
- Retain the settings of the surface grinder and grind all the other knives exactly the same.
- The knives can be sharpened up to the limits shown in the display.
  After this, the knives are used up and must be replaced by new ones.







7.3 Transmission

Vee belts, inspection and adjustment

The granulator is driven by 3 V-belts.

Checking the V-belts

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

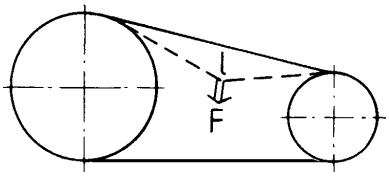
After this, check the V-belts for damage once a month.

Check the belt tension every 6 months.

- Undo and remove the upper panel on the right-hand side of the granulator.
- Rotate the V-belts a few turns.
  Check that the belts are intact, undamaged and uncracked.

WARNING! Pinch risk between pulleys and V-belts.

- Check belt tension and adjust if necessary.



Motors up to 7,5 kW
L = 5 mm; F = 20 N

11 kW motor
L = 5 mm; F = 27 N

Motors up to 7.5 kW:

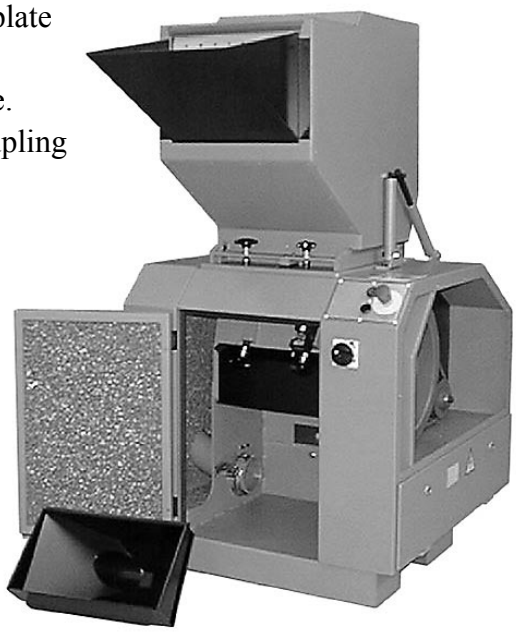
- Load each one of the belts in turn with 20 N, centrally between the cutter and belt pulleys.
  It should not be possible to depress the belt more than about 5 mm.

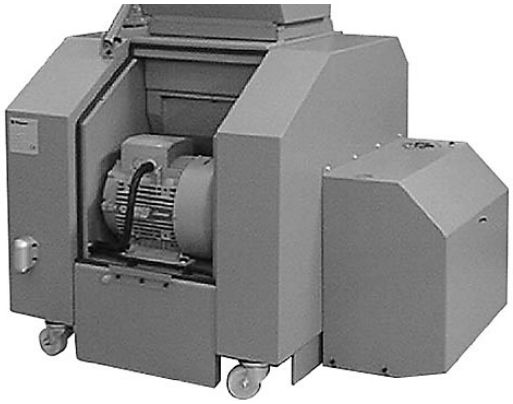
11 kW motor:

- Load each one of the belts in turn with 27 N, centrally between the cutter and belt pulleys.
  It should not be possible to depress the belt more than about 5 mm.

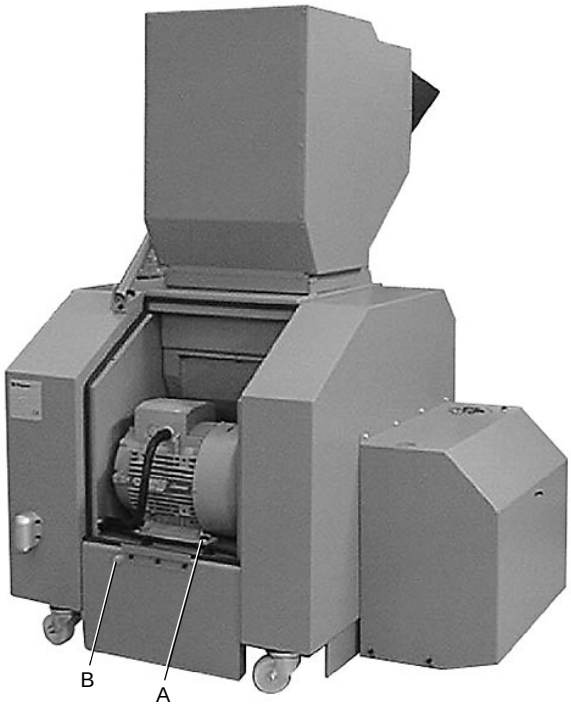
V-belt adjustment

- Remove the upper panel on the right-hand side of the granulator.
- CF series-K, remove the rear guard plate above the motor and open the door.
- Undo and remove the extraction pipe.
  Alt. CF series-U, undo the quick coupling on the outlet pipe stub.





7.3 Transmission (continued)



- Remove the granule bin.
- Undo the motor screws (A) lightly, 4 pcs.
- Adjust the belt tension by increasing/reducing the distance of the motor to the cutter pulley, using the motor adjustment screws (B), 2 pcs.
- Tighten the motor screws (45 Nm torque)
- If the belt tension is adjusted, the belt need to be re-checked after 20 - 30 hours at full load.

7.4 Lubrication

Cutter housing

The bearings in the cutter housing are permanently greased, and do not need greasing in normal circumstances.

7.5 Cutter pulley/Motor pulley

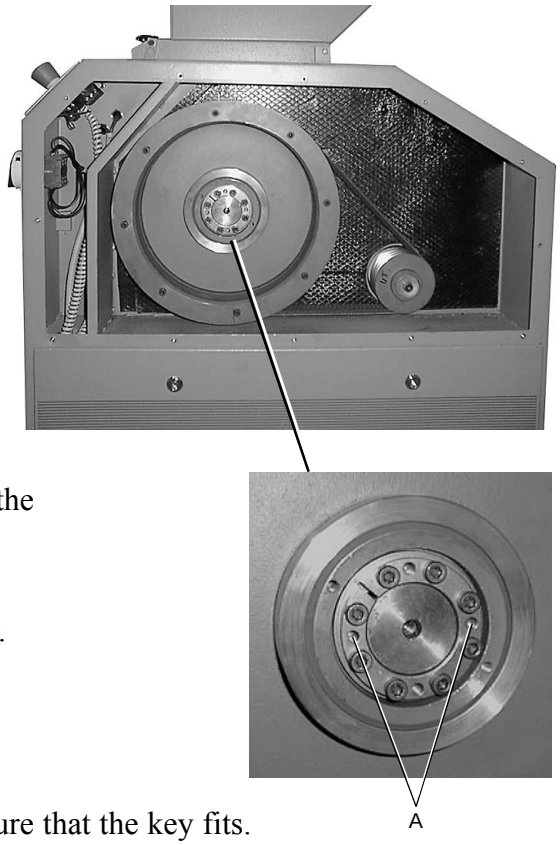
The upper panel on the right-hand side of the granulator must be removed to remove/install the cutter or motor pulleys.

This makes the cutter and motor pulleys accessible.

Removal

Cutter pulley

The pulley is mounted with a compression bush.



- Undo all screws a few turns (8 pcs.)
- Remove two screws.
- Put a drop of oil into the extractor hole (A), 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

- Undo the socket cap screw on the pulley.
- Remove the pulley with a puller.

Installing

Motor pulley

Lift the pulley onto the motor shaft, make sure that the key fits.

- Tighten the pulley with the socket cap screws on the shaft, 120 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.
- Lift the pulley on to the cutter shaft.
- Make sure that the pulleys line up.
- Tighten the screws in the compression bush.
  Tighten the screws alternately with the same torque, progressively increasing the torque to 20 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 40 Nm.

8. Spare parts list

Overview

The granulator is divided into the following modules:

Ordering spare parts

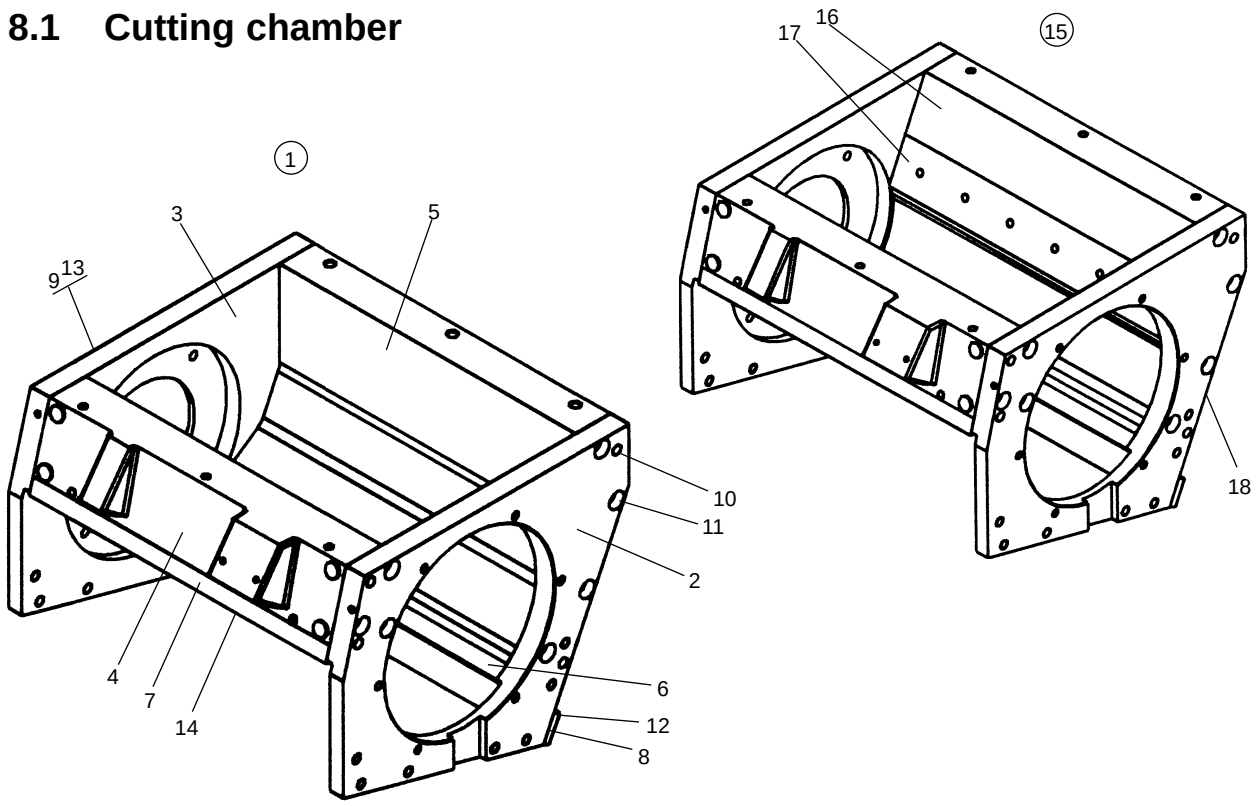
Only use spare parts from Conair when replacing machine parts.

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.

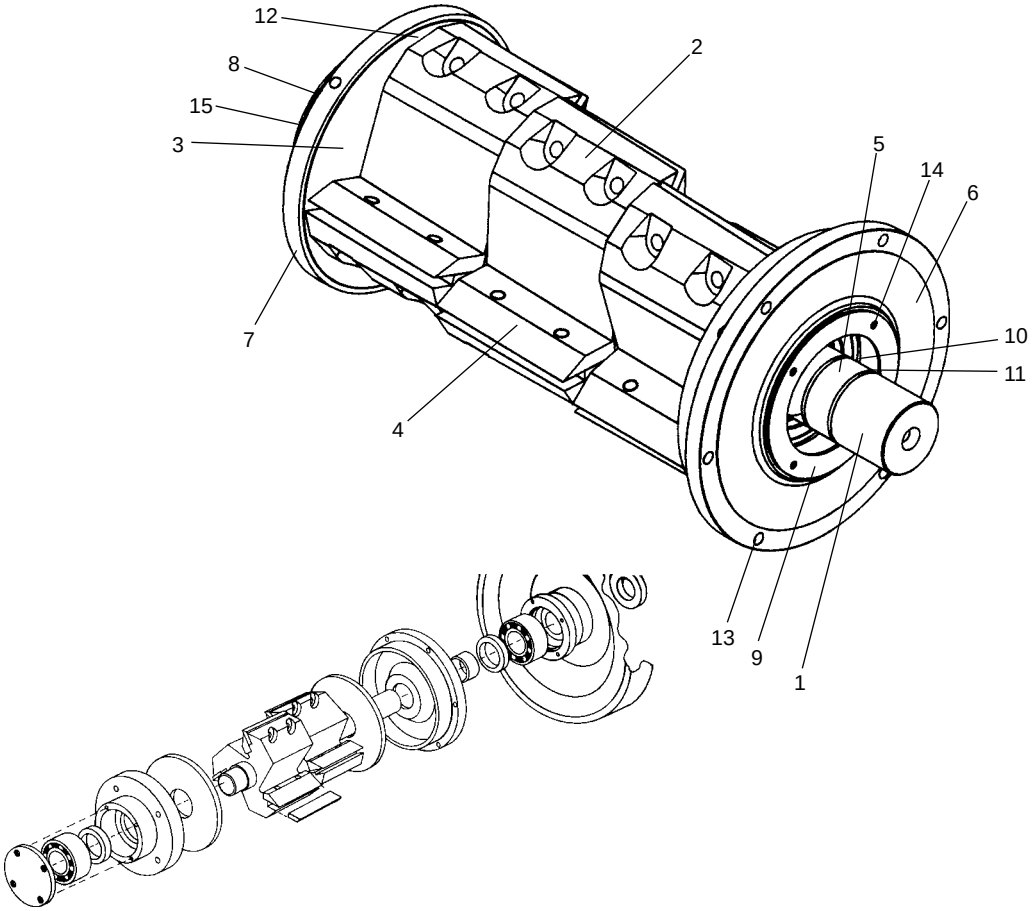
8.1 Cutting chamber



Pos	Qty.						Art. no.	Description
1	⌜						3-029705	Cutter housing CF-810
		⌜					3-030254	– ” – CF-810 hardened
			⌜				3-029706	Cutter housing CF-814
				⌜			3-030255	– ” – CF-814 hardened
					⌜		3-029707	Cutter housing CF-819
						⌜	3-030256	– ” – CF-819 hardened
2	1		1		1		1-029513	Side, right
		1		1		1	4-030700	Side, right
3	1		1		1		1-029514	Side, left
		1		1		1	4-030701	Side, left
4	1						1-029507	Front side
		1					4-030702	Front side
			1				1-029508	Front side
				1			4-030703	Front side
					1		1-029509	Front side
						1	4-030704	Front side
5	1						1-029510	Rear side
		1					4-030705	Rear side
			1				1-029511	Rear side
				1			4-030706	Rear side
					1		1-029512	Rear side
						1	4-030707	Rear side
6	1						2-029518	Support rule, rear
		1					4-030708	Support rule, rear
			1				2-029519	Support rule, rear
				1			4-030709	Support rule, rear
					1		2-029520	Support rule, rear
						1	4-030710	Support rule, rear
7	1						2-029521	Support rule, front
		1					4-030711	Support rule, front
			1				2-029522	Support rule, front
				1			4-030712	Support rule, front
					1		2-029523	Support rule, front
						1	4-030713	Support rule, front

