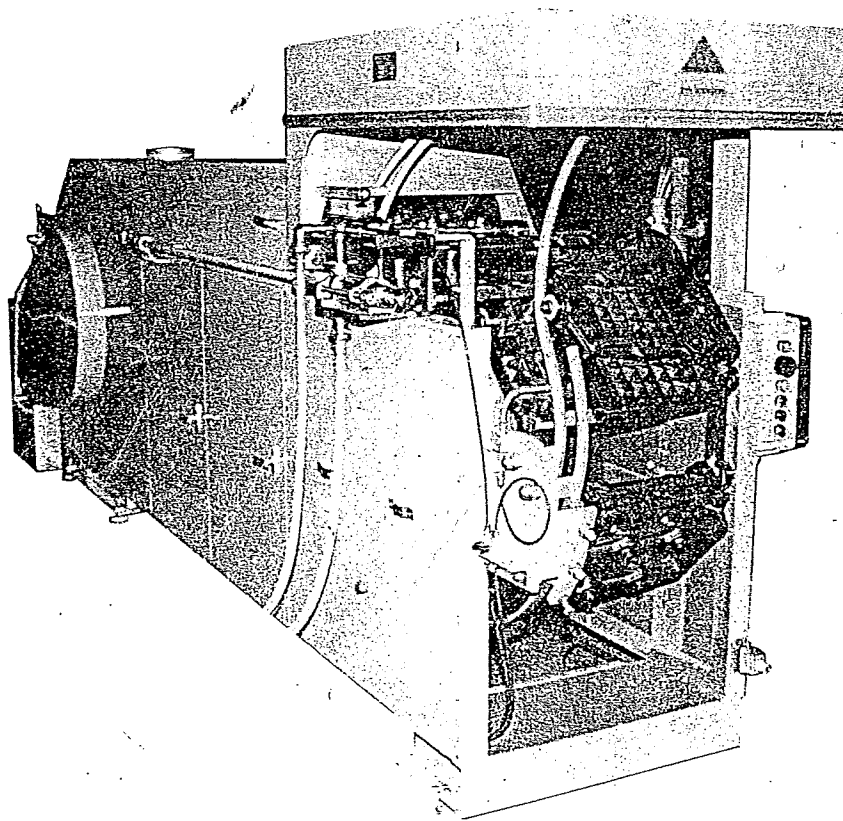


WAFER BAKING MACHINES

WA-MWA





FRANZ HAAS WAFFELMASCHINEN

INDUSTRIEGESELLSCHAFT M.B.H.



FRANZ HAAS	
WAFFELMASCHINEN	
INDUSTRIEGESELLSCHAFT M.B.H.	
A-1210 WIEN	
FABR-NR.	15782
VOHLE	3X220
TYPE	WA 24G
HZ	60
HEIZUNG	GAS
KW	

JOB #1A 0133-20

Kunde: AUSTRIAN OBLATEN/USA
Customer:



FRANZ HAAS WAFFELMASCHINEN

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WORKING INSTRUCTIONS - PREFACE
=====

010 000 0E
mwa

This instruction manual contains important explanations and comments which must be observed to ensure trouble-free operation. Please read it carefully.

Machine performance, life and operation costs depend not only on design, workmanship, and the quality of the materials used, but also on how well the machine is run and kept. Perfect operation and maintenance demand know-how and care. This manual will help you identify troubles quickly and tell you how to eliminate them.

The working instructions should always reach the hands of the operating and servicing personnel. We would recommend keeping the instructions in a safe place near the installation. Only personnel familiar with this manual may operate the machine.

We are steadily improving our machines. Please understand that there may be some differences between this manual and your particular machine.

PLEASE ALWAYS STATE THE
SERIAL NUMBER OF YOUR
MACHINE FOR SPARE PARTS
ORDERS!

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Descriptions and instructions by various subcontractors



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3 TECHNICAL DATA

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3.1 Wafer Baking Ovens Series WA

Type	WA 12G	WA 18G	WA 24G
Number of baking tongs	12	18	24
Size of baking plates	230x290	230x290	230x290
Capacity *) Wafer sheets / h	360	720	960
Cream-filled wafers (kg/h)	20-30	45-55	60-70
Connected load (kW)	2.1	2.1	2.1
Gas Consumption (m3/h) (natural gas 41 MJ/m3)	3.5	4.5	6.5
Compressed air consumption (Nm3/h)	for cooling and blow-off nozzles; dependent on recipe and baking time **)		
Dimensions (mm)			
Length a	2500	3300	4100
Width b	1100	1100	1100
Height h	1500	1500	1500
Weight (kg)			
Net	1300	1980	2800
Gross	1800	2500	3420
Shipping space (m3)	4.5	5.5	7.0

*) Output dependent on recipe, size of wafer sheet and baking time.

**) Average consumption up to 19 Nl per baking tong.

Wafer baking ovens of the WA series are built optionally as "right-hand" ovens or "left-hand" ovens (according to where the operator's side is). Therefore, photographs and illustrations in this manual may present a mirror image of your machine.



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3 TECHNICAL DATA
=====

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3.2 Wafer Baking Ovens Series MWA

Type	MWA 12G	MWA 18G
Number of baking tongs	12	18
Size of baking plates	270x370	270x370
Capacity *)		
Wafer sheets / h	360	720
Cream filled wafers (kg/h)	30-40	65-85
Connected load (kW)	2.2	2.2
Gas Consumption (m ³ /h) (natural gas 41 MJ/m ³)	4.0	6.0
Compressed air consumption (Nm ³ /h)	for cooling and blow-off nozzles; dependent on recipe and baking time **)	
Dimensions (mm)		
Length a	3000	4000
Width b	1150	1150
Height h	1600	1600
Weight (kg)		
Net	1900	2600
Gross	2400	3200
Shipping space (m ³)	7.5	9.5

*) Output dependent on recipe, size of wafer sheet and baking time.

**) Average consumption up to 19 Nl per baking tong.

Wafer baking ovens of the MWA series are built optionally as "right-hand" ovens or "left-hand" ovens (according to where the operator's side is). Therefore, photographs and illustrations in this manual may present a mirror image of your machine.



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4

SHIPMENT
=====

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I) The machine will be shipped completely assembled.

II) Unpacking

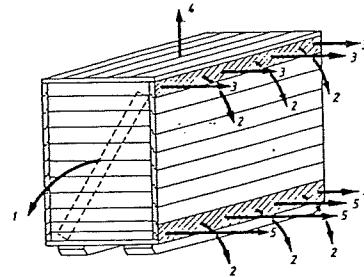
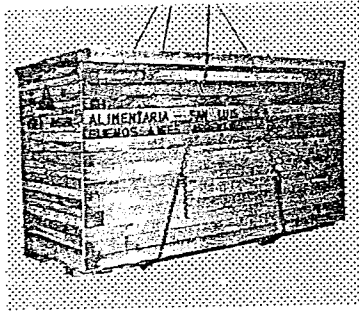


Fig.1: Shipping crate

1. Remove front walls of the crate.
2. Remove top and bottom boards of the side walls.
3. Remove screws at the top of the crate.
4. Remove top of the crate.
5. Remove screws at the bottom of the crate.
6. Remove side walls from their joints.

III) Please check the machine immediately after arrival and notify us of any missing parts or damage occurred during shipping.



5

INSTALLATION

=====

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The machine does not need a special foundation and may be installed wherever desired, after having been adjusted by means of a water level.

Please consider the floor load when choosing a site for the oven.

Also make sure that a suitable lifting gear is available to move the oven from the crate to its designated site.

For an exactly horizontal installation the feet of the machine can be adjusted by turning the threaded bolt with a wrench and locking it with the counternut.

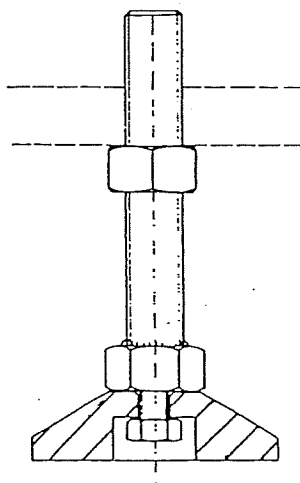


Fig.2: Adjustable foot

Operational Safety

The plant is fitted with guards and safety installations to prevent damage or injury.

Under no circumstances, however, may persons not trained to work with the equipment put the plant into operation or approach it while it is running.

Safety installations may never be deactivated or removed, nor may moving parts be touched recklessly.



6 CONNECTIONS
=====

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mwa

(Also see page 071)

All connections, electricity, gas, exhaust ducts and otherwise have to be made by personnel trained and authorized to do so, and according to the rules and regulations of the country where the plant is installed.

6.1 Electrical Connections

The electrical supply mains need to be fitted with a main switch and safety devices. Connection by means of terminals R, S, T or L1, L2, L3 in the terminal box. The ground wire must be connected to the yellow/green terminal.

The wiring diagrams of the electrical equipment are in the enclosure.

6.2 Gas Connection

The supply mains must have an inside diameter of 50 mm and needs to be reduced to the connection diameter of 1 1/2" at the stopcock. Installing a manometer before the oven for pressure control is advantageous, a gas shut-off valve is a necessity.

Unless ordered otherwise, the gas connection will be designed for a gas pressure of 2000 mm water column (0.2 bar). When bottled gas (LPG) is to be used, an admission pressure regulator must be provided. The gas heating operates at a gas pressure of 500 mm water column (49 mbar).

6.3 Pneumatics

Compressed air supply pressure required: 6 bar

There is a threaded joint for the connection of the compressed air system. The air hose is held in place with a hose clip. (Inside diameter of the hose = 13 mm).

A shut-off valve in the compressed air supply line should be provided.



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mwa

(Also see page 071)

6.4 Exhaust system

The outer diameter of the exhaust stacks is 200 mm (rear) and 300 mm (front).

All ovens need exhaust stacks, no matter what heating they are equipped with. Often it is sufficient to join the stacks in a near chimney with a good draw. Otherwise, a suitable, heat-resistant exhaust blower must be fitted to avoid accumulation of exhaust gases in the oven. The difference in pressure ought to be 15-20 mm W.C. at the oven exhaust connection.

To calculate the exhaust gas volume, calculate the surface of a baking plate and multiply by 0.000825 to get the exhaust volume (m³) per hour and baking tong. Then multiply by the number of baking tongs to get the total volume in cubic meters.

For example:

Baking plate size 270 mm x 370 mm, MWA 30G :

$$270 \times 370 = 99\,900 \text{ mm}^2$$

$$99\,900 \times 0.000825 = 82.4 \text{ m}^3/\text{h approximately}$$

$$82.4 \text{ m}^3/\text{h} \times 30 \text{ baking tongs} = 2472 \text{ m}^3/\text{h}$$

With electrically heated ovens, reduce exhaust volume by 20 percent.

Exhaust gas temperature: 250 degrees C approx.
with gas-heated ovens.

Exhaust gases contain aggressive substances which lead to corrosion. Therefore, it is advantageous to fit water separators at the exhaust stacks to drain condensation water.

The exhaust stacks must be fixed to the roof and properly supported with girders. The oven cannot carry the weight.

~~2325~~ m³/h = 6539 m³/h
185



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7 GENERAL DESCRIPTION
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7.1 Application

Wafer baking ovens of the WA and MWA series serve to produce all kinds of flat wafer products or hollow wafers, such as nuts, shells, phantastic shapes, etc.

7.2 Construction

The oven has a distortion-free steel frame with a long-wearing rail track for the baking tongs which form one endless chain that moves through the baking chamber at infinitely variable speed. The chain is tensioned by means of tensioning bolts.

The tong chain is driven by a an electrical motor, transmission being by means of a varigear fitted with a sliding clutch to protect from excessive loads. The tong chain can also be moved with a hand crank when required for maintenance work.

The ovens are suitable for heating with city gas, natural gas, propane/butane as well as oil gas when used in conjunction with an oil vaporizing unit.

The oven has a double heat insulation which keeps heat losses low and prevents the warming up of the workplace. There are large side doors to permit easy access for cleaning and maintenance jobs.

Baking vapor and exhaust gases are gathered and evacuated from the baking site by means of exhaust stacks.



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7.3 Layout Wafer Baking Ovens Series WA / MWA

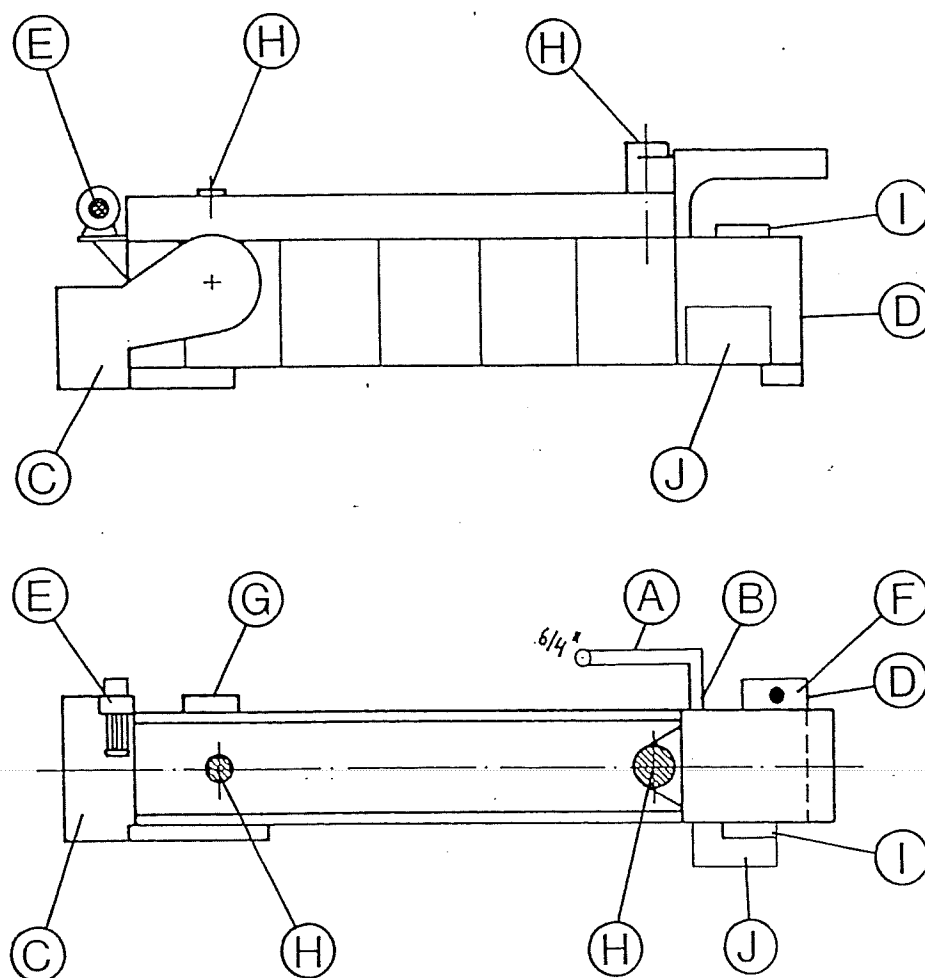


Fig.3: Layout

- | | | | |
|---|-----------------------|---|-----------------------|
| A | Main gas valve | F | Terminal box |
| B | Gas valve train | G | Compr. air connection |
| C | Main drive | H | Exhaust stacks |
| D | Control panel | I | Batter pump |
| E | Blower of gas heating | J | Batter container |



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7.3

Layout Wafer Baking Ovens Series WA / MWA

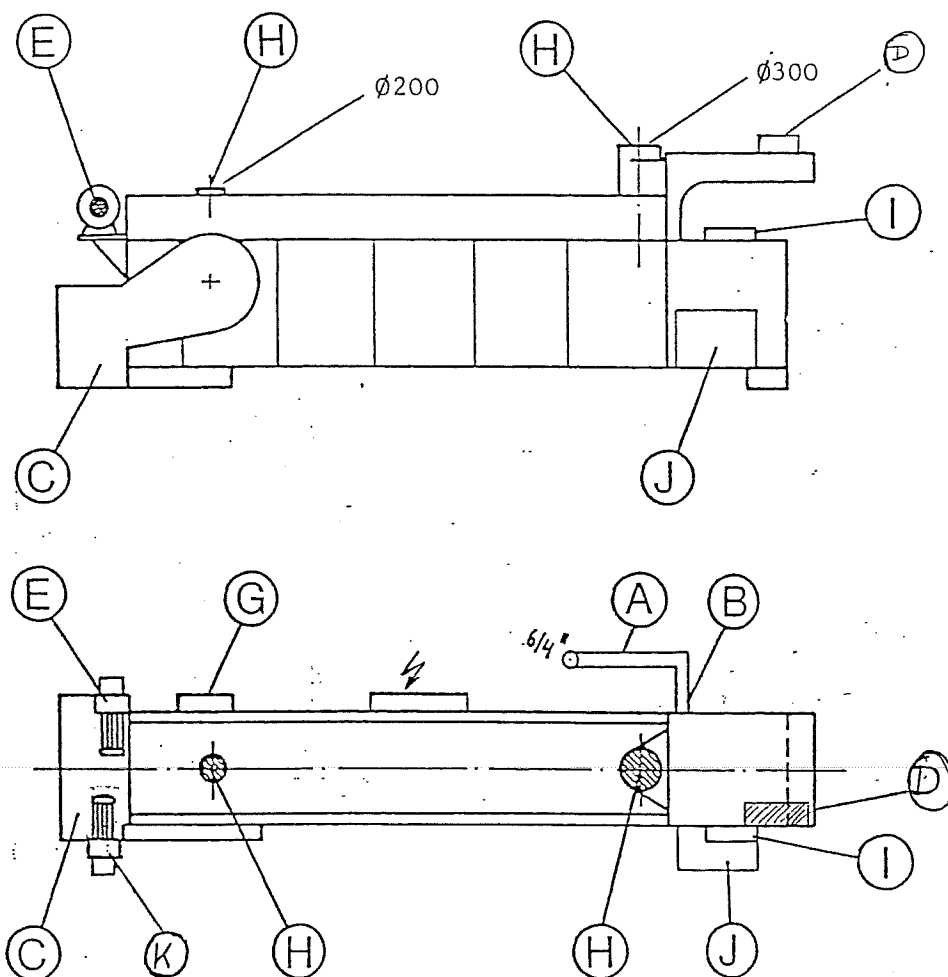


Fig.3: Layout

- | | | | |
|---|-----------------------|---|----------------------------------|
| A | Main gas valve | F | Terminal box |
| B | Gas valve train | G | Compr. air connection |
| C | Main drive | H | Exhaust stacks |
| D | Control panel | I | Batter pump |
| E | Blower of gas heating | J | Batter container |
| | | K | Blower for vacuum pick-up device |



072 790 1E
mwa

7.4 Gas Heating

The heating system is activated when the blower is switched on.

As soon as the pressure governors indicate sufficient gas and air pressure, and after a flushing time of about 30 seconds, the ignition gas valve opens and the ignition transformer activates for up to 10 seconds. The air/gas mixture in the ignition burner is ignited by the ignition electrode.

As soon as the sensor electrode in the ignition burner recognizes a proper flame (ionization), the ignition transformer disactivates and the main gas valve opens. In case of a flame failure the system shuts down automatically and the lamp "flame failure" lights up.

Top and bottom heat is individually adjustable.

7.5 Main Drive

The main drive and transmission system consists of an A.C. motor with vee-belts, varigear, angular gearbox, duplex roller chain and drive shaft of the tong chain.

Baking time (i.e. speed of the baking chain) may be adjusted by means of the varigear (HAAS-gear) which sits between the drive motor and the angular gearbox. Baking time may be adjusted from 1.5 to 2.5 min.

As a protection against mechanical overloads, there is a sliding clutch fitted into the hub of the pulley of the angular gearbox to prevent damage to the drive motor or gearbox as well as the pump rods in case of a jammed tong chain.

Beside the drive chain sprocket, the lateral shaft of the angular gearbox also carries a crank pin which - by means of rods and an angular lever - drives the batter pump. Thus all units run synchronous to the tong chain.

The baking chain may be advanced manually for service jobs. A crank is provided at the rear of the oven which fits onto the pulley of the angular gearbox.



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7.6 Baking Tong

One baking tong consists of upper and lower carrying frames with running wheels and locking rollers. The baking plates are fastened to the frame with four bolts. To adjust wafer sheet thickness, the upper baking plate may be adjusted.

At the locking side of the baking tong two adjustment bolts serve as stoppers with which the distance between locking bolt and locking plate may be adjusted.

The baking tongs are joined together with massive links that require no lubrication. The hardened outer raceways of special ball bearings serve as running wheels.

The baking plates may be taken out easily for cleaning. The wafer pattern is ground into the plates whose smooth surface structure guarantees the easy release of the wafer sheets.

The baking tongs open when they move past the unlocking device. Here the locking bolts make a 90-degree rotation, which unlocks the locking system. The locking roller is forced upwards. As soon as the tongs open, compressed air is blown between the baking plates. The wafer sheets cool down suddenly, shrink a little and lift from the baking plates.

While the locking roller runs along the guide rail, the tongs open wide and the wafer sheets are blown off.

The wafer sheets may be taken off manually or by means of an automatic wafer sheet take-off unit, type *BA-WA, for example (also see Chapter 14, additional equipment).

Any remaining baking waste is blown off by means of compressed air.



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mwa

7.7 Batter Deposition

The batter is pumped by the batter pump from the batter container or a batter supply system to the baking plates via an aspiration hose, a three-way distributor, valve and depositor.

After deposition the baking tong closes. When the batter quantity is right (depending on recipe), the batter will distribute evenly in the plates.

When the locking roller is under the compression rail, the baking tong is fully closed, the locking bolt makes another 90-degree rotation and the tong locks.

Incorrect adjustment may damage the oven, therefore utmost care and attention must be paid to checking and adjustment jobs.



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8 BAKING OPERATION

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8.1 Baking-In

(also see 8.2, Heating-Up, and 8.3, Start of Baking)

8.1.1 Standard baking plates

With new baking plates and whenever the plates have been cleaned, they must be greased well with bees' wax, hard fat or customer-specific recipes before regular baking. Greasing should be done at about 120 degrees C (best measure with a thermo-probe) - with the heating turned off - by means of a spray gun with an atomizing nozzle.

After spraying, heat up the oven to baking temperature (160 degrees C or product-specific temperature) and bake at reduced batter quantity, increasing the setting each round until you have complete wafer sheets which release easily without breaking or sticking to the plates.

(Remove stuck wafer sheets with a wooden spatula or with a stainless steel brush, 0.2-0.3-mm wire). If baking-in is done properly, a glaze will form on the surfaces of the baking plates which guarantees the easy release of the wafer cones.

8.1.2 Chromium-plated baking plates

DO NOT use grease, separating wax or other separating agents! NO baking-in with chromium-plated baking plates!

Because of differing expansion of the base material and the hard chromium layer, the first heating-up of new baking plates must be done in three steps:

Step 1: heat to 50 degrees C, leave to cool 1 hour
Step 2: heat to 100 degrees C, leave to cool 1 hour
Step 3: heat to 170 degrees C, leave to cool 2 hours

Clean baking plates only with a wooden spatula, NEVER with a metal brush!



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8.2 Heating-Up

(cf. page 071, and page S 010)

- Switch on main switch.
- Open gas stopcock.
- Fit piston into sleeve of batter pump.
- Fit cross-piece to the guiding rods of the pump drive and fasten by means of knurled screws (cf. fig.7, page 093).
- Set three-way distributor on batter pump to "overflow".
- Switch on main drive (pushbutton "drive on").
- Switch on heating (pushbutton "blower on"). Ignition will proceed automatically.
- Check flame visually. It must be short and blue with a yellow tip.
 - Only yellow: too much gas in the mixture
 - Only blue: too much air in the mixtureAdjustment by means of air and gas valves.

The flames must not flow around the baking plates, otherwise the grease in the ball bearings could burn up and cause damage. The temperature of the ball bearings must not exceed 150 degrees C.

Upper and lower tong must be heated evenly to prevent uneven expansion of the baking plates. Adjustment of top and bottom heat by means of the air and gas valves.

ATTENTION!

After a change of operating parameters, wait for 40-60 minutes to see if there is a concrete result.

About 40 minutes after ignition the oven will have reached its baking temperature.

While you wait for the oven to heat up:

- Prepare batter so that it will be ready, and fill it into the batter container.

ATTENTION!

Do not remove the strainer of the batter container, otherwise crumbs in the batter may obstruct the holes in the depositor.



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8.3 Start of Baking

- Open compressed air shut-off valve and ball valves of the cooling nozzle and scraper (cf. fig.9, page 095).
- If necessary, grease baking plates.
- Fit batter depositor.

Make sure that the baking molds do not overheat (do not wait too long before deposition once the temperature has been reached). Check temperature either with a temperature sensor or alternately drops of water sprinkled onto a baking plate evaporate after 3-4 seconds indicate that it is ready for baking. ←

*Quick Test
plate Temp*

- Set three-way distributor on batter pump to "deposition". Bake at reduced batter quantity, increasing the setting each round until you have complete wafer sheets (cf. 9.5).

ATTENTION!

Do not deposit excessive quantities of batter into the molds. Otherwise, the mold compression rail at the point where the molds close might not overcome the steam pressure, and the locking system could be damaged.

At this point of operation the quantity of batter as well as the beginning, end and duration of deposition may be re-adjusted (cf. 9.5 and 9.3).

Keep a spare depositor always ready - at best in a bucket of water - in case the holes of the depositor being used become obstructed.

Re-fill the batter container regularly to avoid that the level of batter drops below one third full. The crumbs gathering at the bottom of the container might obstruct the holes in the depositor.



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8.4 End of Baking

- Use up all remaining batter (not absolutely necessary, but advisable).
- Set three-way distributor to "overflow".
- Remove remaining wafer sheets.
- Switch off heating (pushbutton "blower off").
- Remove and clean batter depositor with cold water.
- Remove and clean strainer of batter container.
- Clean batter container and fill with water.
- Flush batter pump until clear water comes through.
- Close the main gas valve.
- Open side doors.

Only after the oven has cooled down to about 80 degrees C (which takes approximately 45 minutes with open side doors):

- Switch off the drive (pushbutton "drive off").
- Close compressed air shutoff valve and ball valves of air nozzles and scraper.
- Switch off main switch.
- Clean oven, especially the baking chamber.



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8.4 End of Baking

- Use up all remaining batter (not absolutely necessary, but advisable).
- Set three-way distributor to "overflow".
- Remove remaining wafer sheets.
- Switch off heating (pushbutton "blower off").
- Remove and clean batter depositor with cold water.
- Remove and clean strainer of batter container.
- Clean batter container and fill with water.
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- Open side doors.

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- Switch off the drive (pushbutton "drive off").
- Close compressed air shutoff valve and ball valves of air nozzles and scraper.
- Switch off main switch.
- Clean oven, especially the baking chamber.



9.1 Baking Temperature

The heating system is adjusted properly by a HAAS fitter when the oven is set up. Changing individual adjustable parameters may have a negative effect on the overall performance of the heating system, any re-adjustment should be done only by personnel trained to do so.

Adjustment of burner output (individually adjustable for top and bottom heat) may be altered by means of the gas (4) and air (3) valves.

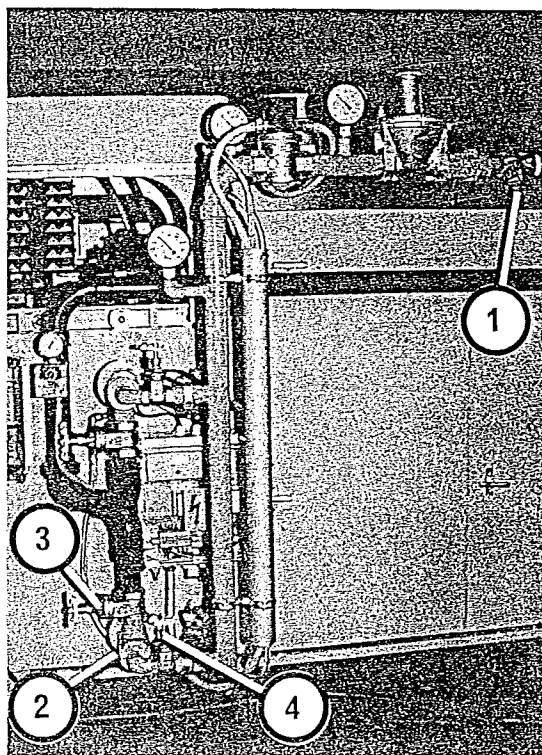


Fig.4: Gas heating

- 1 Main gas valve
- 2 Gas/air mixer
- 3 Air valve
- 4 Gas valve

The correct mixing ratio of gas and air must be maintained. Thus, check flame visually. It must be short and blue (not too acute, though) with a yellow tip.

