User Guide

CG Tangential Feed Granulators

Models CG-1418 and CG-1424

Installation

Operation

Maintenance

Troubleshooting

Instant Access
Parts and Service
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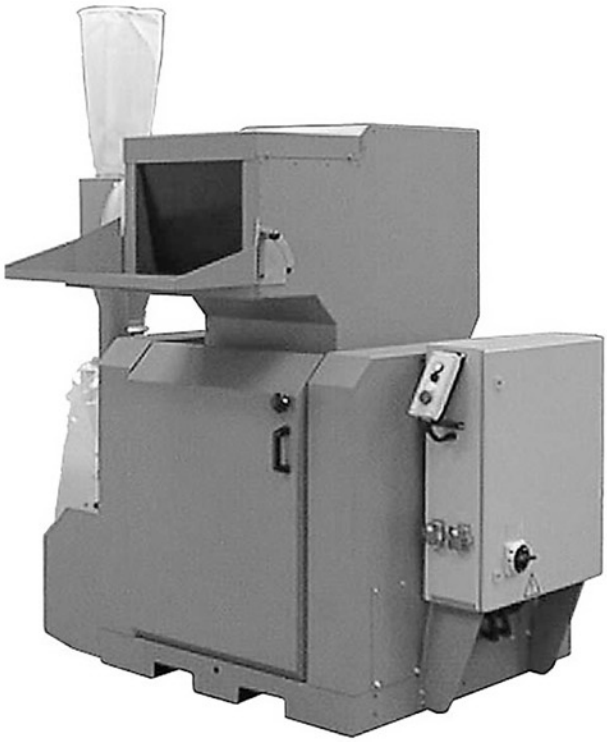

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UGG004/0199

⚠ **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This manual is out-of-date and is provided only for its technical information, data and capacities.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containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.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: UGG004/0199
Serial number(s):
Model number(s):

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Contents

1. Introduction

This manual applies to the CG series of Conair granulators.

Model nos. CG-1418 and CG-1424 specify the size of the cutting chamber.

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.**

⚠ **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.

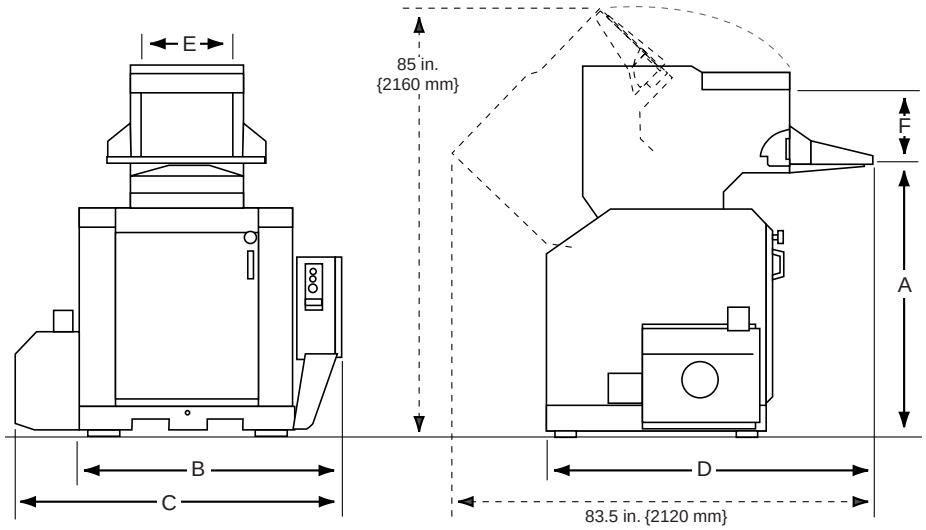
The granulators are delivered with an Instruction Manual and touch-up paint.

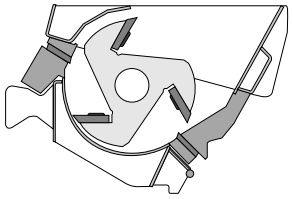
Any modifications or conversions of the machines must be approved by Conair. This is to prevent injuries. The machine warranty and product assurance would otherwise be rendered void.

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

2. Technical specifications

GRANULATOR WITH STANDARD ROBOT/HAND FEED HOPPER





STANDARD 3-BLADE
OPEN ROTOR

MODELS	CG-1418			CG-1424	
Performance characteristics					
Maximum throughput* lbs/hr {kg/hr}	450 {204}			600 {272}	
Cutter chamber opening in. {mm}	14 x 18 {250 x 450}			14 x 24 {350 x 600}	
Rotor speed rpm	525			525	
Motor power† Hp {kW}	10 {7.5}			15 {11.0}	
Rotor type	3-blade open rotor				
Screen hole sizes	0.16, 0.24, 0.31, 0.39, 0.47, 0.67 and 1 in. {4, 6, 8, 10, 12, 17 and 25 mm}				
Knives					
Number of rotating knives	3			3	
Number of fixed knives	2			2	
Dimensions inches {mm}					
A - Height to hopper infeed	54.0 {1370}			54.0 {1370}	
B - Width	51.2 {1300}			57.1 {1450}	
C - Width with optional blower	63.8 {1620}			69.7 {1770}	
D - Depth	63.8 {1620}			63.8 {1620}	
E - Feed chamber width	17.7 {450}			23.6 {600}	
F - Feed chamber height	13.8 {350}			13.8 {350}	
Weight lbs {kg}					
Installed	2094 {950}			2425 {1100}	
Shipping	2315 {1050}			2646 {1200}	
Voltages Total amps based on motor size‡					
	10 Hp	15 Hp	25 Hp	15 Hp	25 Hp
208V/3 phase/60 Hz	30.8	46.2	74.8	46.2	74.8
230V/3 phase/60 Hz	27.9	41.8	53.7	41.8	68.0
400V/3 phase/50 Hz	16.0	24.0	39.1	24.0	39.1
460V/3 phase/60 Hz	13.9	21.0	34.0	21.0	34.0
575V/3 phase/60 Hz	11.1	16.7	27.1	16.7	27.1
Noise level§					
With standard soundproofing	80 to 85 dbA				

ROTOR MOTOR OPTIONS		
●=standard o=optional	CG-1418	CG-1424
10 Hp { 7.5 kW}	●	N/A
15 Hp {11.0 kW}	o	●
25 Hp {18.7 kW}	o	o

EVACUATION BLOWER OPTIONS		
o=optional	CG-1418	CG-1424
1.5 Hp { 1.1 kW}	o	N/A
3.0 Hp { 2.2 kW}	o	o
5.0 Hp { 3.7 kW}	N/A	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.

‡ 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.

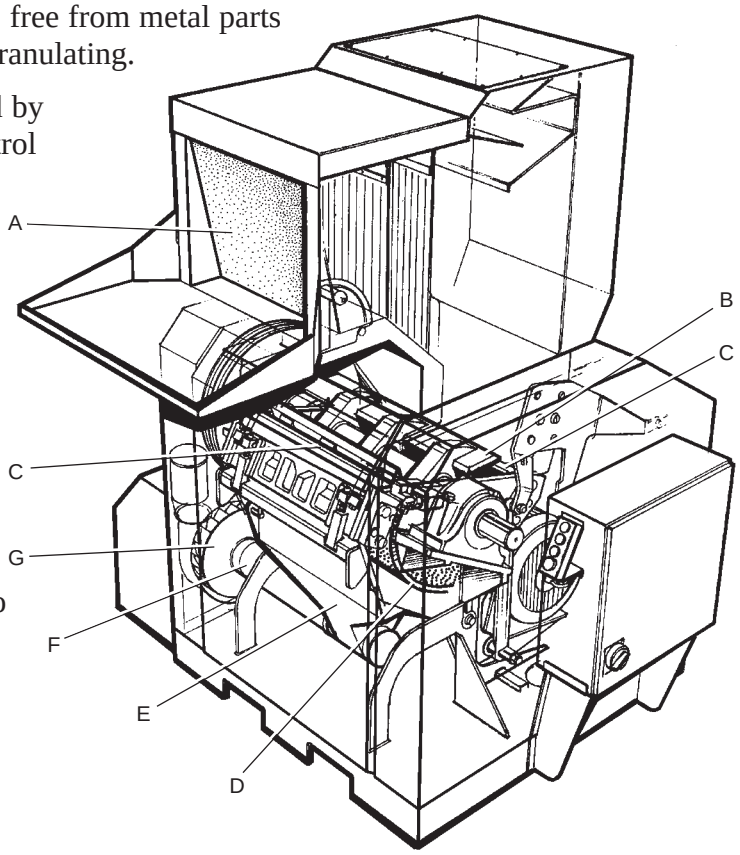
3. Function description

3.1 General

The granulator is designed for grinding plastic waste 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 plastic waste is fed into the hopper (A) and falls down into the cutting chamber, 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 transport onward.

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

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

The granulator is easy to clean, with a folding hopper and good accessibility for maintenance. Knives can be re-sharpened. Grinding is done in a special grinding jig. (The jig is not included when the granulator is delivered, but is available as an option.)

3.2 Safety system

The granulator has a safety system 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

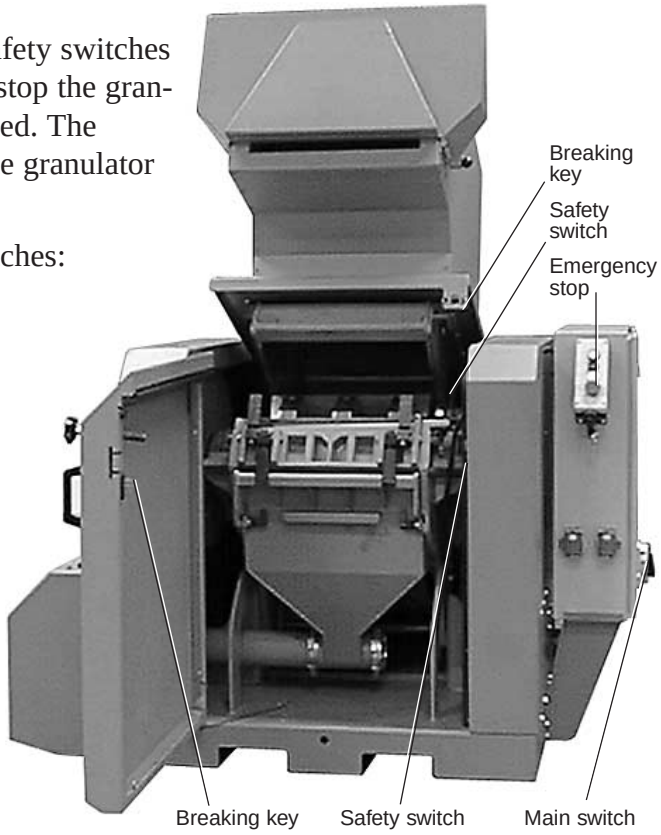
The granulator has position-type safety switches with a breaking key. The switches stop the granulator if the hopper or door is opened. The breaking key at the hopper stops the granulator if the hopper is not properly shut.

This granulator has two safety switches:

- One at the hopper, between the hopper and cutting chamber.
- One at the door, which is combined with the door lock.

Check the wiring diagram to see if your specific granulator has been equipped with additional safety switches.

The door has a lock knob with fine threads. The thread design ensures that the granulator has had time to stop before the door can be opened.



Before starting:

- The hopper must be shut and locked.

  The safety switch senses whether the hopper seals tightly against the cutting chamber during operation.

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

  The safety switch senses whether the door is shut properly.

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

4. Safety instructions

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

The specific technical data for this machine, concerning power and performance- 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) position.**

- **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

- Place the granulator in position and adjust the feet of the machine until the granulator stands horizontally.

  IMPORTANT! Adjust so that all the machine shoes take up equal loads.
- 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 retention screws. Check the screws for both the fixed and rotating knives.

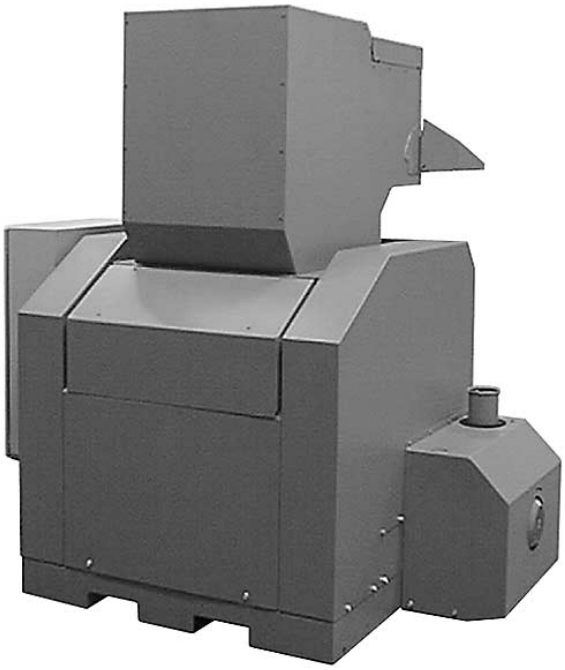
5.1.2 20 - 30 hours after first start

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

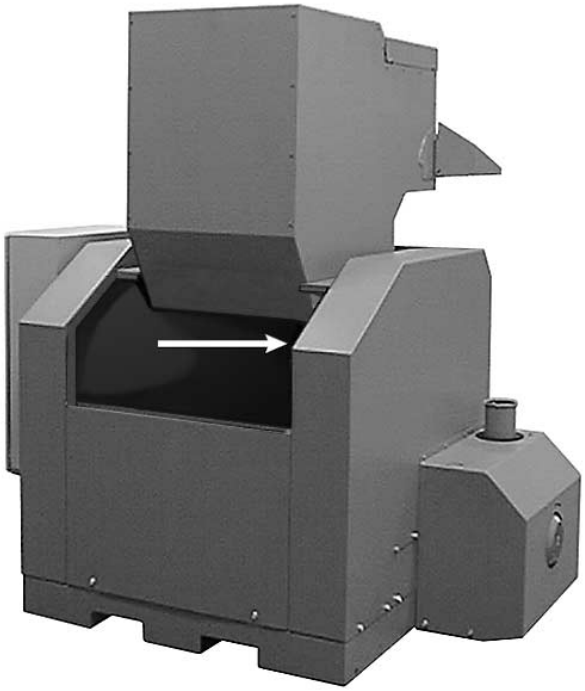
5.2 Electrical connection

The granulator should be connected by a competent electrician.

- Connect the granulator to the main power supply. The wiring diagram indicates the connection voltage (Volt) and the fuse sizes (Ammeter). See chapter 9.
- The granulator is delivered with electrical equipment connected for clockwise 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:



- 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 the distribution box is “On” (1).
- Check that the emergency stop is not activated.
- Press “Start”
- Check that the granulator motor rotates in the direction indicated by the arrow on the cutter pulley.
- 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.

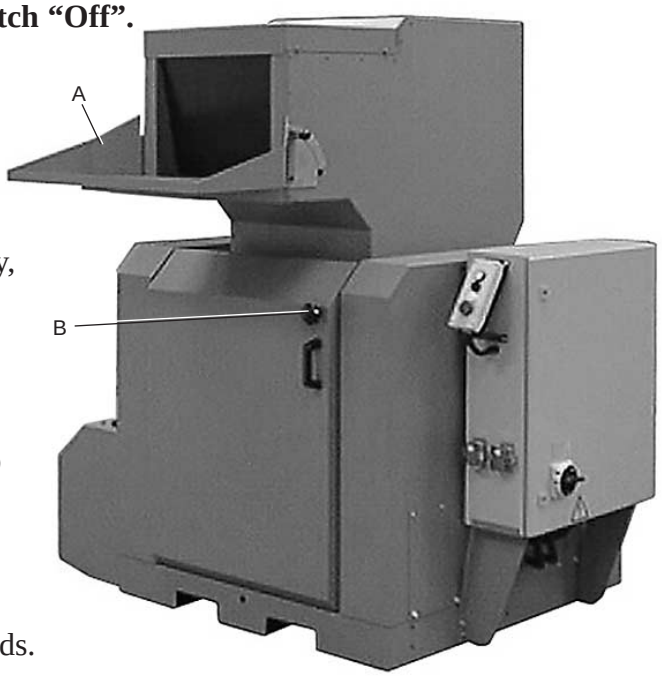
If any direction of rotation is incorrect:

- Press the stop button.
- Switch off the main power switch.
- Change 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.



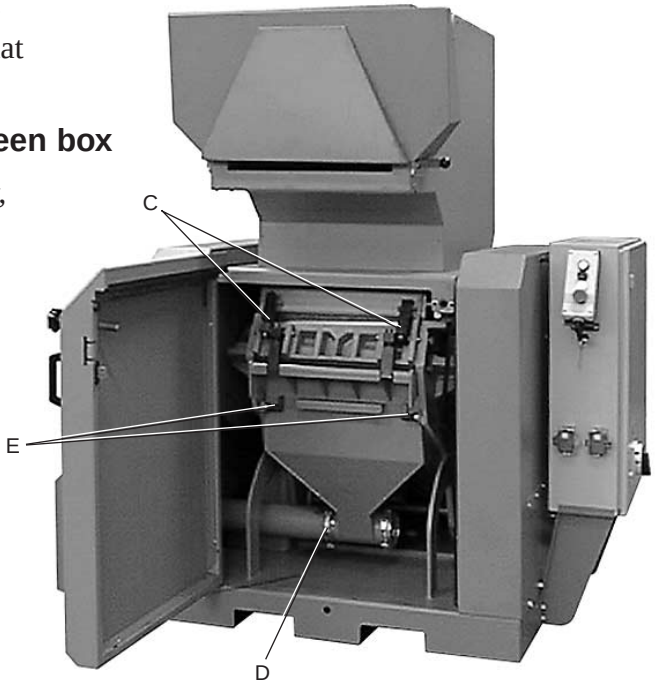
Opening the hopper

1. Check that the hopper is empty, then stop the granulator.
2. Switch "Off" the main switch.
3. Fold up the feed table (A).
4. Screw out, undo the lock knob (B) and open the door.
5. Undo and fold out the lock clasps (C) for the hopper.
6. Open/fold the hopper backwards.

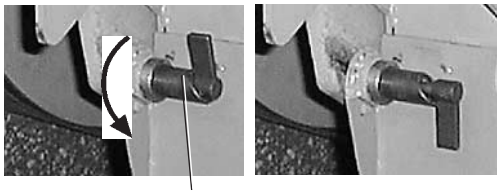
NOTE! The hopper is counter-balanced with gas springs so that it does not fall out of control.

Opening the granule bin and screen box

1. Check that the hopper is empty, then stop the granulator.
2. Switch "Off" the main switch.
3. Fold up the feed table (A).
4. Undo the lock knob (B) and open the door.
5. Undo the quick coupling (D) on the pipe stub and move it to the side.
6. Undo the granule bin catch. Fold the spring-loaded lock arms (E) down.



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



7. First pull the granule bin (F) forwards, then lift the rear edge upwards and out.
8. Undo and fold out the lock clasps (G) for the screen box (H).

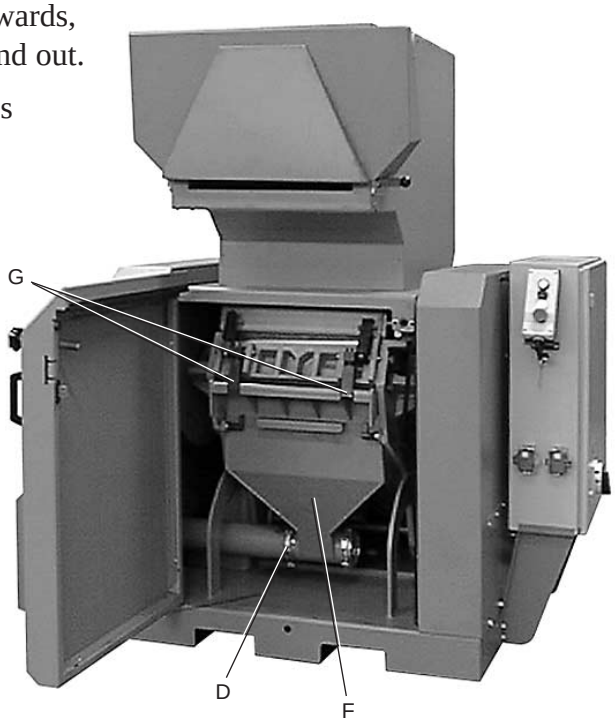
NOTE! Hold the screen box at the same time, so that it does not fall down out of control.