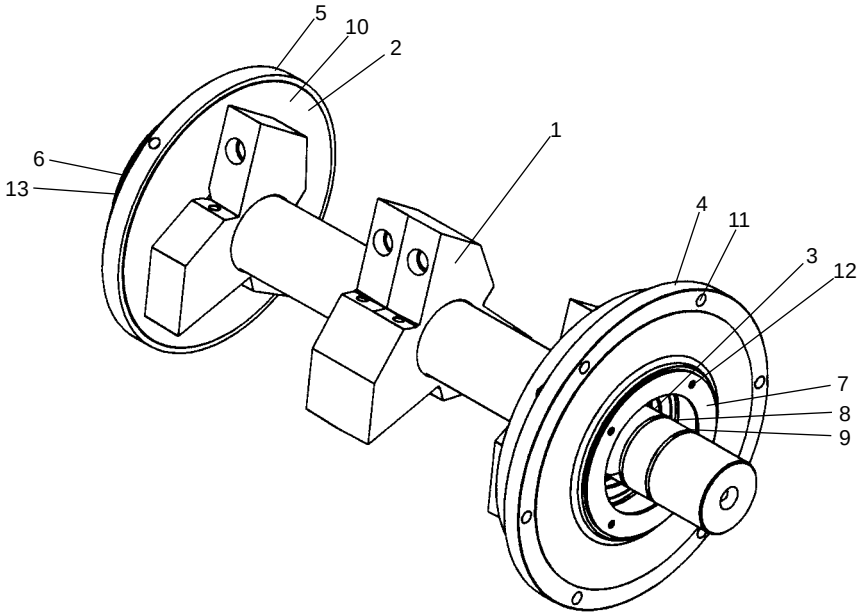
Pos	Qty.						Art. no.	Description
	⌜						3-029705	Cutter housing CF-810
		⌜					3-030254	– ” – CF-810 hardened
			⌜				3-029706	Cutter housing CF-814
				⌜			3-030255	– ” – CF-814 hardened
					⌜		3-029707	Cutter housing CF-819
						⌜	3-030256	– ” – CF-819 hardened
8	1	1					3-029524	Support, screen box
			1	1			3-029525	Support, screen box
					1	1	3-029526	Support, screen box
9	1	1	1	1	1	1	4-026380	Lid
10	8	8	8	8	8	8	950079	Cylindric pin
11	14	14	14	14	14	14	940005	Socket cap screw
12	4	4	4	4	4	4	940104	Socket cap screw
13	4	4	4	4	4	4	940213	Socket cap screw
14	4	4	4	4	4	4	940743	Stop screw
15	⌜						3-029708	Cutter housing CF-810 w 3:rd knife
		⌜					3-030257	Cutter housing CF-810 w 3:rd knife hardened
			⌜				3-029709	Cutter housing CF-814 w 3:rd knife
				⌜			3-030258	Cutter housing CF-814 w 3:rd knife hardened
					⌜		3-029710	Cutter housing CF-819 w 3:rd knife
						⌜	3-030259	Cutter housing CF-819 w 3:rd knife hardened
16	1						1-029554	Rear for 3:rd fixed knife
		1					4-030243	Rear for 3:rd fixed knife
			1				1-029555	Rear for 3:rd fixed knife
				1			4-030244	Rear for 3:rd fixed knife
					1		1-029556	Rear for 3:rd fixed knife
						1	4-030245	Rear for 3:rd fixed knife
17	1						2-029557	Support rule for 3:rd fixed knife
		1					4-030246	Support rule for 3:rd fixed knife
			1				2-029558	Support rule for 3:rd fixed knife
				1			4-030247	Support rule for 3:rd fixed knife
					1		2-029559	Support rule for 3:rd fixed knife
						1	4-030248	Support rule for 3:rd fixed knife
18	2	2	2	2	2	2	940742	Socket cap screw

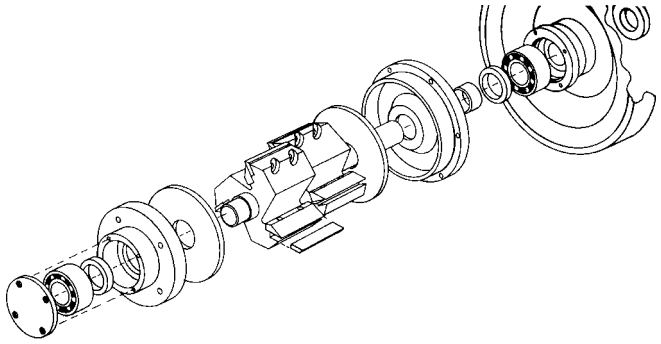
8.2 Staggered rotor



Pos	Qty.						Art. no.	Description
	⌐						3-29702	Cutter CF-810 3-blade
		⌐					3-30260	Cutter CF-810 3-blade hardened
			⌐				3-29703	Cutter CF-814 3-blade
				⌐			3-30261	Cutter CF-814 3-blade hardened
					⌐		3-29704	Cutter CF-819 3-blade
						⌐	3-30262	Cutter CF-819 3-blade hardened
1	1	1					1-029530	Cutter shaft 3-blade
			1	1			1-029531	Cutter shaft 3-blade
					1	1	1-029532	Cutter shaft 3-blade
2	2	2	3	3	4	4	3-029501	Segment
3	2		2		2		3-029502	Ring
		2		2		2	4-030249	Ring
4	6		9		12		3-029504	Support rule
		6		9		12	4-030250	Support rule
5	1	1	1	1	1	1	4-029529	Sleeve
6	1		1		1		2-029505	Plummer block, right
		1		1		1	2-030714	Plummer block, right
7	1		1		1		2-029506	Plummer block, left
		1		1		1	2-030715	Plummer block, left
8	1	1	1	1	1	1	3-029527	Lid, left
9	1	1	1	1	1	1	4-029528	Lid, right
10	2	2	2	2	2	2	960182	Bearing
11	2	2	2	2	2	2	960183	Sealing ring
12	6	6	6	6	6	6	940579	Socket cap screw
13	6	6	6	6	6	6	940007	Socket cap screw
14	8	8	8	8	8	8	940071	Socket cap screw
15	4	4	4	4	4	4	940032	Socket cap screw

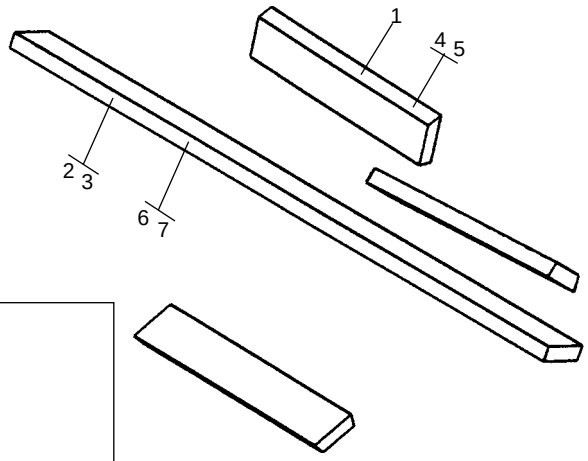
8.3 Open rotor





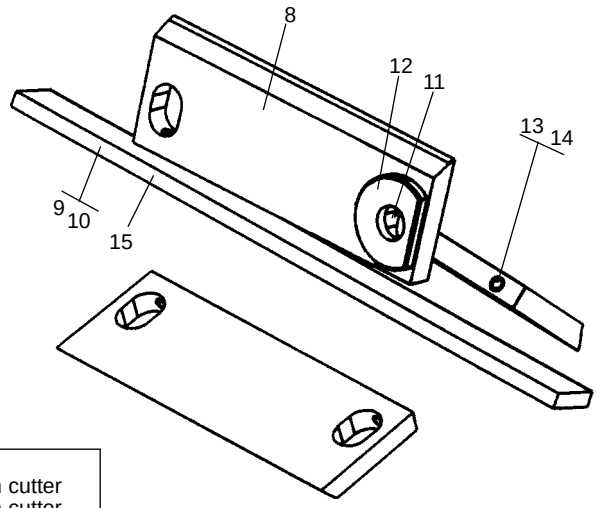
Pos	Qty.						Art. no.	Description
	⌜						3-30113	Cutter CF-810 3-blade open
		⌜					3-30263	Cutter CF-810 3-blade open hardened
			⌜				3-29753	Cutter CF-814 3-blade open
				⌜			3-30264	Cutter CF-814 3-blade open hardened
					⌜		3-30114	Cutter CF-819 3-blade open
						⌜	3-30265	Cutter CF-819 3-blade open hardened
1	1	1					1-030104	Cutter 3-blade
			1	1			1-029743	Cutter 3-blade
					1	1	1-030106	Cutter 3-blade
2	2		2		2		3-029502	Ring
		2		2		2	4-030249	Ring
3	1	1	1	1	1	1	4-029529	Sleeve
4	1		1		1		2-029505	Plummer block, right
		1		1		1	2-030714	Plummer block, right
5	1		1		1		2-029506	Plummer block, left
		1		1		1	2-030715	Plummer block, left
6	1	1	1	1	1	1	3-029527	Lid, left
7	1	1	1	1	1	1	4-029528	Lid, right
8	2	2	2	2	2	2	960182	Bearing
9	2	2	2	2	2	2	960183	Sealing ring
10	6	6	6	6	6	6	940579	Socket cap screw
11	6	6	6	6	6	6	940007	Socket cap screw
12	8	8	8	8	8	8	940071	Socket cap screw
13	4	4	4	4	4	4	940032	Socket cap screw

8.4 Knives



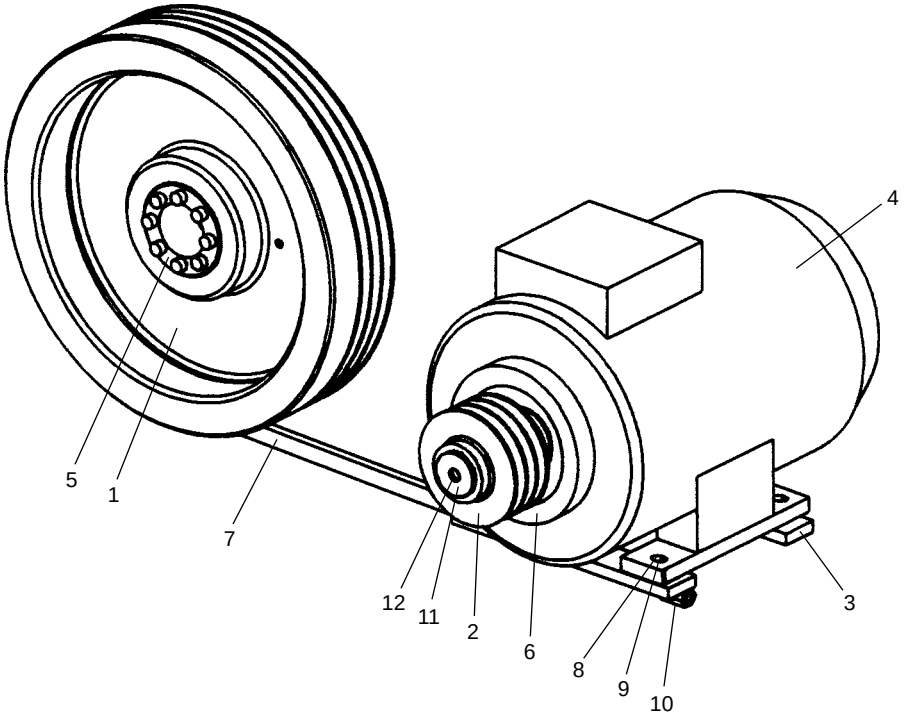
Pos	Qty.			Art. no.	Description	Note
	⌐				Granulator CF-810	
		⌐			Granulator CF-814	
			⌐		Granulator CF-819	
1	6	9	12	3-029503	Knife, rotating	
2	2			2-029515	Knife, fixed	
		2		2-029516	Knife, fixed	
			2	2-029517	Knife, fixed	
3	1			2-029515	Knife, third fixed	
		1		2-029516	Knife, third fixed	
			1	2-029517	Knife, third fixed	
4	12	18	24	940004	Socket cap screw	
5	12	18	24	940031	Washer	
6	8	12	16	940778	Socket cap screw	
7	4	6	8	940779	Socket cap screw	for 3:rd fixed knife

8.5 Knives, open cutter



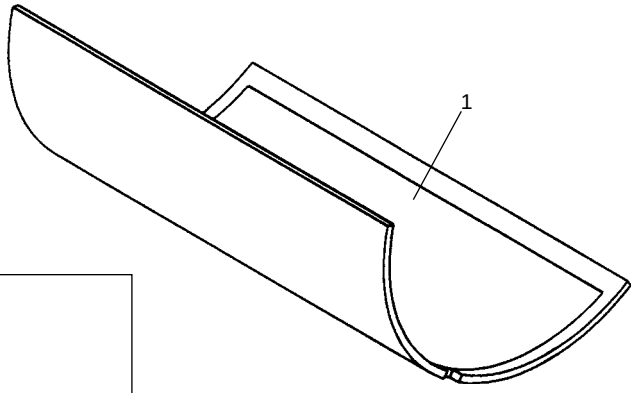
Pos	Qty.			Art. no.	Description	Note
	⌐				Granulator CF-810	with open cutter
		⌐			Granulator CF-814	with open cutter
			⌐		Granulator CF-819	with open cutter
8	6			3-030108	Knife, rotating	
		6		3-029750	Knife, rotating	
			6	3-030109	Knife, rotating	
9	2			2-029515	Knife, fixed	
		2		2-029516	Knife, fixed	
			2	2-029517	Knife, fixed	
10	1			2-029515	Knife, third fixed	
		1		2-029516	Knife, third fixed	
			1	2-029517	Knife, third fixed	
11	12	12	12	940776	Socket cap screw	
12	12	12	12	4-029751	Washer	
13	12	12	12	940302	Screw	
14	12	12	12	940057	Socket cap screw	
	8	12	16	940057	Socket cap screw	
15	4	6	8	940057	Socket cap screw	for 3:rd fixed knife

