OPERATING MANUAL

(GB)

KOLBE – Meat Mincer

Model TW/SW 98
TW/SW 100

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Machine no. .....

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1. Safety Instructions

Before commissioning the machine, read the operating manual and safety instructions carefully and observe them at all times.
Also ensure that all other users are familiar with the safety instructions.

- Anybody involved at the user's plant with the installation, dismantling, commissioning, operation and maintenance (servicing, maintenance and repairs) of KOLBE butchery machines must have read and understood the relevant operating manual and in particular the safety instructions in full. We recommend that the user obtains written confirmation of this.

- KOLBE butchery machines are built to the state of the art and are safe to use. However, if these machines are used incorrectly or for improper purposes by untrained personnel they may represent a danger.

- KOLBE butchery machines (band saws, mincers and portioning units) are exclusively designed for processing meat and fish. Any other usage shall be regarded as improper. The manufacturer may not be held liable for any damage resulting from this; this risk shall be borne solely by the user.
- Proper usage also includes the observance of the operating, maintenance and servicing instructions issued by the manufacturer.
- KOLBE butchery machines (band saws, mincers and portioning units) may only be operated, maintained and serviced by authorised, trained and instructed personnel. This personnel must have been given special training in the possible dangers which may occur.
- Responsibility for the installation, dismantling, maintenance, commissioning, servicing and operating must be clearly defined and observed so that no unclear competence can occur which may involve aspects of safety.
- Before starting work get to know all the equipment and control elements on the machine and their function. When the machine is working you will not have time to do so and it will then be too late!
- The shut down procedures described in the operating manual for installation, dismantling, maintenance, commissioning, servicing and operating work must be observed at all times.
- No action is to be taken which may reduce the safety level of the machine.
- The operator must ensure that unauthorised persons are not allowed to use the machine.
- The operator ist obliged to report any changes to the machine which may reduce its safety level to his superior immediately.
- The user must undertake to operate the machine only if it is in perfect condition.
- By issuing the appropriate instructions and completing the necessary checks the user must ensure the cleanliness and clarity of the work station around the machine.
- Unauthorised modifications or changes to the machine are not allowed and will render the liability of the manufacturer for any resulting damage null and void.
- Do not reach into the infeed and outfeed area of the machine or into the tools when they are operating (e.g. belt saw blade, mincer work, cross knives, and stroke knives).
- Do not complete adjustment work when the machine is operating. Wait until the machine has reached a standstill.
- Electrical and mechanical safety equipment must not be removed.
- Before looking for faults or completing maintenance and repair work, disconnect the electrical supply and have this work completed by an authorised specialist (if necessary secure the machine using warning signs).

- Before restarting the machine after maintenance or repair work, check whether all the guards have been refitted correctly.

- The general safety and accident prevention regulations as well as other generally acknowledged safety regulations are to be observed.

2. List of Dangers (residual risks)

Please note the following danger areas on the machine!

2.1 Mechanical Dangers

- Risk of injury on the cutting edges of the cross knife. Do not reach into the rotating cross knife behind the perforated disc at the outfeed (for example cuts to the hands or fingers or severance of the fingers). **Wear cut-resistant gloves when removing the knife.**

- Risk of squashing, impacts, cutting, or severance of the fingers, hand, lower arm, foot or other parts of the body on the infeed parts of

  - the rotary worm
  - the rotary arm
  - the rotary supply worm
  - the rotary cross knife behind the perforated disc
  - the rotary drive shafts for the working worm, mixing arm, supply worm, etc.
  - the rotary parts of the drive unit for an opened inspection cover on the machine for maintenance and inspection work, e.g. the V-belt drive

- Risk of squashing, impacts, cutting or severance of the fingers, hand, lower arm, foot or other parts of the body when removing or fitting resp. opening or closing

  - the mincer casing, mixing arm, supply worm etc. the sealing nut, cutting set, feed ring, working worm
  - the protective hopper cover, removable mincer tray, removable storage plate, hopper attachment and all removable or moving parts
  - when working with the worm extractor, combination hooking tool or with other tools, e. g. from falling parts

- Risk of injury due to squashing, impacts and shearing for the transportable design of the machine against a wall and other object as well as between the floor and the rollers. The same for table machine versions between the floor space it is standing on and the machine stand.

2.2 Risk due to instability

Risk of bodily injury through impacts or squashing when the machine, in particular the mobile version, falls over.

2.3 Electrical dangers

- Risk of injury by direct or indirect contact with the electricity supply.
- Risk of injury from defective electrical components.

2.4 Risks from noise

- Risk of hearing damage by noise emissions of over 85 d(BA).
- An idling noise level of 70 d(BA) pursuant to EN ISO 3746:1995 (constant K = 4dB) has been measured on the meat mincer TW/SW 100/98.

These values are emission values and do not necessarily also represent safe workplace values. Although there is a correlation between emission and immission noise levels it is not possible to derive from them with any degree of reliability whether additional precautionary action, according to EN ISO 11690-1/-2, is necessary. Factors which influence the immission levels which currently affect the workplace include the type of working area, other sources of noise, for example the number of machines and other neighbouring procedures and other operating conditions other than those which are normal.