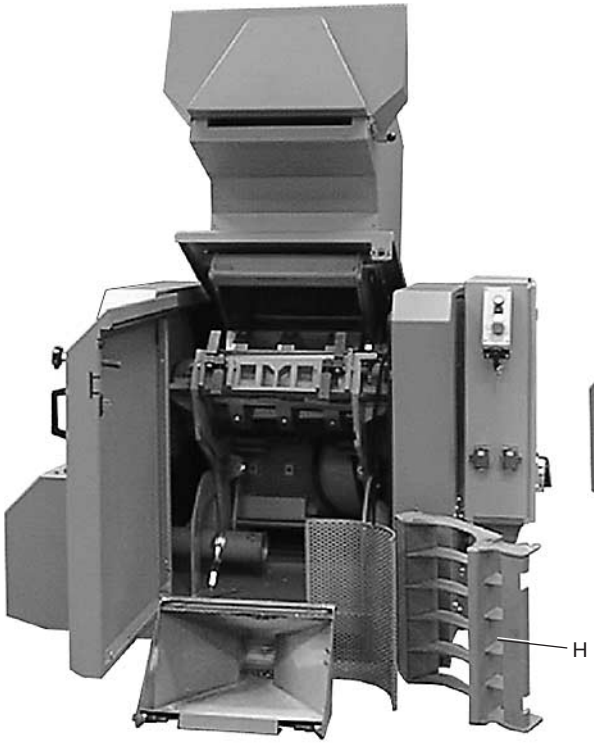
9. Fold the screen box down.

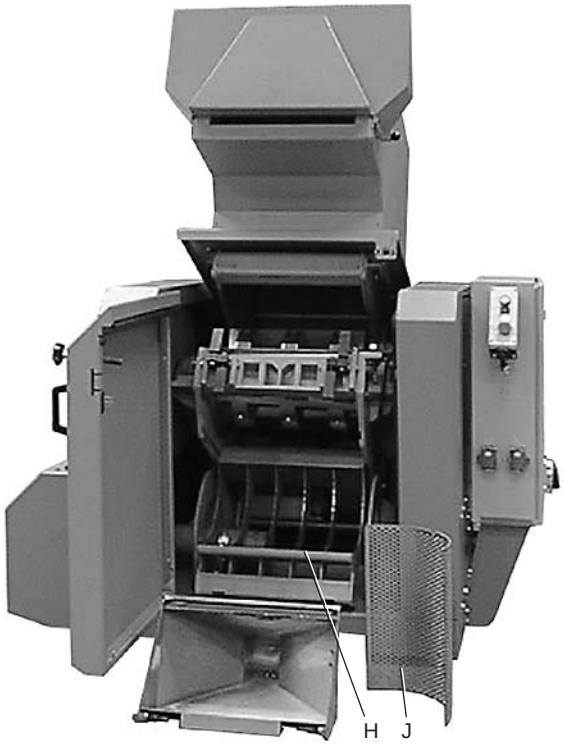
   The screen (J) is now accessible and can be lifted out for changing or cleaning.

10. Hold the screen box handles and pull the screen box (H) forwards.
11. Hold the screen arches and handle of the screen box firmly.

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







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

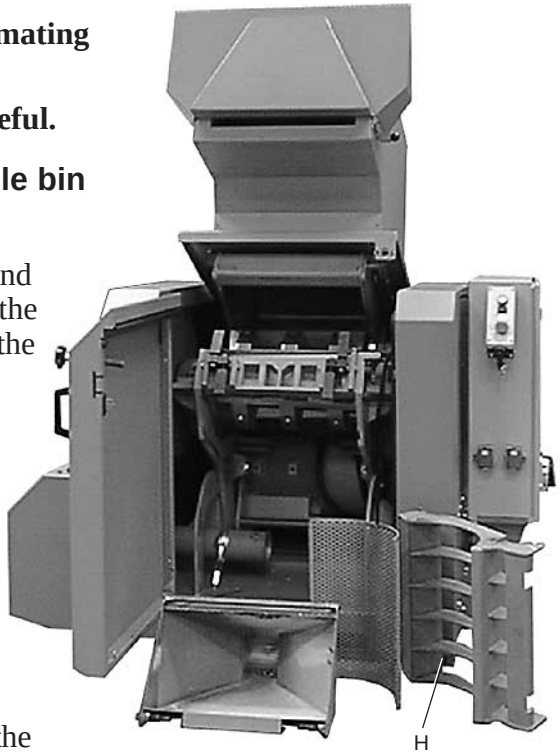
1. Lift the screen box (H).

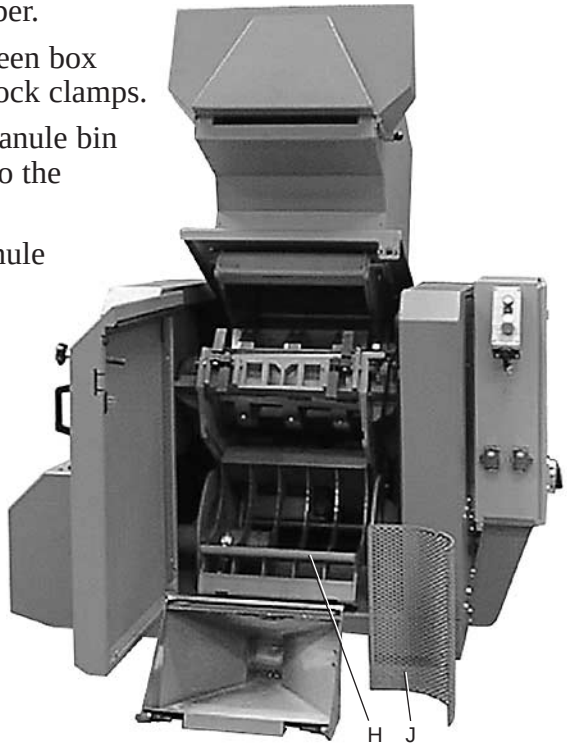
   Hold the screen arches of the screen box and the handle firmly. Lift up the rear edge of the screen box and insert the guide heels into the grooves in the cutting chamber.

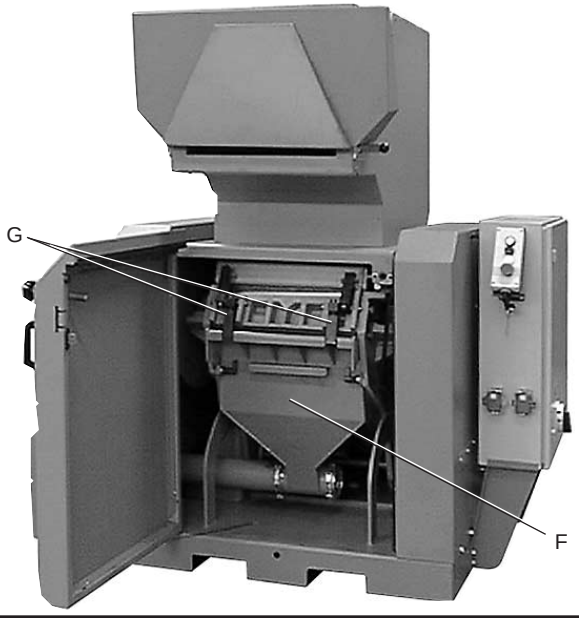
   Then carefully lower the rear edge of the screen box.

2. Lift the screen box handle and slide the screen box in until it stops.
3. Install the screen (J) in the screen box. Centre 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 cutting chamber.
5. Fold the lock clamps (G) against the screen box in and then fix the screen box with the lock clamps.
6. Install the granule bin (F). Lift up the granule bin and insert the guide heels on the rear into the grooves in the cutting chamber.

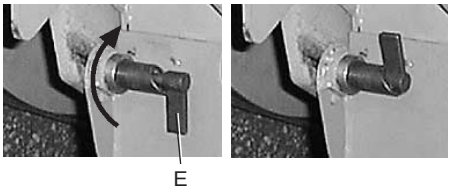
   Carefully lower the rear edge of the granule bin and slide the bin in until it stops.



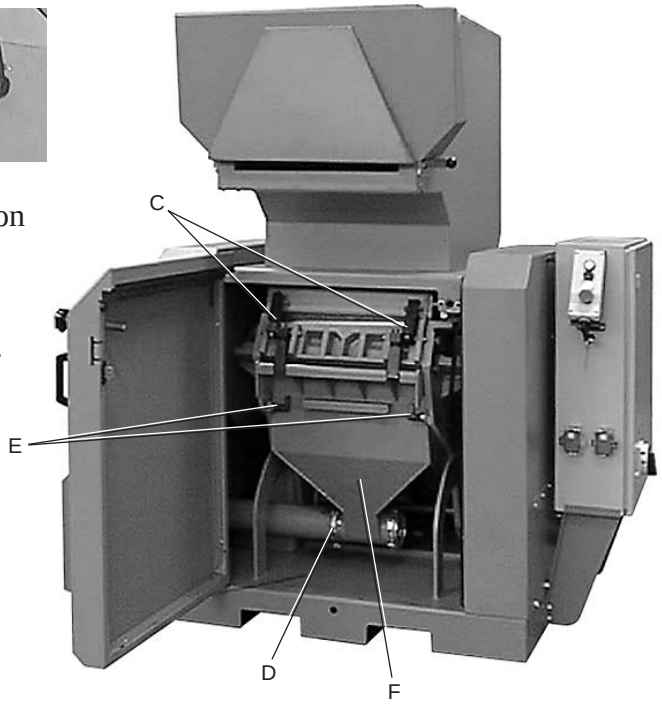




7. Lift up the front edge of the granule bin and lock it. Fold the spring-loaded lock arms (E) upwards.

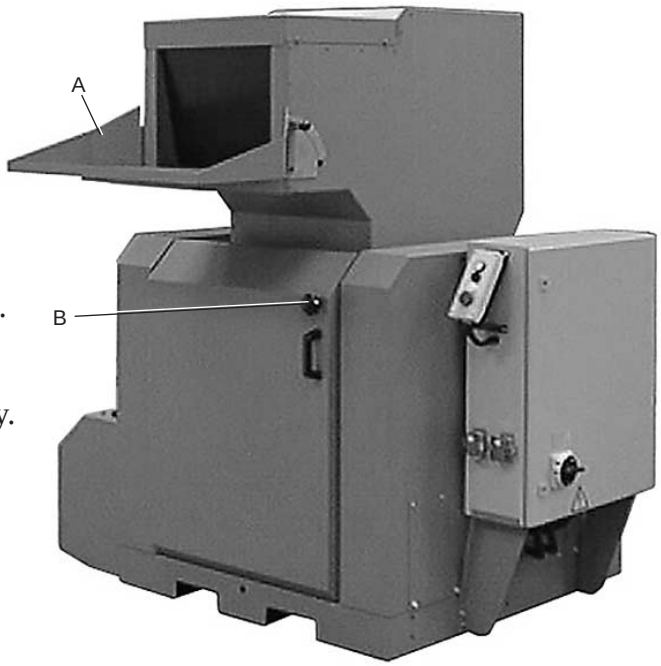


8. Install the quick coupling (D) on the outlet pipe stub.
9. Close the door. Tighten the lock knob (B) properly to stop.
10. Fold down the feed table (A).
11. Check that the hopper is empty.
12. Switch ”On” the main switch.
13. Start the granulator.



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. Fold in the lock clamps (C) towards the hopper, then fix the hopper with the lock clamps.
4. Close the door. Tighten the lock knob (B) properly to stop.
5. Fold down the feed table (A).
6. Check that the hopper is empty.
7. Switch ”On” the main switch.
8. 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 cutting chamber 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 cutting chamber 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 (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.

This granulator has 2 safety switches:

1 at the hopper, between the hopper and cutting chamber

1 at the door, combined with the door lock

Check the hopper´s safety switch.

Open the door. Undo and fold out the lock clasps for the hopper. Close the door and try to start the granulator. You should not be able start the granulator before the hopper has been closed and the lock clasps tightened.

Check the door’s safety switch.

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

You should not be able to start the granulator before the door has been closed and the lock knob has been tightened properly.

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

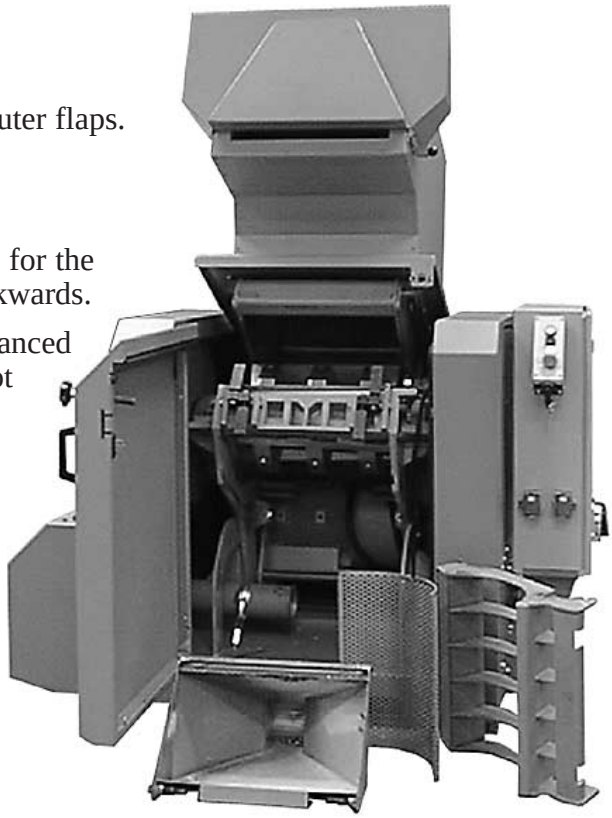
Clean at color change, monthly or at least once/300 hours.

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

Read the chapter 5.3 “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.

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



2. Clean the outside of the hopper.
3. Lift out and clean the inner and outer flaps.
4. Fold up the feed table.
5. Open the door.
6. Undo and fold out the lock clasps 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.

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

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

First pull the granule bin forwards, then lift the rear upwards and out.

10. Remove the screen box. Undo and fold out the lock clasps for the screen box, fold the screen box down.

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

11. Lift out the screen.
12. Hold the granule bin handles and pull the granule bin forwards. Hold the screen box arches and handle firmly. Then lift the rear edge of the screen box forwards, upwards and out.
13. Clean the granule bin, screen box and screen.

14. Clean the cutting chamber inside and outside.
15. Clean any transport pipes, blower and cyclone.

NOTE! If the rotor 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!

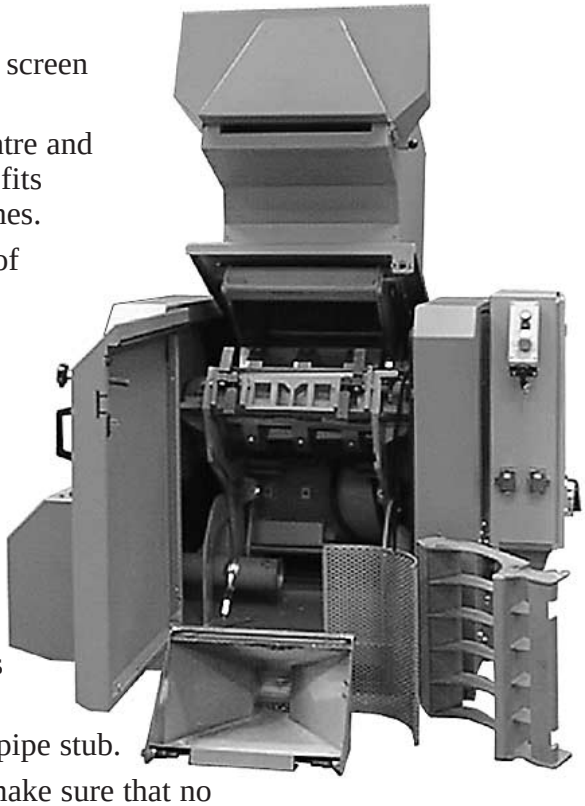
16. Granulators with belt conveyors. Clean the belt using a light cleaning agent.

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 cutting chamber. 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. Install the screen in the screen box. Centre 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. Then fold the screen box in and fix it with the lock clamps.
5. Install the granule bin. Lift up the granule bin and insert the guide heels on the rear into the grooves in the cutting chamber.

   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 (upwards).



6. Install the quick coupling on the outlet pipe stub.
7. Shut/fold back the hopper. Check and make sure that no granulate lies on the mating surfaces or flanges.

   Then fold in and fix the hopper with the lock clamps.
8. Close the door. Tighten the lock knob properly to stop.
9. Fold down the feed table.
10. Install the inner and outer flaps in the hopper.
11. Check that the hopper is empty.
12. Switch ”On” the main switch.
13. Start the granulator.

6.4 Fault-finding

The granulator does not start

- Verify that the emergency stop is not activated.

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

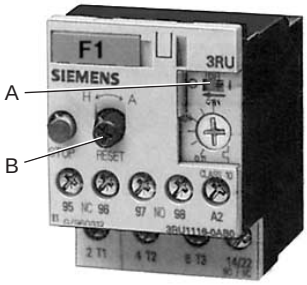
- Check that the door is properly closed.

  The granulator will not start if the door not is properly closed.
  Close the door and tighten the lock knob properly to stop.

- Check that the hopper is properly closed.

  The granulator will not start if the hopper not is properly closed.
  Open the door and check that the lock clasps 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 motor.

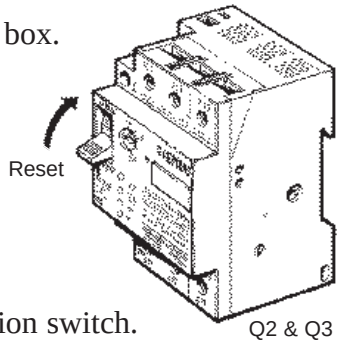
  This is indicated in the window (A) which shows “0”.

  Reset. Press the “Reset” button (B).

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

- Granulator with blower. Check the blower motor protection switch.

  The granulator will not start if the blower does not start.
  Check the motor protection switch Q2 in the distribution box.

  If the motor protection switch has switched ”off”, the switch will be in position “0”.

  Reset – set the switch button in position “1”.

  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´s motor protection switch.

  The band conveyor has a motor protection switch, Q3, in the distribution cabinet, which trips if you jam or overload the conveyor belt.

  If the motor protection switch has switched ”off” the switch will be in position ”0”.

  Reset – set the switch button in position “l”.

  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.

Also check 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

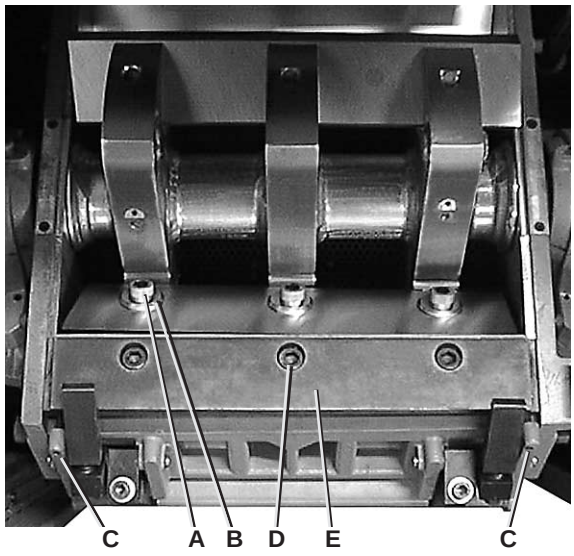
Removing the knives

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.

Open the door and hopper. Remove the granule bin, the screen and screen box – see chapter 5.3.



Removing the rotating knives.

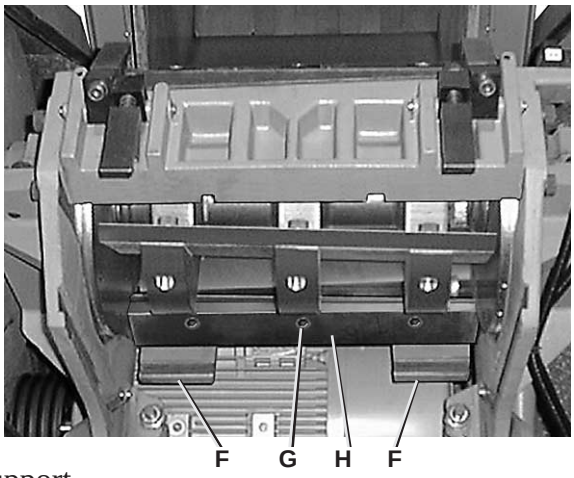
1. Remove the screws (A) and washers (B). The knives are now loose.
2. Lift out the rotating knives.
3. Clean the surfaces where the knives were located.

Removing the fixed knives.

4. Undo the adjustment screws (C) a few turns to the front fixed knife.
5. Undo and remove the socket cap screws (D) to the front fixed knife´s 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) a few turns to the rear fixed knife.

   The screws are undone from the rear of the two heels which come down from the cutting chamber.
9. Undo and remove the socket cap screws (G) to the rear fixed knife´s support rule (H).