8.6 Transmission



Pos	Qty.					Art. no.	Description
	⌜						Transmission 4,0 kW 1000 rpm 400 V
		⌜					Transmission 5,5 kW 1000 rpm 400 V
			⌜				Transmission 5,5 kW 1500 rpm 400 V
				⌜			Transmission 7,5 kW 1500 rpm 400 V
					⌜		Transmission 11,0 kW 1500 rpm 400 V
1	1	1	1	1	1	1-29545	Cutter pulley
2	1	1	1	1	1	3-29546	Motor pulley
3	2	2	2	2	2	3-29552	Belt tensioner
4	1					911189	Motor 4,0 kW
		1				911178	Motor 5,5 kW
			1			911171	Motor 5,5 kW
				1		911172	Motor 7,5 kW
					1	911177	Motor 11,0 kW
5	1	1	1	1	1	930222	Coupling
6	1	1	1	1	1	970214	Ring, polyester
7	3	3	3	3	3	930221	V-belt
8	4	4	4	4	4	940092	Screw
9	6	6	6	6	6	940031	Washer
10	2	2	2	2	2	940744	Screw
11	1	1	1	1	1	940648	Washer
12	1	1	1	1	1	940051	Socket cap screw

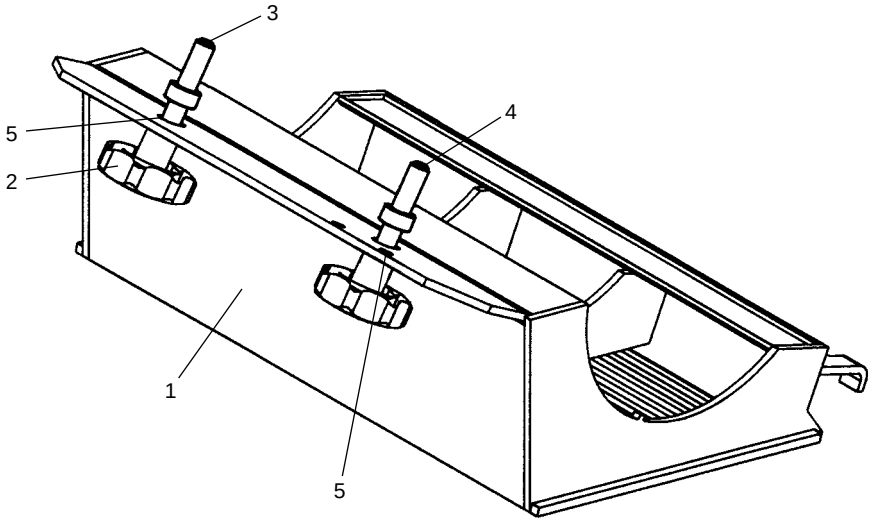
8.7 Screen



Pos	Qty.			Art. no.	Description	
	┌				Granulator CF-810	
		┌			Granulator CF-814	
			┌		Granulator CF-819	
1	1			3-29574	Screen	
	1			3-31688	Screen	stitch reduced
	1			4-30251	Screen hardened	
	1			4-31691	Screen hardened	stitch reduced
		1		3-29575	Screen	
		1		3-31689	Screen	stitch reduced
		1		4-30252	Screen hardened	
		1		4-31692	Screen hardened	stitch reduced
			1	3-29576	Screen	
			1	3-31690	Screen	stitch reduced
			1	4-30253	Screen hardened	
			1	4-31693	Screen hardened	stitch reduced

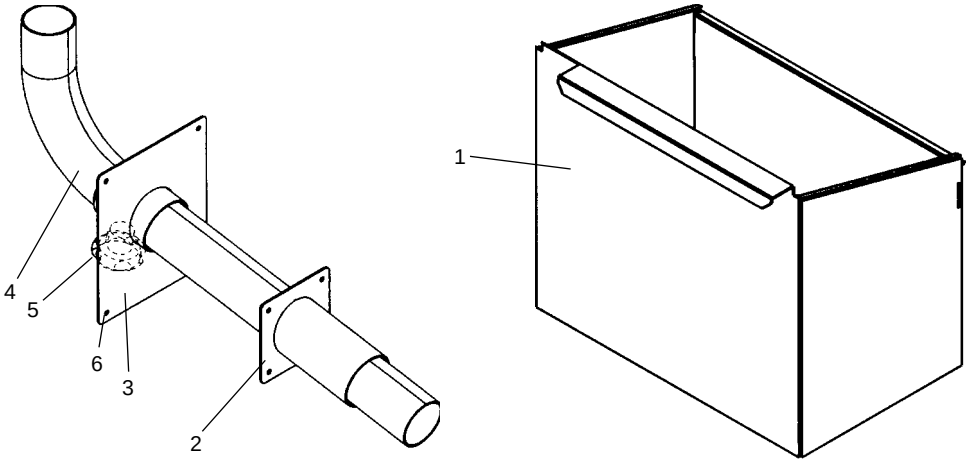
NOTE! Specify art no. and required hole diameter, Ø 4, 6, 8 or 10 mm.

8.8 Screen box



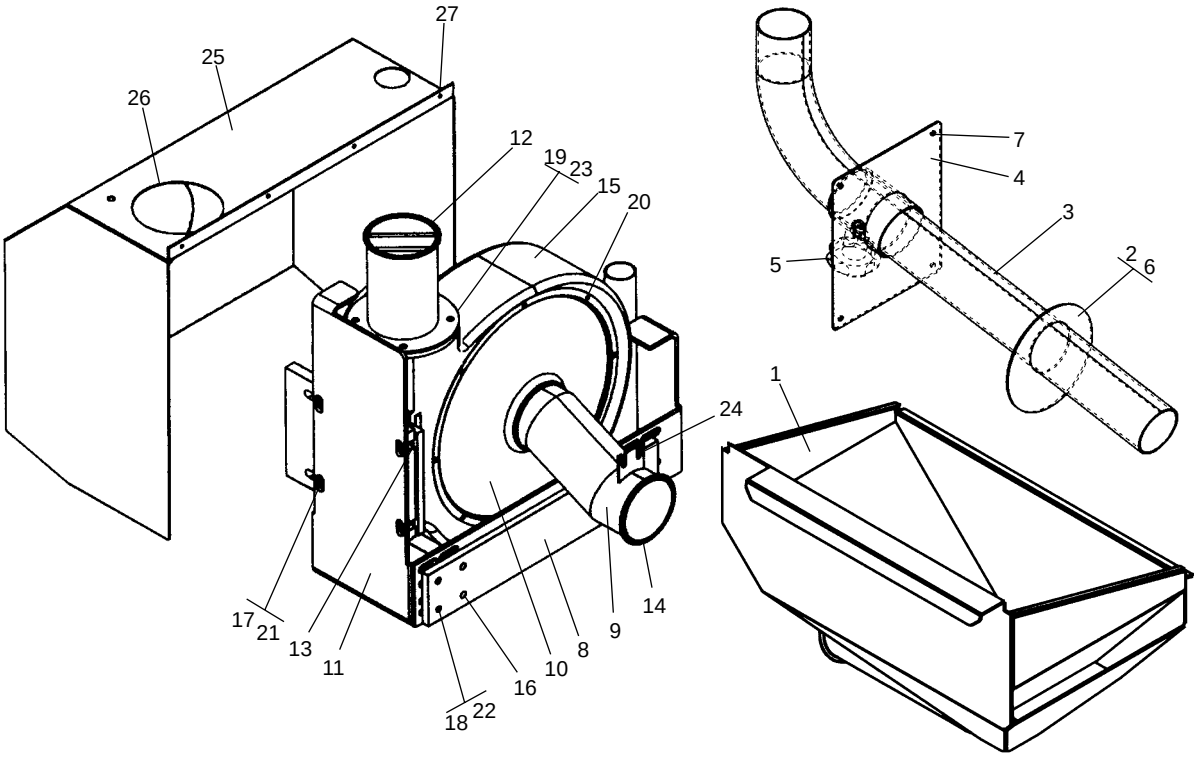
Pos	Qty.			Art. no.	Description	Note
	┌				Granulator CF-810	
		┌			Granulator CF-814	
			┌		Granulator CF-819	
1	1			1-29560	Screen box	
	1			1-29656	Screen box	stitch reduced
		1		1-29561	Screen box	
		1		1-29657	Screen box	stitch reduced
			1	1-29562	Screen box	
			1	1-29658	Screen box	stitch reduced
2	2	2	2	950532	Star knob	
3	1	1	1	4-30327	Locking bolt	
4	1	1	1	4-30328	Locking bolt	
5	4	4	4	940155	Washer	

8.9 Outfeed, granule bin manual



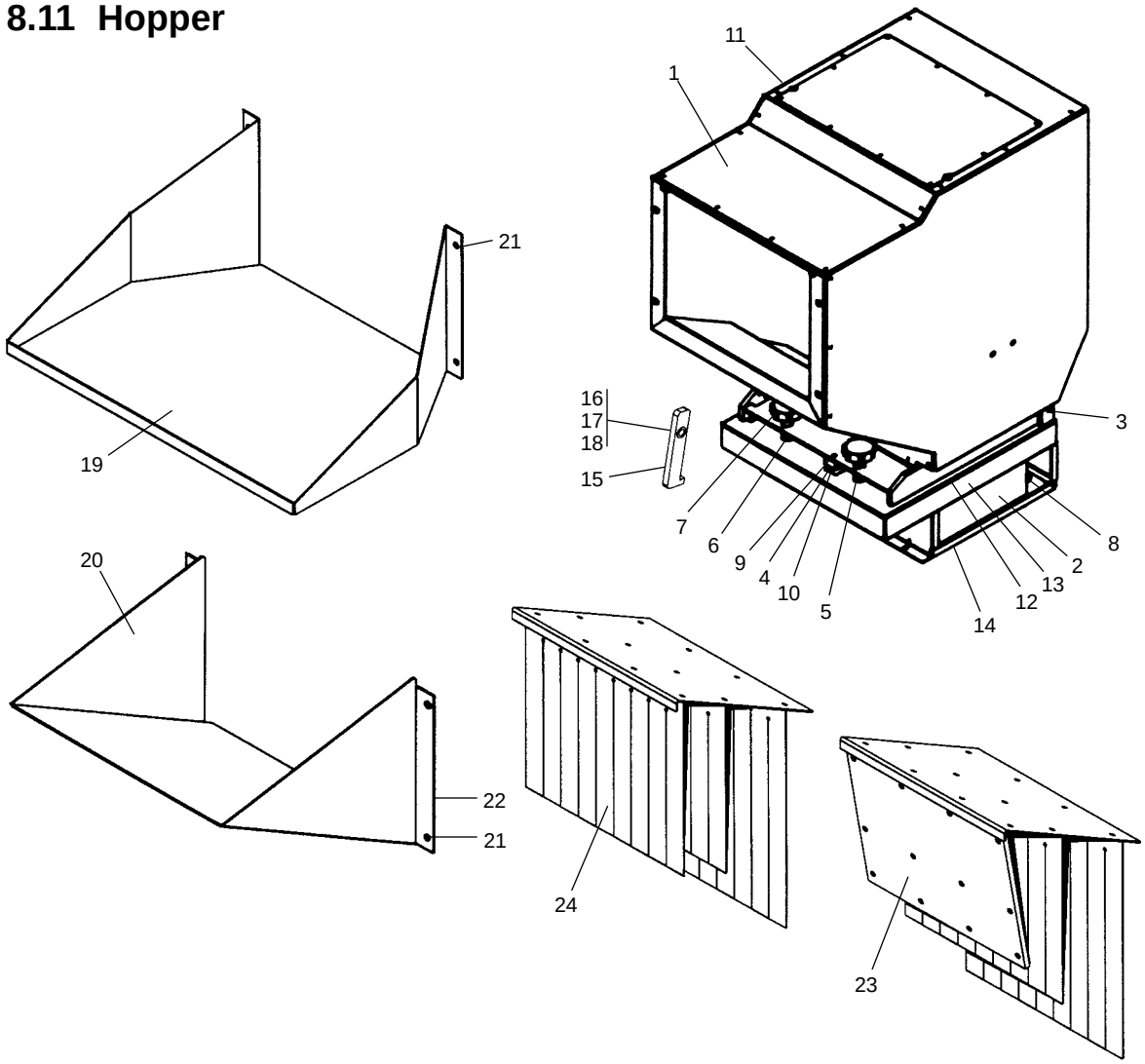
Pos	Qty.			Art. no.	Description	Note.
	⌜				Granulator CF-810	
		⌜			Granulator CF-814	
			⌜		Granulator CF-819	
1	1			1-29577	Granule bin	manual 15 L
		1		1-29578	Granule bin	manual 22 L
			1	1-29579	Granule bin	manual 29 L
2	1			3-30246	Bracket D-50	
3	1			2-30248	Bracket D-50	
	1			2-30079	Bracket D-50	CF-810-K
4	1			3-29752	Pipe D-50	
	1			3-30078	Pipe D-50	CF-810-K
5				950095	Star knob	
6				940432	Rivet	

8.10 Outfeed, vaccum suction /blower F-7/F-15



Pos	Qty.			Art. no.	Description	Note.
	⌜				Granulator CF-810	
		⌜			Granulator CF-814	
			⌜		Granulator CF-819	
1	1			1-30082	Granule bin	vaccum/blower
		1		1-29633	Granule bin	vaccum/blower
			1	1-30087	Granule bin	vaccum/blower
2	1			4-30087	Lid D-110	vaccum
	1			4-30077	Lid D-110	CF-810-K vaccum
3	1			3-29752	Pipe D-50	vaccum
	1			3-30078	Pipe D-50	CF-810-K vaccum
4	1			2-30079	Bracket D-50	vaccum
5	1			950095	Star knob	
6	1			920415	Quick coupling ring	
7	4			940432	Rivet	
8	1	1	1	3-29759	Distance	
9	1	1	1	2-29639	Pipe stub D-100	
10	1	1	1	3-30267	Pipe stub, inlet	
11	1	1	1	1-22825	Holder, blower	
12	1	1	1	3-13138	Pipe stub, outlet	F7
	1	1	1	3-10332	Pipe stub, outlet	F15
13	1	1	1	4-24655	Holder, blower	
14	1	1	1	920415	Quick coupling ring	
15	1	1	1	920206	Blower F7/D4	
	1	1	1	920421	Blower F15/D6	
16	4	4	4	940347	Socket cap screw M10	
17	4	4	4	940004	Socket cap screw M10	
18	4	4	4	940201	Socket cap screw M10	
19	4	4	4	940426	Screw M8	
20	8	8	8	940039	Socket cap screw M6	
21	6	6	6	940015	Nut M10	
22	8	8	8	940031	Washer BRB	
23	4	4	4	940592	Washer BRB FZB	
24	2	2	2	940213	Socket cap screw M6	
25	1	1	1	1-22824	Cover, blower	
26	1	1	1	970152	Sealing ring	
27	8	8	8	940147	Screw	