The permission workplace values may also vary from country to country. However, this information is intended to enable the user to make a better assessment of the risk involved.

The operator must take appropriate personal sound protection measures if the noise levels go above 85 d(BA), which means that he should wear ear plugs or ear protection equipment.

2.5 Danger to Health

Damage to the health of persons due to low environmental temperatures. Use heat insulating clothing if the environmental temperature goes below 7° C.

2.6 Danger to Health due to non-observance of Hygiene Principles and Cleaning Instructions:

Danger to the health of persons and unacceptable changes in the food to be processed, for example

- Ruination of the food (food poisoning)
- Internal acid attacks for the consumer due to residual quantities of cleaning and disinfecting materials in the food.
- Internal injuries for the consumer due to the presence of foreign bodies (e.g. parts of the machine or solid objects from other sources).

3. Technical Data

3.1 Manufacturer
KOLBE GmbH
Gewerbestraße 5
D-89275 Elchingen

3.2 Designation
Mincer TW/SW 100
with cutting system Enterprise E 32

Mincer TW/SW 98
with cutting system Unger B 98

3.3 Product number
Model TW 100 Model TW 98
Model SW 100 Model SW 98
Model SW 100 H Model SW 98 H

3.4 Technical Data

Cutting System	
-Enterprise for model TW/SW 100	Size E32
- Unger for model TW/SW 98	Size B 98
Perforated disc diameter	
- Model TW/SW 100	100 mm
- Model TW/SW 98	98 mm
Bowl capacity	
- Standard bowl	45 litres
- Large bowl	64 litres
Worm speed	200 rpm
Delivery rate	approx.
with 3 mm perforated disc	1200 kg/h
Motor rating/protection type	2,9kW/IP54
Motor speed	1420 rpm
Motor voltage/three-phase current	230/400 V
Nominal current at 230/400 V	11,6/6,9 A
Fuse	16A-slow action
Cable cross-section	1,5 mm²

Main dimensions

	L X W x H
Table model TW 100	with standard bowl
Floor model SW 100	900 x540x 585 mm
Floor model SW 100H	900x540x1115 mm
Table model TW 98	900x540x1315 mm
Floor model SW 98	950x540x 585 mm
Floor model SW 98H	950x540x1115 mm
	950x540x1315 mm
Table model TW 100	with large bowl
Floor model SW 100	1070x620x 585 mm
Floor model SW 100H	1070x620x1115mm
Table model TW 98	1070x620x1315mm
Floor model SW 98	1120x620x 585mm
Floor model SW 98H	1120x620x1115mm
	1120x620x1315mm
Filling height	
depending on version	585 to 1315 mm
Height to underside of outfeed	
Table model TW 98/100	60 mm
Floor model SW 98/100	600 mm
Floor Model SW 98/100H	800 mm
Net/gross weight	
Table model TW 100	97/117 kg
Floor model SW 100	108/128 kg
Floor model SW 100H	110/130kg
Table model TW 98	100/120 kg
Floor model SW 98	110/130 kg
Floor model SW 98H	113/133 kg

Every KOLBE product undergoes a thorough acceptance test before being despatched where all of the functions is checked.

4. Delivery of the Machine

The machine is supplied bolted to a wooden pallet and shrink-packed in polyethylene protective foil. The machine accessories, such as anti-vibration metal feet, support rollers, combination hook wrench, splash guard, KOLBE mincer feeding device, and the operating manual, are enclosed in a carton (we only use reusable and recyclable packaging). Please inform your supplier immediately if the contents of the consignment do not agree with the pack list. In the event of transport damage the forwarding company is to be notified immediately and given an opportunity to inspect the damage.

5. Installation of the Machine

5.1 Installation Instructions

Undo the four securing screws and take the mincer off its pallet. Accessories parts such as support and steering rollers, anti-vibration metal feet, shafts, screws etc. are packed in a separate carton.
Lift up the mincer safely using a fork lift or crane and remove the wooden pallet.

Table model TW/SW 98/100
The table version of the mincer has 4 anti-vibration metal feet (4) which should be screwed into the corners of the basic frame.

Floor model SW 98/100 and SW 98/100 H
The stand version of the mincer has 2 support rollers (5) which should be screwed into the two rear feet and 2 anti-vibration metal feet (4) are to be screwed into the front feet. In the case of the transportable version, steering rollers with all stops are screwed in instead of the 2 anti-vibration metal feet.

The anti-vibration metal feet can be raised or lowered over a screw thread to compensate for unevenness in the floor.

The machine should be stored in a cooled or air-conditioned room for hygiene reasons.

Apart from the floor space required for the machine one should also provide an additional operating area of 1 x 1,5 metres at the front or on the side depending on which operating side for the machine is chosen.

The machine must only be used in a room which is lit to an intensity of at least 500 Lux.

All components which are to be regularly removed and installed again weigh less than 20 kg. This removes the necessity of having a transport equipment available at the same height.

5.2 To connect the machine

Compare the motor voltage (see rating plate) with the mains voltage. The machine must be connected by an authorised electrician (following any local regulations). Pursuant to EN 60204 the machine is to be connected either using a plug device or a main switch is to be inserted in the fixed supply lead.

