

BENZ & HILGERS GmbH

Maschinenfabrik
4 DÜSSELDORF NORD
Münsterstraße 246

Telefon: (0211) 6394 1 Telegramme Benhil Düsseldorf Telex: 8586830a ben d

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.



JAGENBERG-GRUPPE

Typ 8382

Type 8382

Special Instructions:

The following instructions are strictly to be observed:

CAUTION

Non-observance may cause damages to the machine.

WARNING

Non-observance may cause damages to the machine and result in dangerous industrial accidents.



Bedienungsanweisung

OPERATING INSTRUCTIONS

Typ
Type
8382

	Contents	Page
3.10	Folding	22
3.11	Pressing station	24
3.12	Transfer of packages	24
4.0	Summary of the mechanical operating elements	24
5.0	Test run	25
6.0	Setting-up and maintenance of the machine	25
7.0	Cleaning of the machine	26
7.1	Parts to be dismantled for cleaning	26
7.2	Dismounting of parts	26
7.3	Preparation at packing of butter	27
7.4	Incorporation of parts	28
8.0	Treatment of the turning cylinder, dosing piston and bumper piston	29
9.0	Starting of packing	31
10.0	Failures and the removal of same	35
11.0	Modification instructions concerning format change	37
12.0	Storage and treatment of wrapping rolls	43
13.0	Punch perforation	44
14.0	Thermoprinter	44
15.0	Ink printer	45

1.0 General.

1.1 Engineer's duties during erection of the machine.

If the erection of the machine is done by a Benhil engineer, please consider that his duty is not alone to erect and commission the machine, but it is of even greater importance that your operators become familiar with its attendance. Name someone having technical know-how to be responsible and another one to be his deputy, in order that you may always have a well-versed expert available for the machine, even in case of illness or relief.

After completion of the commissioning work, allow the Benhil engineer to supervise the running of the machine and the performance of your operators for some days unmolested. Before his departure, make sure for yourself by way of an official acceptance that the machine runs perfectly and, what is more, that your operators have become fully acquainted with attendance, lubrication, cleaning, change-over to a different packet size etc.

A design model of the machine type 8382 has been examined by the Technical Supervisory Board as to safety against accidents and has been granted a Certificate of No Objections by the German Employers' Liability Insurance Association for foodstuffs and restaurants.

WARNING

1.1.1 Directions for prevention of accidents.

1. Attendance of the machine.

The packaging machine may only be operated and maintained by persons who have been instructed and may be expected to do their duty reliably.

The employer has to make sure that the operating instructions supplied by the manufacturer of the packaging machine will be adhered to. If necessary, he has to give supplementary servicing instructions.

2. Limit switches.

Limit switches have been provided for the prevention

of accidents and the safety of machine attendance.

3. Setting and attending to the machine.

If work on a running machine becomes necessary for setting, attending and eliminating disturbances, the machine may only be put in motion by hand or by means of the inching switch.

If the button is out of reach of a person busy with setting, attending or repair work, or if several persons are working on the machine at a time, a particularly nominated person has to service the machine from a point where the work can be supervised and the machine be stopped immediately. This person must not leave its place, as long as work continues.

Attending and setting work, during which guards have to be made ineffective, may only be done by charged and trained persons.

4. Cleaning.

During operation no cleaning work may be done on moving parts of the packaging machine.

If for reasons of factory conditions cleaning is not possible during standstill, steps must be taken to preclude any risk, e.g. use of suitable auxiliary tools.

Cleaning of running rollers may only be carried through from the discharging side, or guard covers should be used over the inlet and the roller gap.

1.2 Uncasing.

All parts are to be carefully unpacked. The machine must be examined for damage occurred in transit. Following packing instructions, the machine is shipped as partly dismantled. The completeness of the consignment is to be checked guided by the said instructions. If parts are missing, please advise Benhil at once. Now remove all protection boxes to avoid damage.

For lifting the machine, there have been provided transport eyes beside the adjustable machine feet which can receive round bars having a diameter of up to 50 mm. Here and on the firm machine frame ropes may be applied.

Do not sling ropes round levers, shafts or similar protruding parts.

Shifting the machine to its proper place may be facilitated by placing round bars below the screwed-on wooden planks. During this, take hold only on firm parts like machine frame.

Determine a suitable place for the erection sheet with tools, spare parts and accessories as well as size parts.

1.3 Cleaning.

All bright machine components are sprayed with rust preventing agent. This rust preventing agent and any smudges due to transportation should be removed by a soft rag and spirits.

Parts susceptible to corrosion may be protected by commercial chrome protecting and rust preventing agents.

1.4 Erection of the machine.

In case of direct link-up, the machine is supplied in two parts and in case of feedworm-trough design, in three parts.

After erection at the place provided, level the machine in all directions by spirit level. Aligning is done by adjusting the machine feet which afterwards must be fastened by lock-nuts again.

1.4.1 Mounting of the discharge conveyor.

1.4.1.1 Discharge conveyor parallel to the wrapper web.

(Discharge conveyor at right angles left hand)

The discharge conveyor is fastened by four screws to the pillow block fig. 8382/180-6 on the machine plate. Align the discharge conveyor by spirit level adjusting the foot at the supporting bar. Place the transition plate fig. 8382/181-15 between revolver table and belt. The electrical connection is carried through by a plug on the discharge conveyor motor fig. 8382/180-5.

1.4.1.2 Discharge conveyor 90° to the wrapper web.

(Straight discharge conveyor)

The discharge conveyor is fastened by four screws to the pillow block fig. 8382/180-6 on the machine plate. Align the discharge conveyor by spirit level adjusting the foot at the supporting bar. Place the transition plate fig. 8382/182-8 between revolving table and belt.

The electrical connection of the discharge conveyor motor fig. 8382/180-5 is carried through by plug. Mount the lateral cover plate on the discharge conveyor.

1.4.2 Packet push-off device.

This device pushes the packets from the revolving table on to the discharge conveyor belt. If required, the packets are pushed off straight or as turned through 90°.

If the packets are pushed off straight, the long con-

necting rod fig. 8382/181-1 is fastened on the pillow block fig. 8382/181-3. During the motion of the lever fig. 8382/165-5, the push-off device fig. 8382/165-7 must not turn. Deviations can be removed by adjusting the connecting rod fig. 8382/181-1.

However, if the packets are turned, while being pushed off, through 90° , a guide fig. 8382/182-2 is screwed on the bearing fig. 8382/182-1. On the said guide, a short connecting rod fig. 8382/182-5 is fastened. The push-off device fig. 8382/165-7 must turn during the motion of the lever fig. 8382/165-5 through 90° . Deviations can be removed by adjusting the connecting rod fig. 8382/182-5.

A further precision adjustment can be carried through by a slot in the bearing fig. 8382/181-3 and two bore-holes in the guide fig. 8382/182-2.

1.4.3 Mounting the feedworm trough.

The feedworm trough is moved to the filling housing fig. 8382/165-14 and both housing flanges are connected by four screws. Push the driving shaft fig. 8382/132-4 with ball joint fig. 8382/132-5 on to the driving pivot below the flange of the filling housing and pin it. Cover the ball joint with the bellows fig. 8382/132-7.

Mount the guard plate.

After that, fasten the round brackets fig. 8311 S/71-1 to the square bracket fig. 8311 S/71-2 and the machine frame. Retighten all screws.

Provide electrical connection by plug and socket between feedworm trough and machine frame.

Place the feedworms fig. 8311 S/71-15 and 16 into the trough, following paras 7.4.6 through 7.4.8.

The crank supplied by us fig. 8311 S/71-25 serves for turning the feedworms backward by hand during cleaning

for the conveyance of especially soft products into the front space of trough and will, for this purpose, be put onto the slit pinion shaft, fig. 8311 S/73-11, being in the drive of the conveyor worm, fig. 8311 S/71-21.

Rest, fig. 8311 S/71-4, with cylinder support to be placed below the worm trough.

1.5 Electrical installation:

The also supplied, installed switch cupboard is to be mounted at the place provided for.

The separate delivery of the machine makes it necessary to interrupt the electric mains to the switch cupboard. For this reason the connection between the machine and switch cupboard will be effected by plug-type connectors, marked correspondingly.

CAUTION

It must be controlled whether voltage and frequency, indicated on the name plate, are in conformity with the local circumstances and conditions.

Observe direction of rotation of the motor.

2.0 Preparation for putting machine into operation:

2.1 Lubrication and lubricants:

Before putting machine into operation it is of utmost importance to know exactly the lubrication system used.

There are various grease boxes with conical head lubricating nipples on the machine. The most important greasing points are fed with a dosed quantity of grease over progressive distributors with throttle elements incorporated.

A feeding main and return main is grouped and belongs to each progressive distributor. The return main ends at the check bore hole and is to be seen above or below the lubricating nipples marked red. All other lubricating points will separately be greased over a lubrication piping

ATTENTION !

Despite the fact that the machine is equipped with a central greasing system, there are still parts which are not attached to the system, which have to be greased with fat, by hand. These are:

- 1.0 Grease points which come into contact with the wrapper and product.
- 2.0 Grease points which have to be greased every 100 production hours, such as joint bearings on tension rods and splined shafts in the lower assembly, folders, paper unit and filling.
- 3.0 Grease points on delivery parts with different greasing instructions, such as, main drive, regulating disc, ball guides, and gear box motors.

The instructions for greasing these parts have been included in the instruction and spare parts book.

