

metos

VEGETABLE SLICER

RG-400

Installation and Operation Manual



S/N:

Rev.: 2.0

Dear Customer,

Congratulations on deciding to choose a Metos appliance for your kitchen activities. You made an excellent choice. We will do our best to make you a satisfied Metos customer like thousands of customers we have around the world.

Please read this manual carefully. You will learn correct, safe and efficient working methods in order to get the best possible benefit from the appliance. The instructions and hints in this manual will give you a quick and easy start, and you will soon note how nice it is to use the Metos equipment.

All rights are reserved for technical changes.

You will find the main technical data on the rating plate fixed to the equipment. When you need service or technical help, please let us know the serial number shown on the rating plate. This will make it easier to provide you with correct service.

For your convenience, space is provided below for you to record your local Metos service contact information.

METOS TEAM

Metos service phone number:.....

Contact person:.....

1. General	1
1.1 Symbols used in the manual	1
1.2 Symbols used on the appliance	1
1.3 Checking the relation of the appliance and the manual	1
2. Safety	8
2.1 Safe use of the appliance	8
3. Operation instructions	9
3.1 Operation procedures	9
3.1.1 Fitting and removing a feed cylinder (1:E/1:F)	9
3.1.2 Choosing the feed attachment	9
3.1.3 Fitting and removing the feed hopper attachment (7:A)	9
3.1.4 Fitting and removing the tube attachment (8:A)	10
3.1.5 Fitting and removing the manual push feed attachment (9:A)	10
3.1.6 Fitting and removing the pneumatic push feed attachment (10:A)	10
3.1.7 Choosing the right cutting tools	11
3.1.8 Fitting the cutting tools	11
3.1.9 Removing the cutting tools	11
3.1.10 Setting the speed controls	12
3.2 After use	13
3.2.1 Cleaning	13
3.2.2 Periodic service	14
4. Installation	15
4.1 Unpacking the appliance	15
4.2 Installation	15
5. Troubleshooting	16
7. Technical specifications	37

1. General

Carefully read the instructions in this manual as they contain important information regarding proper, efficient and safe installation, use and maintenance of the appliance.

Keep this manual in a safe place for eventual use by other operators of the appliance.

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and following local regulations. The connection of the appliance to the electric and water supply must be carried out by qualified persons only.

Persons using this appliance should be specifically trained in its operation.

Switch off the appliance in the case of failure or malfunction. The periodical function checks requested in the manual must be carried out according to the instructions. Have the appliance serviced by a technically qualified person authorized by the manufacturer and using original spare parts.

Not complying with the above may put the safety of the appliance in danger.

1.1 Symbols used in the manual



This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.



This symbol informs about the right way to perform in order to prevent bad results, appliance damages or hazardous situations.



This symbol informs about recommendations and hints that help to get the best performance out of the appliance.

1.2 Symbols used on the appliance



This symbol on a part informs about electrical terminals behind the part. The removal of the part must be carried out by qualified persons only.

1.3 Checking the relation of the appliance and the manual

The rating plate of the appliance indicates the serial number of the appliance. If the manuals are missing, it is possible to order new ones from the manufacturer or the local representative. When ordering new manuals it is essential to quote the serial number shown on the rating plate.

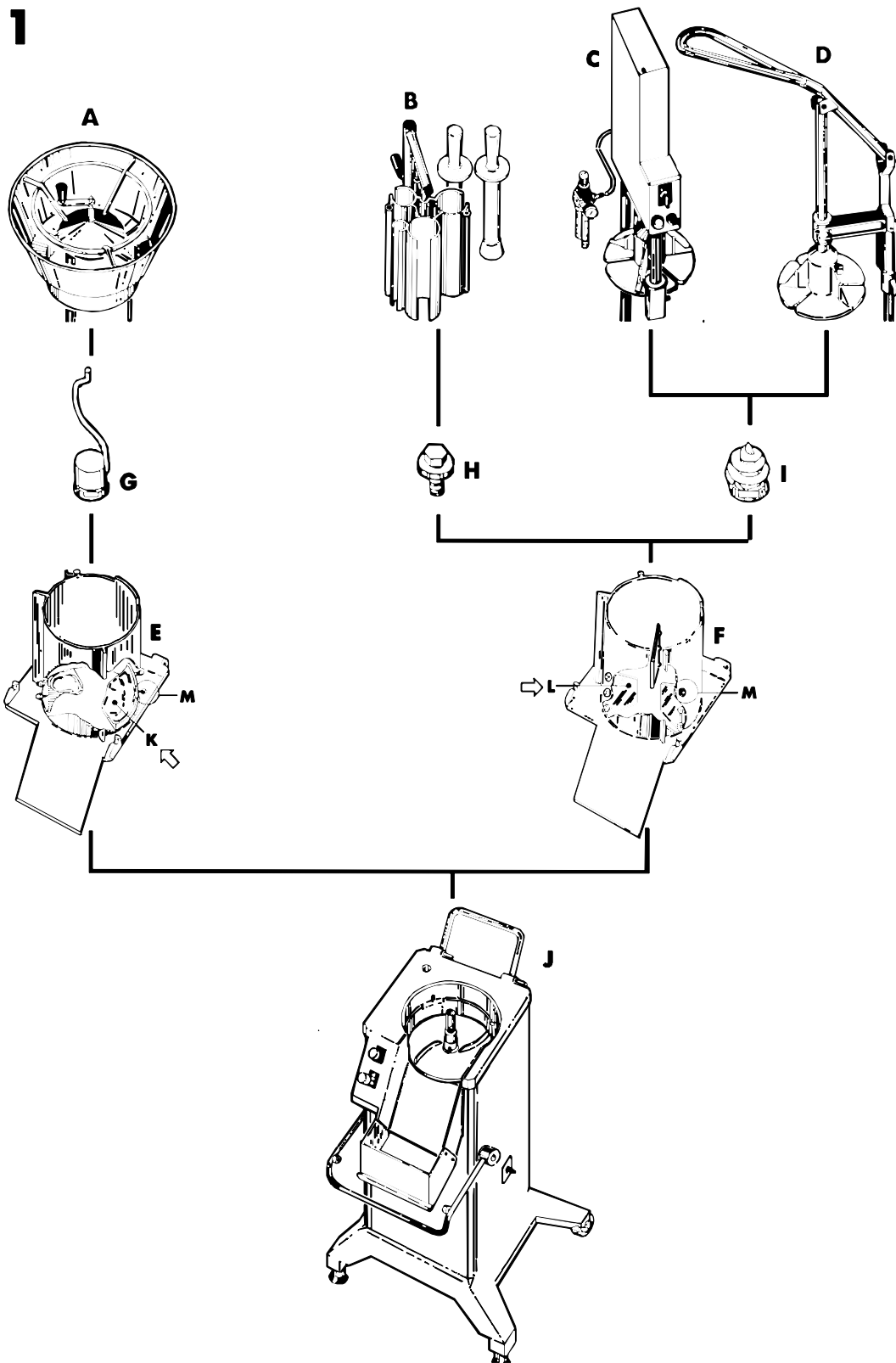
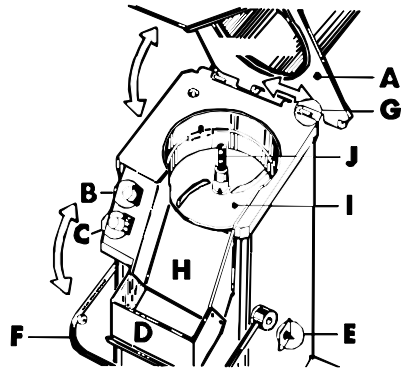
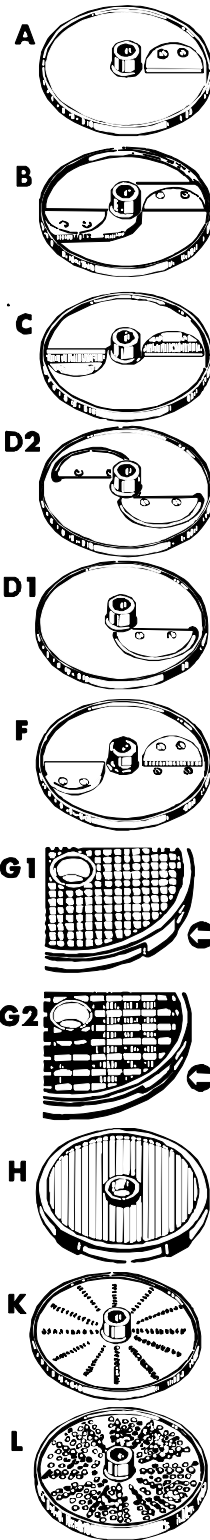