Only yellow: too much gas in the mixture, only blue: too much air in the mixture.

The flames must not flow around the baking plates, otherwise the grease in the ball bearings could burn up and cause damage. The temperature of the ball bearings must not exceed 150 degrees C.

Upper and lower tong must be heated evenly to prevent uneven expansion of the baking tongs.

Check temperature of baking molds with a temperature sensor. Alternative method: drops of water sprinkled onto a baking mold must evaporate after 3-4 seconds.



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mwa

9.2 Main Drive

For maintenance of drive motor and angular gearbox see manufacturer's instructions in the Annex.

Motor and HAAS-gear are fastened with slots and bolts and may be shifted laterally. Thus, the vee-belts may be tensioned easily.

The baking chain may be advanced manually for service jobs. A crank is provided at the rear of the oven which fits onto the pulley of the angular gearbox.

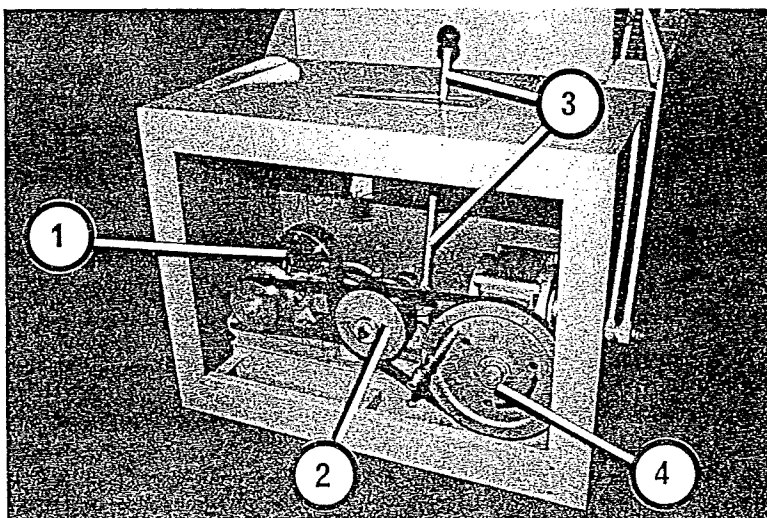


Fig.5: Main drive (hand crank fitted)

- | | |
|--------------------|------------------|
| 1 Main drive motor | 2 HAAS-gear |
| 3 Adjusting lever | 4 Sliding clutch |

Turn the crank only as indicated by the arrow. If the chain moves in the wrong direction, the locking mechanism may be damaged!

All rotating parts and the drive chain are fitted with guards for the operators' protection. When doors are opened or guards removed for service jobs, appropriate measures must be taken to prevent putting the oven into operation involuntarily.

9.3 Baking Time

Baking time is adjusted by altering the speed of the baking chain. The transmission ratio is altered by means of the lever (3) at the rear end of the oven. Make adjustments only when the motor is running! After speed adjustment, push the lever slightly in the other direction to tension the vee-belts evenly.



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9.4 Sliding Clutch (see fig.5, page 091)

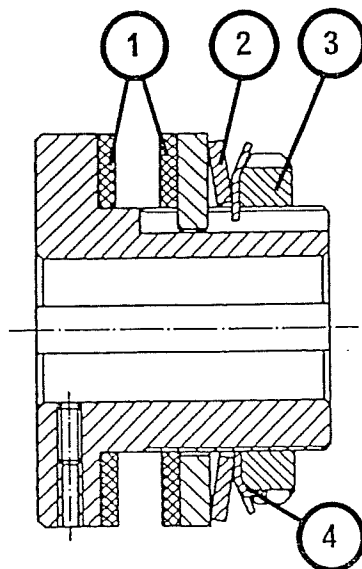
9.4.1 Functioning

The sliding clutch serves as an overload protection. The vee-belt pulley is held only by the friction of the clutch discs. Should the oven jam, the pulley slips between the discs.

It must not slip through for too long, though (only a few seconds), otherwise the surface of the discs will char. Charred clutch discs will not function properly any more.

9.4.2 Adjustment of sliding clutch

When the discs (1) are charred, they must be replaced and the clutch must be re-adjusted.



- The saucer spring assembly (2) must be fitted exactly as supplied.

- The saucer spring is tensioned by means of the adjustment nut (3) until the desired adjustment is reached. Adjustment is infinitely variable depending on the pre-tension of the saucer spring.

- Departing from an adjustment that is too slack (clutch slips through), increase pre-tension stepwise until the clutch just does not slip through any more when the drive is started (torque: 2.5 Nm, approximately).

- After adjustment secure adjustment nut by means of the safety ring (4).

Fig.6: Sliding clutch

- 1 Clutch discs
- 2 Saucer spring
- 3 Adjustment nut
- 4 Safety ring

Protect the clutch discs (1) from grease or oil and verify the adjustment and state of the discs regularly, depending on operating conditions.



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9.5 Adjustment and Maintenance of Deposition System

9.5.1 Adjustment of batter quantity

The batter pump is activated by means of rods and an angular lever synchronous to the baking chain. The pump rod always carries out the same stroke.

The quantity of batter may be adjusted by means of the handwheel (1). Turning the wheel to the right decreases dead travel, thus increasing the pump stroke and the quantity of batter deposited.

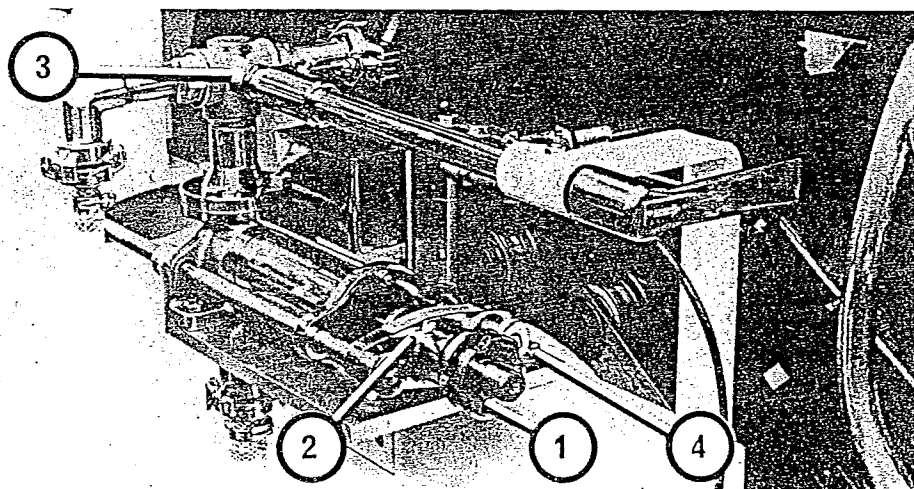


Fig.7: Batter pump (lever of three-way distributor in position "deposition")

- | | |
|---|---|
| 1 Handwheel for adjustment of batter quantity | 4 Slots for adjustment of beginning of deposition |
| 2 Cross-piece | |
| 3 Three-way distributor | |

9.5.2 Adjustment of beginning of deposition

The batter pump is fitted to the base by means of slots and bolts which permit axial adjustment. Thus, the start of deposition may be matched to the baking plates.



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9.6 Cleaning of Batter Pump

(cf. fig.7, page 093)

Flush with clean water while the pump is running.
To do so:

- Set three-way distributor (3) at batter pump to "overflow".
- Flush batter pump until clear water comes through at the drain hose.
- Remove and clean batter depositor with cold water.

For thorough cleaning after the end of operation, the pump may also be taken apart:

- Loosen knurled screws.
- Withdraw cross-piece (2) and piston from the guide bars.
- Rinse pump sleeve and piston with cold water.

9.7 Batter Depositor

A second batter depositor is supplied with the oven. It is advisable to clean the depositor every 2-3 hours with cold water, as the holes tend to become obstructed with batter half baked by the heat which rises from the baking molds.



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9.8 Adjustment of Blow-off System

The cam-operated valves are fixed to a joint base plate which may be shifted laterally to adjust the exact timing of the air jets. Fixation is by means of slots and bolts.

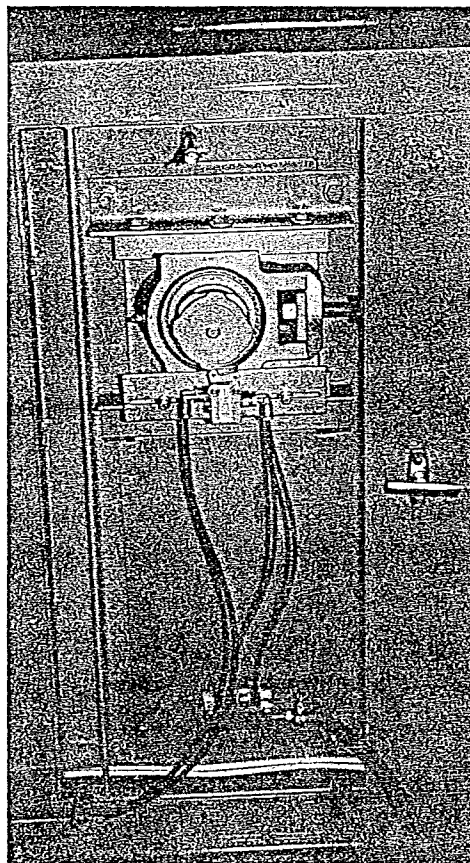


Fig. 8: Compressed air system

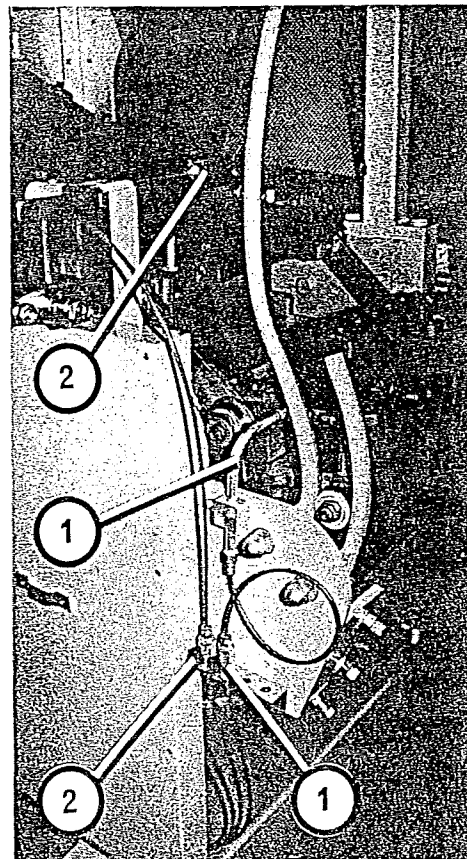


Fig. 9: Ball valve for cooling nozzle (1) and scraper (2)



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9.9 Adjustment of Locking System

Incorrect adjustment of the locking system may damage the main bearings, running wheels and locking rollers as well as the complete locking system. Therefore utmost care and attention must be paid to checking and adjustment jobs.

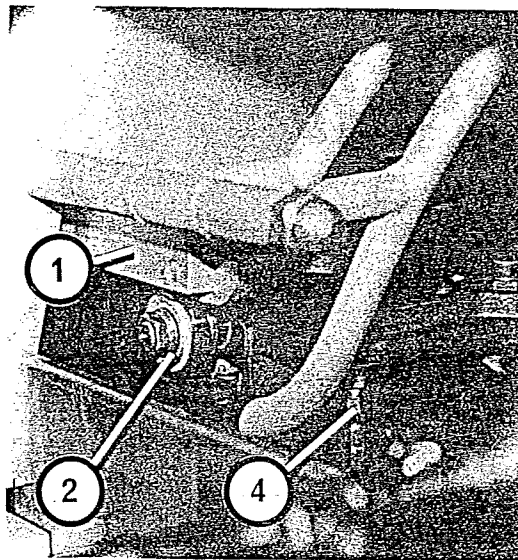
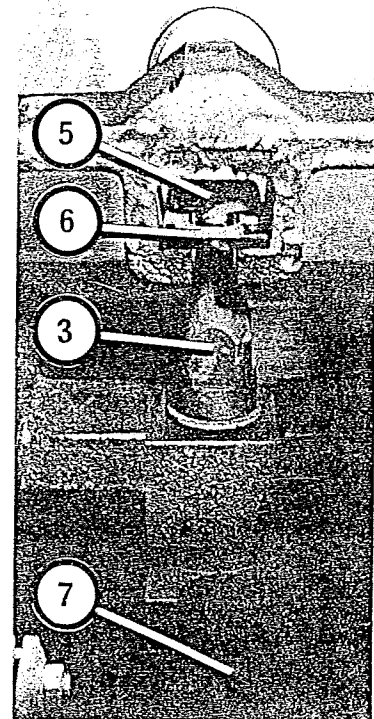


Fig.10: Locking system

Top: compression rail

Right: locking bolt



The compression rail (1) compresses the baking tongs by forcing down the locking roller (2) so that the locking bolt (3) turns easily by hand.

At the same time the adjustment bolts (4) prevent excessive compression which would force the batter out from the molds.

For checking the adjustment, bring EACH baking tong with its locking roller (2) under the compression rail (1). Then, when the distance bolts touch, check if the distance between the head of the locking bolt (5) and the locking plate (6) is 0.2 mm.

If the distance needs to be re-adjusted, loosen the counternuts of the distance bolts (4), turn the bolts by the same amount ($1/6$ turn = 0.25 mm) and fasten again.



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9.10 Locking Bolt

(cf. Fig.10, page 096 and fig.16, page 0913)

For trouble-free operation the seats of the locking bolts must not be loose and have to be checked from time to time.

When a bolt has vertical play, the two nuts (pos.7, fig.10 and pos.5, fig.16) must be re-adjusted so that the locking bolt does not float any more when you turn it by hand.

Also check the plate spring, and replace it if necessary.

9.11 Compression Rail

When the compression rail is misadjusted, the locking bolt may catch and break the locking plate.

For adjustment, fold back the cover and remove the insulation. Then adjust the compression rail by means of the bolt next to the housing of the spring such that its lower surface is 0.5 mm lower than the upper surface of the locking roller. The movement of the compressing rail against the spring should be just those 0.5 mm.

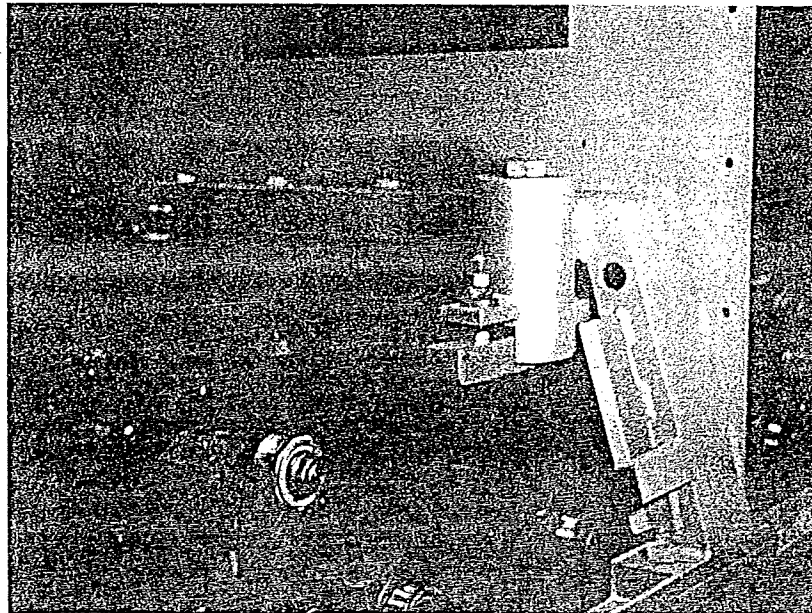


Fig.11: Compression rail



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9.12 Adjustment Wafer Sheets Thickness

In order to check the thickness of the wafer sheets, collect the production of one whole baking round, stack them all in the same position without turning them around and mark them with the number of the baking plate. Then measure the sheets one by one with a thickness gage on all four corners and in the middle and take note of eventual differences.

The thickness of the wafer sheets can be adjusted by means of the fastening bolts of the baking plates. First loosen all Allen bolts (1) a bit, Then turn the threaded bushings (2) on the corners that need to be adjusted either right (= thinner) or left (= thicker). 1/6th of a turn equals 0.25 mm. After adjustment tighten the Allen bolts again while holding against the threaded bushings.

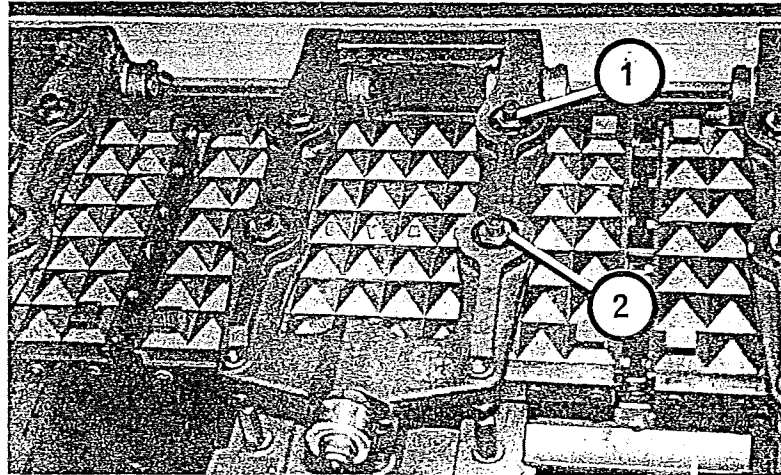


Fig.12: Baking tong

After adjustment another trial round of wafer sheets has to be produced and measured again.

Example A

Nominal thickness: 3 mm

Wafer sheet no. 3 measures 2.8 mm on the right side, i.e. it is 0.2 mm too thin. Loosen Allen bolts on the right side, turn threaded bushings (pitch: 1.5 mm) about 1/6th of a turn to the left and lock again with the Allen bolts.

Example B

Nominal thickness: 3 mm

Wafer sheet no. 3 measures 3.2 mm at the front, i.e. 0.2 mm too much. Loosen Allen bolts at the front, turn threaded bushings about 1/6th of a turn to the right and lock again with the Allen bolts.



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9.13 Adjustment of Baking Chain Tension

* The oven is equipped with wide opening doors to *
* facilitate service and adjustment jobs. When *
* doors are opened or covers removed for service *
* jobs, appropriate measures must be taken to pre- *
* vent putting the oven into operation involun- *
* tarily. *

Open side door at the rear end of the oven and watch the transfer of the running wheels to the lower running rail (cf. fig.16, page 0913). If they drop down with a bump - when the oven is at baking temperature - chain tension is too slack.

Departing from an adjustment that is too slack, re-tension by means of the tensioning bolts until the running rollers are transferred without dropping.

Make sure to retension evenly on both sides.

* CAUTION ! Excessive chain tension increases *
* wear of the joints of the baking chain. *

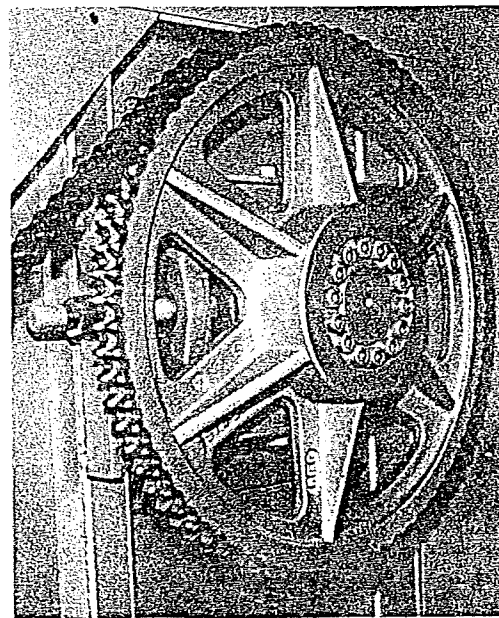
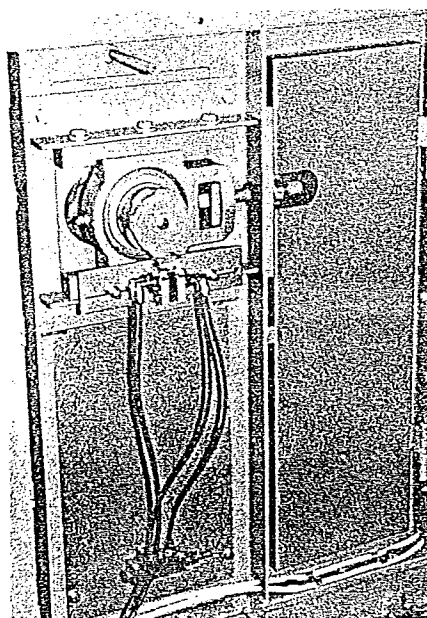


Fig.13: Main bearings of baking chain

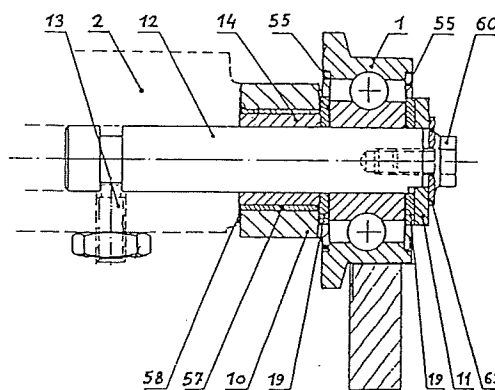


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9.14 Checking and Lubrication of Running Wheels

- * Check running wheels regularly.
- * Never exceed the lubrication intervals indicated in the lubrication table.
- * Use no grease other than Haas high-temperature grease type 19.400. *)
- * Never fill the running wheels with more grease than indicated.
- * Use new nilos rings when you re-assemble the running wheels.
- * When lubrication is done improperly, grease may leak from the bearings.

9.14.1 Checking and dismounting



Running wheel

The baking tong must sit on a horizontal stretch of the running rail.

Slacken chain tension as much as possible.

Lift baking tong and try turning the running wheels by hand. If they move badly or jerkily, clean and grease again (or change if beyond repair).

Loosen bolts (60) and remove spring washers (62), washers (11), brackets (19), and cover discs (23).

- | | | |
|-----------------------|--------------------|---------------|
| 1 Running wheel | 2 Baking tong | 10 Chain link |
| 12 Running wheel bolt | 13 Fixation bolt | 14 Bushing |
| 55 Nilos ring | 57 Bearing bushing | 58 Shim |

9.14.2 Correct quantity of lubricant

- * Open bearing on one side (remove nilos rings (55)).
- * Wipe bearing clean with a cloth. Leave old grease in the bearing even when it appears brown to reddish brown.

*) Special grease Type 19.400 available from
Franz Haas Waffelmaschinen Ind.Ges.m.b.H.



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9.14.2

- * Weigh the bearing together with two nilos rings and calculate the difference to a new, properly filled bearing.

Nominal weight of a bearing filled with grease:

335,0 g - 337,0 g

- * Top off grease to obtain nominal weight.

9.14.3 Topping off grease

- * With a spatula, apply proper quantity of grease from the side.
- * Fit new nilos ring and wipe completely clean on the outside.
- * Fit running wheel again (cf. fig.14, page 0910).
- * Repeat with all running wheels.

9.14.4 Cleaning

Cleaning and re-filling the running wheels is useful only when the old grease is charred and when the wheels jam. When the running wheels are to be cleaned, they must be taken down and the old grease needs to be removed completely, so that absolutely none remains. However, in that case, a replacement of the wheels is preferable.

Method of cleaning:

- * Heat bearings to 180 degrees C during 2 hours.
- * While they are still hot, blast them with a steam lance with a caustic detergent.
- * Flush them with hot water.
- * Leave them to dry. DO NOT blow them dry with compressed air.

Fill bearings with new grease type 19.400 *) only when they are ABSOLUTELY DRY!

*) Special grease Type 19.400 available from
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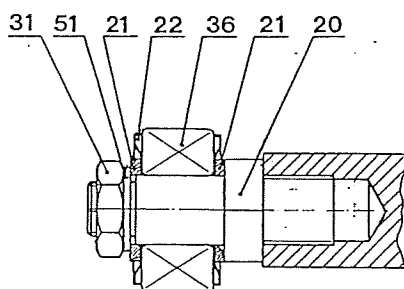
9.15 Checking and Lubrication of Locking Rollers

Procedure with locking rollers is identical to the procedure with running wheels (cf. 9.14), but there is no need to slacken the chain tension.

Nominal weight of a locking roller filled with grease and two nilos rings fitted:

232,0 g - 234,0 g

11.4.1 Dismounting locking rollers



Locking roller

Loosen hexagon nuts (31) and remove lock washers (51) and spacers (21). Pull locking roller (36) off.

20 Locking roller bolt
22 Nilos ring



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9.16 Replacement of Bushings of the Tong Chain Links

First slacken chain tension as much as possible by means of the tensioning bolts of the main bearings (cf. Fig.13, page 099).

It is advisable to replace the bushings of both opposite chain links together. Ideally, all bushings of all chain links ought to be replaced together, as all of them are likely to have suffered a similar degree of wear.

Advance baking chain by means of hand crank until the baking tongs concerned sit on the lower running rail. Then lift two neighboring baking tongs and remove all running wheels (cf. 9.14). Secure the two tongs against running away by tying them together with a strong rope or wire.

Pull off chain link on one side, hammer or press out old bushings, clean bore with a reamer and press in new bushings with a suitable tool. Grease the bores lightly to facilitate the operation. Then repeat the operation on the other side.

Re-tension the baking chain after re-assembly (cf. 9.13).

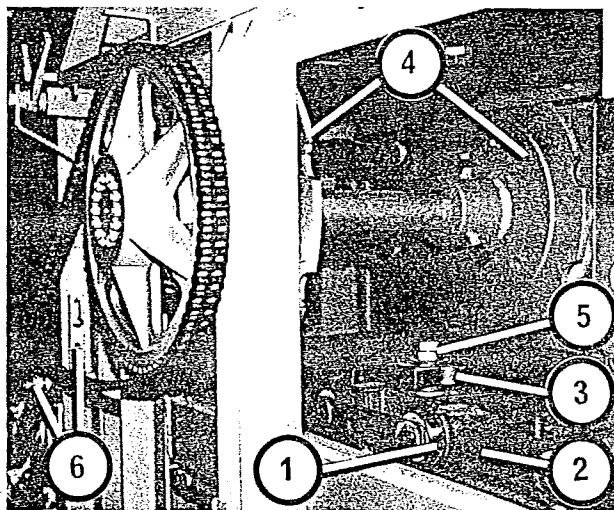


Fig.16: Oven inside

- | | |
|---|---|
| 1 Running wheel | 2 Chain link |
| 3 Locking star (bolt) | 4 Tong chain drive wheel |
| 5 Nuts to adjust axial play of locking bolt | 6 Tensioning roller and roller fixation of duplex chain |



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9.17 Dismounting of Baking Plates (cf. fig.17)

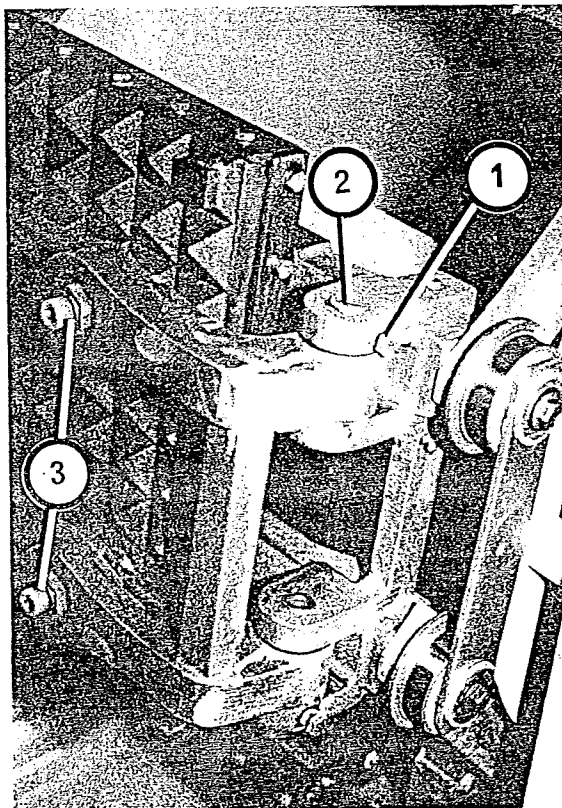
Advance baking chain by means of hand crank until the baking tong concerned sits at the opening guide. The baking plates are fixed to the upper and lower tongs by means of four bolts (3) each. At the opening guide they may be removed easily.

9.18 Hinge Bolts / Replacement of Bushings

9.18.1 Checking the Bushings

Advance baking chain by means of hand crank until the baking tong concerned sits at the opening guide. Check play of the hinge bolt of the opened baking tong manually. In case of excessive play, replace bushings.

