

Honeyaid®

Recommended by the queen of bees



FILLING EVOLUTION GmbH
Leipziger Str. 33
01097 Dresden
Germany

TEL
+49 351 89 66 91-00

FAX
+49 351 89 66 91-99

MAIL
info@filling-evolution.com

WEB
www.honeyaid.com

1.0.0

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1 Preface

Congratulations,

With the FILLING EVOLUTION product **Honeyaid®** you have chosen a proven and robust machine from our high-quality product lines for filling technology. The decision to include a machine from FILLING EVOLUTION in your equipment pool will considerably simplify the filling of your products and measurably increase your productivity.

For many years, all machines and devices under the product brand Honeyaid® (formerly referred to as NASSENHEIDER®) have been developed, designed and built exclusively by ourselves at our Dresden location with an international team. With passion and engineering expertise, we pursue the highest quality goals for our unique products and consistently integrate all current requirements from safety and environmental laws into our manufacturing processes. Thanks to our quality, reliability and closeness to our customers, we have become a leading technology company for filling machines with great innovative power.

Sustainability and maximum efficiency are two of our most important principles. All of our machines operate in a very energy-efficient manner by dispensing with compressed air-supported systems, which unnecessarily increase energy consumption. Any maintenance and expansion of the machines can also be realized very easily. If your production volume increases, your machine park can easily grow with sensible system expansion and additions from FILLING-EVOLUTION. In the event of a defect, every part of the machine can be repaired or replaced promptly and precisely over many years, thanks to our long-term delivery guarantee. In addition, we have necessary supplier components or parts manufactured by partners in the region under our understanding of quality. Thus we have only short distances and at the same time strengthen the regional economic cycles. In order to achieve maximum functionality in our products, we dispense with everything that is unnecessary and superfluous in order to keep the serviceability and operational reliability of our products at the highest possible level.

On our website <https://honeyaid.de> you will find all product-relevant information and possibilities for extensions. All necessary spare and wear parts can be easily ordered via our webshop. We will also be happy to advise you personally.

We thank you for your confidence, we are looking forward to a long and satisfying cooperation and wish you much pleasure and success with your new FILLING EVOLUTION product.

Your FILLING-EVOLUTION-Team from Dresden.

2 Manufacturer

FILLING EVOLUTION GmbH

Leipziger Str. 33
01097 Dresden
Germany

Office: +49 351 89 66 91 00
Technical support: +49 351 89 66 91 05
Fax: +49 351 89 66 91 99

E-Mail:
• Office: info@filling-evolution.com
• Technical support: support@filling-evolution.com

Website: www.filling-evolution.com

Honeyaid® is a registered trademark and property of Barbara Wandke, Dresden. The company FILLING EVOLUTION GmbH has an exclusive licence to use this trademark.

HRB 38264 local court Dresden

VAT ID No. DE 320 995 937

3 Notes on this manual

This manual contains important information and is therefore an essential part of your new FILLING EVOLUTION product. To ensure safe and optimal handling of your product, please read this manual carefully before commissioning and use.

Should technical questions or ambiguities arise regarding details in the explanations, our support team will be pleased to help you by e-mail or telephone. You will find the relevant contact details in the chapter Manufacturer. We are always open and grateful for any comments and suggestions for improvement.



Please note that due to the continuous development of our devices, pictures and details may differ from the design of your device.

Definitions

The term **viscosity** refers to the tenacity of a product. The thicker (less flowable) the product, the higher the viscosity (**highly viscous**). The thinner (flowable) the product, the lower the viscosity (**low viscosity**). As an example: Honey is highly viscous, water low viscous.

The media, liquids, etc. to be filled are referred to in this manual as **product(s)**.






The vessels to be filled (bottles, glasses, etc.) are referred to in this manual as **containers**.

The buttons to be pressed are shown in square brackets, e.g. **[+]** and **[-]** or as small symbols, e.g.  .

Article numbers (**Art. 012345**, example) refer to our internal company article numbers.

Symbols

The following symbols are used in this manual:

-  Important information and useful tips.
-  Warning of situations that may pose a risk to your health or the product.
-  Warning of electric shock.
-  Warning of injuries.
-  Warning of damage caused by third-party equipment.

4 General safety instructions

The safety instructions are generally valid for all FILLING EVOLUTION products.



Danger of hand injuries

Make sure that you do not get your hands, hair, clothing, etc. between rotating or other moving parts, e.g. gears, drive shafts, etc., while the machine is in operation.

In case of disassembly, e.g. when removing the pump head, or cleaning, the machine must be disconnected from the mains! In addition, the tool specified for the particular case must be used.



Risk of injury from electrical current

Protect the electronic connections on the power supply unit from moisture. Please ensure that all current-carrying cables or lines are laid in such a way that they cannot be damaged, crushed or the insulation damaged.

Never open the drive module, the power supply unit or any of the plugs.

In the event of disassembly, e.g. when removing the pump head, or cleaning, the unit must be disconnected from the mains! The machine is only to be used on tested and faultless power connections. If cables or plugs are damaged, have the machine repaired before further use, do not continue using it!



Risk of product contamination due to damaged wearing parts

After each completed filling process (or at least once a day), it is essential to clean and visually inspect the following components:

1. gears and pump head housing
2. filling nozzles
3. seals
4. sealing rings
5. tubes.

Damaged parts must be replaced immediately using the specified tool.



Special note

This machine type is electronically controlled by a microcomputer. Although it is very unlikely, disturbances or malfunctions during further operation under the influence of strong electrical or electromagnetic fields cannot be excluded.

Should this happen, please proceed as follows:

- Switch off the machine,
- wait at least 10 seconds,
- Switch the machine on again,
- Perform factory reset if necessary.