The electrical circuit diagram for the machine is as follows::

- 400/230 V three-phase current (five wire system) No. 57.47.4
- for 400/- V three-phase current without a neutral conductor No. 68.85.4
- for 400/230 V three-phase current (five wire system) with a removable mincer bowl No. 68.75.4
- Connection cable 5 x 1,5mm² (three phases + protective conductor Yellow/green + blue neutral conductor)

Important!
When making the electrical connection ensure that ensure that the worm (9) turns in the correct direction. If you stand in front of the mincer the worm (9) must turn anti-clockwise.

6. Commissioning

Important!
Before commissioning the machine read this operating manual carefully. Please also pay attention to the pictures shoBwn on page 10 to 13.

6.1 General

The **TW/SW 100** mincer series with the Enterprise cutting system has been specially designed for the production of minced meat. The meat should be reduced in size to hand-sized pieces before being fed into the machine. The mincer casing and the mincer worm are designed in such a way that the meat is fed quickly and gently to the cutting set where it is minced to the desired size. After being fed through the machine twice the result is a homogeneous, appetising minced meat.

The **TW/SW 98** mincer series with the Unger cutting system has been designed for the trade production of meat and sausage products. The meat should be reduced in size to hand-sized pieces before being fed into the machine. The mincer casing and the worm are designed in such a way that the meat is fed quickly and gently to the cutting set where it is minced to the desired size after being fed through the machine just once.

6.2 To switch on the machine

The green ON switch (3) and the red OFF switch (2) are positioned below the mincer bowl. Check the direction in which the worm turns.

Only run the mincer when it is full since otherwise the cutting set will become blunted, damaged and useless by being operated without meat.

6.3 To feed the material for mincing

For safety reasons the meat which has been reduced to hand-sized pieces may only be fed into the machine using the original KOLBE mincer feeding device (20) through the mincer worm (9).

Important!
Do not use any other objects to feed the material for mincing!

6.4 To remove the cutting set and the worm

- Switch off the machine, wait until it has reached a standstill and disconnect the main power supply
- Loosening of the sealing nut (7) in combination with the combination hook wrench (19) supplied
- Remove the sealing nut (7)
- Wear cut-resistant gloves
- Using the central drawing bore hole in the combination hook wrench (19) pull the mincer worm (9) with the cutting set out of the mincer casing (8)

Important!
Only undo the sealing nut (7) using the combination hook wrench (19) supplied.
Do not use a hammer or any other heavy implement.

6.5 To dismantle the mincer casing

- Switch off the machine, wait until it has reached a standstill and disconnect the main power supply
- Remove the cutting set and the mincer worm as described in 6.4
- Undo the two front securing nuts (18) using the integral ring spanner SW 24 in the combination hook wrench resp. loosen the securing nuts by hand
- Swing the mincer casing (8) to the right until the screw-on flange areas are exposed, then pull off the mincer casing forwards (see page 12)
- To assemble the mincer casing following the above instructions in reverse order

Important!
When assembling the mincer casing (8) tighten the two securing nuts (18) well.

6.6 To insert the cutting set

TW/SW 100 mincer
The mincer will only operate correctly if the cutting tools are inserted properly (see illustration on page 11 for sequence)
- cross knife (11)
- perforated disc (12)

Important!
Only perforated discs with a maximum diameter of 8.0 mm are allowed on the outfeed side, and also regrinding only up to max. 5 mm thickness.

The sealing nut (7) must be tightened well with using the combination hook wrench so that the cross knife (11) is tight against the perforated disk (12). This is the only way to ensure that the minced meat will be cut cleanly.

TW/SW 98 mincer

The mincer will only operate correctly if the cutting tools are inserted properly (see illustration on page 11 for sequence)
- precutter (13)
- cross knife (14)
- coarse perforated disk (15)
- cross knife (14)
- fine perforated disc (16)
- insertion ring (17) – not shown

Important!
Only perforated discs with a maximum diameter of 8.0 mm are allowed on the outfeed side, and also regrinding only up to max. 5 mm thickness.

The sealing nut (7) may only be tightened gently by hand using the combination hook wrench so that the cross knives (14) can run against the perforated discs (13 + 15 + 16) and cut the meat without experiencing excessive friction.

Please note that all the perforated discs and cross knives are wear parts. They must be reground or replaced after certain intervals. Depending on operating conditions. Only sharp tools will cut properly and protect knife journal (10) and the entire machine.

6.7 Thermal motor guard

The drive motor for the machine is fitted with a motor guard (thermal contacts in the motor coil). In the event of an overload and the excessive temperature increase in the motor coil which this causes, the machine will be shut down automatically.

This is the case, for example, in the event of a phase failure, inadequate cooling or a machine blockage. After leaving the motor to cool down, switch on the machine again. If the cause of the problem has not been eliminated, however, the motor guard will trip again after short time.

6.8 The transportable meat mincer

The stand version of the meat mincer SW 98/100 is transportable as standard on 2 support rollers; the machine is lifted at the front at the mincer casing and can then be moved. The stand version of the mincer can also be delivered in a special version with 2 support rollers and 2 steering rollers with a permanent wheel brake. Always pull out the mains cable from the power socket before moving the machine and do not damage the power supply cable or plug while moving.

The permanent wheel brake must always be actuated again after moving the meat mincer by pushing it down.