   NOTE! Hold the fixed knife and support rule before removing the last screw.



10. Lift out the fixed knife together with the support rule.

11. Clean the knife attachment.

Installing the knives

The knives attachment for both fixed and rotating knives must have been properly cleaned.

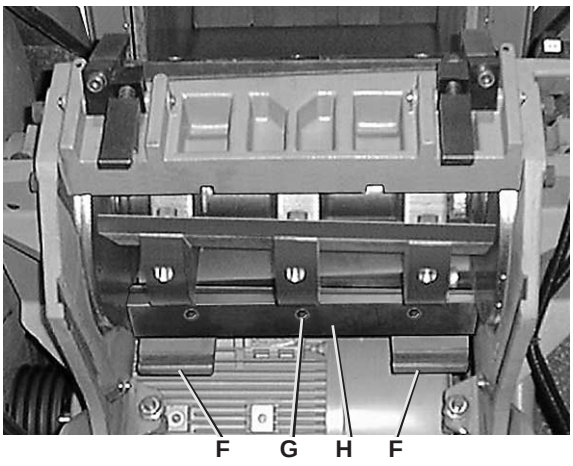
Install first the fixed knives

The fixed knives' settings are determined by cutouts in the cutting chamber´s side inserts.

Install first 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 (F) lightly support the knife.
3. Adjust the knife forwards with the adjustment screws (F) – adjust to stop.

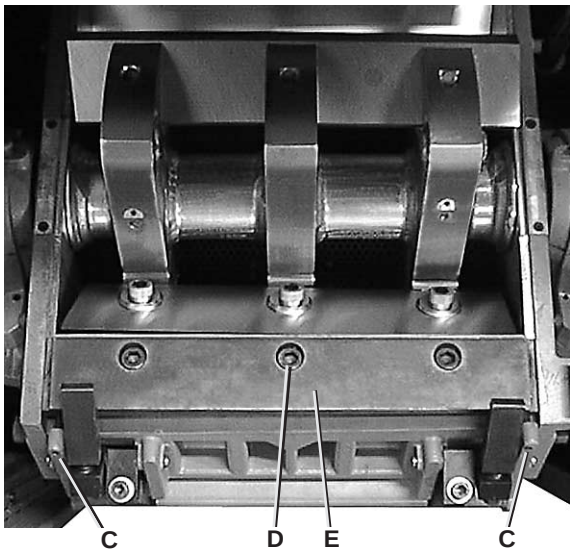
   The cutouts in the cutting chamber side inserts determine the knife´s settings.
4. Tighten the knife with the socket cap screws (G) torque 220 Nm.



Install then the front fixed knife.

1. Install the knife with support rule (E) in the knife attachment.
2. Install the socket cap screws (D) so that the support rule (E) lightly support the knife.
3. Adjust the knife forwards with the adjustment screws (C) – adjust to stop.

   The cutouts in the cutting chamber´s side inserts determine the knife´s settings.
4. Tighten the knife with the socket cap screws (D) torque 220 Nm.

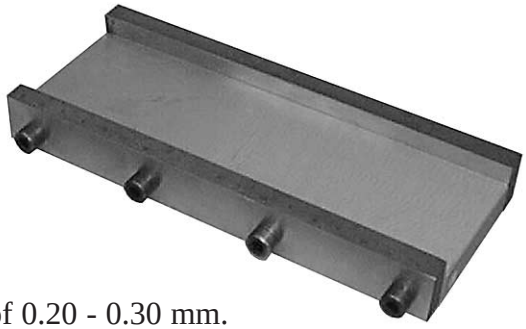


Installing the rotating knives

NOTE! At installing of rotating knives the knives must always be pre-set before installation!

Pre-setting of knives is done in a pre-setting jig. The jig is not included in the machine delivery, but is a very practical accessory.

Pre-setting the rotating knives



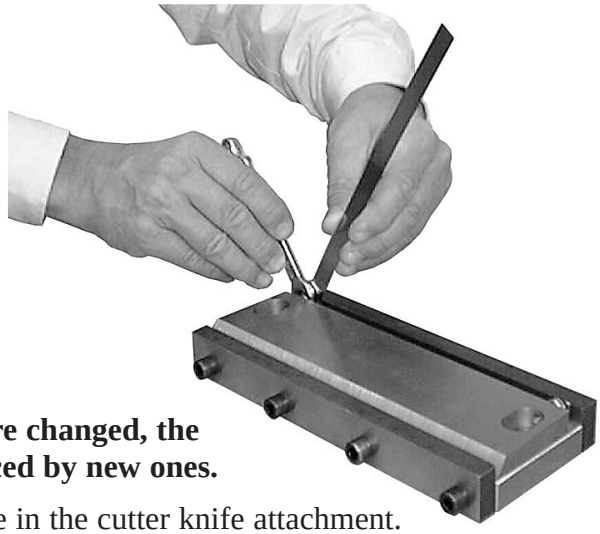
The pre-setting is done with a jig.

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

Upon delivery, the jig is calibrated against the fixed set screws 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 the 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.

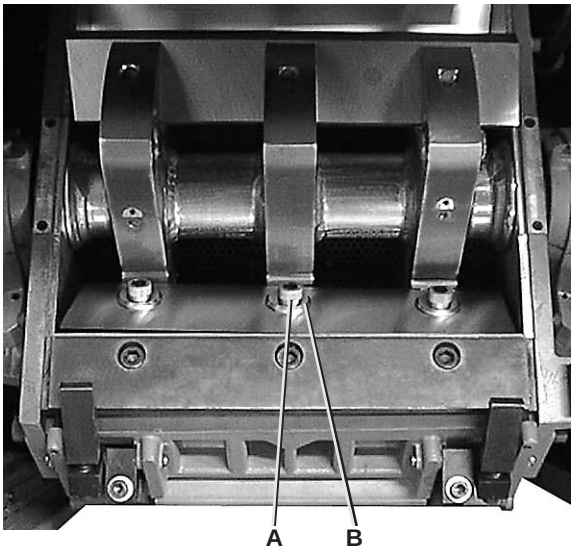


Installation of pre-set knives

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

Install one rotating knife at a time in the cutter knife attachment.

1. Check that the knife attachments are properly cleaned.
2. Install one knife with screws (A) and washers (B). Tighten so that the screws lightly support the knife.
3. Press the knife back so it properly butt up against the rear of the knife attachment.
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 280 Nm.
6. Check the knife clearance 0.20 - 0.30 mm against the fixed knives. Check at the knife's outer edges.



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

NOTE! The screws in the cutter´s knife attachment are bonded in place, and no adjustment may be done.

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

Install the remaining rotating knives in the same way.

Check the knife installation.

1. Re-check the tightening torque for both rear and front fixed knives 220 Nm.
2. Re-check the tightening torque of all rotating knives 280 Nm.
3. Re-check the knife 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.

7.2 Sharpening the knives

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

NOTE! Get an experienced craftsman to sharpen the knives.

NOTE! 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.

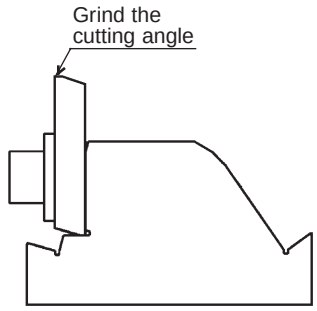
The knife must be cooled during sharpening. The knives must not be burned or blued under any circumstances, otherwise they will loose their hardness and durability.

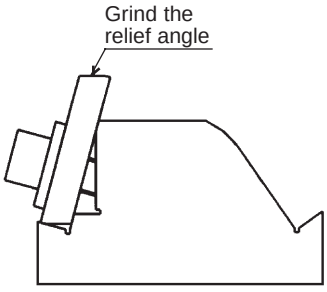
If the knife is blued or burned, they can not be repaired by grinding down the blued or burned area. The hardened knife is then completely spoiled and has lost all its hardness and durability.

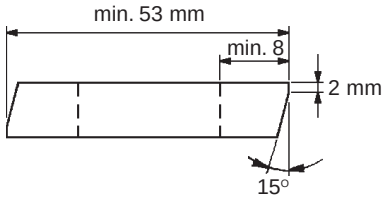
Use the Conair grinding jig SF-35 (accessory, art no. 3-29280) and a surface grinder with magnetic table. The jig gives exact correct cutting and relief angles.

Sharpening the fixed knives

- Grind each knife on two sides. The knives can then be turned round so that two edges can be used before the next sharpening.
- Grind the knife edge first, cutting angle 90°.
- Grind the edge of the worst knife first.
- Fix the knife vertically in the left-hand position of the jig, see the illustration.
- Use a surface grinder and grind until all the irregularities on the knife edge have disappeared.
- Keep this setting of the surface grinder, grind the worst edge of the other knife.
- Now check and grind the worst of the two remaining knife edges.
- Keep this setting of the surface grinder, grind the remaining knife edge.
- Grind the relief angle of the knives - 15°.
- Fix the knife in the jig as shown in the illustration.
- Grind the relief angle until the knife edge is 2 mm wide.
- Keep this setting of the surface grinder, grind the relief angles of the remaining knife edges.
- 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.







Sharpening the rotating knives

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!

Use the CONAIR grinding jig SF-35 (accessory, art no. 3-29280) and a surface grinder with magnetic table. The jig gives exact correct cutting and relief angles.

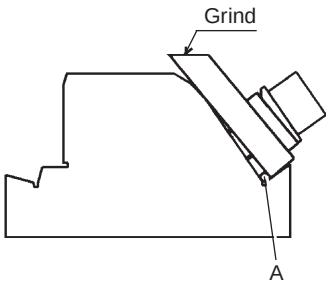
Grind the relief angle of the worst knife first.

Grind until all the irregularities on the knife edge have disappeared.

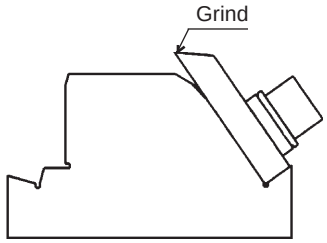
Retain the surface grinder setting and grind all the knives equally.

- Undo and 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).

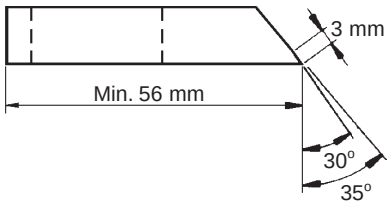
  Spherical washers should be used when tightening the knife.



- 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 rotating 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

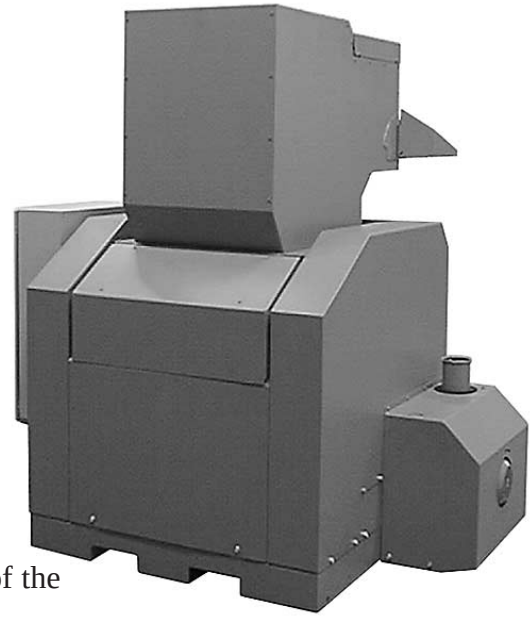
The machine is driven by 3 or 4 pcs V-belts depending on motor size.

Checking the V-belts

The tension and condition of the V-belts must be checked after 40 - 50 hours of operation at full load.

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

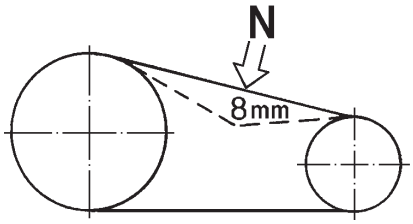
Check the belt tension every 6 months.



- Undo and remove the upper panel on the rear 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.
- Check belt tension by loading the V-belts and measuring the deflection at the same time.
- Loading (N) is determined by the size of the granulator motor.
- Check the motor size; kilowatt (kW) and Hertz (Hz) in the wiring diagram in the instruction manual.
- The table below specifies the load in Newtons (N) which should be used to check the belts.
- Load each one of the V-belts mid-way between the cutter and motor pulleys.



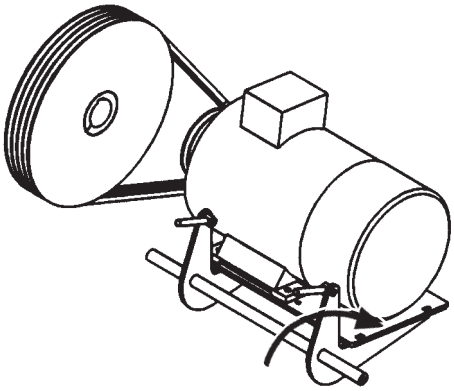
- It should not be possible to deflect the V-belts by more than about 8 mm.

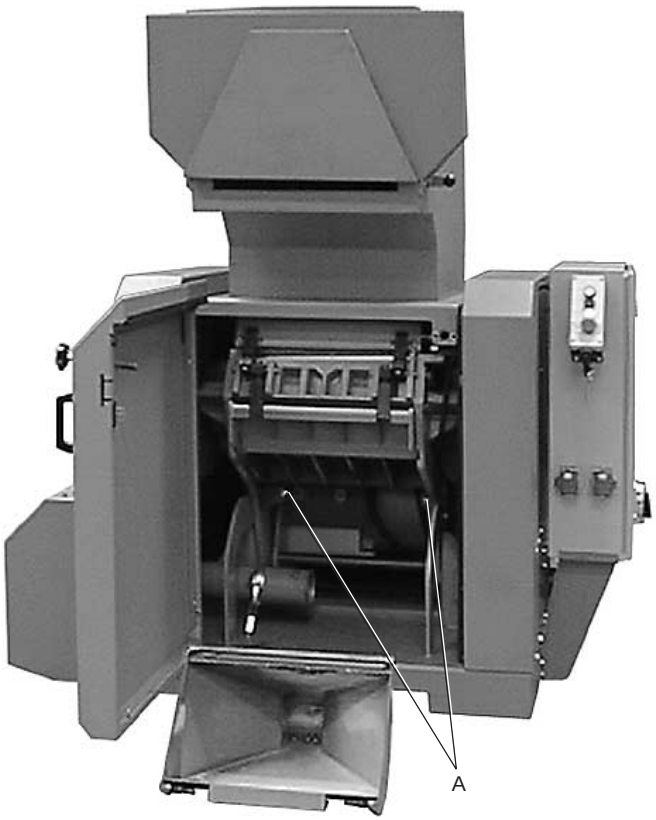
Motor 50 Hz	11 kW	15 kW	18,5 kW	22 kW	32 kW
It should be possible to deflect the V-belts max 8 mm.					
Installation of new belts	19 N	25 N	30 N	27 N	38 N
Subsequent check	15 N	19 N	23 N	21 N	29 N
Motor 60 Hz	11 kW	15 kW	18,5 kW	22 kW	32 kW
It should be possible to deflect the V-belts max 8 mm.					
Installation of new belts	19 N	25 N	30 N	27 N	38 N
Subsequent check	15 N	19 N	23 N	21 N	29 N

7.3 Transmission (continued)

V-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 of the motor to the cutter pulley, using the motor adjustment screws (A), 2 pcs.





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

7.4 Lubrication

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

Conair recommends the following, at installation and lubrication of bearings.

Bearings: SKF 22215 EC3

Grease quantity: 250 g of grease for bearing change.
25 - 50 g of grease per bearing/grease nipple for re-greasing.

Lubricants: Suitable lubricants:

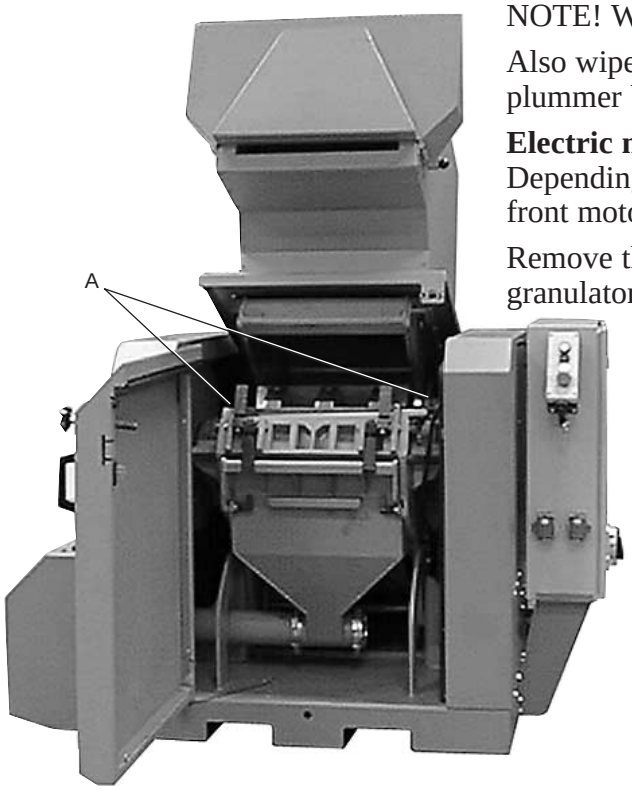
- BP; BP Grease XRB2-EP
- SKF; SKF Grease LGEP 2
- BP; BP Grease XRB2-EP
- Chevron; Dura-lith Grease EP2
- Chevron; Alexol HMP 1 EP, Alexol HMP 2 EP
- ESSO; Beacon EP1, Beacon EP2
- FINA; Marson HFF 2 EP
- Gulf; Synthetic Grease Gulflex MP
- Mobil; Mobilux EP2
- Nynäs; L 62 EP
- OK; Oktosol Grease EP2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

Grease interval: 1000 running hours, or annually.

Lubrication points: **cutting chamber:**
2 grease nipples (A), 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.



Electric motor:
Depending on motor size, 1 grease nipple to the front motor bearing.

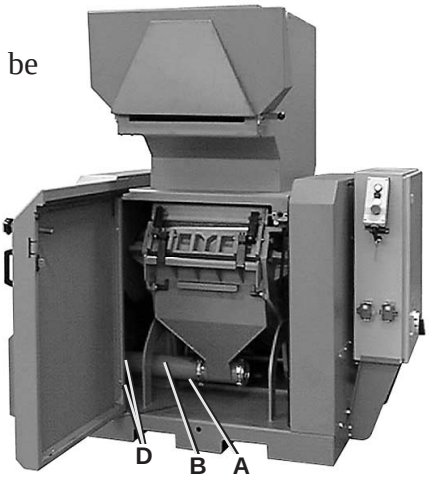
Remove the upper panel on the rear side of the granulator.

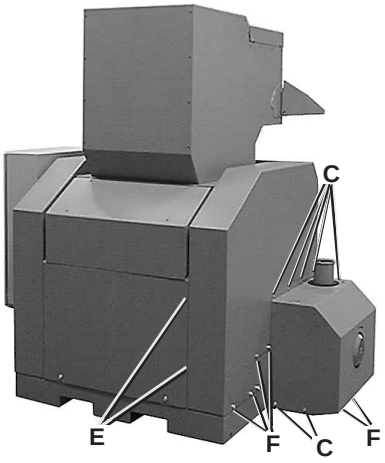
7.5 Cutter pulley/Motor pulley

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

For a CG granulator with blower, undo and remove the blower.

1. Fold up the feed table, open the door and remove the quick coupling for the outlet pipe stub.
2. Undo the screw (A) which holds the outlet pipe stub (B) and remove the pipe stub.
3. Undo the 7 screws (C) that hold the blower housing (4 smaller and 3 larger screws). Lift the blower housing away.
4. Remove the 10 screws that hold the left side cover:
   - the 2 lower socket cap screws (D) for the door's hinge.
   - 2 screws (E) against the rear/lower protective cover (on the inside).
   - 6 screws (F) at the lower edge of the side cover.
5. 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

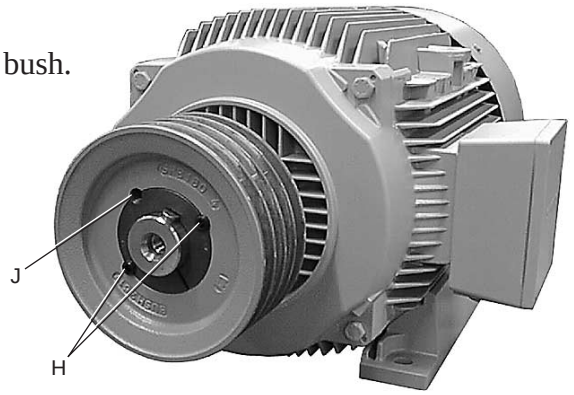
The pulley is mounted with a compression bush.