9.18.2 Replacement of Bushings



Remove hex bolt (1), then hammer out hinge bolt (2). Do not hit the hinge bolt itself with the hammer, use a brass or wooden peg or similar soft material as a forcer.

Take off upper tong, then hammer or press out the old bushings, clean the bores with a reamer, and press new bushings into the bores with a suitable tool. Grease the bores slightly to facilitate the operation.

Fit upper tong again, fit bolt and fasten hex bolt (3).

Fig.17: Baking tong hinge



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9.19 Cleaning of Baking Plates

- a) with plain baking plates:
clean plates with a 0.2-mm-diameter stainless steel brush and vacuum-clean, or
- b) with chromium-plated or plain baking plates:
clean with Haas baking-plate cleaner without having to take the plates down.

9.19.1 Cleaning with Haas baking-plate cleaner 1)

Protection measures:

Danger classification: Xi-aggressive
Flammability: product non-flammable
Breathing equipment: not necessary
Hand protection: rubber gloves
Eye protection: Safety goggles advisable
Flush with plenty of water after skin contact.

Keep out of childrens' reach!

Use Haas baking-plate cleaner for baking surfaces of our baking plates only!

Bearing bushings and ball bearings are not directly affected by the baking-plate cleaner, but keep it from seeping into them.

Environmental compatibility:

Chemical composition: anionic surfactants,
anorganic acid,
glycol ether,
colorants and aromatics.

Surfactants biodegradable and in conformity with the Cleaning Agents and Detergents Act.

The cleaning solution may be drained into the sewer.

1) Baking-plate cleaner available in containers of 1 liter or 5 liters from Franz Haas Waffelmaschinen Ind.Ges.m.b.H.



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Cleaning procedure:

- * Clean baking plates on the rear return curve at an angle of about 45 degrees. It is advisable to use a sort of drip pan to collect the cleaning liquid into a container.
- * Open baking tong and apply cleaner generously with a paint brush.
- * Allow to react for about 2-5 minutes when cleaning chromium plates. Reaction time with heavily soiled plain plates may be 10-15 minutes.
- * If heavily soiled plates remain dirty: DO NOT increase reaction time, but repeat the WHOLE cleaning process.
- * Scrub baking plates thoroughly with a synthetic brush and hot water, then rinse with a sponge.
- * Blow with compressed air, wipe dry with a cloth and finish with methylated spirit.
- * When all plates have been cleaned, heat oven to 120 degrees C to vaporize all humidity resulting from cleaning.
- * Bake in again (cf. 8.1).

NEVER CLEAN CHROMIUM-PLATED BAKING PLATES WITH A STEEL BRUSH!



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9.20 Cleaning of Burners

Normally, it is sufficient to blow off baking residues with compressed air. To do so, close the gas stopcock and open the side doors. Switch on main drive and heating blower.

To prevent any possible danger or impediment by the moving tong chain, the chain may be advanced manually by means of the hand crank (cf. 9.2).

* ATTENTION! If the gas stopcock is left open, the *
* heating will ignite! The stopcock must be shut! *

In case of heavy soiling, clean burners with a brush and compressed air, while the blower is running. It is necessary, however, to remove the baking plates to do so (cf. 9.17).

9.21 Measuring Negative Pressure of the Exhaust Stacks

It is absolutely necessary to provide the ovens with proper exhaust stacks and ducts, no matter what kind of heating is installed. The negative pressure in the exhaust stacks must be at least 15 - 20 mm W.C.

It is advisable to fit measuring nipples in the exhaust stacks. Measuring itself is done with the help of a tube manometer connected to the measuring nipples.

9.22 Duplex Chain Tension

The duplex chain transmits the driving force from the sprocket at the angular gearbox to the driven wheel on the main drive shaft. Proper chain tension is necessary to ensure synchrony between tong chain and batter deposition.

Check chain tension regularly. To retension, loosen fixation bolts of the tensioning roller (cf. fig.16, page 0913) and tap with a hammer against the roller support (do not hit the roller!) until the chain is as taut as possible. Then fasten fixation bolts again.



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9.23 Fastening of Bolts (Torque)

Fasten all hexagon head bolts of the baking tong
(except M 6) with a torque wrench.

ATTENTION! DO NOT use galvanized washers!

9.23.1 Hexagon head bolts M 8 Q 8.8

Torque required to fasten 30 - 35 Nm

9.23.2 Hexagon head bolts M 10 Q 8.8

Torque required to fasten 50 - 55 Nm

9.23.3 Hexagon head bolts M 6 Q 8.8

The fixation bolt for vent strips and baking ledges
are coated with lacquer.

Fasten carefully!



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10

MAINTENANCE SCHEDULE

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More often than not the breakdown of a machine is caused by poor MAINTENANCE and too little CARE.

That is why you should always keep your machine clean and in good condition, not only for reasons of hygiene but also to guarantee perfect operation and to guard against loss of production.

I=====I	I=====I	I
I Operating Hours	I Activity	I
I=====I	I=====I	I
I 3 - 4	I Clean batter depositor.	I
I=====I	I=====I	I
I 8	I Clean oven inside and baking	I
I	I plates (baking waste).	I
I	I-----I	I
I	I Flush batter pump with water	I
I	I at the end of operation.	I
I=====I	I=====I	I
I 24 -48 (acc. to	I Clean baking molds with stain-I	I
I recipe and sugar	I less steel brush (0.2 mm) and I	I
I content)	I special detergent.	I
I=====I	I=====I	I
I 40	I Thoroughly clean whole	I
I	I machine.	I
I	I-----I	I
I MANN	I Clean filter of heating	I
I Filter C 21 138/1	I blower, replace if necessary.	I
I=====I	I=====I	I
I 100	I Lubricate HAAS-drive.	I
I	I-----I	I
I	I Lubricate crank pin of batter	I
I	I pump drive system.	I
I	I-----I	I
I	I Lubricate angular lever of	I
I	I batter pump drive system.	I
I=====I	I=====I	I
I 120	I Check functioning of safety	I
I	I devices and switches.	I
I	I-----I	I
I	I Check temperature of running	I
I	I wheels (140 - 160 deg.C).	I
I	I-----I	I
I	I Check negative pressure in	I
I	I exhaust ducts (15-20mm W.C.).	I
I=====I	I=====I	I
I 50-200	I Clean baking molds chemic-	I
I (acc. to recipe)	I ally.	I
I=====I	I=====I	I



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I=====I	I=====I	I=====I
I Operating Hours	I Activity	I
I=====I	I=====I	I=====I
I 160	I Air-blast burner nozzles with	I
I	I compressed air.	I
I	I-----I	I-----I
I	I Check duplex chain tension,	I
I	I adjust if necessary.	I
I	I-----I	I-----I
I	I Check for chain stretch (worn	I
I	I bushings!).	I
I=====I	I=====I	I=====I
I 500	I Lubricate seat of batter pump	I
I	I switching lever.	I
I=====I	I=====I	I=====I
I 1000	I Grease main bearing.	I
I	I-----I	I-----I
I	I Check vee-belt of blower of	I
I	I heating system.	I
I	I-----I	I-----I
I	I Check vee-belt of main drive.	I
I	I-----I	I-----I
I	I Check exhaust flue for soot.	I
I	I Sweep if necessary.	I
I=====I	I=====I	I=====I
I 4000	I Check and lubricate running	I
I	I wheels. Replace jammed ones.	I
I	I-----I	I-----I
I	I Check and lubricate locking	I
I	I rollers. Replace jammed ones.	I
I	I-----I	I-----I
I	I Check play of hinge bolts	I
I	I of baking tong hinges.	I
I	I-----I	I-----I
I	I Lubricate drive chain.	I
I=====I	I=====I	I=====I
I 8000	I Replace bushings of tong	I
I	I chain links.	I
I=====I	I=====I	I=====I

Exchange wearing parts and clean individual parts of
the machine when necessary.



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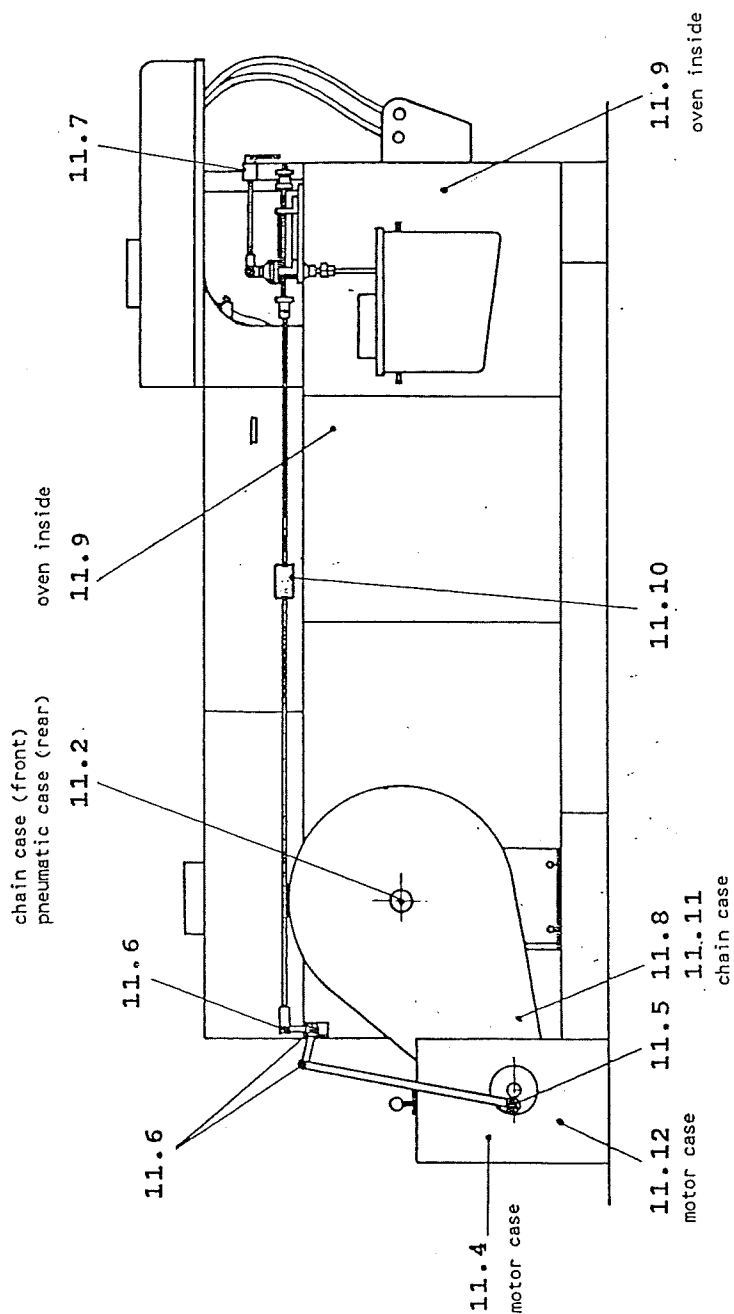


11 LUBRICATION TABLE

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11.1 Points of Lubrication

Text on pages 111 and 112





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11.2 Main Bearing

There are easily accessible lubrication nipples.

Lubricant : heat resistant-grease type 19.400F *)

Quantity : squeeze in grease until it comes out
clean at the bearing.

Interval : 1000 hours

11.3 Running Wheels and Locking Rollers

Lubricate while mounted.

Lubricant : heat resistant-grease type 19.400F *)

Quantity : 8 - 10 g (running wheels)
5 - 7 g (locking rollers)

Interval : 4000 hours

*) Special grease Type 19.400F available from
Franz Haas Waffelmaschinen Ind.Ges.m.b.H.

11.4 HAAS-Drive

Lubrication nipple at the pulley.

Lubricant : lithium-based grease
Castrol GREASE LMX

Quantity : as required

Interval : 100 hours

11.5 Crank Pin of Pump Drive Rod

Lubrication nipple at the head of the pin.

Lubricant : lithium-based grease
Castrol GREASE LMX

Quantity : as required

Interval : 100 hours

11.6 Angular Lever of Pump Drive System

Lubrication nipples at the joints.

Lubricant : lithium-based grease
Castrol GREASE LMX

Quantity : as required

Interval : 100 hours



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11.7 Batter Pump

Lubrication nipple at the switching lever.

Lubricant : lithium-based grease
Castrol GREASE LMX

Quantity : as required

Interval : 500 hours

11.8 Roller Chain

Lubricant : Molykote grease
Klüber STRUCTOVIS BHD etc.

Quantity : as required

Interval : 4000 hours, or when it does not
run smoothly any more

11.9 Opening/Closing Bolt

Do not lubricate. Replace worn bushings.

11.10 Seat of Pump Drive Rod

Do not lubricate. Replace worn bushings.

11.11 Tensioning Roller of Drive Chain

Do not lubricate. Replace worn bearings.

11.12 Angular Gearbox

Life lubrication. See manufacturer's instructions
in the Appendix.

11.13 Baking Tong Hinge

Do not lubricate. Replace worn bushings.



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11.14 High-Temperature Grease Type 19.400

Technical data

NLGI class, DIN 51818	2
Penetration Pw	265 - 295
Density, 15.6 degrees C	1.93
Thickener	non-soap
Base oil properties:	
viscosity, DIN 51366, D 2161:	
40 degrees C, cSt	390
100 degrees C, cSt	37
200 degrees C, cSt	5.7
Viscosity index, ISO 2909	140
Flash point, ISO 2592, degrees C	none
Pour point, ISO 3016, degrees C	-25
Color	light blue

with the usual manufacturing tolerances



12

PROBLEMS AND REMEDIES

=====

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* With all kinds of repair and maintenance jobs, *
* appropriate measures must be taken to prevent *
* putting the oven into operation involuntarily. *

12.1 Unsatisfactory wafer sheets

- o Missing corners on wafer sheets
 - > Increase batter quantity.
 - > Check wafer sheet thickness, adjust if necessary.
- o Too much baking waste
 - > Reduce quantity of batter.
- o Missing corners despite baking waste
 - > Adjust beginning and end of batter deposition.
- o Uneven wafer sheet thickness
 - > Re-adjust baking plates.
 - > Check play of locking bolts, adjust if necessary.
- o Wafer sheets will not release
 - > Check pneumatic system.
 - > Clean baking plates and bake in anew.

12.2 Drive will not start

- o Emergency stop activated
 - > reset.
- o No power supply
 - > Check power supply installations (fuses). Before you replace fuses, the cause of the breakdown must be sought and eliminated.
- o Motor protection switch activated
 - > Check power supply installations (one phase may be interrupted).
 - > Motor may be blocked by a badly worn or broken part. Do not start again before the problem is properly eliminated.
 - > Elimination of drive motor breakdown as such, see manufacturer's instructions.



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12.3 Uneven Progress of Baking Chain

- o Squeeze at the compression rail
 - > Check adjustment of locking system, adjust if necessary.
- o Chain tension too great.
 - > Re-adjust chain tension.
- o Vee-belt slips through
 - > Tension vee-belt.
 - > Clean pulley if greasy.
 - > Replace worn vee-belt.
- o Sliding clutch slips through
 - > Replace oily or charred clutch discs.
 - > Re-adjust clutch.

12.4 Uneven batter deposition

- o Holes in the depositor obstructed
 - > Fit spare depositor. Clean obstructed depositor and keep it ready in a bucket of water.

12.5 No Ignition / Burner Failure

- o Gas pressure too low (minimum pressure required at the pressure governor 50-100mbar)
 - > Check gas valves, they must be open.
 - > Check gas line.
 - > Check coil of main gas valve.
 - > Check coil of ignition gas valve.
 - > Avoid pressure fluctuations in the supply line.
- o No feed-back to the flame control unit (no ionization, lamp "Heating ON" not lit, although pilot flame is burning)
 - > Blow out ignition air supply line with compressed air.
 - > Exchange ignition burner (electrode) or flame control unit.
- o Thermocontactor of heating blower disactivates
 - > Check manually if blower shaft turns easily (see manufacturer's manual for repairs).
 - Do not re-activate the thermocontactor before the problem is properly eliminated.

12.6 Disturbing exhaust fumes

- o Insufficient draw
 - > Check exhaust blower.
 - > Install stronger blower if necessary.



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INDUSTRIEGESELLSCHAFT M.B.H.



13

SAFETY DEVICES

130 790 1E

mwa

* In case of an emergency the machine can be *
* brought to an immediate standstill by means of *
* the emergency pushbutton. *

There are guards to protect the operators. Those guards may be removed only during cleaning, adjustment and maintenance jobs, when the machine is switched off. Appropriate measures must be taken so that it cannot be switched on involuntarily.

When the baking chain jams, the sliding clutch on the main drive will slip through (cf. 9.4).

Burner failure (with gas-heated ovens)

gas supply	==>	off
blower	==>	runs
main drive	==>	runs

Pushbuttons "flame failure" on gas firing unit and control panel light up.

Re-starting of heating by pushing "flame failure" button (= reset button) again.

Upon request the safety devices can be modified to comply with local security regulations or other considerations.



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14	ADDITIONAL EQUIPMENT =====	140 790 1E mwa
----	-------------------------------	-------------------

14.1 Autom. Wafer Sheet Take-Off Device *BA-(M)WA

Purpose of this device is to automatically receive and transfer to the next station downstream wafer sheets arriving from the oven.

The device consists of an infeed station, a conveying unit and a cleaning brush to remove baking waste from the wafer sheets.

Wafer sheet release and transfer is by means of air nozzles at the side and above the lower baking plate.

14.2 Autom. Wafer Sheet Take-Off Device With Wafer
Sheet Magazine *BA-(M)WA

Purpose of this device is to automatically receive and stack wafer sheets arriving from the oven.

The device consists of an infeed station, a conveying unit, a cleaning brush to remove baking waste from the wafer sheets and a stacking unit.

Wafer sheet release and transfer is by means of air nozzles at the side and above the lower baking plate.

By means of the magazine insert, the cooled wafer sheets may easily be transferred. Two interchangeable inserts are supplied.

14.3 Point Deposition *PK-(M)WA

Point deposition serves to produce wafer rounds on wafer ovens WA and MWA. This unit is especially useful to produce wafer cookies with cheese, onion caraway or other flavors.

The deposition system runs synchronously to the progress of the baking plates. The ramified depositor deposits individual spots of batter onto the baking plates.



141 790 1E
mwa

14.4 Automatic Temperature Control *TER-WA

To control baking temperature, a no-contact infrared sensor located at the head of the oven reads the temperature of the baking plates. Desired temperature is selected by means of the temperature controller at the control panel. Also, a safety shut-down temperature to protect the baking plates may be selected

The temperature of the baking plates is kept constant at the selected level by automatically switching over from "big flame" to "small flame" and vice versa. Modulation is by means of a motorized valve which controls the air flow to the burners.

When the oven temperature goes beyond the safety maximum, the heating shuts down completely.

A zero pressure regulator per register of burners keeps the air/gas mixture constant. The output of top and bottom burners may be adjusted individually by means of hand valves.



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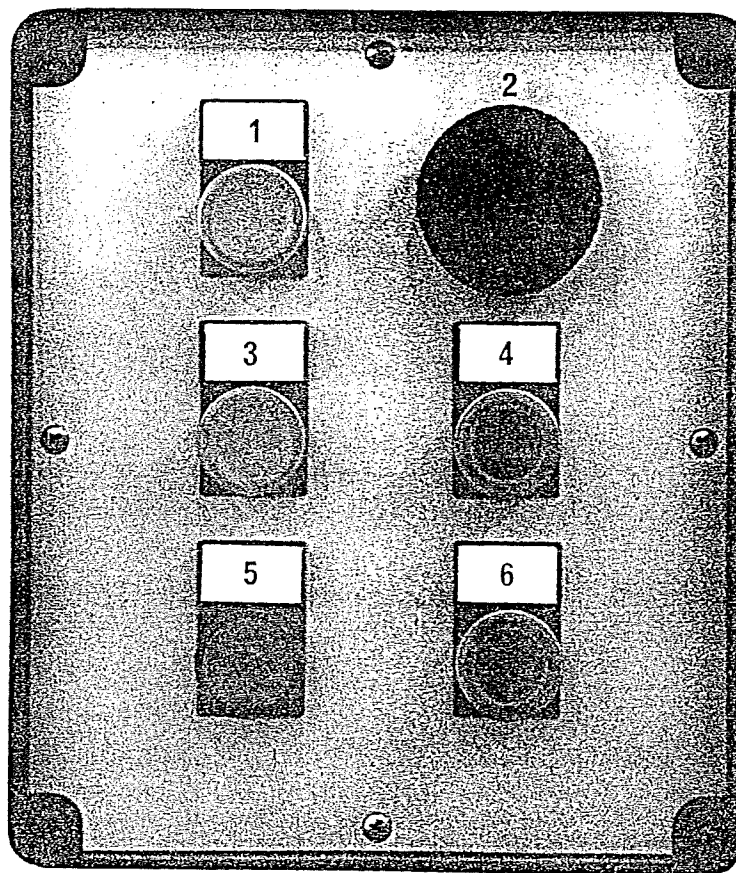
INDUSTRIEGESELLSCHAFT M.B.H.



I

CONTROL PANEL

S 010 191 2E
mwa-g



1 DRIVE ON
Pushbutton

2 DRIVE OFF
EMERGENCY STOP
Mushroom

3 HEATING ON
Pushbutton

4 HEATING OFF
Pushbutton

5 PILOT FLAME
Lamp

FLAME FAILURE
RESET
Pushbutton



FRANZ HAAS WAFFELMASCHINEN

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II.a

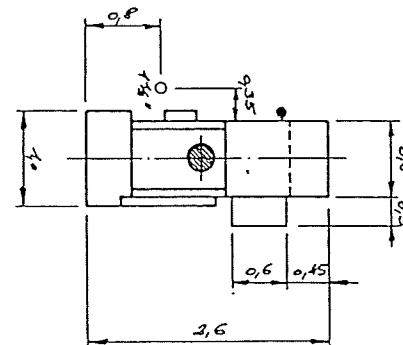
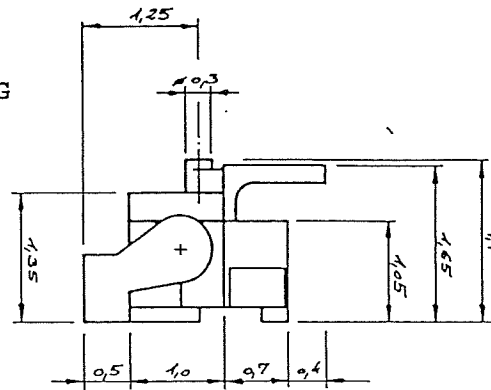
FLOOR PLAN

WA 12G, MWA 12G

S 020 790 1E

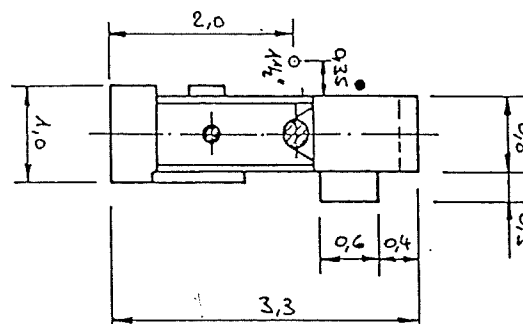
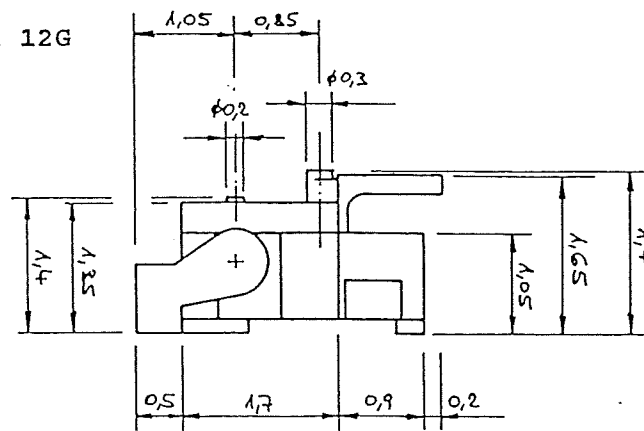
mwa

WA 12G



- POWER Drive: 1,2 kW Heating: 26 kW 1)
- GAS
- ⊗ EXHAUST

MWA 12G



- POWER Drive: 1,1 kW Heating: 30 kW 1)
- GAS
- ⊗ EXHAUST

1) ovens with electrical heating



FRANZ HAAS WAFFELMASCHINEN

INDUSTRIEGESELLSCHAFT M.B.H.



II.b

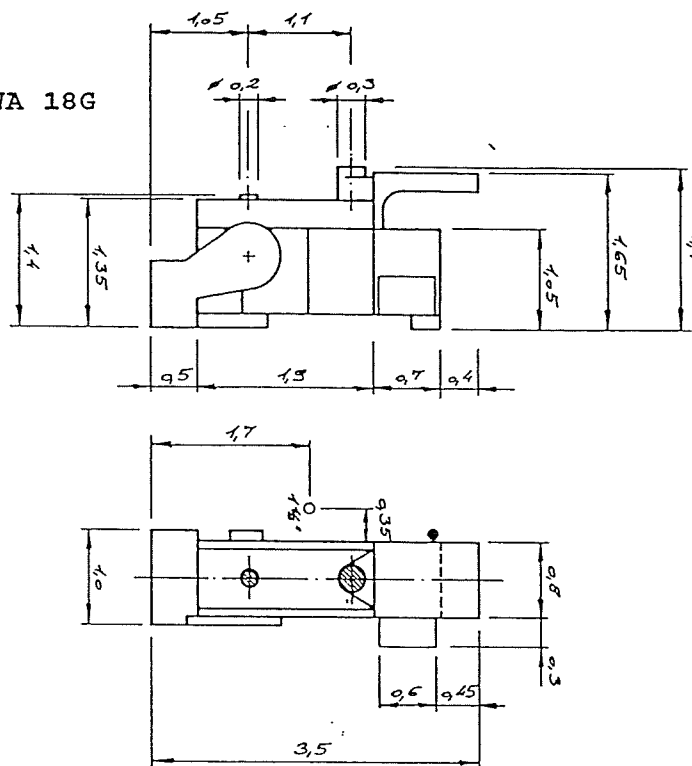
FLOOR PLAN

WA 18G, MWA 18G

S 021 790 1E

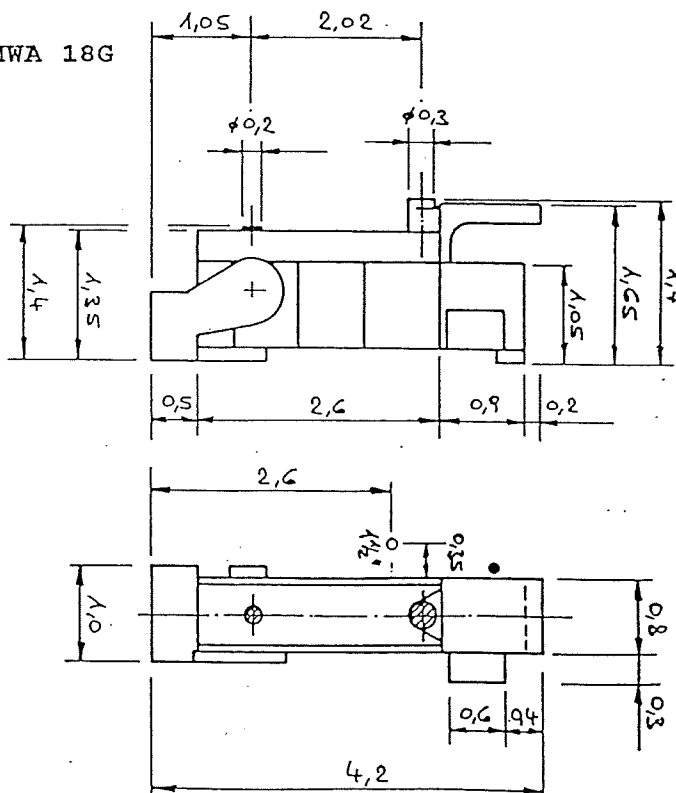
mwa

WA 18G



- POWER Drive: 1,2 kW
Heating: 38 kW 1)
- GAS
- ▨ EXHAUST

MWA 18G



- POWER Drive: 1,1 kW
Heating: 45 kW 1)
- GAS
- ▨ EXHAUST

1) ovens with electrical heating



FRANZ HAAS WAFFELMASCHINEN

INDUSTRIEGESELLSCHAFT M.B.H.