7. Cleaning Instructions

Important!
Disconnect the main power supply when completing any cleaning work (remove the plug, turn the main switch off).
Wear goggles. Wear cut-resistant gloves in the area of the moving knife.

7.1 Cleaning as detailed on the Cleaning Schedule

The stainless finish of the machine facilitates the care and maintenance of the mincer. The mincer is to be cleaned every day as detailed on the cleaning schedule (see page 7) to maintain its function and hygiene standard. Shorten cleaning intervals may be required depending on the application and the hygiene regulations. Only cleaning products which are approved for food use as to be used.

7.2 Cleaning Instructions

- Switch off the machine, wait until it reaches a standstill (remove the plug)
- Wear cut-resistant gloves
- Remove cutting system and mincer worm (9) for cleaning
- Remove mincer casing (8) for cleaning
- Clean the insert zone on the mincer casing (8) and clean the machine stand and then apply a thin coating of grease to it
- Refer also to the detailed cleaning instructions on page 8.

All KOLBE machines are suitable for cleaning with surge and jet water; nevertheless it must be ensured that the electric switch parts and the bearings are only exposed to the jet of water for a short time.

8. Guarantee Claims and Deficiencies

8.1 According to the German law, we offer a guarantee of 24 months on our goods for single shift operation starting from the date of delivery. This assumes, however, that the customer complies with the requirements of maintenance and servicing as shown on page 8. The first service has to take place within 12 months by an authorised workshop, after date of delivery.

8.2 This guarantee covers the repair or replacement of all products which become defective during the guarantee period as a result of proven material or workmanship deficiencies by ourselves as the factory or authorised contractual workshops.

8.3 The guarantee does not include any parts which are subject to natural wear, the consequences of excessive loads, improper cleaning or treatment and the non-observance of the operating manual.

8.4 If any work is completed on the goods by the client or third parties without our consent, we refuse to accept any liability.

8.5 The products we manufacture comply with the EC-Machine Directives.

Cleaning Schedule

KOLBE –Mincer TW/SW 98/100
Important! Read and observe the operating manual!

Processes	Cleaning products	Methods	Equipment	Instructions
Coarse cleaning, removal of product residue, if necessary after removing the small parts		manual, mechanical	spatula, scraper	Start immediately after the end of production
Thorough cleaning, alkaline If necessary instead of alkaline cleaning, acidic cleaning	2-5 %, for example: Henkel Hygiene – • P3-topax 19 • P3-topax 66 Messrs. Goldschmidt – • Somplex grease dissolver For aluminium parts, e.g. Henkel Hygiene – • 2-5% P3-topax 12 Messrs. Goldschmidt – • Somplex F	foam for manual; dwell time approx. 15 minutes	low pressure foam unit, brush, tank, hand spray	
Rinse	water	low pressure less than 30 bar temperature 50-60°C	low pressure unit water hose	
Check		optical cleanliness		
Thorough cleaning, acidic	For example: Henkel Hygiene - • 3-6 % P3-topax 56 Messrs. Goldschmidt – • Somplex acidic foam	foam or manual; dwell time approx. 15 minutes	Low pressure foam unit, hand spray, brush to remove lime deposits	If necessary, instead of alkaline cleaning. Follow manufacturer's instructions; check critical points and problem areas.
Rinse	water	low pressure less than 30 bar temperature 50-60ºC	low pressure unit, water hose	
Check		optical cleanliness		Follow manufacturer's instructions; check critical points and problem areas.
Disinfect	As per product data sheet 0,5-2 %, for example: Henkel Hygiene - • P3-topax 99 • P3-topax 91 Messrs. Goldschmidt - • TEGO 2000 • TEGO IMC	spray, foam, dwell time as per product data sheet	low pressure foam unit, spray gun	After completing all the cleaning work in the room.
Final rinse	rinking water	low pressure less than 30 bar	low pressure unit, water hose	
Dry				
Care	P3-care oil	spray	spray gun	External surfaces of the machine.

This cleaning schedule only applies for machines which are made predominantly of stainless steel. If other materials are used, coordination with the relevant cleaning product manufacturer is required. The details given in the cleaning schedule refer to single-shift operation, for multiple shift operation the cleaning intervals are to be adjusted accordingly.

Cleaning Instructions

KOLBE – Mincer TW/SW 98/100
Machine zones which require special and careful cleaning

Cleaning zones	Cleaning products	Methods	Equipment	Instructions
Mincer casing: - Mincer worm, cutting set and removable mincer casing -Securing screws of mincer casing	see cleaning schedule	manual, mechanical	brush, paintbrush	Remove parts and clean them in a tank or dishwasher. Clean the thread thoroughly with the brush or paintbrush.
Mincer stand: - External areas and mincer bowl - Undercarriage of mincer and removable tray (if available)	see cleaning schedule	manual, mechanical	brush, paintbrush	Clean external and internal surfaces as well as the undercarriage thoroughly with the brush or paintbrush.
Inspection cover: - Inspection cover, rear	see cleaning schedule	manual, mechanical	brush, paintbrush	Clean outer contours of inspection cover thoroughly with the brush or paintbrush.

9. Maintenance and Servicing

Important!