5 Delivery

5.1 Scope of delivery

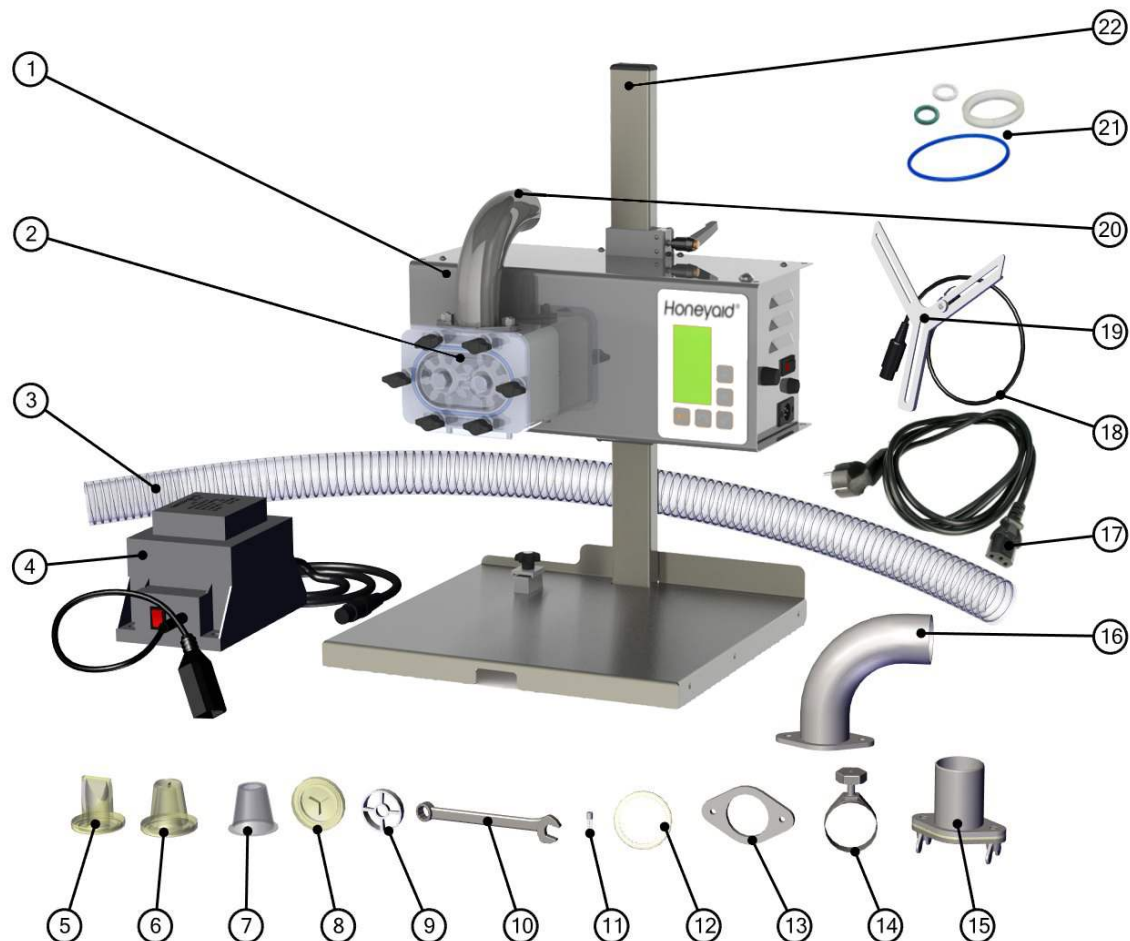


Fig. 1: Scope of delivery
Beekeeper basic equipment (Art. 301001)

Item	Quantity	Description	Art.	Wearing part
1	1 pc.	Drive module Honeyaid® (incl. pos. 4 and 17)	30100200	
2	1 pc.	Gear pump head L; for individual parts see chapter Commissioning: Pump head	30200100	x
3	4 m	Spiral hose, inner-Ø 40 x 3 mm	30400200	x
4	1 pc.	Power supply unit 230 V, primary: 230 V AC, 50/60 Hz, secondary: 24 V DC/10 A, unregulated, without power cable	30712700 or: 30704400	
5	2 pcs.	Wedge nozzle outer-Ø 26 mm, hard	30601500	x
6	1 pc.	Conical filling nozzle	30600200	x
7	1 pc.	Support sleeve, for conical filling nozzle	30600500	x

8	1 pc.	Flat filling nozzle	30600100	x
9	1 pc.	Stop cross for flat filling nozzle	30600600	x
10	1 pc.	Combination wrench, SW 10 mm	30700700	
11	2 pcs.	Fine-wire fuse, 8A, medium time-lag, inscription: M8/250	30700900	x
12	2 pcs.	Sealing ring, for gear pump head L	30700400	x
13	1 pc.	Clamping flange, for filling nozzles (pre-assembled)	30600700	
14	3 pcs.	Hose clamp size 48, for hose with inner-Ø 40 mm	30406600	
15	1 pc.	Check valve with membran, for hose with inner Ø 40 mm (incl. 1 pc. item 14)	30603800	
16	1 pc.	Pipe bend 90° transverse, outer-Ø 40 mm, with flange, for pumping over (incl. 1 pc. each pos. 12, 14)	30400100	
17	1 pc.	Power cable, EU plug	30702200	
18	1 pc.	Micro switch with Y-bolt, 5-pole	30703900	
19	1 pc.	Y-bracket	30703400	
20	1 pc.	Pipe bend 90° to the rear, outside Ø 40 mm, with flange (incl. 1 pc. each pos. 12, 14)	30403400	
21	1 pc.	Gasket set for gear pump head L (replacement for pump head)	30704300	x
22	1 pc.	50 cm Stand with bracket clamp (incl. item 19)	30301200	



Wearing parts are excluded from the warranty.

All wearing parts must be checked regularly for damage and wear and tear and replaced if necessary. Porous, leaking or worn parts must be replaced immediately. Operation with defective parts can have a negative effect on the service life, electronics, mechanics and functionality of the machine as well as on the quality of your product to be filled.

The service life of the wearing parts depends, among other things, on the product to be filled, the duration and type of use and the ambient conditions (temperature, aggressive vapours, etc.).

5.2 Content review

All deliveries are carefully checked for completeness and intactness by means of our outgoing controls. Nevertheless, we recommend that you check the delivery immediately after unpacking the machine for completeness according to your **delivery note** and with the help of **Fig. 1**.

Missing parts or damage must be reported to FILLING EVOLUTION GmbH in writing immediately - at the latest within two working days after delivery. We ask for your understanding that after this period we can no longer grant a claim for exchange or subsequent delivery of parts at our company's expense.

6 Technical details of the machine

6.1 Intended use

The Honeyaid® is designed exclusively for the filling of honey. With the following extension sets it is possible to fill propolis and royal jelly:

Extension set "Propolis" (Art. 30206900) for filling propolis solution or mead.

Extension set "Royal" (Art. 30502900) for filling royal jelly.

The Honeyaid® may only be used with the articles offered or supplied by FILLING EVOLUTION GmbH. If components from other manufacturers are used, FILLING EVOLUTION GmbH accepts no liability for any damage that may occur.

Essential for an accurate filling is the viscosity of the product.



The pump head and drive module will be damaged when filling other products than the intended, above described products. The manufacturer accepts no liability for this.

The Honeyaid® ist designed for single-shift operation.

6.2 Technical data

Nominal voltage drive module	24 V DC
Power consumption	80 to 240 W
Engine speed	14-100/min (adjustable with knob on the right side of the housing)
Noise emission	< 70 dB
Dimensions	30.5 x 34.0 cm
Total height	50 cm
Height under filling nozzle	5-27 cm (stand 50 cm, art. 303012)
Weight	approx. 16 kg (basic equipment)
Filling quantities	from 5 g, freely selectable in 1 g steps (the usual filling quantities for honey are preprogrammed)
Filling accuracy	approx. +/- 1-2 g (depending on dosing quantity, product, filling speed and pump head used, with bubble-free filling, up to a container size of 500 g)
Pump data for honey:	
Max. suction height	up to 4.9 ft / 1.5 m
Max. pump height	up to 13 ft / 4.0 m
Max. pumping capacity	up to 420 kg/h, 300 l/h


6.3 Fuses

Software

The machine is equipped with overload protection to protect the mechanics and motor. If a blockage occurs in the mechanical area, the machine switches off and shows **Overpump** in the display.



If this occurs the cause of the blockage in the pump head must be investigated and removed.

Once the cause has been eliminated, the machine can be put back into operation by confirming the button .

Electrical system


The electronic part of the drive module is protected by a **microfuse** in the form of a fuse (see chapter **Delivery: Scope of delivery**). This prevents overcurrent, e.g. short circuit in the power supply, and is defective after completion of its task and is no longer usable. After the source of the fault has been eliminated, the microfuse must therefore be replaced.

To do this, the fuse holder is unscrewed, the defective fine-wire fuse is removed and the fuse holder is replaced with a new fine-wire fuse (see chapter **Technical Details of the Machine: Connections and controls on the drive module**). The machine can now be started again.



Two spare fuses are included in the scope of delivery. If the newly installed fine-wire fuse breaks immediately, please contact our technical support.