- 2.1.1 Oil change of change-over gear: The waste oil will be drained by removal of the plug, fig. 8382/35-16, attached to the underside of the gear. Screw plug in again and fill the gear with 20 litres of flushing oil after removal of the locking screw, fig. 8382/35-25. Let the machine run for approximate 5 minutes and drain the dirty flushing oil. Approximate 35 l of gear lubricant oil will be necessary for filling the change-over gear. Choose sorts of gear-lubricant oil according to table 2.1.12. Fill in gear-lubricant oil and check oil-level at the inspection glass, fig. 8382/35-11; oil change after 3000 operating hours.
- 2.1.2 The drive of the conveyor worm, fig. 8311 S/71-21 must be filled with approx. 1500 g of transmission lubricant after 3000 operating hours according to table 2.1.12. and after the drive has been flushed too before with flushing oil.
- 2.1.3 The SIMPLA-slip-on gear and the mitre-gear in the filling housing must be filled with approx. 1800 g of gear grease after 3000 operating hours according to table 2.1.12. Drain previously the used transmission lubricant after removal of the discharge screw.
- 2.1.4. The adjusting disk, fig. 8382/20-1, on the butt end of the motor shaft is only to be greased after 100 running hours. Penetrated machine grease must daily be removed from the adjusting disk and also especially from the broad V-belt and the big pulley; if not, the belt slips, does not pull correctly and the consequence is a premature wear of same.
- 2.1.5 All joints of the connecting rods at the folding and the filling mouth piece must directly be greased. In order to effect this the coating sheet and the hood on the folding housing are to be removed.
- 2.1.6 The roller chains must be greased by an oil-splash gun; observe reference arrows.
- 2.1.7 The worm gear for the variable speed motor of the main driving motor has to be filled after 10 000 operating hours each with 1000 g of gear grease; see table 2.1.12.

- 2.1.8 The worm gear for the driving motor of the belt conveyor and for the variable speed motor of the adjustment of weight are filled with lubricant for life.
- 2.1.9 After cleaning, at stop of operation as well as at a longer standstill of the machine all bright parts must be well greased in order to avoid formation of rust. The preservation of the rust-susceptible parts may be done with the usual, commercial chromium and rust-preventing agents.
- 2.1.10 Replacement of an oil hose:
If a hose should be defect it must be replaced in accordance with the following instructions:
Remove screwed connection from the defective hose and put small mouth of the union nut onto the new hose. Slip-on thick side of the cutting ring onto the hose. Put brass-inserting bush into the hose, put on connection piece and screw up parts firmly. During screwing the cutting ring with its small diameter cuts into the hose and fastens itself in this way.
- 2.1.11

CAUTION

 Please, take care that, when greasing the progressive distributors, at least two thin grease lines are pressed out of the check bore hole.
It is not a guarantee that each grease hose is tight at the grease point as a part of the lubrication system will be greased over single pipings.
Concerning this you will please check the grease and oil hoses every week.
Remark: In case lubrication deposits should occur on the bottom or on the machine base this means that the lubrication piping is not tight.

Lubricant:	Viscosity Grade:	Properties:	Grease Point and Quantity:	Lubrication Terms:	 c. 1.12 Bedienungsanweisung OPERATING INSTRUCTIONS Typ 8382
Lubricating oil CLP 68, grade according to DIN 51 502	kinematic viscosity 68 cSt bei 50°C 9,5 °E bei 50°C	resistant against aging, inhibiting corrosion, resistant against high-pressure, water repellent	change-over gear for the cell table = 23 l	for the first time after 300 and then after 3000 operating hours each	
Flushing oil P 2, grade according to DIN 51 502	kinematic viscosity 6,25 cSt b. 20°C 1,5 °E b. 20°C		change-over gear for the cell table = 20 l conveyor worm drive = 5 l	for the first time after 300 and then after 3000 operating hours each after 3000 operating hours each	
Transmission lubricant Goof Na-saponified, grade according to DIN 51 502	worked penetration 400 to 430/25°C, operating temperature -20 to 80°C, dripping point abt. 150°C	resistant against aging, inhibiting corrosion, resistant against pressure, not water resistant	conveyor worm drive = 1500 g SIMPLA-slip-on gear = 1800 g worm gear for the variable speed motor of the main driving motor = 1000 g	after 3000 operating hours each for the first time after 1000, then after 3000 operating hours each after 10,000 operating hours each	
Semifluid grease Doooa Ca-saponified, grade according to DIN 51 502	worked penetration 445 to 475/25°C, operating temperature below -20°C, dripping point abt. 85° C	inhibiting corrosion, resistant against pressure, water repellent	conical lubricating head for roller and curve lubrication (conical lubricating head "black") mitre gear in filling housing= 1800 g ink printer	after 10 operating hours each after 3000 operating hours each after 100 operating hours each	

Lubricant:	Type (Examples)	Properties:	Grease Point and Quantity:	Lubrication Terms:
Lube oil <i>C LP 169</i> according to DIN 51 502	<i>Eller-Montana-Elmo 1614</i> <i>Shell: Omala-Oel 320</i>	resistant against aging, inhibiting corrosion, resistant against high-pressure, water repellent	<i>Cell table oil</i> <i>filling 231</i>	for the first time after 300 and then after 3000 operating hours each
Flushing oil P 2 grade according to DIN 51 502	kinematic visco- sity 6,25 cSt b. 20°C 1,5 °E b. 20°C		change-over gear for the cell table = 20 l conveyor worm drive = .5 l	for the first time after 300 and then after 3000 operating hours each after 3000 operating hours each
Transmission lubricant Goof Na-saponified, grade according to DIN 51 502	worked penetration 400 to 430/25°C, operating tempera- ture -20 to 80°C, dripping point abt. 150°C	resistant against aging, inhibiting corrosion, resistant against pressure, not water resistant	conveyor worm drive = 1500 g SIMPLA-slip-on gear = 1800 g worm gear for the variable speed motor of the main driving motor = 1000 g	after 3000 operating hours each for the first time after 1000, then after 3000 opera- ting hours each after 10,000 operating hours each
Semifluid grease 0000a Na-saponified, grade according to DIN 51 502	worked penetration 445 to 475/25°C, operating tempera- ture below -20°C, dripping point abt. 85° C	inhibiting corrosion, resistant against pressure, water repellent	conical lubrica- ting head for roller and curve lubrication (conical lubri- cating head "black") mitre gear in filling housing = 1800 g ink printer	after 10 operating hours each after 3000 operating hours each after 100 operating hours each

2.2 Functioning of the controller.

All electrical devices are to be operated from the controller.

When running the machine without product, it should be ensured particularly that the filling unit is disengaged, because without product there is no sufficient lubrication for the dosing pistons and the rotary cylinder.

Important! The machine can only run without wrapping material, if the selector switch feeler at the controller is set to -Off-.

2.3 Meaning of the push-buttons and the selector switches.

2.3.1 Mushroom-type push-button red -Off-. Machine off.

2.3.2 Luminous push-button -On- and non-luminous push-button -On-. Machine on.

The flashing up of the push-button indicates the readiness of the plant for operation.

The machine will only run, if both push-buttons are pressed. This type of machine engaging, called two-hand safety device, has been prescribed by the employers' liability insurance association.

2.3.3 Selector switch -Inching-.

The machine will run only, as long as the push-buttons -Machine on- are pressed.

2.3.4 Push-button -Faster- and -Slower-.

Here the output of the machine can be adjusted from 60 to 130 packets/min.

2.3.5 Selector switch -Feeler On-Off-.

After insertion of the wrapper during commissioning of the machine it should be ensured that the selector switch points to -Cn-, as in case of a missing wrapper bag the whole plant will be stopped by this feeler.

2.3.6 Selector switch -On-Off- for thermoprinter.

For commissioning the thermoprinter, the selector switch

is turned to -On-. The signal lamp indicates the readiness for operation.

- 2.3.7 Four-way switch for the thermoprinter.
By means of this switch, the heating for the printing types is regulated. The said switch is in the cabinet.
- 2.3.8 Push-buttons - Weight + and Weight - adjust the course of the dosing piston, thus the weight of the packets to plus or minus.
- 2.3.9 Selector switch - Pulse relay On - Off -.
This switch serves for weight adjustment. Position On adjusts the weight in small steps. Position Off serves for change-over from e.g. 125 grs to 250 grs.
- 2.3.10 Push-button -Release brake -.
If the machine is turned by handwheel, the push-button Release brake must be pressed before.
- 2.3.11 Push-button - Conveyor On - and Conveyor Off -.
It puts the discharge conveyor belt into motion. Push-button Conveyor On flashes up.
Machine will only run, if the discharge conveyor belt has been switched on.
- 2.3.12 Push-button - Agitator On - and - Agitator Off -.
It switches on the agitator and indicates Agitator On by the lamp flashing up in the push-button.
Machine will only run, if the agitator has been switched on.
- 2.3.13 Selector switch - Facket single-row arrangement On - Off -.
- 2.3.14 Selector switch - Heated cutter On - Off -.

2.4 Functioning of the limit switches.

- 2.4.1 The number of cycles of the machine is set by a variable speed motor fig. 8382/22-5. The upper and lower number of cycles is limited by two limit switches fig. 8382/22-1 and 4.
- 2.4.2 Limit switch fig. 8382/91-13 cuts the machine out by pendulum fig. 8382/91-11, if there is no wrapper on the reel.
- 2.4.3 If the wrapper has a scanning mark, two limit switches will be provided for the control of the photo-cell. They have the following function:
The limit switch fig. 8382/95-3 gives the photo-cell the order to locate the scanning mark.
The limit switch fig. 8382/95-4 quenches the function given in the previous cycle.
- 2.4.4 The limit switch at the door between filling station and folding station serves the prevention of accidents, when the cell bottom is lifted for cleaning. Machine will only be ready for operation again, if the door is closed.
- 2.4.5 The weight adjustment to plus and minus is carried through by a variable speed motor fig. 8382/25-1. The adjustment is limited by two limit switches fig. 8382/127-8 and 9.
- 2.4.6 The limit switch fig. 8382/95-5 with control cam fig. 8382/95-1 for the packet push-off device has been adjusted in such a way that at machine stop no packet will remain on the cell table.
- 2.4.7 Limit switch fig. 8382/95-6 for the thermoprinter.
- 2.4.8 If the cover fig. 8311 S/73-1 at the gear box of the feedworm trough is opened, the machine is put out of operation by the limit switch fig. 8311 S/74-5.