Disconnect the main power supply before completing any maintenance and servicing work (remove the plug, turn the main switch off).

- Follow safety instructions for maintenance and servicing work
- Faults which are caused by inadequate or improper maintenance may cause high repair costs and long down times of the machine. Regular maintenance is therefore essential.
- The reliability and the service life of the machine depend on many factors, including the machine properly maintained.
- The following table contains schedules, inspection and maintenance instructions for the normal use of the machine.
- As a result of the wide variety of operating conditions we cannot state in advance how often a wear check, maintenance and servicing work will be required. An appropriate servicing schedule is to be drawn up on the basis of your operating conditions.
- Our specialists will be pleased to help you with further advice.

9.1 Maintenance and Servicing List

Inspection Intervals	Inspection Points and Maintenance Instructions
Every day	- Check the level of wear on the moving knife (shape bladeness) and cutting set Perform full cleaning according to the cleaning plan
Every month	- Check the level of wear on the knife journal on the mincer worm and replace it if necessary
Every year	- Check the level of wear of mincer worm and mincer housing and replace it if necessary - Check the gear bearings and replace ball bearings if necessary - Check the motor bearings and replace ball bearings if necessary
Every 2 - 3 years	- Change the gearbox oil

10. Troubleshooting

Faults	Cause	Remedy
The mincer cannot be switched on		- Insert mains plug - Call an electrician - Replace fuses (call an electrician) - Allow the motor to cool then switch on again
		- Call an electrician or customer service
		- Call an electrician or customer service
The thermal contacts in the motor or the over current relay in the controller have been activated, in other words, the mincer has been switched off		- Allow the motor to cool, then switch on again - Remove the blockage in the mincer, allow the motor to cool - Call an electrician
The mincer worm blocks and the drive motor hums other		- Switch off the mincer immediately and remove the blockage in the mincer worm
Deterioration in cutting quality		- Regrind or replace perforated discs and cross knife or replace cutting blades
		- Fit new mincer worm
		- Fit new mincer worm and new mincer casing
High cutting set wear		- Replace knife journal - Fit new mincer worm and new mincer casing
		- Call customer service
Mincer caused loud noises		- Call customer service

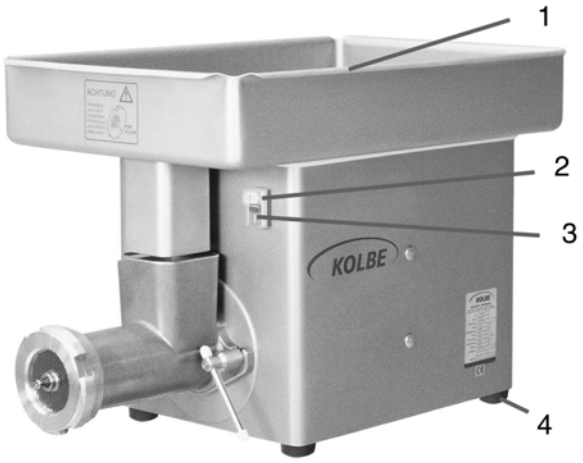
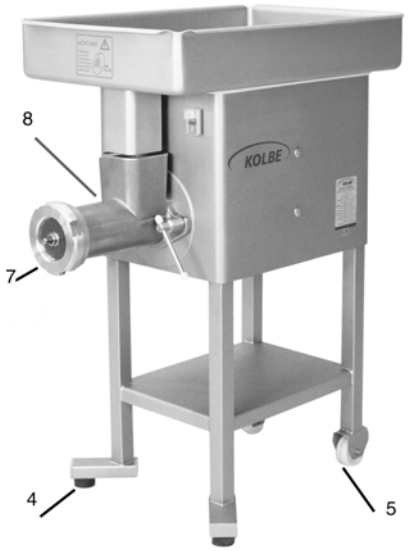


Table mincer TW 100 and TW 98

The KOLBE meat mincers from the product range 100 with the cutting system Enterprise are specially designed for the gentle preparation of chopped meat products for sale in butchers shops, chain stores and supermarkets.

The KOLBE meat mincers from the product range 98 with the cutting system Unger are used for the hand-made production of meat and sausage products.

1 = Mincer bowl
2 = OFF switch
3 = ON switch
4 = Anti vibration metal feet



The stand-alone meat mincer SW 100 and SW 98

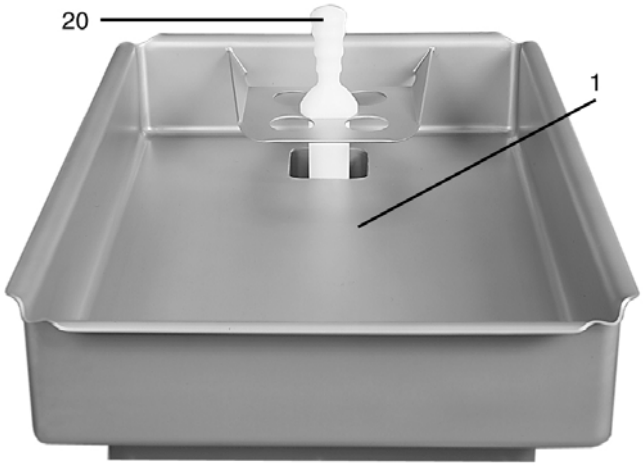
The KOLBE meat mincers SW 100/98 are movable and have a placing tray underneath. Two sizes of bowl are available to choose from as well as an additional removable placing tray in the sub-frame. The housing discharge height is 600 mm.