Electronics

If the machine is subjected to an extremely high continuous load due to unfavourable conditions (e.g. high room or outside temperature), a **thermal fuse** will operate when the motor temperature reaches approx. 70 °C. In this case the machine switches off to protect against overheating and shows **T-Error** in the display. After a cooling phase of approx. 15 minutes, the machine can be put back into operation by confirming the button . The machine must be left switched on for cooling, so that the fan accelerates the cooling process.

6.4 Connections and operating elements on the drive module



Fig. 2: Right side of the drive module

Fig. 2:

- 1 - Rotary knob for variable speed control
- 2 - Main switch (ON/OFF toggle switch, without lighting)
- 3 - 3-pin connector for 24 V power supply
- 4 - Fuse holder (contains the microfuse)

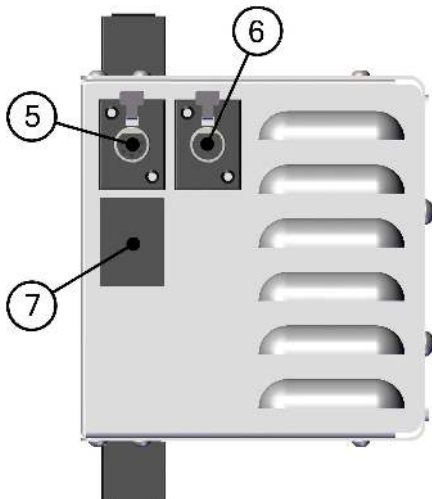


Fig. 3: Left side of the drive module

Fig. 3:

- 5 - Dummy cover for optional installation of a socket for additional devices
- 6 - 3-pin socket for connection of a turntable
- 7 - 5-pin socket for external switches or sensors

7 Commissioning

7.1 Unpacking and setting up

After unpacking, remove the protective foil from the stainless steel sheets (see **Fig. 4**).

To ensure optimum operation of your machine, we recommend

- to set it up on a table or a stable work surface (largely horizontal)
- to operate it at room temperature (15 °C / 59 °F - 35 °C / 95 °F)
- that, before commissioning, let the device acclimatize for approx. 1 hour to prevent damage to the electronics due to condensation (e.g. due to high temperatures or high humidity differences during transport)
- that it should only to be operated on tested and faultless power connections.

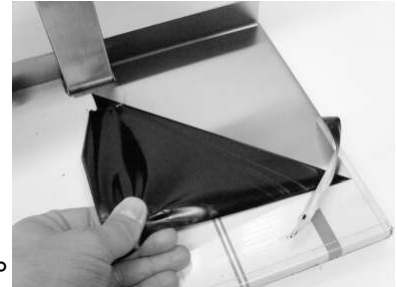


Fig. 4: Removing the protective cover



The machine must not be operated or stored in locations with unfavourable ambient conditions such as high humidity, water vapour, aggressive or acid vapours, extreme heat, extremely dusty air, etc.

7.2 Cleaning



For hygienic reasons we strongly recommend that all parts with direct contact to the product should be cleaned before initial use and generally after each use. The parts can be cleaned by hand or in the dishwasher. The use of pH-neutral dishwashing detergents is recommended.

7.3 Adaptation to container height and size



When loosening the rotary knob, hold the drive module firmly so that it does not slide down abruptly on the stand rod (see Fig. 5).

The height below the filling nozzle can be adjusted between 5 and 30 cm (see chapter **Technical details of the machine: Technical data**). The height is adjusted using the rotary knob. The drive module is attached to the stand by locking the rotary knob. To release the drive module, the rotary knob is released from the locked position (see Fig. 6).



Fig. 5: Height adjustment



Fig. 6: Locking or unlocking the rotary knob

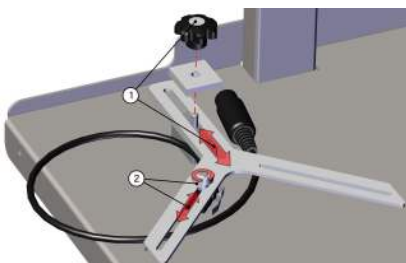


Fig. 7: Y-bracket and micro switch

Mounting and adjustment of Y-bracket and micro switch, see Fig. 7:

1. The Y-bracket is mounted to the stand using the guide plate and star grip. It is positioned in such a way that a container placed in the Y-bracket is located centrally under the filling nozzle.
2. The micro switch is mounted to the Y-bracket using the knurled nut. It is positioned in such a way that a container placed in the Y-bracket activates the switch.

7.4 Priming the product

Before filling can be started, the product needs to be primed. This is done as follows:

1. Fill the pump head with 2-4 tablespoons of the product, depending on its viscosity (see **Fig. 8**). This will largely vent, seal and lubricate the pump head and allows the product to be sucked in.
2. Mount the pipe bend incl. tube on the top of the pump head.
3. Place an empty container under the filling nozzle.
4. Set the operating mode of the Fill up to **manual mode** and **forward interval**
5. Set the motor speed to maximum using the black rotary knob on the right hand side of the drive module
6. Pump until the hose and pump head are filled completely with the product (bubble-free).

At the end the product should come out of the filling nozzle bubble-free.



Fig. 8: Filling the pump head



The product should reach the pump head after 15 seconds. If not, the pumphead should be refilled with product and the tube connections checked for leaks. Prolonged priming without adding the product, which is also needed to lubricate the gears, can destroy the pumphead.

7.5 Pump head

7.5.1 Gear pump head L



*Fig. 9: Gear pump head L
(Art. 30200100)*

Fillable products

The gear pump head is designed for the filling of honey. In order to avoid temperature differences and segregation, we strongly recommend that the product be stirred thoroughly. Honey should not be heated above 40 C°.

The volume flow of the gear pump head L is approx. 5 litres/minute at maximum pumping capacity.

Cleaning

In order to clean the pump head, it can be removed and disassembled from the drive module (we recommend including pipe elbow and hose). Proceed as follows (see **Fig. 10**):

- Empty the pump head as far as possible
- Remove pump head from drive module by unscrewing the two outer wing screws M6 x 90 mm (**2**)
- Remove the pipe bend and clamping flange including filling nozzle and flange seal by unscrewing the nuts (**7**) at the top and bottom of the pump head housing
- Remove cover (**3**) by unscrewing the wing screws M6 x 20 mm (**1**)
- Remove cover gasket (**6**) from the groove and gear pair (**4**) from the pump head housing (**8**)

Attention: The gearwheels fit tightly on the shafts due to very precise fits. For easier removal, they can be lifted slightly with a flat screwdriver through the upper and lower openings. Avoid rough handling and scratching etc. at all costs.

Attention! Do not lose small parts.

Pump head housing (incl. shafts), gears, cover and cover seal can be cleaned by hand in the sink or in the dishwasher. If necessary brush or wipe out recesses with a small brush or sponge. Only commercially available cleaning agents should be used for this purpose.

The assembly is carried out in reverse order.



The ball bearing of the drive shaft is pressed into the plastic housing. Thorough cleaning is also possible without dismantling it.



When assembling the pump head, make sure that the wing screws (1, 2) and the nuts (7) are only tightened hand-tight.