II.b

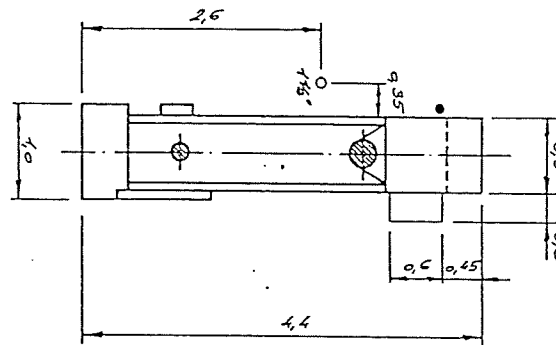
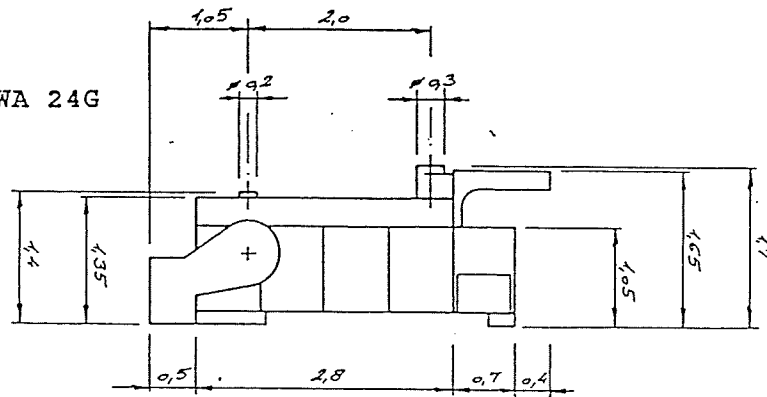
FLOOR PLAN

WA 24G, MWA 24G

S 022 790 1E

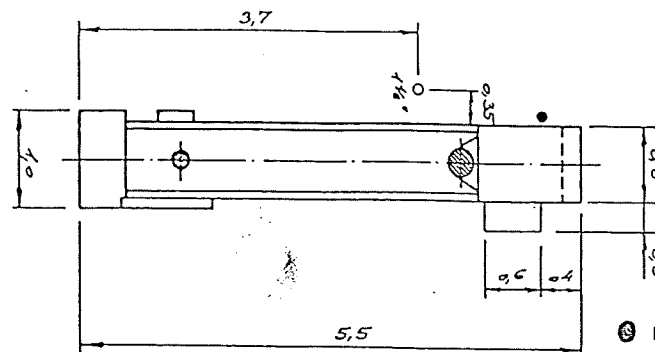
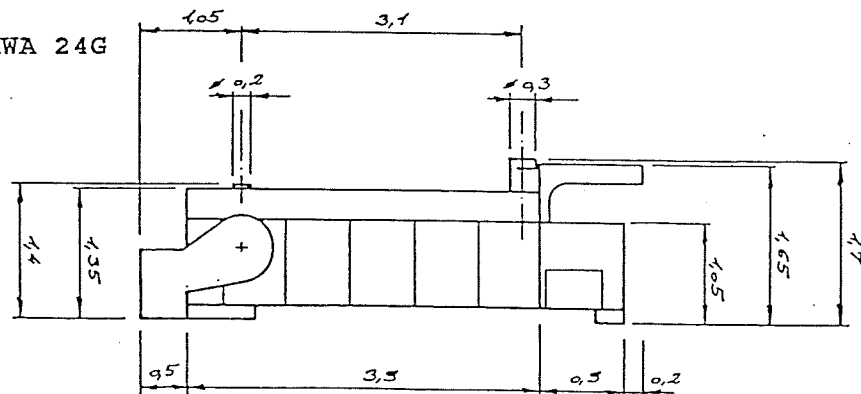
mwa

**** WA 24G



- POWER Drive: 1,2 kW Heating: 50 kW 1)
- GAS
- ⊗ EXHAUST

MWA 24G



- POWER Drive: 1,1 kW Heating: 60 kW 1)
- GAS
- ⊗ EXHAUST

1) ovens with electrical heating
*** Austrian Oblaten



FRANZ HAAS WAFFELMASCHINEN

INDUSTRIEGESELLSCHAFT M.B.H.



II.d

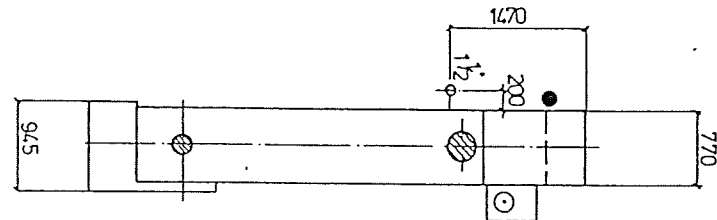
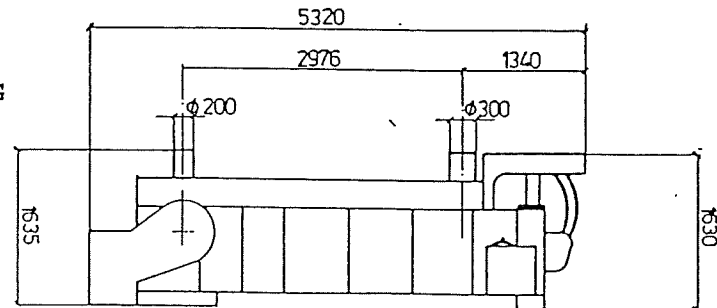
FLOOR PLAN

WA 30G, MWA 30G

S 023 790 1E

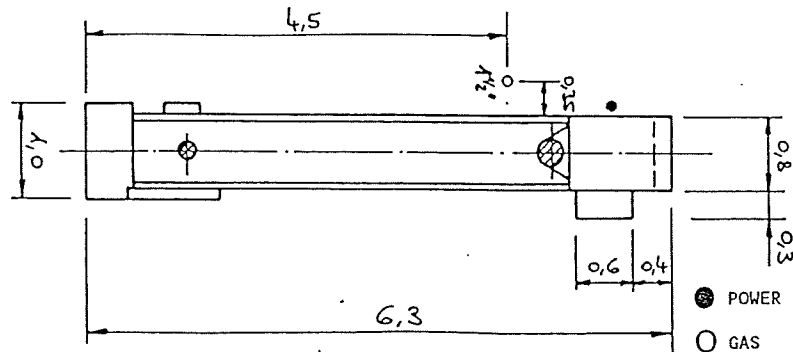
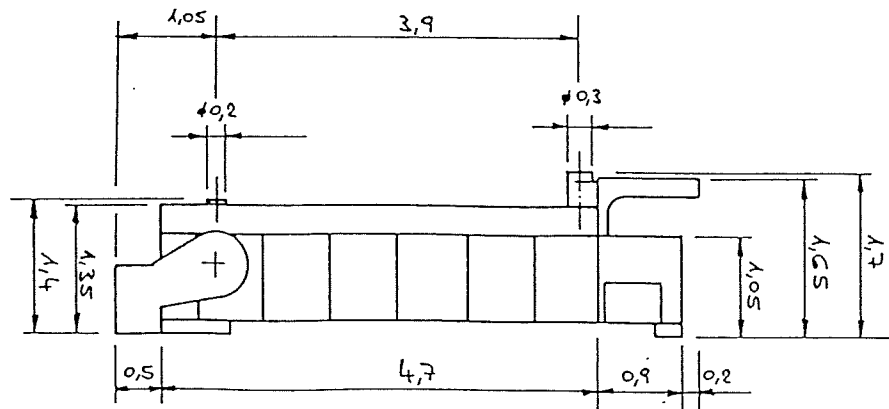
mwa

WA 30G



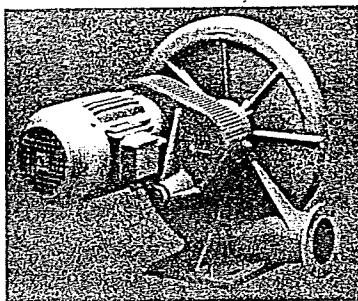
- POWER Drive: 1,2 kW Heating: 63 kW 1)
- GAS
- ⊗ EXHAUST

MWA 30G



- POWER Drive: 1,1 kW Heating: 75 kW 1)
- GAS
- ⊗ EXHAUST

1) ovens with electrical heating



Elektror High Pressure Blowers

1. General remarks

Elektror high pressure blowers are made of sturdy, light-weight cast aluminium the impellers from sheet aluminium respectively from sheet steel.

They are designed for conveying medium air volumes at high flow resistance.

The use of the units for aggressive and toxic media, for air of extremely high humidity as well as for media temperatures exceeding 80° C is limited only and subject to clarification with the company. Conveying of explosive gases is not permitted.

If the medium to be conveyed contains solid particles or other pollutions, they are to be removed before entering the blower by installing a filter on the intake side. Open discharge or intake ports should be fitted with suitable wire mesh guards. Attention should be given to careful and regular cleaning or replacement of clogged filters as the indicated performance data cannot be guaranteed otherwise.

With blowers the performance curves of which are limited in the higher volume range, care must be taken so as not to exceed the indicated maximum volume flow in order to avoid an overload of the motor. If the resistance of the connected system is too small a reduction of the volume flow is possible by fitting a throttle flap. The units are to be installed in weather-protected places.

Provisions are to be made for sufficient motor cooling. The permitted maximum temperature of conveyed medium and surroundings is 40° C. If equipped with a temperature barrier the maximum temperature of the conveyed medium is 180° C. The units should be mounted horizontally only.

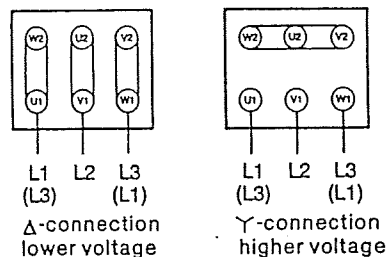
2. Technical data

The various blower types as well as their technical data may be taken from our catalogue "Elektror High Pressure Blowers".

3. Installation

- 3.1. Check all parts for damage during transportation.
- 3.2. Electrical connection is to be carried out according to the wiring diagram in the terminal box by skilled labour only. The respective VDE regulations and the directions of the local power supply company are to be complied with.
- 3.3. Protection of motor by overload switch; permitted max. current see rating plate.
- 3.4. Electrical connection diagram

Connection of three phase units



- 3.5. Control of the correct rotational direction of the impeller is to be made by the air flow. The direction of the air flow must be in accordance with the arrow on the blower housing. Reversing of the direction of rotation with three phase a.c. is possible by interchanging two wires (see connection diagram).
- 3.6. Mechanical connection of the blower.



4. Start of operation

- 4.1. If the rated current indicated on the rating plate is being exceeded during operation, it should be checked whether the available supply voltage and frequency are in accordance with the embossed data. Some blowers cannot be operated with free air flow (see catalogue) and if in such a case the system's resistance is too small, current absorption will become too high and an overload of the motor will occur. By fitting a throttle flap on the intake or discharge side of the blower the volume flow will be reduced and an overload avoided.

5. Maintenance

High pressure blowers are equipped with enclosed grooved ball bearings which do not need lubrication. The grease filling is sufficient for the whole service life of the bearings.

Tension control of the V-belts is to be carried out in accordance with the indicated values on the rating plate. They are fixed to the support flange, item 8, to the blower flange, item 6, respectively to the blower base, item 5.

Retightening of the V-belts for models HRD / HDn is to be carried out as follows:

- 5.1. Remove cover guard, item 10.
- 5.2. Loosen hexagonal nut, item 18.
- 5.3. Increase tension of V-belts by tightening hexagonal nut, item 19 (see rating plate).
- 5.4. Tighten hexagonal nut, item 18.
- 5.5. Reassemble cover guard, item 10.

6. Repairs

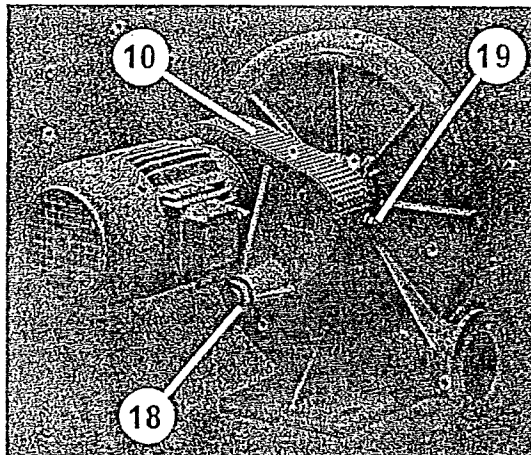
- 6.1. Repair work on blowers should generally be done in the factory only. Exceptionally repairs may be carried out in a workshop possessing the necessary qualifications and facilities. Units with an explosion-proof motor must be repaired by the manufacturer only.

7. Warranty, technical details

- 7.1. Legal warranty begins with the day of shipment.
- 7.2. Our warranty is valid only if the instructions for installation and operation are strictly adhered to.
- 7.3. Technical details regarding installation, operating conditions and electrical connections may be obtained from the company's experts.

8. Spare parts list

When ordering spare parts please state serial number of the unit.





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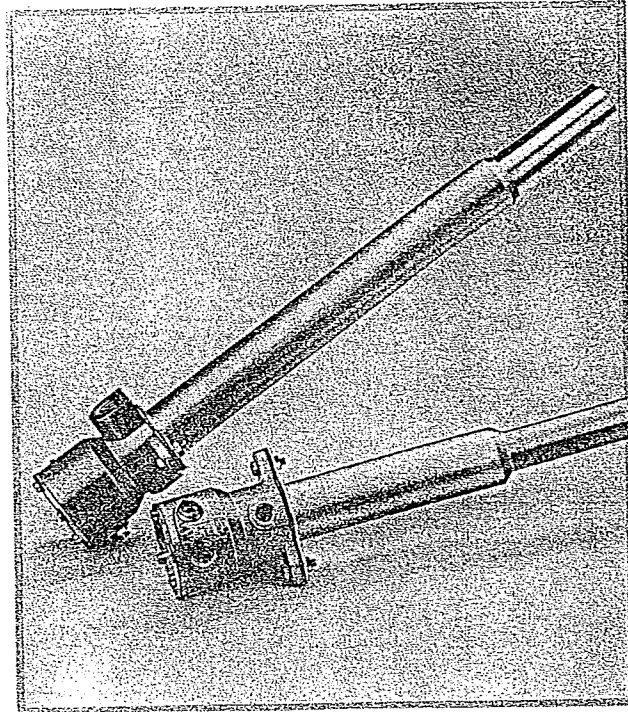
INDUSTRIEGESELLSCHAFT M.B.H.



Pilot Burner

for town gas
natural gas, LPG

ZKIH

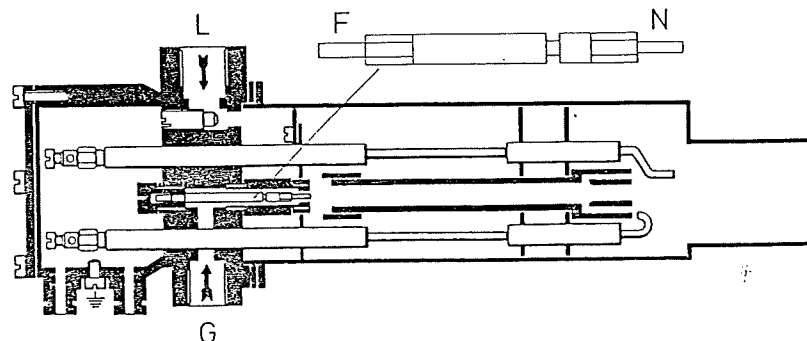


ZKIH with two electrodes -
with forced air supply

Technical Data

Applicable for all models:
Type of gas in accordance with the code
of practice DVGW G 260
Max. ambient temperature at the flame
conduit tube: 1000 °C, in the area of the
burner nozzle: 500 °C.
Temperature of gas and air: max. 170 °C
Housing: AlSi
Ignition and sensing electrodes:
Kanthal A-1
Flame conduit tube: material No. 1.4762
Protection tube: material No. 1.4541
Gas connection: Rp 1/4
Air connection: Rp 1/2

For the safe ignition and ionization control
of gas burners in conjunction with our
automatic burner controls IFS ...





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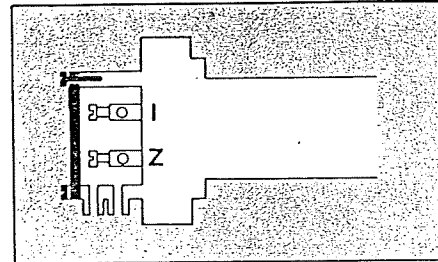


in acc. with the wiring diagrams of the automatic burner controls

use high voltage cable, e. g.
FZLK 1/7 - order No. 0425 0409
FZLSi 1/6 - order No. 0425 0410

- I = connect ionization electrode with automatic burner control
- Z = connect ignition electrode to the secondary of the high voltage transformer - max. 5 m long - for 100 % ED transformers max. 1 m long! - connect primary voltage of the high voltage transformer to the automatic burner control.

Electric wiring of pilot burner



ZKIH via screw terminals:

- unscrew 3 or 4 screws respectively -
 - remove cover -
 - pass cable through Pg.cable glands
 - and connect -
 - replace cover and screw tight -
 - connect to earth
-
- open gas pipe - manual valve
 - switch on electric master switch -
 - adjust ionization current via air flow adjustment
 - switch micro-ammeter into the ionization line: the ionization line must be at least 4 μA - or more -
 - ionization pilot burners are ignited either by a thermostat via an automatic burner control unit, or by a governor.

Starting installation

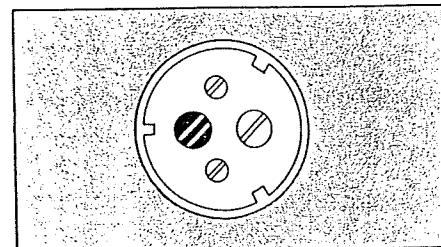
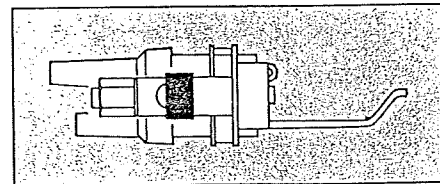
Adjusting air flow

ZKIH

- turn air adjustment screw -
- good contact of the root of the flame at the burner nozzle must be ensured -
- the flame must not lift and must burn with a sufficiently distinct envelope of the flame -
- it is not really necessary for the core of the flame to be very defined.

Maintenance

It is recommended to carry out an operational test once a year.





FRANZ HAAS WAFFELMASCHINEN

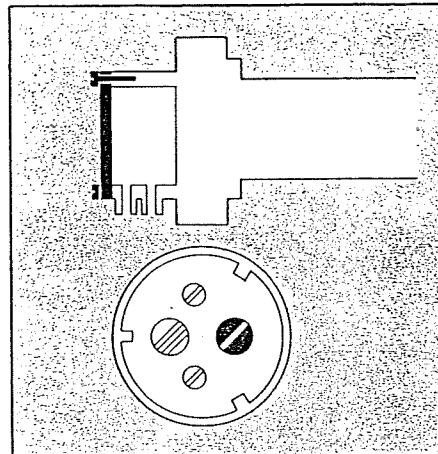
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Adjusting the burner to the type of gas to be used

ZKIH

- unscrew 3 screws -
- remove cover -
- unscrew fastening screw and nib and replace, depending on the type of gas



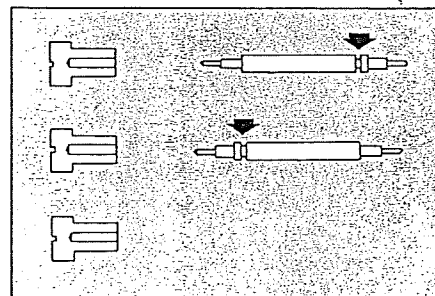
for natural

gas: the marker groove must point away from the fastening screw

for LPG: the marker groove must point to the fastening screw

for town

gas: remove nib - do not leave in the terminal box!



- screw fastening screw with or without nib back in - and screw cover back on -
- readjust air flow - see "starting installation".

ZKIH natural gas 12 to 30 mbar
town gas 6 to 20 mbar
LPG 20 to 50 mbar

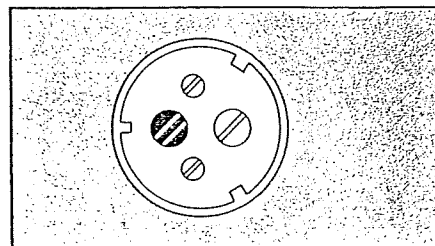
- With higher operating pressures: insert a gas restrictor orifice!

Checking gas pressure (and air pressure)

Fitting gas restrictor orifice or governor

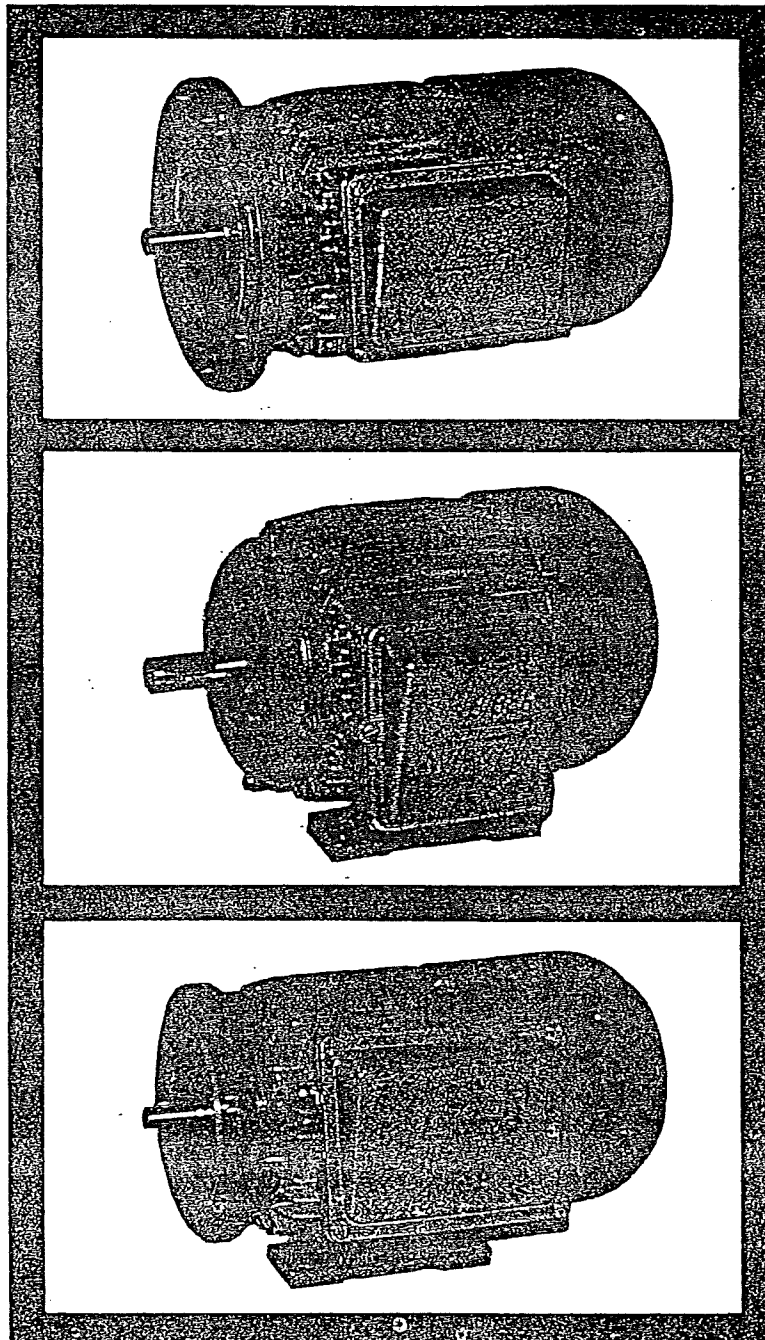
ZKIH natural gas
air pressure 3 to 40 mbar
town gas
air pressure 10 to 120 mbar
LPG
air pressure 7 to 90 mbar

Higher air pressures must be reduced by means of the adjusting screw.





BIBER IEC-NORMMOTOREN



INSTALLATION AND MAINTENANCE

THREE PHASE MOTORS

INSPECTION AND STORAGE

Not later than 3 days after delivery report any loss or damage to the shipping line and/or other transport operator and the insurance company's agent as shown on the insurance certificate. Copy report to the supplier. The bolts holding the motor down to the slide rails are always included with the rails (if supplied). Foundation bolts are not supplied. If not used immediately, storage should be warm, dry and vibration free and before putting into service the motor winding insulation should be tested. If this reading is below one megohm move to a warm dry place for a few hours until the insulation value rises.

LIFTING

Where an eyebolt is provided with the motor, this should be screwed down until its shoulder is against the face of the yoke before being used for lifting. The motor eyebolt should be used for lifting the motor only, not additional equipment. If the motor is part of a frequency changer set, the lifting arrangement should ensure that the pull on each eyebolt is vertical.

DRAIN PLUGS

Any drain plugs provided must NOT be fitted when exporting by sea.

VOLTAGE

Motors will operate without damage at any voltage in the range of 95% to 105% of rated voltage. (In the U.K. where power supply is subject to electricity supply regulations the range shall be 94% to 106%). For motors rated to operate over a small range of voltage the rating and specified performance relates to the mean.

WARNING

When fitting pulleys or coupling on to the motor shaft, the opposite end of the shaft should be supported in order not to damage the bearings.

INSTALLATION REGULATIONS

It is essential this equipment is correctly installed, earthed and guarded in accordance with prevailing local regulations.

WIRING UP

The cables used should be capable of carrying the full load current of the motor (see motor nameplate) without overheating or undue voltage drop under starting conditions. Terminal screws should be tight. Slipring motors are wired up in a similar way to cage motors, care being taken to ensure the brushes are in contact with the slip rings and that motor resistances are connected in the 'START' position.

MOTOR CONNECTION DIAGRAM

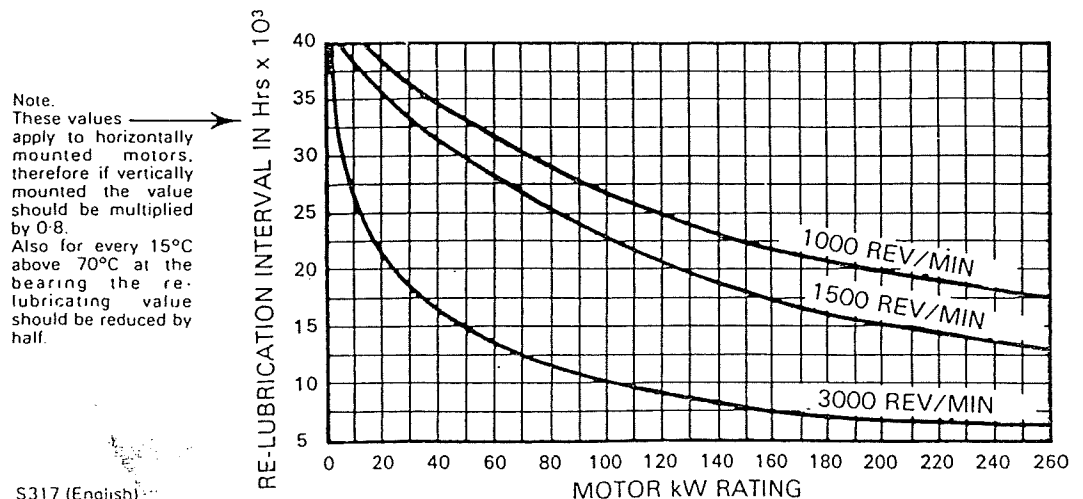
See separate leaflet in terminal box.

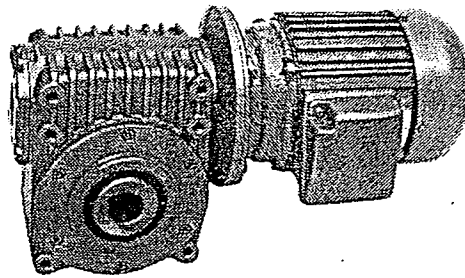
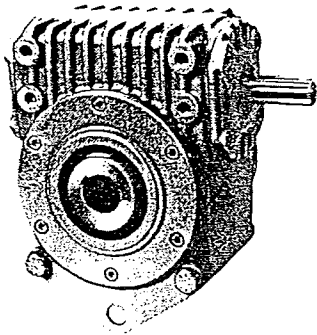
LUBRICATION

Motors equipped with Grease Fittings and Relief Plug should be re-lubricated at intervals which are dependant upon environmental and load conditions, with the following procedure being adopted while the motor is stationary.

1. Wipe clean the grease gun fitting and regions around the motor grease fittings.
2. Remove the Relief Plug.
3. Add a small quantity of grease, approximately 4 to 10 shots depending on frame size.
4. Allow motor to run for about ten minutes before re-fitting the relief plug in order that excess grease may be expelled.