3.0 Functioning of the Filling and Wrapping Machine.

3.1 Drive of the machine.

The drive is done by an electromotor with adjustment pulley. Via cone belt and slip-on gear the driving power is transmitted on to the main drive shaft. From here the different devices are driven via toothed wheels. By means of a variable speed motor the number of cycles is set from 60 through 130 cycles per minute. Two limit switches limit the lower and upper numbers of cycles. The variable speed motor is actuated by the push-buttons Slower and Faster in the controller.

At machine stop the number of cycles is automatically slowed down to 60 cycles.

Important! The machine may only be started up with the lowest number of cycles.

3.2 Wrapper feed.

3.2.1 The wrapper is taken from the reel and, depending on customer's wishes, it has register holes (punched holes) or scanning marks. Also wrapper having continuous printing can be used. In this case, no register holes or scanning marks are required.

3.2.2 The unwinding axle fig. 8382/92-4 is inserted into the wrapper reel, clamped with the receiving cones and placed into the bearing provided. Brake disc fig. 8382/92-14 and brake block fig. 8382/92-15 must mesh.

It should be ensured that the print on the wrapping material is on the lower side when being inserted into the paper fold apparatus. The beginning of the wrapper is to be cut straight and at right angles in the middle of the register hole or the scanning mark.

3.2.3 Before inserting the wrapper, the following work is to be done:

1. Lift pendulum fig. 8382/80-2 and let it catch into the ratchet fig. 8382/80-23.
2. Lift the wrapper brake fig. 8382/91-4 to the stop.

3. In case of design with thermoprinter or ink printing device, the lower guide pulley is to be moved into uppermost position. Fasten with clamping lever fig. 8382/77-13.
4. Lift upper feed roller fig. 8382/72-13 from the lower feed roller by turning the lever fig. 8382/72-7.
5. Run the movable transversal cutter fig. 8382/85-11 into lowest position.

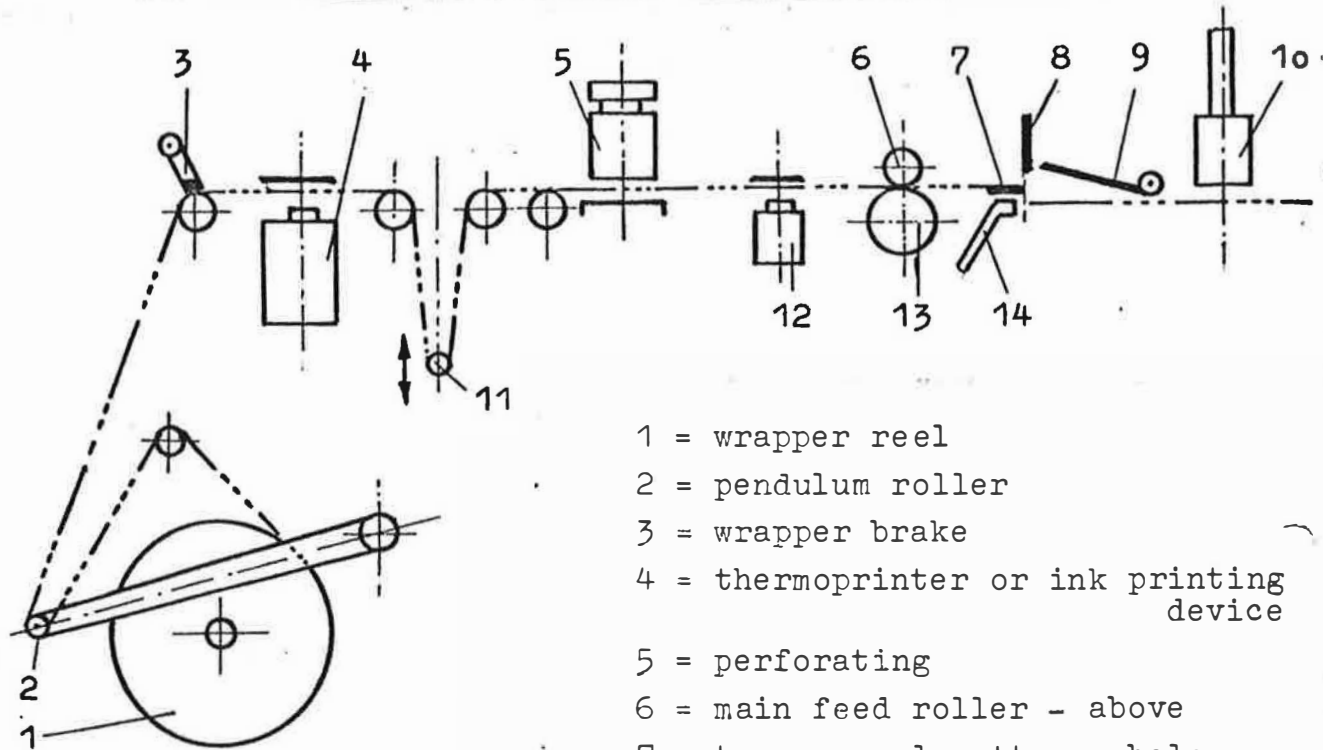
3.2.4 The insertion of the wrapper may be seen from the schematic drawing on page .

3.2.5 The front edge of the wrapper is carried to the transversal cutter. Ensure the correction bow fig. 8382/70-19 lies above the wrapper. (Only in case of register holes.) After that, lower the upper feed roller, turn over the wrapper brake. This prevents the wrapper from being pulled back by the pendulum roller. Disengage and lower pendulum fig. 8382/80-2 by actuating the lever fig. 8382/70-10. Set guide pulley (on component fig. 8382/77-12) in case of design with thermoprinter or ink printing device. It should be ensured that the wrapper is inserted laterally into the correct position. Lateral precision adjustment can be carried through during machine run by turning the adjusting nut fig. 8382/92-18.

3.2.6 An attenuation unit working via a pendulum is arranged before the main feed. The pendulum keeps the wrapper web tight and at the same time provides for a preliminary unwinding of the wrapper. In addition, the pendulum fig. 8382/80-2 actuates a cam fig. 8382/92-6 which carried through the braking of the wrapper reel. If this cam and the brake piece fig. 8382/92-15 are set correctly, the wrapper will remain tight during the feed operation.

3.2.7 The limit switch fig. 8382/91-13 is actuated and it stops the machine, if the pendulum roller finds out

Insertion of the wrapper with photo-cell control.



1 = wrapper reel

2 = pendulum roller

3 = wrapper brake

4 = thermoprinter or ink printing device

5 = perforating

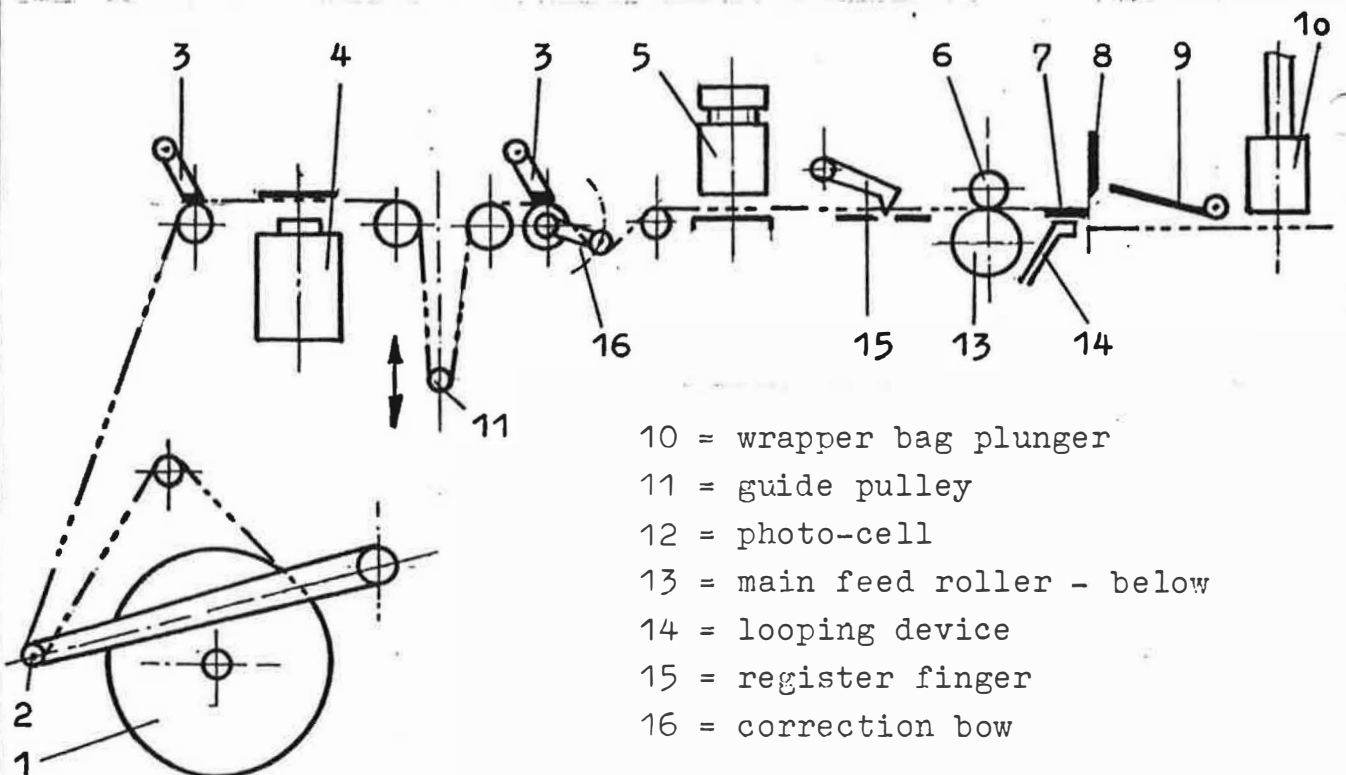
6 = main feed roller - above

7 = transversal cutter - below

8 = transversal cutter - above

9 = movable blankholder

Insertion of the wrapper with register holes.



10 = wrapper bag plunger

11 = guide pulley

12 = photo-cell

13 = main feed roller - below

14 = looping device

15 = register finger

16 = correction bow

that the wrapper reel is used up and a new one should be inserted.