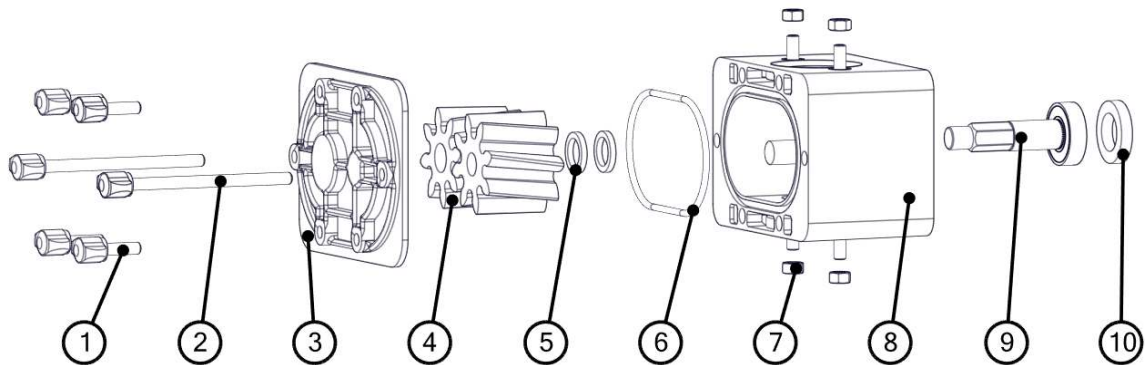


Fig. 10: Pump head L, exploded drawing

Item	Quantity	Description	Art.
1	4 pcs.	Wing screws M6 x 20 mm	
2	2 pcs.	Wing screws M6 x 90 mm	30706300
3	1 pc.	Cover	30709200
4	1 pc.	Gear pair	30206400
5	2 pc.	Shaft seal ring	30711000
6	1 pc.	Cover seal	30700300
7	4 pcs.	Nut M6	30700200
8	1 pc.	Pump head housing with passive shaft	
9	1 pc.	Drive shaft with ball bearing	30707900
10	1 pc.	Bearing bush	

The shaft sealing rings (5) must generally be replaced after 20,000 kg, but at least once a year. For the replacement of all sealing rings on the gear pump head we offer a sealing set (Art. 30704300).



The pump head must never be operated dry, i.e. without product. Without the lubricating effect of the product, the plastic gears would rub against each other and could be damaged or destroyed. Lubrication is not necessary on any other part of the filling system.

7.5.2 Replace shaft sealing rings

Care should be taken when replacing the shaft seals to avoid damaging any part of the pump head.



Fig. 11: Pumphead, disassembled

Remove the gear pump head as described in chapter **Start-up: Pump head** (see **Fig. 11**).



Fig. 12: Knock out the shaft

Knock the hexagonal drive shaft (incl. ball bearing) and the white bearing bush out of the housing with a suitable plastic hammer (see **Fig. 12**).



Fig. 13: Remove shaft sealing rings

Lever the two shaft sealing rings out of the housing one after the other using a suitable tool (see **Fig. 13**).



Fig. 14: Insert shaft sealing rings

Grease the new shaft sealing rings with food-safe grease (e.g. enclosed Vaseline) and insert them one after the other straight and completely into the provided bore of the drilling hole. Insert the housing (see **Fig. 14**):

Insert the first rotary shaft seal with the groove downwards, the second with the groove upwards, so that the two flat sides of the rotary shaft seals lie against each other.



Fig. 15: Inserting the shaft

Grease the drive shaft, insert it into the housing from behind and tap it in with a rubber mallet (see **Fig. 15**). Make sure that the shaft seals are not damaged. Press the white bearing bushing over the ball bearing so that it is flush with the housing (knock in if necessary). Then insert the gear pair, place the cover seal in the specified groove, put the cover on and tighten all screws hand-tight.

7.6 Filling nozzles

The installation of the filling nozzles is explained below.



Fig. 16

Wedge nozzle outer-Ø 26 mm, hard (see Fig. 16)

Use: for highly viscous honey

Mounting directly on pump head L by means of clamping flange.



Fig. 17

Conical filling nozzle with sleeve (see Fig. 17)

Use: for low-viscosity honey and filling into small containers

Assembly:

- Insert conical filling nozzle into the bottom of the pump head
- Put the cover over the filling nozzle
- Fix both by means of a clamping flange.

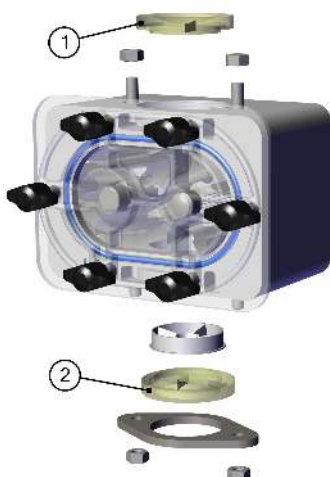


Fig. 18

flat filling nozzle with stop cross (see Fig. 18)

Cue:

- **Position 1:** For filling with a funnel or direct connection to a container, the upper sealing ring in the pump head can be replaced by the flat filling nozzle to reduce pressure. For very low-viscosity products, this prevents flow through the pump head and a drop from the respective nozzle due to pressure from above.

For highly viscous and non-dripping products, the flat filling nozzle is not necessary as a pressure reducer.

- **Position 2:** The flat filling nozzle can also be used for filling into large containers. For this purpose, the stop cross and this filling nozzle are inserted into the bottom of the pump head and fixed by means of a clamping flange.

The following filling pipes and nozzles can be purchased in addition.



Fig. 19

Filling pipe with filling nozzle (see **Fig. 19**)**Conical nozzle Ø 15 mm, hard** (Art. 30601300)

Mount the filling pipe and the sealing ring at the bottom of the pump head. The rounded side of the sealing ring faces the filling pipe.

To fit the wedge nozzle, slide the nozzle onto the filling pipe until the thickening on the inside of the wedge nozzle noticeably engages in the groove of the filling pipe. It is important that the filling nozzle engages so that it remains in its seat on the filling pipe even at high filling speeds.



Fig. 20

Filling pipe without filling nozzle (siehe **Fig. 20**)
outer-Ø 15 mm (Art. 30600900)


Mount the filling pipe and the sealing ring at the bottom of the pump head. The rounded side of the sealing ring faces the filling pipe.

For highly viscous and lumpy products, the filling pipe without filling nozzle is used.

7.7 External switches and sensors

7.7.1 U-bolt switch

Fig. 21: Micro switch
(Art. 30703900)

The micro switch is adjusted on the Y-bracket so that it triggers the filling process by pressing on the container. It is only active in **Auto mode**. Instead of the micro switch it is also possible to work with the key . However, this is not suitable for continuous operation due to increased wear. We recommend the bow switch only for filling into containers with an opening diameter of 30 mm or more.


In order to avoid an accidentally triggered filling process, the trigger switch should only be connected after all preparations for filling (suction and calibration) have been completed.

7.7.2 Foot switch

Optionally available.



*Fig. 22: Foot switch
(Art. 30302900)*

In all operating modes, the foot switch is connected in parallel to the key  on the keyboard, so it has exactly the same function.

However, this key is not suitable for continuous operation due to increased wear. The foot switch is suitable for filling into all types of containers.

To avoid an accidentally triggered filling process, the foot switch should only be connected after all preparations for filling (suction and calibration) have been completed.

7.7.3 Float switch

Optionally available as accessories.



*Fig. 23: Float switch
(Art. 30300400)*

This is used for pumping from one container to another. To do this, the switch is hooked into a container using the height-adjustable holder. Depending on the situation, the switch is mounted upside down or upside down on the bracket. Separate instructions are included with the float switch.

8 Processing of honey

8.1 Preparing the machine for filling

Mounting the hose on the pipe bend

- Slide hose clamp onto hose
- Dip the end of the hose and pipe bend in hot water (approx. 80-95 °C) and plug together while hot
- Immediately connect both very tightly with the hose clamp (Caution: Do not damage the hose).



There is a risk of scalding when using hot water.