For ball and roller bearings the standard grease employed is Shell Alvania R.A. but other lithium based greases of a similar consistency would be compatible. Recommended re-lubrication intervals are shown on the graph below, but on certain smaller motors, lubricators are omitted and bearings are pre-packed for life at the factory.





Schneckengetriebe

Worm gearboxes

Réducteurs à vis sans fin

Beschreibung

Die Serie der Schnecken- und Stirnrad-Schneckengetriebe umfaßt 6 Getriebe-größen mit Übersetzungen von $i = 5$ bis $i = 315$. Die Getriebe zeichnen sich durch hohen Wirkungsgrad, große Raumlei-stung, Unempfindlichkeit gegen Stoß-belastung, lange Lebensdauer und ge-räuscharnen Lauf aus. Die Vorteile von Serienfertigung und Baukastenprinzip ga-rantieren jederzeit einwandfreie Funktion. Die Getriebe sind als Fuß-, Flansch- so-wie als Aufsteckeinheit mit Hohlwelle lieferbar. Zahlreiche Variationsmöglich-keiten der Bauformen bieten maschinen-gerechte Konstruktionen. Die Getriebe-gehäuse sind stabil, verwindungssteif und staubdicht. Stirnräder und Schnecke werden aus legiertem Einsatzstahl hergestellt, die Verzahnungen sind gehärtet und fein-geschliffen. Die Schneckenräder beste-hen aus hochwertiger, verschleißfester Schleuderbronze mit guten Gleiteigen-schaften. Die sehr gut dimensionierten Wälzlager lassen hohe Radial- und Axial-kräfte zu. Die Getriebe dieser Serie sind schwingungsdämpfend, platzsparend, in jeder Lage einsetzbar und garantieren hohe Betriebssicherheit durch moderne Fertigung und sorgfältige Montage. Alle Getriebe werden einschließlich Lebens-dauerschmierung geliefert und sind voll-kommen wartungsrei.

Description

The range of worm and helical worm gear-boxes comprises 6 sizes with ratios from $i = 5$ up to $i = 315$. The main features of this range of gearboxes are: high effi-ciency, high capacity, good overload capacity, long life and silent running. The advantages of large volume production and the unit assembly system ensure high precision and even quality. The gearboxes are available in foot, flange and shaft mounting configurations giving designers a wide range of moun-ting positions to suit practically all machine installations. The gearbox hou-sing is strong, rigid and dust proof. The helical gears and the worms are made from tough case hardened alloy steel and precision ground. The worm wheels are made of high quality wear resistant bronze with extremely favou-rable sliding characteristics. The gene-rously dimensioned rolling bearings permit high radial and axial forces. The gearboxes of this range dampen vibration, are space saving, suitable for all mounting configurations and guaranteed to be of high overload capacity as a result of assembly. All gearboxes are lubricated for life and need no maintenance.

Description

La série de réducteurs à vis sans fin et à roues droites et à vis sans fin se com-pose de 6 grandeurs de réducteurs avec rapports de $i = 5$ à $i = 315$. Les réduc-teurs caractérisent par un rendement élevé, une grande puissance spécifique, l'insensibilité aux charges par à-coups, une grande longévité et un fonctionne-ment silencieux. Les avantages de la fabrication de série et du principe de construction garantissent un fonctionne-ment impeccable. Les réducteurs sont livrables en version à pattes, à bride, à arbre creux. Les nom-breuses possibilités de formes de fixation permettent l'adaption de ces réducteurs à toutes sortes d'applications. Les carters sont stables, résistent au gauchissement et sont étanches à la poussière. Les roues droites ainsi que la vis sans fin du réducteur sont en acier allié cémenté, trempé et rectifié. Les roues tangentes sont en bronze de haute qualité et pré-sentent d'excellentes propriétés de glissement. Les paliers, très bien dimen-sionnés, autorisent de grands efforts axialement et radialement. Les réducteurs de cette série se carac-térisent par un fonctionnement sans vibrations et un gain de place important. Utilisables dans toutes les positions, ils garantissent une grande sécurité d'utili-sation grâce à des procédés modernes de fabrication et une finition impeccable. Tous les réducteurs sont graissés à vie et n'exigent aucun entretien.

Lubricant quantities in litre

Design	Type	Gearbox size					
		04	05	06	08	10	12
Footmounted	52.104						
	52.107						
	52.110	0,32	0,5	0,9	1,8	2,5	5,5
	52.144						
	52.154						
	52.307						
Flangemounted	52.105						
	52.108						
	52.111	0,32	0,5	1,0	2,0	2,9	6,0
	52.145						
	52.155						
	52.308						
Shaftmounted	52.106						
	52.109						
	52.112						
	52.113						
	52.114						
	52.115	0,27	0,45	0,9	1,6	2,35	5,0
	52.146						
	52.147						
	52.156						
	52.157						
	52.309						
	52.314						

Synthetic gear oil

Specification to DIN 51502
Viscosity at 40°C
FZG - test A/8.3/90 to DIN 51354
Application range

PGLP 220 or PGLP 460
220 mm/s or 460 mm/s
Damage load range >12
-40°C to +180°C

Supplier

Description
PGLP 220

Description
PGLP 460

ARAL
BP
ESSO
KLUEBER
MOBIL
SHELL

DEGOL GS 220
SG-XP 220
-
SYNTHESO D 220 EP
GLYGOLE 30
TIVELA OIL WB

-
SG-XP 460
-
SYNTHESO D460EP
GLYGOLE 80
TIVELA V OIL
1409

WORM GEARBOX

RECOMMENDED LUBRICANTS

For Lenze worm gearboxes with sliding velocities < 8 m/s and normal environments, we recommend a synthetic gear grease according to Table 1.

For higher ambient temperatures and/or sliding velocities over 8 m/s, synthetic gear oils according to Table 2 are necessary.

Table 1

Synthetic gear grease

Specification to DIN 51502	GPG 00N
NLGI - class to DIN 51818	00
FZG - test A/2.8/70 DIN 51354	Damage load range >12
Application range	-35°C to $+130^{\circ}\text{C}$

Supplier	Description
ARAL	GR SLL
BP	-
ESSO	-
KLUEBER	STRUCTOVIS POO
MOBIL	RR 103 B
SHELL	TIVELA COMPOUND A

Table 2

Synthetic gear oil

Specification to DIN 51502	PGLP 220 or PGLP 460
Viscosity at 40°C	220 mm/s or 460 mm/s
FZG - test A/8.3/90 to DIN 51354	Damage load range >12
Application range	-40°C to $+180^{\circ}\text{C}$

Supplier	Description	Description
	PGLP 220	PGLP 460
ARAL	DEGOL GS 220	-
BP	SG-XP 220	SG-XP 460
ESSO	-	-
KLUEBER	SYNTHESO D 220 EP	SYNTHESO D460EP
MOBIL	GLYGOLE 30	GLYGOLE 80
SHELL	TIVELA OIL WB	TIVELA V OIL 1409

Unless the lubricant is specified, the worm gearboxes are filled with Shell Tivela Compound A.



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INDUSTRIEGESELLSCHAFT M.B.H.



Spannsätze RINGFEDER® RIN 7012

MONTAGE

Die Kraftübertragung erfolgt durch Pressung und Reibung zwischen den Funktionsflächen. Auf kontrollierten Anzug der Spannschrauben und Beschaffenheit der Kontaktflächen (s. Punkt 1) ist daher besonders zu achten.

1. Sämtliche Kontaktflächen einschließlich Gewinde und Kopfaufgabe der Schrauben müssen sauber und mit einem Ölfilm versehen sein. Welle, Nabe und Spannsätze in diesem Zustand montieren.
2. Spannschrauben leicht anziehen und Nabe ausrichten.
3. Schrauben in zwei bis drei Stufen gleichmäßig und überkreuz auf das angegebene Anzugsmoment (T_A) anziehen.
4. Kontrolle des Anzugsmomentes der Schrauben in der Reihenfolge ihrer Anordnung. Erst wenn sich keine Schraube mehr anziehen läßt, ist die Montage beendet.

Gebrauchte Spannsätze vor dem Einbau reinigen, leicht einölen und nach Fig. 1 komplettieren. Die 3 besonders gekennzeichneten Schrauben erhalten Unterlegscheiben und sind in die mit Demontagehilfsgewinden (d_0) versehenen Durchgangslöcher des vorderen Druckringes einzusetzen.

Achtung: Schrauben gut ölen!
Keine Öle mit Molybdän-Disulfid verwenden!

DEMONTAGE

1. Spannschrauben gleichmäßig und überkreuz in mehreren Stufen lösen.
 2. Die gelöste Verbindung kann nun neu eingestellt oder zerlegt werden.
- Gegebenenfalls sind der vordere und der hintere Druckring nach Fig. 2 und 3 zu lösen. Die Montagehilfsgewinde haben nur 3 bis 5 tragende Gewindegänge, sind nicht für große Abzugskräfte geeignet und ermöglichen das Herausziehen des Spannsatzes mit Gewindebolzen.

- Pos. 1: hinterer Druckring
Pos. 2: Außenring
Pos. 3: Innenring
Pos. 4: vorderer Druckring
Pos. 5: Unterlegscheibe
Pos. 6: Schraube Güte 12.9

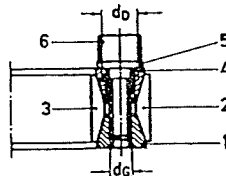


Fig. 1

d_G	M 6	M 8	M 10	M 12	M 14
T_A (Nm)	14	35	70	125	190
(ft-lbs)	10.13	25.32	50.63	90.41	137.43
d_0	M 8	M 10	M 12	M 14	M 16

d_G	M 16	M 18	M 20	M 22	M 24
T_A (Nm)	295	405	580	780	1000
(ft-lbs)	213.37	292.94	419.51	564.17	723.30
d_0	M 20	M 22	M 24	M 27	M 30

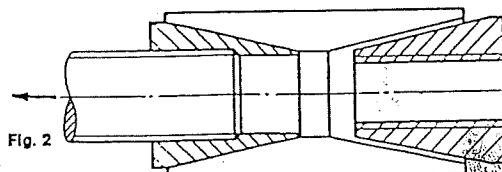


Fig. 2

Locking Assemblies RINGFEDER® RIN 7012

INSTALLATION

Since the force is transmitted by contact pressure and friction between functional surfaces, condition of contact surfaces and proper tightening of the locking screws are of great importance (see point 1).

1. All contact surfaces, including screw threads and screw head bearing surface, must be clean and slightly oiled. In this condition, the shaft, hub and Locking Assemblies are to be assembled.
2. Tighten locking screws lightly and align hub.
3. Tighten screws evenly in diametrically opposite sequence and do this in two or three stages up to the indicated tightening torque (T_A).
4. Re-check tightening torque by applying it to all screws all the way around. When no screw will turn any more, the assembly is completed.

Used Locking Assemblies have to be cleaned, slightly oiled prior to installation and assembled according to fig. 1. The (3) cadmium plated screws are to be fitted with a washer and placed in the holes of front thrust ring which have the pull-out threads (d_0).

Important: Locking screws must be sufficiently oiled.

Do not use oils containing Molybdenum Disulphide.

REMOVAL

1. Loosen locking screws in several stages and in diametrically opposite sequence.
 2. Now the loosened connection can be re-adjusted or dis-assembled.
- If necessary, the front and rear thrust ring are to be dis-assembled as shown in fig. 2 & 3. The removal threads have only 3-5 threads and are not suitable for high pulling forces. They are to be used only for removal of the Locking Assembly by means of pull-out bolts.

- Item 1: Rear thrust ring
Item 2: Outer ring
Item 3: Inner ring
Item 4: Front thrust ring
Item 5: Washer
Item 6: Screw grade 12.9

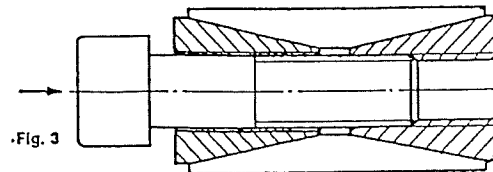


Fig. 3



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ET-KATALOG SPARE PARTS CATALOGUE

Fabr.nr. 15782
machine.no.

Kunde: AUSTRIAN OBLATEN / USA
customer:

Maschinentype: WAFER OVEN WA 24G
machine type:

Liste Nr.
listing no.

Fotoblatt Nr.
photo sheet no.

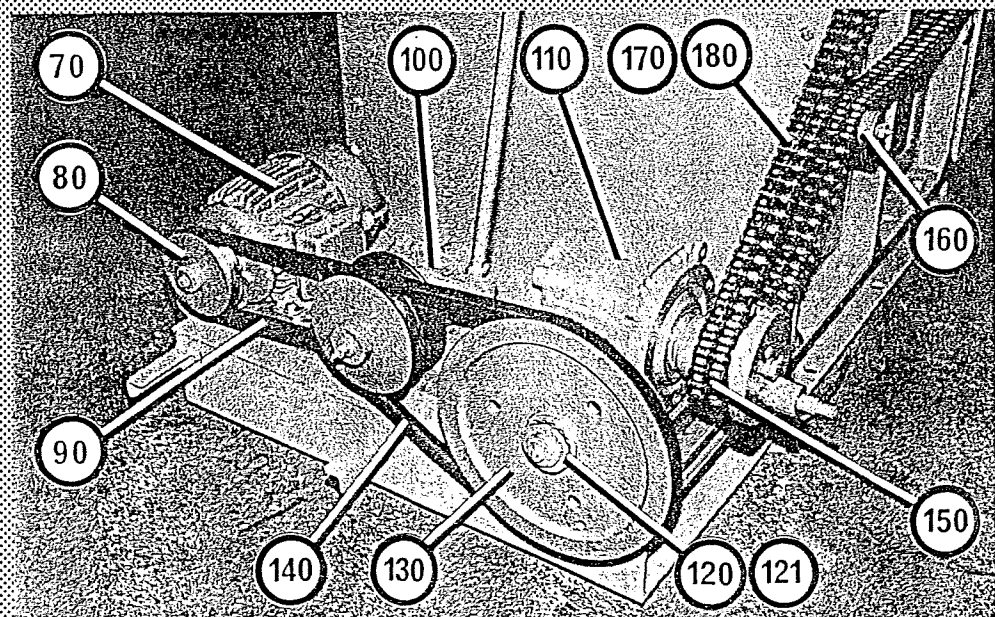
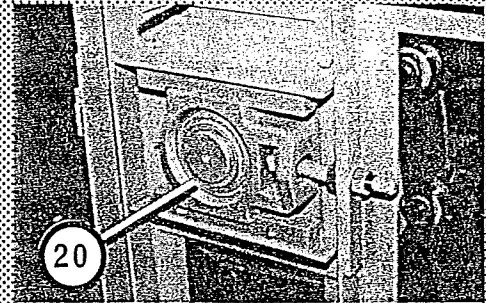
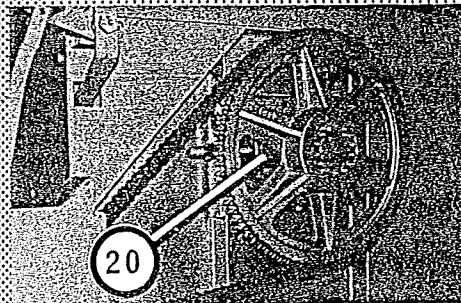
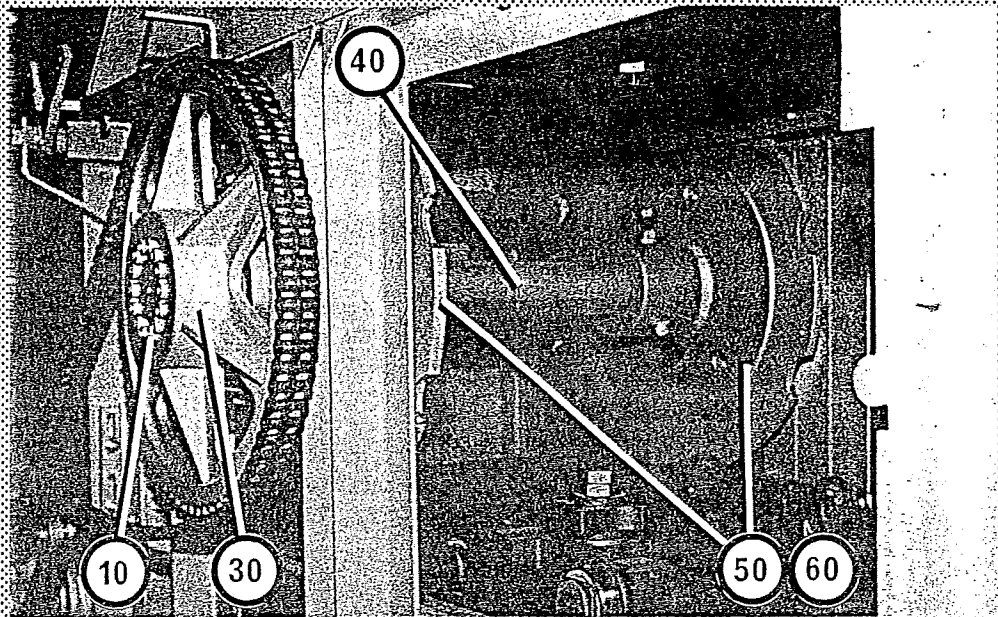
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8840	Varidrive	02 99 00 (1586) WA
8841	Batter pump	03 00 01 (1587) WA
9256	Batter depositor, batter container	04 99 01 (1588) WA
9507	Tong carriage, running wheels, locking rollers	05 99 01 (1589) WA
8844	Tong carriage, locking device	06 99 00 (1590) WA
9492	Gas heating	07 00 03 (1622) WA
8846	Pneumatics	08 00 00 (1592) WA



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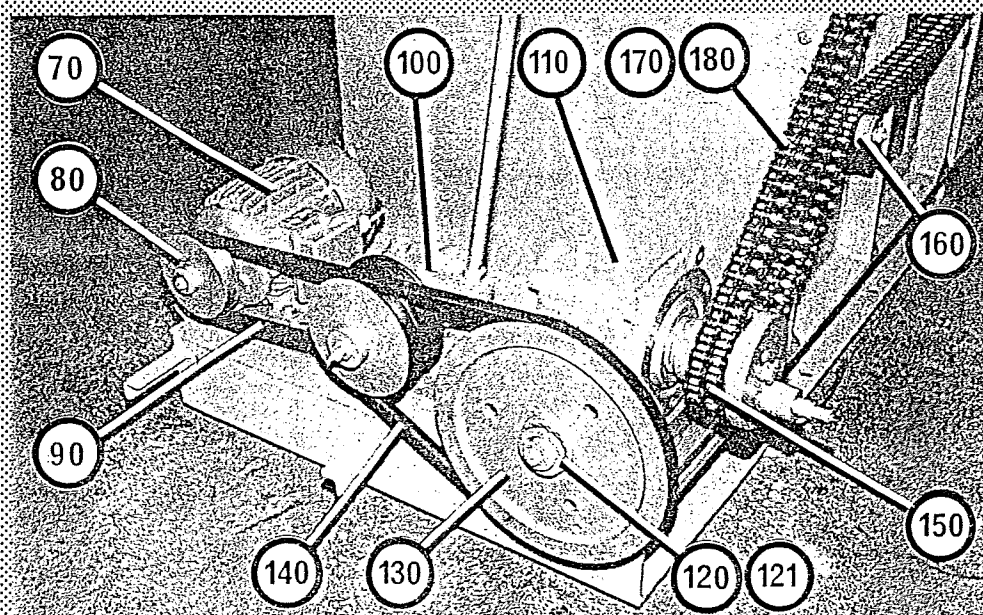
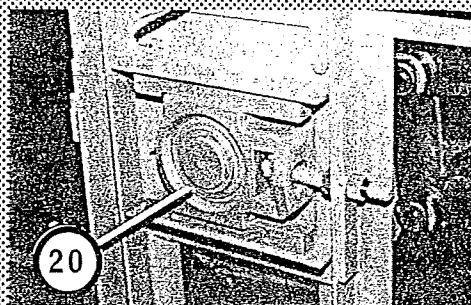
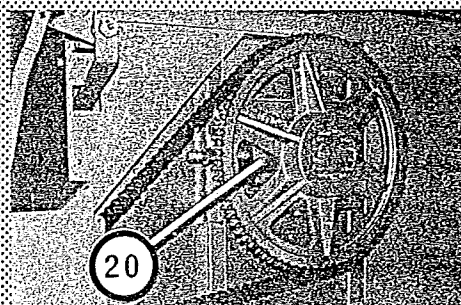
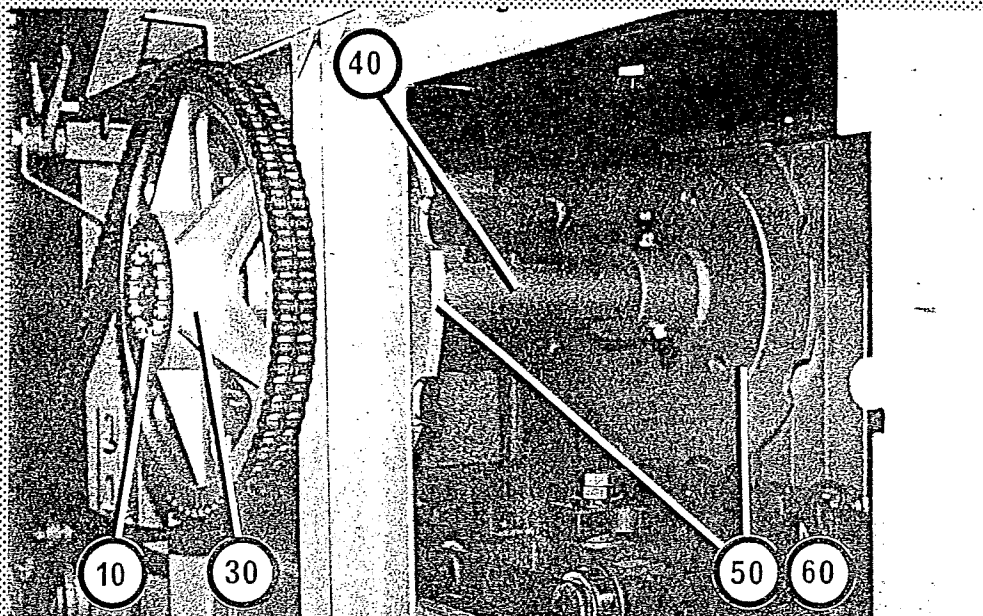
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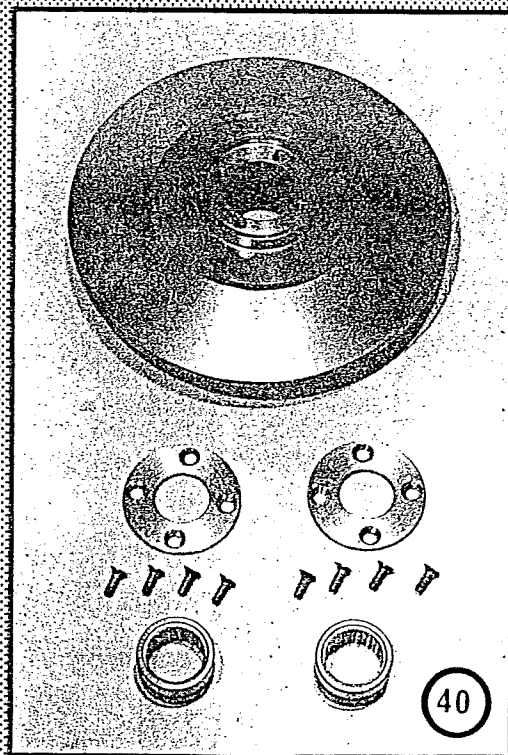
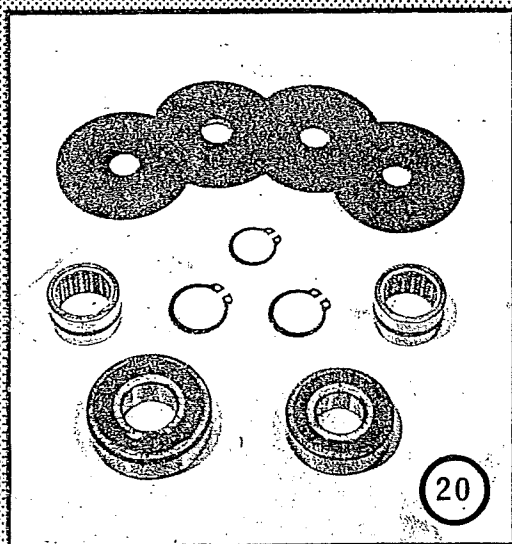
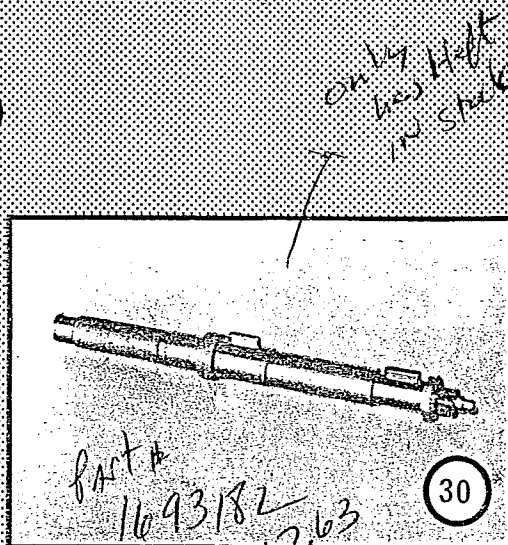
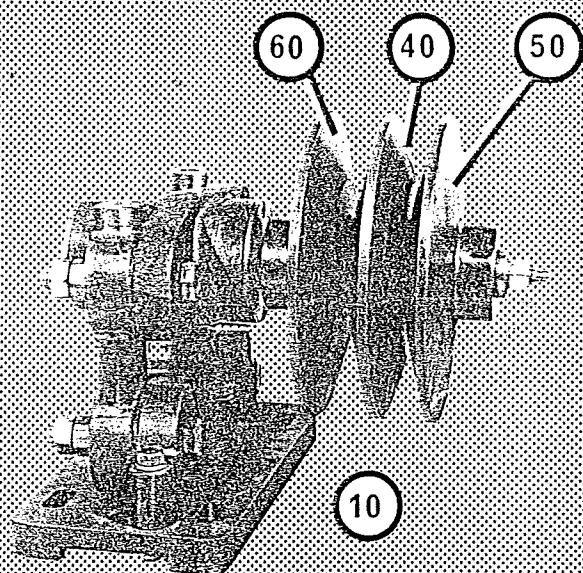
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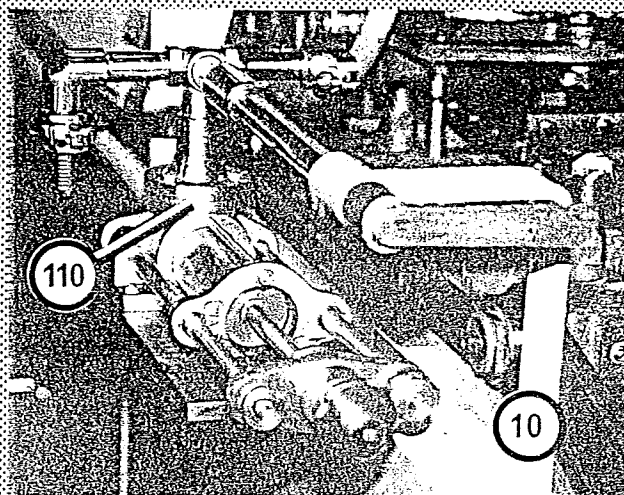
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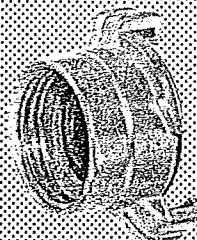
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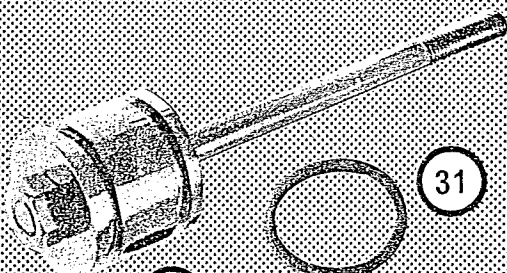


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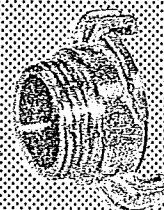
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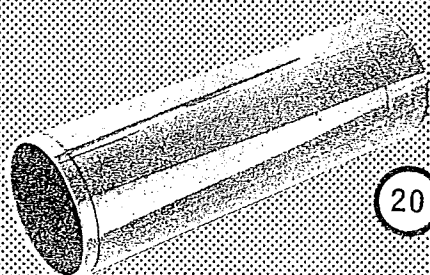
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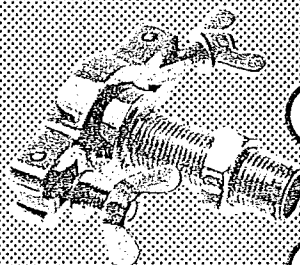