3.2.8 Functioning of the main feed with photo-cell control.

The wrapper feed is done mechanically from a cam fig. 8382/76-17 via a connecting rod fig. 8382/76-15 to a toothed segment fig. 8382/76-3. The connecting rod is fastened to a lever fig. 8382/74-9 with slide block and adjusting spindle fig. 8382/76-10. By this, the required wrapper length can be set firmly. That is achieved by turning the knurled nut fig. 8382/74-17. Loosen hexagon nut at the bolt fig. 8382/74-8 before. The wrapper correction is done via an eccentric bolt fig. 8382/75-9 with slide block to a toothed segment fig. 8382/75-2.

The eccentric bolt fig. 8382/75-9 with lever fig. 8382/75-8 is actuated via a guide plate fig. 8382/76-6 controlled by a lifting magnet fig. 8382/76-12 in such a way that during a correction the feed is extended by some 3 mm.

The control of the lifting magnet and the photo-cell is done by two roll limit switches. These are actuated by a cam.

The brake pulley fig. 8382/75-5 and 6 fastened on the lower main feed roller shaft fig. 8382/86-3 prevents continued running of the feed rollers after completion of the feed motion. The adjustment of the brake is done by the grooved nuts fig. 8382/75-7.

3.2.9 Functioning of the main feed with register holes.

The wrapper is also in this case carried forward by the main feed with the set length. After completion of feed, the register hole in the wrapper web must have been pulled some 2 to 4 mm beyond the front edge of the register finger. When handling plastic-coated wrappers, some 6 to 8 mm.

Then the upper main feed roller fig. 8382/72-12 releases the wrapper web, and the correction bow fig. 8382/70-19, by its weight, pulls the wrapper web back, till the register finger can drop into the register hole.

Thereupon, cutting is done. If the correction bow does not pull the wrapper back far enough, its stop must be adjusted downwards.

The tensile force of the correction bow can be influenced by shifting its weight.

For the remedy of disturbances, the wrapper web can be pulled forward and backward by hand, after the wrapper brake fig. 8382/70-7 and the register finger have been lifted.

- 3.2.10 The upper main feed roller fig. 8382/72-13 is driven by the lower main feed roller. Pressure springs in the pillow blocks fig. 8382/72-6 and fig. 8382/71-4 produce the roller pressure. The adjustment of the roller pressure is done by the thread bolts fig. 8382/72-4 and fig. 8382/71-3.

During this adjustment, it must be ensured that the pressure be uniform between the two rollers. If a wrapper is placed between the feed rollers and if one tries to pull it out, the tensile force must be the same over the whole width.

Excessive roller pressure will destroy the rubber-coated roller.

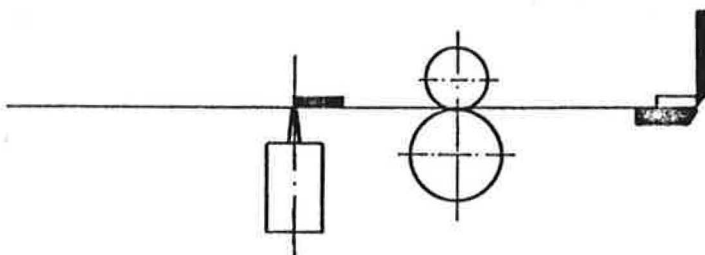
3.3 Functioning and adjustment of the photo-cell.

The scanning head of the photo-cell is arranged adjustable and can be set in such a way that the transversal cutter cuts the wrapper on the scanning mark. After completion of feeding, the photo-cell scans the wrapper.

If the light beam of the photo-cell touches the ground, an order is given for correction of the subsequent feed. If the light beam of the photo-cell touches the scanning mark, it gives an order to the lifting magnet fig. 8382/76-12 which turns the guide plate fig. 8382/76-6 to the left via the connecting rod fig. 8382/76-7. Therefore, the lever fig. 8382/75-8 is not lifted by the cam slide in the guide plate, and thus the subsequent feed is extended.

The extended cut-to-size length is the distance between the scanning marks plus 4 mm. After that, the guide plate

Touching the scanning mark.



Touching the ground.

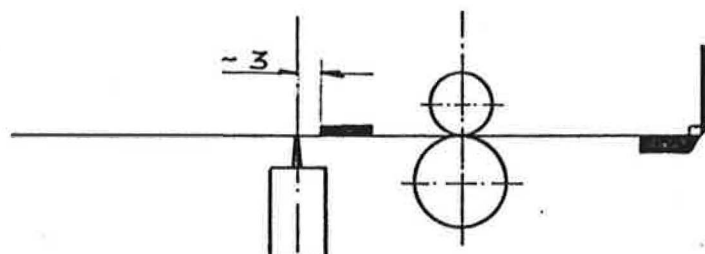


fig. 8382/76-6 is turned to the right again by the lifting magnet fig. 8382/76-12. Each subsequent sheet will become some 0.4 mm shorter in its cut-to-size length than the previous one.

The reduction of the cut-to-size length is achieved by the roll of the lever fig. 8382/75-8 running on to the cam slide of the guide plate during every course. If the light beam of the photo-cell touches the scanning mark again, the next correction will be done. The correction size which can be set at the eccentric bolt fig. 8382/75-9 should be some 3 mm.

The size of the reduction is set at the connecting rod fig. 8382/76-7.

3.3.1 Cam adjustment.

Ignite photo-cell from 35° - 60° (cam fig. 8382/95-2)

Quench photo-cell 350° (cam fig. 8382/95-10)

Switch connection both to opener.

3.3.2 Action of the lifting magnet.

Scanning head adjustment dark scanning mark.

Reaction of lifting magnet at light beam touching scanning mark:

lifting magnet off at 35°

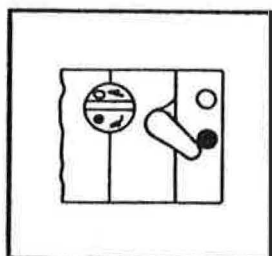
lifting magnet on at 350°

3.3.3 Functioning of the deflector:

- | | |
|---------------------------------------|-------------------------|
| At lower position of hoisting magnets | - pull long |
| At upper position of hoisting magnets | - pull will be adjusted |

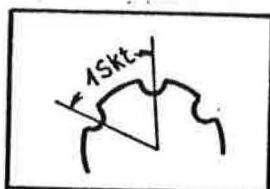
3.3.4 Adjustment of photoelectric cell:

The wrappers used in those machines, adjusted to required pressure, are provided with a control and timing mark. The colour of the control mark is normally the same as that of the pressure on the wrapper. In the first place it has to be observed that the control mark shows sufficient contrast in comparison with the ground. A good visible contrast by eye is not the proof that the photoelectric cell shows the same contrast. The eye perceives all checkered colours as contrast but the photoelectric cell is in a sense colour-blind and perceives only the difference between light and dark. In order to be able to find out the contrast an adjustment of the photoelectric cell will be necessary and that adjustment will be as follows:



1. Set the mode of operation selector switch to the necessary mode of operation.

- a) Dark mark  if the ground of the wrapper is light and the control mark dark .
- b) Light mark  if the ground of the wrapper is dark and the control mark light.

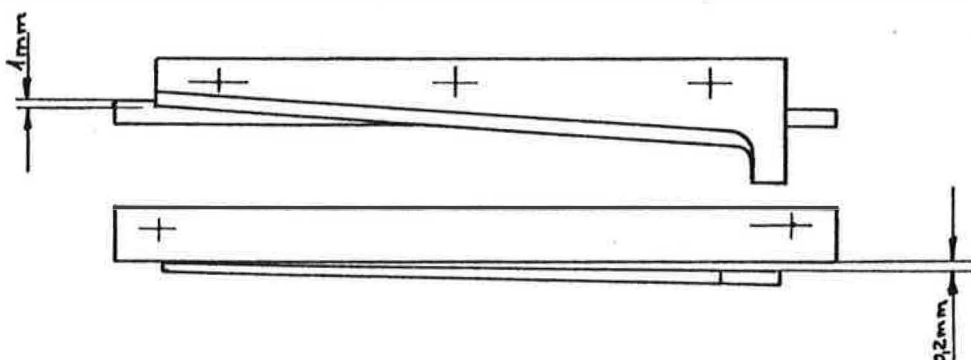


2. Set the control mark of the wrapper in a distance of 8 mm (up to the lens) into the luminous spot. Turn the switch point adjusting device so long in contrary direction to to the arrow of the set mode of operation till exactly the indicating lamp extinguishes.

Bring the ground into the light spot, turn the switch point adjuster counting the scale intervals (Skt) in the direction of the arrow of the set mode of operation, until the indicator lamp is on the point of flashing up. The difference between the two adjusting points should be two scale intervals. Turn back the switch point adjuster by the half of the counted scale intervals.

3.4 Transversal cutter.

The transversal cutter fig. 8382/72-17 is fixed resiliently to a light-metal bridge fig. 8382/72-16. This bridge is adjustable on one side and should be adjusted in such a way that between upper and lower knife some 0.2 mm clearance will be measured in the lower position of the movable knife on the side where the movable knife has its foot. See sketch.



3.5 Looping device and blankholders.

After transversal cutting, the wrapper is carried by a looping device fig. 8382/84-3 and 6 below the wrapper bag plunger. Safe take-over of the wrapper is ensured by movable blankholders fig. 8382/85-7. These press the wrapper against the fold box plate immediately after transversal cutting.

It is of importance that the air crevice between blankholder and fold box plate does not exceed 1 mm. The course of the looping device is adjustable.

3.6 Wrapper bag plunger and fold box.

The wrapper bag plunger presses the cut wrapper through a fold box into the cell table.

It is of importance that there is equal clearance at the side walls and front walls, when the wrapper bag plunger dips into the fold box. In addition, there should be some 1 mm clearance between the wrapper bag plunger in its lower position and the cell bottom.