4 = Anti vibration metal feet
5 = Support rollers
7 = Sealing nut
8 = Mincer casing

The stand-alone meat mincer SW 100 H and SW 98 H

The KOLBE meat mincers SW 100H/SW 98H have a higher set mincer casing. The higher mincer model is designed for the use a mixing basin and ball basin. Two sizes of bowl are available to choose from as well as an additional removable placing tray in the sub-frame. The housing discharge height is 800 mm.

6 = Removable placing tray

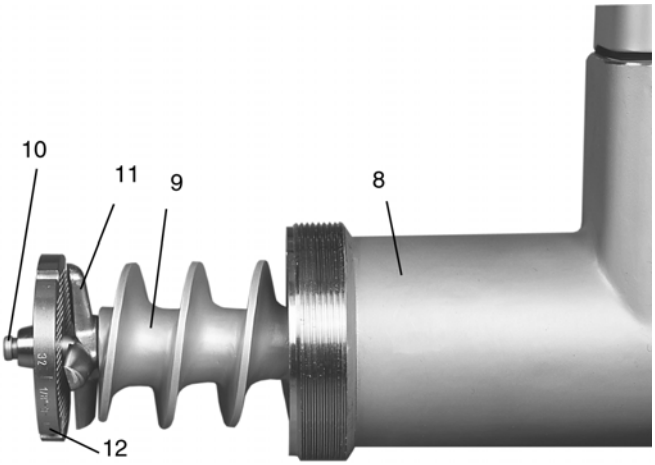


Feeding the materials to be minced

The meat which has already been cut into smaller pieces must only be fed to the mincer for operating safety reasons over the bowl throat of the mincer worm by using the original KOLBE mincer feeding device (20).

No other devices should be used to feed the meat into the mincer!

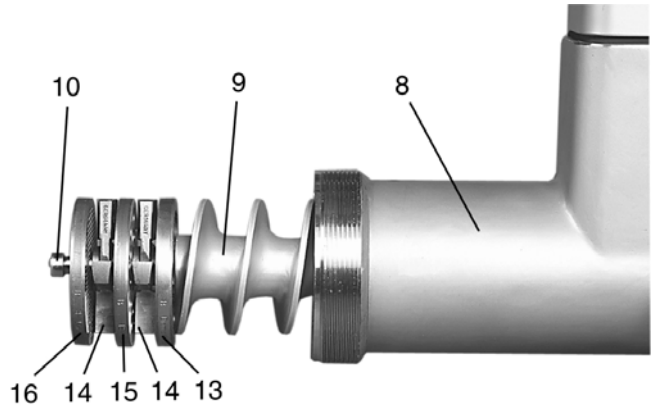
1 = Mincer bowl
20 = KOLBE mincer feeding device



The cutting system Enterprise Size E 32 for the meat mincer TW/SW 100

The cutting system Enterprise consits of a cross-cutting knife and perforated disc with a hub and 3 grooves which guarantee to offer the most gentle processing of all chopped meat products. Double processing through the mincer leads to a homogeneous appetising appearance to the chopped meat.

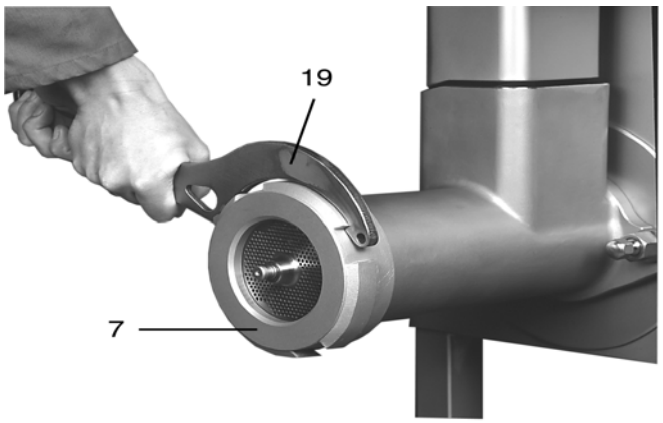
8 = Mincer casing
9 = Mincer worm
10 = Knife journal (cutting set size E 32)
11 = Cross knife
12 = Perforated disc 3 mm in diameter (3 grooves and a hub



The cutting system Unger Size B 98 for the meat mincer TW/SW 98

The cutting system Unger consists of two cross-cutting knives , a large perforated disc, a fine perforated disc and an insertion ring which guarantees the best and most gentle processing of all meat products. The non-rusting design of the mincer casing, the mincer worm and sealing nut allow this machine to achieve the highest standards of hygiene.