Fig. 1	
A	Feed hopper
B	Tube attachment
C	Pneumatic push feed attachment
D	Manual push feed attachment
E	Feed cylinder
F	Feed cylinder
G	Agitator device
H	Locking bolt
I	Locking screw
J	Machine housing
K	Wing
L	Knife
M	Nut

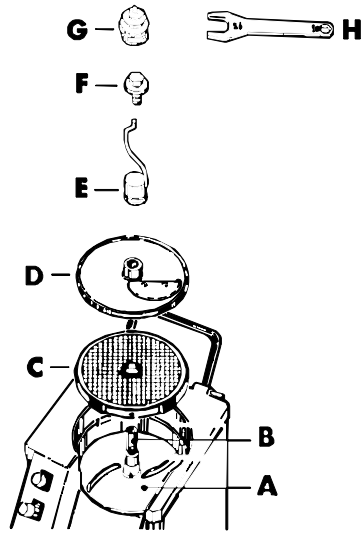
2



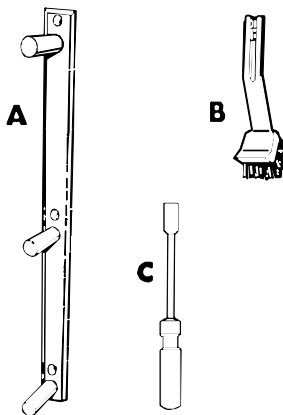
3



4



5



6

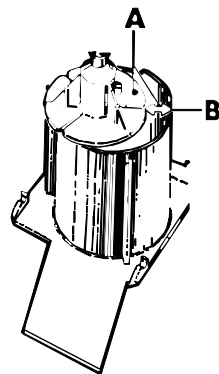


Fig. 2	
A	Feed cylinder
B	START-button
C	STOP-button
D	Guide
E	Speed adjustment
F	Locking handle
G	Hinge pin
H	Outlet

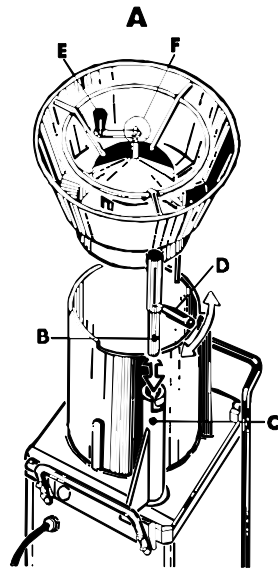
Fig. 3	
A	Standard slicer
B	Dicing cutter
C	Crimping slicer
D1	Fine cut slicer 1
D2	Fine cut slicer 2
F	Julienne cutter
G1	Dicing grid 1
G2	Dicing grid 2
H	French fry grid
K	Raw food grater
L	Fine grater

Fig. 4	
A	Ejector plate
B	Shaft
C	Dicing grid
D	Slicer
E	Agitator device
F	Locking bolt
G	Locking screw
H	Spanner

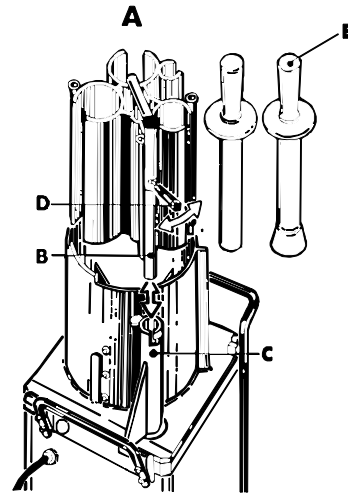
Fig. 5	
A	Wall rack
B	Brush
C	Socket spanner

Fig. 6	
A	Feeder plate
B	Opening

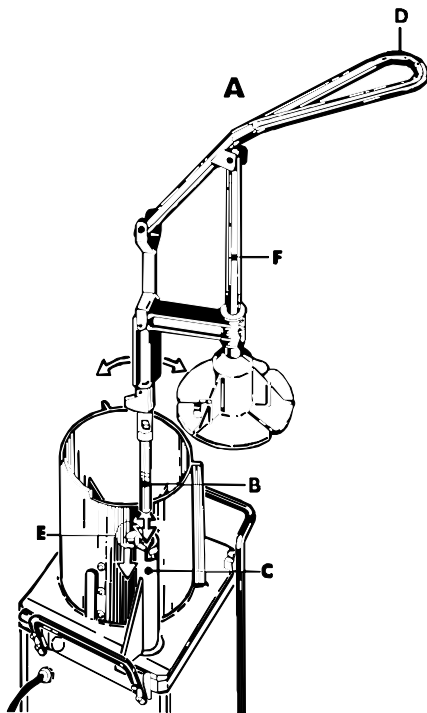
7



8



9



10

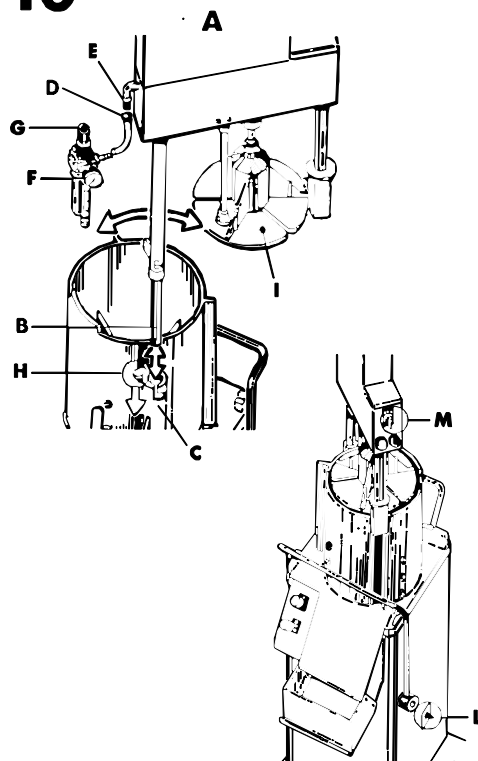


Fig. 7	
A	Feed hopper
B	Shaft
C	Feed cylinder tube
D	Locking knob
E	Mixer
F	Nut

Fig. 8	
A	Tube attachment
B	Shaft
C	Feed cylinder tube
D	Locking knob
E	Pestle

Fig. 9	
A	Manual push feed attachment
B	Shaft
C	Feed cylinder tube
D	Lever
E	Stop pad
F	Piston shaft

Fig. 10	
A	Pneumatic push feed attachment
B	Shaft
C	Feed cylinder tube
D	Snap coupling
E	Nipple
F	Pressure gauge
G	Pressure control
H	Stop pad
I	Feed plate
L	Speed control of the machine
M	Speed control of the push feed attachment

2. Safety

2.1 Safe use of the appliance



Take great care not to injure your hands on sharp blades of the cutting tools (3) and feed cylinder (1:F) and moving parts.