At the lower part of the fold box front sides, there are pressure rolls controlled by tension springs. These attach to the downward moving wrapper bag plunger, completing the folding operation initiated in the fold box. The said press-on rolls can be engaged and disengaged by means of a valve rocker, depending on the quality of the wrapping material. An adjustable wrapper stripper being fixed below the fold box prevents the wrapper bag from being carried up by the ascending wrapper bag plunger.

3.7 Feeding and dosing of the product.

The product is fed into the dosing chamber either by feedworms or by the pressure of the processing plant.

In case of feedworm-trough design, the feedworms are driven via a claw clutch. Engaging and disengaging the feedworms without switching off the filling unit can be done by the lever fig. 8382/2-3.

In case of direct link-up the pressure is kept constant via the buffer piston and should not exceed 1.5 bar. The dosing unit is connected with the machine via a clutch fig. 8382/120-3 and can be engaged and disengaged at the lever fig. 8382/1-3.

CAUTION

Important. Engaging and disengaging only to be carried through at Machine Inching.

The nozzle fig. 8382/165-28 is arranged fix and having a cutter fig. 8382/133-7 by which the product is separated. The cells in the rotary table are lifted towards the nozzle at the filling station, the course being

adjustable. The cell course must be adjusted according to the volume of the product. The adjustment is done at the handwheel fig. 8382/2-2.

The rotary cylinder fig. 8382/131-2 is held axially in the housing by a bearing flange fig. 8382/133-12 and in the counter-limitation by a ring. In case of wear of the inserted bronze ring at part fig. 8382/133-12, same must be replaced by a new one.

The course of the cutter can be set by adjusting the connecting rod fig. 8382/165-2 at the lever fig. 8382/165-1.

Important. The adjustment of the cutter motion can only be carried through with product.

CAUTION

3.8 Change of the feedworm speed.

When changing over to another weight size, it is necessary to reduce or to increase the quantity of the product fed into the rotary cylinder. For this purpose, change wheels to be found outside the gear box are laid open by turning the guard cover fig. 8311 S/73-1 and replaced by the corresponding change wheels.

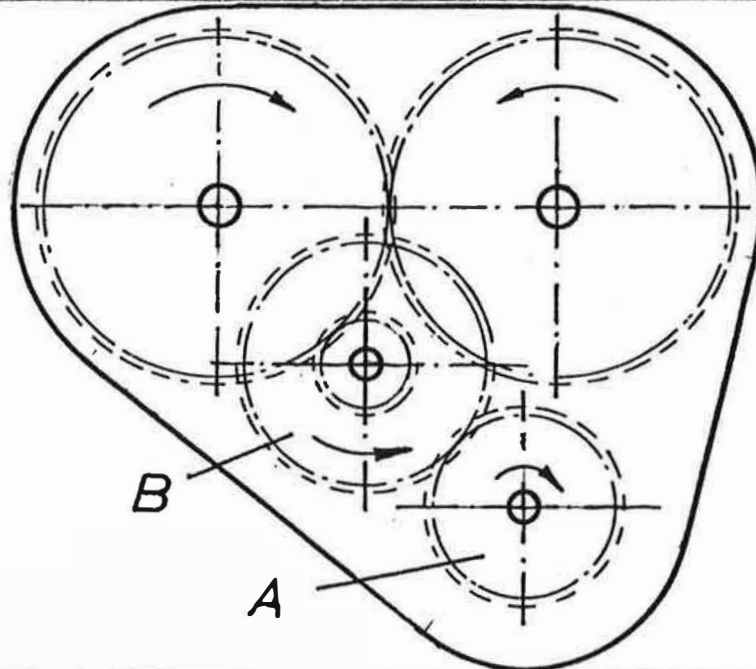
Normally, the smaller toothed wheel should be slipped on to the pinion shaft having a slot. However, the feedworm speed can also be changed and adapted to the product to be handled by changing toothed wheels. Turn back and secure the guard cover fig. 8311 S/73-1 after the change.

3.9 Table of change wheels for feedworm speed see page

3.10 Folding.

The packets are closed at the folding station. After the entering folders fig. 8382/165-24 at the front sides of the packet have pre-folded the wrapper bag, two closing folders fig. 8382/133-19 and 8382/165-19 turn over the longitudinal flaps of the packet one after the other.

3.9 Table of change wheels for the feedworm drive.



Change Wheel A driving wheel	Change Wheel B driven wheel	Weight of packet	Feedworm ro- tation/cycle	Paint
Z = 29	Z = 65	110 - 150 grs	normal 0.16	yellow
Z = 36	Z = 58	110 - 150 grs	for stiff prod. 0.22	blue
Z = 44	Z = 50	150 - 300 grs	normal 0.31	red
Z = 50	Z = 44	150 - 300 grs	for stiff prod. 0.40	red
Z = 58	Z = 36	300 - 500 grs	normal 0.57	blue
Z = 65	Z = 29	250 - 500 grs	fresh cheese 0.81	yellow

Arrangement of wheels framed normal for the indicated packet weights. In case of considerable differences in weight, caused by particularly soft or hard product, mount the next faster pair of wheels.

Z = number of teeth

The packet surface should be some 1 mm above the cell table. The adjustment of the cell bottom can be done at the adjusting wheel fig. 8382/1-6.

If the filling level is too deep, the folding will get open again.

If the filling level is more than 1 mm above the cell table, the fold plates will be smeared.

3.11 Press-on station.

At the press-on station, the fold of the closed packet gets its definite shape in accordance with the packet dimensions.

The press-on die fig. 8382/165-25 is adjustable as to its height at the handwheel fig. 8382/165-20. It can be dismantled for cleaning.

3.12 Pushing off the packets.

After the lifting of the cell bottom at the ejection station, the packets are pushed on to the discharge conveyor belt by a pusher fig. 8382/165-7.

See also in 1.4.2 and 1.4.2.1.

4.0 Survey of the mechanical control elements.

4.0.1 Lateral adjustment of the wrapper reel. Fig. 8382/92-18.

4.0.2 Lifting the upper main feed roller. Fig. 8382/1-7.

4.0.3 Adjustment of the scanning head of the photo-cell in running direction of the wrapper. Fig. 8382/76-1.

4.0.4 Adjustment of the register finger in running direction of the wrapper (having register holes). Fig. 8382/76-1.

4.0.5 Course adjustment for changing cut-to-size length. Fig. 8382/74-17.

4.0.6 Course adjustment for changing the looping course. Fig. 8382/94-9

- 4.0.7 Handwheel of the machine. Fig. 8382/1-2.
- 4.0.8 Lever for disengaging the dosing unit, Fig. 8382/1-3.
- 4.0.9 Lever for switching the dosing cams in case of different weights. Fig. 8382/2-4.
- 4.0.10 Handwheel for changing the descending course at the filling station in case of different packet heights. Fig. 8382/2-2.
- 4.0.11 Cell course adjustment for folding and ejection. Fig. 8382/1-6.
- 4.0.12 Handwheel for height adjustment of the press-on die. Fig. 8382/1-5.
- 4.0.13 Switch lever for feedworm clutch. Fig. 8382/2-3.
- 4.0.14 Hand crank for turning the feedworms forward and backward. Fig. 8311 S/71-25.

5.0 Test run.

After the machine has been greased as described in para 2.1, the correct running of the machine should be checked by turning the handwheel fig. 8382/1-2 in the direction of the arrow. If no resistance is felt during turning by hand, the machine should run idle for some time under observation. Consider also paragraphs 7.4.2 through 7.4.5.

Important. Motor can only be switched on, if all protective devices and wrapper feelers are in their positions of operation.

CAUTION

6.0 Adjustment and maintenance of the machine.

If for adjustment, maintenance and remedy of disturbances work is necessary on the running machine, the machine may only be set in motion by hand or by means of the inching button.

7.0 Cleaning the machine.

After every use of the machine, all parts coming into contact with product are to be cleaned with hot water without additives.

In no event use soda, caustic soda or solutions containing acids.

During cleaning it should be ensured that no water reaches steel parts which might rust. Parts in the surroundings of the dosing unit to be covered by plastics tarpaulines that water cannot run into the machine.

Do not hose down the machine.

Bright steel parts to be dried and greased carefully after cleaning. This is equally important also for chromium-coated parts and polished light metals requiring a thin protective layer of grease just like steel parts.

The water temperature for cleaning should not exceed 60°C in case of plastics parts. Parts must not be exposed to this temperature for more than 2 minutes.

The dosing unit and all dismantled parts are to be cleaned carefully with pure hot water.

7.1 Parts which are dismantled for cleaning.

feedworms	fig. 8311 S/71-16 and 16
buffer piston	fig. 8382/165-13
cutter lever	fig. 8382/165-1
nozzle	fig. 8382/165-28
filling cock	fig. 8382/165-15
guard cover	fig. 8382/165-17
dosing piston	fig. 8382/190-14
rotary cylinder	fig. 8382/131-2

7.2 Dismantling the parts.

7.2.1 Feedworms to be turned backward by means of hand crank fig. 8311 S/71-25 and residual product to be removed. Open feedworm drive fig. 8311 S/71-21 by loosening the cone handle after removal of the hand crank and take out

the feedworms fig. 8311 S/71-15 and 16.

7.2.2 Buffer piston fig. 8382/165-13 to be removed after loosening the two fastening screws and turning the housing.

7.2.3 Plug-in axle fig. 8382/165-27 to be removed after loosening the hexagon-head screw out of the bore and cutter lever to be dismantled. Press connecting rod fig. 8382/165-2 out of the ball pivot.

Important. Cutter lever with bow are very sensitive parts and, therefore, to be handled with utmost care.

7.2.4 Loosen prismatic gib for nozzle fastening fig. 8382/165-18 and dismantle nozzle fig. 8382/165-28.

7.2.5 Loosen prismatic gib fig. 8382/165-16 for filling cock fig. 8382/165-15 and dismantle filling cock.

7.2.6 Dismantle guard cover fig. 8382/165-17 for rotary cylinder after loosening the hexagon nut.

7.2.7 Pull out dosing piston after loosening the winged screw and removal of the plug-in bolt out of the rotary cylinder.