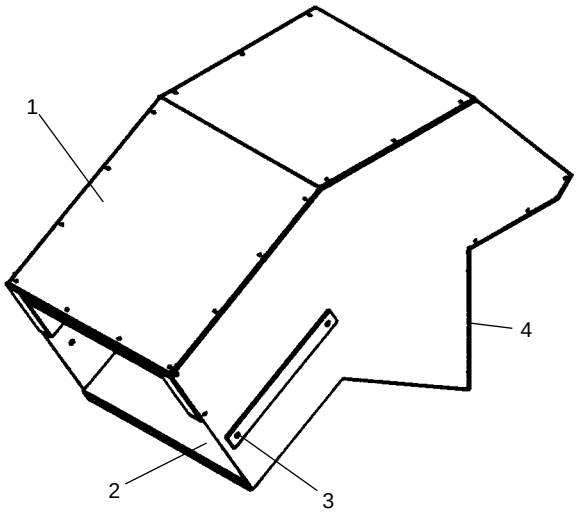
8.11 Hopper



Pos	Qty.			Art. no.	Description
	⌜				Granulator CF-810
		⌜			Granulator CF-814
			⌜		Granulator CF-819
1	1			1-30614	Hopper, front
		1		1-29761	Hopper, front
			1	1-30618	Hopper, front
2	1			1-29595	Frame
		1		1-29596	Frame
			1	1-29597	Frame
3	1			4-30495	Shaft
		1		4-29734	Shaft
			1	4-30628	Shaft
4	1	1	1	4-29646	Bracket, key
5	1	1	1	4-30327	Locking bolt M12
6	1	1	1	4-30328	Locking bolt M12
7	2	2	2	950532	Star knob
8	6	6	6	940097	Socket cap screw M8
9	2	2	2	940071	Socket cap screw M5
10	4	4	4	940155	Washer BRB FZB
11	1	1	1	940696	Stop screw
12	1	1	1	970141	List
13	1	1	1	970218	List

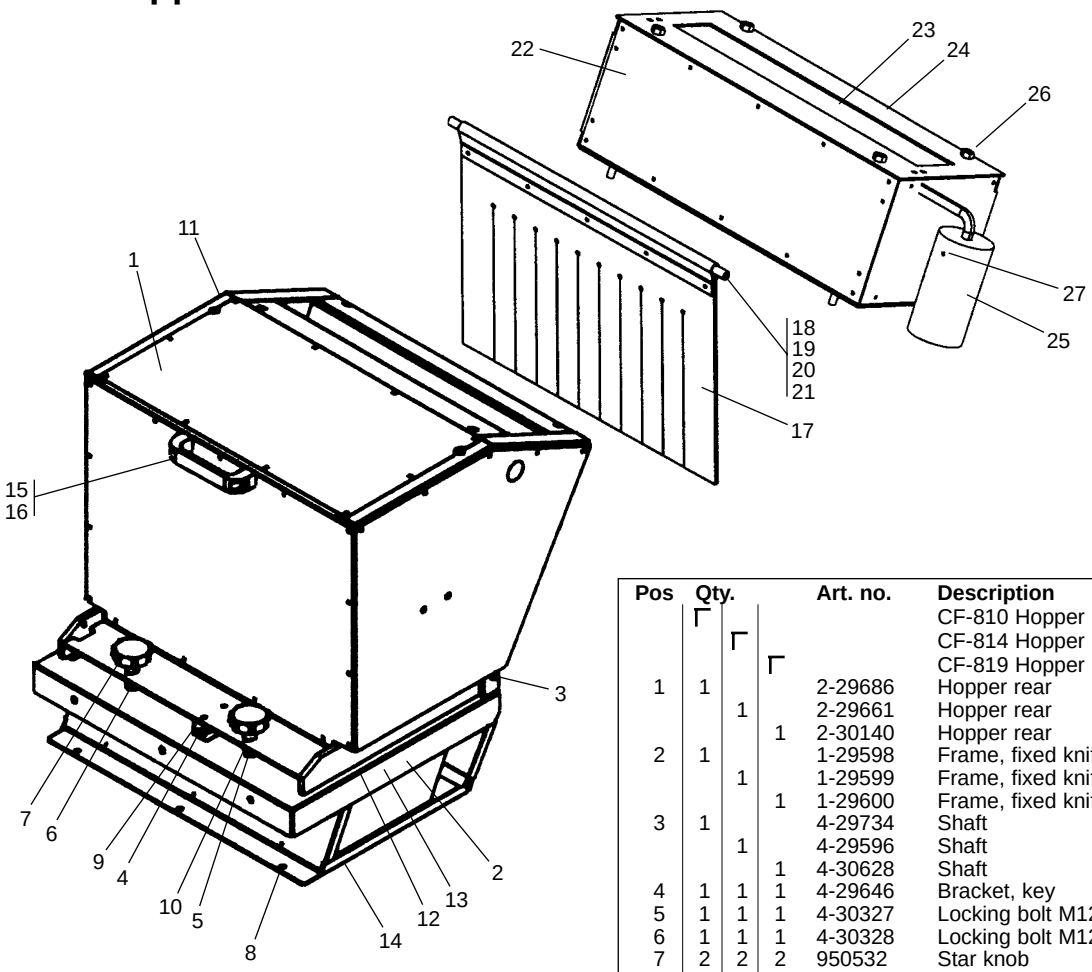
Pos	Qty.			Art. no.	Description
	⌜				Granulator CF-810
		⌜			Granulator CF-814
			⌜		Granulator CF-819
14	1	1	1	970148	List
15	1	1	1	4-30093	Stop double
16	1	1	1	4-22129	Distance
17	1	1	1	940162	Washer BRB
18	1	1	1	940662	Socket cap screw M8
19	1			2-30494	Hopper table
			1	2-29787	Hopper table
			1	2-30641	Hopper table
20	1			2-29789	Funnel
		1		2-29788	Funnel
			1	2-29790	Funnel
21	4	4	4	940587	Socket cap screw M8
22	1	1	1	970141	List
23	1			2-30477	Flaps
		1		2-29780	Flaps
			1	2-29791	Flaps
24	1			2-30484	Flaps, cloth
		1		2-29799	Flaps, cloth
			1	2-29798	Flaps, cloth

8.12 Hopper -KUB



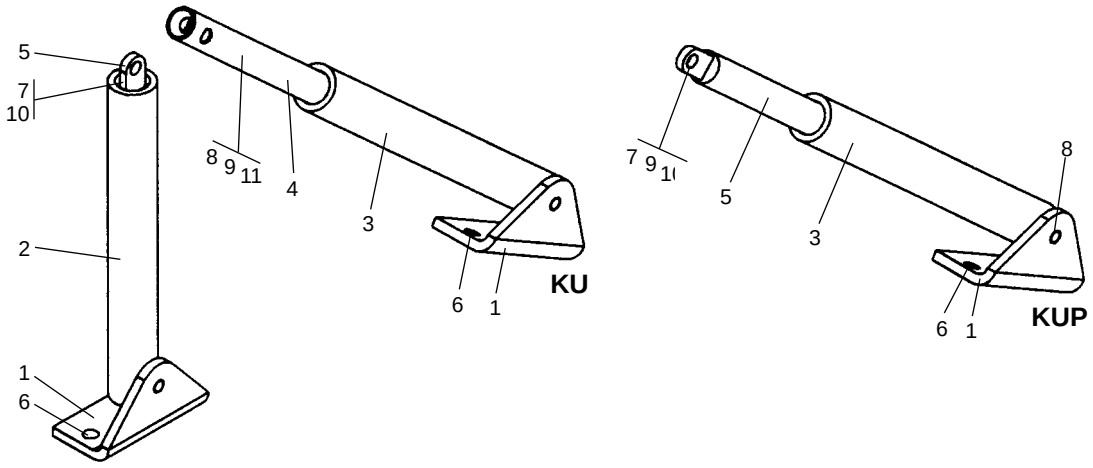
Pos	Qty.			Art. no.	Description
	Γ				Granulator CF-810
		Γ			Granulator CF-814
			Γ		Granulator CF-819
1	1			2-30673	Sound trap
		1		2-30654	Sound trap
			1	2-30666	Sound trap
2	8	-	4	940020	Washer AMF
3	4			940097	Socket cap screw M8
		4		940032	Socket cap screw M8
			4	940070	Socket cap screw M8
4	1	1	1	970218	List

8.13 Hopper rear -KUP



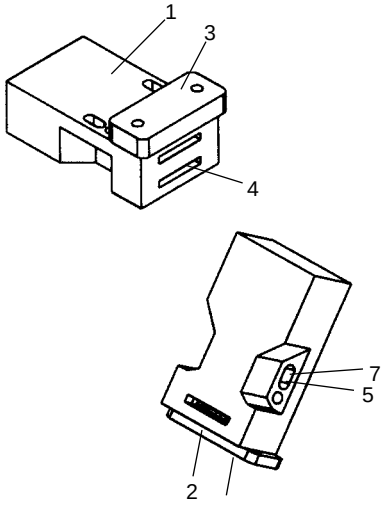
Pos	Qty.			Art. no.	Description
	⌜				CF-810 Hopper rear KUP
		⌜			CF-814 Hopper rear KUP
			⌜		CF-819 Hopper rear KUP
1	1			2-29686	Hopper rear
		1		2-29661	Hopper rear
			1	2-30140	Hopper rear
2	1			1-29598	Frame, fixed knife
		1		1-29599	Frame, fixed knife
			1	1-29600	Frame, fixed knife
3	1			4-29734	Shaft
		1		4-29596	Shaft
			1	4-30628	Shaft
4	1	1	1	4-29646	Bracket, key
5	1	1	1	4-30327	Locking bolt M12
6	1	1	1	4-30328	Locking bolt M12
7	2	2	2	950532	Star knob
8	6	6	6	940097	Socket cap screw M8
9	2	2	2	940071	Socket cap screw M5
10	4	4	4	940155	Washer BRB
11	1	1	1	940696	Grub screw S6SS
12	1	1	1	970141	List
13	1	1	1	970218	List
14	1	1	1	970148	List
15	1	1	1	991984	Strirrup handle
16	2	2	2	940070	Socket cap screw M8
17	1			2-30509	Flap
		1		2-29684	Flap
			1	2-30121	Flap
18	1			4-29725	Flap shaft
		1		4-29685	Flap shaft
			1	4-30124	Flap shaft
19	2	2	2	940439	Washer TBRSB FZ
20	2	2	2	940039	Socket cap screw M6
21	2	2	2	950246	Sealing end
22	1			2-29694	Flap parcel rear
		1		2-29669	Flap parcel rear
			1	2-30132	Flap parcel rear
23	1			2-29699	Flap
		1		2-29674	Flap
			1	2-30506	Flap
24	1			3-30501	Cover
		1		3-29678	Cover
			1	3-30102	Cover
25	1	1	1	4-27106	Counter weight
26	4	4	4	4-30103	Screw
27	1	1	1	940102	Grub screw

8.14 Hopper device



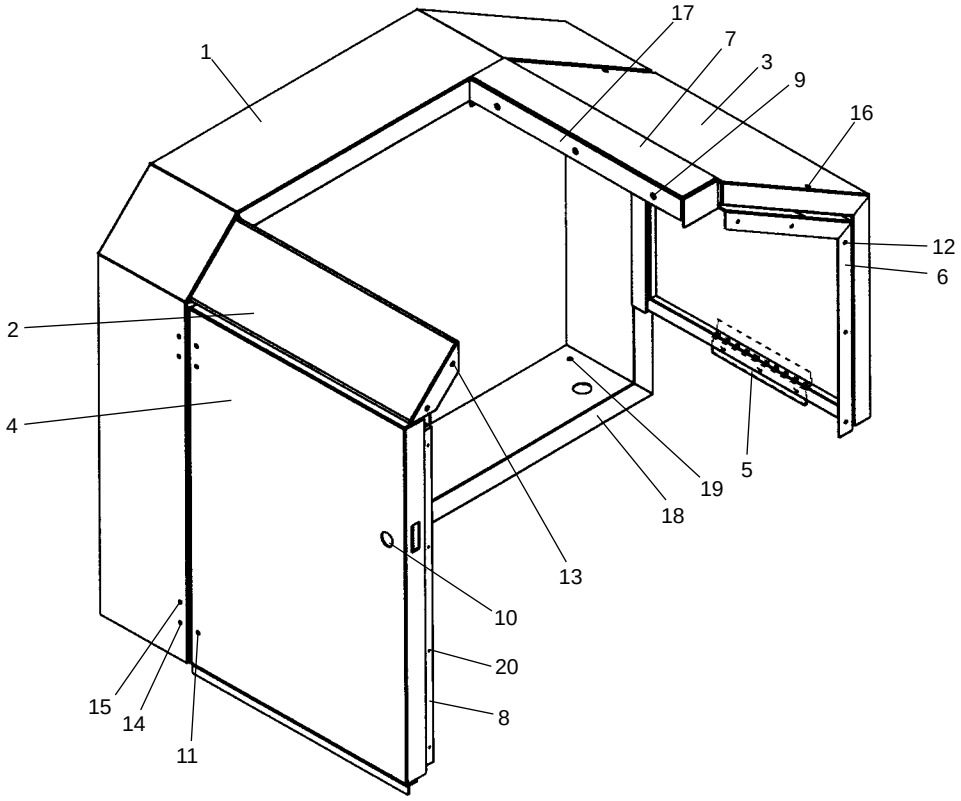
Pos	Qty.						Art. no.	Description	Note.
	┌							Hopper device, granulator CF-810-KU	for hopper 1-30614
		┌						Hopper device, granulator CF-814-KU	for hopper 1-29761
			┌					Hopper device, granulator CF-819-KU	for hopper 1-30618
				┌				Hopper device, granulator CF-810-KUP	for hopper 2-29686
					┌			Hopper device, granulator CF-814-KUP	for hopper 2-29661
						┌		Hopper device, granulator CF-819-KUP	for hopper 2-30140
1	2	2	2				3-29777	Bracket	
				1	1	1	3-30497	Bracket	
2	1	1	1				3-30325	Sleeve	
3	1	1	1				3-29779	Sleeve	
				1	1	1	3-30498	Sleeve	
4	1	1	1				3-30326	Sleeve	
5	1	1	1				920768	Gas spring	
				1			920769	Gas spring	
					1		920763	Gas spring	
						1	920655	Gas spring	
6	4	4	4	2	2	2	940032	Socket cap screw M8	
7	4	4	4	1	1	1	940200	Socket cap screw M8	
8				1	1	1	940054	Socket cap screw M8	
9	2	2	2	1	1	1	940585	Washer	
10	7	7	7	5	5	5	940016	Nut	
11	1	1	1				950430	Sealing end	