Never put your hands in any of the feed attachments (1:A/1:B) or the feed cylinders (1:E/1:F) other than for cleaning.



Never put your hands in the machine outlet (2:H) when the feed cylinder is lowered and the locking handle is raised.



Always press the machine stop button (2:C) before fitting or removing cutting tools, etc. even if the machine is not running.



The machine may be installed only by an authorized specialist.



Always use the pushers (8:E) for cutting by means of the tube attachment.



Only an authorized specialist should be allowed to repair the machine and open the machine housing.



Use the spanner (4:H) to unscrew the agitator device (4:E), locking bolt (4:F) and decorating device (4:G) by turning them clockwise.



When using the tube attachment (1:B) never use cutting tools larger than 10 mm.

3. Operation instructions

3.1 Operation procedures

3.1.1 Fitting and removing a feed cylinder (1:E/1:F)

- When fitting, fold down the locking handle (2:F).
- Push the feed cylinder (2:A) onto the hinge pins (2:G) of the machine, and lower the feed cylinder.
- Raise the locking handle.
- When removing, first remove the feed attachment (1:A/1:B/1:C/1:D).
- Lower the locking handle (2:F).
- Remove the feed cylinder (2:A) from the hinge pins (2:G) of the machine.

3.1.2 Choosing the feed attachment

- The feed hopper attachment (1:A) is used mainly for cutting potatoes, onions, dry bread, etc.
- The tube attachment (1:B) is used mainly for cutting cucumber, leek, paprika, etc.
- The manual (1:C) and the pneumatic (1:D) push feed attachments are used mainly for cutting cabbage, lettuce, cheese, carrots, etc.

3.1.3 Fitting and removing the feed hopper attachment (7:A)

- Press in the stop button (2:C).
- When fitting, fit the feed cylinder with two internal guides (1:E).
- Place the feed hopper attachment in the centre of the feed cylinder, with the shaft (7:B) in the feed cylinder tube (7:C).
- Press down the feed hopper attachment and turn the locking knob (7:D) anti-clockwise.
- When removing, turn the locking knob (7:D) clockwise and remove the feed hopper attachment.

3.1.4 Fitting and removing the tube attachment (8:A)

- Press the stop button (2:C).
- When fitting, fit the feed cylinder with three internal knives (1:F).
- Place the tube attachment in the feed cylinder with the shaft (8:B) in the feed cylinder tube (8:C).
- Press down the tube attachment and turn the locking knob (8:D) anti-clockwise.
- When removing, turn the locking knob (8:D) clockwise and remove the tube attachment.

3.1.5 Fitting and removing the manual push feed attachment (9:A)

- Press in the stop button (2:C).
- For fitting, fit the cylinder with three internal knives (1:F).
- Move the lever (9:D) up all the way.
- Fit the push feed attachment shaft (9:B) into the feed cylinder tube (9:C).
- Press down the push feed attachment and swing it in anti-clockwise.
- When removing, press down the stop pad (9:E) and swing out the push feed attachment clockwise and remove it.

3.1.6 Fitting and removing the pneumatic push feed attachment (10:A)

- Press in the machine stop button (2:C).
- When fitting, fit the feed cylinder with three internal knives (1:F).
- Fit the push feed attachment shaft (10:B) into the feed cylinder tube (10:C).
- Press down the push feed attachment and swing it anti-clockwise.
- Push the compressor hose snap coupling (10:D) onto the push feed attachment nipple (10:E).
- Set the speed controls of the machine (10:L) and of the push feed attachment (10:M) to suit the cutting tool being used as specified in the instructions under the heading setting the speed controls (4.3.1).
- Start the compressor and adjust its delivery pressure to 6 bar, and handle the compressor in accordance with the manufacturer's instructions.
- Check the air pressure on the pressure gauge (10:F). the recommended air pressure is about 4 bar, but the actual value needed may vary. If the air pressure reading on the pressure gauge is different, pull the control (10:G) upwards and then turn it until that the pressure gauge reading is around 4 bar, and then press it back down again.
- When removing, switch off the compressor and then disconnect the compressor hose snap coupling (10:D) from the push feed attachment nipple (10:E).
- Press down the stop pad (10:H) and swing out the push feed attachment clockwise, and then remove it.

Operation instructions

3.1.7 Choosing the right cutting tools

- For dicing, the dimensions of the dicing grid (3:G) should be equal to or larger than the dimensions of the slicing tool (3:A, B or D).
- Standard slicer (3:A): A Slices firm materials. Dices in combination with type 1 dicing grid (3:G1).
- Dicing cutter (3:B): Dices in combination with type 1 dicing grid (3:G1) from 12,5 x 12,5 mm upwards.
- Crimping slicer (3:C): Produces rippled slices.
- Fine cut slicer, 2 knives (3:D2): Slices firm and soft foods. Shreds cabbage.
- Fine cut slicer, 1 knife (3:D1): Slices firm, soft, juicy and delicate foods. Shreds lettuce. 4 mm chops onion in combination with type 1 dicing grid (3:G1) 10 x 10 and upwards. 4, 6 and 10 mm dices in combination with type 1 dicing grid. 14 and 20 mm dices in combination with type 2 dicing grid (3:G2).
- Julienne cutter (3:F): Shreds and cuts curved potato chips. 2,5 x 6 mm for leaf-free shredding of gabbage.
- Type 1 dicing grid (3:G1): Dices in combination with suitable slicer. Cannot be combined with 14 and 20 mm fine cut slicer. See type 2 dicing grid below.
- Type 2 dicing grid (3:G2): Dices in combination with 14 and 20 mm fine cut slicer.
- Potato chip/french fry grid (3:H): Cuts straight potato chips in combination with 10 mm fine cut slicer.
- Raw food grater (3:K): Grates carrots, gabbage, nuts, cheese, dry bread, etc.
- Fine grater (3:L): Fine grates raw potatoes, hard/dry cheese.

3.1.8 Fitting the cutting tools

- Place the ejector plate (4:A) on the shaft (4:B) and turn/press down the ejector plate into its coupling.
- For dicing or chopping onions, first place a suitable dicing grid in the machine and then turn the dicing grid clockwise as far as it will go. Then choose a suitable standard slicer or fine cut slicer and for chopping onions, a fine cut slicer, and fit the slicer to the shaft and then turn it so that the slicer drops into its coupling.
- For slicing, shredding and grating, fit instead only the selected cutting tool to the shaft and turn the cutting tool so that it drops into its coupling.
- Secure the centre sleeve (1:G) when using the feed hopper attachment (1:A), the locking bolt (1:H) when using the tube attachment (1:B), or the locking screw (1:I) when using the push feed attachment (1:C/1:D) by turning them anti-clockwise onto the centre shaft of the cutting tool.

3.1.9 Removing the cutting tools

- Unscrew the agitator device (4:E), the locking screw (4:G) or the locking bolt (4:F) clockwise by means of the spanner (4:H), and remove the cutting tool/tools and ejector plate (4:A).

Operation instructions

3.1.10 Setting the speed controls

The machine speed control (10:L) is normally set to position "2" for all cutting other than dicing, when the speed control should be in position "1".