7.2.8 Press out the rotary cylinder fig. 8382/131-2 from the piston side and then pull it out fully with care from the operator's side.

7.3 Preparation in case of packaging butter.

Only trough opening fig. 8311 S/71-14 with feedworm bed to be seen below, feedworms fig. 8311 S/71-15 and 16, cutter knife fig. 8382/133-7 and outer lower nozzle rim to be rinsed hot thoroughly and then to be prepared by brushing up on all sides a hot solution of F 3 tin-proof etc. in a relation of 1 : 10. The lye can be used several times. Avoid penetrating of the hot solution into the cylinder bearing, as no grease film exists for the rotary cylinder.

Let the prepared parts drie for at least 10 minutes

and rinse them cold, in order that the invisible layer of preparation absorbs water again and the temperature of the parts will be below the product temperature.

Avoid touching the prepared surfaces by hand.

The following parts must not be prepared:

closed front trough space	fig. 8311 S/71-14
dosing housing	fig. 8382/133-11
rotary cylinder	fig. 8382/131-2
dosing piston	fig. 8382/190-14
buffer piston	fig. 8382/165-13
filling cock	fig. 8382/165-15
inner side of the nozzle	fig. 8382/165-28

Preparation of the feedworms is not required in case of packaging margarine, fresh cheese, lard and such like.

7.4 Mounting the parts.

7.4.1 The parts are to be mounted in the reverse order of the description 7.2.

During mounting the following is to be observed:

7.4.2 Grease dosing housing fig. 8382/133-11 inside, rotary cylinder fig. 8382/131-2 outside with the fat to be packaged, insipid vaseline, milking fat or such like.

7.4.3 Toothed wheel rim mark at the rotary cylinder must coincide with mark at the counter-toothed wheel fig. 8382/131-3, as otherwise weight variations and machine rupture might occur.

7.4.4 Grease and insert dosing piston.

7.4.5 Grease, insert buffer piston fig. 8382/165-13 and tighten the nuts.

7.4.6 The feedworms are designed by marks. During mounting, they must coincide with the marks to be seen above the trough opening.

- 7.4.7 Mounting is normally done with the worm spirals being set against each other.
- 7.4.8 The feedworms are taken by the bushes fig. 8382/137-6 placed in the filling housing fig. 8382/137-4. The feedworm drive should be closed without using force, and it should be noted that the driver rolls of the worms be received perfectly by the pocket of the drive. The swivel bolt fig. 8311 S/71-8 must be put into the slot of the feedworm drive and tightened.
- 8.0 Treatment of the rotary cylinder, the dosing piston and the buffer piston.
- 8.0.1 Rotary cylinder and both pistons are the most important, but also the most sensitive components of the machine and, therefore, are to be treated with adequate care.
- 8.0.2 It must be ensured that the surfaces of the rotary cylinder are in no event damaged. Should some damage occur nevertheless, the damaged spot must be smoothed carefully before mounting with the finest emery cloth. This refers eventually also to the rotary cylinder bearing in the dosing housing fig. 8382/133-11.
- 8.0.3 For the deposit of the rotary cylinder, there has been provided a corresponding device on the sheet metal of deposit fig. 8311 S/71-4 below the feedworm trough.
- 8.0.4 The rotary cylinder should never be mounted without having been greased thoroughly outside and its bearing inside the housing with the grease to be packaged or with insipid vaseline, milking fat or such like.
- 8.0.5 Recommendable, particularly when packaging product poor in fats, is the cock-plug grease UVN FLB dämpfbar of Messrs. Theodor Klüber, München.
Advantages of this grease: odorless, insipid, heat

and cold resistant, not dripping and not melting.

If the rotary cylinder is mounted dry, the sliding surfaces will rub rough. The rotary cylinder will seize and block. In such a case - except for a possible gear rupture - not only the rotary cylinder itself, but also the sliding surfaces of the rotary cylinder bearing would be damaged. These damages are hard to repair and will cause leakage.

- 8.0.6 Dosing piston and buffer piston are to be handled carefully during cleaning. Drag marks on the outer surface of the piston will damage the piston bearing.

9.0 Start of packing:

9.1 When using a thermo printer for date and price-printing respectively operate heating switch as approximately 15 minutes will be necessary as heating time; see special operating instructions.

9.2

CAUTION

Remove impurities from the trough and the machine as, otherwise, risk of fracture will exist.

9.3

Gear rim mark on the dosing cylinder, fig. 8382/131-2, must correspond with the marking on the counter gear wheel, fig. 8382/131-3.

9.4

Control, whether filling mouth piece, fig. 8382/165-28 and filling cock, fig. 8382/165-15, are well fixed.

9.5

The cutting lever, fig. 8382/165-1, works unobjectionable if there is a cutting motion with the less possible distance and without touching the lower surface of the mouth piece. It must not be bent and must release the inner side of the mouth piece in both directions. The stroke of the cutter may be effected by adjusting the pulling rod, fig. 8382/165-2 at the lever, fig. 8382/165-1.

9.6

It has to be ascertained that all protecting devices are fixed as, otherwise, the motor cannot be switched-on.

9.7

By turning the hand wheel, fig. 8382/1-2, in arrow direction one controls the unobjectionable run of the machine.

9.8

Immediately before filling the merchandise rinse trough and worms cold. It must be observed that, in this case, the filling opening in the dosing housing, fig. 8382/133-11, is closed.

9.9

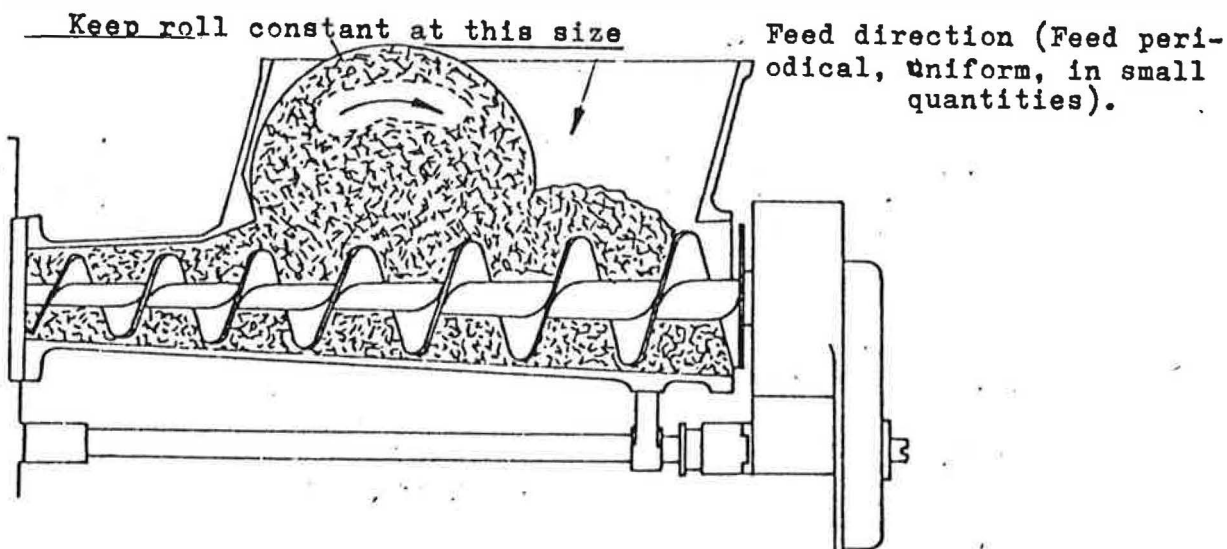
Change gears, fig. 8311 S/73-7 and 12, are to be built in according to change gear table; see paragraph 3.9, page 23.

9.10

Set switch lever, fig. 8311 S/71-6, for conveyor worm coupling to "I".

Shift dosage at hand lever, fig. 8382/1-3 and effect shifting only at machine tipping.

- 9.11 Operate push button - machine on - and let machine work with the possible less phase.
- 9.12 The merchandise has uniformly to be filled into the worm trough and the roll arising has to be kept constantly on approx. the level of the trough edge; see fig.



The conveyor worms put the merchandise into the front trough space below the equalizer piston. Stop the machine again when the merchandise appears at the outlet of the filling mouth piece; disengage the dosage by the hand lever, fig. 8382/1-3.

- 9.13 By means of the fixed crank, fig. 8311 S/71-25, the merchandise may also be conveyed into the front trough space and, in this case, the switching lever, fig. 8311 S/71-6, has previously to be set to "0".
- 9.14 Concerning a direct connection machine, see special operating instructions.
- 9.15 After insertion of the wrapper into the paper device (see, paragraph 3.2) race the machine by hand wheel, fig. 8382/1-2. Check transmission of wrapping to the cell table on exactness and pay attention that the wrapping stripper is abt. 2 mm above the upper edge.

- 9.16 Operate push button - machine on - and let the machine run with the lowest possible phase and speed resp. Let pass through several wrappings and pay attention to an exact formation of the wrappings and pressure field position.
After that engage dosage at hand lever, fig. 8382/1-3 , into tipping operation; the ware will now be filled into the empty wrappings.
- 9.17 Check weights of packages and correct same by adjustment at the push button " weight + and weight-"; see also paragraphs 2.3.8 and 2.3.9.
It is recommendable to put always four packages on the pair of scales, to state the average weight and then to effect the exact. adjustment.
- 9.18 Package filling: The most arising source of errors is the wrong adjustment of the package filling and faulty packings as well as wrong shapes will be the consequence. A readjustment will always be necessary at the change of volume.
The mouth piece, fig. 8382/165-28 is arranged fixed and provided with a cutter, fig. 8382/133-7. The cells in the turnable table at the filling station will be raised towards the mouth piece.
- 9.19 Fig. 1 shows the correct filling of the packaging wrapping before the folding procedure.