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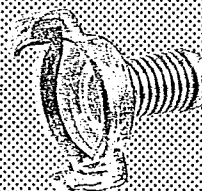


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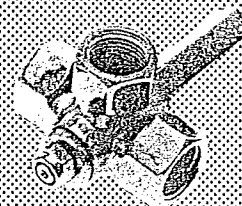
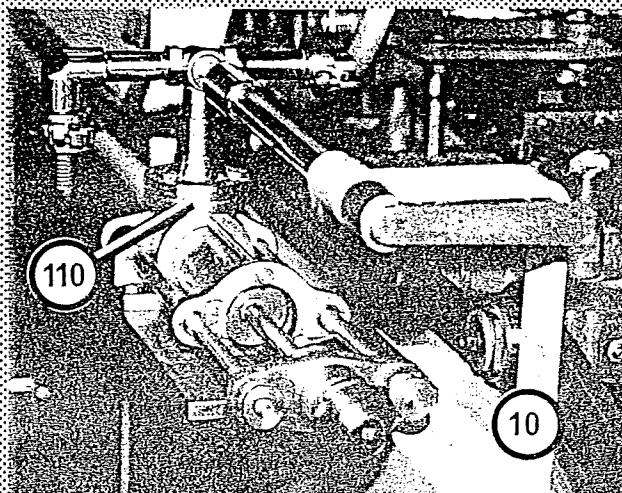
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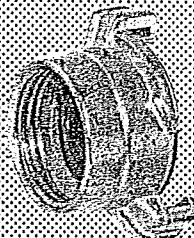
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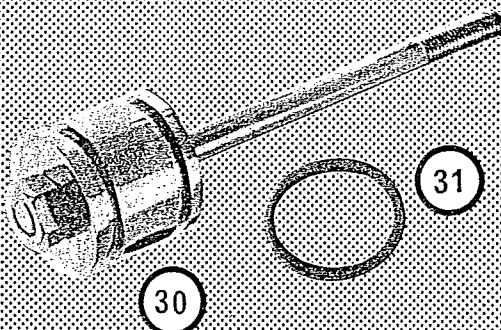


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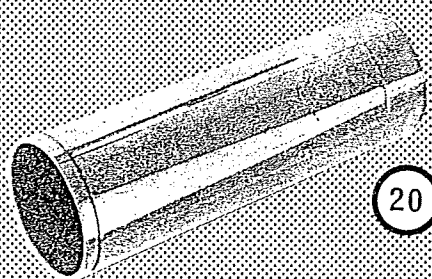
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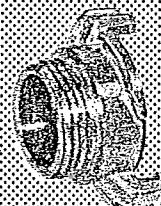


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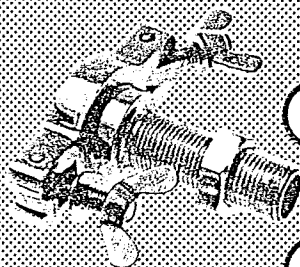


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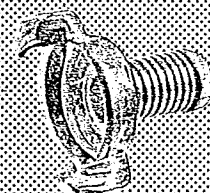
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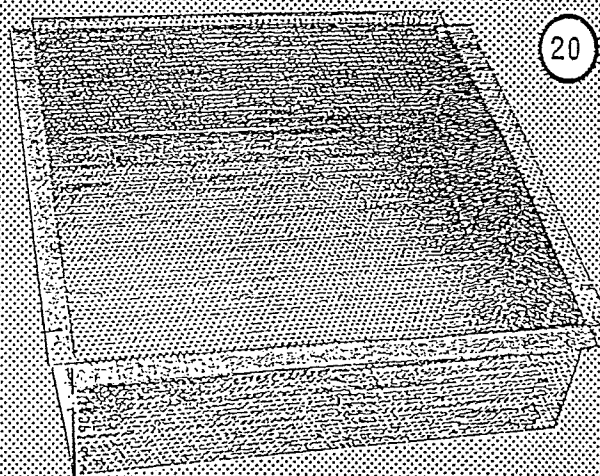
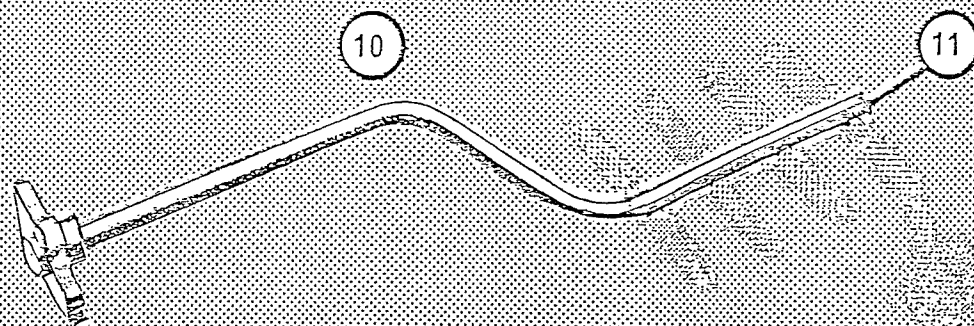
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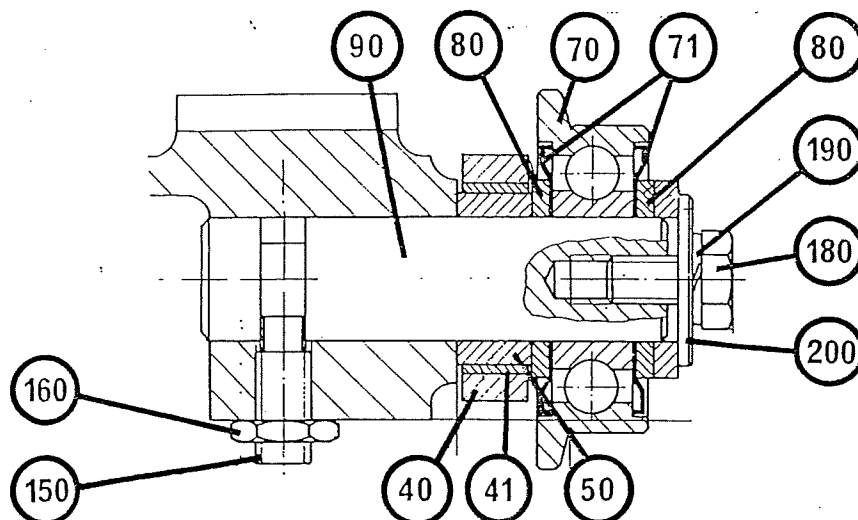
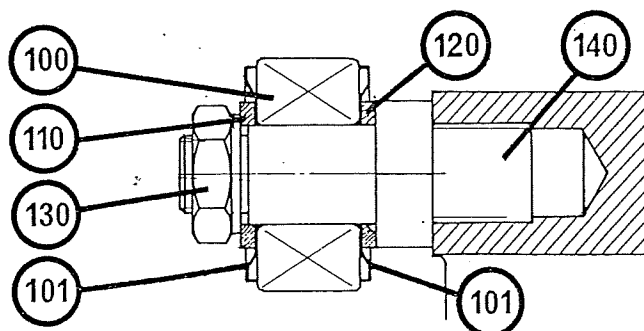
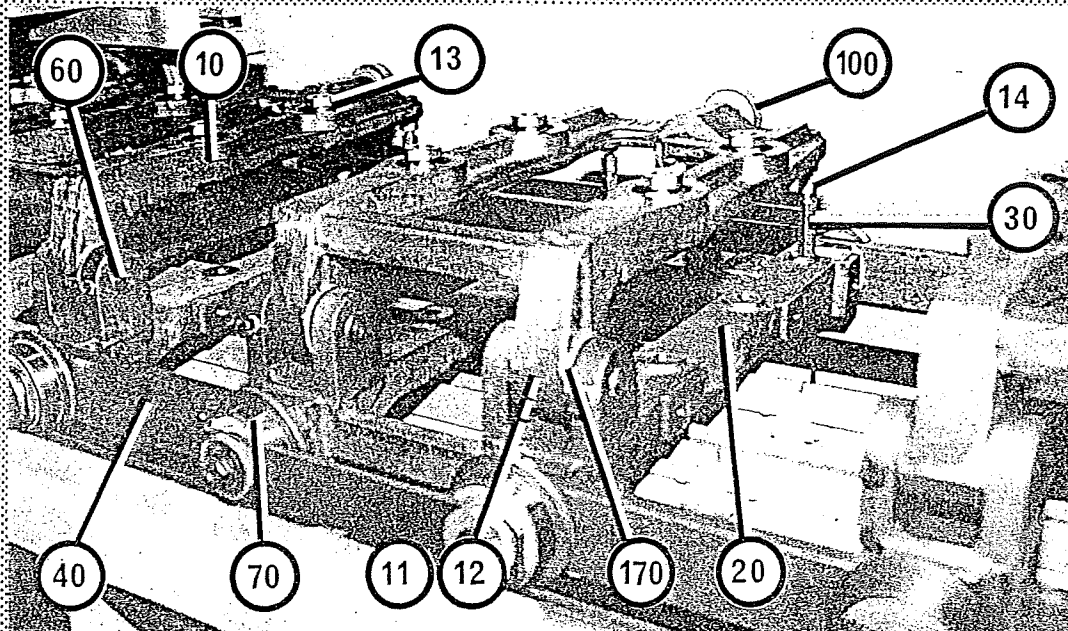
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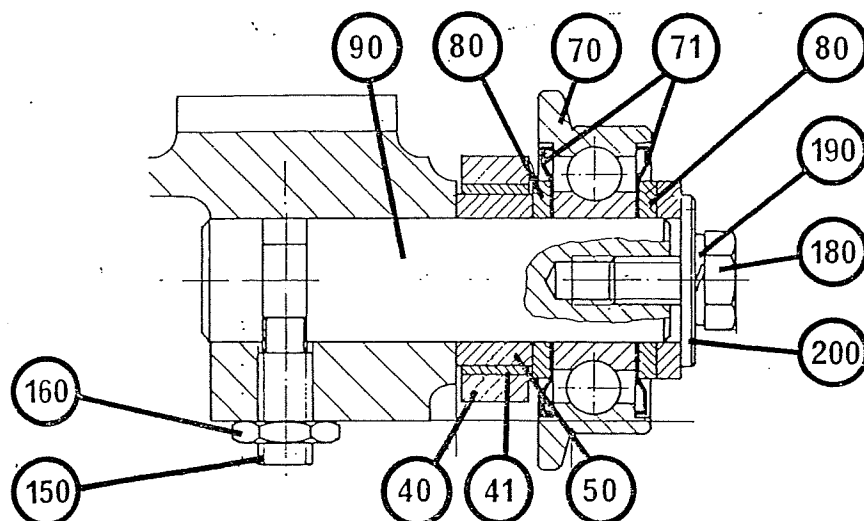
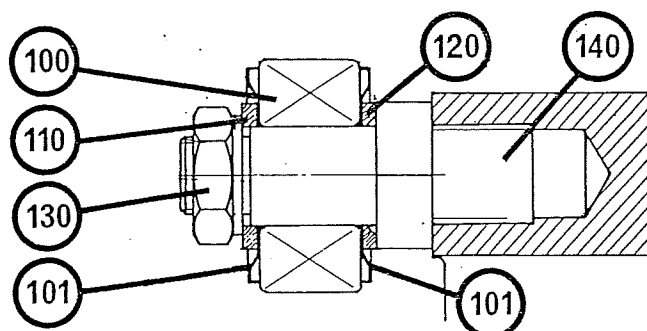
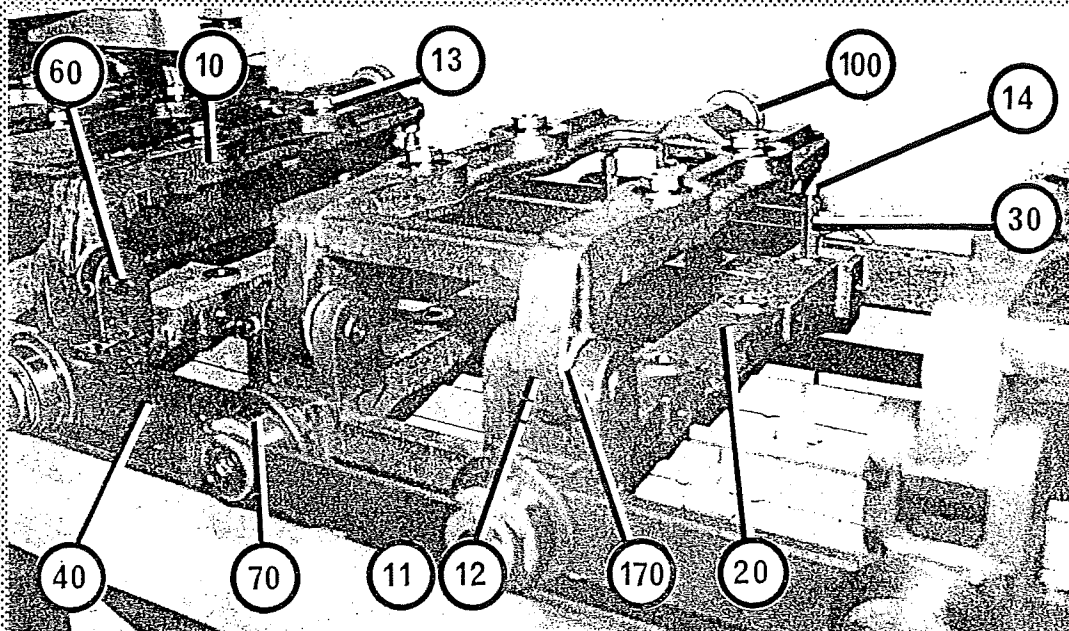
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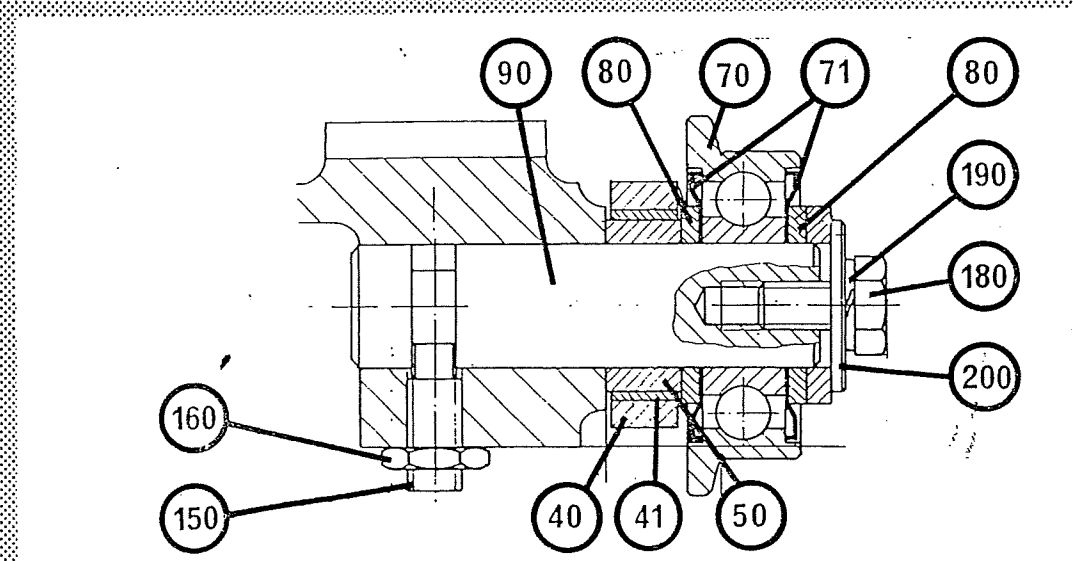
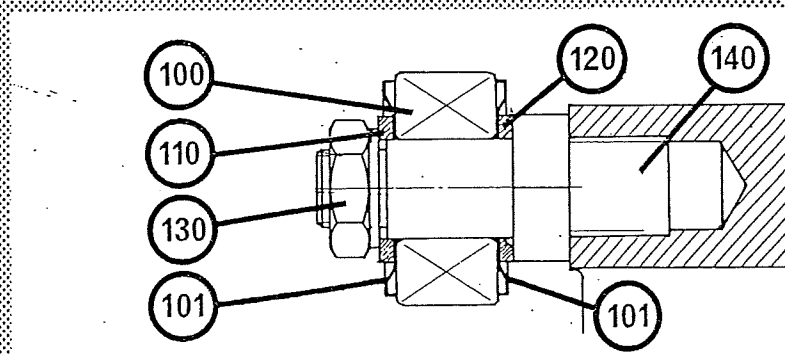
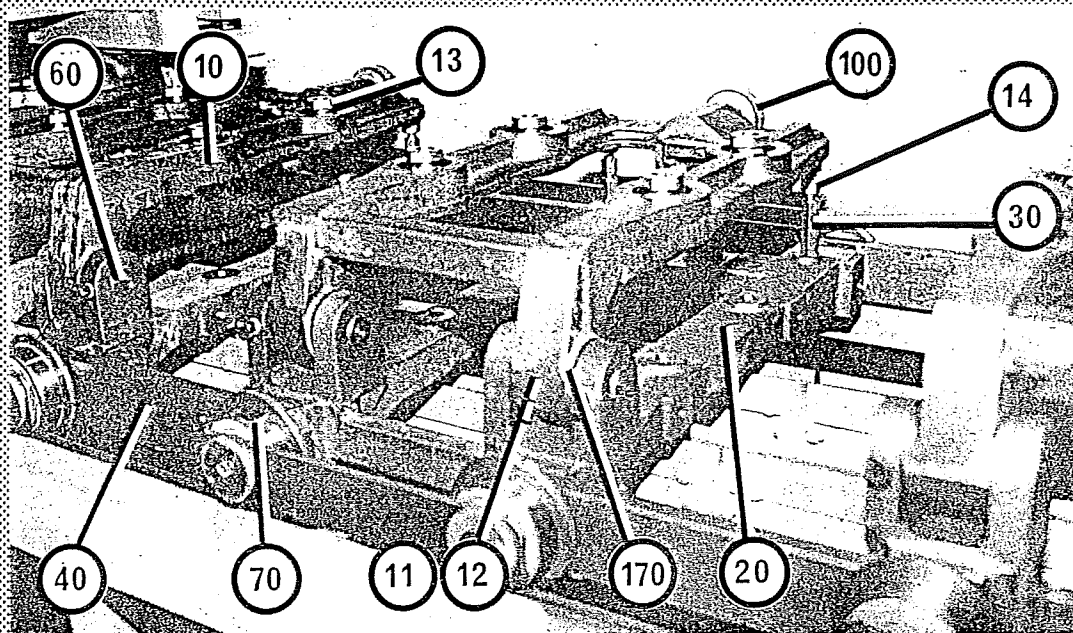
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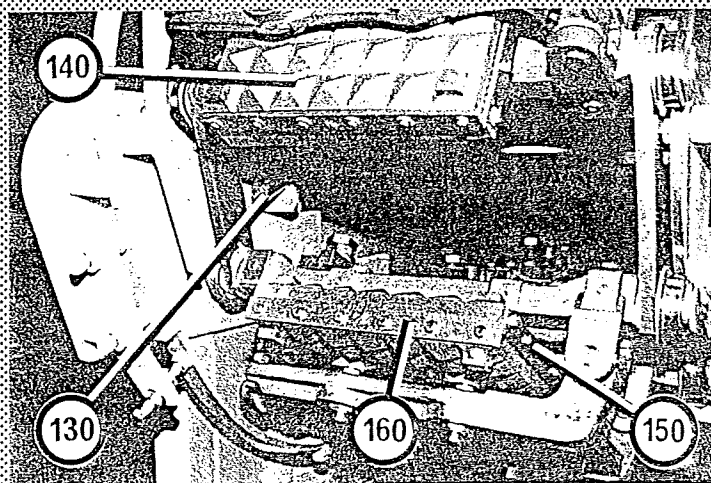
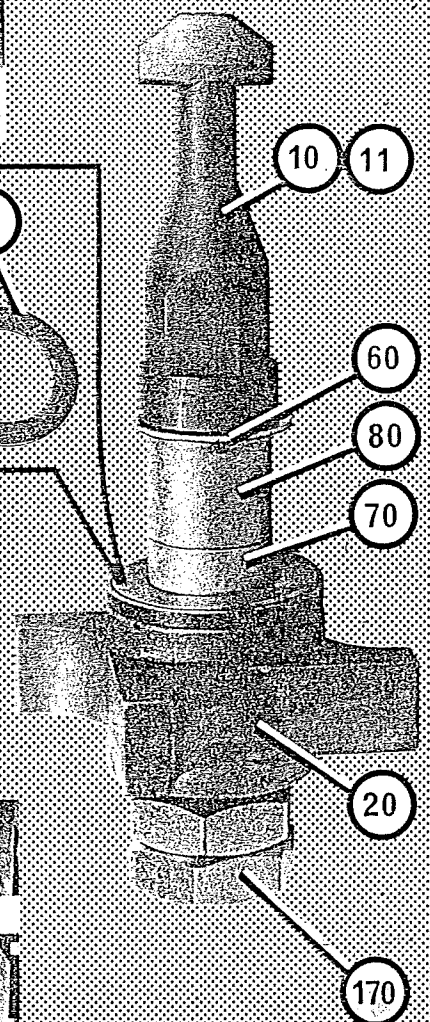
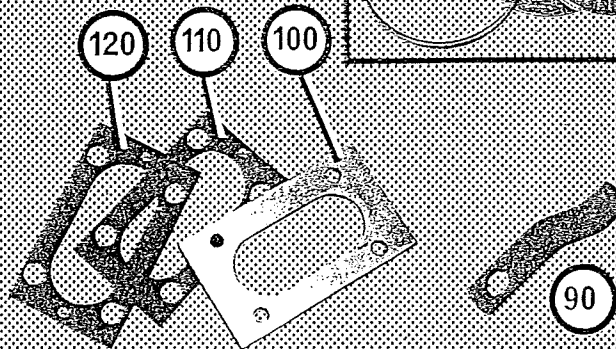
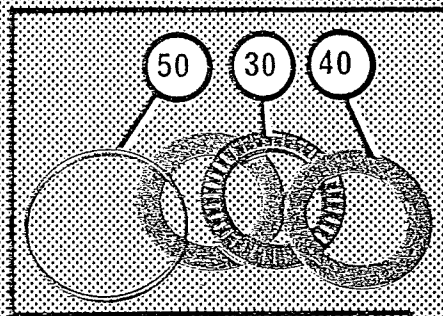
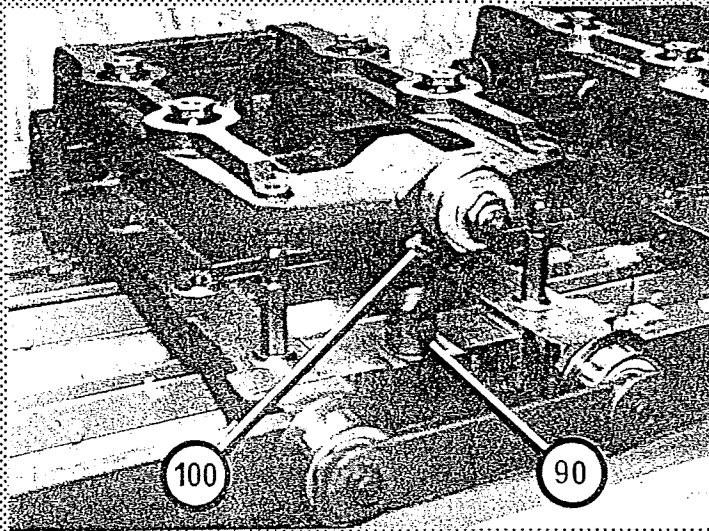
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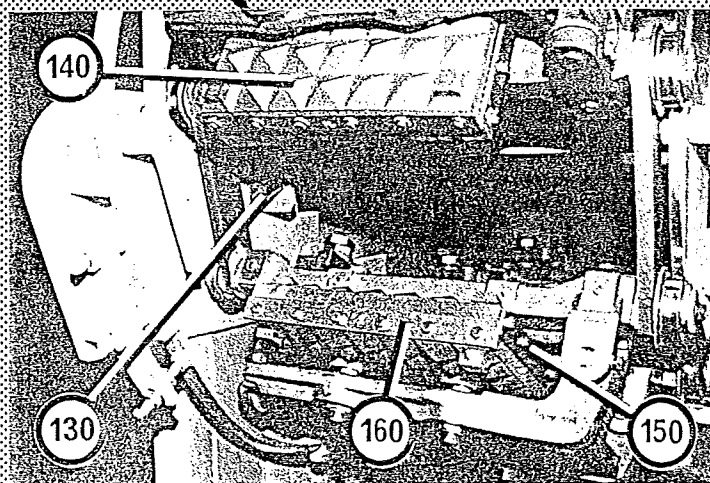
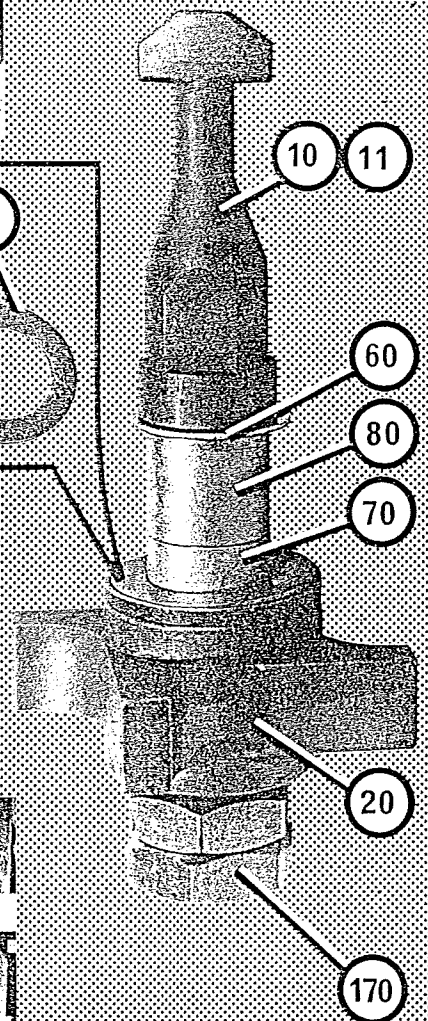
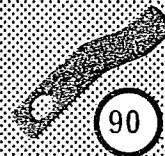
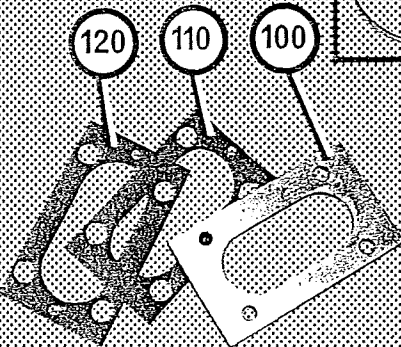
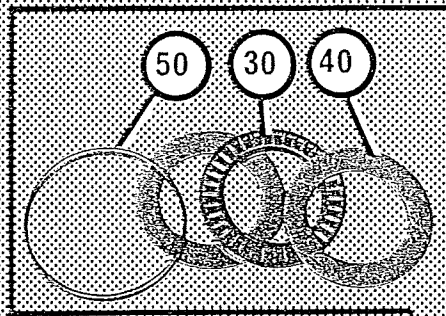
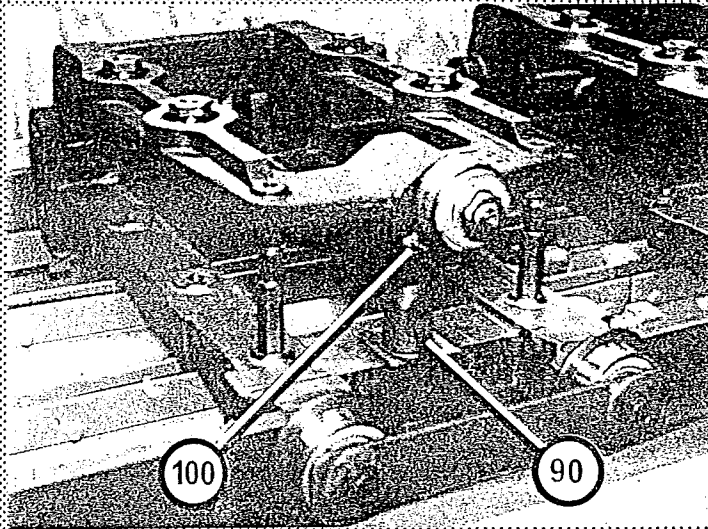
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LISTA DE REPUESTOS