When cutting with the pneumatic push feed attachment (10:A), set the speed control of the machine (10:L) and push feed attachment (10:M) in accordance with the following table:

K/RT = pneumatic push feed attachment

M = Machine

Slicer disc	K/RT	M
Standard cutter 3 mm	2	2
Standard cutter 4,5 - 6 mm	3	2
Standard cutter 10 - 20 mm	3	1
Dicing cutter 12,5 mm	3	1
julienne cutter 4,5 mm	3	2
Fine cut slicer 0,5 - 1,5 mm	1	2
Fine cut slicer 2 - 3 mm	2	2
Fine cut slicer 4 - 6 mm	3	2
Fine cut slicer 10 mm	3	1
Shredder 2,5 x 2,5 mm	2	2
Shredder 4,5 x 4,5 - 6 x 4,5 mm	3	2
Shredder 10 x 10 mm	3	1
Raw food grater 1,5 mm	1	2
Raw food grater 2 - 6 mm	2	2
Raw food grater 8 mm	3	1
Fine grater	1	2

3.2 After use

3.2.1 Cleaning

- Switch off the machine and remove the power supply plug from the socket or open the isolating switch.
- Carefully clean the machine immediately after use.
- Remove the feed hopper agitator (7:E) by releasing the nut (7:F) by means of the socket spanner (5:C).
- Remove the two guides (1:K) and the three knives (1:L) by releasing the nuts (1:M) by means of the socket spanner (5:C).
- If you have used a dicing grid (3:G), leave it in the machine, and use the brush (5:B) for pushing out any product remaining in the grid.
- Remove the loose parts of the machine, wash them and dry them thoroughly.
- Wipe the machine with a damp cloth.
- Always store the cutting tools (3) on the hangers (4:A) on the wall.



Always wipe the knives of the cutting tools dry after use.

Never clean the cutting tools or other lightalloy objects with a detergent with a high pH value (often used in dishwashers).



Never use sharp objects or a high-pressure spray gun for cleaning.

Never spray water on the sides of the machine.

3.2.2 Periodic service

Check every week

- That the machine stops when the locking handle (2:F) is lowered.
- That the machine stops when the locking handle of the feed hopper attachment (7:D) or the tube attachment (8:D) is turned clockwise to the unlocked position, and that the machine restarts when the locking knob is turned anti-clockwise to the locked position.
- That the machine stops when the manual (1:C) or the pneumatic (1:D) push feed attachment feeder plate (6:A) is swung to the side so that the feeder cylinder opening (6:B) is greater than 60 mm, and that the machine restarts when the push feed attachment is swung back over the feed cylinder.
- Remove the plug from the power supply socket and then check that the electric cable is in good condition and is not craced on the outside.

If any of the two safety functions does not perform as intended or if the electric cable is cracked, get a specialist to attend to the machine before connecting it back to the power supply.

- That the visible screws and bolts are securely tightened.
- That the hinge pins (2:G) are adequately lubricated.
- That the push feed attachment piston shaft (9:F) is clean and runs freely.
- That the machine stands firmly on the adjustable feet.
- Check that the knives and shredder plates are in good condition and sharp.

4. Installation

4.1 Unpacking the appliance

Check that all of the parts have been delivered, that the machine operates as intended, and that nothing has been damaged in transit. The machine supplier should be notified of any shortcomings within eight days.

4.2 Installation

- Connect the machine to an electric power supply which is suitable for the machine.
- Remove the cutting tool (3) before installing the machine.
- Reset the adjustable feet as necessary to make sure that the machine stands firmly.
- Locate the hanger (5:A) for the cutting tools (3) on the wall in the vicinity of the machine for convenient and safe use.
- Check that the shaft (2:J) rotates clockwise.
- Check that the machine stops when the locking handle (2:F) is folded down.
- Check that the machine stops when the locking knob for the feed hopper attachment (7:D) or tube attachment (8:D) is turned clockwise to the unlocked position, and that the machine restarts when the locking knob is turned anti-clockwise to the locked position.
- Check that the machine stops when the manual (1:C) or pneumatic (1:D) push feed attachment feed plate (6:A) is swung to the side so that the feed cylinder opening (6:B) is larger than 60 mm, and that the machine restarts when the push feed attachment is swung back over the feed cylinder.



If the machine does not perform correctly, it must receive attention before it is taken into operation.

5. Troubleshooting

PROBLEM	MEASURES
The machine cannot be started, or stops while its running and cannot be restarted.	Check that the plug is securely fitted into the power supply socket, or that the isolating switch is closed . Press the starter button (2:B). Fit the feed cylinder (1:E/1:F) and a feed attachment (1:A/1:B/1:C/1:D). Turn the feed attachment locking knob (7:D/8:D) anti-clockwise to the locked position. Move the push feed attachment feed plate (6:A) to the centre of the feed cylinder. Check that all components are correctly fitted and that the safety arm (2:F) is raised. Check that the fuses in the fuse box for the premises have not blown, and that they have the correct rating. Wait for a few minutes and try to restart the machine. If the machine still fails to run, call a specialist.
Low capacity or poor cutting results.	Make sure that you are using the correct cutting tool or combination of cutting tools (3). Fit the decoring device (4:G), locking bolt (4:F) or agitator device (4:E). Make sure that the speed controls for the machine (10:L) and the pneumatic push feed attachment (10:M) are in the right position in accordance with the table under the heading setting the speed controls, and that the reading on the pressure gauge (10:F) is about 4 bar. Check that the pneumatic push feed attachment feed piston (10:I) is set to the right speed. Position "1" - about 12 seconds/piston cycle, position "2" - about 8 seconds/piston cycle, and position "3" - about 4 seconds/piston cycle. If necessary the speed should be adjusted by a specialist. Check that the knives and shredder plates are in good condition and are sharp. Press the food down loosely.
The cutting tool (3) cannot be removed.	Always use the ejector plate (4:A). Use a thick leather glove or the like that the knives of the cutting tool cannot cut through, and turn the cutting tool clockwise to release it.
The Agitator device (4:E), locking bolt (4:F) or locking screw (4:G) cannot be removed.	Use a spanner (4:H) to unscrew it.