Installation of the check valve (see *Fig. 24* and *Fig. 25*)

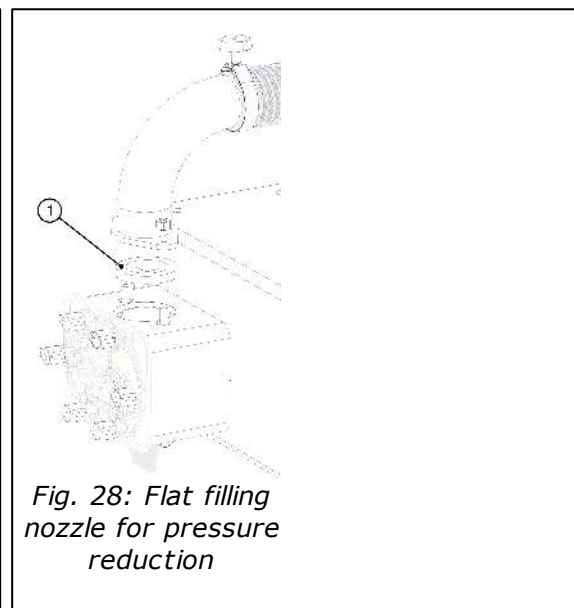
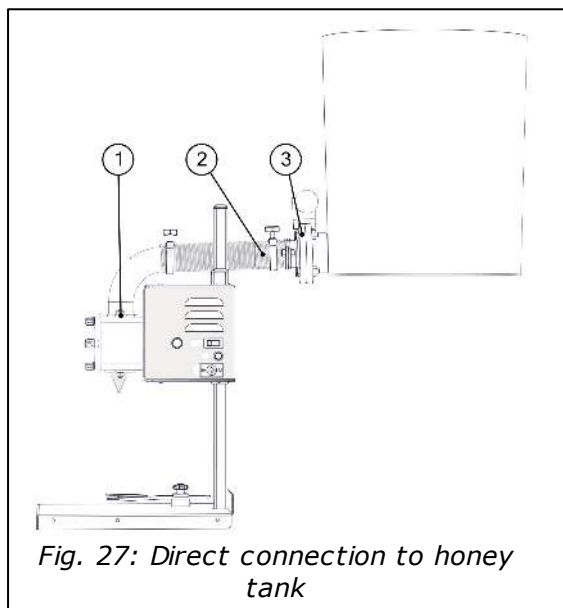
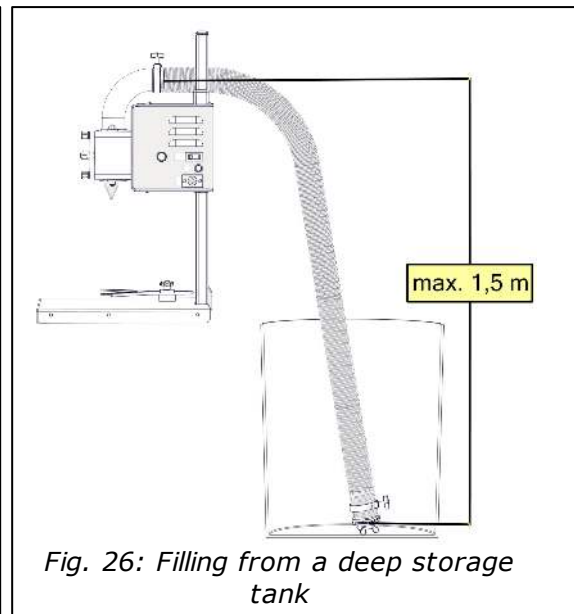
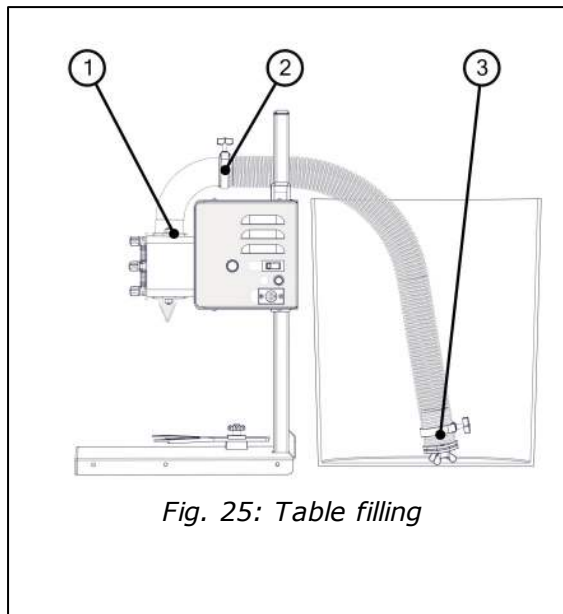
- Slide hose clamp onto hose
- Mount the check valve at the lower end of the hose and fix it with the hose clamp
- The check valve prevents the product from flowing back into the storage container and the hose from sticking to the floor of the container (see **3**, *Fig. 25*).



After disassembly for cleaning, the check valve is reassembled as follows (*Fig. 24*)

- The rough side of the membrane points in the direction of the hose
 - Tighten the wing screws equally hand-tight, otherwise the membrane will be squeezed and no longer seal properly.
-

Assembly suggestions for filling



Direct connection to a honey tank (see **Fig. 27** and **Fig. 28**):

- Connection via hose by means of hose nozzle incl. union nut (**2, Fig. 27**) and disc valve (**3, Fig. 27**)
- If the honey drips from the filling nozzle, the flat filling nozzle (**1**) is used to reduce the pressure (see chapter **Commissioning: Filling nozzles**)
- Priming is not required if the tank outlet is higher than the pipe bend.



Priming problems are solved as follows:

Leakage

In case of priming problems, additional sealing with honey can be applied at the following points (see **Fig. 25**):

- Upper flange seal at the pump head (**1**)
- Connection between pipe bend and hose (**2**)
- Connection between check valve and hose (**3**)
- Lower sealing ring or filling nozzle.

Very low viscous honey flows back into the container. At the same time air enters through the filling nozzle.

- Use check valve
- Fill low viscous honey as cool as possible (approx. 15-20 °C)
- Set the honey tank higher.
- If honey drips out of the filling nozzle, pressure needs to be reduced. In order to do that either lower the honey tank or use the flat filling nozzle (see **Fig. 28**).

Priming problems with highly viscous honey

Use check valve without the clamping flange and the membrane. Keep the wing screws in place (see **3, Fig. 25**). Keep the hose as short as possible.

ATTENTION: With very low viscous products: If the level in the honey tank is higher than the filling nozzle, the filling nozzle will start to drip heavily. The reservoir tank must then be lowered accordingly. Alternatively, replace the sealing ring in the top of the pump head by the flat filling nozzle (**Fig. 28**).

8.2 Preparation of honey for bottling

- Filter out wax residues in the clarifier
- Honey must be flowable
- Honey must be freshly stirred to compensate for any differences in viscosity and temperature in the storage container.

Processing temperatures for honey

Each product becomes more viscous when it has cooled down. As soon as it is no longer flowable, it should be heated.

Filling temperatures of honey:

- Low viscosity, freshly extracted honey: 20-25 °C / 68-77 °F
- Creamy honey with low water content (approx. < 16 %): 26-35 °C / 79-95 °F
- Honey should generally not be heated above 40 °C / 104 °F

Using the machine at higher temperatures can clog the gears due to their expansion in the pump head.



Differences in density cause filling inaccuracies.