8.15 Safety



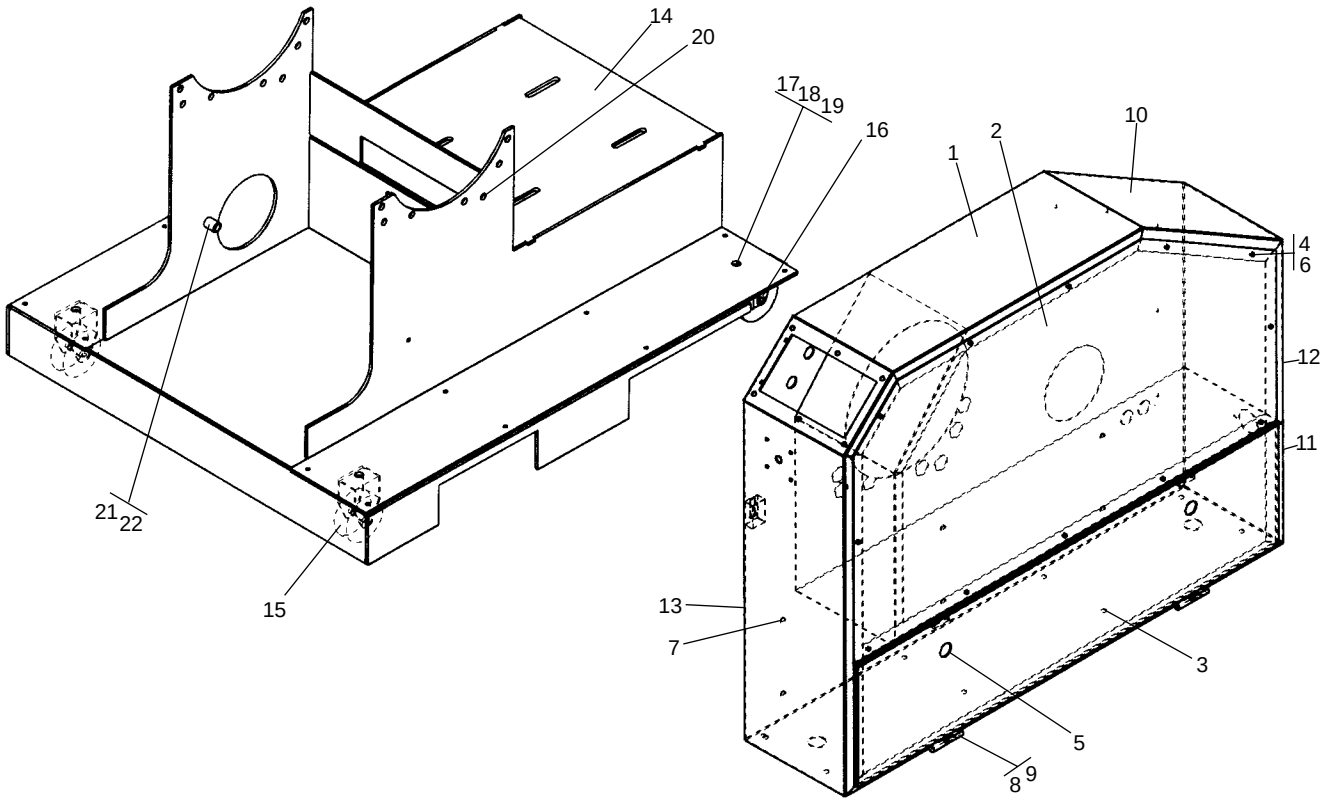
Pos	Qty.			Art. no.	Description
	┌				Granulator CF-810
		┌			Granulator CF-814
			┌		Granulator CF-819
1	2	2	2	911002	Switch
2	1	1	1	911003	Breaking key
3	1	1	1	911004	Breaking key
4	6	6	6	911005	Cover washer
5	4	4	4	940076	Socket screw
6	4	4	4	940611	Socket screw
7	6	6	6	940267	Nut

8.16 Sound cabin



Pos	Qty.			Art. no.	Description
	⌐				Granulator CF-810-K
		⌐			Granulator CF-814-K
			⌐		Granulator CF-819-K
1	1	1	1	1-29581	Cover, left
2	1			2-29583	Cover, front
		1		2-29584	Cover, front
			1	2-29585	Cover, front
3	1			2-29586	Cover, rear
		1		2-29587	Cover, rear
			1	2-29588	Cover, rear
4	1			2-29589	Door
		1		2-29590	Door
			1	2-29591	Door
5	1	1	1	3-29592	Holder, rear
6	1	1	1	2-29593	Bracket, cover, rear
7	1			2-29613	Border
		1		2-29614	Border
			1	2-29615	Border
8	1	1	1	329655	List
9	3	3	3	940032	Socket cap screw
10	1	1	1	950555	Lock, door lock
11	2	2	2	950533	Hinge
12	5	5	5	940261	Rivet
13	4	4	4	950557	Nut, blind rivet
14	8	8	8	950556	Nut, blind rivet
15	8	8	8	940076	Socket cap screw M5
16	2	2	2	940054	Socket cap screw M8
17	1	1	1	970218	List
18	1	1	1	970148	List
19	15	15	15	940213	Socket cap screw M6
20	4	4	4	940257	Rivet

8.17 Enclosure/Body



Pos	Qty.			Art. no.	Description
	⌜				Granulator CF-810
		⌜			Granulator CF-814
			⌜		Granulator CF-819
1	1	1	1	1-29542	Cover, transmission
2	1	1	1	2-29582	Lid
3	10	10	10	940213	Socket cap screw
4	12	12	12	940647	Torx screw
5	2	2	2	991567	Lock, door lock
6	12	12	12	950269	Nut, blind fastening
7	6	6	6	950321	Nut, blind fastening
8	1	1	1	4-30274	Stop, door
9	2	2	2	940027	Nut M6
10	1	1	1	970195	Noise absorber
11	1	1	1	970218	List
12	1	1	1	970141	List
13	1	1	1	970148	List
14	1			1-29539	Bottom plate
		1		1-29540	Bottom plate
			1	1-29541	Bottom plate
15	2	2	2	950148	Wheel, fixed
16	2	2	2	950147	Wheel, foot brake
17	4	4	4	940051	Socket cap screw
18	4	4	4	940024	Nut
19	4	4	4	940155	Washer
20	14	14	14	940037	Socket cap screw
21	2	2	2	4-30076	Distance
22	2	2	2	940104	Socket cap screw

9. Wiring diagram

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

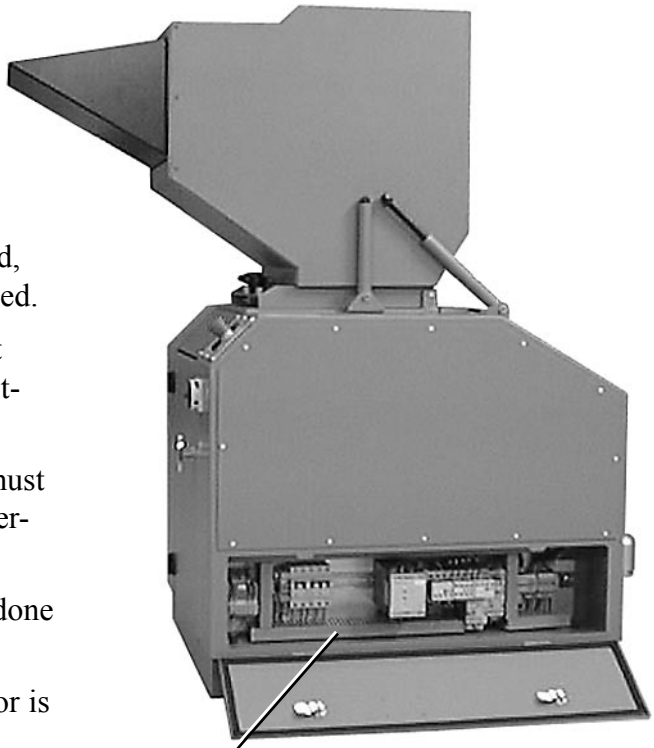
If the granulator settings are changed, the machine can be seriously damaged.

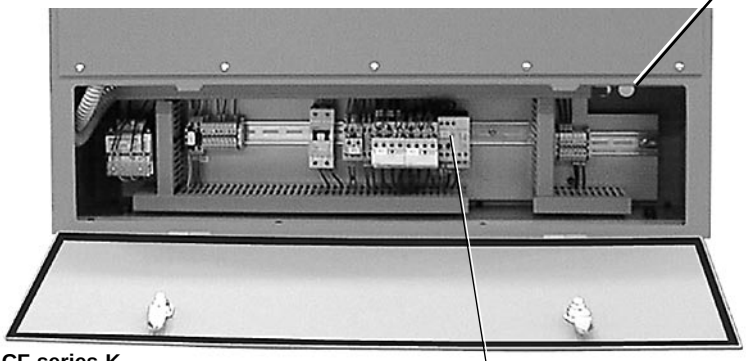
All Warranties and Conair's Product Liability will be void, if the basic settings of the granulator are changed.

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

Electrical installation must only be done by a competent electrician!

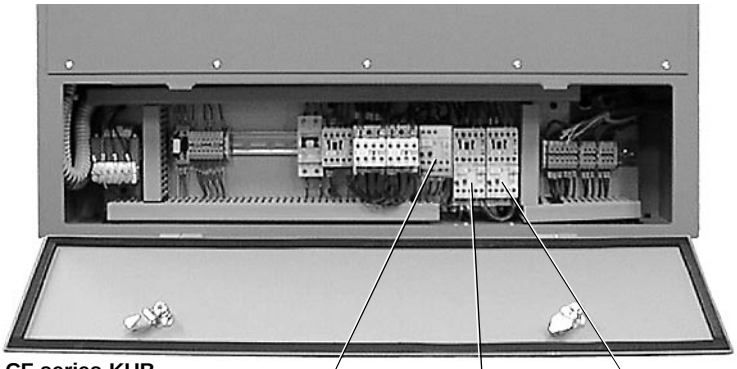
The distribution box of the granulator is located on the right, low down.





CF series-K

Motor overload circuit breaker (F1)



CF series-KUB

Motor overload circuit breaker (F1)

Blower overload circuit breaker (F2)

Conveyor belt overload circuit breaker (F3)

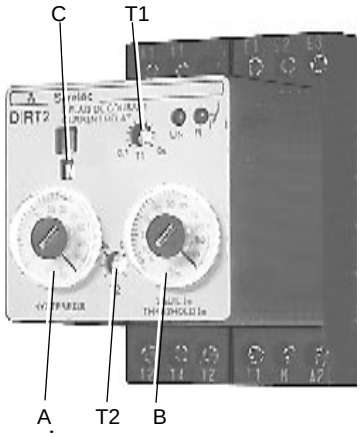
9.1 Current sensing relay

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

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

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

Relay functions and normal settings:



T1 – Start delay, prevents the relay from breaking on connection (0.1 - 10 sec).
The default start delay is 0.1 seconds.

T2 – Reaction time, prevents the relay from breaking during temporary high loading (0.1 - 3 sec).
Default reaction time is 3.0 seconds.

A – Hysteresis, adjustable between 5 - 50% of the set limit.
Default hysteresis is 20 %.

B – 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.

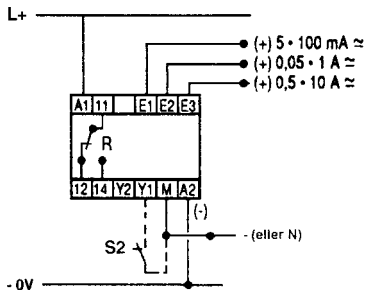
C – Relay function, N = normal; I = inverted;

Connection

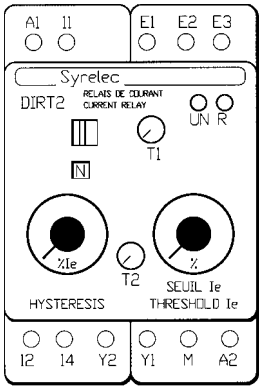
The current sensing relay is connected in series with the mill motor via a current transformer.

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

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



Default setting for this granulator:



Granulator motor, rated current: ..... $\sqrt{3}$ = ... A

Current transformer: ..... /1A

Start delay T1: 0,1 sec. ☐ other value: .....

Reaction time T2: 3,0 sec. ☐ other value: .....

Limit values: % ..... = ... A

Hysteresis: % ..... = ... A

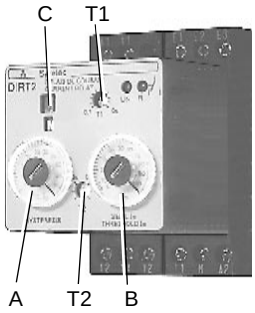
Example

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 – Start delay setting 0.1 second.

T2 – Reaction time setting 3.0 seconds.

A – Hysteresis 20 %.

B – Limit value 30 %.

C – Relay function N normal.

The current transformer size is 30/1A.

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

In a current transformer with a transformation ratio of 30/1, the limit value B should be set to 30 % or 9 A (30 A = 100 %).