7. Technical specifications

Connection-diagram RG-400 380-415V 3 50/60

Connection-diagram RG-400 208-460V 3 50/60

RG-400 pneumatic-diagram

Installation-drawing

Installation-drawing

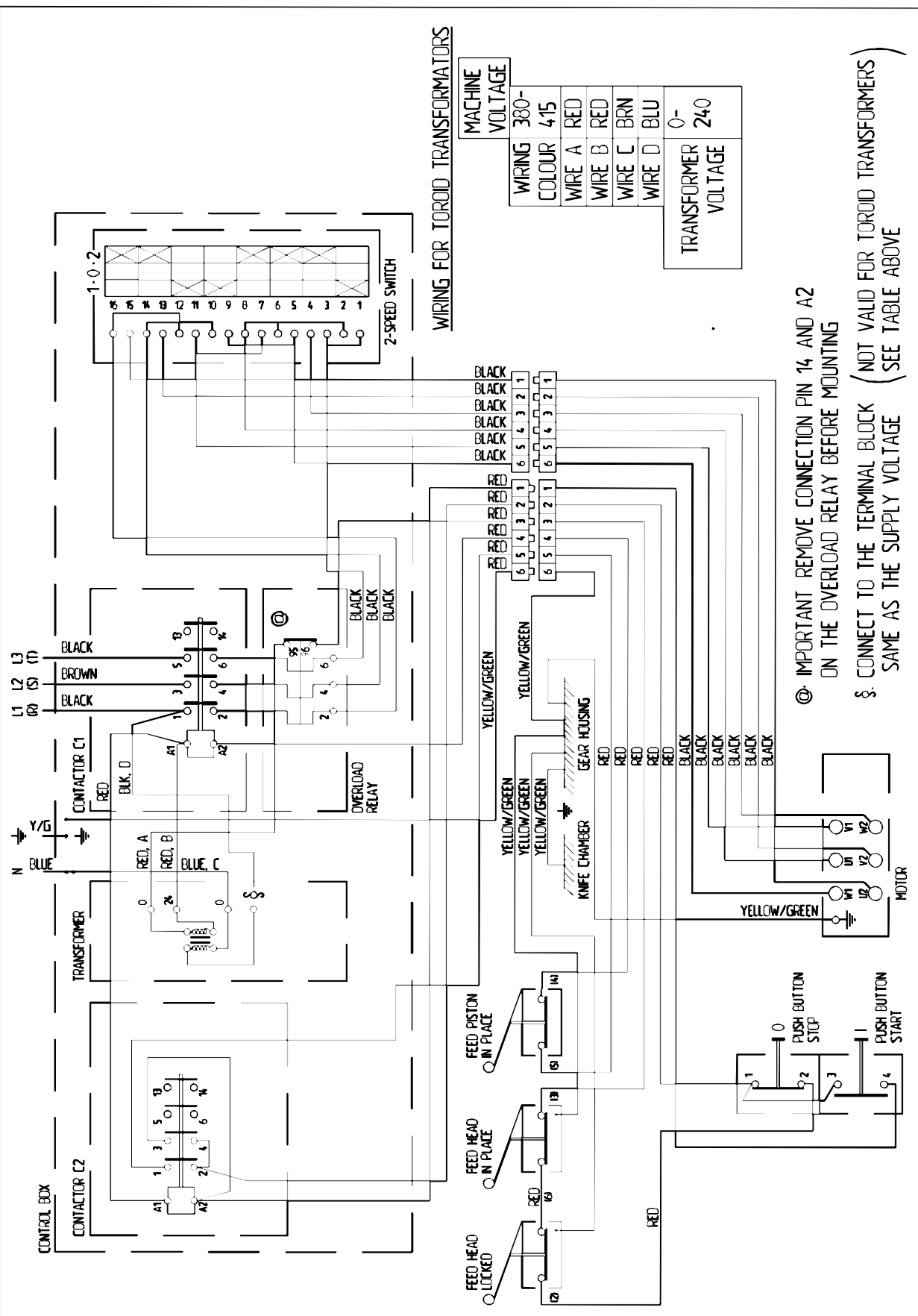
Installation-drawing

RG-400 rekommended min. working space

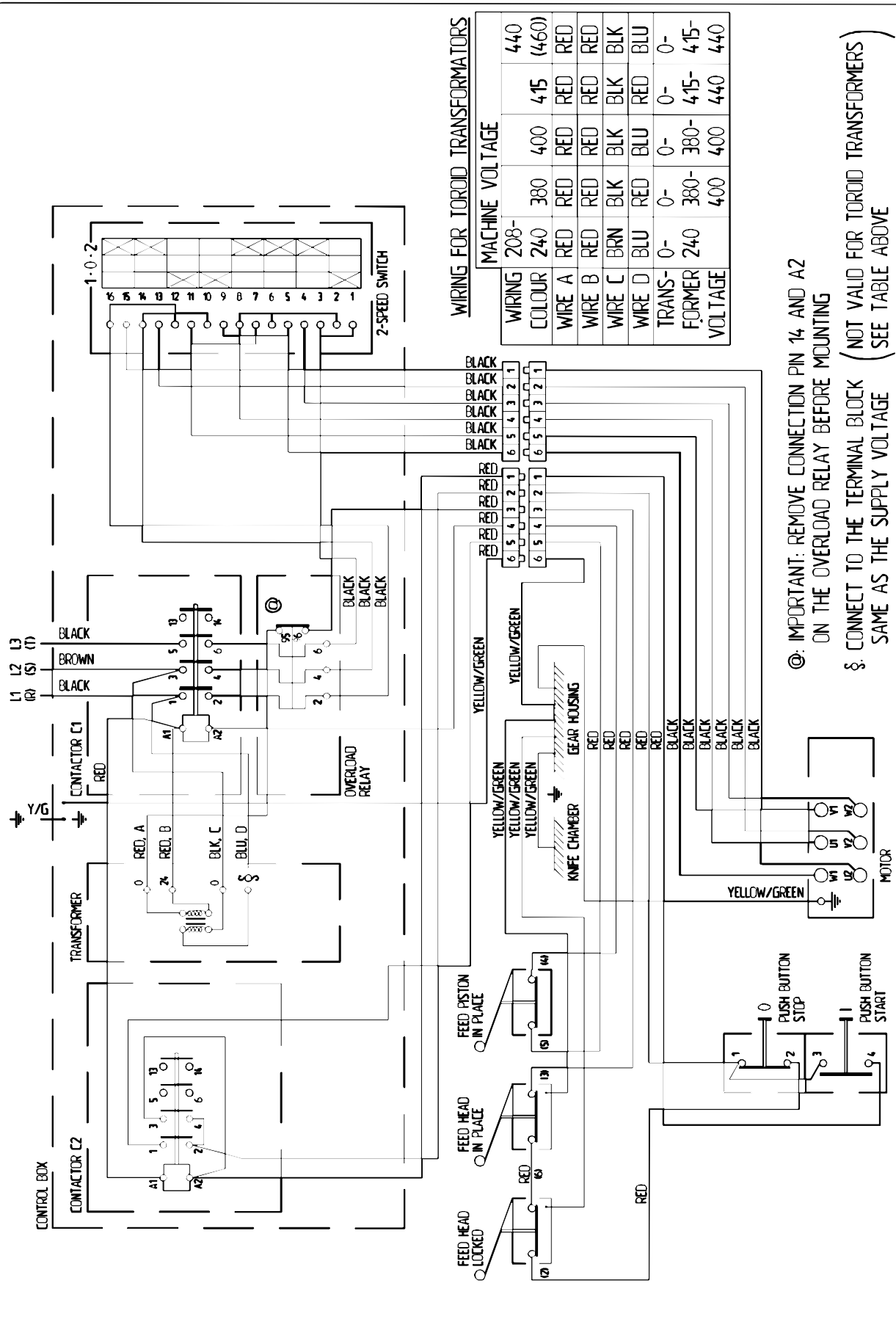
HALLDE

RG-400 ELECTRICAL DIAGRAM 380-415 3 50/60 WITH NEUTRAL WIRE

Own by UEn Rev date 981027
 Appr Jst Date 940901
 Drawing no 3163-2



© IMPORTANT REMOVE CONNECTION PIN 14 AND A2 ON THE OVERLOAD RELAY BEFORE MOUNTING
 § CONNECT TO THE TERMINAL BLOCK (NOT VALID FOR TOROID TRANSFORMERS) SAME AS THE SUPPLY VOLTAGE (SEE TABLE ABOVE)



WIRING FOR TOROID TRANSFORMERS

WIRING COLOUR	208-	240	380	400	415	440
WIRE A	RED	RED	RED	RED	RED	RED
WIRE B	RED	RED	RED	RED	RED	RED
WIRE C	BRN	BLK	BLK	BLK	BLK	BLK
WIRE D	BLU	RED	RED	BLU	RED	BLU
TRANS-FORMER VOLTAGE	0-240	0-380	0-400	0-380	0-415	0-440