8.3 Pumping over for cream stirring

Preparation

- Instead of the clamping flange and the filling nozzle, the pipe bend (transverse) for pumping over is mounted at the bottom of the pump head with hose, sealing ring and hose clamp:
 - Slide the hose clamp onto the hose
 - Heat the end of the pipe bend and the hose, put them together while hot. Connect both very firmly with the hose clamp
 - Insert the sealing ring into the pump head and mount the pipe bend.
- Operating mode: **Manual mode** or **Timer**.



There is a risk of scalding when using hot water.

Transferring from one container to another

- Temperature of the honey: approx. 20-35 °C (68-95 °F)
- The use of a float switch is recommended. Depending on the type of installation, it switches the machine off when the original container is empty or when the second container is full. See chapter **External switches: Float switch**.

Stirring until creamy (suitable for max. 300 kg)

- Temperature of the honey: approx. 18-20 °C (64-68 °F)
- Add honey with approx. 5-10 % inoculated honey (stir in roughly by hand) or wait until the honey begins to crystallize on its own
- Hang the hose in a second container and pump the inoculated honey around (during the pumping process the seed crystals are crushed and finely distributed)
- After a day's break, pump the honey back by reversing the pumping direction (see chapter **Operation: Setup Menu**)
- The honey can also be pumped around inside a large container (suck off at the bottom, return at the top). Attention: there is a risk that parts of the honey will not be caught by the honey stream and thus remain unmixed.
- After 3 to 8 times pumping over during the course of one day the honey is stirred creamy.



A single pumping over or filling is not sufficient to change the mechanical structure of the honey.

9 Operation

9.1 Operating the membrane keypad



To avoid scratches and surface damage, the display and membrane keyboard should not be operated with fingernails or hard objects. In addition, under no circumstances should aggressive cleaning agents or scouring agents etc. be used for cleaning.

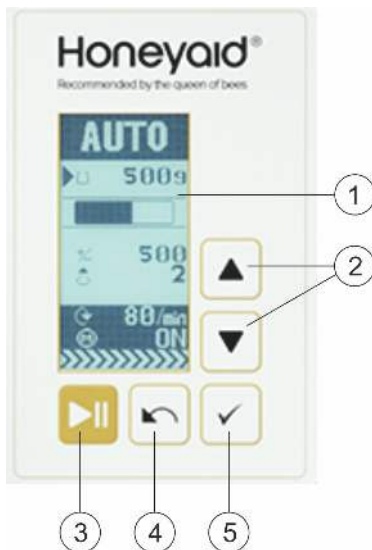


Fig. 29: Keypad and display

Fig. 29:

- | | |
|---------------------------------|--|
| 1 - Display | - Display of the current menu level |
| 2 - Arrow keys | - Selection up or down |
| 3 - Start or stop button | - Start or stop the motor or the filling process |
| 4 - Back key | - Change to the previous or higher menu level |
| 5 - OK key | - Marks or confirms the selection |

General Operation







- Select the line with the [▲][▼] keys.
- Select the line with the [✓] key. The values to be changed are then displayed inversely (white on black).
- Adjust the value using the [▲][▼] keys.
- Save the desired value with the [✓] key.

9.2 Setup Menu





The basic settings of the machine for filling can be defined here. These include language, container sizes (nominal filling quantities), accessories (e.g. rotary table) or the pump head used. If possible, the individual settings of the machine are already made in our factory.

Fig. 30

	<p>For the connection of Ø 65 cm turntable (Art. 303179) and Ø 100 turntable (Art. 303038 or 303039). The setting is the same as for TURN 1. In addition, the speed of the turntable can be set in % in the top line.</p> <p>Operation principle of the turntable:</p> <ul style="list-style-type: none"> - Press key  in the AUTO menu to start the rotary table - Turntable rotates until the sensor detects a container - Turntable stops, the stop delay time expires - Machine fills the container with the set quantity - The drip-delay time expires - Turntable starts again until the next container is detected - Turntable stops automatically after one minute of idling.
	<p>A factory reset can be carried out to reset the software to the delivery state in case of malfunctions. Individual settings (e.g. container sizes entered) are deleted as a result.</p>
	<p>COUNTER This counter measures the total quantity delivered by the unit in litres. The recorded value cannot be reset and is similar to an operating hours counter. This display is only an approximate value, as the different calibrations are not taken into account in the calculation.</p> <p>Per day COUNTER Batch counter (quantity in liters), resettable. Resetting is done with the  key.</p> <p>Container Package counter (quantity), resettable. Resetting is done with the  key.</p>

9.3 Operating modes





In the **main menu** selection, the operating modes and the setup menu are available:









	Manual mode	- Priming or pumping of the product
AUTO	Auto Mode	- Automatic dosing
	Timer	- Time controlled pumping over or cream stirring
SETUP	Setup Menu	- Settings.

9.3.1 Manual mode

This operating mode is used for preparing the filling process (start pumping the product to fill the hose and pump head) and for continuous pumping (e.g. pumping from one container to another).

Pump directions or pump options

You can choose between two pumping directions with two pumping options each. The selection arrow is marked with the key . The desired option is selected using the keys /, and saved by pressing the key .

	<p>Forward continuous</p> <p>A short press on the button  starts the conveying of the product, a second press stops the conveying. The product is pumped from top to bottom through the pump head.</p>
	<p>Forward Interval</p> <p>The product is conveyed as long as the button  is pressed. The motor stops when the button is released. The product is pumped from top to bottom through the pump head.</p>
	<p>Backwards continuous</p> <p>A short press on the button  starts the conveying of the product, a second press stops the conveying. The product is pumped from bottom to top through the pump head.</p>
	<p>Backward Interval</p> <p>The product is conveyed as long as the button  key is pressed. The motor stops when the button is released. The product is pumped from bottom to top through the pump head.</p>



Filling nozzles must be removed for both reverse pumping options. They would be too much resistance in the pumping process and could be damaged. There would also be a risk of overloading the motor.

9.3.2 Auto mode/Dosing

The Auto mode (**dosing mode**) is used to fill a defined quantity repeatedly (serial filling).

General procedure

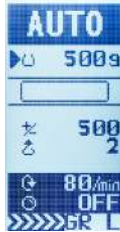


Fig. 31

1. Select container size (nominal filling quantity) - selection from the presettings (see Fig. 31) - these can be specifically programmed in the setup menu.
2. Test filling into a container
3. Weigh the quantity actually filled using a calibrated scale
4. Correct (calibrate) the filling quantity on the machine
5. Repeat points 2-4 if necessary (approx. 2-3 times)
6. Start continuous filling process.

Functions in Auto mode



Fig. 32:

Functions in the Auto mode

1: Selection or display of the net volume or net quantity

2: Progress bar or fill level

3: Calibration or fine adjustment

If the filled quantity differs from the nominal filling quantity, the weighed quantity is entered here and confirmed with the key. The machine then corrects automatically at the next filling.

4: Setting the retraction. This must be adjusted according to viscosity. If accessories are activated, their specific settings are also displayed here. (see below).

5: Display of the motor speed (filling speed). Adjustable by means of the rotary knob on the right of the drive module.

6: Display motor ON/OFF

7: Accessories (e.g. turntables): If an accessory is activated, the specific settings are displayed here.

Selection of the container size (nominal filling quantity)



Fig. 33

Most common container sizes are pre-programmed. They appear in the first line of the Auto mode (see Fig. 33) and can be selected as in the chapter **Operation: Operation of the membrane keypad.**

Programming new container sizes (nominal filling quantities)



Fig. 34

If a desired container size is not stored, it can be programmed manually. To do this, select in the main menu: **SELECT: SETUP: FILLING** (see Fig. 34).