- Undo all screws a few turns (8 st).
- Remove two screws.
- Put a drop of oil into the extractor hole (g), 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 (H).
- Put a drop of oil into the extractor hole (J) (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.

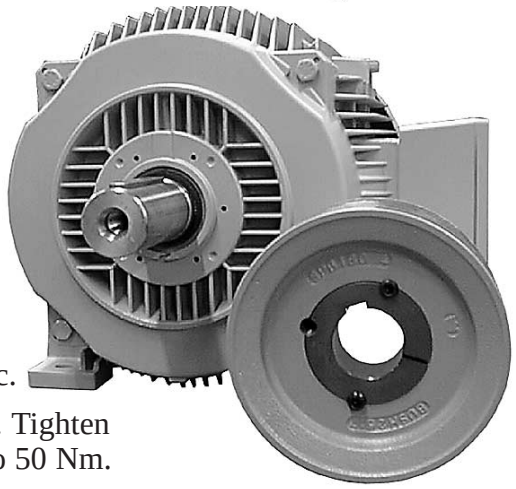


Installing

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 the 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.

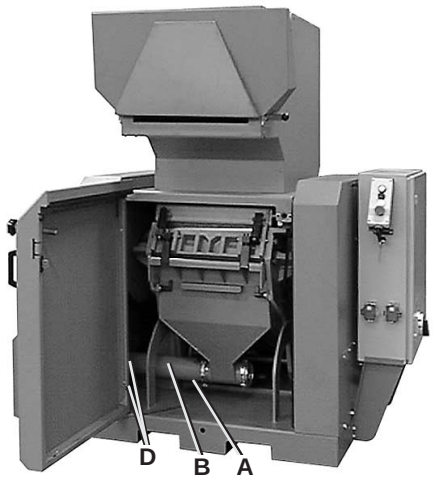
- Adjust the pulley axially, so it lines up with the motor pulley.
- Tighten the screws tin the compression bush. Tighten the screws alternately with the same torque, progressively increasing the torque to 25 Nm.
- Tap the compression bush between the shaft and the screws. us a block of wood or plastic.
- 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.

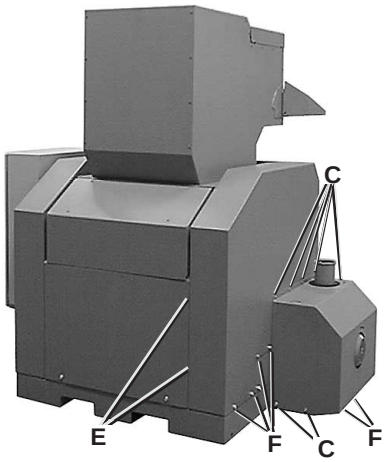
Replace the left-hand side cover.

1. Lift the side cover into place.

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

2. Tighten the 10 screws that hold the left-hand side cover:
   - 6 screws (F) at the lower edge of the side cover.
   - 2 screws (E) against the rear/lower protective cover (on the inside).
   - the 2 lower socket cap screws (D) for the door's hinge.
3. Install the blower housing. Tighten the 7 screws (C) that hold the blower housing (4 smaller and 3 larger screws).
4. Install the outlet pipe stub (B), one screw (A).
5. Fit the quick coupling for the outlet pipe stub.
6. Close the door and fold down the feed table.





8. Spare parts list

Overview

The granulator is divided into the following modules:

Ordering spare parts

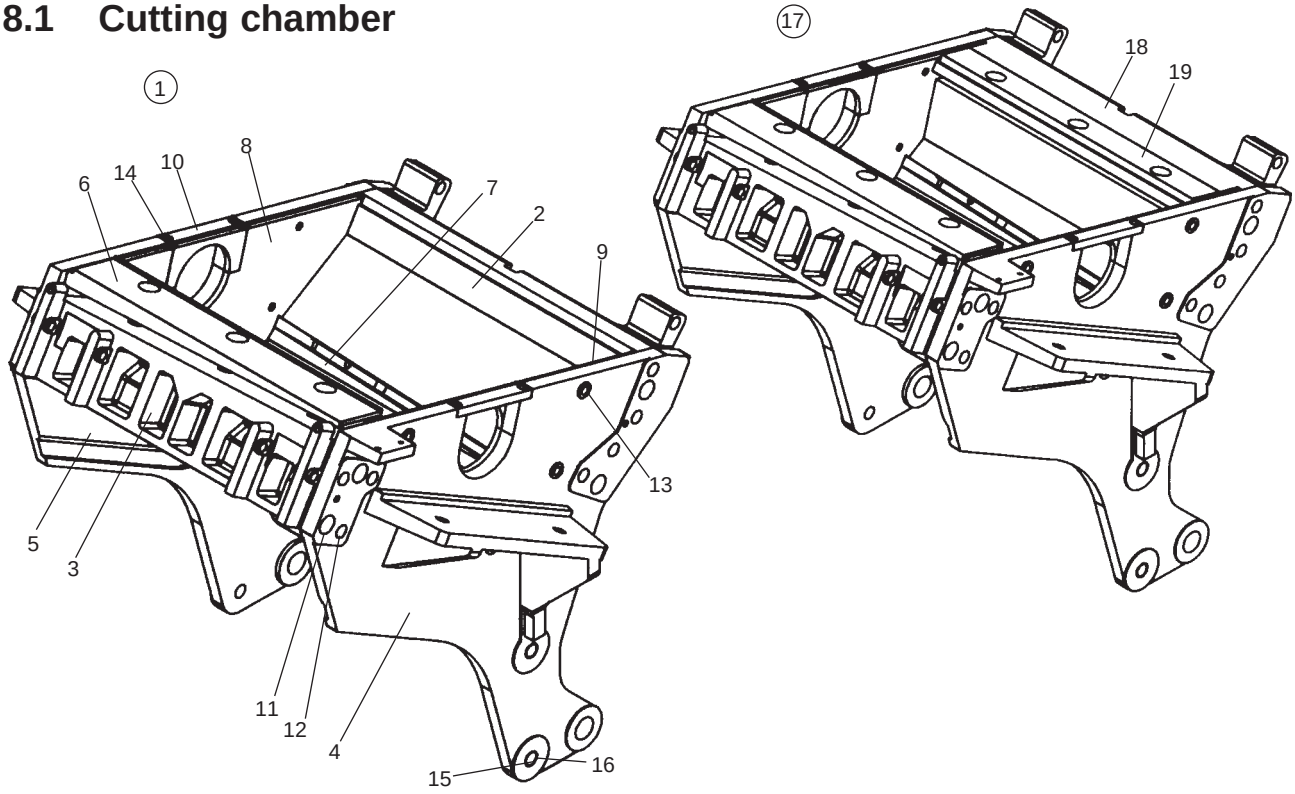
Only use spare parts from Conair when replacing machine parts.

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

When ordering, the following should be specified:

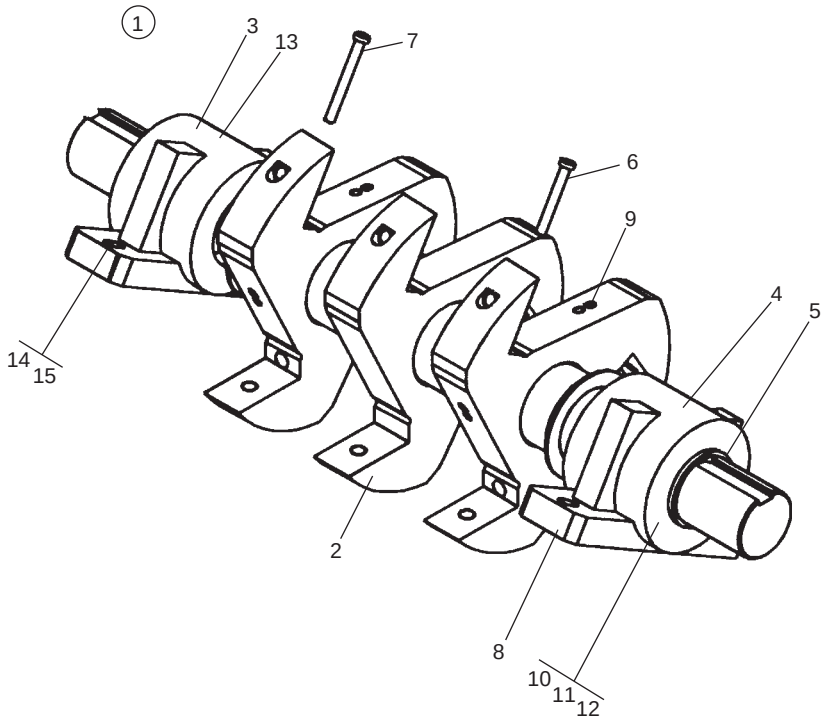
- Machine designation, as specified on the machine plate.
- Serial number, as specified on the machine plate.
- Part number, as specified in the spare parts list.
- Quantity, as specified in this spare parts list.

8.1 Cutting chamber



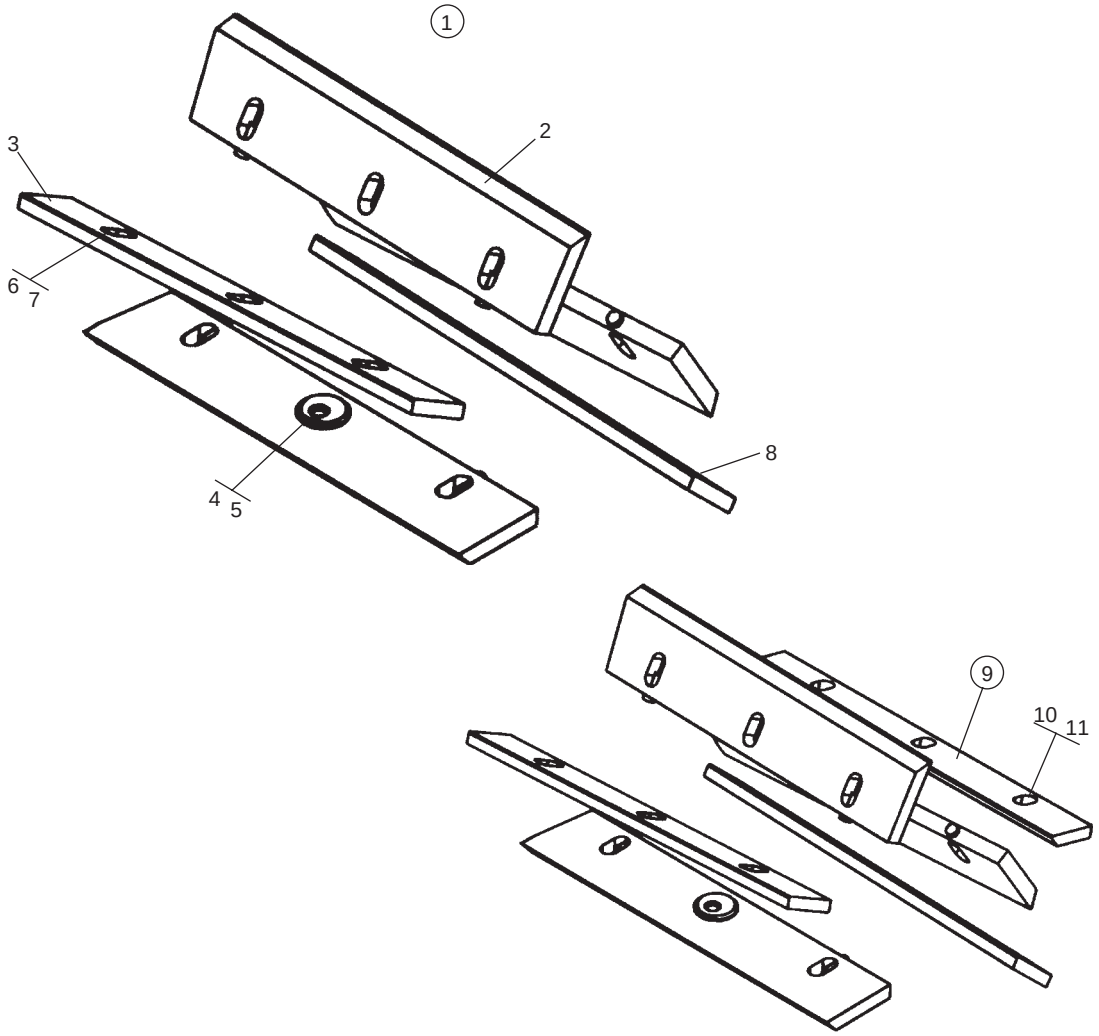
Pos	Qty.				Art. no.	Description
1	┌				3-29000	Cutting chamber CG1418
		┌			3-29002	Cutting chamber CG1418 hardened
			┌		3-29029	Cutting chamber CG1424
				┌	3-29031	Cutting chamber CG1424 hardened
2	1				1-29004	Rear side
			1		1-29012	Rear side
		1			4-29020	Rear side, hardened
				1	4-29025	Rear side, hardened
3	1				1-29003	Front side
			1		1-29014	Front side
		1			4-29021	Front side, hardened
				1	4-29026	Frontside, hardened
4	1	1	1	1	1-29006	Side right
5	1	1	1	1	1-29005	Side left
6	1	1			3-21502	Support rule, front
			1	1	3-29018	Support rule, front
7	1	1			3-29016	Support rule, rear
			1	1	3-29017	Support rule, rear
8	1		1		2-29008	Side inner, left
		1		1	4-29023	Side inner hardened, left
9	1		1		2-29010	Side inner, right
		1		1	4-29024	Side inner hardened, right
10	2	2	2	2	3-29015	Sealing upper
11	8	8	8	8	950437	Cylindric pin
12	14	14	14	14	940134	Socket cap screw M16
13	10	10	10	10	940005	Socket cap screw M10
14	4	4	4	4	940039	Socket cap screw M6
15	4	4	4	4	940728	Screw M20
16	4	4	4	4	940313	Washer BRB
17	┌				3-29001	Cutting chamber CG1418 m 3:e knife
		┌			3-29028	Cutting chamber CG1418 m 3:e knife hardened
			┌		3-29030	Cutting chamber CG1424 m 3:e knife
				┌	3-29032	Cutting chamber CG1424 m 3:e knife hardened
18	1				1-29011	Rear side for 3:rd fixed knife
			1		1-29013	Rear side for 3:rd fixed knife
		1			4-29022	Rear side for 3:rd fixed knife, hardened
				1	4-29027	Rear side for 3:rd fixed knife, hardened
19	1	1			3-21107	Support rule for 3:rd fixed knife
			1	1	3-29019	Support rule for 3:rd fixed knife

8.2 Rotor



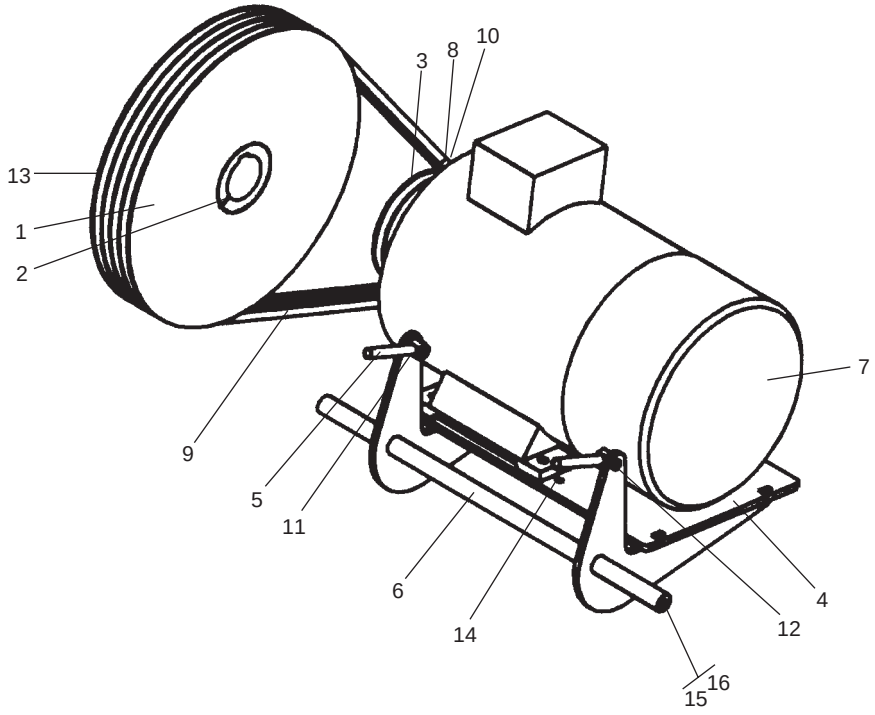
Pos	Qty.		Art. no.	Description
1	⌜		3-29102	Rotor CG1418 complete
		⌜	3-29109	Rotor CG1424 complete
2	1		1-29035	Rotor 3-blade
		1	1-29041	Rotor 3-blade
3	1	1	3-07071	Plummer block, left
4	1	1	3-07072	Plummer block, right
5	2	2	4-08864	Ring
6	3	3	4-29045	Screw, knife adjustment
7	3	3	4-29046	Screw, knife adjustment
8	4	4	950139	Cylindric pin
9	6	6	940696	Grub screw
10	2	2	960008	Bearing
11	2	2	960075	Bearing guide
12	4	4	960108	Sealing ring
13	2	2	950062	Grease nipple
14	4	4	940435	Washer
15	4	4	940506	Socket cap screw M16

8.3 Knives



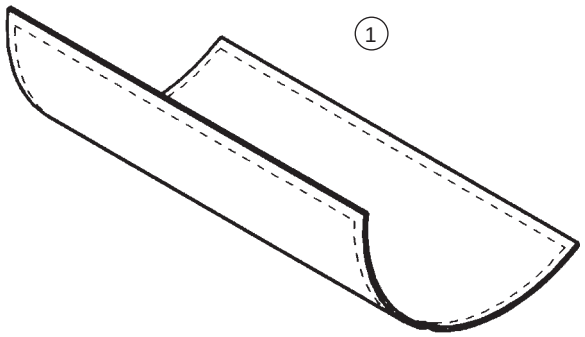
Pos	Qty.		Art. no.	Description
1	⊓		3-29100	Knives CG1418 complete
		⊓	3-29110	Knives CG1424 complete
2	3		3-29047	Rotating knives
		3	3-29048	Rotating knives
3	1		3-18878	Fixed knife
		1	3-29033	Fixed knife
4	9	12	4-11835	Washer
5	9	12	940405	Socket cap screw M16
6	6	8	940134	Socket cap screw M16
7	2	2	940245	Grub screw M8
8	2	2	940732	Grub screw M8
9	1		3-21108	Knife, 3:rd fixed knife
		1	3-29034	Knife, 3:rd fixed knife
10	3	4	940134	Socket cap screw M16
11	2	2	940245	Grub screw M8

8.4 Transmission



Pos	Qty.		Art. no.	Description	Note.
	⌜			Granulator CG1418	
		⌜		Granulator CG1424	
1	1	1	2-07023	Pulley, cutter	
2	1	1	2-15660	Flans bushing	
3	1	1	3-07053	Pulley, motor	
4	1		3-29052	Motor bracket	
		1	3-29054	Motor bracket	
5	2	2	4-29053	Belt tensioner	
6	1		3-29052	Shaft, motor bracket	
		1	3-29056	Shaft, motor bracket	
7	1	1	911163	Motor 11 kW	
	1	1	911181	Motor 15 kW	
	1	1	910019	Motor 18,5 kW	
	1	1	911217	Motor 22 kW	
	1	1	911182	Motor 32 kW	
8	1	1	930119	Taper-Lock	motor 11-15 kW
	1	1	930225	Taper-Lock	motor 18,5-32 kW
9	3	3	930224	V-belt XPB	motor 11-18,5 kW
	4	4	930224	V-belt XPB	motor 22-32 kW
10	1	1	950015	Key	
11	4	4	940148	Flans nut M16	
12	2	2	940237	Socket cap screw M16	
13	8	8	940004	Socket cap screw M10	
14	4	4	940306	Screw M12	
15	2	2	940043	Washer BRB	
16	2	2	940037	Socket cap screw M10	