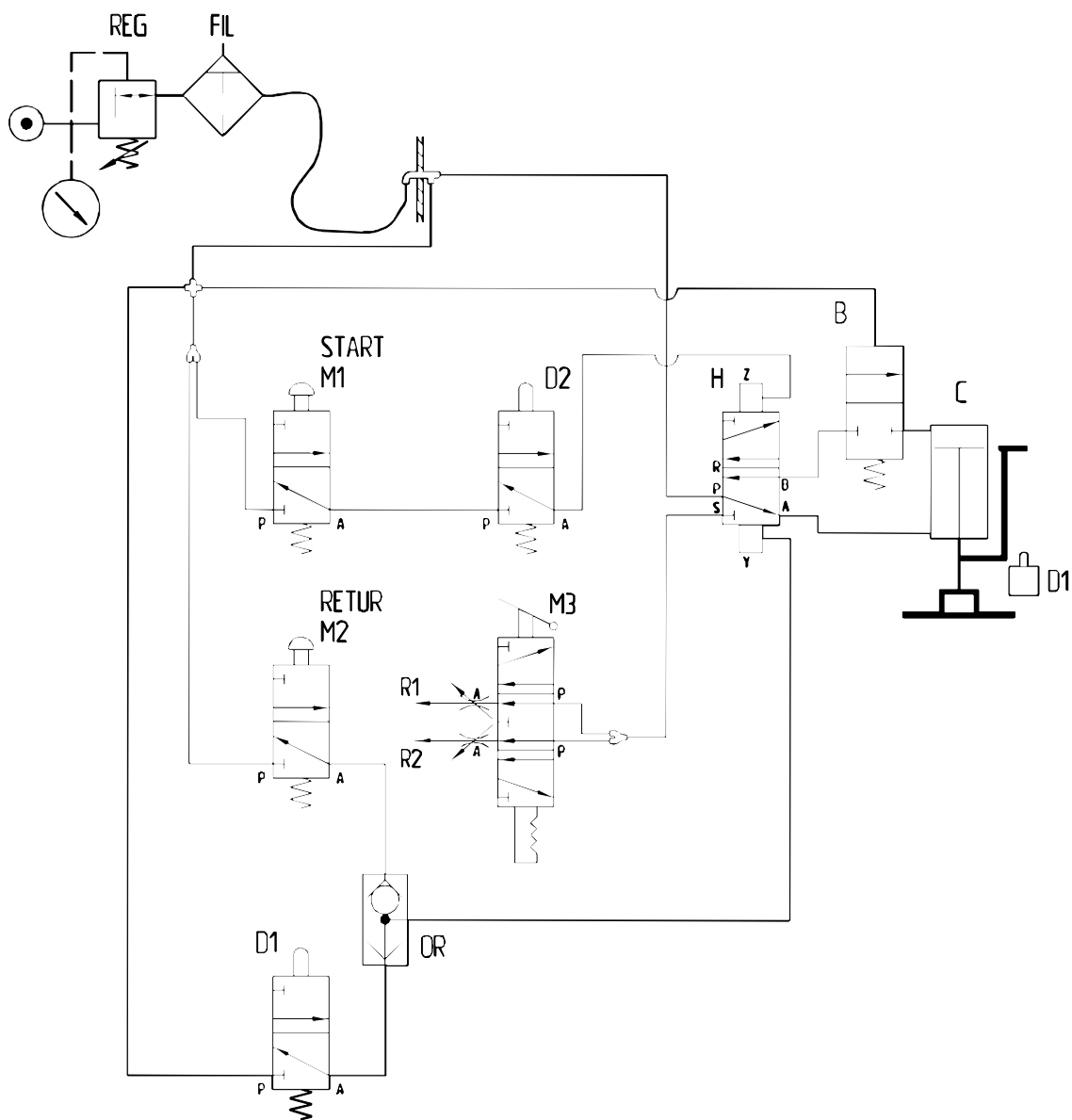
- Ⓞ IMPORTANT: REMOVE CONNECTION PIN 14 AND A2 ON THE OVERLOAD RELAY BEFORE MOUNTING
- § CONNECT TO THE TERMINAL BLOCK (NOT VALID FOR TOROID TRANSFORMERS) SAME AS THE SUPPLY VOLTAGE (SEE TABLE ABOVE)

HALLDE

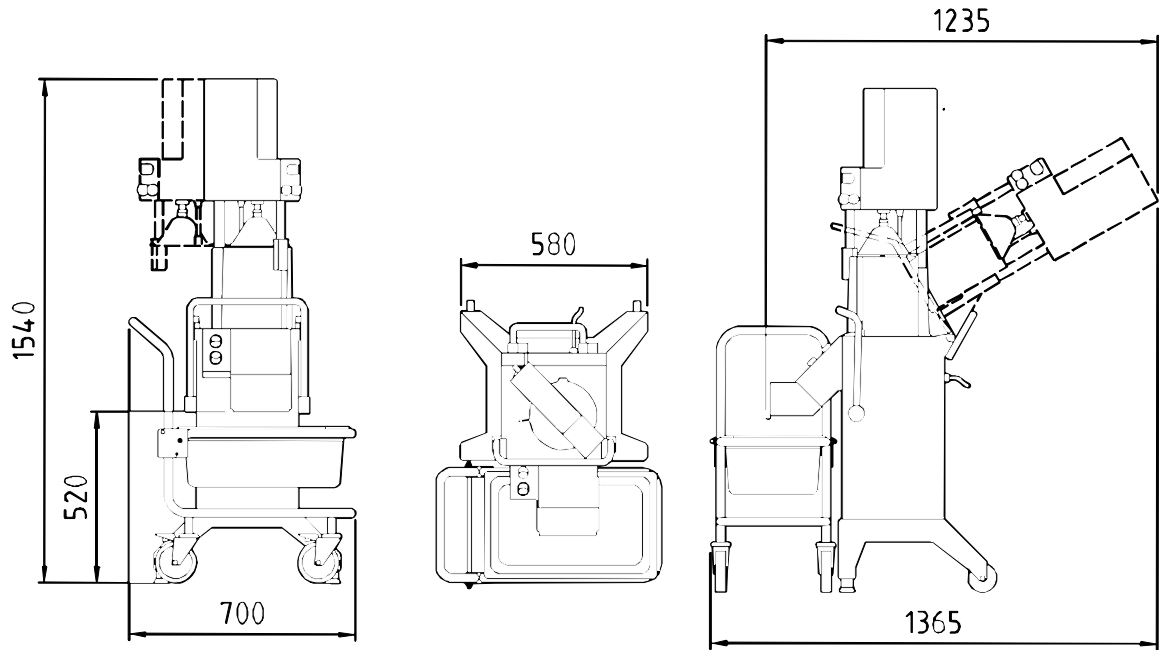
RG-400 ELECTRICAL DIAGRAM
208-460 3 50/60 W/O NEUTRAL WIRE