- 9.20 Figure 2 shows a pyramidal filling.
The lowering stroke of the cell is too large and, by turning the handwheel, fig. 8382/2-2, clockwise rotation, the lowering stroke will be less. fig. 2
- 9.21 Figure 3 shows a trough-shape filling.
In this case the lowering stroke is too trifling and the package will be drawn from the cell table. By turning the handwheel, fig. 8382/2-2, anti-clockwise, the lowering stroke will increase.
- 9.22 One graduation mark on the position indicator , fig. 8382/2-2, corresponds to approx. 1 mm of package height. fig. 3
- 9.23 At the folding station the surface of the package should be approx. 1 mm above the cell table. For the adjustment of the cell bottom that position may be reached by means of the adjusting wheel; at a too low filling the folding will crack. If the filling is more than 1 mm above the cell table, the folding sheets will smear.
- 9.24 An exact, sharp - edged package form will be obtained on the pressing station.

10.0 Failures and the removal of same.

10.1 Conveying of wrappers.

10.2 Pendulum does not work uniformly.

Control placement of the uncoiling axle and brake for the uncoiling axle whether the latter releases the brake disk, fig. 8382/92-14, in the upper position of the pendulum, fig. 8382/80-2.

If not, adjust the chock block, fig. 8382/92-20, by the adjustment screw on the brake lever, fig. 83882/92-11.

10.3 Wrapper shows formation of folding at the main feed or slippage.

Check roll pressure by inserting of two wrapping pieces between the rolls, if necessary adjust roll pressure by readjusting the thread bolts, fig. 8382/72-4 and fig. 8382/71-3; see also under 3.2.11 .

10.4 Cut must not be in the center of the register hole, standard test finder does not snap-in.

Check marking on the lever, fig. 8382/76-10, with regard to the correct adjustment of the length of the wrapper of the register finger. The pull and feed length is the distance of the register hole plus 2 to 4 mm, see also 3.2.9.

The markings are not binding as deviations from the rated length cannot be avoided by the manufacturer.

10.5 Wrapper is not uniformly cut at the center of the key mark.
Adjustment, see 3.3 .

10.6 Wrapper blocks in front of the cutter .

Remove the holding down clamp on the main feed, fig. 8382/71-18 and clean fixed sheet and holding down clamp. Check cross cutter on impurities and add a drop of resin-free oil between the finger of the movable cutter and the fixed cutter.

- 10.7 Cross cutter does not cut.
Check adjustment of cutter according to details stated under point 3.4.
- 10.8 Wrapper is not pulled by the forward pusher .
The holding down clamp , fig. 8382/85-7, has to be checked in a way that, before taking over of the wrapper by the forward pusher, fig. 8382/84-3, and 6, the holding down clamp must be on the lowest position.
- 10.9 Forward pusher does not move the wrapper to the correct position .
Control, whether the lateral limitation guides, fig. 8382/88-17 and 19, jam or whether the paper run of the guides is blocked by clogging of dirt.
- 10.10 Wrapper is not well positioned within the range of the wrapping stamp .
Check , whether the limit stops, fig. 8382/88-18 and 20, are seated correctly. It must furthermore be examined whether the lateral guides, fig. 8382/88-17 and 19, are central to the wrapping stamp.
- 10.11 Folding breakdowns in the folding box .
Clean wrapping stamp/punch as well as folding box from wax and control adjustment of the wrapping stamp according to point 3.6. It has furthermore to be checked whether the press roll, fig. 8382/191-2, is pressing too heavy or too lightly. Adjustment will be effected by clockwise turning of the four adjusting screws till the wrapping stamp can move the pressing roll max 0,5 mm. The axle of the pressing roll has to be greased from time to time by vaseline.
- 10.12 Wrong wrapping transfer to the cell table .
The wrapping stripper is ineffective at the foot of the folding box as the wrapper remains one-sided on the folding box plate. If necessary at pressure shift, position the stripper higher or lower meaning approximately 2 mm above the upper edge of the wrapper. Otherwise set wrapper path to the center and correct wrapper guides. fig. 8382/88-17 and 19.

10.13 Weight fluctuations .

Merchandise pressure is not strong enough, which may be seen at the working cycle of the bumper piston; bumper piston must always work within the same range.

At the construction with worm trough control whether the worms are smeared and, in that case, dismantle and clean same as described under 7.2.1.

10.14 Smearing of mouth piece .

The cutting bow and the position of same have to be controlled at smearing. The lift of stroke of the cutter may be set by adjustment of the drawbar, fig. 8382/165-2, on the lever, fig. 8382/165-1.

10.15 Lifting of the filled packages at the mouth piece .

The cell lift motion is too long and is not adapted to the volume of the merchandise to be filled, see also 9.19 and 9.21.

10.16 Impact of wrappings at the filling device .

Clean wrapping stamp and folding box and check cutter at the mouth piece with regard to smeared merchandise.

11.0 Modification instructions for format change .

All format parts for heavy weight are designated with "A", all format parts for medium weight with "B" and light weight with "C".

WARNING

For safety reasons the complete machine has to be switched off.

11.1 Rolling axle

Replace wrapper roll and put wrapper into the paper apparatus.

11.2 Scanning head of photoelectric cell .

Set scanning head of the photoelectric cell to the new length of the wrapper. The regulation of the scanning head in moving direction of the wrapper will be performed by unscrewing the hexagon bolt, fig. 8382/76 - 1.

- 11.3 Feeler finger .
Set feeler finger to new wrapping length. Adjustment of feeler finger in moving direction of the wrapper will be performed by unscrewing the hexagon bolt, fig. 8382/71-1.
- 11.4 Punch performance .
- 11.4.1 If the wrapping length changes, the plate, fig. 8382/83-4, will be loosened and the perforation aggregate will be displaced in the moving direction of the wrapper.
- 11.4.2 If the width of the wrapping changes, the clamping plate below the perforation aggregate is to be loosened.
- 11.4.3 If the length and width of the wrapper change the information under 11.4.1 and 11.4.2 is correct.
- 11.5 Thermo printer .
The thermo printer is to be readjusted to the provided printing field. By loosening the clamping lever on the slide, fig. 8382/80-4, the thermo printer may be set transverse to the moving direction of the wrapper.
The wrapper length will be set by loosening the clamping lever, fig. 8382/77-13, and displacement of the holder, fig. 8382/77-12, with roll, and the counter pressure plate has also to be reset correspondingly.
- 11.6 Ink printer .
The ink printer is to be readjusted to the provided printing field. By unscrewing of two knurled screws the ink printer may be set transverse to the motion direction of the wrapper. The length of the wrapper will be set by loosening of the clamping lever, fig. 8382/77-13, and displacement of the holder, fig. 8382/77-12, with roll. The counter pressure plate has also to be reset correspondingly.
- 11.7 Main feed .
The main feed has to be set to the new wrapper length. Unscrew hexagon nut on bolt, fig. 8382/74-8, and turn knurled nut, fig. 8382/74-17, so long till limit stop has been reached.

Now adjustment will be necessary if the wrapper length does not change.

11.8

Forward pusher .

Set forward pusher, fig. 8382/84-3 and 6, to the new pusher length. Loosen hexagon nut on bolt, fig. 8382/94-10, and displace same to the limit stop. No adjustment will be necessary if the wrapper length does not change.

11.9

Wrapper guides .

11.9.1

If the package height changes the wrapper guides, fig. 8382/88-17 and 19, must be readjusted to the new wrapper width; check limit stops, fig. 8382/88-18 and 20.

11.9.2

If the package length and width change the complete folding box plate, fig. 8382/192-3 with the folding box have to be replaced.

11.9.3

Put wrapping stamp at utmost position, remove fixing bolts of the folding box plate and replace folding box plate.

11.10

Wrapping stamp / punch .

11.10.1

When changing the package height the wrapping stamp will not be replaced.

11.10.2

If the length of the package changes and also the package width the wrapping stamp has to be replaced.

11.10.3

Set wrapping stamp to utmost position, remove seam pre-folding shoe and then wrapper stamp may be replaced.

11.11

CAUTION

All bolts must solidly be tightened.

It has to be checked whether at leading- in the wrapper stamp into the folding box there is sufficient clearance and same clearance at the side walls and head walls too.

11.12 Mouth piece and cutter .

- 11.12.1 At changing the package height the mouth piece and the cutter will not be replaced.
- 11.12.2 If the package width changes and the package length too the mouth piece and the cutter must be replaced.
- 11.12.3 Press connecting rod, fig. 8382/165-2 out of the spherical gudgeon. Remove plug-in axle , fig. 8382/165-27, from the boring after having loosened the hexagon bolt and take-off cutting lever. Loosen prismatic strip for fastening of the mouth piece, fig. 8382/165-18, and take-off mouth piece, fig. 8382/165-28. After incorporation of the new mouth piece and the cutting bow press connecting rod onto the spherical gudgeon provided for the new mouth piece.

11.13 Cells

The cells, fig. 8382/32-16, will be replaced on the empty station between filling station and folding station.

CAUTION

When incorporating the cells observe the numbering .

Cell and cell bottom must lean on the corresponding cell ring, fig. 8382/32-1 .

11.14 Folding .

- 11.14.1 Package height changes and perforation folder and longitudinal side folder must not be replaced.
- 11.14.2 Package length and package width change. In this case perforation folder and longitudinal side folder must be replaced.
- 11.4.3 If package length or package width change only the perforation folder or the longitudinal side folder have correspondingly to be replaced.

11.15 Pressing station .

If the package width changes or the package length

the pressing stamp must be replaced, fig. 8382/165-25.

11.16 Transferer

If the package width changes or the package length, the transferer, fig. 8382/165-7, must be replaced.

11.17 Dosing piston and turning cylinder .

Dosing piston and turning cylinder will not be replaced. A replacement will only be necessary in special cases. (for example at packaging of candied lemon peel or weights below 100 g)

11.18 Adjustment of package height .

11.18.1 Filling station .

By turning of hand wheel, fig. 8382/2-2, the cell bottom will be adjusted and set to the new package height,

CAUTION

The position for format "A" and format "B" will be marked on the position indicator, fig. 8382/2-2, at the customer.

11.18.2 Folding station and pressing station.

By turning the hand wheel, fig. 8382/1-6, the cell bottom will be adjusted to the new package height.