Here you can either change an already pre-programmed container size - as described in the chapter **Operation: Operation of the membrane keypad** - or create a new one.

Storing different types of honey with constant container size (nominal filling quantities)



Abb. 35


For filling different types of honey into containers of the same size, the value for the container size must be created correspondingly often. For example, when filling lime, acacia and rape honey into 50g containers, the number 50 is entered three times in the main menu. To do this, select in the main menu: **SELECT: SETUP: FILLING** (see **Fig. 35**). Here you can either change an already pre-programmed container size - as described in the chapter **Operation: Operation of the membrane keypad** - or create a new one.



Abb. 36








The differentiation of products is then done automatically in the Automenu. If several identical container sizes are defined in the Setup, a small "a", "b", "c", etc. is displayed to the left of the filling value to distinguish between the different products.

Filling

Pressing the button  (or the bow or foot switch) starts a single filling process. After providing a new container, the next filling process can be initiated.

Correction or calibration of the filling quantity

Due to the different densities and viscosities of the various batches and products, it is necessary to calibrate the filling quantity using a calibrated scale before filling each new batch or product and each new container size. Proceed as follows:

- Place empty container on a calibrated scale
- Press TARE/0 (or in the case of mechanical scales, note the weight or mass of the empty container)
- Select pack size (e.g. 20 g) on the machine and fill the pack
- Weigh the container which has just been filled
- If the weighed filling quantity deviates from the set container size or nominal filling quantity (observe filling accuracy), calibration is carried out as follows:
 - Select the line  **20.0** (container size) with the  keys.
 - Select the line with the  key.
 - Enter the precisely weighed filling quantity (e.g. 26 g) using the  keys.
 - Confirm the value with the key .
 - The value changes back to the set container size (here 20 g); the control system automatically calculates the exact density of the product and fills 6 g less during the next filling process.

Now a new container is filled and the filling quantity is checked.



In case of larger deviations it may be necessary to repeat the calibration process 2-3 times.

In general, it is necessary to carry out a calibration for every change, e.g. if the

following sizes, among others, change significantly:

- **Temperature**
- **Installation height of the storage tank**
- **Filling level of the storage tank**
- **Filling speed**
- **Hose lengths**
- **Changing the storage tank**

In order to guarantee an optimal quality standard, regular random sampling of the filling quantity is recommended even if the conditions remain the same.



The dimensions of empty containers might differ individually. Therefore, even with the same filling quantity, differences in the filling level can occur.

When the machine is used for the very first time, the actual filling quantity can differ considerably from the nominal filling quantity. For the first calibration, it is therefore recommended to select a small nominal filling quantity (e.g. 125 g) in a much larger container (e.g. 500 g) to prevent overflow.

Relationship between product and hardness of the filling nozzle

The exact closing of the filling nozzle after a filling process depends on the set retraction and on the hardness of the filling nozzle (see chapter **Putting into operation: filling nozzles**).

Retraction ⚙

The retraction function guarantees **drip-free filling**.

The last drop of the product after a filling process is pulled back into the filling nozzle by reversing the direction of rotation of the drive and at the same time the nozzle is closed.

The retraction length is adjustable from **0 to 50**. If it is too small, the filling nozzle drips. If it is too large, air is drawn in and can cause bubble formation and filling inaccuracies during the next filling process.




The value can be set using the   buttons and is stored with the  button (see **Fig. 37**).



Fig. 37

The optimum value for the retraction length depends on the viscosity of the product and can therefore be determined individually by trial and error.

The surfaces of the filling nozzle should close exactly, cut off the filling jet of the product without dripping and not suck in any air.

Standard values for the retraction function

4-6: for low-viscosity, freshly extracted honey


8-10: for creamy honey

9.3.3 Time switch

The timer is very suitable for the production of cream honey or for cream stirring (see chapter ***Processing of honey: Stirring to make creamy honey***).

Operation of the timer

--->	Pumping forward (in the pump head from top to bottom)
<---	Pumping backwards (in the pump head from bottom to top)
↔	Alternating pumps (alternately one cycle from top to bottom, the next cycle from bottom to top)
START	Setting the time of the total cycle (running time + pause) (in hh:mm:ss)
ON	Setting the running time of the motor in the cycle (in mm:ss)

After pressing the button , the pump starts running immediately until the ON time has elapsed. The display shows the time remaining.

10 Maintenance, problem solving and support

10.1 Maintenance

In the pump head the product takes over functions such as lubrication and sealing. The installed ball and slide bearings are basically maintenance-free, as they are lubricated separately and encapsulated against the product-carrying components.

Whenever cleaning is carried out, the seals accessible to the user, as well as the gear pair and the pumphead housing, must be checked for damage and replaced if necessary.

If the machine has been out of operation for a longer period of time, a thorough cleaning and visual inspection of the functional parts should also be carried out before use again. The drive shaft of the pump head should be checked for smooth running to check the bearings and sealing rings.

Worn or defective components must be replaced immediately. If necessary, individual components can be replaced at any time and without difficulty. For the replacement of all sealing rings on the gear pump head we offer sealing sets in various materials (see chapter ***Putting into Operation: Pump head***).




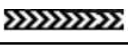

The drive module itself is basically **maintenance-free**.



During the warranty period, the drive module may only be opened by the manufacturer or by specialised personnel authorised by the manufacturer. If the drive module is opened without authorization (destruction of the warranty seal), all warranty claims expire with immediate effect.

10.2 Problem solving

10.2.1 Causes on the machine

Error	Possible cause	Remedy
The control or electronics react poorly or not at all.	Exposure to strong electromagnetic fields (mobile phone, cordless phone, nearby motors and devices without interference suppression).	Eliminate interference. Perform factory reset: Confirm RESET in the setup menu.
The machine cannot be switched on.	<ul style="list-style-type: none"> · The plug connections of the power supply have no contact. · The microfuse has melted. Note: The ON/OFF switch on the drive module has no lighting.	<ul style="list-style-type: none"> · Check the power supply connections. · Check power supply (if the switch is not illuminated, it is defect). · Check micro fuse. If the melting conductor has melted, the microfuse must be replaced (2 x replacement in scope of delivery).
Red display indicator, error message: T-ERROR	The machine is overheated. The motor has therefore switched itself off for safety reasons. This can occur, for example, if the product is too highly viscous or if the hose length exceeds 3 m.	<ul style="list-style-type: none"> · Let the machine (switched on) cool down. After approx. 15 minutes the machine can be used again. After pressing the  key the message disappears. · Warm up product or shorten the hose.
The gear wheels suddenly turn in the opposite direction.	The direction of rotation has changed due to a fault in the basic settings.	Change the direction of rotation of the motor in the setup menu: Under PUMP, use the buttons   to set the direction to  .
The motor starts up only with difficulty or not at all. Red display, error message: OVERPUMP	<ul style="list-style-type: none"> · The motor has stopped due to blocked gears. · The product is too highly viscous and the gear wheels are stuck. 	<ul style="list-style-type: none"> · Clean the pump head. After confirming the error message with the  key, the machine is ready for use again. · Heat the product to improve its flowability.
	The product has dried, crystallized or stuck together. This causes the gears to lock.	Clean the pump head and check for wear. If the gears are damaged, they should be replaced.
	There is an object in the pump head which is blocking the gears.	Remove the object.