Own by	UEn	Rev date	981118
Appr	JSI	Date	940901
Drawing no	3163-3		

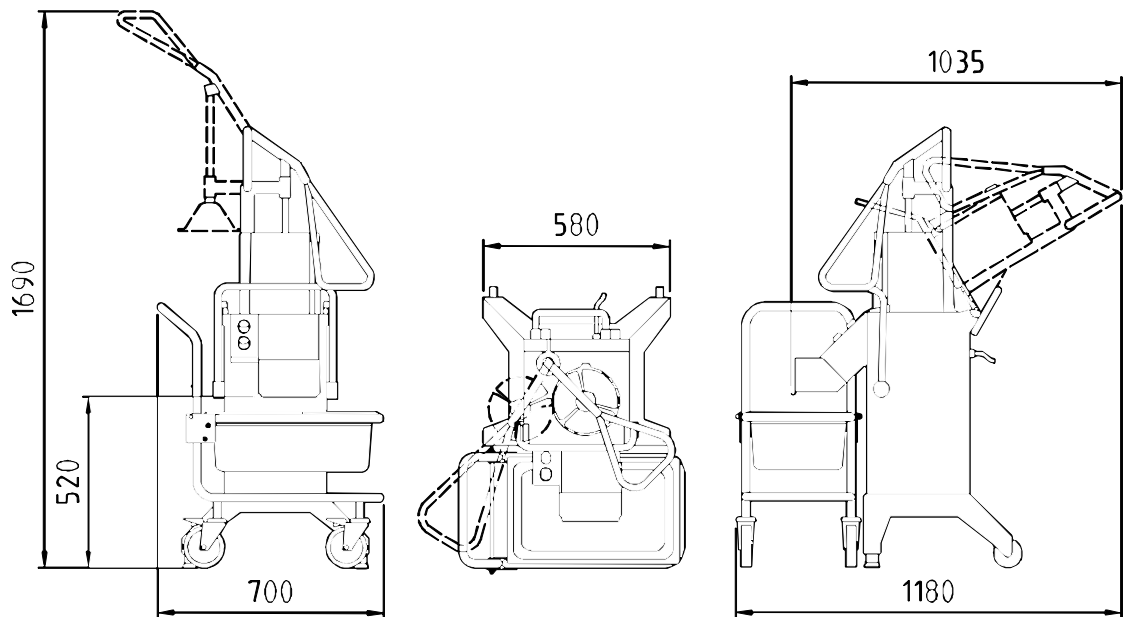
PNEUMATIC DIAGRAM / RG-400 / PUSH FEED ATTACHMENT, PNEUMATIC
 PNEUMATIKSCHEMA / RG-400 / KÅL/RÅKOSTMATARE, TRYCKLUFTSDRIVEN



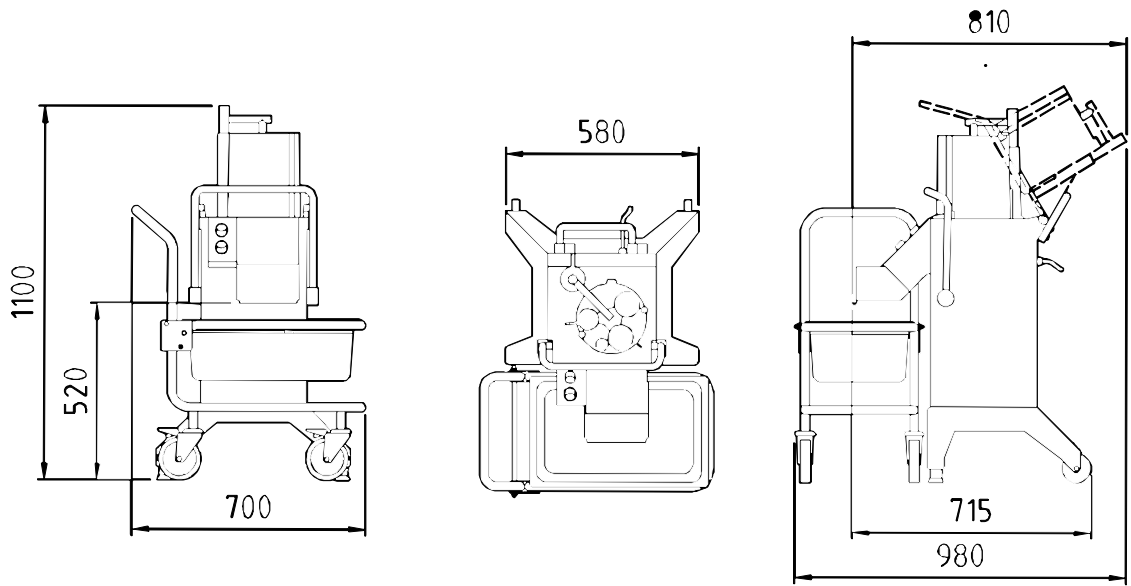
**RG-400 WITH PNEUMATIC FEEDER
AND CONTAINER TROLLEY**



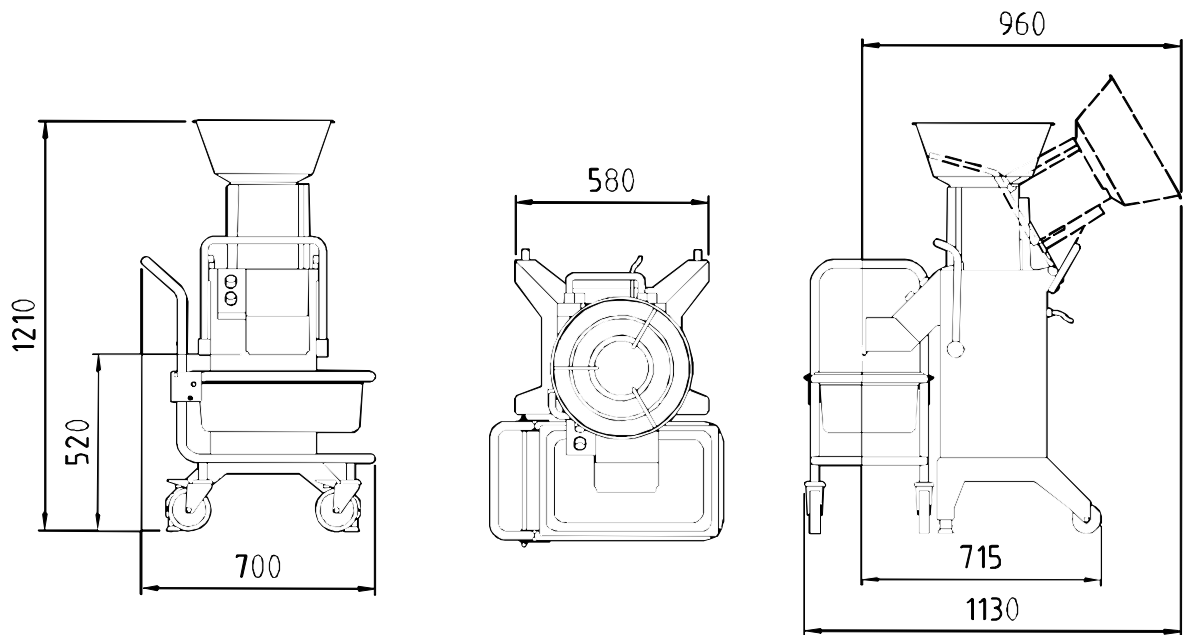
**RG-400 WITH PUSH FEED ATTACHMENT
AND CONTAINER TROLLEY**



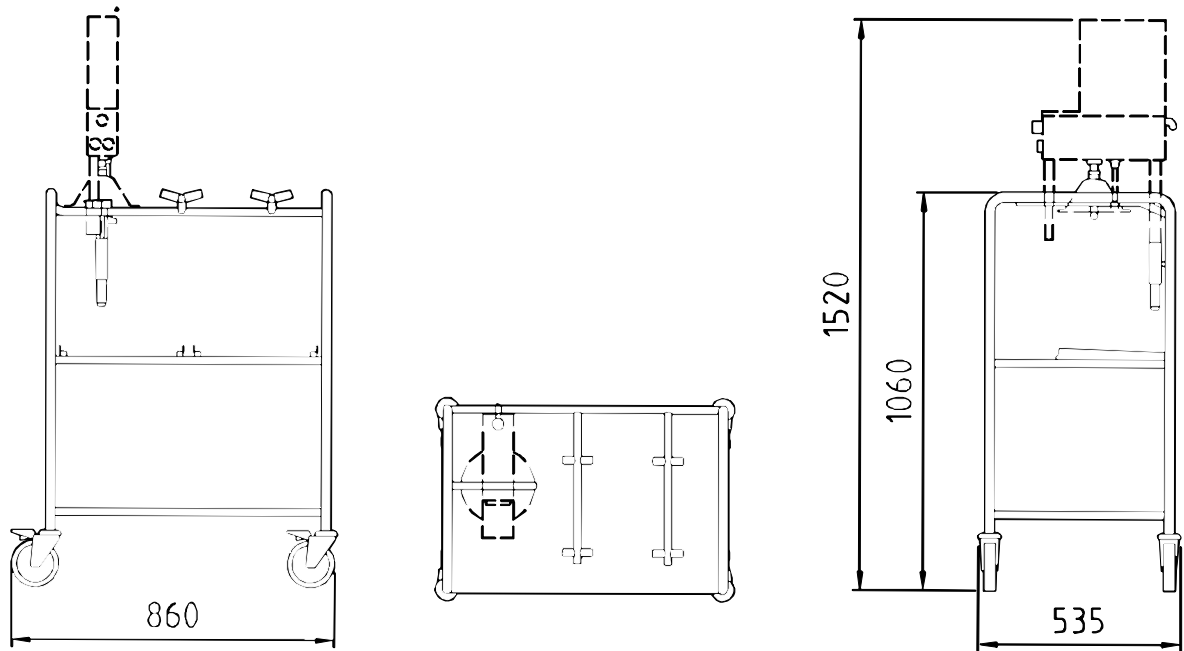
**RG-400 WITH 4-TUBE INSERT
AND CONTAINER TROLLEY**