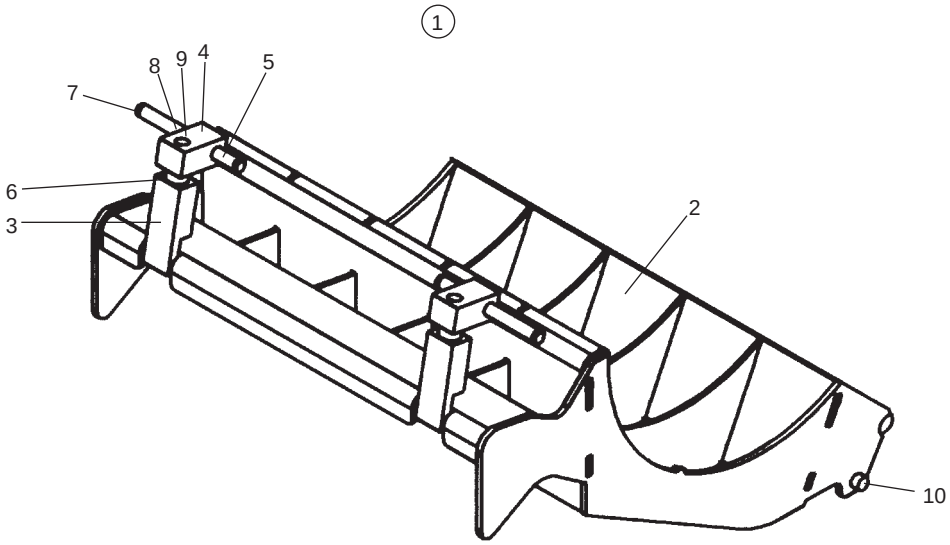
8.5 Screen



Pos	Qty. ⌐	Qty. ⌐	Art. no.	Description
				Granulator CG1418
				Granulator CG1424
1	1		3-29103	Screen
		1	3-29143	Screen

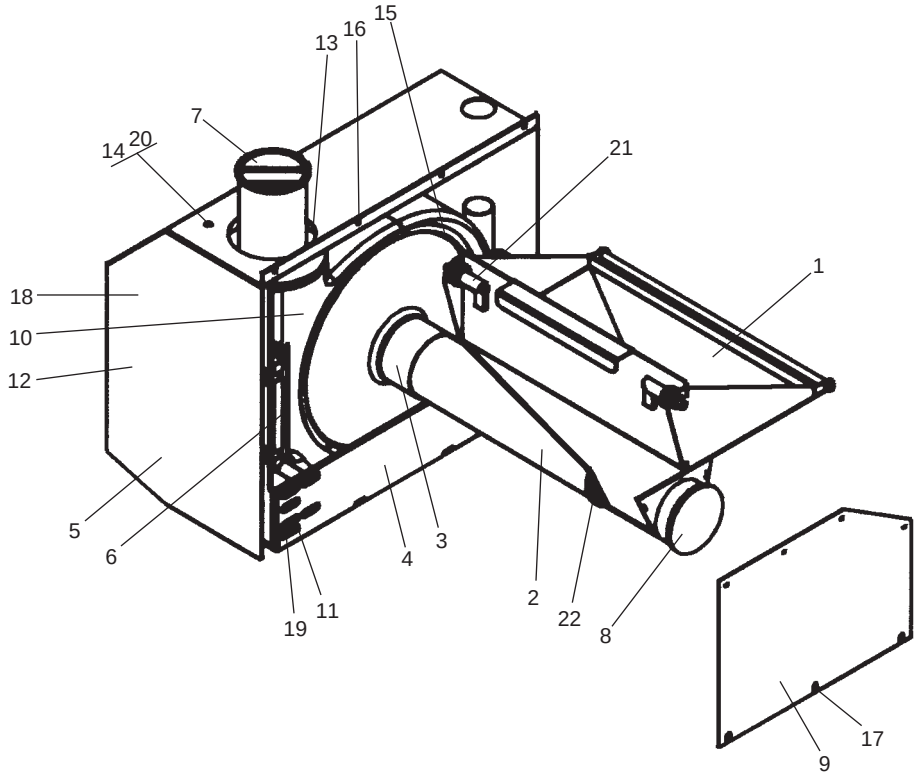
NOTE! Specify art.no. and required hole diameter Ø 4, 6, 8 or 10 mm.

8.6 Screen box



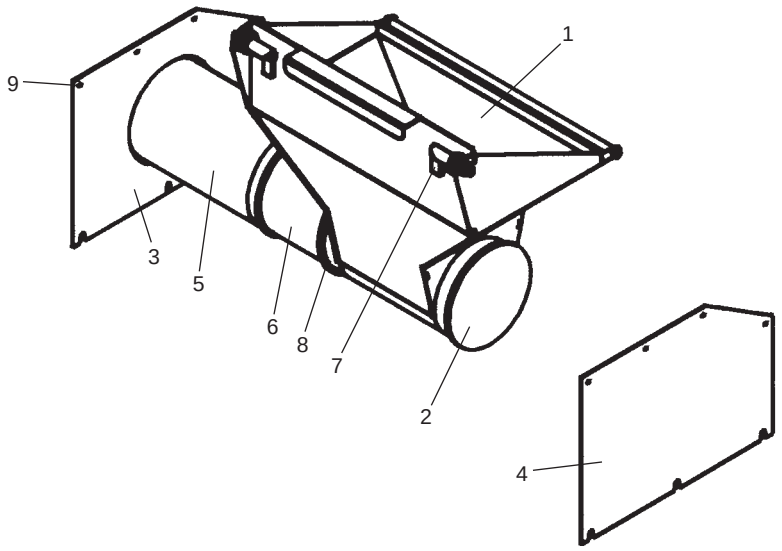
Pos	Qty. ⌐	Qty. ⌐	Art. no.	Description
1			3-29112	Screen box CG1418 complete
			3-29133	Screen box CG1424 complete
2	1		1-29104	Screen box
		1	1-29126	Screen box
3	2	2	4-18937	Clasp, screen box
4	2	2	4-18938	Locking arm, screen box
5	2	2	4-06390	Shaft
6	2	2	950090	Compression spring
7	4	4	950025	Retaining ring SGA
8	2	2	940301	Spring washer
9	2	2	940125	Socket cap screw M12
10	2	2	940032	Socket cap screw M8

8.7 Outfeed, outfeed with blower F-7/F-15



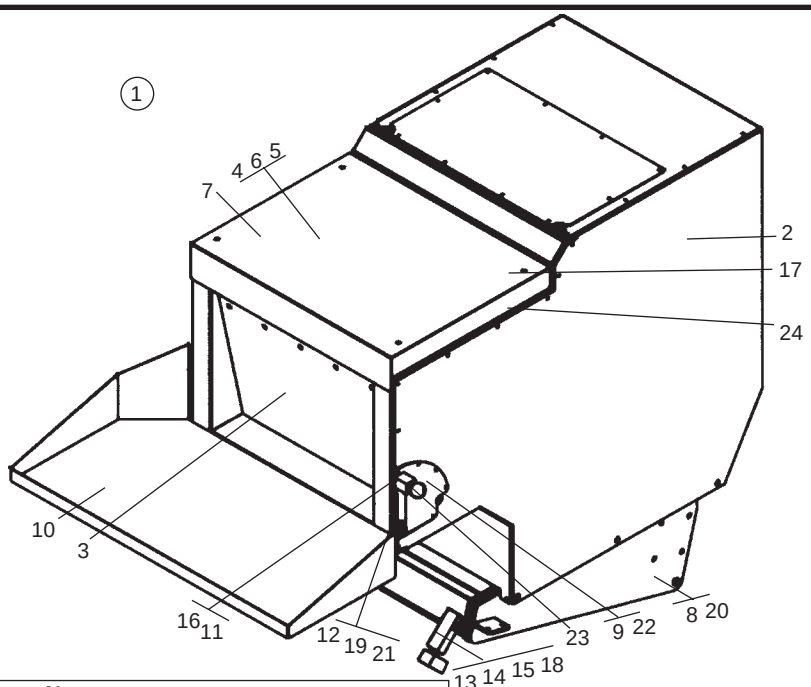
Pos	Qty.		Art. no.	Description	Note.
	⌜			Granulator CG1418	
		⌜		Granulator CG1424	
1	1		1-29095	Granule bin	
		1	1-29134	Granule bin	
2	1	1	3-29076	Pipe stub, granule bin	
3	1	1	3-14771	Pipe stub, inlet	
4	1	1	1-22825	Holder, blower	
5	1	1	1-22824	Cover, blower	
6	1	1	4-24655	Holder, blower	
7	1	1	3-13138	Pipe stub, outlet	Blower F-7
	1	1	3-10332	Pipe stub, outlet	Blower F-15
8	1	1	4-29085	Cover	
9	1	1	3-29122	Cover plate	
10	1	1	920206	Blower F-7	
	1	1	920421	Blower F-15	
11	4	4	940306	Screw M12	
12	4	4	940004	Socket cap screw M10	
13	4	4	940005	Socket cap screw M10	
14	4	4	940426	Screw M8	
15	8	8	940039	Socket cap screw M6	
16	8	8	940147	Screw	
17	1	1	940444	Screw M8	
18	6	6	940015	Nut, locking M10	
19	4	4	940155	Washer BRB	
20	4	4	940592	Washer BRB	
21	2	2	950547	Adjustment bolt	
22	2	2	920415	Quick coupling ring	

8.8 Outfeed OK-100/OK-160



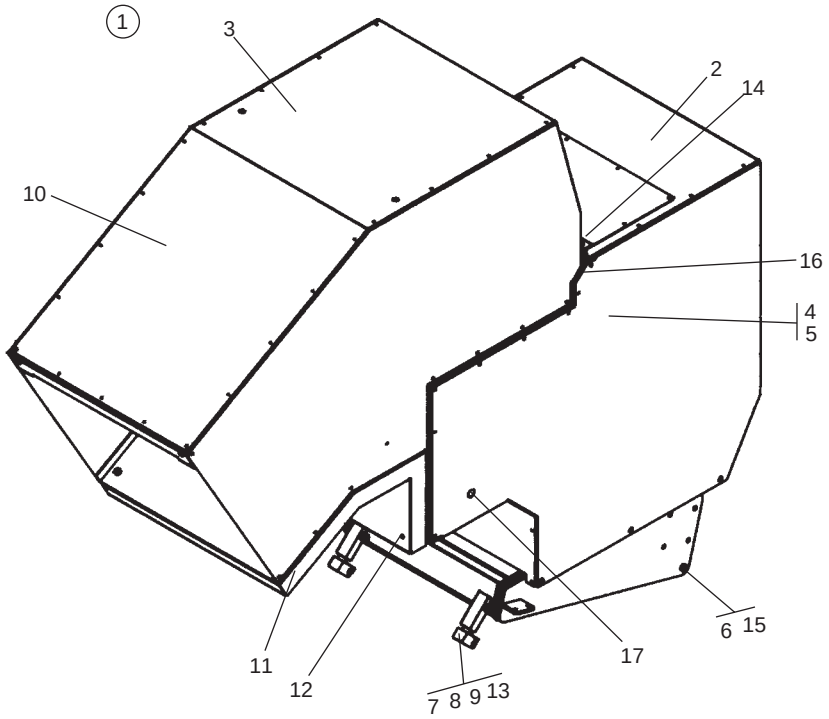
Pos	Qty.		Art. no.	Description	Note.
	⌜			Granulator CG1418	
		⌜		Granulator CG1424	
1	1		1-29095	Granule bin OK-100	
	1		1-29117	Granule bin OK-160	
		1	1-29134	Granule bin OK-100	
		1	1-29136	Granule bin OK-160	
2	1	1	4-29085	Cover OK-100	
	1	1	4-29084	Cover OK-160	
3	1	1	3-29123	Cover plate OK-100	
	1	1	3-29124	Cover plate OK-160	
4	1	1	3-29122	Cover plate	
5	1	1	4-11763	Pipe OK100 x 300	
	1	1	4-11767	Pipe OK160 x 300	
6	1	1	920423	Telescopic pipe OK100	
	1	1	920106	Telescopic pipe OK160	
7	2	2	950547	Adjustment bolt	
8	1	1	920415	Quick coupling ring	
9	1	1	940147	Screw	

8.9 Hopper -KU



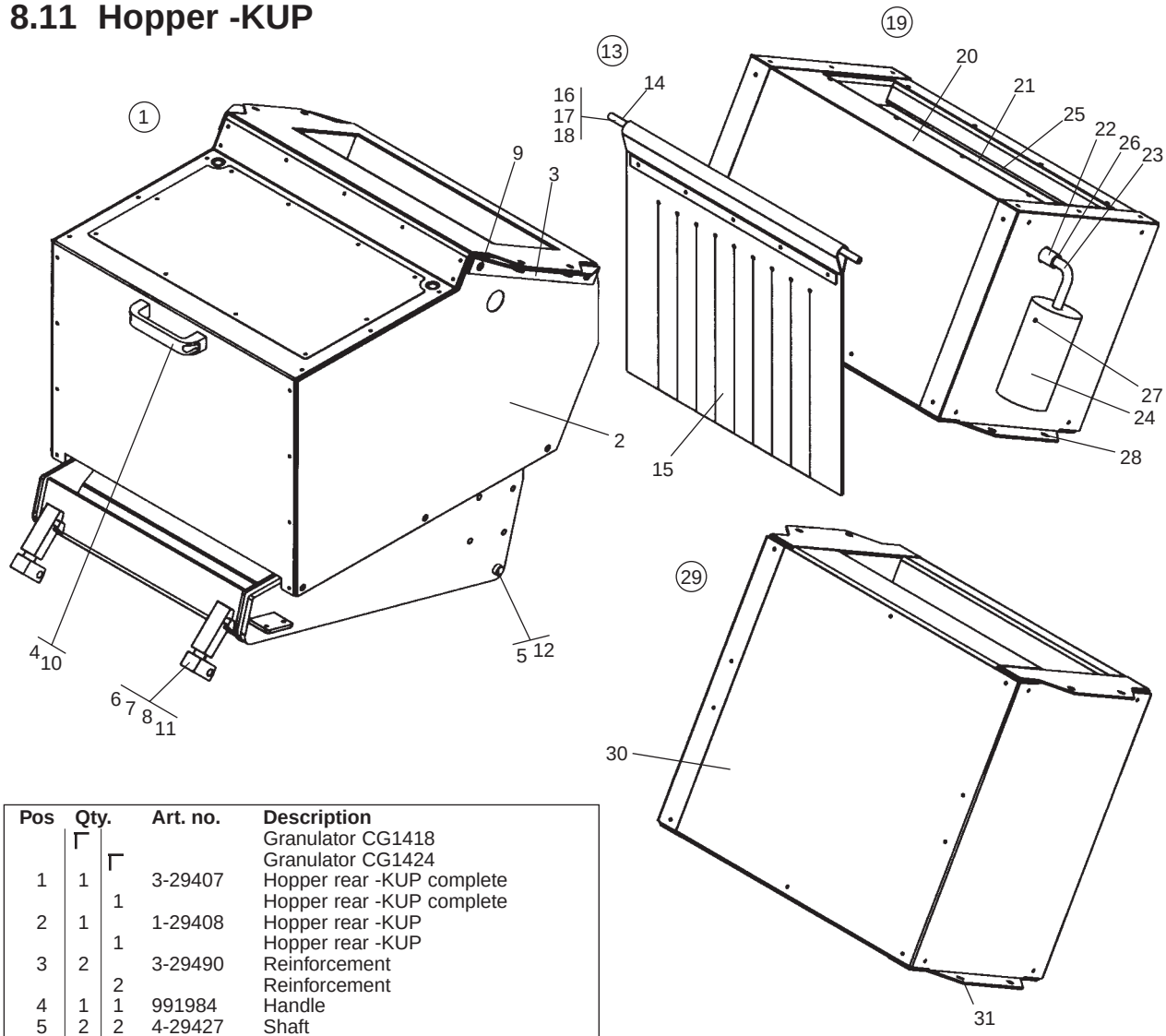
Pos	Qty.		Art. no.	Description	Note.
	⌐			Granulator CG1418	
		⌐		Granulator CG1424	
1	1		3-29407	Hopper front -KU complete	
	1		3-29183	Hopper front -KU complete	for granul. w 3:rd fix.knife
	1		3-29179	Hopper front -KU hardened complete	
	1		3-29188	Hopper front -KU hardened complete	for granul. w 3:rd fix.knife
		1	3-29192	Hopper front -KU complete	
		1	3-29201	Hopper front -KU complete	for granul. w 3:rd fix.knife
		1	3-29196	Hopper front -KU hardened complete	
		1	3-29206	Hopper front -KU hardened complete	for granul. w 3:rd fix.knife
2	1		1-29408	Hopper front -KU	
	1		1-29184	Hopper front -KU	for granul. w 3:rd fix.knife
	1		1-29180	Hopper front -KU hardened	
	1		1-29189	Hopper front -KU hardened	for granul. w 3:rd fix.knife
		1	1-29193	Hopper front -KU	
		1	1-29202	Hopper front -KU	for granul. w 3:rd fix.knife
		1	1-29197	Hopper front -KU hardened	
		1	1-29207	Hopper front -KU hardened	for granul. w 3:rd fix.knife
3	1		3-29443	Flap 453 x 366	
		1	3-29227	Flap 603 x 366	
4	1		3-29447	Flap 453 x 440	
		1	3-29231	Flap 603 x 440	
5	1		3-29448	Flap 453 x 560	
		1	3-29232	Flap 603 x 560	
6	2		3-29445	Shaft, flap	
		2	3-29229	Shaft, flap	
7	1		2-29440	Top part 564 x 448	
		1	2-29224	Top part 714 x 448	
8	2	2	4-29427	Hinge	
9	2	2	3-27081	Holder, hopper	
10	1		1-18975	Feed table	
		1	1-29144	Feed table	
11	1	1	4-11013	Shaft	
12	2	2	4-06369	Bushing	
13	2	2	4-18937	Clasp, screen box	
14	2	2	4-18938	Locking arm, screen box	
15	2	2	4-02789	Compression spring	
16	1	1	4-08831	Spring, locking	
17	4	4	940112	Socket cap screw M8	
18	2	2	940125	Socket cap screw M12	
19	6	6	940348	Socket cap screw M6	
20	4	4	940102	Grub screw M6	
21	2	2	950241	Nut, blind rivet	
22	12	12	940261	Rivet	
23	1	1	950278	Ball handle	
24	1	1	970003	List	

8.10 Hopper -KUB



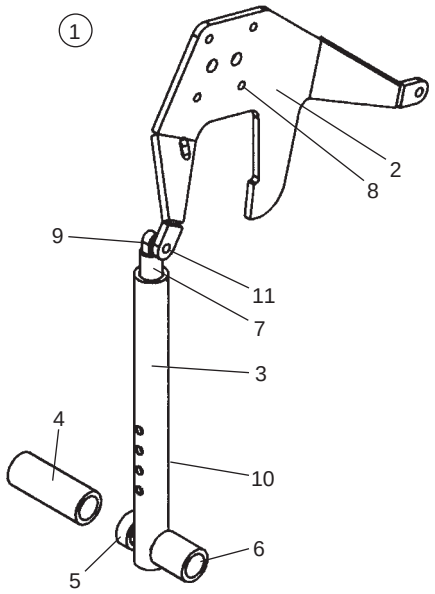
Pos	Qty.		Art. no.	Description	Note.
	⌜			Granulator CG1418	
		⌜		Granulator CG1424	
1	1		3-29463	Hopper front -KUB complete	
	1		3-29211	Hopper front -KUB complete	for granul. w 3:rd fix.knife
	1		3-29210	Hopper front -KUB hardened complete	
	1		3-29212	Hopper front -KUB hardened complete	for granul. w 3:rd fix.knife
		1	3-29213	Hopper front -KUB complete	
		1	3-29215	Hopper front -KUB complete	for granul. w 3:rd fix.knife
		1	3-29214	Hopper front -KUB hardened complete	
		1	3-29216	Hopper front -KUB hardened complete	for granul. w 3:rd fix.knife
2	1		1-29408	Hopper front -KUB	
	1		1-29184	Hopper front -KUB	for granul. w 3:rd fix.knife
	1		1-29180	Hopper front -KUB hardened	
	1		1-29189	Hopper front -KUB hardened	for granul. w 3:rd fix.knife
		1	1-29193	Hopper front -KUB	
		1	1-29202	Hopper front -KUB	for granul. w 3:rd fix.knife
		1	1-29197	Hopper front -KUB hardened	
		1	1-29207	Hopper front -KUB hardened	for granul. w 3:rd fix.knife
3	1		3-20895	Flap 454 x 800	
		1	3-29254	Flap 604 x 800	
4	1		2-29448	Flap 453 x 560	
		1	2-29232	Flap 603 x 560	
5	1		3-29445	Shaft, flap	
		1	3-29229	Shaft, flap	
6	2	2	4-29427	Hinge	
7	2	2	4-18937	Clasp, screen box	
8	2	2	4-18938	Locking arm, screen box	
9	2	2	4-02789	Compression spring	
10	1		1-29449	Sound trap	
		1	1-29234	Sound trap	
11	1		2-29467	Cover, lower	
		1	2-29251	Cover, lower	
12	4	4	940029	Socket cap screw M8	
13	2	2	940125	Socket cap screw M12	
14	2	2	940068	Screw M16	
15	4	4	940102	Grub screw M6	
16	1	1	970003	List	
17	1	1	950554	Sealing end	