10.2.2 Causes in filling

Error	Possible cause	Remedy
A large air bubble is located at the top of the hose and causes filling inaccuracies.	The hose diameter is too large for the product.	<ul style="list-style-type: none"> · Use smaller hose diameter. · The lower the viscosity of the product, the smaller the tube diameter must be. Shorten the hose to support the motor.
The product drips from the filling nozzle.	Leakage in the intake pipe connections.	Check tight fit (hand-tight) of the screw connections of the lid, check that the sealing rings are undamaged, wet the sealing rings with the product before assembly.
	The filling nozzle is worn.	Replace filling nozzle.
	The reservoir tank is too high so that its filling level is above the filling nozzle.	Lower the reservoir tank slightly so that the filling nozzle is at least 10 mm above the filling level in the reservoir tank.
	Check valve is not or incorrectly installed.	Check the check valve (installation direction, functionality, etc.), or install.
The product in the container contains many air bubbles.	The retraction is set too high. This causes air to be sucked into the filling nozzle.	Set the retraction smaller.
	Air enters the hose system or the pump head.	Check the tightness of the connections: <ul style="list-style-type: none"> · Check valve - hose · Hose - pipe bend · Pipe bend - Pump head · Pump head - cover · Pump head - Filling nozzle
The product emerges from the back of the pump head.	The shaft sealing rings in the pump head are worn out. Caution: The product can now get into the motor and damage it.	Replace the seals immediately.
If the machine is not used for a longer period of time, product will escape from the filling nozzle.	The level in the reservoir tank is higher than the filling nozzle. This means that the pressure on the pump head is too high.	Lower the reservoir tank or raise the machine. The level must be at least 10 mm below the filling nozzle.
	If a disc valve is used, it must be closed when the machine is not in operation for a longer period.	
When the machine is at a standstill, air enters the pump head through the filling nozzle.	The product flows back into the storage tank.	Check the check valve for leaks or install a check valve.
The product in the container foams.	The filling speed is set too high.	<ul style="list-style-type: none"> · Reduce motor speed. · Use next larger filling nozzle.

	Leaks in the intake pipe connections.	Check that the screw connections are tight (hand-tight) and that the sealing rings are intact. Wet sealing rings with product before assembly.
Filling is not accurate.	Leaky spots in the intake pipe connections.	Check tightness (hand tight) of the screw connections and intactness of the sealing rings. Wet sealing rings with product before assembly.
	Shaft seals, sealing rings or the gear pair of the pump head are worn out.	Replace worn parts immediately.
In the course of the filling process, less and less product is filled.	The pressure on the pump head changes as the level in the reservoir tank drops.	Recalibrate regularly.

Error	Possible cause	Remedy
Filling inaccuracies: Product in container contains many air bubbles.	Some large air bubbles in the product cannot be completely ruled out, as the product stream might be twisted in the container and thus bubbles are created during filling.	<ul style="list-style-type: none"> · Minimizing the distance between filling nozzle and container. · Heat the product. This makes the product less viscous and allows it to melt better in the container.
<p>There are small air bubbles in the upper part of the pump head (vacuum bubbles).</p> <p>Filling inaccuracies greater than specified (see Chapter Technical details of the machine: Technical data).</p> <p>Bright flickering above the gear wheels during filling.</p>	<p>The product cannot flow fast enough through the hose and the pipe bend (especially problematic with rape honey).</p> <p>The product is too cold or highly viscous.</p>	<ul style="list-style-type: none"> · Use larger hose and pipe bend diameter. · Reduce the viscosity of the product (e.g. by increasing the temperature to 25 - 30 ° C). · Keep the hose as short as possible. · Raise the reservoir so that static pressure is applied to the pump head and the pump head does not need to suck up the product. · Reduce motor speed (to approx. 40/min). This will adapt the flow rate of the product to the filling speed of the machine.

10.3 Support

In the event of faults not described in this manual, please contact an authorised Honeyaid® distributor or our technical support by e-mail. If it is not possible to solve the problem via these channels, our **Send-In-Service** will be used in consultation with our technical support. We will be happy to advise you. The repair is carried out as soon

as possible after receipt of the defect device. In order not to endanger your production, it is possible to rent a machine for the time of the repair. If the defect is neither covered by the warranty nor by the guarantee, all postage and repair costs incurred are to be paid by the purchaser. In this case, we reserve the right to charge a rental fee for the rented device. For this purpose, a rental agreement is signed for the rented device.

Please contact our office for further information on this rental agreement.

Our support:

Office: +49 351 89 66 91 00
Email: support@filling-evolution.com
Website: www.filling-evolution.com



Never send your machine back to us before consulting our technical support. If it is absolutely necessary to return your machine after consultation with our support, e.g. for repair purposes, this may only be done as described in the chapter 'Maintenance, problem solving and support: Transport and Storage' - in a cleaned, dismantled and safely packed condition. For machines that are received by us in an uncleaned condition, we charge a cleaning fee to cover the additional work involved. This is calculated on the basis of the cleaning time required and our hourly rate applicable for this.

10.4 Transport and storage

In order to prepare the machine and its components for transport, they must be dismantled as they were delivered - as shown in the illustration in the chapter

Delivery: Scope of delivery.

For protection against damage, all parts for transport must be thoroughly cleaned of any filling residues and adequately secured against damage and slipping. If the machine is not used for a longer period of time, it is recommended to clean, pack and store it to protect it from damage and dirt.



We recommend keeping the original packaging for storage and possible return.

The manufacturer does not assume any warranty for damage caused by improper transport or improper storage of the device.

10.5 Disposal of the old device

The FILLING EVOLUTION product **Honeyaid®** has been designed for a long lasting and sustainable use. All individual components can be replaced even after many years.

Of course, we take back your old device free of charge and guarantee to dispose of it professionally and environmentally friendly according to the legal requirements.

11 Warranty and guarantee

The warranty for the functionality of the FILLING EVOLUTION product **Honeyaid®** is 24 months from the date of delivery if used as intended as described in this manual.

The warranty is limited to demonstrable damage and malfunctions that are due to faulty processing in our company.

The company FILLING EVOLUTION GmbH is not liable for damages caused by improper handling, insufficient or irregular cleaning, improper use, incorrect installation or maintenance by unqualified personnel, unauthorized intervention of electrical, electronic or mechanical nature, improper transport or improper storage. If the warranty seal is destroyed, the warranty and guarantee claim automatically expires.

Our liability is limited to damage to the device. No liability is accepted for consequential damage. Claims for damages are therefore excluded.

Wearing parts are excluded from the statutory warranty obligation.

Warranties are provided exclusively by the manufacturer and include spare parts and work performance. Beyond the statutory warranty period, we grant you an additional manufacturer's warranty of 12 months, provided that the device is used as intended and under the conditions described in paragraph **Intended use**. Wearing parts are not subject to the warranty. The manufacturer is responsible for the type and scope of a warranty service.

12 EC Declaration of Conformity

EC declaration

The manufacturer / distributor

FILLING EVOLUTION GmbH
Leipziger Str. 33
01097 Dresden



hereby declares that the following product

Product designation: Honeyaid®
Year of manufacture: 2023
Description: Machine for filling honey

The following EU directives were applied:

Directive 2006/42/EC
Directive 2014/30/EU
Directive 2011/65/EU

The protection goals of the following additional EU directives were observed:

Directive 2014/35/EU

The following EU regulations were applied:

Commission Regulation (EU) No 10/2011
Regulation (EC) No 1935/2004

Name and address of the company authorised to supply the technical documentation to put together:

FILLING EVOLUTION GmbH
Leipziger Str. 33
01097 Dresden

Place: Dresden
Date: Jun 01, 2021



Barbara Wandke (Managing Director)

www.filogy.com

FILLOGY Y
FILLING EVOLUTION