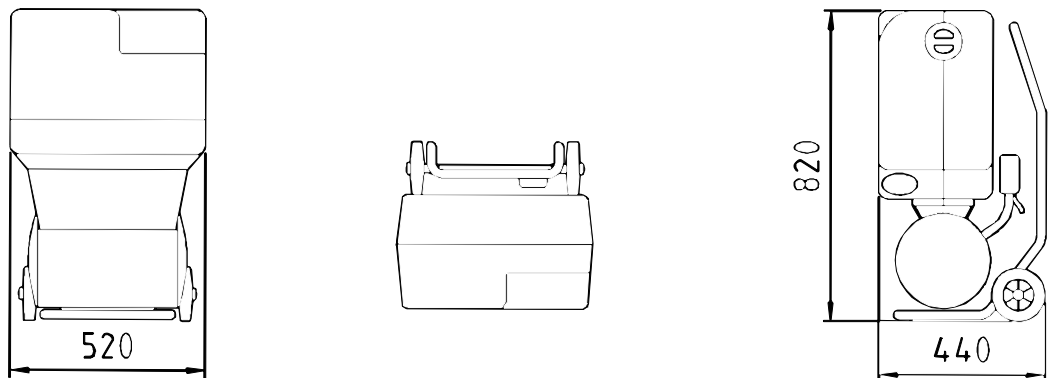
**RG-400 WITH FEED CYLINDER
AND CONTAINER TROLLEY**



ACCESSORIES TROLLEY FOR RG-400

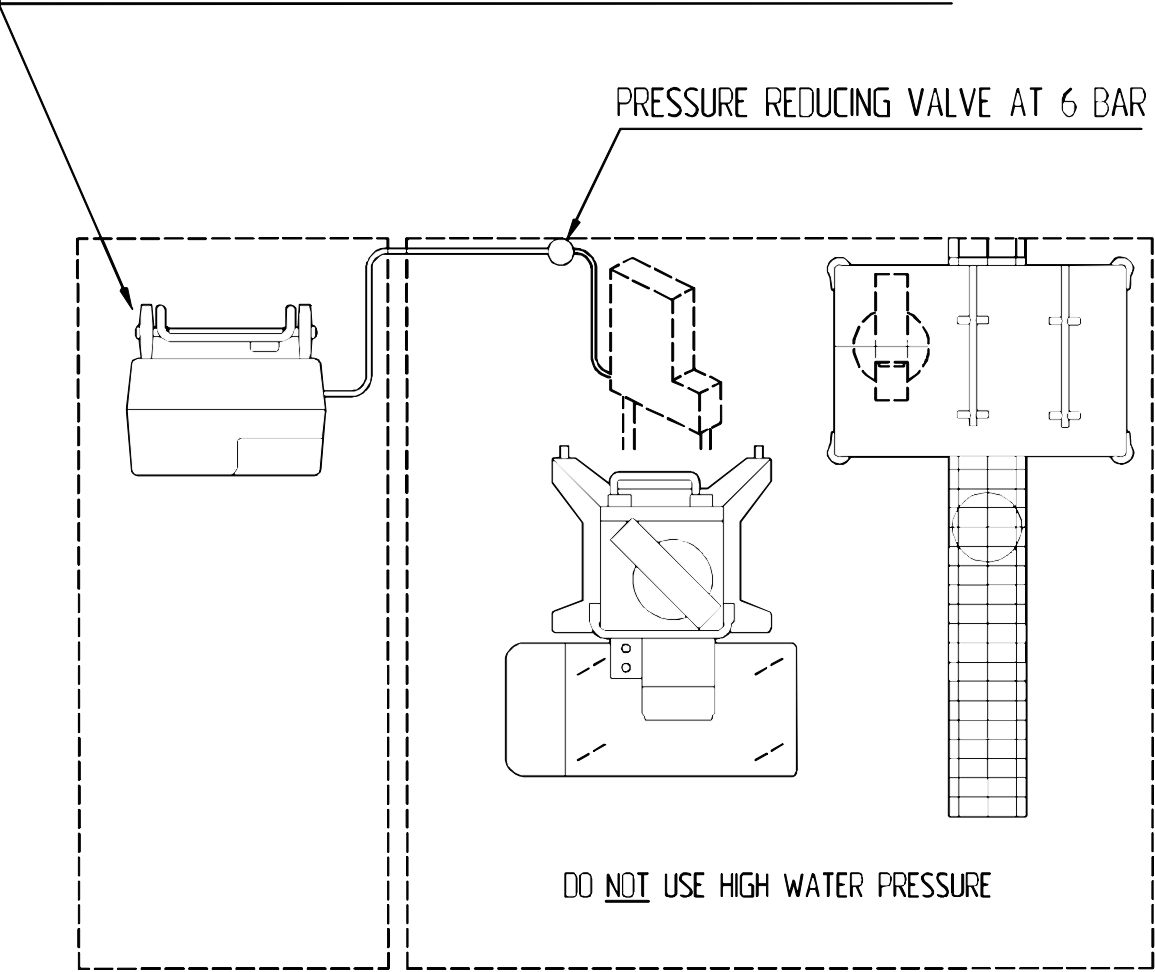


AIR COMPRESSOR FOR RG-400



RECOMMENDED MIN. WORKING SPACE FOR RG-40

COMPRESSOR TO BE PLACED IN AN ADJACENT ROOM,
CONNECTED VIA A 1/2" PNEUMATIC HOSE. PRESSURE SETTING >6BAR



Technical specifications

Item	Specification
Item	Specification
Capacity	10 - 40 kg/ min
Capacity	max. 500 - 3000 port./ day
Motor	0,9/1,5 kW
Motor 3-phase	400V
Motor	50 Hz
Power supply socket 3-phase	10A
Sound level	70 dB (A)
Weight of the machine	54 kg
Weight of the feed cylinder	6 kg
Weight of feed hopper and cylinder	12 kg
Weight of pneumatic push feed attachment	11 kg
Weight of manual push feed attachment	5 kg
Weight of a cutting plate	1 kg
Diameter of a cutting plate	215 mm
Speed 50 Hz	400/200 r.p.m.
Transmission	gears
Materials:	
Housing and feed cylinder	anodized or polished aluminium alloy and/or stainless steel
Cutting tool discs	aluminium alloy
Cutting tool knives	knife steel of the highest quality
Safety system	three safety switches