8.11 Hopper -KUP



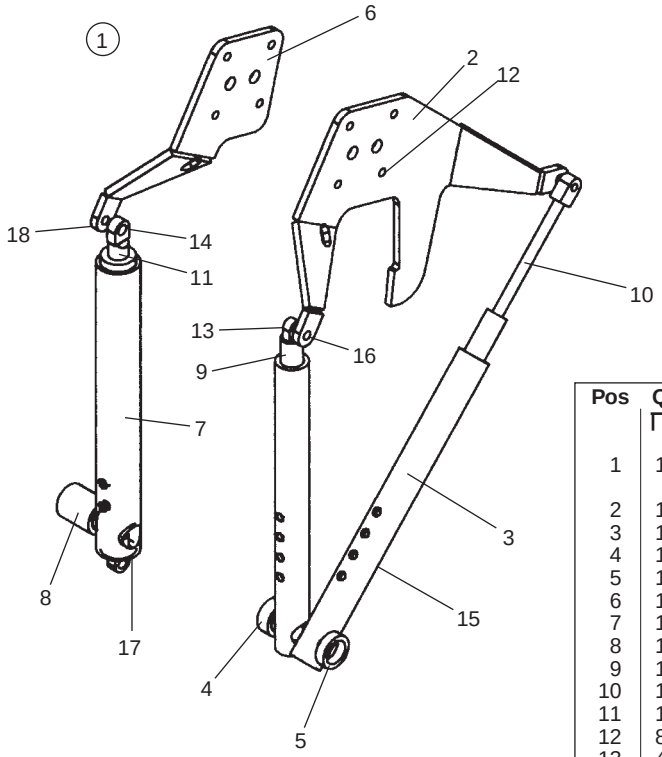
Pos	Qty.		Art. no.	Description
	⌜			Granulator CG1418
		⌜		Granulator CG1424
1	1		3-29407	Hopper rear -KUP complete
		1		Hopper rear -KUP complete
2	1		1-29408	Hopper rear -KUP
		1		Hopper rear -KUP
3	2		3-29490	Reinforcement
		2		Reinforcement
4	1	1	991984	Handle
5	2	2	4-29427	Shaft
6	2	2	4-18937	Clasp, screen box
7	2	2	4-18938	Locking arm, screen box
8	2	2	4-02789	Compression spring
9	4	4	940051	Socket cap screw M12
10	2	2	940662	Socket cap screw M8
11	2	2	940125	Socket cap screw M12
12	4	4	940102	Grub screw M6
13	1	1	3-29389	Flaps complete
14	1	1	4-27458	Shaft, flaps
15	1	1	2-29447	Flap 453 x 440
16	2	2	940439	Washer
17	2	2	940039	Socket cap screw M6
18	2	2	950246	Sealing end
19	1	1	3-29388	Flaps package complete
20	1	1	1-29374	Flaps package 450 x 160
21	1	1	2-29380	Flap 450 x 160
22	2	2	4-29382	Flap holder
23	1	1	4-29383	Shaft, flaps
24	1	1	4-27106	Counter weight
25	1	1	970085	List
26	2	2	950243	Cylindric pin
27	1	1	940102	Grub screw
28	4	4	940037	Socket cap screw M10
29	1	1	3-29493	Extension 500 complete
30	1	1	1-29485	Extension 450
31	4	4	940037	Socket cap screw M10

8.12 Hopper device -KU



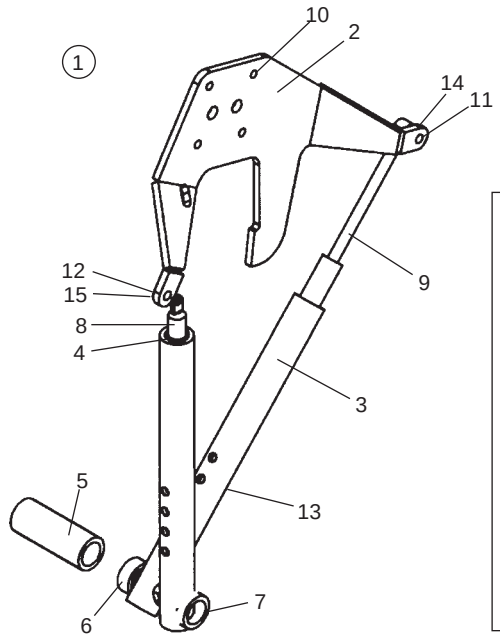
Pos	Qty.		Art. no.	Description
	⌜			Granulator CG1418
		⌜		Granulator CG1424
1	1		3-29419	Hopper device KU complete
		1		Hopper device KU complete
2	1	1	2-29420	Bracket gas spring
3	1	1	3-29421	Sleeve
4	1	1	4-29422	Spacer
5	1	1	4-29424	Spacer
6	1	1	4-29423	Spacer
7	1	1	991247	Gas spring
8	4	4	940037	Socket cap screw M10
9	2	2	940467	Screw M10
10	1	1	940015	Nut, locking M10
11	2	2	940042	Nut M10

8.13 Hopper device -KUB



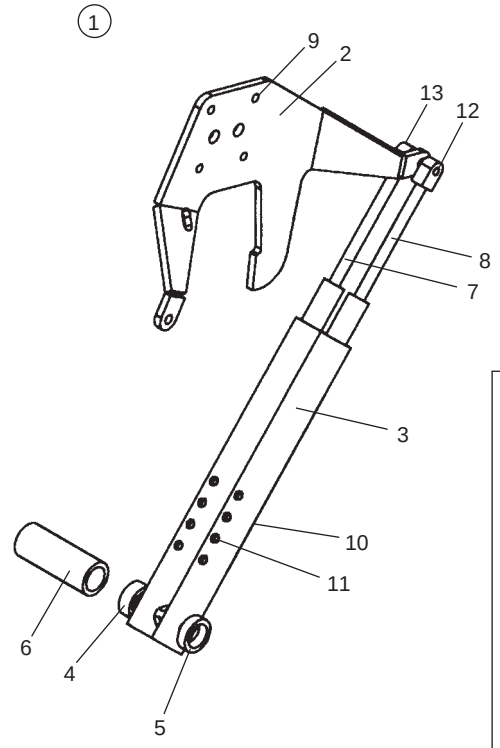
Pos	Qty.		Art. no.	Description
	⌜			Granulator CG1418
		⌜		Granulator CG1424
1	1		3-29469	Hopper device KUB complete
		1		Hopper device KUB complete
2	1	1	2-29420	Bracket, gas spring
3	1	1	3-29421	Sleeve
4	1	1	4-29424	Spacer
5	1	1	4-29425	Spacer
6	1	1	2-29468	Bracket, gas spring
7	1	1	3-29426	Sleeve
8	1	1	4-29423	Spacer
9	1	1	991246	Gas spring
10	1	1	920773	Gas spring
11	1	1	920774	Gas spring
12	8	8	940037	Socket cap screw M10
13	4	4	940467	Screw M10
14	1	1	940397	Screw M10
15	2	2	940015	Nut, locking M10
16	6	6	940042	Nut M10
17	1	1	940679	Washer
18	1	1	960167	Slide bearing

8.14 Hopper device -KUP



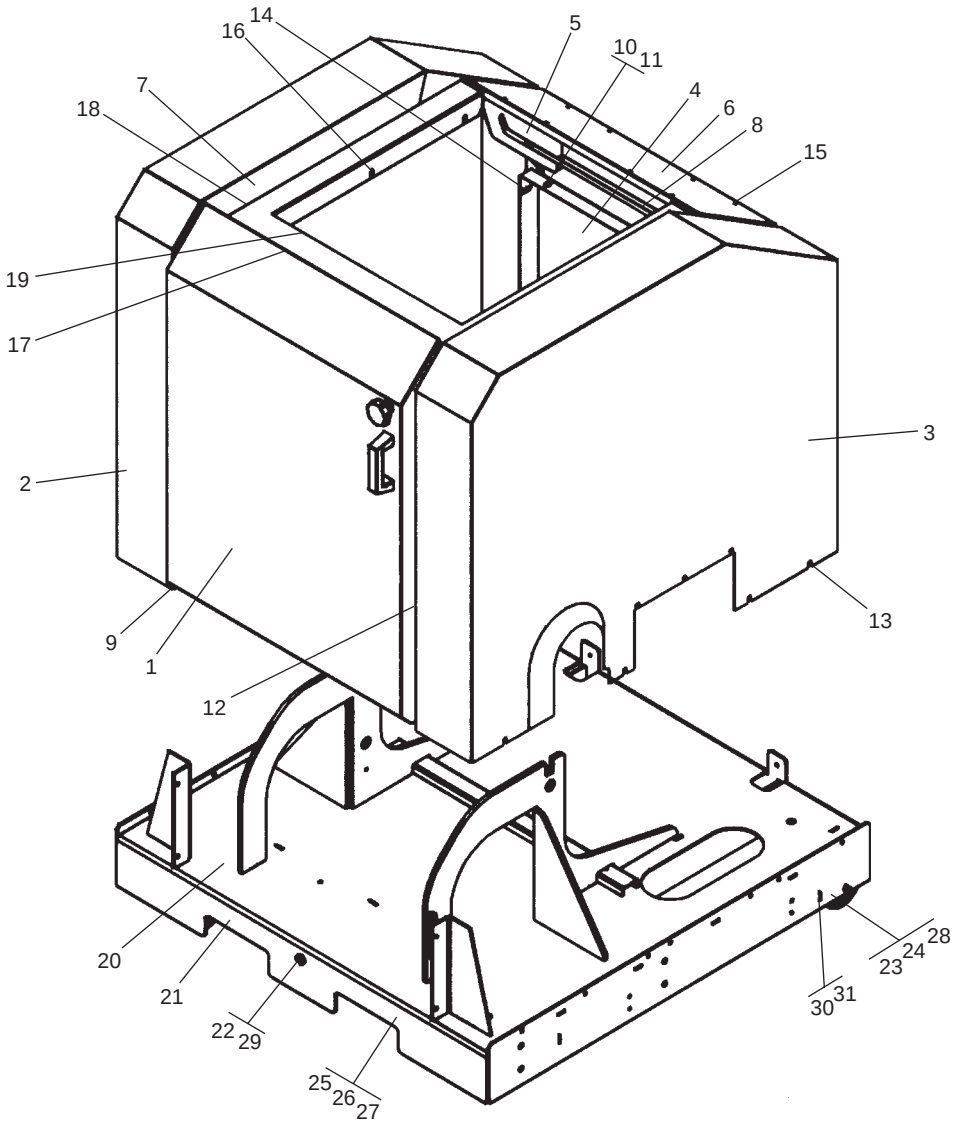
Pos	Qty.		Art. no.	Description
	┌			Granulator CG1418
		┌		Granulator CG1424
1	1		3-29387	Hopper device KUP complete
		1		Hopper device KUP complete
2	1	1	2-29420	Bracket gas spring
3	2	2	3-29421	Sleeve
4	1	1	4-29390	Sleeve
5	1	1	4-29422	Spacer
6	1	1	4-29424	Spacer
7	1	1	4-29425	Spacer
8	1	1	920801	Gas spring
9	1	1	920773	Gas spring
10	4	4	940037	Socket cap screw M10
11	3	3	940467	Screw M10
12	1	1	940423	Screw M8
13	2	2	940015	Nut, locking M10
14	2	2	940042	Nut M10
15	1	1	940016	Nut M8

8.15 Hopper device -KUP with extension



Pos	Qty.		Art. no.	Description
	┌			Granulator CG1418
		┌		Granulator CG1424
1	1		3-29494	Hopper device KUP with extension complete
		1		Hopper device KUP with extension complete
2	1	1	2-29420	Bracket, gas spring
3	2	2	3-29421	Sleeve
4	1	1	4-29424	Spacer
5	1	1	4-29425	Spacer
6	1	1	4-29422	Spacer
7	1	1	991247	Gas spring
8	1	1	920773	Gas spring
9	4	4	940037	Socket cap screw M10
10	2	2	940015	Nut, locking M10
11	2	2	940467	Screw M10
12	3	3	940042	Nut M10
13	1	1	940580	Screw M10

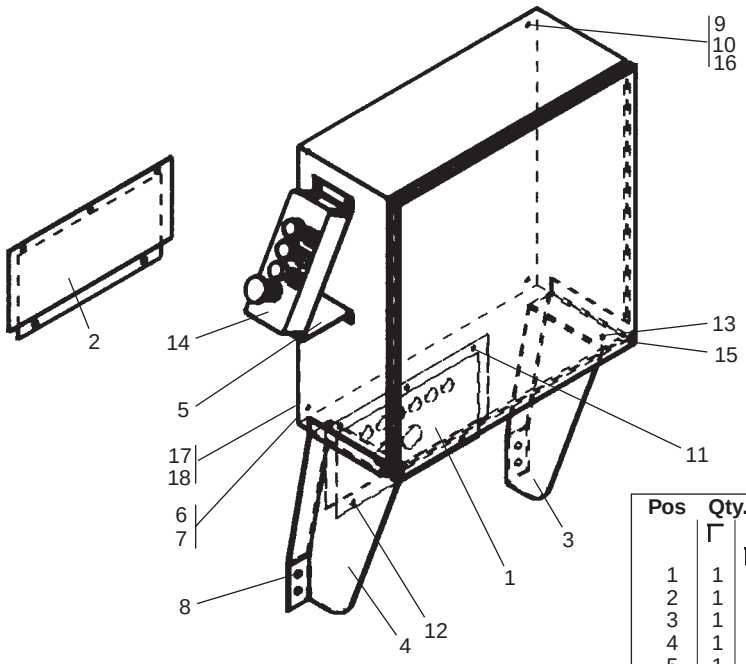
8.16 Enclosure and body



Pos	Qty.		Art. no.	Description
	┌			Granulator CG1418
		┌		Granulator CG1424
1	1		1-29069	Door
		1	1-29079	Door
2	1	1	1-29067	Cover, left
3	1	1	1-29068	Cover, right
4	1		2-22832	Cover rear, lower
		1	2-29087	Cover rear, lower
5	1		2-29074	Frame, cover rear upper
		1	2-29083	Frame, cover rear upper
6	1		2-29077	Cover rear, upper
		1	2-29086	Cover rear, upper
7	1		1-29078	Sealing, frame
		1	1-29088	Sealing, frame
8	2		4-23005	Shaft
		2	4-29089	Shaft
9	1	1	3-26316	Stop, door
10	2	2	950328	Link screw
11	4	4	940030	Nut M10
12	8	8	940579	Socket cap screw M8
13	10	10	940444	Screw M8
14	4	4	940057	Screw M8

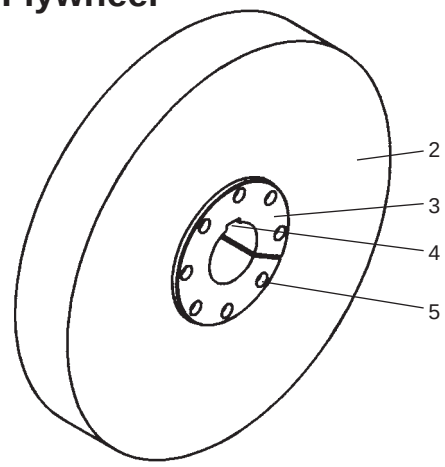
Pos	Qty.		Art. no.	Description
	┌			Granulator CG1418
		┌		Granulator CG1424
15	4	8	940147	Screw
16	6	6	940225	Socket cap screw M8
17	1	1	970040	Clip list
18	2	2	970156	Clip list, side
19	1	1	970003	List
20	1		1-29059	Bottom plate
		1	1-29063	Bottom plate
21	1		2-18935	Holder, guide
		1	3-29065	Holder, guide
22	1	1	4-18936	Shaft
23	2	2	4-18942	Shaft
24	2	2	950435	Wheel
25	2	2	950056	Wheel, turnable
26	2	2	940149	Screw M12
27	2	2	940368	Nut, locking M12
28	4	4	950025	Retaining ring SGA
29	2	2	950024	Retaining ring SGA
30	4	4	4-26698	Sleeve
31	4	4	950308	Machine feet

8.17 Electrical components



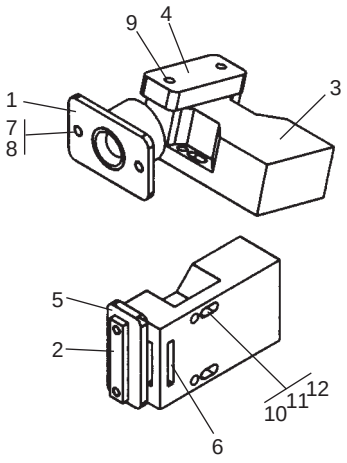
Pos	Qty.		Art. no.	Description
	┌			Granulator CG1418
		┌		Granulator CG1424
1	1	1	3-13717	Flange, cable conduit
2	1	1	3-23965	Flange, cable conduit
3	1	1	2-22829	Bracket, enclosure, right
4	1	1	2-22830	Bracket, enclosure, left
5	1	1	3-20942	Bracket, start panel
6	2	2	910855	Clips
7	4	4	910853	Clips
8	4	4	940008	Screw M10
9	2	2	950241	Nut, blind rivet M6
10	4	4	940316	Nut locking M6
11	3	3	940057	Screw M8
12	2	2	940444	Screw M8
13	6	6	940104	Socket cap screw M6
14	4	4	940638	Socket cap screw M4
15	4	4	940027	Nut M6
16	2	2	950055	Vibration damper
17	2	2	940552	Screw M6
18	4	4	940071	Socket cap screw M5

8.18 Flywheel



Pos	Qty.		Art. no.	Description
	┌			Granulator CG1418
		┌		Granulator CG1424
1	1		3-29147	Flywheel complete
		1		Flywheel complete
2	1	1	2-07024	Flywheel
3	1		2-15660	Flange bushing
		1		Flange bushing
4	1	1	950015	Key
5	8	8	940004	Socket cap screw M10

8.19 Safety



Pos	Qty.		Art. no.	Description
	⌜			Granulator CG1418
		⌜		Granulator CG1424
1	1	1	4-22844	Bracket, shaft locking
2	1	1	4-24329	Bracket, key
3	2	2	911002	Switch
4	1	1	911004	Key, switch
5	1	1	911003	Key, switch
6	6	6	911005	Cover washer
7	2	2	940394	Screw
8	2	2	940169	Washer BRB
9	4	4	940250	Socket cap screw M5
10	4	4	940206	Socket cap screw M5
11	2	2	940267	Nut, locking M5
12	2	2	940243	Washer BRB

9. Wiring diagram

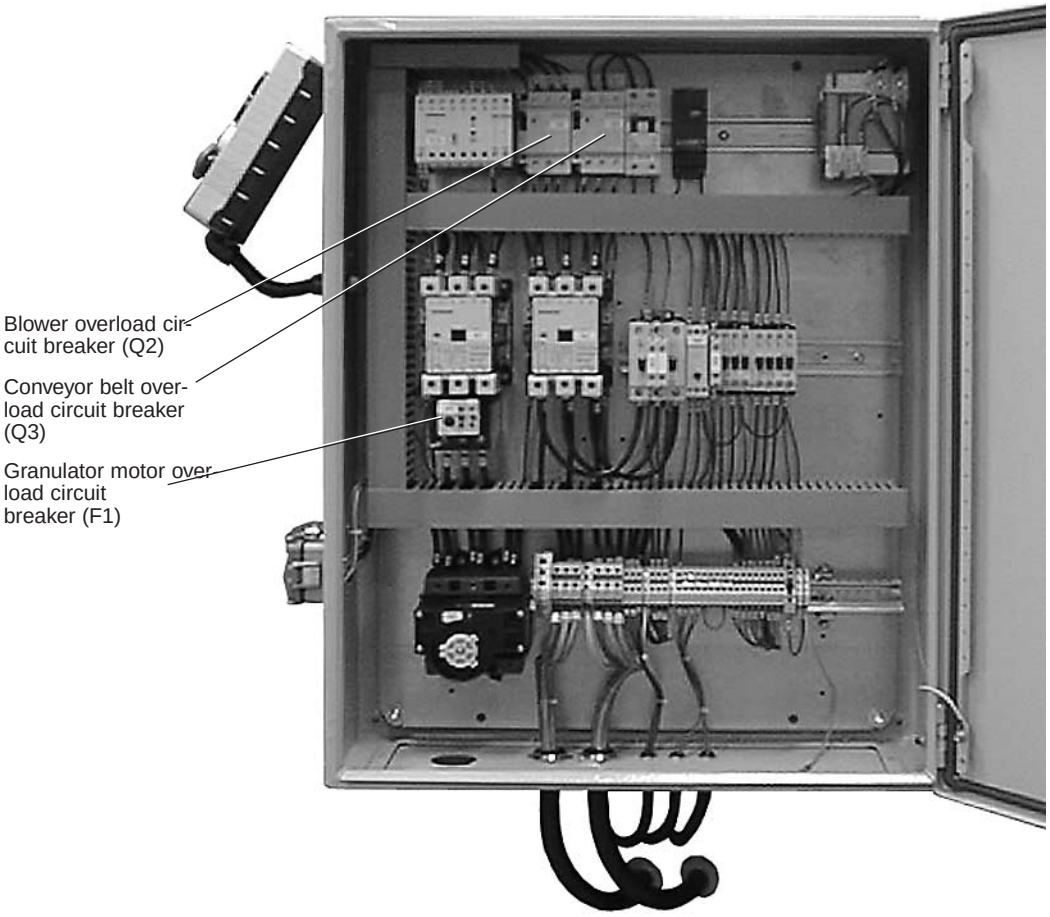
Never change or modify the basic electrical settings of the granulator, without first obtaining permission from Conair.