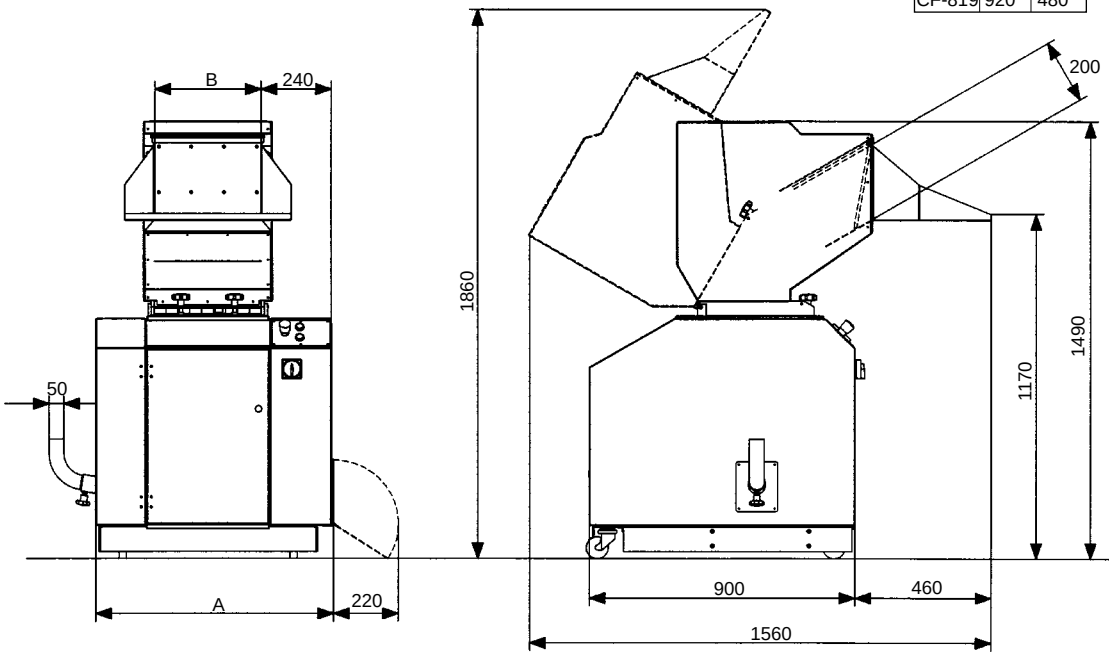
The current sensing relay detects the current consumption of the granulator motor and stops the conveyor, when the granulator motor exceeds 9 A for 3 seconds, to prevent further material from being fed into the hopper.

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.

10. Layout

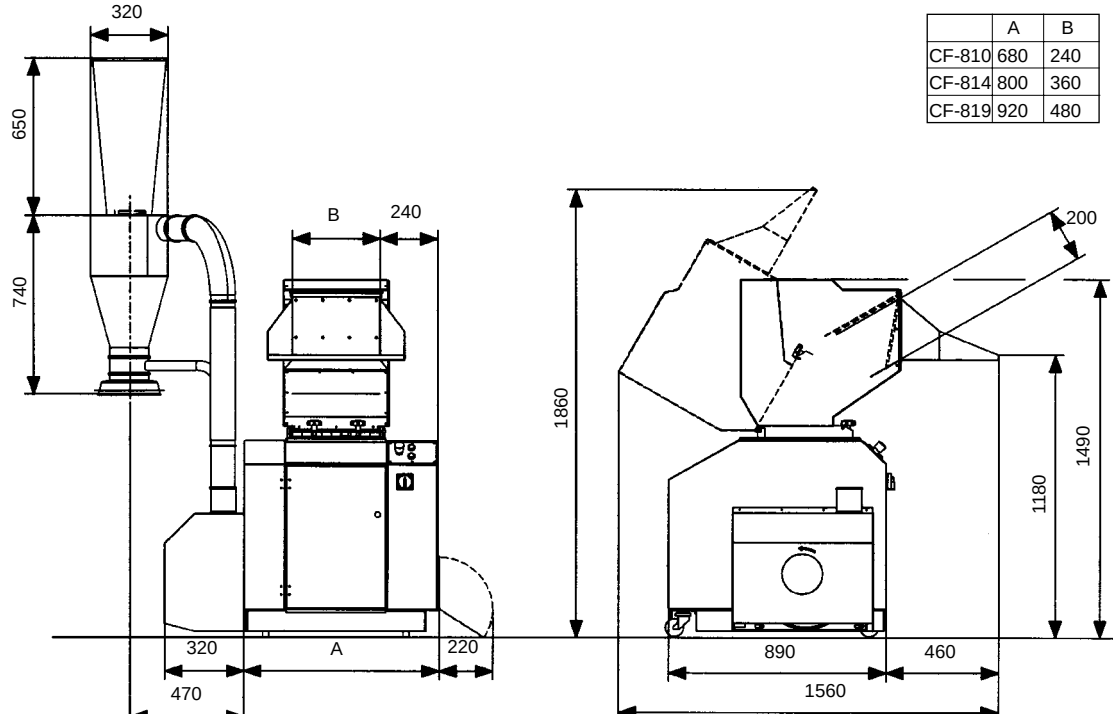
CF Series, allround hopper ”K”, hopper loader, soundproof

	A	B
CF-810	680	240
CF-814	800	360
CF-819	920	480

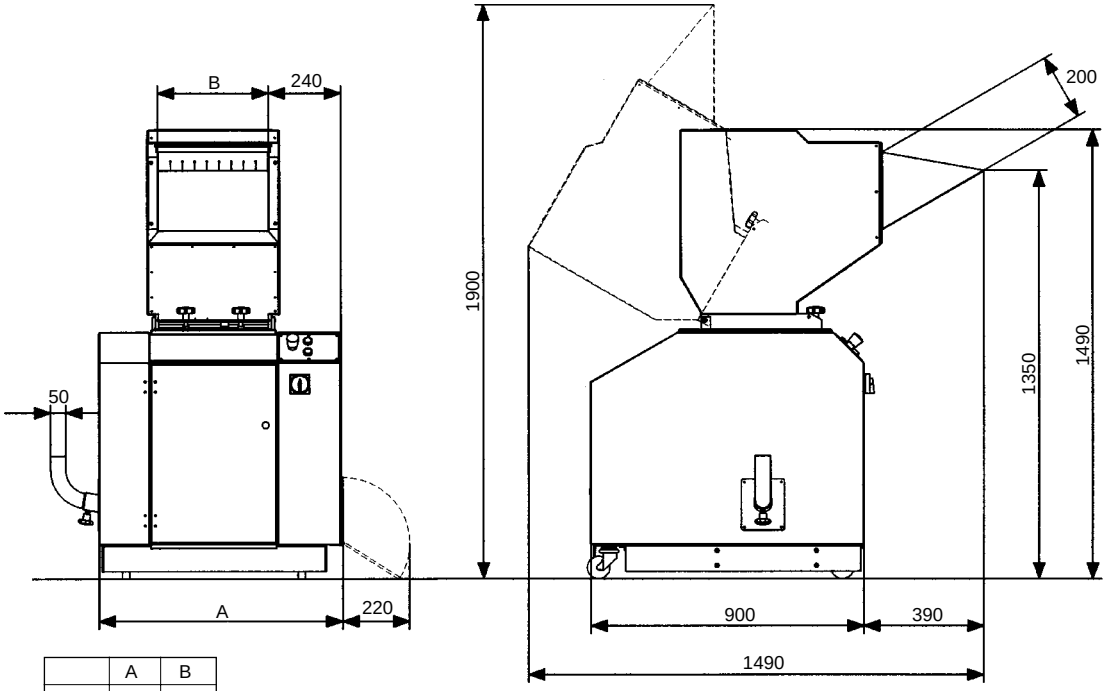


CF Series, allround hopper ”K”, blower F-7 cyclone AX-7,5 with holder/bag holder, soundproof

	A	B
CF-810	680	240
CF-814	800	360
CF-819	920	480

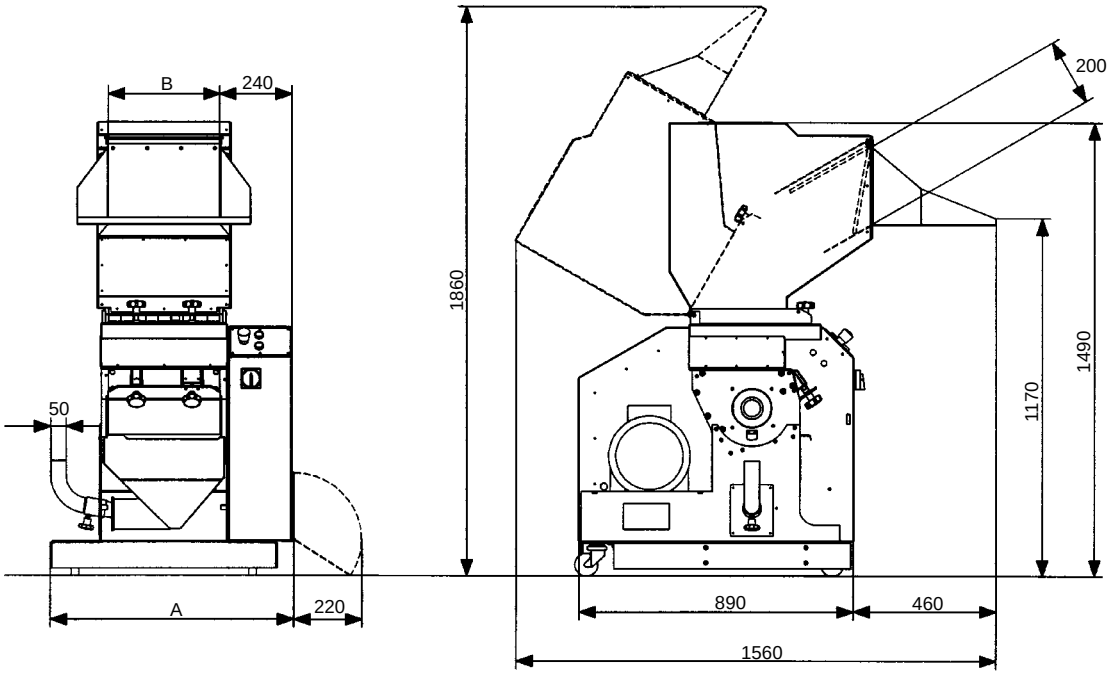


CF Series, allround hopper, hopper loader, soundproof



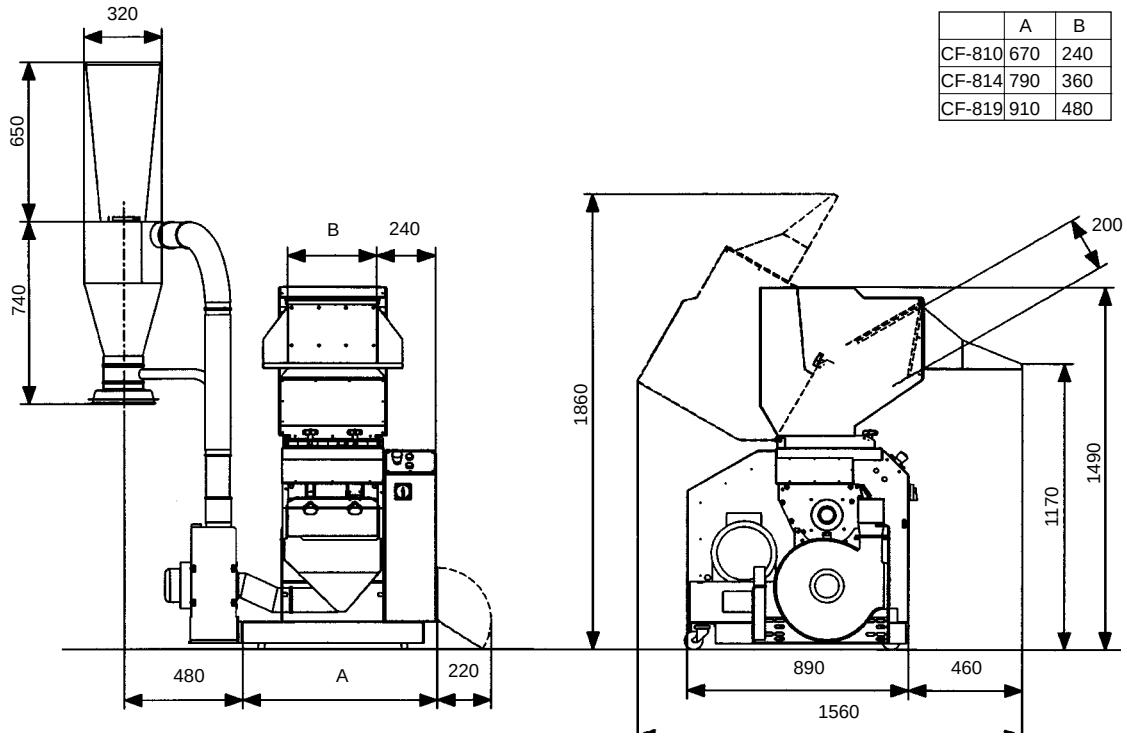
	A	B
CF-810	680	240
CF-814	800	360
CF-819	920	480

CF Series, allround hopper ”K”, hopper loader, non soundproof



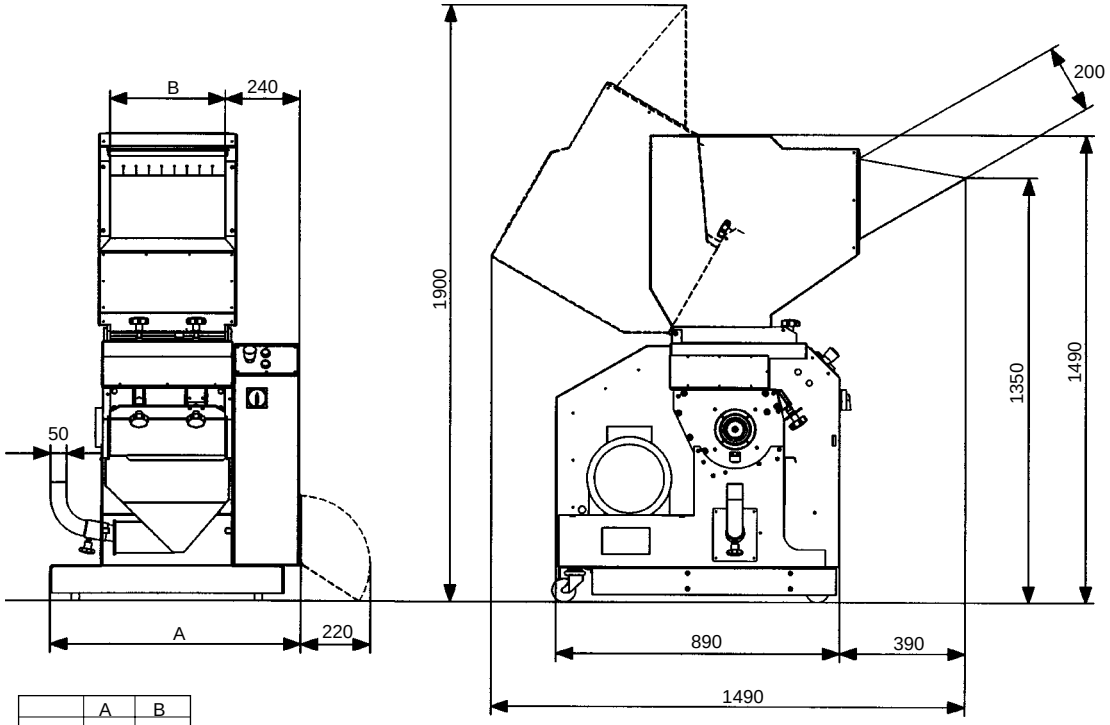
	A	B
CF-810	670	240
CF-814	790	360
CF-819	910	480