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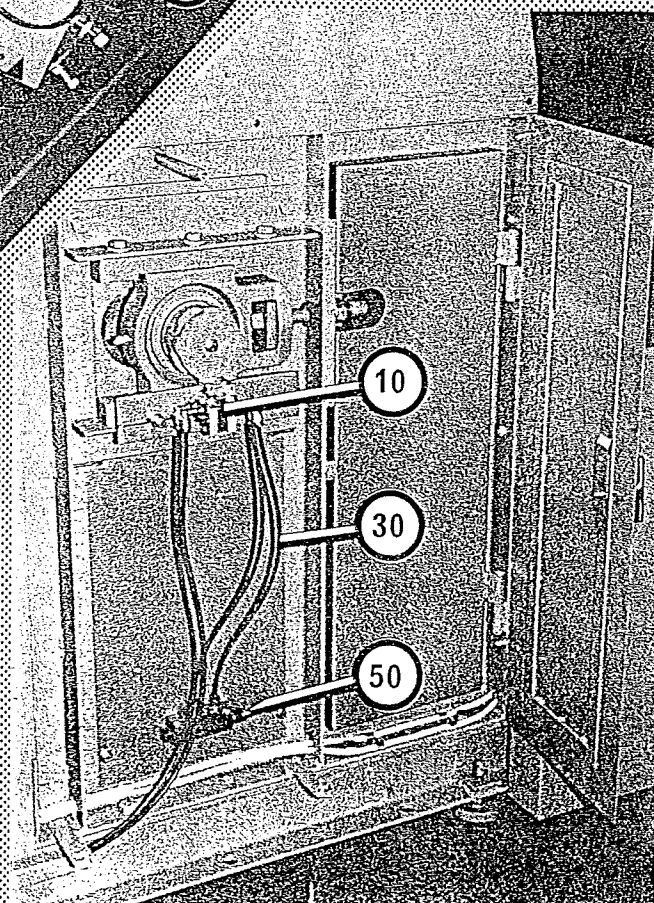
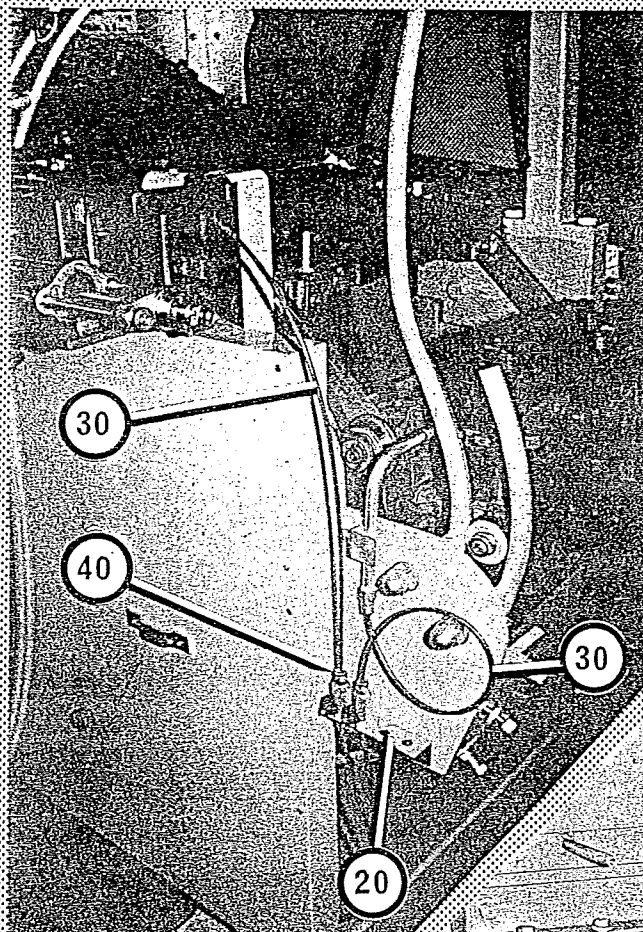
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4071921 WA RAHMEN 344510 1 KAI 92/47
 190 RAHMENBAU AUTOMATEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 TAPERED LOCKING SLEEVE RFN 7012 70X110	1011251 1,24 kg öS	1,00 ST 1.008,00
0002 FEATHER KEY 20X12X100 DIN 6885	1016970 0,18 kg öS	2,00 ST 30,00
0003 CIRCLIP FOR SHAFT DIN 471 D 70	1017322 0,02 kg öS	1,00 ST 9,00
0004 TENSIONING BEARING RTUE 70 S AH 01 FA 141/164.1 d=70,A=214,B=50, D=25,E=70,F=20,G=35,H=135,L=66.1,K1=70, K=41,M=151,O=44.6,R=96,T=110,V=166,W=120	1348744 6,79 kg öS	2,00 ST 3.077,00
0005 DISTANZSTÜCK **** 00300-001,001/-/009/B/	1784463 0,28 kg öS	11,00 ST 132,00
0006 BASE (NORMAL) **** 00300-001,001/-/012/B/N	1135880 11,55 kg öS	1,00 ST 4.987,00
0007 SUPPORT 00300-001,001/-/017/A/	1134396 0,80 kg öS	2,00 ST 0,00
0008 SÄULE 00300-001,009/A/	1755420 3,30 kg öS	1,00 ST 0,00
0009 HALBSCHEIBE WA GEHÄRTET **** 00300-001,045/C/*	1534955 10,10 kg öS	2,00 ST 0,00
0010 DISTANZROHR 00300-001,046/B/	1784471 0,15 kg öS	6,00 ST 0,00
0011 SPROCKET Z=96 3/4"X7/16" DUPLEX 00300-002,006/B/	1739786 25,70 kg öS	1,00 ST 11.862,00
0012 CHAIN WHEEL T=120/183 00300-002,010/A/	1492888 30,70 kg öS	2,00 ST 8.058,00
0013 FIXATION 00300-003,015	1132385 1,63 kg öS	1,00 ST 0,00
0014 DRIVE SHAFT WA,MWA 860X70 00400-002,009/C/	1781839 25,20 kg öS	1,00 ST 4.554,00
0015 SPACER RING FOR MAIN SHAFT D 83X7	1132962 0,08 kg öS	1,00 ST 132,00
0016 SLIDING PLATE WITH THREAD **** 00500-001,033/C/	1063464 1,58 kg öS	2,00 ST 880,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4071921 WA RAHMEN 344510 1 KAI 92/47
 190 RAHMENBAU AUTOMATEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0017 SPINDLE 00500-002,013	1124560 0,37 kg öS	2,00 ST 85,00
0018 COMPRESSION PLATE 00500-002,014	1048872 0,26 kg öS	2,00 ST 115,00
0019 BODENPLATTE FÜR BRÜCKE MONTIERT 60 BREIT (PAARWEISE VERSCHRAUBT)	1141481 2,58 kg öS	3,00 ST 0,00
0020 SPANNSTÜCK 01624-001,001/-/016	1917412 0,20 kg öS	4,00 ST 203,00
0021 STEEL PLATE **** 09060-001,015/A/	1071947 0,53 kg öS	6,00 ST 96,00
0022 STEEL PLATE **** 09060-001,021/A/	1071998 0,53 kg öS	6,00 ST 114,00

***** AM-Ende *****

4072227 WA-MWA-SWA VERSTELLBARER FUSS 344520 1 KAI 92/47
 3254 RAHMENBAU KLEINMASCHINEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 FOOT BOLT **** M16/M8	1181181 0,11 kg öS	10,00 ST 111,00
0002 DISC **** 15XD80	1124331 0,56 kg öS	10,00 ST 278,00

***** AM-Ende *****

4072324 WA BACKPLATTE-GAS 230X290 323418 24 KAI 92/47
 2294 XXXXX VERTIKALFRÄSM.CORREA NC 80-190
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 BACKPLATTE GAS 220X260 **** GGKF25 WA18	1210084 13,10 kg öS	48,00 ST 620,00

***** AM-Ende *****

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4072421 WA-MWA ZANGENWAGEN 323730 24 KAI 92/47
 573 (400-206) XXXXX TEILMONTAGE ZANGENWAGEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 NEEDLE BEARING AXK F-213720 Dc1=30, Dc=47, Dw=2 X90CrMoV18	1010174 0,01 kg öS	24,00 ST 46,00
0002 AXIAL DISC AS F-214610 STAINLESS d=30, D=47, B1=1	1010379 0,01 kg öS	48,00 ST 31,00
0003 SELF-LUBRICATING DISC WC 18 DP	1010913 0,01 kg öS	96,00 ST 15,00
0004 NILOS RING 3204 AV a=43.7, d=20, c=34, s=0.3, h=2.5 FOR BALL BEARING 3204	1011006 0,01 kg öS	48,00 ST 8,70
0005 PLATE SPRING NO.58	1022857 0,01 kg öS	24,00 ST 59,00
0006 GROOVED BALL BEARING (STEP BEARING) 19-444-05	1172581 0,32 kg öS	96,00 ST 271,00
0007 NILOS RING 6305 AV a=54.8, d=25, c=40, s=0.3, h=2.5	1194828 0,01 kg öS	192,00 ST 9,00
0008 ZYLINDERROLLENLAGER 59.919.04 MIT 4 SCHMIERBOHRUNGEN LAGERLUFT 0,05-0,07	1965328 0,23 kg öS	24,00 ST 262,00
0009 BEARING BUSHING GLY.PG 25 28 15 F GLYCODUR-F	2014858 0,01 kg öS	24,00 ST 22,00
0010 BEARING BUSHING GLY.PG 25 28 25 F GLYCODUR-F	2014866 0,02 kg öS	24,00 ST 29,00
0011 BEARING BUSHING GLY.PG 20 23 15 F GLYCODUR-F	2015013 0,01 kg öS	48,00 ST 15,00
0012 BEARING BUSHING GLY.PG 20 23 20 F GLYCODUR-F	2015021 0,01 kg öS	48,00 ST 20,00
0013 RUNNING WHEEL BOLT 00300-006,001/E/	1759698 0,32 kg öS	96,00 ST 568,00
0014 LOCKING ROLLER BOLT 00300-006,010/-/001/B/	1127470 0,19 kg öS	24,00 ST 566,00
0015 UPPER ADJUSTMENT BOLT 00310-006,006	1135074 0,04 kg öS	48,00 ST 108,00
0016 HINGE BOLT MWA 00315-006,003/A/	1744550 0,18 kg öS	48,00 ST 266,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4072421 WA-MWA ZANGENWAGEN 323730 24 KAI 92/47
 573 (400-206) XXXXX TEILMONTAGE ZANGENWAGEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0017 LOWER TONG MWA 00316-006,001/B/	1739646 10,21 kg öS	24,00 ST 7.360,00
0018 UPPER TONG WA, MWA 00316-006,002/B/	1326937 9,57 kg öS	24,00 ST 7.726,00
0019 LOCKING BOLT 00400-006,034/C/	1127446 0,68 kg öS	24,00 ST 892,00
0020 RUNNING WHEEL BUSHING 00400-206,002/A/	1744569 0,06 kg öS	96,00 ST 173,00
0021 SPACER 00400-206,009	1270915 0,01 kg öS	24,00 ST 55,00
0022 ADJUSTMENT BOLT 00570-001,017/B/	1127373 0,06 kg öS	96,00 ST 131,00
0023 LOCKING PLATE 00836-006,017	1127292 0,05 kg öS	24,00 ST 245,00
0024 LOCKING RING *NILOS* 03000-006,013/C/	1175521 0,01 kg öS	192,00 ST 62,00
0025 LOCKING STAR 05000-006,027/B/	1435639 0,61 kg öS	24,00 ST 1.100,00
0026 NEEDLE BEARING COVER RING, BOTTOM AXK3047+2XAS3047	1707663 0,01 kg öS	24,00 ST 55,00
0027 WASHER D 40/10.2X4 S 05470-006,053	1037757 0,04 kg öS	96,00 ST 44,00
0028 ADJUSTMENT PIN 08500-006,018	1123955 0,08 kg öS	48,00 ST 122,00
0029 LOCKING RING REAR	1123963 0,01 kg öS	24,00 ST 59,00
0030 LOCKING RING FRONT	1123971 0,01 kg öS	24,00 ST 54,00
0031 SHIM 0.1mm 08500-006,021/-/001	1638203 0,01 kg öS	24,00 ST 9,50
0032 SHIM 0.2mm 08500-006,021/-/002*	1638211 0,01 kg öS	24,00 ST 12,00
0033 SELF-LUBRICATING DISC WC 18 DU/ D25.2 FOR LOCKING BOLT, TOP	1127462 0,01 kg öS	24,00 ST 38,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4072421 WA-MWA ZANGENWAGEN 323730 24 KAI 92/47
 573 (400-206) XXXXX TEILMONTAGE ZANGENWAGEN
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Pos.	Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0034	HEXAGON HEAD BOLT M 5x 20 DIN 933 8.8	1012568 0,01 kg öS	96,00 ST 0,44
0035	6KT.SCHRAUBE M 6x 10 DIN 933 5.6 GALZN	1012703 0,01 kg öS	24,00 ST 0,48
0036	6KT.SCHRAUBE M 6x 30 DIN 933 8.8 MIT SPITZE NACH DIN 78	1012827 0,00 kg öS	48,00 ST 10,00
0037	HEXAGON HEAD BOLT M10x 20 DIN 933 8.8 GALZN	1013394 0,02 kg öS	96,00 ST 1,90
0038	HEXAGON NUT M 6 DIN 934 - 8 GALZN	1015508 0,01 kg öS	48,00 ST 0,24
0039	HEXAGON NUT B M10 DIN 439 - 04	1015656 0,01 kg öS	48,00 ST 0,70
0040	HEXAGON NUT M16 DIN 439	1015737 0,02 kg öS	24,00 ST 3,50
0041	HEXAGON NUT B M24x1,5 DIN 439 - 04	1015834 0,06 kg öS	48,00 ST 13,00
0042	SPRING WASHER M10 DIN 127	1016326 0,01 kg öS	96,00 ST 0,31
0043	SPRING WASHER M16 DIN 12M	1016377 0,01 kg öS	24,00 ST 1,50
0044	HEXAGON NUT B M12 DIN 439 - 04 GALZN	1052896 0,01 kg öS	96,00 ST 7,60
0045	ALUMINUM RIVET 2,6x 5 DIN 14Fr 1249002	48,00 ST 0,01 kg öS	0,57
0046	SET SCREW M12x30 DIN 915 A2	1704656 0,02 kg öS	96,00 ST 28,00
0047	FEATHER KEY AS 8x 7x 32 DIN 6885 WITH M6 BORE	1865706 0,01 kg öS	24,00 ST 14,00
***** AM-Ende *****			

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4072529 WA - MWA ENDMONTAGE 323730 24 KAI 92/47
 205 XXXXX TEILMONTAGE ZANGENWAGEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
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0001 CHAIN LINK	1494252	48,00 ST
**** 00310-206,004/-/002	0,77 kg öS	821,00

0002 SAFETY BRACKET WA, MWA 5X40X230	1135414 0,31 kg öS	48,00 ST 247,00
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***** AM-Ende *****

4072626 WA MWA ZANGENWAGEN 323730 1 KAI 92/47
 624 NUMMERNSCHILDER TEILMONTAGE ZANGENWAGEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
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0001 NUMMERSCHILDER-SATZ NR.1 BIS 24 MESSING	1858092	1,00 ST
**** RECHTECKIG 50X23X1 CHEM. GRAVIERT UND	0,15 kg öS	998,00
GEOHRT (LOCH D=2mm LOCHABSTAND M/M=42mm)		
ZIFFERN UND RAND ERHABEN		

***** AM-Ende *****

4073126 WA-MWA VERKLEIDUNG GAS 344720 1 KAI 92/48
 11155 VERKLEIDUNG WINKLER
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
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0001 HOLDING DOWN DEVICE II COMPLETE	1136097	1,00 ST
**** 380 MM	7,97 kg öS	15.879,00

***** AM-Ende *****

4073622 WA MIT BA 344510 1 KAI 92/48
 243 UMFÜHRUNG RAHMENBAU AUTOMATEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
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0001 FASTENING BOLT I M20X360	1134566 0,77 kg öS	1,00 ST 0,00
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0002 SPACER BUSHING 00300-001,015/-/055*	1134574 0,15 kg öS	1,00 ST 0,00
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1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4073622 WA MIT BA 344510 1 KAI 92/48
 243 UMFÜHRUNG RAHMENBAU AUTOMATEN

Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0003 SPACER TUBE 00300-001,015/-/060	1134582 0,18 kg öS	1,00 ST 341,00
0004 SPACER BUSHING 00300-001,015/-/070*	1134590 0,20 kg öS	1,00 ST 0,00
0005 SPACER BUSHING 00300-001,015/-/080	1134604 0,22 kg öS	1,00 ST 136,00
0006 BRACKET FOR OPENING GUIDE 00300-001,024	1134639 0,57 kg öS	1,00 ST 0,00
0007 BEFESTIGUNGSBOLZEN II FÜR UMFÜHRUNG WA+MWA MIT BLATTABNAHME	1766783 1,72 kg öS	1,00 ST 0,00
0008 FASTENING BOLT III D40X45	1134647 0,22 kg öS	2,00 ST 0,00
0009 VERBINDUNGSLEISTE MWA-BA 00300-001,050	1766775 0,15 kg öS	1,00 ST 0,00
0010 STEUERKURVE GEHOBELT UND GEBEIZT	1392735 5,90 kg öS	1,00 ST 0,00
0011 UMFÜHRUNGSSTANGE GLATT UND GEBEIZT	1392743 3,03 kg öS	1,00 ST 0,00
0012 UMFÜHRUNGSSTANGE GLATT UND GEBEIZT	1392751 0,89 kg öS	1,00 ST 0,00
0013 THREADED PIECE 00500-001,046/A/	1862421 0,05 kg öS	2,00 ST 73,00

***** AM-Ende *****

4074122 WA GASBRENNER 344600 1 KAI 92/48
 199 MONTAGEBEREICH III ÖFEN

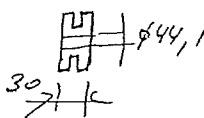
Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 BRENNER PYRO-LINE TYPE 12 L STYLE S **** 3X12=36 BOHRUNGEN D 1,8mm	1389084 2,69 kg öS	12,00 ST 2.925,00

***** AM-Ende *****

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4074629 WA-MWA ENDMONTAGE 355000 1 KAI 92/48
 191 ENDMONTAGEN I
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 LOCKING LINK NO.11 FOR DUPLEX CHAIN 19,05X11,68 NO.D513	1021249 0,05 kg öS	1,00 ST 46,00
0002 PVC HOSE SURCOFLEX D20/13 WITH FABRIC INSERT	1025252 0,21 kg öS	1,00 M 62,00
0003 PVC HOSE SURCOFLEX D26/19 WITH FABRIC INSERT	1025260 0,31 kg öS	1,00 M 66,00
0004 O-RING NO.211 ID 20,22X3,53 COMPOUND NO.8307	1026003 0,01 kg öS	1,00 ST 6,00
0005 DOOR BUFFER TYPE 14192 RED 23X29X7	1047450 0,02 kg öS	2,00 ST 10,00
0006 BALL BUTTON C40 M10 DIN319	1061127 0,04 kg öS	1,00 ST 19,00
0007 BALL BUTTON C45 M12 DIN319	1061135 0,06 kg öS	1,00 ST 29,00
0008 HOSE CLIP A S 25- 40 C6 - W 1 DIN 3017 12 MM WIDE	1089153 0,01 kg öS	1,00 ST 15,00
0009 ROTATING BUTTON **** TYPE F2	1168223 0,07 kg öS	5,00 ST 108,00
0010 CHAIN TENSIONER, STANDARD 13 teeth sprocket. **** WA-MWA/KTA-STA welded to the bushing.	1136224 1,16 kg öS	1,00 ST 2.001,00
0011 BATTER PUMP, WA, MWA **** 00300-004	1131621 11,17 kg öS	1,00 ST 24.631,00
0012 PUMP LEVER ROD D30/D20X345 **** 00300-004,029	1132687 0,82 kg öS	1,00 ST 568,00
0013 HANDLE FOR PUMP D30X125 **** 00300-004,031	1132717 0,28 kg öS	1,00 ST 1.333,00
0014 GEARSTICK GUIDE 00300-011,006/A/	1243969 0,31 kg öS	1,00 ST 444,00
0015 DRIP CUP **** 44X72X105	1137271 0,43 kg öS	1,00 ST 369,00
0016 FIXING FOR DRIP CUP WA **** 150X440	1133349 0,39 kg öS	1,00 ST 0,00



1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4074629 WA-MWA ENDMONTAGE 355000 1 KAI 92/48
 191 ENDMONTAGEN I

Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0017 ROLLER FIXATION 00500-001,036/C/	1904868 0,68 kg öS	1,00 ST 547,00
0018 LOCKING AND OPENING BOLT, COMPLETE 00500-001,037/C/	1743376 0,25 kg öS	2,00 ST 1.099,00
0019 SUSPENSION BOW 5X25X125	1090364 0,12 kg öS	2,00 ST 222,00
0020 LOCK HOLDER **** 3X25X155	1144189 0,10 kg öS	5,00 ST 108,00
0021 LOCKING BAR **** RECTANGLE BAR 5X25X65	1166808 0,05 kg öS	5,00 ST 26,00
0022 RIEGELBOLZEN **** 00500-011,009/-/004	2031523 0,02 kg öS	5,00 ST 0,00
0023 TRIM STRIP FIXATION 00500-015,002	1144480 0,02 kg öS	11,00 ST 73,00
0024 WAFER SHEET GUIDE **** 00536-006,062/A/	1759264 0,01 kg öS	24,00 ST 74,00
0025 HALTERUNG II 00800-011,017/A/	1139991 0,04 kg öS	2,00 ST 0,00
0026 DEPOSITOR WA-HOST WAFER, WITHOUT HOLES **** 81618-004,059/-/001	1393618 0,70 kg öS	2,00 ST 2.430,00
0027 ROLLER CHAIN 19,05X11,68 METER WARE DUPLEX (3/4"X7/16") 12B-2/DIN8187 NO.D513	1021044 2,38 kg öS	3,15 M 588,00
0028 JOINT HINGE 100X100 TYPE 1303/S 38	1260251 0,11 kg öS	2,00 ST 35,00
0029 LABEL "MADE IN AUSTRIA" 20X100 ALUMINUM, BLUE PRINT, SELF-ADHESIVE	1264680 0,02 kg öS	1,00 ST 13,00
0030 BI-DIRECTIONAL ARROW +- 12X65 SELF-ADHESIVE	1264699 0,01 kg öS	1,00 ST 11,00
0031 HAAS LOGO, SELF-ADHESIVE	1264702 0,01 kg öS	1,00 ST 20,00
0032 TYPENSCHILD FÜR MASCHINEN 60X114 SELBSTKLEBEND	1264729 0,02 kg öS	1,00 ST 17,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4074629 WA-MWA ENDMONTAGE 355000 1 KAI 92/48
 191 ENDMONTAGEN I
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Pos.	Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0033	HOSE CLIP A L 12- 20 C6 - W 1 DIN 3017 9 MM WIDE	1376381 0,01 kg öS	1,00 ST 10,00
0034	CAP NUT M20 DIN 1587 - 6 GALZN	1429442 0,10 kg öS	4,00 ST 29,00

***** AM-Ende *****

4074726 WA-MWA ZUSAMMENBAU 344600 1 KAI 92/48
 197 MONTAGEBEREICH III ÖFEN
 =====

Pos.	Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001	HOLDING DOWN APPLIANCE I **** 120X400	1136089 4,56 kg öS	1,00 ST 0,00
0002	PRESSING PIECE 30X30X150	1134523 1,10 kg öS	1,00 ST 1.156,00
0003	SICHERUNGSBOGEN HINTEN 00300-001,029	1136135 3,27 kg öS	1,00 ST 0,00
0004	GUIDE SUPPORT BRACKET 00300-001,030	1134655 0,18 kg öS	1,00 ST 0,00
0005	SAFETY GUIDE FRONT 00300-001,031	1134663 1,07 kg öS	1,00 ST 0,00
0006	ANSCHWEISSTÜCK FÜR ÖFFNERBOLZEN 00300-001,035/B/	1817418 0,71 kg öS	1,00 ST 0,00
0007	ÖFFNERBOLZENHALTER SCHIENE AUSSEN 00300-001,043/D/	1782568 0,62 kg öS	1,00 ST 405,00
0008	PUMPENANTRIEBSSCHEIBE 00300-003,001/A/	1724576 1,94 kg öS	1,00 ST 3.130,00
0009	ANTRIEBSARM 00300-003,004/C/	1883666 1,73 kg öS	1,00 ST 1.694,00
0010	DRIVING ARM D 40X20	1136283 0,17 kg öS	1,00 ST 170,00
0011	KNEE LEVER 145X175	1136291 1,04 kg öS	1,00 ST 2.892,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4074726 WA-MWA ZUSAMMENBAU 344600 1 KAI 92/48
 197 MONTAGEBEREICH III ÖFEN

Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0012 BOLT FOR LEVER 00300-003,007	1132318 0,22 kg öS	1,00 ST 499,00
0013 BRACKET 00300-003,009	1132334 0,46 kg öS	1,00 ST 343,00
0014 FORK-TYPE CONNECTION **** 00300-003,010	1132342 0,36 kg öS	2,00 ST 626,00
0015 METAL FLAT 00300-003,011/A/	1132350 0,15 kg öS	1,00 ST 316,00
0016 PUMPENHEBEL 00300-004,027/C/	1691945 1,38 kg öS	1,00 ST 1.350,00
0017 ZYL.SCHRAUBE M 8x 40 DIN 912 8.8 GALZN M. INNEN-6KT	1011995 0,02 kg öS	3,00 ST 1,60
0018 THREADED PIN DIN 914 M 5X8	1014102 0,01 kg öS	3,00 ST 0,75
0019 THREADED PIN DIN 914 M 6X10 GALZN	1014188 0,01 kg öS	1,00 ST 1,00
0020 HEXAGON NUT M12 DIN 934 - 8	1015672 0,02 kg öS	1,00 ST 0,77
0021 LUBRICATING NIPPLE SP-2	1252011 0,01 kg öS	2,00 ST 9,20
0022 GEWINDEBOLZEN B M12x 75 DIN976 5.6	1254030 0,05 kg öS	2,00 ST 2,20

***** AM-Ende *****

4074823 WA-MWA 18, 24, 30 ZUSAMMENBAU 344600 1 KAI 92/48
 198 MONTAGEBEREICH III ÖFEN

Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 SHAFT D 10X31	1132296 0,02 kg öS	4,00 ST 95,00
0002 PUMP ROD BEARING D40X80/130 **** 00300-003,013	1136321 1,02 kg öS	2,00 ST 1.809,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4074823 WA-MWA 18, 24, 30 ZUSAMMENBAU 344600 1 KAI 92/48
 198 MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0003 WELLE I KOMPL. **** WA, MWA	2111039 1,28 kg öS	1,00 ST 0,00
0004 WELLE II KOMPL. WA, MWA	2111047 1,18 kg öS	1,00 ST 0,00
0005 SENKSCHRAUBE A M 8x20 DIN 963 4.8 GALZN M. SCHLITZ	1014803 0,01 kg öS	4,00 ST 0,73
0006 HEXAGON NUT M 8 DIN 934 - 8 GALZN	1015559 0,01 kg öS	4,00 ST 0,44
0007 SERRATED LOCK WASHER M8 DIN 6798	1016474 0,01 kg öS	4,00 ST 0,22
0008 CIRCLIP FOR BORE DIN 472 D 28	1017411 0,01 kg öS	4,00 ST 1,50

***** AM-Ende *****

4074920 WA - MWA ABLASEREI OHNE 355000 1 KAI 92/48
 257 FANGKORB ENDMONTAGEN I
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 CUTTING RING No.36 0501 04 TUBE OD 6	1023748 0,01 kg öS	17,00 ST 2,20
0002 LOCKING RING No.36 0501 06 PIPE DIAM 10	1023764 0,01 kg öS	1,00 ST 3,30
0003 TUBING NUT No.36 0500 04 TUBE OD 6	1023829 0,01 kg öS	17,00 ST 7,60
0004 TUBING NUT No.36 0500 06 TUBE OD 10	1023845 0,01 kg öS	1,00 ST 11,00
0005 STRAIGHT MALE ADAPTOR No.36 0530 04 R 1/8" TUBE OD 6 TAPER THREAD	1023926 0,01 kg öS	4,00 ST 19,00
0006 BSP-PLUG No.36 0561 01 TAPER THREAD **** R 1/8"	1024051 0,01 kg öS	0,00 ST 14,00
0007 REDUCING ADAPTOR No.36 0517 47 TUBE OD 8 - 6	1024191 0,02 kg öS	2,00 ST 30,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4074920 WA - MWA ABBLASEREI OHNE 355000 1 KAI 92/48
 257 FANGKORB ENDMONTAGEN I
 =====

Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0008 REDUCING ADAPTOR No.36 0517 64 TUBE OD 12 - 10	1024221 0,04 kg öS	1,00 ST 48,00
0009 STRAIGHT ADAPTOR No.36 0505 10 R 1/4" TUBE OD 6	1024523 0,03 kg öS	2,00 ST 35,00
0010 STEM TAILPIECE ADAPTOR No.36 0524 42 OD 10 FOR TUBE ID 10	1024590 0,02 kg öS	1,00 ST 34,00
0011 MANIFOLD ONE SIDED No.36 0304 57 TUBE OD 12 AND 8	1024620 0,42 kg öS	1,00 ST 533,00
0012 STEM ELBOW CONNECTOR No.36 0551 04 TUBE OD 6	1024639 0,02 kg öS	5,00 ST 57,00
0013 BSP-PLUG No.36 0509 05 PARALLEL THREAD TUBE OD 8	1024825 0,02 kg öS	2,00 ST 13,00
0014 BSP-PLUG No.36 0509 07 PARALLEL THREAD TUBE OD 12	1024841 0,04 kg öS	1,00 ST 38,00
0015 3/2-WAY VALVE ER 18 310 R 1/8" WITH ROLLER LEVER(WITH BALL BEARING AND STRENGTHENED BOLT)	1699318 0,10 kg öS	2,00 ST 1.021,00
0016 SWITCHING DISC DIM. X=15 **** 00300-012,002/A/	1696521 0,31 kg öS	2,00 ST 693,00
0017 SCRAPER FIXATION 00300-012,015/B/	1260669 0,20 kg öS	1,00 ST 365,00
0018 VALVE SUPPORT **** 00400-012,002/A/	1696548 0,52 kg öS	1,00 ST 1.021,00
0019 BLOW-OFF PIPE D R 1/4"X460	1133292 0,29 kg öS	1,00 ST 463,00
0020 BLOW-OFF PIPE III D R 1/4"X170	1133306 0,17 kg öS	1,00 ST 508,00
0021 BLOW-OFF TUBE FIXATION 00400-012,007/A/	1049364 0,20 kg öS	2,00 ST 386,00
0022 ELBOW WITH TWO BALL VALVES 00400-012,009*	1169106 0,49 kg öS	1,00 ST 1.126,00
0023 CAM DISTANCE DISC **** 00400-012,012	1696556 1,01 kg öS	1,00 ST 399,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4074920 WA - MWA ABBLASEREI OHNE 355000 1 KAI 92/48
 257 FANGKORB ENDMONTAGEN I
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0024 DISTANCE DISC **** 00400-012,013/A/	1544837 1,01 kg öS	1,00 ST 487,00
0025 BRACKET 00500-012,002	1144227 0,21 kg öS	1,00 ST 574,00
0026 BLOW-OFF PIPE FIXATION 00500-012,003	1144243 0,53 kg öS	1,00 ST 528,00
0027 FIXATION FOR SCRAPING BLADE 00800-008,034/A/	1128256 0,07 kg öS	1,00 ST 143,00
0028 ABSTREIFBLECH FÜR OBLATEN **** C5782-012,016	2398397 0,03 kg öS	1,00 ST 0,00
0029 CUTTING RING No.36 0501 04 **** TUBE OD 6	1023748 0,01 kg öS	4,00 ST 2,20
0030 TUBING NUT No.36 0500 04 **** TUBE OD 6	1023829 0,01 kg öS	4,00 ST 7,60
0031 STRAIGHT MALE ADAPTOR No.36 0530 04 **** R 1/8" TUBE OD 6 TAPER THREAD	1023926 0,01 kg öS	4,00 ST 19,00
0032 REDUCING ADAPTOR No.36 0517 47 **** TUBE OD 8 - 6	1024191 0,02 kg öS	2,00 ST 30,00
0033 STEM ELBOW CONNECTOR No.36 0551 04 **** TUBE OD 6	1024639 0,02 kg öS	4,00 ST 57,00
0034 3/2-WAY VALVE ER 18 310 R 1/8" **** WITH ROLLER LEVER(WITH BALL BEARING AND STRENGTHENED BOLT)	1699318 0,10 kg öS	2,00 ST 1.021,00
0035 VALVE SUPPORT **** 00400-012,002/A/	1696548 0,52 kg öS	1,00 ST 1.021,00
0036 BALL VALVE TYPE 3830 R 1/4" Ms GALNI ****	1052810 0,10 kg öS	2,00 ST 105,00
0037 BLOW-OFF PIPE I **** D R 1/4"X142	1133284 0,11 kg öS	1,00 ST 467,00
0038 FLAT NOZZLE **** NR.8973-8 R1/8"	1052829 0,02 kg öS	1,00 ST 106,00

***** AM-Ende *****

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4079329 WA 18, 24, 30 ANTRIEB 344600 1 KAI 92/48
 195 MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 VEE-BELT 20X 900 Li DIN2215, ENDLESS	1018604 0,25 kg öS	1,00 ST 174,00
0002 VEE-BELT 20X1180 Li DIN2215, ENDLESS	1018655 0,33 kg öS	1,00 ST 185,00
0003 THREE-PHASE MOTOR TYPE 90 S/6 **** BAUF. B3 1080RPM 0,75kW IP44 220/380V 60Hz NEMA	2070782 1,82 kg öS	1,00 ST 5.168,00
0004 BOLT FOR PUMP DRIVE DISC 00300-003,002/D/	1273221 0,39 kg öS	1,00 ST 596,00
0005 MOTOR BASE 00400-002,014	1137190 1,98 kg öS	1,00 ST 780,00
0006 UNTERLAGE 1 00400-002,016	1132903 0,59 kg öS	1,00 ST 0,00
0007 SUPPORT 1A 00400-002,016/-/001	1132911 0,57 kg öS	1,00 ST 0,00
0008 SUPPORT 2 00400-002,017	1132938 0,62 kg öS	1,00 ST 0,00
0009 SUPPORT 3 00400-002,018	1132946 0,20 kg öS	1,00 ST 0,00
0010 VEE-BELT PULLEY B=40 00418-002,026/A/	1724592 6,13 kg öS	1,00 ST 1.418,00
0011 V-BELT PULLEY BORE D24 00500-002,010*	1143565 0,58 kg öS	1,00 ST 901,00
0012 INTERMEDIATE RING D 35X15	1141449 0,05 kg öS	1,00 ST 170,00
0013 SET COLLAR FOR MOTOR D 35X15	1141457 0,06 kg öS	1,00 ST 169,00

***** AM-Ende *****

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4079426 WA ANTRIEB 344600 1 KAI 92/48
 192 MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 MACHINE HANDLE TYPE E 28 ST DIN 98	1168436 0,27 kg öS	1,00 ST 219,00
0002 SLIDING HUB TYPE RT120 BORE D24H7	1699822 0,63 kg öS	1,00 ST 2.594,00
0003 WORM GEAR **** TYP 52.106.08.0.1.2	1723901 26,75 kg öS	1,00 ST 10.105,00
0004 SPROCKET T=16 DUPLEX 3/4"X7/16"	1724533 1,90 kg öS	1,00 ST 2.412,00
0005 FOOT MOUNTIG FOR LENZE WORM GEARBOX 52.106.08	1936409 2,11 kg öS	2,00 ST 242,00
0006 WELLE FÜR LENZE-GETRIEBE 52.106.08 00300-002,060/B/	1728784 2,05 kg öS	1,00 ST 0,00
0007 SCHEIBE D39/12,5 00300-002,061	1724584 0,03 kg öS	1,00 ST 0,00
0008 HANDLE 00335-001,029/-/002	1243977 0,99 kg öS	1,00 ST 239,00
0009 HAAS GEAR **** 00335-001A	1905988 15,20 kg öS	1,00 ST 20.448,00
0010 SUPPORT (H) 00400-002,015/A/	1132881 1,13 kg öS	2,00 ST 0,00
0011 UNTERLAGE 4 00400-002,019/A/	1724541 1,14 kg öS	2,00 ST 343,00
0012 INTERMEDIATE RING D 35X15	1141449 0,05 kg öS	1,00 ST 170,00
0013 COLLAR D 40/8.5X4 GALZN 00905-001,064*	1563335 0,04 kg öS	1,00 ST 46,00
0014 EXTENSION FOR GRIP BALL 01600-002,008	1142623 0,19 kg öS	1,00 ST 189,00
0015 ZYL.SCHRAUBE M 8x 10 DIN 912 8.8 M. INNEN-6KT	1011936 0,01 kg öS	1,00 ST 1,30
0016 HEXAGON HEAD BOLT M 8x 30 DIN 933 8.8	1013114 0,02 kg öS	6,00 ST 0,81
0017 HEXAGON HEAD BOLT M10x 45 DIN 933 8.8	1013505 0,03 kg öS	6,00 ST 1,80

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4079426 WA ANTRIEB 344600 1 KAI 92/48
 192 MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0018 6KT.SCHRAUBE M10x110 DIN 931 8.8	1013645 0,08 kg öS	2,00 ST 3,80
0019 6KT.SCHRAUBE M12x 35 DIN 933 5.6 GALZN	1013750 0,04 kg öS	1,00 ST 3,10
0020 6KT.SCHRAUBE M12x 45 DIN 933 8.8	1013785 0,05 kg öS	4,00 ST 2,50
0021 6KT.SCHRAUBE M12x 45 DIN 933 8.8	1013785 0,05 kg öS	5,00 ST 2,50
0022 HEXAGON HEAD BOLT M16x 50 DIN 933 8.8	1013947 0,10 kg öS	4,00 ST 10,00
0023 HEXAGON NUT M10 DIN 934 - 8	1015613 0,01 kg öS	2,00 ST 0,55
0024 HEXAGON NUT M16 DIN 934 - 8	1015710 0,03 kg öS	4,00 ST 1,70
0025 SCHEIBE A 8,4 DIN 125 St	1016032 0,01 kg öS	6,00 ST 0,13
0026 WASHER A 10,5 DIN 125-ST GALZN	1016075 0,01 kg öS	8,00 ST 0,35
0027 SCHEIBE A 13 DIN 125 St GALZN	1016113 0,01 kg öS	4,00 ST 0,44
0028 SCHEIBE A 13 DIN 125 St GALZN	1016113 0,01 kg öS	6,00 ST 0,44
0029 WASHER A 17 DIN 125 St	1016148 0,01 kg öS	4,00 ST 0,86
0030 CIRCLIP FOR BORE DIN 472 D 40	1017470 0,01 kg öS	1,00 ST 3,00
0031 HEXAGON NUT M20 DIN 934 - 8	1063405 0,06 kg öS	3,00 ST 2,80
0032 FEATHER KEY 10X50 DIN6885	1124552 0,03 kg öS	1,00 ST 6,20
0033 FEATHER KEY A 12x8x70 DIN 6885	1471147 0,05 kg öS	1,00 ST 9,40

***** AM-Ende *****

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4079620 MWA/WA GAS BEISTELLMATERIAL 369000 1 KAI 92/51
 485 ERSATZTEILE TISCHLEREI, VERPACKUNG
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 ALLEN BOLT M10x 60 DIN 912 8.8	1012169 0,04 kg öS	10,00 ST 2,50
0002 HEXAGON HEAD BOLT M 5x 16 DIN 933 5.6	1012533 0,01 kg öS	16,00 ST 0,40
0003 HEXAGON HEAD BOLT M 6x 10 DIN 933 8.8	1012681 0,01 kg öS	5,00 ST 0,42
0004 HEXAGON NUT M10 DIN 934 - 8	1015613 0,01 kg öS	4,00 ST 0,55
0005 WASHER A 6,4 DIN 125 St	1015990 0,01 kg öS	5,00 ST 0,07
0006 CIRCLIP FOR SHAFT DIN 471 D 25	1017187 0,01 kg öS	8,00 ST 1,00
0007 VEE-BELT 20X 900 Li DIN2215, ENDLESS ****	1018604 0,25 kg öS	1,00 ST 174,00
0008 VEE-BELT 20X1180 Li DIN2215, ENDLESS ****	1018655 0,33 kg öS	1,00 ST 185,00
0009 PLATE SPRING NO.58	1022857 0,01 kg öS	5,00 ST 59,00
0010 O-RING NO.130 ID 40,95X2,62 COMPOUND NO.8307	1025988 0,01 kg öS	2,00 ST 7,70
0011 JOINT RING KOTEF TYP RC28 RING 201-046 + O-RING 340-01-2	1168231 0,01 kg öS	2,00 ST 103,00
0012 SCREW DRIVER NO. 5	1213849 0,05 kg öS	1,00 ST 32,00
0013 WRENCH 8/10 DIN 895	1213873 0,03 kg öS	1,00 ST 25,00
0014 WRENCH 9/11 DIN 895	1213881 0,04 kg öS	1,00 ST 34,00
0015 WRENCH 13/15 DIN 895	1213903 0,06 kg öS	1,00 ST 31,00
0016 WRENCH 14/17 DIN 895	1213911 0,08 kg öS	1,00 ST 36,00
0017 WRENCH 17/19 DIN 895	1213938 0,13 kg öS	1,00 ST 44,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4079620 MWA/WA GAS BEISTELLMATERIAL 369000 1 KAI 92/51
 485 ERSATZTEILE TISCHLEREI, VERPACKUNG
 =====

Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0018 COUNTERSUNK HEAD SCREW	1246429 0,01 kg öS	10,00 ST 0,22
0019 HARDENER JIROCRYL 2570 I 019	1246615 1,00 kg öS	0,25 L 334,00
0020 PAINT, WHITE JIROCRYL 2K ****	1246623 1,00 kg öS	0,50 L 212,00
0021 WRENCH 22/24 DIN 895	1248693 0,18 kg öS	1,00 ST 79,00
0022 WRENCH 24 DIN 894	1248758 0,15 kg öS	1,00 ST 51,00
0023 WRENCH 27X32 DIN 895	1248766 0,48 kg öS	1,00 ST 107,00
0024 WRENCH 38 DIN 894	1248804 0,44 kg öS	1,00 ST 149,00
0025 ALL-PURPOSE DETERGENT	1252151 0,50 kg öS	1,00 ST 68,00
0026 DUSTCLOTH WITH HAAS LOGO	1252178 0,04 kg öS	1,00 ST 11,00
0027 SCREW DRIVER 4 X 95 CrV	1252313 0,04 kg öS	1,00 ST 26,00
0028 ALLEN KEY 2,5 DIN 911 CrV	1252356 0,01 kg öS	1,00 ST 10,00
0029 ALLEN KEY 8 DIN 911 CrV	1252461 0,06 kg öS	1,00 ST 26,00
0030 SICKLE SPANNER 52- 55 FORM A DIN1810	1252585 0,16 kg öS	1,00 ST 96,00
0031 ZYL.SCHRAUBE M10x 25 DIN 912 8.8 M. INNEN-6KT	1261436 0,02 kg öS	10,00 ST 1,60
0032 PAINT BRUSH 0,14 NR. 2	1304542 0,01 kg öS	1,00 ST 8,40
0033 WRENCH 30X36 DIN 895	1449575 0,54 kg öS	1,00 ST 122,00
0034 PISTON COMPLETE WITH ROD 300-04-08, PISTON 300-04-09, DISC 300-04-10	1169114 0,65 kg öS	1,00 ST 2.347,00

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4079620 MWA/WA GAS BEISTELLMATERIAL 369000 1 KAI 92/51
 485 ERSATZTEILE TISCHLEREI, VERPACKUNG
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0035 BATTER TANK WA,MWA,KTA,MTA 300X380X600	1131648 9,86 kg	1,00 ST 13.572,00
0036 LOCKING ROLLER ASSEMBLY WA,MWA,KTA,STA 1X ROLLER BEARING 59.919.04 D=51mm 2X NILOS RING 3204 AV (RN.1011006) FILLED WITH HIGH-TEMPERATURE GREASE 00300-006*	1666975 0,24 kg	1,00 ST 470,00
0037 RUNNING WHEEL BOLT 00300-006,001/E/	1759698 0,32 kg	2,00 ST 568,00
0038 LOCKING ROLLER BOLT 00300-006,010/-/001/B/	1127470 0,19 kg	1,00 ST 566,00
0039 UPPER ADJUSTMENT BOLT 00310-006,006	1135074 0,04 kg	2,00 ST 108,00
0040 RUNNING WHEEL FOR WA MWA TRO FILLED WITH GREASE	1382489 0,34 kg	2,00 ST 582,00
0041 UPPER TONG ASSEMBLY, WA-MWA WITHOUT LOCKING ROLLER	1429353 9,98 kg	1,00 ST 9.074,00
0042 LOCKING BOLT **** 00400-006,034/C/	1127446 0,68 kg	2,00 ST 892,00
0043 WASTE CONTAINER 750X400X165 00400-015,001/A/	1704745 5,18 kg	1,00 ST 4.505,00
0044 LOCKING AND OPENING BOLT, COMPLETE 00500-001,037/C/	1743376 0,25 kg	2,00 ST 1.099,00
0045 LID I 00500-004,100/-/003	1143999 1,68 kg	1,00 ST 947,00
0046 SIEVE 00500-004,100/-/005	1144014 0,84 kg	1,00 ST 2.504,00
0047 ADJUSTMENT BOLT 00570-001,017/B/	1127373 0,06 kg	4,00 ST 131,00
0048 LOCKING STAR 05000-006,027/B/	1435639 0,61 kg	2,00 ST 1.100,00
0049 ADJUSTMENT PIN 08500-006,018	1123955 0,08 kg	2,00 ST 122,00
0050 OFFSET ALLEN KEY 24 MM 30014-	1252291 0,19 kg	1,00 ST 312,00

***** AM-Ende *****

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4079922 WA ALLGASHEIZUNG 344600 1 KAI 92/48
 220 (FÜR BRENNER 20934) MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 ALL GAS PILOT BURNER ZKIH 300/100 **** NR. 8 421 4030	1063316 1,27 kg öS	1,00 ST 5.251,00
0002 ALL GAS PILOT BURNER ZKIH 400/100 **** NR. 8 421 4040	1128914 1,43 kg öS	1,00 ST 5.911,00
0003 MEASURING NIPPLE R 1/8" No.7 449 2690	1369369 0,01 kg öS	2,00 ST 89,00
0004 ROHRBOGEN 60,3 X 2,9 90 GRAD DIN 2605 NAHTLOS	1830910 0,50 kg öS	3,00 ST 48,00
0005 HOCHDRUCK-RADIALVENTILATOR **** TYPE HDN 1/3 AR 3360UPM/60Hz 0,55kW IP54 220/380V 60Hz NEMA-AUSF.	2395169 17,60 kg öS	1,00 ST 0,00
0006 FIXING FOR IGNITION DEVICE 2X60X104	1144391 0,45 kg öS	2,00 ST 668,00
0007 FIXING FOR BURNER 40X40X94	1144405 0,20 kg öS	4,00 ST 442,00
0008 AIR FILTER FOR HDN 1/5 00530-113,076/A/	1895893 1,10 kg öS	1,00 ST 3.744,00
0009 SCREW FLANGE R 2" **** 51000-013,044	1872931 0,68 kg öS	1,00 ST 717,00

***** AM-Ende *****

4150228 WA ABSCHLUSSLEISTEN 323710 24 KAI 92/50
 13483 (C5782-006,051) XXXXX TEILMONTAGE PLATTEN, FORMEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 ABSCHLUSSLEISTEN ZU SE 2340 **** C5782-006,051	2398664 1,00 kg öS	24,00 ST 0,00

***** AM-Ende *****

1106 HOA/AUSTRIAN WA 24 G M.Nr.15782 KAI - 92/10/21 LT:92/52

4240227 BA-WA, MWA SCHMETTERLING 344600 1 KAI 92/50
 13969 (00400-020) MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 SPONGE ROLLER ORANGE D 65X150	1251570 0,07 kg öS	2,00 ST 82,00
0002 HALTERUNG FÜR SCHMETTERLING 00400-020,001	1137301 3,50 kg öS	1,00 ST 0,00
0003 HALTERUNG 00400-020,004	1137352 1,40 kg öS	1,00 ST 0,00
0004 WASHER D 40/10.2X4 STAINLESS 51000-006,053	1707744 0,03 kg öS	2,00 ST 64,00
0005 HEXAGON HEAD BOLT M 8x 25 DIN 933 8.8 GALZN	1013092 0,02 kg öS	4,00 ST 0,60
0006 COUNTERSUNK SCREW A M5X10 DIN 963 A2 (STAINLESS STEEL)	1014579 0,01 kg öS	6,00 ST 0,81
0007 HEXAGON NUT M 8 DIN 934 - 8 GALZN	1015559 0,01 kg öS	4,00 ST 0,44
0008 WASHER A 10,5 DIN 125 A2 STAINLESS STEEL	1016083 0,01 kg öS	2,00 ST 1,00
0009 6KT.SCHRAUBE M10x 16 DIN 933 5.6 GALZN	1256246 0,02 kg öS	2,00 ST 1,40
0010 SENKSCHRAUBE A M 5x 8 DIN 963 A2 (NIRO) M. SCHLITZ	1257935 0,01 kg öS	6,00 ST 0,15
0011 SPRING WASHER 8 DIN 6796 Fst GALZN	1672703 0,01 kg öS	4,00 ST 1,50

***** AM-Ende *****

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1106 HOA/AUSTRIAN BA-WA M.Nr.15783 KAI - 92/10/23 LT:92/52

4238524 BA-WA, MWA SCHMETTERLING 346000 STO 1 KAI 92/50
 13969 (00400-020) NABDRUCKSTRAHLANLAGE GRAF
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
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***** AM-Ende *****

4240820 BA FÜR WA, WAFFELBREITE 220 MM 344600 1 KAI 92/49
 123 MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
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0001 DRIVING CYLINDER FOR V-BELT D55X 150 SIZE 220X260	1070517 0,29 kg öS	1,00 ST 0,00
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0002 PULLEY D55X 150 SIZE 220X060	1070681 0,29 kg öS	1,00 ST 0,00
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0003 SHAFT, SIZE 220X260 00590-001,008/A/*	1085255 0,23 kg öS	4,00 ST 301,00
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0004 FIXATION FOR SPONGE ROLLER SIZE 220X260	1085085 0,20 kg öS	2,00 ST 406,00
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0005 DRIVING CYLINDER D 55X160 SIZE 220X260	1085433 0,72 kg öS	1,00 ST 0,00
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0006 DISTANZSTANGE FORMAT 220X260 00590-001,016*	1085727 0,29 kg öS	4,00 ST 0,00
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0007 SHAFT FOR TRANSMISSION WHEEL D 15X270 SIZE 220X260	1085948 0,37 kg öS	1,00 ST 0,00
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0008 BRUSHING ROLLER D88X240	1251597 0,24 kg öS	1,00 ST 817,00
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0009 SHAFT D 20X202 SIZE 220X260	1086138 0,40 kg öS	1,00 ST 0,00
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***** AM-Ende *****

1106 HOA/AUSTRIAN BA-WA M.Nr.15783 KAI - 92/10/23 LT:92/52

4240928 BA MONTAGE 344600 1 KAI 92/49
 136 MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0001 NIPPLE FOR BELT D 6,3	1000039 0,01 kg öS	1,00 ST 7,70
0002 ROUND BELT D 6,3 METER WARE	1000705 0,03 kg öS	0,63 M 42,00
0003 GROOVED BALL BEARING 609-2RS1 d=9, D=24, B=7, r=0.5	DIN625 1009109 0,01 kg öS	8,00 ST 112,00
0004 GROOVED BALL BEARING 6002-2RS d=15, D=32, B=9	DIN625 1009192 0,03 kg öS	4,00 ST 132,00
0005 V-BELT ENDLESS 10X 600 Li DIN2215	1018256 0,04 kg öS	1,00 ST 68,00
0006 V-BELT ENDLESS 10X1700 Li DIN2215	1018353 0,11 kg öS	4,00 ST 130,00
0007 SPONGE ROLLER, ORANGE **** OD 55XID 22X220 15g/cm3	1251562 0,07 kg öS	2,00 ST 119,00
0008 STIRNRAD-GETRIEBEMOTOR **** TYPE G80/D63a-4 BAUFORM B3 192UPM/60Hz 0,12kW IP54 KLEMMK.A1 220/380V 60Hz NEMA-AUSF.	2070774 14,30 kg öS	1,00 ST 7.537,00
0009 BRACKET LEFTHAND 6X50X830	1159526 2,02 kg öS	1,00 ST 0,00
0010 BRACKET RIGHTHAND 6X50X830	1159534 2,02 kg öS	1,00 ST 0,00
0011 BUSHING D 32X30	1084895 0,14 kg öS	2,00 ST 144,00
0012 BEARING 00590-001,005/A/N	1084909 0,33 kg öS	1,00 ST 1.266,00
0013 BEARING 00590-001,005/A/V	1084917 0,33 kg öS	1,00 ST 1.266,00
0014 HALTERUNG 00590-001,006/A/N	1084941 0,56 kg öS	1,00 ST 0,00
0015 HALTERUNG 00590-001,006/A/V*	1084968 0,56 kg öS	1,00 ST 0,00
0016 ROLLER FIXATION 00590-001,007/B/	1880373 0,21 kg öS	4,00 ST 391,00

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4240928 BA MONTAGE 344600 1 KAI 92/49
 136 MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0017 PRESSING PIECE 00590-001,010	1085379 0,05 kg öS	4,00 ST 117,00
0018 PULLEY FOR ROUND BELT D 50X18	1085387 0,15 kg öS	4,00 ST 319,00
0019 BRUSH FIXATION 12X30X180	1085395 0,40 kg öS	2,00 ST 0,00
0020 DISC D 52X15	1085573 0,24 kg öS	2,00 ST 158,00
0021 BUSHING FOR WAFER SHEET RELEASE 00590-001,015/A/	1085581 0,03 kg öS	12,00 ST 42,00
0022 HÜLSE FÜR BLATTABNAHME D16/D8,5 L=14	1085603 0,02 kg öS	4,00 ST 0,00
0023 STRIPPER 2X40X90	1085816 0,05 kg öS	2,00 ST 121,00
0024 SET SCREW ISKS M 8X50	1085832 0,02 kg öS	2,00 ST 4,40
0025 PULLEY D 50X24	1086014 0,17 kg öS	1,00 ST 675,00
0026 FIXING FOR STRIPPER 30X30X40	1086219 0,06 kg öS	2,00 ST 101,00
0027 HÜLSE D 14/7X38 00590-001,054	1086308 0,04 kg öS	2,00 ST 0,00
0028 FÜHRUNGSBLECH 00590-001,056/A/N	1086316 0,34 kg öS	1,00 ST 0,00
0029 FÜHRUNGSBLECH 00590-001,056/A/V*	1086324 0,34 kg öS	1,00 ST 0,00
0030 FUSS I **** 00590-002,002	1070789 1,14 kg öS	2,00 ST 0,00
0031 FUSS II **** 00590-002,003	1086332 0,62 kg öS	2,00 ST 202,00
0032 CONSOLE FIXING U65/42X250	1070800 1,82 kg öS	1,00 ST 0,00
0033 CONSOLE FIXING U65/42X250	1070819 1,82 kg öS	1,00 ST 0,00

1106 HOA/AUSTRIAN BA-WA M.Nr.15783 KAI - 92/10/23 LT:92/52

4240928 BA MONTAGE 344600 1 KAI 92/49
 136 MONTAGEBEREICH III ÖFEN
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Pos. Teilebezeichnung Ä.KZ (Zeichng.Nr.)	Ref.Nr. E.Gew.	G.Menge VP
0034 FASTENING RING D 30X15	1086359 0,07 kg öS	2,00 ST 0,00
0035 MOTORKONSOLE 00590-002,008/A/	1070827 0,73 kg öS	1,00 ST 0,00
0036 SCHUTZVORRICHTUNG 00590-002,009/A/	1070851 0,97 kg öS	1,00 ST 0,00
0037 HALTERUNG 00590-002,010	1086367 0,29 kg öS	1,00 ST 0,00
0038 PULLEY D 100X37	1086375 0,76 kg öS	1,00 ST 366,00
0039 SET COLLAR D 30X3	1086383 0,02 kg öS	1,00 ST 40,00
0040 PROTECTION DEVICE 18X188X290	1255681 0,67 kg öS	1,00 ST 0,00
0041 DECKEL 2X290X188	1070940 0,61 kg öS	1,00 ST 0,00

***** AM-Ende *****
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