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!



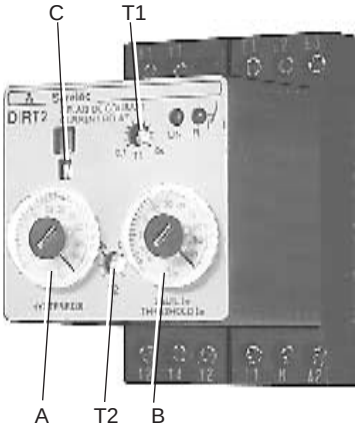
9.1 Current sensing relay

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

The current sensing relay detects the 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.

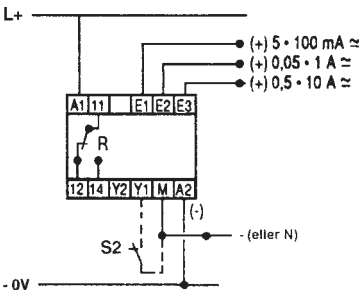
C – Relay function, N = normal; I = inverted;

Connection

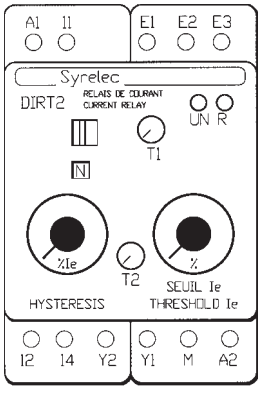
The current sensing relay is connected in series with the mill motor via a current transformer.

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: ..... √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

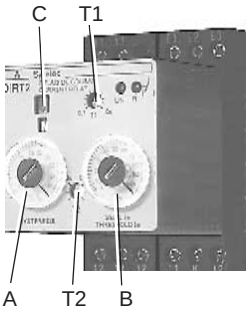
Example

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

A motor of 18.5 kW has a rated current of about 35 A.

When this star/delta is started, it pulls about 35 A/$\sqrt{3}$ i.e. about 18 A per phase.

Relay setting:



Motor size 35 A/$\sqrt{3}$ = 20,2 A per phase

T1 – Start delay setting 0.1 second.

T2 – Reaction time setting 3.0 seconds.

A – Hysteresis 20 %.

B – Limit value 40 %.

C – Relay function N normal.

The current transformer size is 50/1A.

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

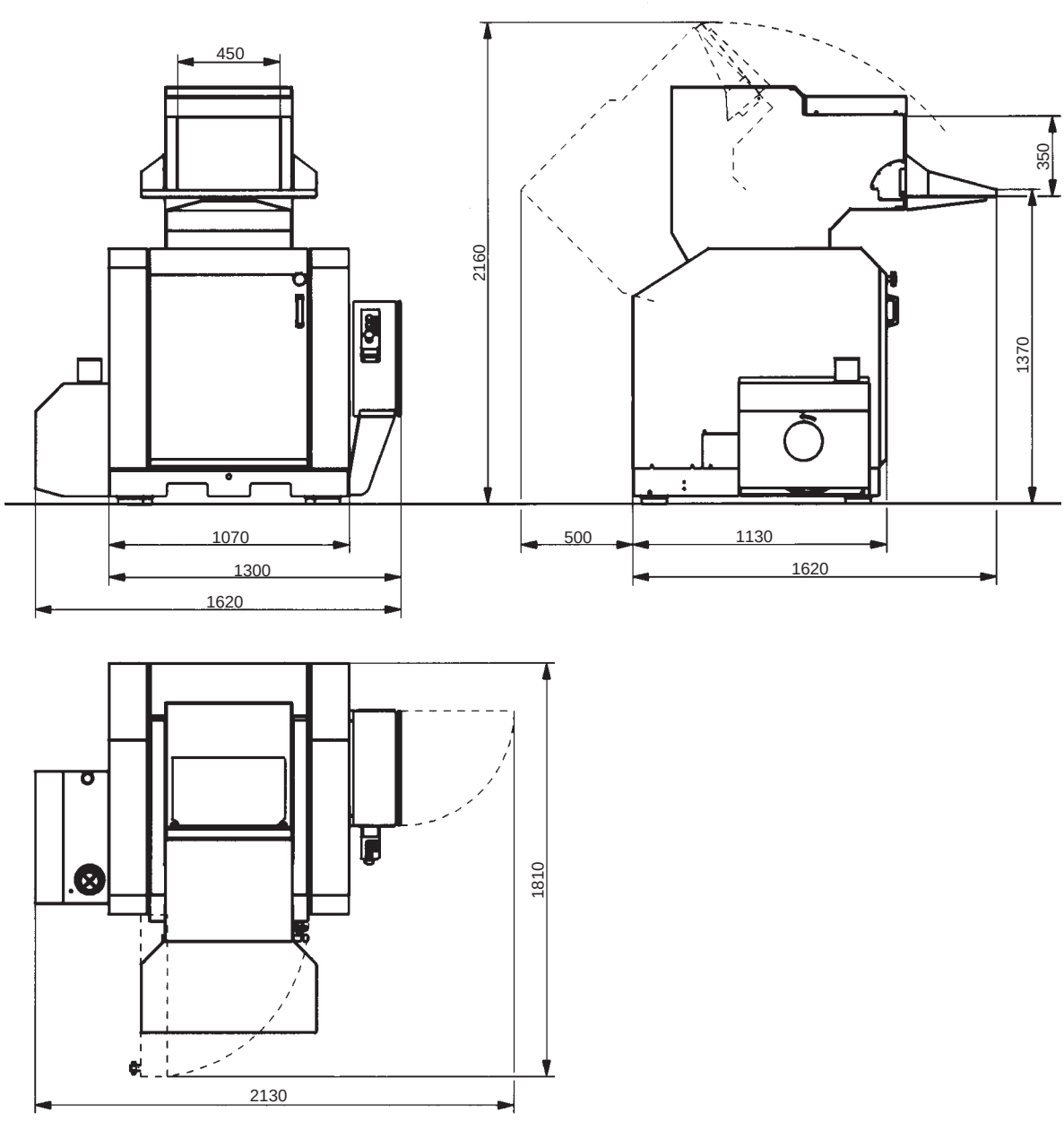
In a current transformer with a transformation ratio of 50/1, the limit value B should be set to 40 % or 20 A (50 A = 100 %).

The current sensing relay detects the current consumption of the granulator motor and stops the conveyor, when the granulator motor exceeds 20 A for 3 seconds, to prevent further material from being fed into the hopper.

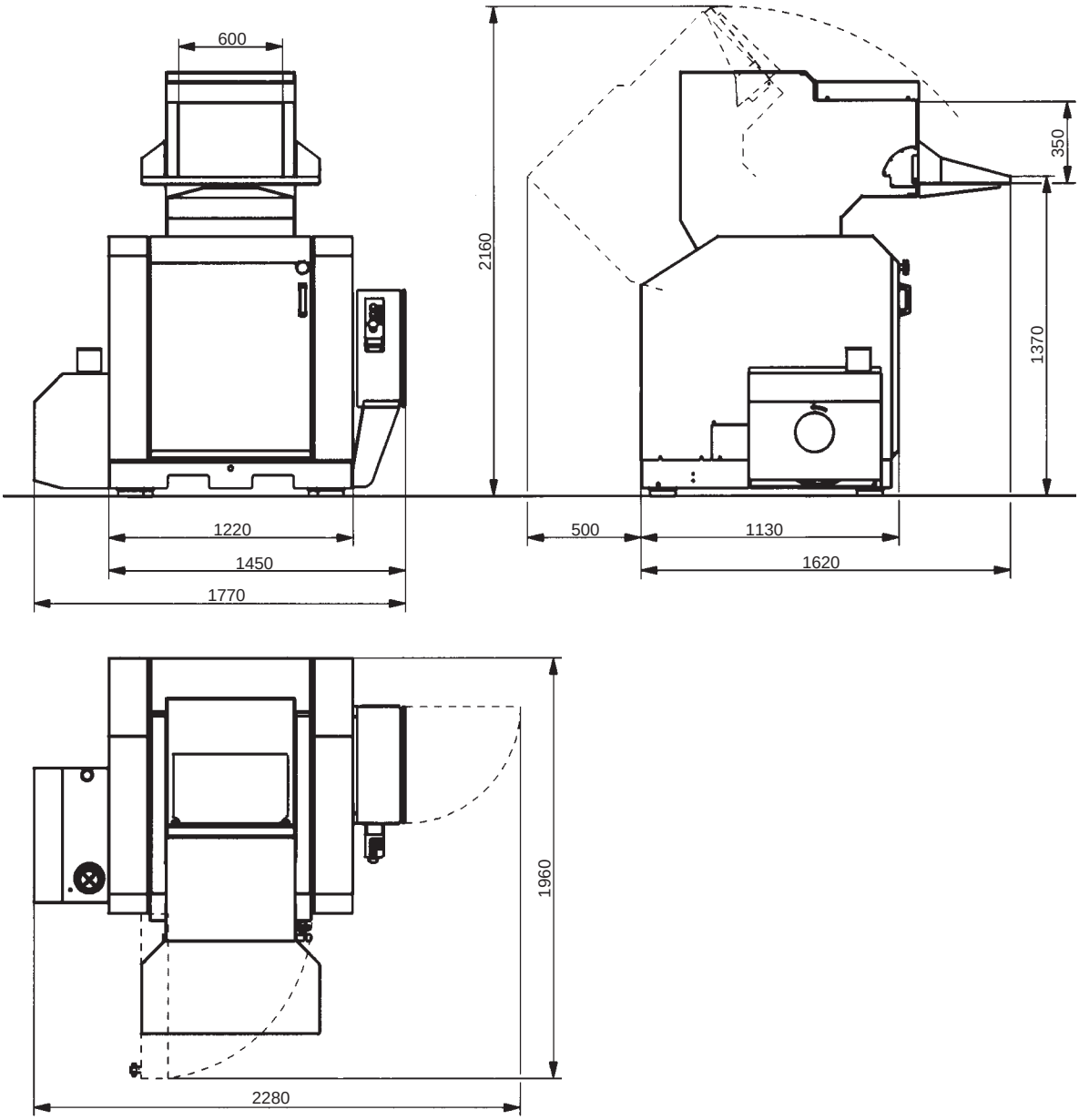
The relay re-starts the conveyor automatically when the granulator motor consumption has fallen 20 % below 20 A, i.e. to 16 A without a time delay.

10. Layout

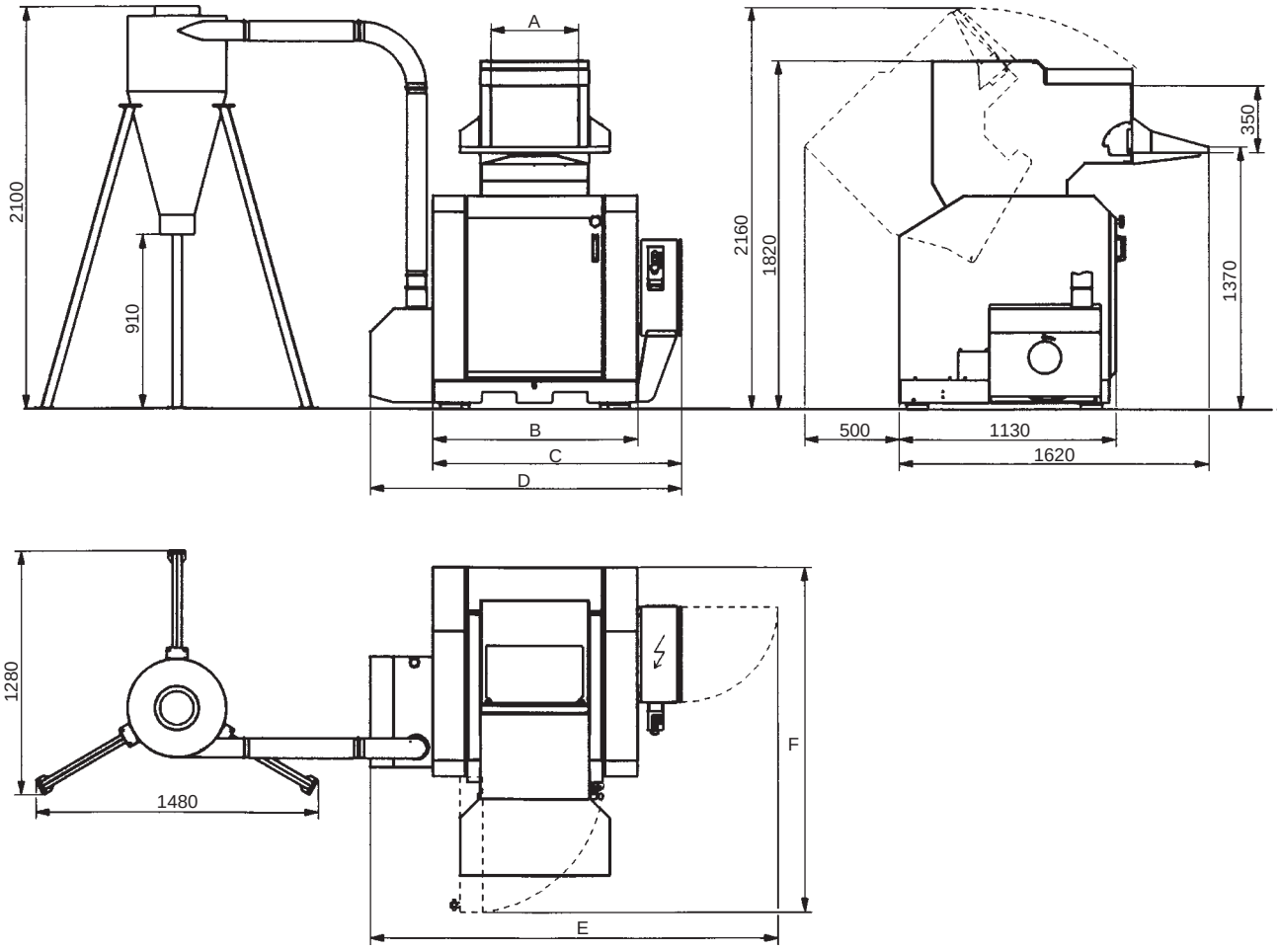
CG1418-KU



CG1424-KU

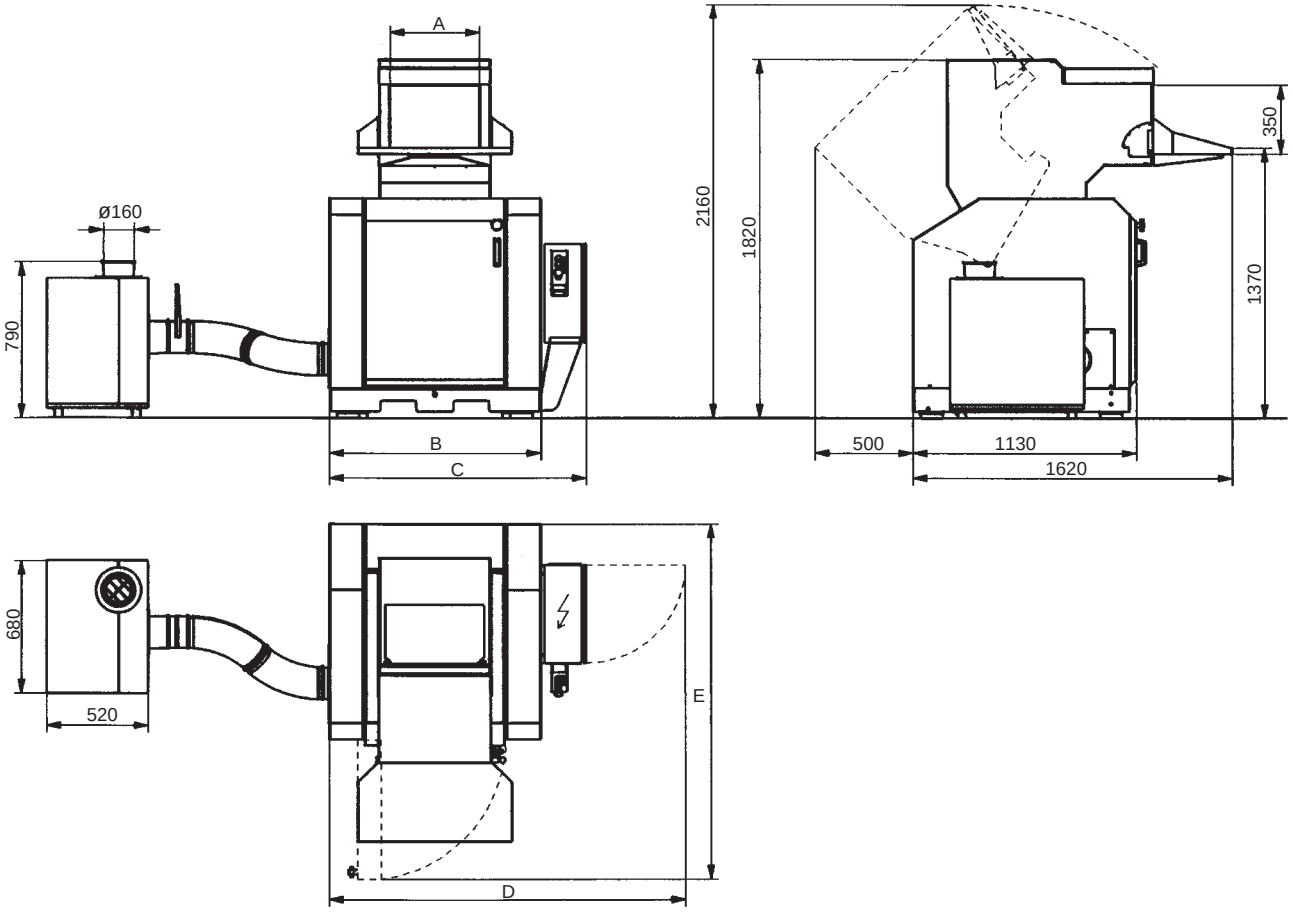


CG Series-KU Blower F-15 Cyclone AX-12



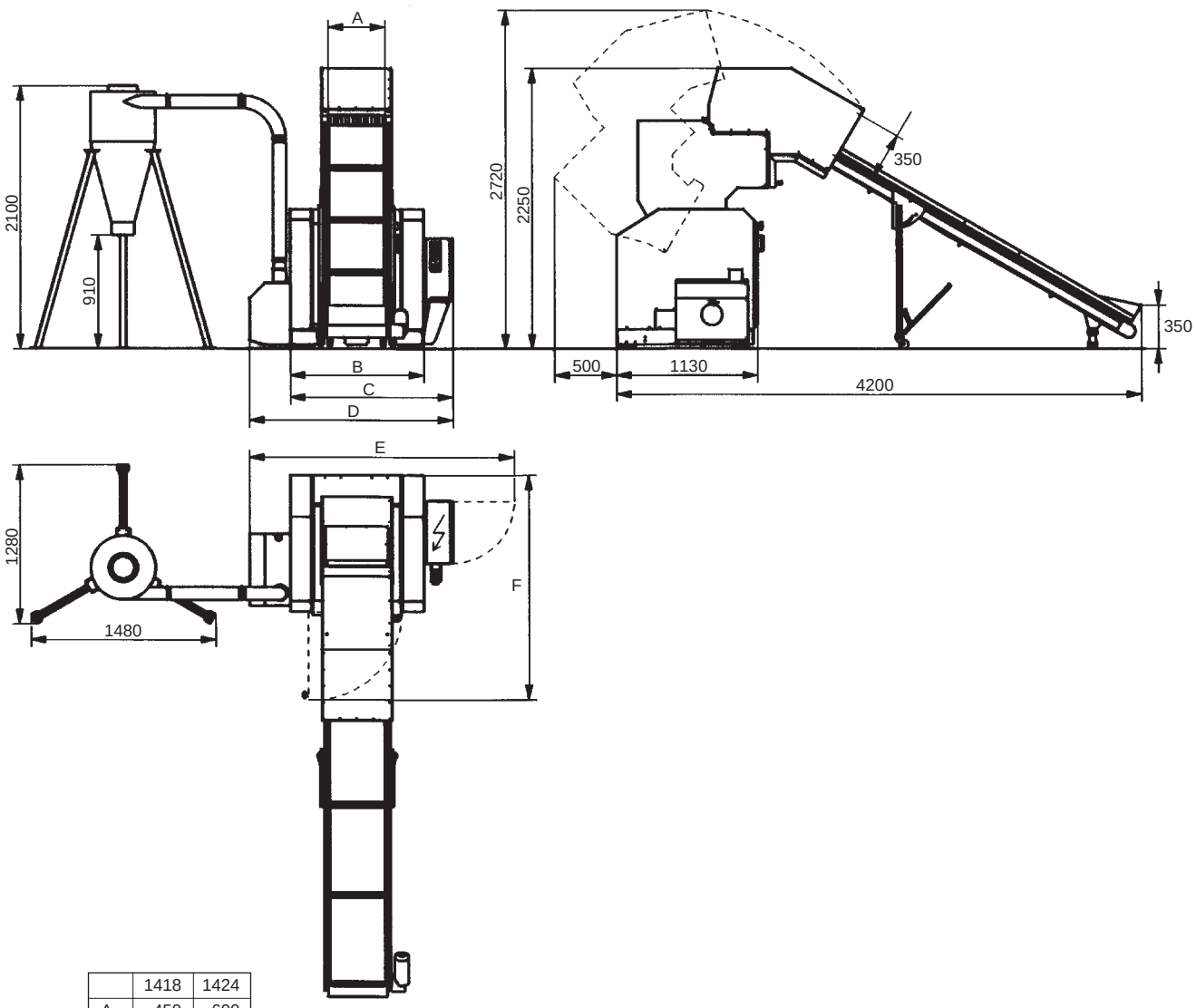
	1418	1424
A	450	600
B	1070	1220
C	1300	1450
D	1620	1770
E	2130	2280
F	1810	1960