CAUTION

Measure again package height in the cell .

11.19 Filling curves "A" and "B" .

If the machine is equipped with two formats there will be two filling curves, fig. 8382/121-23 and 26, in the filling housing. The shift of curves will be effected by the lever fig. 8382/2-4. In order to do this the cover, fig. 8382/131-5, has previously to be opened. There will be a marking each on the visible shaft and the housing, fig. 8382/131-6.

CAUTION

Both markings must lie opposite when shifting the curves.

11.20 Dosing piston stroke .

When change-over to another weight the selector switch

"wiping relay On - Off" has to be set to Off .

A rough adjustment of the necessary dosing piston stroke has to be performed by actuating the press button " weight + or weight -"; after that set selector switch wiping relay again to On .

CAUTION

A precise adjustment of the stations mentioned under items 11.18 and 11.20 can only be performed when machine is operating with merchandise.

- 11.21 Change wheels, fig. 8311 S / 73-7 and 12 to be incorporated according to change wheel table, see para. 3.9, page 23 .

11.22

WARNING

After each change to another format please check the unobjectionable run of the machine by turning the hand wheel in arrow direction.

Only, when turning the hand wheel the functioning is unobjectionable and, after having fixed all protecting devices, the machine may be set into operation.



Bedienungsanweisung

OPERATING INSTRUCTIONS

Typ
Type
8382

- 12.0 Storage and treatment of wrapping rolls.
The wrapping material must be stored clean and sterilized. Concerning the unobjectionable storage the following points have to be observed:
- 12.1 The rolls must never be stored immediately on the bottom of the warehouse but are to be stored on lath floors in a way that between bottom and roll there will be a distance of at least 10 cm.
- 12.2 Rolls are always to be kept upright in order to avoid a flat pressure. Flat pressed and smashed - in rolls often cause failures when being operated.
- 12.3 Protect wrappers in store rooms from direct sun radiation .
- 12.4 The temperature in the store rooms should be kept between 10 and 20⁰ C at a relative atmospheric moisture of approx. 65 - 70 %. Rooms being to dry cause brittle wrappers and rooms being to wet damp wrappers; both cause failures. Furthermore damp wrappers cause the formation and growth of mildew, yeasts and microorganisms and by this the packing material may be well infected and be waste and useless.
- 12.5 The control of the necessary temperature and atmospheric moisture may be performed by a hygrometer or a similar, simple registering device which may be procured at low cost. If possible a separate room should be placed at disposal for the storage of the wrapper rolls.
- 12.6 At aluminium foils sudden fluctuations of temperature often lead to formation of condensation water and the outer packing must only be removed shortly before the processing of the foil .

13.0 Punch perforation .

For designating the date on the wrapper the machine will be equipped with a perforation set.

13.1 Adjustment of date forming out .

The machine is to be turned by hand so far till the slide , fig. 8382/82-5, of the perforation set has reached the utmost position. Put the pin supplied, suitable for turning the particular perforation disks, into the provided perforation so that the date appears between the red arrows.

13.2 The punch depth will be adjusted by the eccentric bolt, fig. 8382/82-4. The perforation set may be adjusted in length and transverse direction.

14.0 Thermo printer .

The machine may be provided with a thermo printer for date and price printing.

14.1 The thermo printer will be fixed to a slide, fig. 8382/80-4. It may be adjusted at any place transverse to the running direction of the wrapper. During the standstill of the wrapper path a lifting magnet presses heated , interchangeable stamping and printing types (single or double lined) against a colour film ribbon. This ribbon is provided with a colour layer on one side which, by heat, peels and will be transmitted solidly by the printing types on the outside of the wrapper . A counter-pressure plate with sticked - on silicone rubber will be above the wrapper path. Before starting the wrapper feed the magnet will lift with the printing types from the wrapper path.

14.2 Manufacturer of colour film rolls:

Messrs. Oeserwerk, Postfach 980, 7320 Göppingen/Württ.
Tel. 07161-81041 - Mark: Stella-colour film 651 N blue.

15.0 Ink printer .

The ink printer is mounted on a support and may, after loosening of two knurled bolts, fig. 8346/206-4 and 10, be placed to any spot transverse to the running direction of the wrapper. The wrapper length will be adjusted by loosening the clamping lever, fig. 8382/77-13, and displacement of the holder, fig. 8382/77-12.

15.1 Dyeing of the sticked - on rubber types will be performed by a colour cartridge. The subsequent printing on the wrapper shall not be performed by a too heavy pressure as otherwise the rubber types will be damaged. The type support, fig. 8346/206-15, may be adjusted in height after having loosened the bolt on the type support. The inking pressure will be adjusted by turning the knurled bolt, fig. 8345/206-1. In order to obtain a well lisible print we should take care that the colour cartridge, fig. 8345/206-2 is always filled with ink.

15.2 In order to render possible a quick change and replacement of the colour cartridge a replacement cartridge will be supplied too.

15.3 Supplier of stamping ink:

Messrs. Haber, Berlin 1000/36, Dresdenerstr. 23
Stamping ink black PARADOL No. 805
Thinner for stamping ink PARADOL No. 805

BENZ & HILGERS GmbH

Maschinenfabrik
4 DÜSSELDORF NORD
Münsterstraße 246

Telefon: (0211) 6394 1 Telegramme Benhil Düsseldorf Telex: 8586830a ben d

List of Parts for Filling and Packing Machine



Type 8382

Special Instructions:

The following instructions are strictly to be observed:

CAUTION

Non-observance may cause damages
to the machine .

WARNING

Non-observance may cause damages
to the machine and result in
dangerous industrial accidents .

Position Reference Repère	Bezeichnung	Designation	Désignation
1 - 9	Gesamtansicht	general view	vue générale
10 - 19	Antrieb - Revolver- tisch	drive - rotary table	entraînement-plateau
20 - 69	Antrieb - Motor - Unterbau	drive - motor - frame	entraînement-moteur- chassis
70 - 119	Papierapparat	paper feeding device	appareillage pour papier
120 - 149	Abfüllung - Schneckentrog	filling station - trough and feedworms	dosage-auge à vis de poussée
150 - 159	Abfüllung - Direktanschluß	filling station - direct link-up	dosage-alimentation en raccord direct
160 - 164	Abfüllung - Trichter	filling station - funnel	dosage-trémie
165 - 179	Faltung - Preßstation	folding - pressing station	pliage-calibrage
180 - 189	Abtransport	off-conveyor	tapis d'évacuation
190 - 199	Format	size	format
200 - 204	elektrische Ausrüstung	electrical equipment	équipement électrique
205 - 214	Tintendrucker	ink printer	imprimage à encre
215 - 219	Paketwender	packet turning device	retournement des paquets
220 - 249	Zentralschmierung	central lubrication	graissage centra- lisée
250 - 254	beheizter Abschneider	heated cutter	découpeur chauffé
255 - 264	Drehzylinder - Dosierkolben - Schmierung	turning cylinder - dosing piston - greasing	verin rotatif - piston de dosage - graissage
265 - 174	Zuführung über Kettenabtransport	feeding by chain off-conveyor	alimentation par tapis d'évacuation à chaînes

Instructions for the quick and correct procurement of spare parts .

When placing orders for spares the following picture list and list of parts is to be used for the determination of the necessary parts:

1. At each order for spare parts the type of machine and the machine number should be stated.

Furthermore for determining the spare part the following has to be indicated:

1. The necessary piece numbers (quantity),
2. The designation,
3. The fig. number,
4. The number of the part (serial number).

Example:

Spare part order for type 8382, machine No. 5,
1 sprocket wheel resp. chain wheel, fig. 8382/95-16

2. If a part to be ordered is not provided with the corresponding piece number or if this should not be visible one should give the number of the next connection part for determination of same.

Example:

1 Ball bush in bearing , fig. 8382/93-1
2 Bushes in lever, fig. 8382/24-5.

3. In order to avoid time-consuming , further inquiries detailed information are requested for.

In case of doubt the necessary part should be described exactly and the main dimensions should also be stated.

4. As the BENHIL - machines have always been improving with regard to quality and performance according to the requirements of our customers we are also interested whether the replacement had become necessary by wear or by carelessness in order to enable us to perfect according to those knowledges the operational dependability and reliability of our products.

Lubricant:	Viscosity Grade:	Properties:	Grease Point and Quantity:	Lubrication Terms:	
Friction bearing grease M 2 Ca-saponified, grade according to DIN 51 502	worked penetra- tion 265 to 295/ 25° C, operating temperature below -20°C, dripping point approx. 90° C	resistant against aging inhibiting corrosion, pressure resistant, water repellent	conical lubrica- ting head for expanding disk approx. 200 g conical lubrica- ting head for bearings, levers, bolts, exposed gear wheels (conical lubricating had "red") pivoting bearing at the folding, cutter	after 100 operating hours each after 100 operating hours each after 100 operating hours each	
High-temperature grease Klüber lubrication JNVN-PLB lampable	worked penetra- tion 200/25°C operating tempe- rature -5 to 130°C	odourless and tasteless, resistant against heat and cold	dosing parts tube 100 g	when incorporating dosing parts at merchandise poor in fats	2.1.12 TABLE OF LUBRICANTS Bedienungsanweisung OPERATING INSTRUCTIONS Typ 8382



BENHIL
Rheinmetall
Verpackungstechnik

**Betriebsanleitung
Operating-Instructions
Instructions de Service
Instrucciones de Servicio** *e*

Typ
Type 8382
Type
Tipo

ATTENTION !

When the machine is out of operation over an extended period of time and the product has already begun to crystallize, observe the following to avoid rupturing the machine or the dosing lever or shearing the tapered pins or the shear pins etc. during start-up of the machine.

(This applies particularly to start-up in the morning in very cold rooms and with product from the day before).

1. Clean the dosing unit completely prior to beginning operations, or
2. Crank manually the machine to perform one working cycle and start then the machine at the lowest speed. After that, slowly accelerate the machine to the desired number of cycles.

Urheberschutz: Für diese technische Unter-
lage behalten wir uns alle Rechte vor.