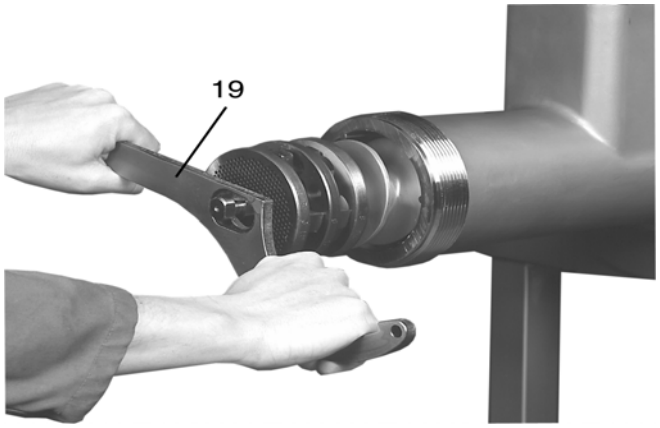
8 = Mincer casing
9 = Mincer worm
10 = Knife journal (cutting set size B 98)
13 = Pre-cutter
14 = Cross knife
15 = Perforated disc 13 mm in diameter
16 = Perforated disc 3 mm in diameter
17 = Inserted ring small (not shown)



Loosening the sealing nut

Put the combination hook wrench (19) in place as shown on the figure and loosen the sealing nut.

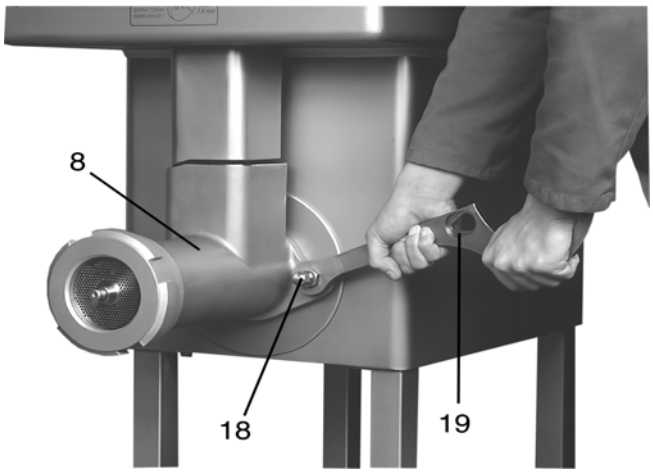
7 = Sealing nut
19 = Combination hook wrench



Removing the cutting set

Unhock the central extraction bore hole in the combination hook wrench (19) in the knife journal groove, loosen the mincer worm including the cutting set, pull them out slightly and then remove them carefully using both hands.

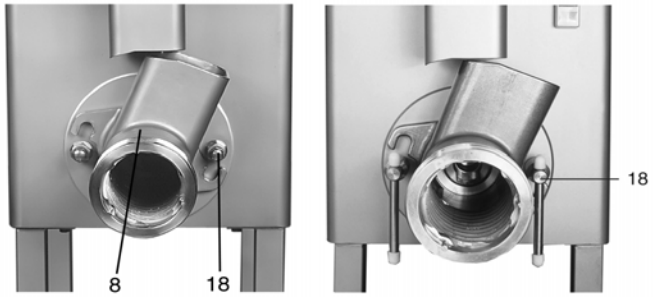
19 = Combination hook wrench



Removing the mincer casing

Loosen the two securing nuts (18) using the integrated ring spanner SW24 in the combination hook wrench (19) or both securing nuts (18) for the new versions, by hand. Swing the mincer casing to the right until the screwing surface is free tjem pull the casing forwards carefully using both hands. The removable mincer casing allows a rapid and thorough cleaning..

8 = Mincer casing
18 = Securing nut
18 = Securing element (new design)
19 = Combination hook wrench



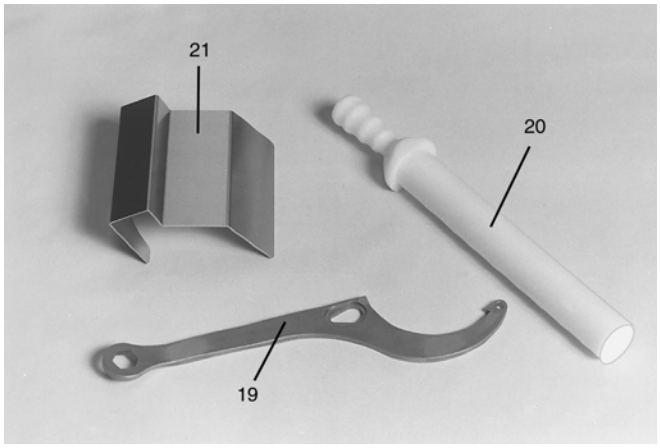
8 = Mincer casing
18 = Securing nut
18 = Securing element (new design)

The removable placing tray

The meat mincers in the product range SW 100/98 can be fitted on request with a removable placing tray (6) in the sub-frame. The additional equipment serves to store a container which contains small amounts of product while mincing.

The minced product is diverted after a short distance in the bowl by a mountable spray protection plate (21).