CF Series, allround hopper ”K”, blower F-7 cyclone AX-7,5 with holder/bag holder, non soundproof



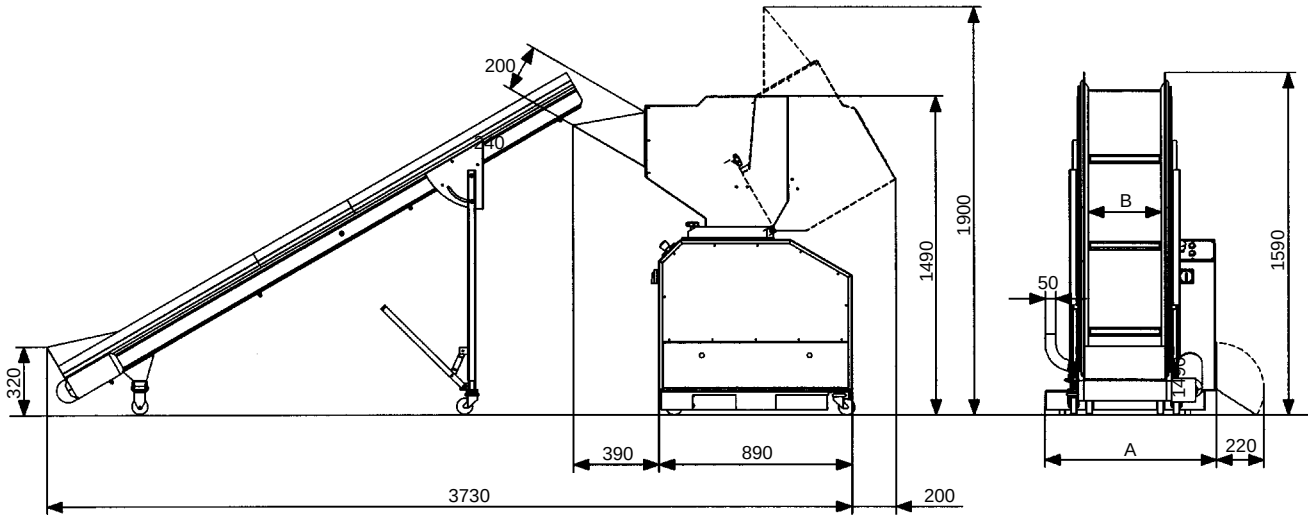
	A	B
CF-810	670	240
CF-814	790	360
CF-819	910	480

CF Series, allround hopper, hopper loader, non soundproof



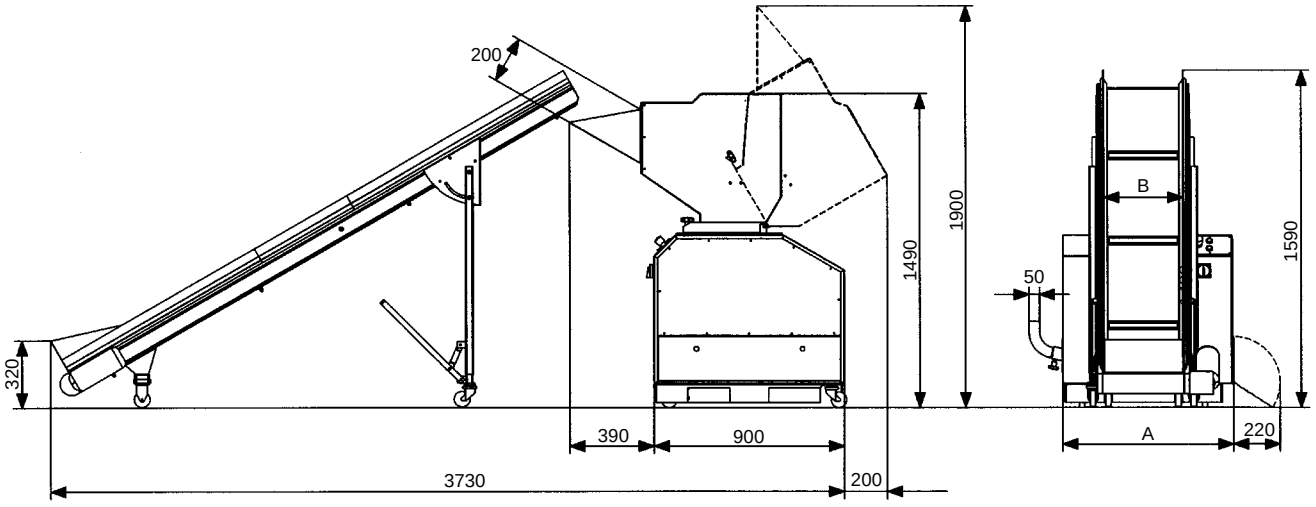
	A	B
CF-810	670	240
CF-814	790	360
CF-819	910	480

CF Series, allround hopper, band conveyor, hopper loader, non soundproof



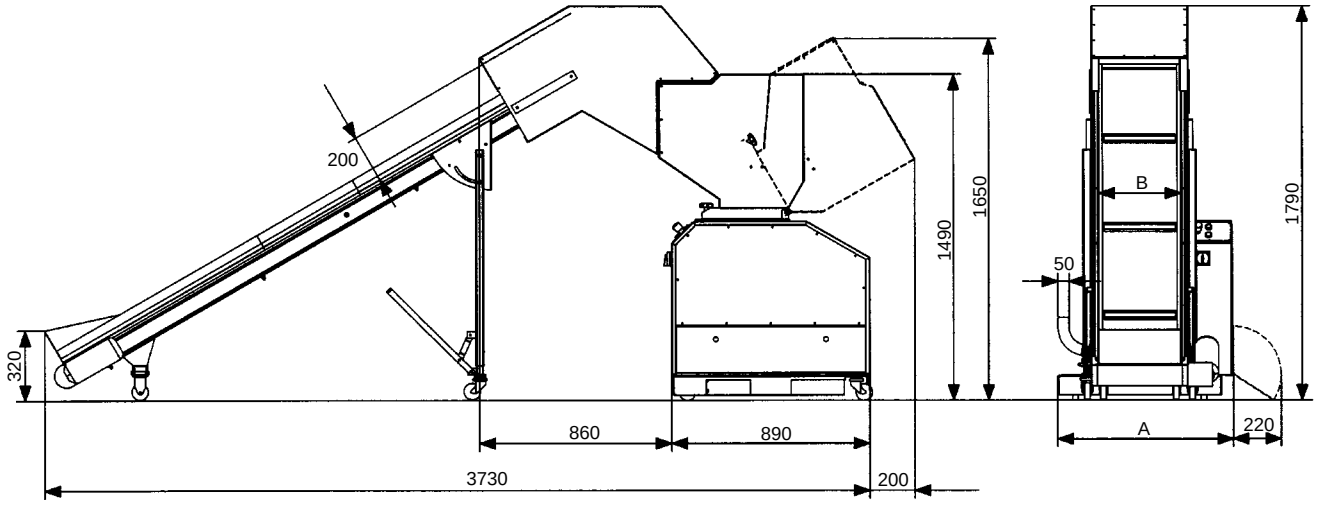
	A	B
CF-810	670	240
CF-814	790	360
CF-819	910	480

CF Series, allround hopper, band conveyor, hopper loader, soundproof



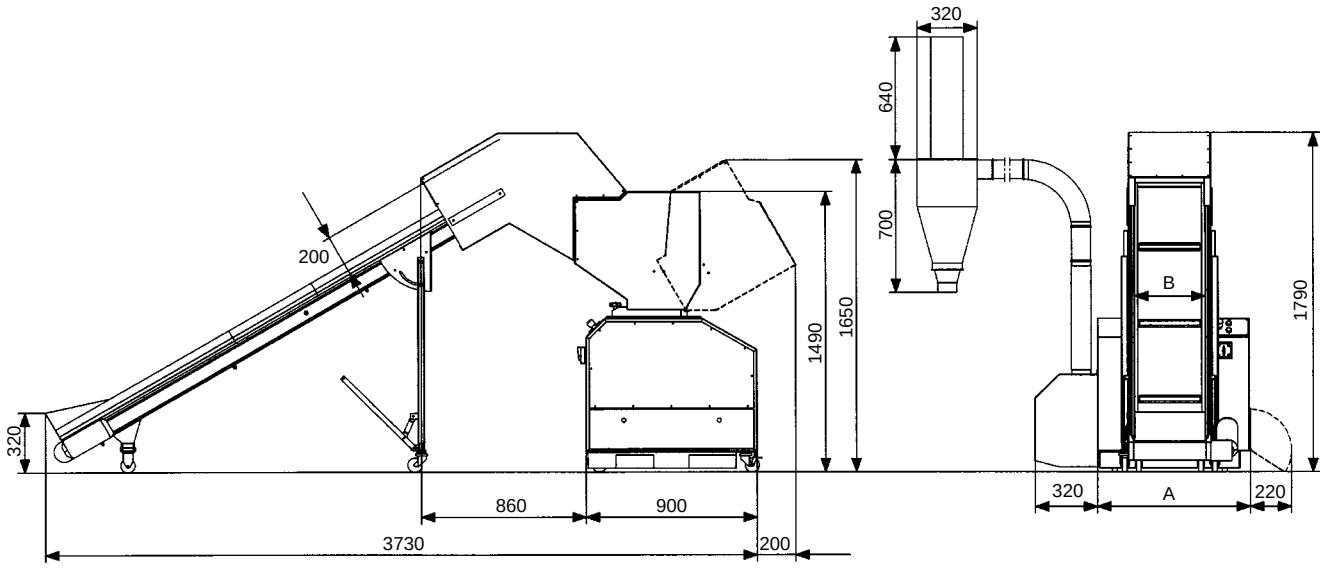
	A	B
CF-810	680	240
CF-814	800	360
CF-819	920	480

CF Series, allround hopper ”KB”, band conveyor, hopper loader, non soundproof



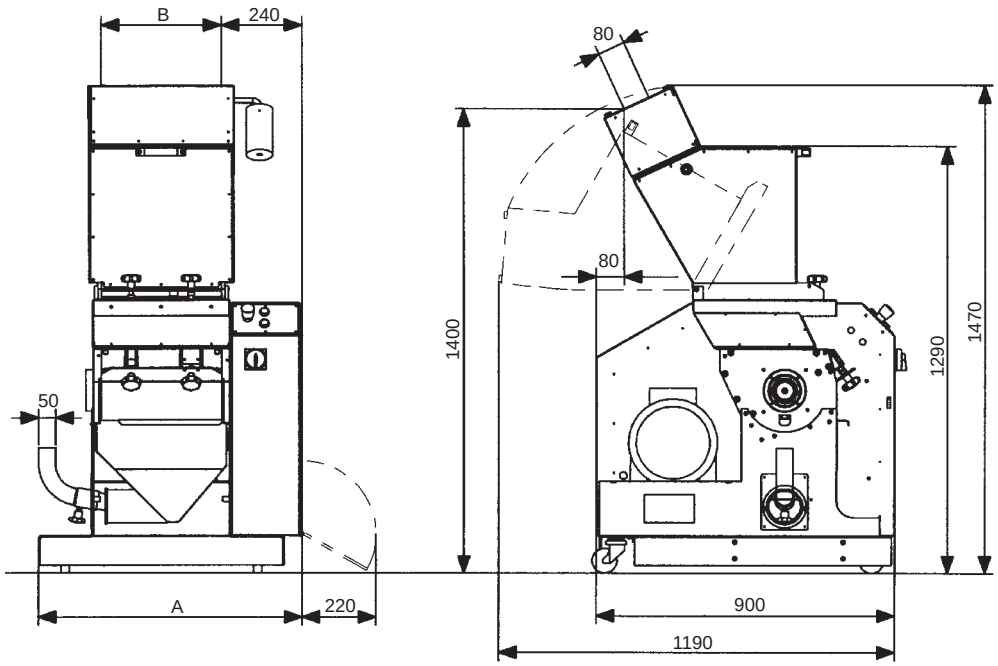
	A	B
CF-810	670	240
CF-814	790	360
CF-819	910	480

CF Series, allround hopper ”KB”, band conveyor, blower F-7, cyclone AX-7,5, sound-proof



	A	B
CF-810	680	240
CF-814	800	360
CF-819	920	480

CF Series, profile hopper, non soundproof



	A	B
CF-810	670	240
CF-814	790	360
CF-819	910	480

11. Accessories

Overview

The granulator is divided into the following modules:

Ordering spare parts

Only use original Conair spare parts when replacing machinery components.

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

When ordering spare parts, please specify:

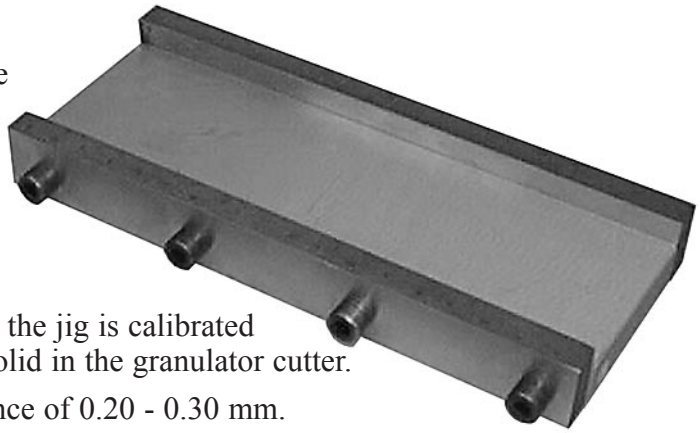
- Machine type/designation, on the machine´s rating plate.
- Serial number, on the machine´s rating plate.
- Part number, from this list of spare parts.
- Number of components.