CG Series-KU Blower F-25



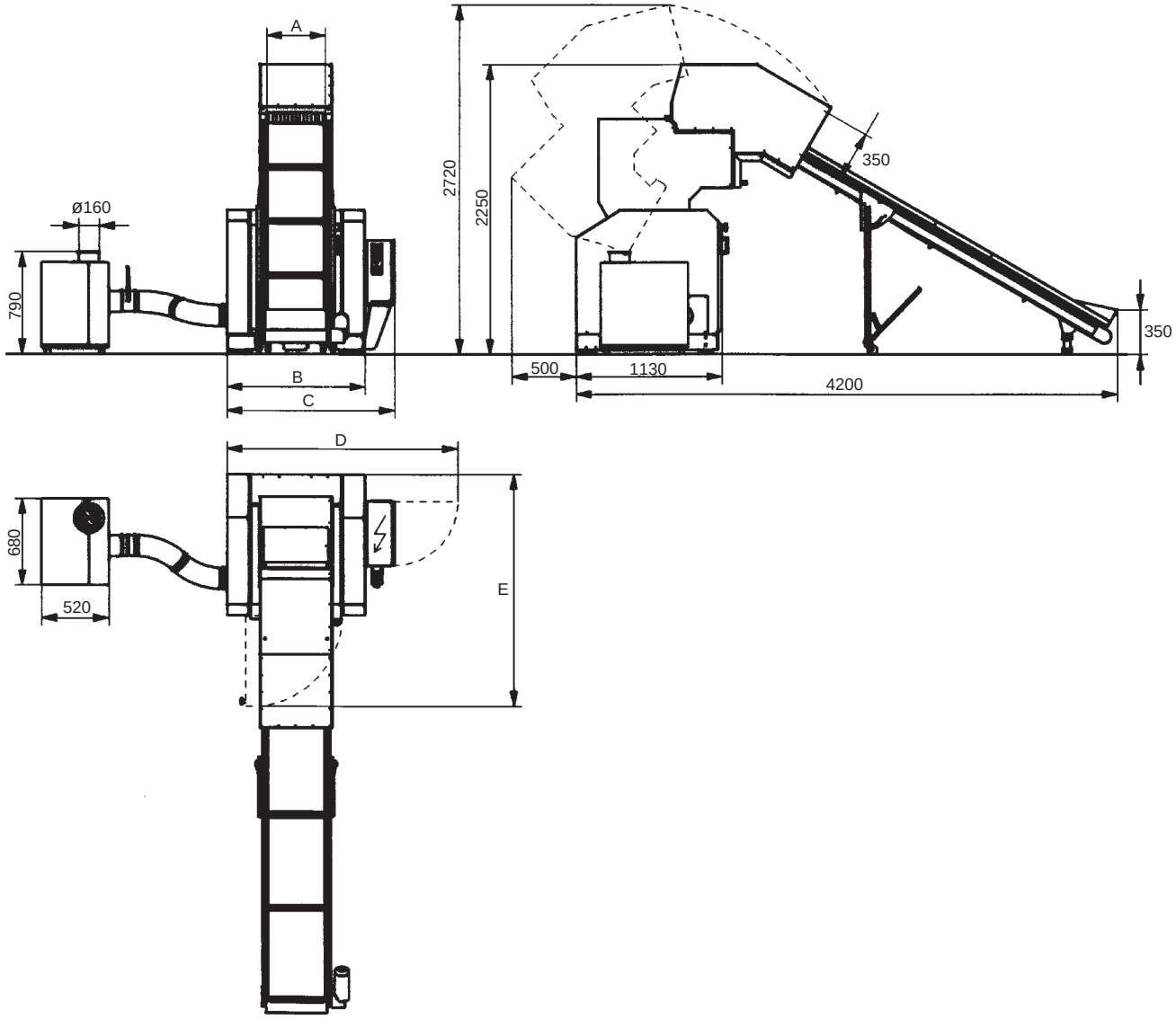
	1418	1424
A	450	600
B	1070	1220
C	1300	1450
D	1980	2130
E	1810	1960

CG Series-KUB Blower F-15 Cyclone AX-12



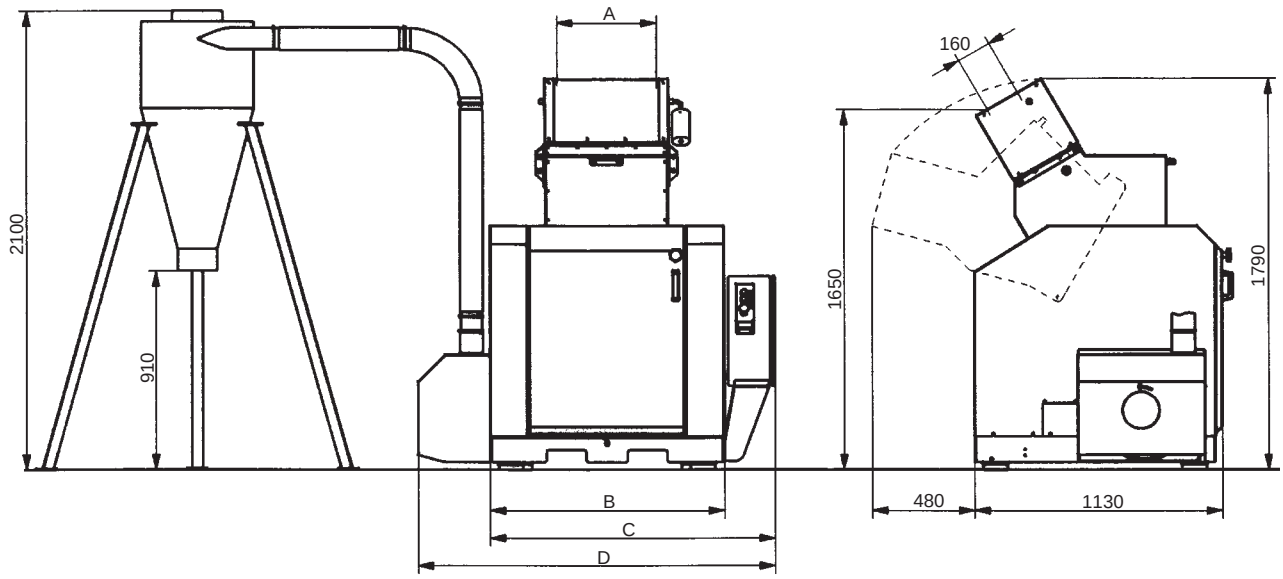
	1418	1424
A	450	600
B	1070	1220
C	1300	1450
D	1620	1770
E	2130	2280
F	1810	1960

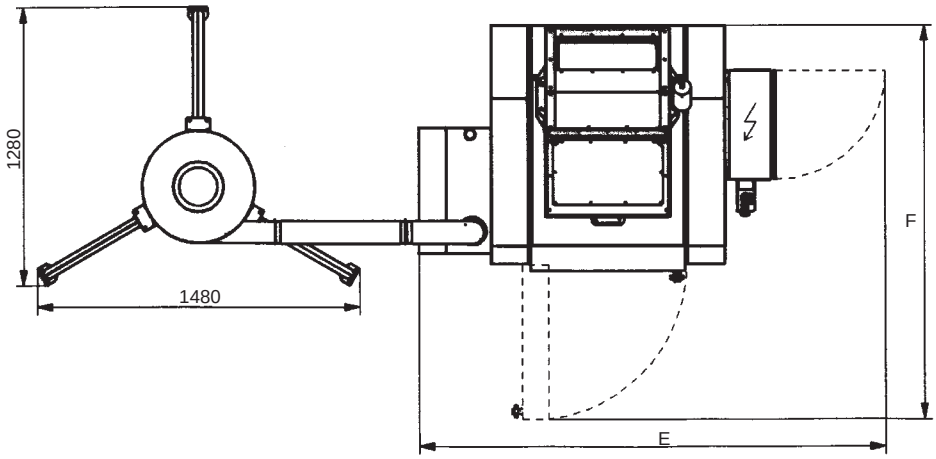
CG Series-KUB Blower F-25



	1418	1424
A	450	600
B	1070	1220
C	1300	1450
D	1980	2130
E	1810	1960

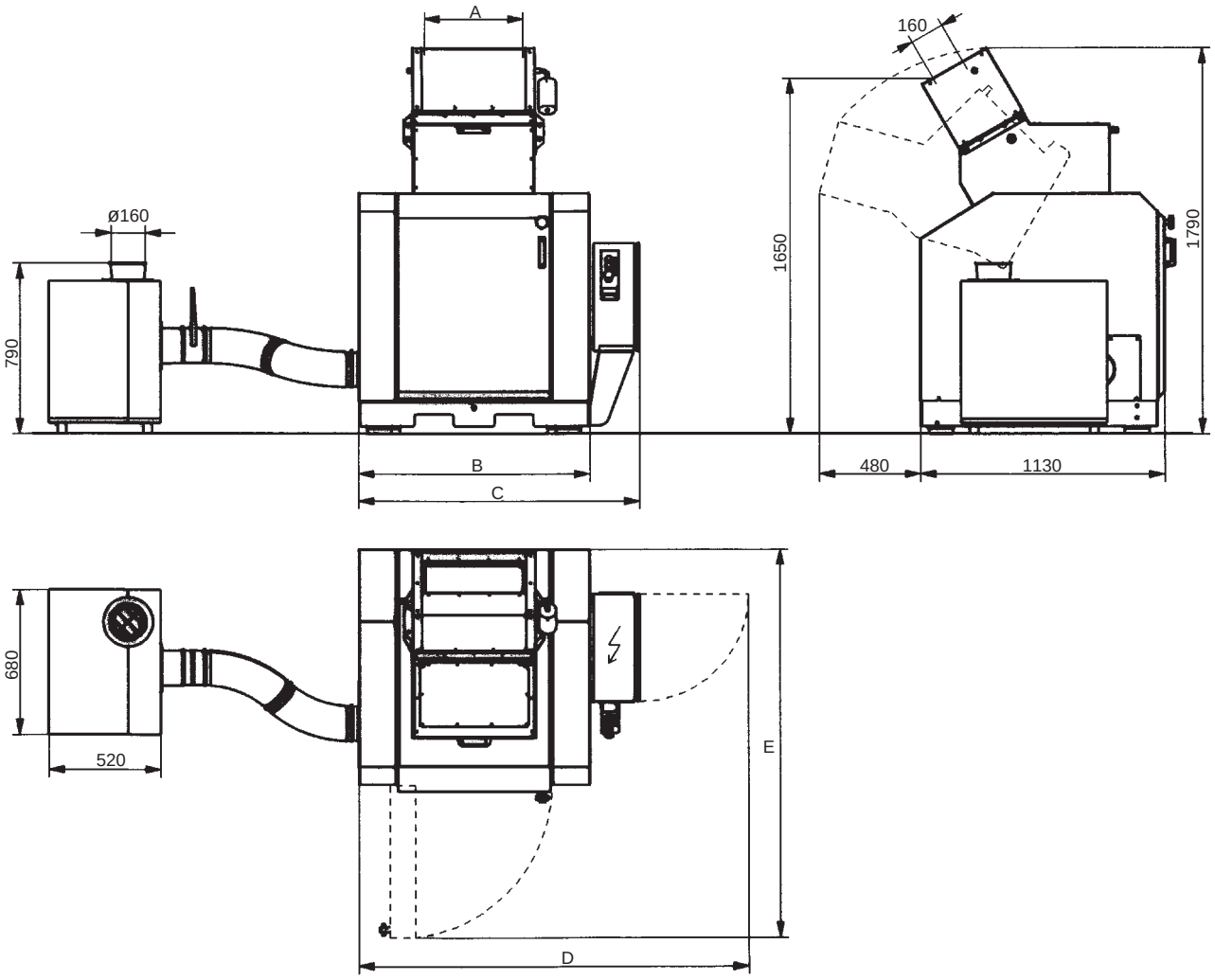
CG Series-KUP Blower F-15 Cyclone AX-12





	1418	1424
A	450	600
B	1070	1220
C	1300	1450
D	1620	1770
E	2130	2280
F	1810	1960

CG Series-KUP Blower F-25



	1418	1424
A	450	600
B	1070	1220
C	1300	1450
D	1980	2130
E	1810	1960

11. Accessories

Overview

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

Ordering spare parts

Only use original Conair spare parts when replacing machinery components.

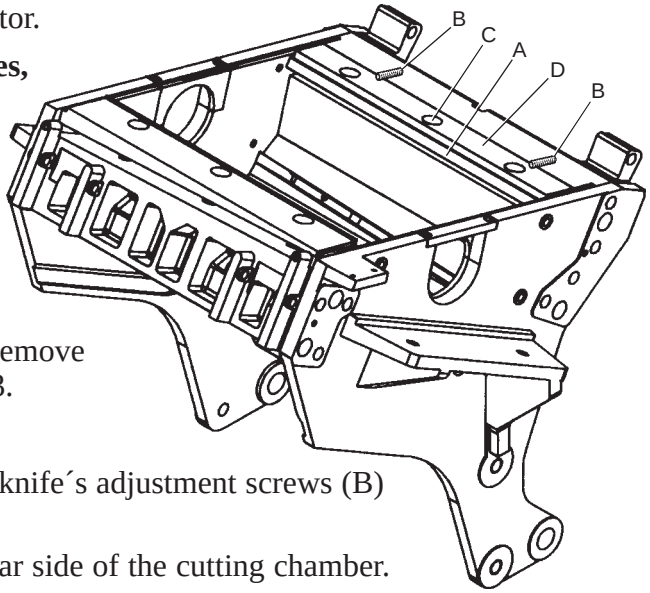
Orders should be sent to the representative in the country where the machine was purchased.

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 Third fixed knife

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



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.

Open the door and hopper to install/remove the third fixed knife – see chapter 5.3.

Removal

1. Undo and remove the third fixed knife´s adjustment screws (B) a few turns.

   The screws is undone from the rear side of the cutting chamber.
2. Undo and remove the socket cap screws (C) to the third fixed knife´s support rule (D).
2. Lift off the third fixed knife (A) together with the support rule.
4. Clean the knife attachment.

Installation

Check that the knife attachment is properly cleaned.

NOTE! The third fixed knife has no fixed position in the cutting chamber.

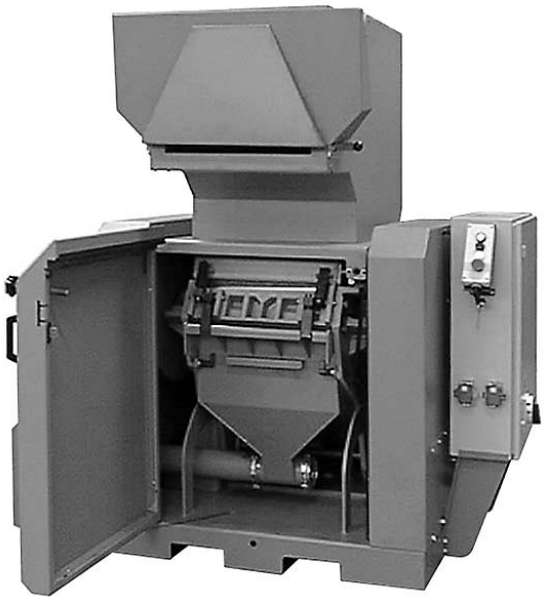
1. Install the knife (A) in the knife attachment with the support rule (D).
2. Fit the socket cap screws (C), so that the support rule lightly supports the knife.
3. Press the knife firmly back into the knife attachment.
4. Check that the cutter with the rotating knives can pass freely.
5. Set the knife clearance against one rotating knife. Adjust forward the knife with the adjusting screws (B). The clearance should be 0.20 - 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 stick.
6. Tighten the socket cap screws (C), with an alternating tightening torque to 220 Nm.
7. Check the knife clearance to all the rotating knives.

Sharpening

All the fixed knives in the granulator can be sharpened as described in chapter 7.2 “Sharpening the knives; Sharpening the fixed knives”.

11.2 Flywheel



The right-hand side cover and distribution box must be removed to remove/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 Conair's local distributor or the Conair head office.

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

11.3 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 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 authorized 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

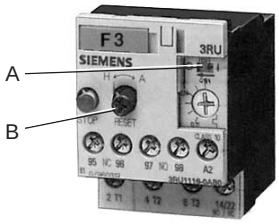
During all maintenance work on the band conveyor, both the circuit-breaker and the main circuit-breaker must be "Off". Alternatively, the connector must be pulled out of the power point!

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.

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.

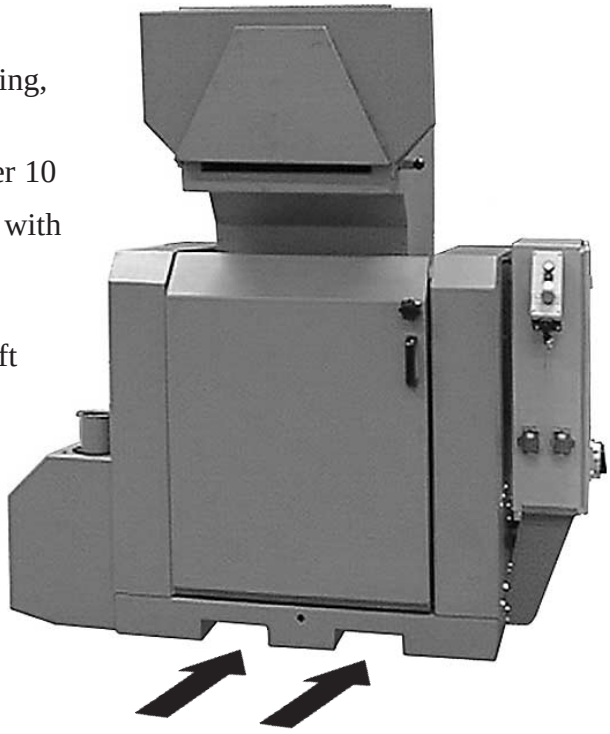
Unpacking and checking

- Check that the machine has not been damaged during transport.

  NOTE! Report any damage to the <u>forwarding agent</u>.

- 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, including packaging, approximately 1000 - 1150 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.

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:

PARTS & SERVICE 800 458 1960
Instant Access CONAIR
24 HOURS A DAY • 7 DAYS A WEEK

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.