6 = Removable placing tray
8 = Mincer casing
21 = Spray protection plate

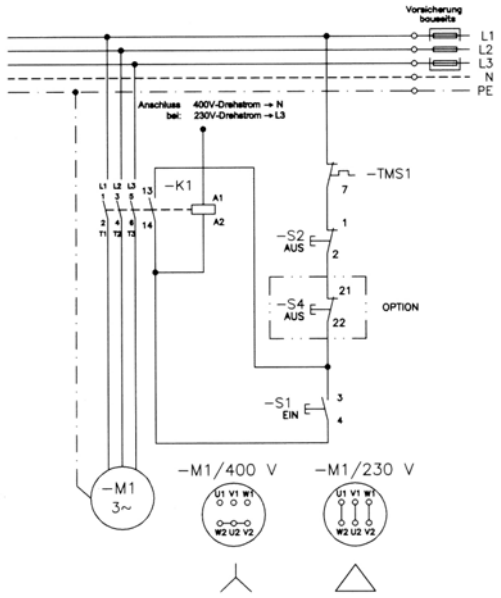


Accessories for the meat mincer TW/SW 100/98

The following accessories for the meat mincer TW/SW 100/98 can be supplied:

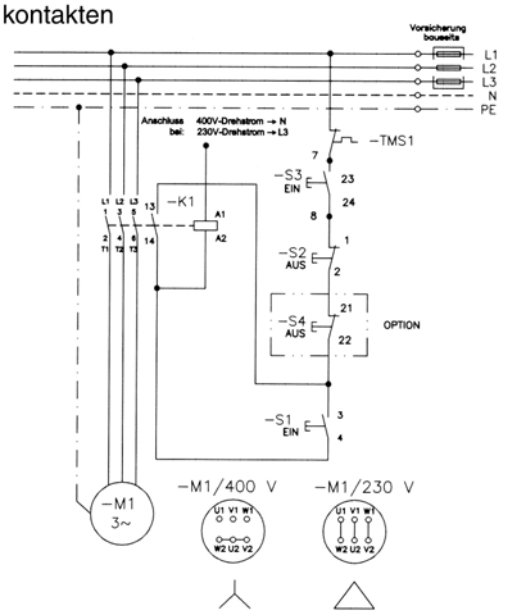
19 = Combination hook wrench
20 = KOLBE mincer feeding device
21 = Spray protection plate

Schaltplan (400/230 V)
mit Thermokontakten



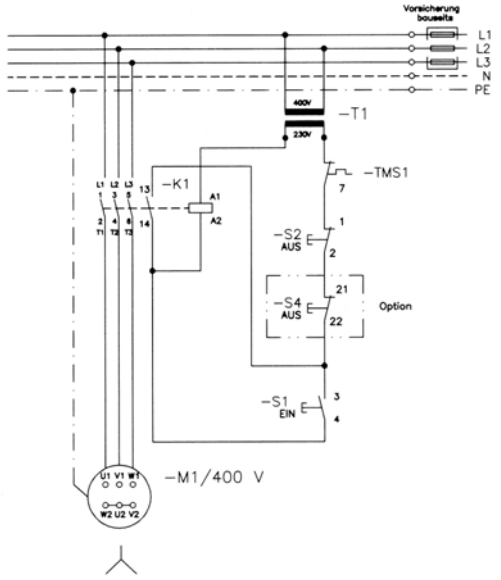
57.47.4

Schaltplan (400/230 V)
mit abnehmbarer Schüssel und Thermo-kontakten



68.75.4

Schaltplan (400/230 V)
mit Steuertrafo und Thermokontakten



68.85.4

(D)

Schaltplan-Legende

S1	Austaster
S2	Eintaster
S3	Magnetschalter
S4	Pilzaustaster (Option)
TMS	Thermokontakte
K1	Schütz
M1	Drehstrom-Motor
T1	Steuertrafo 400/230 V

DECLARATION OF CONFORMITY TO EEC

according to the unit instruction 89/392/EWG, appendix II A

We hereby declare that the inspected construction of the mixer grinder

Type: **TW/SW 98 / 100**

Manufacturer: **Kolbe GmbH**
Gewerbestraße 5
D-89275 Elchingen

corresponds to the following regulations:

- Unit instruction of EEC in the sequel 98/37/EWG
- Low voltage instruction of EEC 73/23/EWG
- Electromagnetic compatibility guide line 89/336 of EEC

as well as to the applied harmonized norms, especially:

• EN ISO 12100-1/-2	Safety of units part 1 and part 2
• EN 60204-1	Electrical equipment part 1
• EN 55014 VDE0875 part 14-1	Jamming part 1
• EN 55014-2	Immunity of disturbance part 2
• EN I62000-3-2. VDE838 part 2	Electromagnetic compatibility Limit values for over-voltage surge currents
• EN 61000-3-3 VDE0838 part 3	Electromagnetic compatibility Limit values for voltage variation and flicker
• pr EN 12268	Food treating units part 1: Safety requirements part 2: Hygiene requirements

The national technical specifications applied are:

- Rules for the prevention of accidents regarding meat cutting units (VBG19)
- Safety rule of equipment (GSG)

This is the registered testing office (according to appendix VII):

Prüf- und Zertifizierungsstelle
Fachausschuß Fleischwirtschaft
Lortzingstraße 2, D-55127 Mainz

They were charged with the EEC-type test of the mincers with the following check numbers:

EEC-type test certification no. 95079 for mincer TW/SW 100
EEC-type test certification no. 95080 for mincer TW/SW 98

Kolbe GmbH

Elchingen, 02.01.2004

Karsten Hackemesser
Managing Director

Thomas Hagmeier
Managing Director