11.1 Pre-setting of rotating knives, granulator with open cutter

Knives can only be pre-set on granulators with open cutter.

The knives are pre-set on a jig.

The jig is not included when the granulator is delivered, but is a very practical accessory.



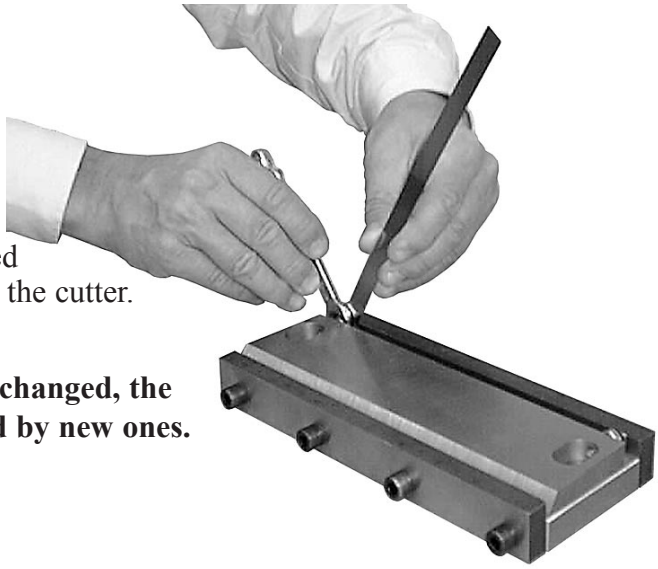
Setting up the knives

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

When the machine is delivered, the jig is calibrated against the set screws welded solid in the granulator cutter.

The jig gives the correct clearance of 0.20 - 0.30 mm.

- Screw the adjustment screws on a rotating knife in somewhat.
- Put knife in the jig, with the edge downwards.
- Put an 0.20 mm feeler gauge between the adjustment screws and the rear of the jig.
- Unscrew the adjustment screws until the feeler gauge begins to bind.
- The pre-setting is now completed and the knife can be installed in the cutter.



Installation of pre-set knives.

NOTE! Each time the knives are changed, the fastening screws must be replaced by new ones.

Install one pair of knives at a time.

- Clean the knife attachments.
- Install one pair of knives
- Install the attachment screws with washers loosely.
- Adjust the pair of knives against the outer edges of the cutter housing.
  NOTE! The knives must butt up against the rings on the outer edges of the cutter housing.
- Make sure that the knives butt up against the rear of the knife attachment.
- Tighten the fastening screws, tightening torque 220 Nm.
- Re-check that the knife clearance is 0.20 - 0.30 mm.
  Check against both the front and rear fixed knives.
- Re-check that the knives butt up against the outer edges of the cutter housing.
- Install the remaining pairs of knives in the same way.

11.2 Third fixed knife

As an optional extra, the granulator can be equipped with a third fixed knife to increase the efficiency of the granulator.

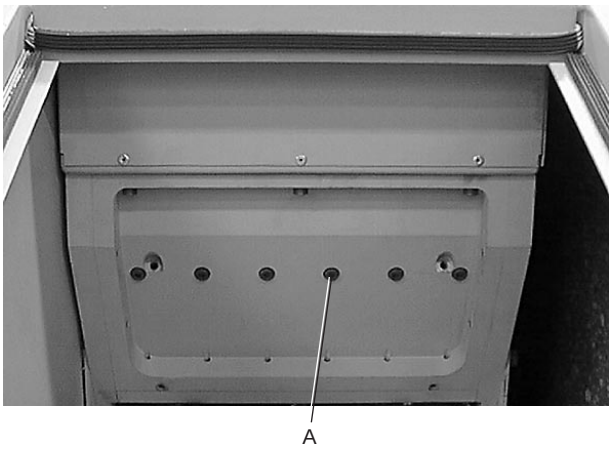
Open the hopper to install/remove the third fixed knife.
CF series-K, remove the rear guard plate over the motor and open the door.

Removal

1. Undo and remove the screws (A) which hold the knife.
2. Remove the knife (B).
3. Clean the knife attachments where the knife was installed.

Installation

1. Install the knife on the knife attachment.
2. Screw in the socket cap screws (A), so that the support rule (C) lightly supports the knife.
3. Press the knife firmly into the knife attachment to bed it down.



NOTE! The screws in the rear of the knife attachment are bonded in place.

NOTE! The knife has a fixed position and no adjustment may be done.

4. Tighten the screws (A), with an alternating tightening torque to 40 Nm.

Sharpening

The third fixed knife is disposable and is changed when necessary.

11.3 Band conveyor

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

The conveyor can be fitted with a metal-free zone and a metal detector.

Safety

When performing any work with the band conveyor, both the circuit-breaker and the main circuit-breaker must be "Off". Alternatively, the connector must be pulled out of the power point on the granulator's electrical cabinet!

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 authorised electrician.

Connect the cables to the electrical cabinet according to the markings and the granulator's electrical scheme (see chapter 9). Alternatively, connect the band conveyor to the electrical cabinet with the connector.

Switch on the main circuit-breaker on the electrical cabinet. 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 the connection to the contactor for the band conveyor in the electrical cabinet. 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.

When the belt moves obliquely. Screw 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.

Maintenance

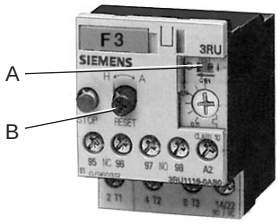
During all maintenance work on the band conveyor, both the circuit-breaker and the main circuit-breaker must be "Off". Alternatively, the connector must be pulled out of the power point!

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.

Trouble-shooting

If the band conveyor does not start



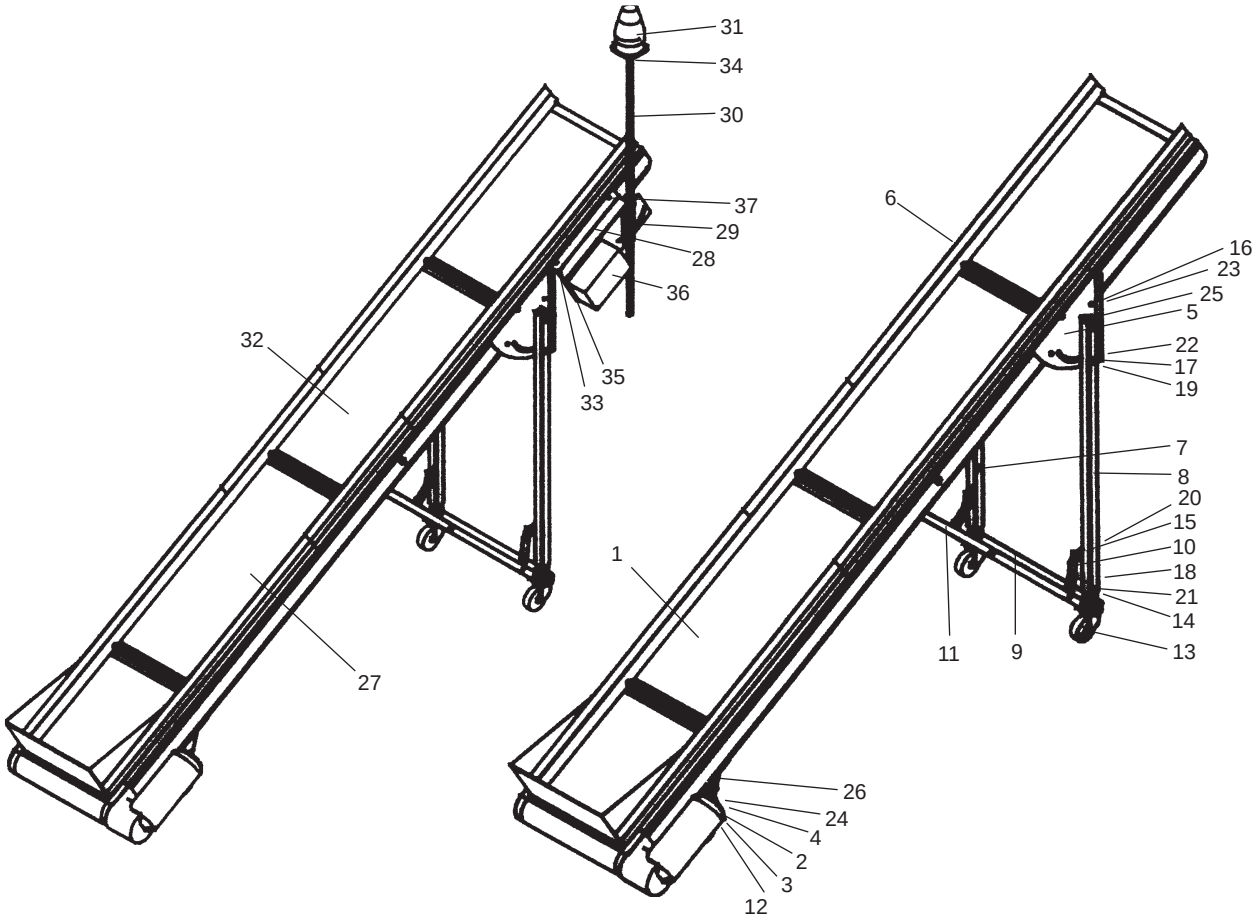
The conveyor belt motor has an overload circuit breaker, F3, in the distribution cabinet, which trips if you jam or overload the conveyor belt.

This is indicated in the window (A) which then shows an "0".

To reset, press the "reset" button (B).

Also check the wiring diagram in chapter 9, additions and modifications can occur.

11.3.1 Spare parts for the band conveyor



Pos	Qty.			Art. no.	Description
	⌜			3-030648	Band conveyor B200 CC2700
		⌜		3-030650	Band conveyor B350 CC2700
			⌜	3-030652	Band conveyor B450 CC2700
1	1			2-030649	Band conveyor
		1		2-030651	Band conveyor
			1	2-030653	Band conveyor
2	1			2-030692	Bracket wheel
		1		2-030680	Bracket wheel
			1	2-022657	Bracket wheel
3	1			2-030693	Bracket wheel
		1		2-030681	Bracket wheel
			1	2-023510	Bracket wheel
4	1	1	1	4-020496	Shaft
5	1	1	1	2-022654	Bracket upper left
6	1	1	1	2-023508	Fäste upper right
7	1	1	1	2-023956	Leg left
8	1	1	1	2-023957	Leg right
9	1			2-030694	Bracket wheel rear
		1		2-030687	Bracket wheel rear
			1	2-022658	Bracket wheel rear
10	2	2	2	4-007550	Slewing brack
11	1			2-030695	Stirrup leg
		1		2-030688	Stirrup leg
			1	2-022659	Stirrup leg
12	2	2	2	950412	Wheel fixed
13	2	2	2	950411	Wheel turnable
14	4	4	4	940306	Screw
15	6	6	6	940044	Screw
16	10	10	10	940057	Screw
17	4	4	4	940005	Socketscrew

Pos	Qty.			Art. no.	Description
18	2	2	2	940059	Nut
19	4	4	4	940015	Nut
20	6	6	6	940317	Nut
21	4	4	4	940155	Washer
22	4	4	4	940031	Washer
23	22	22	22	940162	Washer
24	2	2	2	950061	Retaining ring SGA
25	2	2	2	950267	Sealing end
26	1	1	1	911006	Connector 6-pol

Pos	Qty.			Art. no.	Description
	⌜			3-030689	Band conveyor B200 CC2700 MD200P
		⌜		3-030690	Band conveyor B350 CC2700 MD350P
			⌜	3-030691	Band conveyor B450 CC2700 MD450P
27	1			2-030648	Band conveyor for metal detector
		1		2-030650	Band conveyor for metal detector
			1	2-030652	Band conveyor for metal detector
28	1	1	1	2-022341	Holder control
29	1	1	1	2-022342	Holder warning
30	1	1	1	2-010792	Pole warning
31	1	1	1	910589	Warning lamp
32	1			910964	Metal detector MD200
		1		911214	Metal detector MD350
			1	910963	Metal detector MD450
33	5	5	5	940057	Screw
34	8	8	8	940240	Screw
35	4	4	4	940162	Washer
36	1	1	1	911006	Connector 6-pol
37	2	2	2	950271	Nut blind rivet

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 forwarding 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

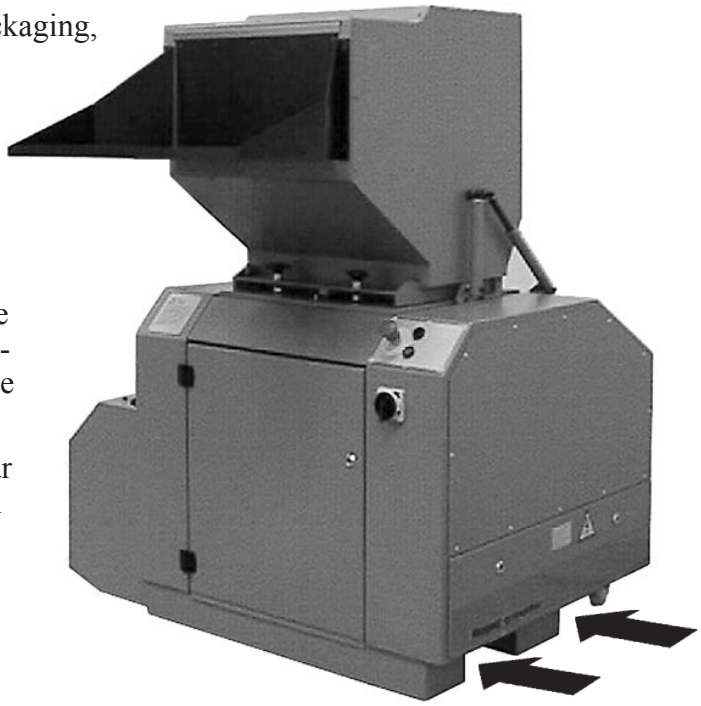
The machine weighs incl. packaging, approx. 470 - 600 kg.

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 on the right-hand side which accommodate a fork-lift truck.

Drive in a fork-lift truck as far as possible (until the bends in the forks touch the machine), 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.

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.